Los Angeles County Department of Regional Planning

Draft Santa Clarita Valley Area Plan

One Valley One Vision

2009

The following Draft Santa Clarita Valley Area Plan will require approval by both the Los Angeles County Regional Planning Commission and Board of Supervisors prior to official implementation. Hearing dates to be determined.

Once adopted, the Santa Clarita Valley Area Plan will be a component of the Los Angeles County General Plan and provide goals and policies specific to the Santa Clarita Valley.

Los Angeles County Regional Planning Commission

(left to right)

Harold Helsley, Leslie Bellamy, Esther Valadez, Wayne Rew, Pat Modugno

Los Angeles County Board of Supervisors

(left to right)

Zev Yaroslavsky, Gloria Molina, Don Knabe, Mark Ridley-Thomas, Michael D. Antonovich

Los Angeles County Department of Regional Planning

Draft
Santa Clarita Valley Area Plan

One Valley One Vision

2009

Acknowledgments

Board of Supervisors

- **Don Knabe**, Chair
  Fourth District
- **Gloria Molina**
  First District
- **Mark Ridley-Thomas**
  Second District
- **Zev Yaroslavsky**
  Third District
- **Michael D. Antonovich**
  Fifth District

Regional Planning Commission

- **Leslie G Bellamy**, Chair
  Second District
- **Wayne Rew**, Vice Chair
  Fourth District
- **Esther L. Valadez**
  First District
- **Harold V. Helsley**
  Third District
- **Pat Modugno**
  Fifth District

Department of Regional Planning

- **Jon Sanabria**
  Acting Director of Planning
- **Rose Hamilton**, AICP
  Acting Deputy Director

Countywide Studies

- **Mitch Glaser,** AICP
  Supervising Regional Planner
- **Thuy Hua**
  Senior Regional Planner
- **Marshall Adams**
  Assistant Regional Planner
- **Emma Howard**
  Assistant Regional Planner
- **Rick Kuo**
  Assistant Regional Planner

Geographic Information Systems

- **Nick Franchino**, AICP
  GIS Manager
- **Dan Hoffman**
  Principal Regional Planner
- **Martha Selig**
  Assistant Regional Planner

Contributing Staff

- **Rob Glaser**
  Principal Regional Planner

Former Staff

- **Andy Malakates**
  Countywide Studies
- **Kari Davis**
  Countywide Studies

City of Santa Clarita

- **Paul Brotzman**
  Director of Community Development
- **Lisa Hardy**, AICP
  Planning Manager
- **Jason Smisko**
  Senior Planner
- **Ben Jarvis**
  Associate Planner
- **Mike Ascione**
  Assistant Planner II

Consultant Team

- **Molly Bogh**
  Lilburn Corporation
- **Caitlin Morais**
  DM Geographics
- **Fred Greve**
  Mestre Greve Associates
- **Daryl Zerfas**
  Austin-Foust Associates

"To enrich lives through effective and caring service."

"To improve the quality of life through innovative and resourceful physical and environmental planning, balancing individual rights and community needs."

Table of Contents

TABLE OF CONTENTS

TABLE OF CONTENTS iii

INTRODUCTION 2

I. PURPOSE OF THE SANTA CLARITA VALLEY AREA PLAN 2
II. COMPONENTS OF THE ONE VALLEY ONE VISION PLANNING EFFORT 3
III. ENVIRONMENTAL IMPACT REPORTS 3
IV. PLANNING AREA 3
- Location and Setting 3
- Governance 4
- Historical Overview 5

V. PREVIOUS PLANNING EFFORTS 6
- 1984 Santa Clarita Valley Area Plan 6
- (County of Los Angeles) 6
- City of Santa Clarita Plans 6
- Specific Plans 6

VI. PLANNING ISSUES 7
VII. ORGANIZATION OF THE SANTA CLARITA VALLEY AREA PLAN 8
- Land Use Element 8
- Circulation Element 8
- Safety Element 8
- Conservation and Open Space Element 8

VIII. HOW TO USE THE SANTA CLARITA VALLEY AREA PLAN 9
IX. VISION AND GUIDING PRINCIPLES 10
- VISION 10
- GUIDING PRINCIPLES 10

LAND USE ELEMENT 15

I. PURPOSE & INTENT 16
II. RELATION OF THE LAND USE ELEMENT TO OTHER ELEMENTS OF THE AREA PLAN 17
- Circulation Element 17
- Housing Element 17
- Conservation and Open Space Element 18
- Noise Element 18
- Safety Element 18

IV. MEETING THE CHALLENGES OF REGIONAL GROWTH 19
V. VALLEY OF VILLAGES 20
- Newhall 21
- Valencia 22
- Saugus 22
- Canyon Country 23
- Sand Canyon 23
- Placerita Canyon 24
- Castaic 24
- Val Verde 25
- Agua Dulce 25
- West Ranch (Stevenson Ranch, Sunset Pointe, Westridge, & Pico Canyon) 25

VI. SPECIFIC PLANS 26
- Specific Plan Process 26
- Approved Specific Plans 26
- Newhall Ranch 26
- Northlake 27
- Canyon Park (Fair Oaks Ranch) 27
- Whittaker Bermite Property 27
- Downtown Newhall Specific Plan 27
- Valencia Specific Plans 27
- Pending and Future Specific Plans 28

VII. DEMOGRAPHICS CHARACTERISTICS OF THE SANTA CLARITA VALLEY 28
- Past Population Trends 28
- Projections for Population and Households 28

VIII. ECONOMIC ISSUES FOR THE SANTA CLARITA VALLEY 30
- Economic Assets in the Valley 30
- Employment Trends 31
- Employment Projections 32
- Projections for Commercial and Industrial Development 32
- Jobs/Housing Balance 33
- Economic Development Efforts 33

IX. URBAN FORM, COMMUNITY DESIGN, AND CITY BEAUTIFICATION 35
- Urban Form 36

Community Design ... 37
City Beautification ... 37
X. PLANNING FOR PUBLIC HEALTH AND ENVIRONMENTAL QUALITY ... 39
XI. COORDINATION OF LAND USE PLAN WITH RESOURCES AND OTHER AGENCIES ... 40
Water Availability ... 40
Schools ... 41
Parks ... 43
Libraries ... 44
Local Government Offices ... 44
Health Services ... 44
Cultural Amenities ... 45
Landfills ... 46
Mineral Resources ... 46
Noise and Flood Hazards ... 47
Agricultural Resources ... 47
Law Enforcement and Fire Protection ... 48
XII. LAND USE MAP DESIGNATIONS ... 49
Land Use Designation Descriptions ... 49
XIII. REFERENCE TO OTHER AREA PLAN ELEMENTS ... 55
XIV. SUMMARY OF NEEDS FOR LAND USE PLANNING IN THE SANTA CLARITA VALLEY ... 55
XV. GOALS, POLICIES, AND IMPLEMENTATION ACTIONS ... 56
XVI. IMPLEMENTATION OF THE LAND USE ELEMENT ... 68

CIRCULATION ELEMENT 69

I. PURPOSE & INTENT ... 70
II. BACKGROUND ... 70
III. FUNDAMENTAL CONCEPTS FOR CIRCULATION PLANNING ... 71
Access and Mobility ... 71
Capacity and Connectivity ... 72
Level of Service ... 72
Peak Hour and Average Daily Traffic Volumes ... 73
Intersection Capacity ... 73
Air Quality and Safety Issues ... 73
IV. CONGESTION MANAGEMENT ... 74
V. EXISTING ROADWAY SYSTEM WITHIN THE SANTA CLARITA VALLEY ... 75
Regional Access ... 75
Streets and Highways ... 75
Arterial Highways and Collectors in the Santa Clarita Valley ... 76
Cross-Valley Connector ... 77
Major Roadway Improvements Underway as of 2008 ... 78
Peak Hour Traffic Conditions ... 78
Transportation Management System ... 78
Neighborhood Traffic Management ... 79
Street Maintenance ... 79
VI. METHODOLOGY FOR TRAFFIC ANALYSIS ... 79
VII. RECOMMENDATIONS FOR STREET AND HIGHWAY SYSTEM ... 80
Level of Service Standard ... 80
Revised Roadway Designations ... 80
Standard Cross Sections ... 89
Truck Route Plan ... 96
VIII. CONSTRAINTS AND OPPORTUNITIES FOR IMPROVING ROADWAYS ... 96
Funding for Roadways ... 96
Travel Demand Management ... 96
Parking Management ... 97
Intersection Improvements ... 97
Land Use Strategies ... 97
Congestion Relief ... 98
IX. RAIL SERVICE ... 98
Rail Freight Service ... 98
Metrolink Service ... 98
Amtrak California ... 99
High Speed Rail Development ... 99
X. AIR SERVICE ... 100
XI. PUBLIC TRANSIT AND OTHER TRANSPORTATION SERVICES 101
City of Santa Clarita Transit ... 101
Commuter Transit Service ... 102
Special Transit Services ... 102
Bus Stop Improvement Program ... 102
Park-and-ride Lots ... 102
School Bus Transportation ... 103
Taxi Service ... 103
XII. NON-MOTORIZED TRAVEL MODES ... 103
Planning for Bikeways ... 103
Regional Bikeway Planning ... 103
City of Santa Clarita Bikeway Planning ... 104
Bicycle Parking and Support Facilities ... 105
Pedestrian Circulation System ... 106
Hiking Trails ... 107
XIII. HEALTHY STREETS FOR WALKABLE COMMUNITIES ... 107
XIV. CIRCULATION SYSTEMS, CARBON EMISSIONS, AND GLOBAL CLIMATE CHANGE ... 109
XV. SUMMARY OF CIRCULATION NEEDS ... 110
XVI. GOALS, POLICIES, AND IMPLEMENTATION ACTIONS ... 111
XVII. IMPLEMENTATION OF THE CIRCULATION ELEMENT ... 119

CONSERVATION AND OPEN SPACE ELEMENT 121

I. PURPOSE & INTENT ... 122
II. BACKGROUND ... 122
Consistency with Other Area Plan Elements ... 122
Resource Maps ... 122
Organization of the Element ... 123
III. PRIOR PLANNING EFFORTS FOR OPEN SPACE & CONSERVATION ... 123
City Resource Conservation Planning ... 123
County Planning for Open Space & Conservation ... 123
IV. ENVIRONMENTAL SUSTAINABILITY ... 123
V. SOILS & GEOLOGIC RESOURCES ... 125
Soils & Geologic Resource Issues ... 125
Soil Resources & Conservation ... 125
Hillside Development & Ridgeline Protection ... 125

Mineral Resources 126
VI. WATER RESOURCES 127
Surface Water Resources 127
Streams 127
Groundwater Resources 128
Water Supply 129
Sacramento-San Joaquin Delta Issues 130
Water Conservation 133
Water Recycling 134
AB 1881 135
Water Quality 135
Low Impact Development 136
VII. BIOLOGICAL RESOURCES 137
Biological Setting 137
Sensitive Species 138
Significant Ecological Areas 139
Wildlife Corridors 140
National Forest Lands 141
Urban Forestry Program 142
Development Impacts on Biological Resources 142
VII. CULTURAL & HISTORICAL RESOURCES 143
Historical Overview of the Santa Clarita Valley 143
Identification of Historical Sites 146
Historic Preservation Efforts 146
VIII. SCENIC RESOURCES 152
The Value of Scenic Resources 152
Scenic Mountains and Canyons 152
Scenic Woodlands 154
Scenic Water Bodies 154
Vasquez Rocks 154
Impacts of Development on Scenic Views 154
IX. AIR RESOURCES 154
X. CLIMATE CHANGE & ENERGY CONSERVATION 156
Background & Legal Requirements 156
Actions to Address Climate Change in the Santa Clarita Valley 159
Additional Program & Policies to Address Climate Change 159
XI. PARK & RECREATION RESOURCES & FACILITIES 160
County & State Parks 160
City Parks & Recreation Planning 161
Joint Park Planning Issues 162
XII. OPEN SPACE RESOURCES 165
Legal Requirements for Open Space Preservation 165
Open Space Designations in the Santa Clarita Valley 166
Open Space Preservation Efforts 166
Future Directions for Open Space 168
XIII. RECREATIONAL TRAILS 168
XIV. SUMMARY OF CONSERVATION AND OPEN SPACE NEEDS IN THE SANTA CLARITA VALLEY 169
XV. CONSERVATION AND OPEN SPACE GOALS AND POLICIES 171
XVI. IMPLEMENTATION OF THE CONSERVATION AND OPEN SPACE ELEMENT 184

SAFETY ELEMENT 187

I. PURPOSE & INTENT 188
II. BACKGROUND 188
III. SEISMIC & GEOLOGICAL HAZARDS 188
Earthquakes & Fault Zones 188
Affecting the Planning Area 188
Impacts of Earthquakes 192
Seismic Design Requirements 193
Landslides 193
Subsidence 194
IV. FLOOD HAZARDS 194
Surface Water Drainage Patterns 194
Flood Control Regulations 196
Dam Failure 196
V. FIRE HAZARD 196
Fire Protection Services 196
Wildland Fire Protection 198
VI. SEVERE WEATHER CONDITIONS 200
VII. HAZARDOUS MATERIALS 200
VIII. EMERGENCY PREPAREDNESS AND RESPONSE 201
Emergency Preparedness Plans 201
Community Preparedness and Training 203
Emergency Access 204
IX. LAW ENFORCEMENT AND CRIME PREVENTION 205
Police Protection 205
Detention Facilities 205
Crime Prevention Through Environmental Design 205
X. TERRORISM 207
Bioterrorism Planning 209
Emergency Medical Services 210
XI. ACCIDENT PREVENTION 210
XII. SUMMARY OF SAFETY PLANNING NEEDS IN THE SANTA CLARITA VALLEY 210
XIII. GOALS, POLICIES, AND IMPLEMENTATION ACTIONS 212
XIV. IMPLEMENTATION OF THE SAFETY ELEMENT 216

NOISE ELEMENT 219

I. PURPOSE & INTENT 248
II. BACKGROUND 248
III. FUNDAMENTAL CONCEPTS FOR NOISE ANALYSIS 249
Sound Level and Frequency 249
Propagation of Noise 249
Duration of Sound 250
Change in Noise 250
Masking Effect 250
Factors Influencing Human Response to Sound 251
Sound Rating Scales 251
Single Event Metrics 251
Cumulative Metrics 252
IV. HEALTH EFFECTS OF NOISE 253
Hearing Loss 254
Sleep Interference 254
Physiological Responses to Noise 254
Annoyance 254

School Room Effects 255
V. ANALYSIS OF EXISTING AND FUTURE NOISE ENVIRONMENT IN THE PLANNING AREA 255
Methodology 255
Results 256
Noise Contour Maps 256
Projected Noise Impacts from City General Plan and County Area Plan Buildout 257
VI. OTHER NOISE ISSUES IN THE PLANNING AREA 260
High-Speed Rail Line 260
High Density Residential Development Adjacent to Railroad 260
Mixed-Use Developments that Combine Residential and Non-Residential Uses 261
Agua Dulce Airport 261
Six Flags Magic Mountain Theme Park 261
Special Events 262
Emergency Vehicles 262
VII. PLANNING STRATEGIES TO MINIMIZE NOISE IMPACTS 262
VIII. SUMMARY OF NOISE PLANNING ISSUES 263
IX. GOALS, OBJECTIVES, AND POLICIES 264
X. IMPLEMENTATION OF THE NOISE ELEMENT 266
XI. NOISE TECHNICAL APPENDIX 267

APPENDIX I 249

I. CRUZAN MESA VERNAL POOLS 250
General 250
Description 250
Vegetation 250
Wildlife 251
Wildlife Movement 252
Sensitive Biological Resources 252
Sensitive Plant Communities/Habitats 252
Sensitive Species 252
Ecological Transition Areas (ETAs) 253
II. PIRU CREEK 253
General 253
Description 253
Vegetation 253
Wildlife 254
Wildlife Movement 254
Sensitive Biological Resources 255
Sensitive Plant Communities/Habitats 255
Sensitive Species 255
III. SANTA CLARA RIVER 255
General 255
Description 255
Vegetation 257
Wildlife 259
Wildlife Movement 260
Sensitive Biological Resources 260
Sensitive Plant Communities/Habitats 261
Sensitive Species 261
Ecological Transition Areas (ETAs) 261
IV. SANTA SUSANA MOUNTAINS/SIMI HILLS 261
General 261
Description 261
Vegetation 262
Wildlife 263
Wildlife Movement 264
Sensitive Biological Resources 264
Sensitive Plant Communities/Habitats 264
Sensitive Species 264
Ecological Transition Areas (ETAs) 264
V. VALLEY OAKS SAVANNAH 265

APPENDIX II 267

LIST OF TABLES

Table I-1: Jurisdictional Areas in Santa Clarita Valley Planning Area 4
Table L-1: Farmland Designations in the Planning Area 48
Table C-1: Level of Service Standards for Urban Streets 73
Table C-2: Highway Plan Roadways in the Planning Area 82
Table C-3: Roadway Improvements Needed for Build-Out of Highway Plan 84
Table C-4: Gaps in the Inter-Jurisdictional Bikeway Network - Santa Clarita Valley 104
Table CO-1: Historical Resources in the Santa Clarita Valley Planning Area 148
Table CO-2: Inventory of Park and Open Space Lands 163
Table S-1: Richter Scale of Magnitude for Earthquakes 189
Table S-2: Historic Earthquakes Affecting the Santa Clarita Valley Planning Area from 1855-1999 192
Table N-1: Factors Affecting Human Response to Noise 251
Table N-2: Projected Noise Increases Along roadway Links 259
Table N-A1: Proposed Traffic Noise Contours for Arterial Streets 267
Table N-A2: Proposed Traffic Noise Contours for Freeways 273

LIST OF FIGURES

Figure C-3: Standard Roadway Cross Sections 89
Figure N-1: Typical Sound Levels in A-Weighted Decibels 250
Figure N-2: Single & Cumulative Noise Metric Definitions 252
Figure N-3: Examples of Typical Outdoor CNEL Levels 253

Chapter 1

INTRODUCTION

TABLE OF CONTENTS

I. PURPOSE OF THE SANTA CLARITA VALLEY AREA PLAN 2
II. COMPONENTS OF THE ONE VALLEY ONE VISION PLANNING EFFORT 3
III. ENVIRONMENTAL IMPACT REPORTS 3
IV. PLANNING AREA 3
- Location and Setting 3
- Governance 4
- Historical Overview 5

V. PREVIOUS PLANNING EFFORTS 6
- 1984 Santa Clarita Valley Area Plan 6
- (County of Los Angeles) 6
- City of Santa Clarita Plans 6
- Specific Plans 6

VI. PLANNING ISSUES 7
VII. ORGANIZATION OF THE SANTA CLARITA VALLEY AREA PLAN 8
- Land Use Element 8
- Circulation Element 8
- Safety Element 8
- Conservation and Open Space Element 8

VIII. HOW TO USE THE SANTA CLARITA VALLEY AREA PLAN 9
IX. VISION AND GUIDING PRINCIPLES 10
- VISION 10
- GUIDING PRINCIPLES 10

LIST OF TABLES

Table I-1: LJurisdictional Areas in the Santa Clarita Valley Planning Area 4
Table I-2: Major Adopted Specific Plans in the Planning Area. 7

INTRODUCTION

I. PURPOSE OF THE SANTA CLARITA VALLEY AREA PLAN

The Santa Clarita Valley Area Plan is a component of the Los Angeles County General Plan and is intended to provide focused goals, policies, and maps to guide the regulation of development within the unincorporated portions of the Santa Clarita Valley. This updated Santa Clarita Valley Area Plan replaces in its entirety the Santa Clarita Valley Area Plan adopted by the Los Angeles County Board of Supervisors on February 16, 1984 and subsequently amended on December 6, 1990, which had previously served as the basic planning tool for the unincorporated portions of the Santa Clarita Valley. This Area Plan, as it may be amended from time to time, is intended to serve as a long-term blueprint for development over the next approximately 20-year planning period, except where specific policies address other target dates as set forth in the plan.

According to the General Plan Guidelines published by the State of California[1], an "Area Plan" is a planning tool that focuses on a particular region or community within the overall General Plan area. An Area Plan is adopted by resolution as an amendment to the General Plan as set forth in Section 65350 et. seq. of the California Government Code. It refines the policies of the General Plan as they apply to a smaller geographic area and is implemented by ordinances and other discretionary actions, such as zoning regulations and Community Standards Districts. The Area Plan must be internally consistent with the General Plan of which it is a part. An Area Plan need not address all of the required elements of the General Plan, when the overall General Plan satisfies these requirements.

This Santa Clarita Valley Area Plan has been prepared to ensure consistency with both the County's comprehensive General Plan and with the City of Santa Clarita's General Plan. The Area Plan does not include all of the mandatory General Plan Elements, such as Housing, because the County's overall General Plan addresses all these mandatory issues on a Countywide basis. The Area Plan contains detailed background, maps, goals and policies regarding land use and circulation planning, and policy-level discussions of other issues relating to specific needs and characteristics of the Santa Clarita Valley such as open space preservation, trail planning, hillside development, and historic preservation.

The 2009 Santa Clarita Valley Area Plan is the culmination of a unique cooperative effort with the City of Santa Clarita to work together in creating a unified vision for the Santa Clarita Valley. The Santa Clarita City Council and Los Angeles County Board of Supervisors initiated this joint planning effort, called *One Valley One Vision*, in recognition of a mutual need to coordinate land uses and the pace of development with provision of adequate infrastructure, conservation of natural resources, and common objectives for the Valley. Major goals of the *One Valley One Vision* joint planning effort were to achieve greater cooperation between the County and the City, coordinated planning for roadways, infrastructure, and resource management, and enhanced quality of life for all who live and work in the Santa Clarita Valley.

The *One Valley One Vision* project included public input during all stages of the planning process. Community participation was solicited through surveys, meetings and workshops, mailings, maintenance of an informational website, stakeholder interviews, children's and youth activities, visioning workshops, outreach to Spanish-speaking residents through meetings and personal contact, placement of door-hangers, bus-shelter advertising, newspaper advertisements, a telephone tree, the Valley Congress, correspondence, and public hearings. An initial year-long public participation process resulted in formulation of community recommendations for the future of the Valley. These recommendations were published and ratified by a diverse collection of community representatives as the Vision and Guiding Principles, and are set forth in their entirety in Section IX, below. The Guiding Principles also form the basis for more specific issue-based goals and policies contained in the various Area Plan elements.

Implementation of the *One Valley One Vision* policies will be managed by the County of Los Angeles through adoption of this Area Plan as a part of its General Plan, and through use of the goals, policies and maps contained herein to establish zoning regulations and guide new development proposals within unincorporated portions of the Santa

1 Governor's Office of Planning and Research, *State of California General Plan Guidelines, 2003*, p. 17.

Clarita Valley. Those portions of the planning area within the incorporated boundaries of the City of Santa Clarita will be regulated by adoption of the City's updated General Plan, which has also been revised to reflect the common goals and policies agreed to as part of the *One Valley One Vision* effort.

Together, the Santa Clarita Valley Area Plan and the City's General Plan will clarify and articulate the County's and City's intentions with respect to the rights and expectations of the general public, property owners, special interest groups, prospective investors, and business interests. Through these documents, the County and the City inform the community of their common goals, policies, and standards.

II. COMPONENTS OF THE ONE VALLEY ONE VISION PLANNING EFFORT

The joint County-City effort to provide for comprehensive planning of the Santa Clarita Valley has resulted in adoption of the following planning documents:

- This Santa Clarita Valley Area Plan, adopted by the Board of Supervisors on _____ by adoption of Resolution No. _____. The Santa Clarita Valley Area Plan includes the following elements, with maps, goals and policies specifically targeting the Santa Clarita Valley:
    - Land Use
    - Circulation
    - Safety
    - Conservation and Open Space
    - Noise.
- The updated City of Santa Clarita General Plan, adopted by the City Council on _____ by adoption of Resolution No. _____. The City's General Plan includes all elements mandated by State law (Section 65300 et. seq. of the California Government Code), with open space and conservation combined into one element, as follows:
    - Land Use
    - Circulation
    - Housing
    - Noise
    - Conservation and Open Space
    - Safety
    - Economic Development

Both documents became effective on their respective date of adoption. As required by State law, all subsequent planning and development decisions within the Santa Clarita Valley planning area shall be determined to be consistent with these documents, except as provided herein for any land use applications pending during the plan preparation and adoption process.

III. ENVIRONMENTAL IMPACT REPORTS

Separate Environmental Impact Reports were prepared for the *One Valley One Vision* effort, one for the Santa Clarita Valley Area Plan one for the City's General Plan Update. The Draft Environmental Impact Reports (DEIRs) were was prepared in accordance with the requirements of the California Environmental Quality Act. The DEIR prepared for the County's Area Plan (SCH #2008071119) was circulated for public review on September 4, 2009. Responses to the comments received on the DEIR were prepared and transmitted to responding agencies on _____. The DEIR was reviewed by the Regional Planning Commission at a noticed public hearing on October 5, 2009. Responses to comments and other relevant documentation were incorporated into the Final EIR, which was certified after a public hearing by the Board of Supervisors on _____.

IV. PLANNING AREA

Location and Setting

The *One Valley One Vision* planning effort encompassed the entire Santa Clarita Valley, generally bounded on the west by the Ventura County line, on the north by the Los Padres and Angeles National Forest areas, on the east by the Angeles National Forest, and on the south by the major ridgeline separating the Santa Clarita from the San Fernando Valley. The County's Area Plan includes unincorporated areas and the communities of Agua Dulce, Bouquet Canyon, Castaic, Fair Oaks Ranch, Hasley Canyon, Newhall Ranch, San Francisquito Canyon, Val Verde, Sunset Pointe, Southern Oaks,

Stevenson Ranch, and Westridge. The incorporated City of Santa Clarita communities of Canyon Country, Newhall, Saugus, and Valencia are included in the City's General Plan update. The entire planning area includes over 480 square miles, of which about 195 square miles are in the County unincorporated area and 52 square miles are within the City limits. The City's adopted sphere of influence includes approximately 29 square miles which, although still under County jurisdiction, is also addressed in the City's General Plan. Table I-1 below summarizes jurisdictional areas, and Figure I-1 shows the planning area boundaries.

Table I-1:
Jurisdictional Areas in Santa Clarita Valley Planning Area

Jurisdiction	Area (square miles)
Total Planning Area • One Valley One Vision Area • United States Forest Service Area	483.940 246.709 237.231
County of Los Angeles	194.574
City of Santa Clarita (incorporated boundaries)	52.658
City's Adopted Sphere of Influence*	29.537

*Note: The City's Sphere of Influence is included in County area, but must also be included in the City's General Plan area boundaries for planning purposes.

The planning area is located approximately 30-40 miles northwest of downtown Los Angeles. Existing land use patterns can be traced largely to the influence of geographic constraints. The valley is framed by mountain ranges, including the San Gabriel, Santa Susana, and Sierra Pelona ranges. Angeles National Forest land, most of which is undeveloped and protected, surrounds much of the planning area. The natural topography of the Santa Clara River and its many tributary canyons, in conjunction with the National Forest holdings, has focused growth in the Santa Clarita Valley on the more central, level areas between the Valley's two major freeways. Most of the development has occurred adjacent to the Golden State (Interstate 5) and Antelope Valley (State Route 14) freeways, concentrating urbanization within a "V" shaped area formed by these two major transportation routes.

The Valley's topography is characterized by rolling terrain, canyons, creeks, and the Santa Clara River. The river flows from east to west for almost 100 miles from its headwaters near Acton to the Pacific Ocean, through a valley formed between the Santa Susana Mountains and its transverse ranges. That portion of the river within the planning area is known as the Upper Santa Clara River, and has a watershed consisting of approximately 680 square miles.

The Santa Clarita Valley is located at the convergence of several major transportation and utility facilities. The Southern Pacific Railroad, the Golden State and Antelope Valley freeways, and two major aqueducts traverse the Valley. Oil, natural gas and power lines enter from the north through Tejon Pass, cross the Valencia-Newhall community, and then exit near Newhall Pass.

Governance

The Santa Clarita Valley contains territory under the jurisdiction of two political entities. The unincorporated territory under the jurisdiction of Los Angeles County is addressed in this Area Plan, and the incorporated area within the boundaries of the City of Santa Clarita is included in the City's General Plan. Both agencies have revised their Plans to reflect the goals and policies of the *One Valley One Vision* planning process. The City's jurisdiction is located generally in the central portion of the Valley, and is largely developed. The unincorporated area generally surrounds the City and much of it is either undeveloped or is developed with lower density residential and rural uses. However, there are several areas within the County's jurisdiction that have developed or are in the process of being developed with urban uses; some of these areas have been developed through adoption of Specific Plans, as described in Section V, below.

The County has established various advisory groups and councils to advise the Board of Supervisors and staff regarding local planning issues. These include the Agua Dulce Town Council; the Castaic Area Town Council; the San Francisquito Canyon Preservation Association; the West Ranch Town Council (including West Ridge, Stevenson Ranch, Southern Oaks, and Sunset Pointe); and the Val Verde Civic Association. Although these groups do not have statutory authority, they provide valuable input to decision makers regarding local issues.

The City of Santa Clarita incorporated on December 15, 1987. At incorporation, the City boundaries included 47 square miles and a population of about 130,000. From 1987 through 2006 the City processed 28 annexations, expanding

its boundaries to include territory for which residents or property owners had petitioned to join the City. The City's 2006 population was 177,400, representing a 3 percent annual growth rate since incorporation (including natural growth, in-migration and annexation).

The City's policy on annexation requests has been to welcome additional residents who wish to join the City and to provide new residents with full representation and City services. Both the City and the County have taken the position that residents in unincorporated areas have the right and responsibility to determine the jurisdictional boundaries that are appropriate for their area.

Historical Overview

The earliest evidence of human occupation in the Upper Santa Clara River area dates from 7,000 to 4,000 years ago, and was recovered from two sites near Vasquez Rocks. Native Americans of Shoshonean-speaking culture groups probably began to reach the planning area about 1,500 years ago. Members of the Tataviam culture group – a Takic-speaking subgroup of the Shoshonean language group – have been in the Valley since about 1,000 B.C., and were described as a distinct linguistic group when they were first encountered by Pedro Fages in 1776. The Tataviam lived primarily on the upper reaches of the Santa Clara River, east of Piru Creek and extending from the Antelope Valley to the San Gabriel Mountains. Archaeological data indicate that subsistence patterns and ritual practices were similar to neighboring Chumash and Gabrielino culture groups; these groups were hunter-gatherers, subsisting on acorns, yucca, juniper berries, seeds, and small game. Many of the place names in the valley, such as Castaic, Piru, and Hasley, reflect a Tataviam linguistic origin.

In the late 1770's, Gaspar de Portola claimed the Valley for Spain and European colonists began to arrive. Around 1779, the Valley became part of the San Fernando Mission and was used for cattle grazing. The mission was divided into large ranches when California was added to the Mexican Republic, and the western portion of the Santa Clarita Valley became part of Rancho San Francisco. In 1842 gold was discovered in Placerita Canyon, initiating California's first gold rush; several million dollars worth of gold was mined in the valley during this period. After the war with Mexico ended in 1848, the United States gained control of the area. Two years later, California was admitted to the Union as a state.

Most of the growth in the Santa Clarita Valley after 1850 was fueled by the development of railroads and oil production. In 1875, Henry Mayo Newhall purchased Rancho San Francisco and renamed it Newhall Ranch. Newhall knew the railroad would transect the area and sold rights-of-way and a town site to the Southern Pacific Railroad. In 1876, the northerly and southerly rail lines were joined in Canyon Country at Lang Station.

Also in 1876, California's first oil producing well began operation in Pico Canyon and the state's first oil refinery was built in Railroad Canyon. Besides railroad and oil activities, the Valley was also discovered to be a good setting for filmmakers shooting westerns. The Valley's rugged canyons have been used as a backdrop for many television shows and feature films. Several of the Valley's remaining historical sites are associated with this era.

From the 1960's on, growth in the Santa Clarita Valley was fueled by the need for affordable housing in proximity to the Los Angeles basin and San Fernando Valley. Post-war suburban growth pushed its way north from the San Fernando Valley after the designation and expansion of Interstate 5 as a federal highway. Based on statistics from the Department of Regional Planning, the Santa Clarita Valley grew by over 45,000 dwelling units from 1960 through 1989, with over 20,000 units constructed during the 1980's. Rapid residential growth during this period led to a call for local government and incorporation of the City in 1987. After incorporation, residential growth continued within both City and County areas and development of commercial retail, office, and industrial uses increased, particularly along the Interstate 5 corridor. According to County estimates, there are now approximately 59,000 dwelling units within the City and 20,000 units in County unincorporated areas. An additional 42,000 units have been approved (6,000 in the City and 36,000 in the County), and other applications for new development are pending. Moreover, planning for areas adjacent to the Santa Clarita Valley, such as the Tejon Ranch north of Castaic and the growing cities of Lancaster and Palmdale to the north along State Route 14, are expected to impact transportation and other infrastructure within the Valley. A major challenge in future planning for the Santa Clarita Valley will be managing the

anticipated growth within the north Los Angeles County region, in a manner that preserves both quality of life and the environment.

V. PREVIOUS PLANNING EFFORTS

The Santa Clarita Valley has been the subject of several previous planning efforts by the County and the City of Santa Clarita. Following is a brief summary of prior adopted plans.

1984 Santa Clarita Valley Area Plan (County of Los Angeles)

The initial Santa Clarita Valley Area Plan was adopted in 1984, based on assistance from the Santa Clarita Valley Planning Advisory Committee (a citizens' advisory committee representing a variety of local interests and expertise). It was designed to provide decision-makers with a policy framework to guide development decisions in the Valley.

Following its adoption by the Board of Supervisors in 1984, two significant changes occurred which affected the Area Plan. The first of these was the incorporation of the City of Santa Clarita in 1987, including the communities of Newhall, Valencia, Saugus and portions of Canyon Country and Sand Canyon. Additionally, growth in the Santa Clarita Valley during the 1980's exceeded initial expectations, requiring revision of growth projections for population, employment, and housing. To reflect these changes, the Board of Supervisors adopted a comprehensive update of the Santa Clarita Valley Area Plan in 1990.

City of Santa Clarita Plans

After its incorporation in 1987, the City undertook preparation of its first comprehensive General Plan, which was adopted on June 26, 1991 by City Council Resolution 91-98. The Plan has been updated from time to time to reflect changing conditions, requirements, and policies.

To implement its General Plan the City adopted a Comprehensive Development Code, containing zoning and subdivision regulations, which was most recently updated in 2008. The City also adopted the Santa Clarita Beautification Master Plan in 2001, which contains citywide design guidelines as well as specific guidelines tailored to maintain community character within Canyon Country, Newhall, Saugus, and Valencia. According to the document, "the Beautification Master Plan addresses concepts for streetscape design, landscape enhancement, gateways, and monumentation and signage, on both a regional and a community scale. The Master Plan strives to maintain the identity of individual communities while unifying the entire City through design."

In addition, the City adopted a set of Architectural Guidelines in 2002 for the purpose of giving "clear direction for the renovation of existing buildings and construction of new buildings." The Guidelines were prepared with the stated intent of retaining and encouraging architectural variety, promoting quality, and maintaining the scale and appearance of the City, with attractive development that preserves and enhances natural features and provides amenities for enjoyment of the community.

Specific Plans

Both the County and the City have used the Specific Plan process to provide comprehensive planning for large residential communities and business complexes in the planning area. As described in the State's General Plan Guidelines, a Specific Plan is often used to address the development requirements for a single project, such as a planned community. It may combine policy statements with development regulations, and typically emphasizes development criteria and standards. The text and diagrams of a specific plan address necessary infrastructure and facilities as well as land uses and open space, including programs and regulations necessary to finance infrastructure and public facilities. Specific Plans may be adopted by resolution or ordinance, and although they are not part of the general plan, they must be consistent with the General Plan.

Table I-2 summarizes some of the major specific plans already adopted within the planning area that govern land use and development for larger development projects:

Table I-2: Major Adopted Specific Plans in Planning Area

Name	Jurisdiction	Acres	Uses	2007 Status
Newhall Ranch	County	11,963	20,885 du*	Two tracts pending (10,686 du)
Northlake	County	1330	3623 du, 2 schools, commer-cial area	Specific plan amend-ment in process
Canyon Park (Fair Oaks Ranch)	County	308	4,763 multi-family units and 637 single-family units	Partially built
North Valencia I	City	707	2,000 du, 636,000 sq.ft. commer-cial, 167,000 sq ft. industrial, open space	Res. uses built out
North Valencia II	City	596	1900 du, 150,000 sq.ft. commer-cial	Res. uses built out
Porta Bella	City	988	2911 du, 96 ac commer-cial/office, open space	Awaiting clean-up of hazard-ous mater-ials
Downtown Newhall	City	?	1092 new du 1,017,000 new sq. ft. commer-cial	Adopted Dec. 2005; street improve-ments underway

*du=dwelling units

Since adoption of the previous comprehensive City and County Plans for the Santa Clarita Valley in the 1990's, the Valley has evolved from a rural and suburban bedroom community into a full-service urban area. Valley residents and policy makers have recognized the need for updated planning that focuses on the challenges and opportunities of the coming decades, leading to the *One Valley One Vision* planning process.

VI. PLANNING ISSUES

Through the planning and visioning process of the *One Valley One Vision* effort, the County and City identified issues of Valley-wide significance that, it was felt, were best addressed in a comprehensive and coordinated manner. In recognition of the anticipated continuation of rapid growth, the *One Valley One Vision* planning effort focused on ways to manage this growth and addressed the need for mutual cooperation on the following issues:

1. Phasing of new development with provision of adequate infrastructure required to serve such new development, in a manner that does not adversely impact existing residents;

2. Planning for adequate sports, park and recreation facilities to serve both City and County residents;

3. Coordination on planning and construction of streets, including location, design, and timing of improvements, in order to increase mobility and access, and reduce congestion;

4. Preservation of an open space green belt around the urbanized central portions of the Valley, in order to preserve hillside areas and significant ridgelines, conserve biological resources and water quality, provide opportunities for recreation, and make more efficient use of existing urban infrastructure in the core areas;

5. Planning for integrated trail systems, including bikeways, walkways, and multi-purpose trails;

6. Planning for a balanced mix of residential and business-oriented uses that will increase job creation, promote a vibrant economy, provide a wide variety of goods and services to residents, and ensure adequate housing opportunities to serve all income levels and household types;

7. Preservation and enhancement of rural, suburban, and urban lifestyles and community character within the diverse communities comprising the Santa Clarita Valley;

8. Conservation of significant resources, including historic and cultural sites, riparian and other protected habitat areas, water supply and quality, and scenic areas;

9. Preservation of public health, safety, and welfare, through identification of natural and environmental hazards, including noise, seismic, fire, and airborne emissions, and designation of land uses in an appropriate manner to mitigate these impacts;

10. Creation of vibrant town centers with access to public transit systems through planning for transit-oriented development around rail stations;

11. Coordination on enhancing public and community services such as law enforcement, fire protection, libraries, and cultural centers;

12. Planning for those intensive uses with potential land use and environmental impacts which are needed to support the Valley's anticipated growth, including landfills, aggregate mining and processing, waste transfer and processing facilities, and similar facilities; and

13. Planning for social infrastructure and services needed to ensure that the basic needs of all Valley residents are met, including emergency housing, transitional housing, care facilities, medical care and related services, and ongoing coordination with school districts and colleges.

VII. ORGANIZATION OF THE SANTA CLARITA VALLEY AREA PLAN

The Santa Clarita Valley Area Plan consists of various elements, described below. Each element contains a section describing the background and issues addressed in the element, a set of goals, objectives and policies to be achieved during the planning period, and a list of implementation measures to ensure compliance with the goals and policies outlined in the element.

Land Use Element

The Land Use Element contains a land use map and descriptions of the designations applied to land within the Santa Clarita Valley to guide the type, intensity, and density of future uses. The element also contains goals, policies, and implementation measures to ensure that new development and the use of land reflect community goals, enhance quality of life, are supported by adequate services, utilities, roadways and other infrastructure, ensure public safety through consideration of hazardous land use conditions, and conserve valuable resources and amenities within the Valley.

Circulation Element

The Circulation Element contains maps showing major transportation facilities within the Santa Clarita Valley, including streets and highways, rail and public transit routes, stations and terminals, airport facilities, and trails. Descriptions of each type of transportation facility are given in the element, along with goals, policies, and implementation measures to ensure that circulation needs are met in a timely manner to meet the needs of Valley residents.

Safety Element

The Safety Element contains maps, goals, policies, and implementation measures to ensure that residents are not exposed to health risks due to noise, air quality, or environmental hazards such as earthquakes or wildland fires. While the County's General Plan contains comprehensive elements for Safety and Noise, this Area Plan contains specific public safety information and policies to guide development decisions in the Santa Clarita Valley based upon local conditions.

Conservation and Open Space Element

The Conservation and Open Space Element contains maps, goals, policies, and implementation measures to ensure preservation of an open space greenbelt around most portions of the Santa Clarita Valley, in addition to preserving water quality, historic and cultural resources, scenic views,

and providing recreational facilities to enhance the quality of life for Valley residents. A key component of this element is preservation of resources within portions of designated Significant Ecological Areas (SEA's) within the County General Plan. As with the Public Safety Element, more comprehensive County-wide policies are contained within elements of the County General Plan; however, conservation and open space issues specific to the Santa Clarita Valley are addressed in this Area Plan.

VIII. HOW TO USE THE SANTA CLARITA VALLEY AREA PLAN

This Santa Clarita Valley Area Plan is a component of the Los Angeles County General Plan. All of its maps, goals, policies, and implementing actions must be consistent with the Countywide chapters and elements of the General Plan. Users should be guided by the following:

- Should any areas of conflicting interpretation arise, unless specifically noted, the provisions of the Countywide General Plan shall prevail.

- No policy, whether in written or diagram form, shall be given greater weight than any other policy in evaluating the policy intent of this Santa Clarita Valley Area Plan.

- The Land Use Policy Map is never to be interpreted as a stand-alone document, but must be interpreted in light of applicable written policies in the Area Plan.

- The interpretation of policy should be governed by the Vision and Guiding Principles of the Santa Clarita Valley Area Plan, as further clarified in the Area Plan.

- Staff Consultation: While the Santa Clarita Valley Area Plan is meant to be a guide for the public in determining allowable uses of private property, the public is encouraged to consult with members of the County's planning staff prior to investing in the preparation of development plans that might later prove to be inconsistent with the Santa Clarita Valley Area Plan.

- Non-Conforming Uses: All legally established uses in existence at the time of adoption of this Santa Clarita Valley Area Plan are deemed to be consistent with this plan. Existing legal lots are not affected, and may be developed (following current development requirements) regardless of lot size. Applications requesting expansions of such uses, however, which are not consistent with the goals and policies of the Santa Clarita Valley Area Plan will be required to be brought into compliance with the Area Plan in order to receive approval. Zoning Ordinance provisions regarding Non-Conforming Uses may also apply.

- Pending subdivision applications which were submitted prior to adoption of this Area Plan must meet the following General Plan consistency requirements:

    - Applications pending as of the effective date of adoption of this Plan, and submitted prior to September 4, 2009, shall be found consistent with the Santa Clarita Area Plan in effect as of the date such application was submitted.

    - Applications pending as of the effective date of adoption of this Plan, and submitted on or after September 4, 2009, shall be found consistent with the Santa Clarita Valley Area Plan in effect at the time of final County approval of the tentative map.

- Pending discretionary applications such as zone changes, use permits, and oak tree permits must be found consistent with the Area Plan in effect at the time of final County approval of the application.

In addition to the direction provided by this Santa Clarita Valley Area Plan, new development and land use activities are regulated by many agencies other than the Department of Regional Planning. Obtaining approval for certain types of actions may require proof of the availability of public services – including water/sewer, power, police, fire and schools – as well as fair-share provisions for public parks, libraries, streets, and other public facilities.

Along with the standard building requirements and zoning regulations that apply throughout the County, development in hillside areas often requires special considerations and permits from local, state, and federal agencies. Such

controls are intended to ensure compatibility with off-site resources – such as downstream water quality – in addition to regulating the on-site impacts. For example, on-site sewage disposal systems, necessary in the more remote areas not served by public sewers, may require adherence to the requirements of several agencies due to requirements for grading, soil conditions, and water quality. These agencies include the County Departments of Public Works and Public Health, as well as the California Regional Water Quality Control Board. Also, any alteration of a streambed will likely require permits from the California Department of Fish and Game, and possibly from the U. S. Army Corps of Engineers, in addition to compliance with County site design regulations. The applicant for any such application is advised to consult all applicable departments and agencies.

IX. VISION AND GUIDING PRINCIPLES

The following Vision and Guiding Principles have been formulated to serve as the framework for the preparation of consistent Plans for the Santa Clarita Valley by the City of Santa Clarita and County of Los Angeles. They have been written in consideration of the extensive public input received during the *One Valley One Vision* process through surveys, stakeholder interviews, children's and youth activities, Visioning Workshops, and the Valley Congress. Previous drafts of the Guiding Principles have been modified to reflect the majority opinion and suggestions of the October 25, 2001 Valley Congress participants. Additional changes have been made in language to simplify language and improve the technical accuracy of the document. The Guiding Principles have also been included throughout the Area Plan in the goals and policies of each element.

VISION

The Santa Clarita Valley is a wonderful place to live, work, play, and raise a family. The Valley is a mosaic of unique villages with growing ethnic diversity, each with individual identities, surrounded by a greenbelt of forest lands and natural open spaces. These villages are unified by the Valley Center activity core, a beautiful environmental setting that includes the skyline and Santa Clara River, a vibrant growing economy, and a rich history of common social values. The Valley's network of roads, transit, and trails links these villages and provides access to a wide offering of quality education, cultural, recreation, and social services and facilities.

Life in the Santa Clarita Valley will continue to be exciting, enjoyable, and rewarding through a broad range of housing types, an increase in quality jobs in close proximity to all neighborhoods, and transit-oriented villages complemented by excellent schools, attractive parks and other recreational amenities, expanded trail networks, and preserved natural resource areas. As the Valley moves forward, it is crucial that sound and sustainable planning principles shape new villages and enhance established neighborhoods. Implementing policies to increase mobility and accessibility, manage traffic congestion, improve air quality, and conserve water and energy resources throughout the Valley is essential to maintain the overall high quality of life.

GUIDING PRINCIPLES

Development in the Santa Clarita Valley shall be consistent with these guiding principles as agreed upon by the City of Santa Clarita and the County of Los Angeles. The principles will be carried out with the application of common standards for land use development, infrastructure and resource management, as appropriate or applicable. The principles implement the vision for the Santa Clarita Valley, which is intended to sustain and enhance environmental resources, economic vitality, and the social well being of its residents.

Management of Growth

1. Growth in the Santa Clarita Valley shall account for the visions and objectives for each community and must be consistent with principles, as subsequently defined in this document, for the protection of the Valley's significant environmental resources. It must also be based on the availability of or ability to provide adequate infrastructure, schools, and public services, and must be carefully planned to benefit the community's economy, lifestyles and needs.

2. Growth shall occur within and on the periphery of previously developed areas, rather than as "leapfrog" development or in areas of critical environmental habitat or natural hazards, and taking into consideration accessibility to infrastructure and public services.

3. Development shall be prioritized in areas for infill and redevelopment sites within currently developed areas consistent with community character objectives and those for which the City and County have approved entitlements. Commitments for new development outside of these areas shall be made in accordance with the other principles defined in this document.

4. Higher density development, including multi-family housing and mixed use projects that integrate housing with commercial uses, shall be targeted in areas adjacent to existing and planned transit corridors, stations and key activity centers, such as the Valencia Town Center and portions of Newhall and Soledad Canyon Road.

Environmental Resources

5. The natural buffer area surrounding the entire Valley, which includes the Angeles National Forest, Santa Susanna, San Gabriel, Sierra Pelona, and Del Sur mountains, shall be preserved as a regional recreational, ecological, and aesthetic resource.

6. The Santa Clara River corridor and its major tributaries shall be preserved as open space to accommodate storm water flows and protect critical plant and animal species.

    a. Uses and improvements within the corridor shall be limited to those that benefit the community's use of the river in its natural state.

    b. Development on properties adjacent to, but outside of the defined primary river corridor, shall be:

- located and designed to protect the river's water quality, plants, and animal habitats, controlling the type and density of uses, drainage runoff (water treatment), and other relevant elements; and

- designed to maximize the full range of river amenities, including views and recreational access, while minimizing adverse impacts to the river.

7. The Santa Clarita Valley's prominent ridgelines shall be preserved and hillside development shall be limited to protect their valuable aesthetic and visual qualities intrinsic to the Valley landscape.

8. Development shall be located and designed to minimize the impact on the Valley topography, emphasizing the use of grading techniques for development pads that mimic the natural topography in lieu of repetitive flat pads to the extent feasible and consistent with a community's open space objectives.

9. Development shall be located and designed to protect oak, sycamore, and other significant indigenous woodlands.

10. Biological resources in the designated Significant Ecological Areas (SEAs) shall be protected through the siting and design of development to account for and be highly compatible with the SEA resources. Specific development standards shall be identified to control the types of land use, density, building location and size, roadways and other infrastructure, landscape, drainage, and other elements to assure the protection of the critical and important plant and animal habitats of each SEA. In general, the principle shall be to minimize the intrusion and impacts of development in these areas with sufficient setbacks, or buffers, to adequately protect the resources.

11. New development shall be designed to improve energy efficiency, reducing energy and natural resource consumption by such techniques as the use of solar generators, recycling of treated wastewater, capture of storm runoff on-site, and use of recycled materials in building construction, native and drought-tolerant landscape, and energy and water efficient appliances and systems.

Land Uses

12. The Santa Clarita Valley shall contain a diversity of land uses that support the needs of current and future residents including housing, schools, libraries, parks, retail, business and industry, civic institutions, medical and social services, cultural, entertainment, open spaces, and comparable uses.

13. The type and density of land uses in the Santa Clarita Valley shall be varied to reflect the special characteristics, life styles, and opportunities that differentiate its communities. A choice of urban, suburban, and rural environments will be provided.

14. Valley communities shall contain a mix of uses that support the basic needs of residents – places to live, shop, recreate, meet, socialize, and enjoy the environmental setting – that are appropriate and consistent with their community character. Regionally oriented uses that serve residents of the entire Valley or export goods and services may be concentrated in key business centers rather than uniformly dispersed throughout the Valley communities.

15. Development in the Valley shall be guided by a common set of land use designations and standards for comparable uses in comparable locations. These standards, however, may be varied to reflect the unique intentions for the quality and character of the distinct communities that comprise the Valley.

Residential Neighborhoods

16. The Valley shall contain a mix of housing types that meet the diverse needs of residents, and offer choices for the Valley's population and lifestyles (e.g. ages, education, income, etc.) that are appropriate and consistent with their community character. This shall include a combination of single- and multi-family, owner occupied and rental units within each community, and mixed-use (i.e., integrated housing with commercial or office uses) development in key activity centers.

17. The Valley is committed to providing affordable work force housing to meet the needs of individuals employed in the Santa Clarita Valley.

18. Multi-family housing developments shall contain adequate recreational and open space amenities on-site and be designed to ensure a high quality living environment. Their architectural treatment and building massing shall complement the characteristics of surrounding single-family residential neighborhoods.

19. Neighborhood scale development shall be encouraged by promoting mixed density of housing units consistent with community character objectives and limiting the number and acreage of multi-family units that can be developed in any single location.

20. Housing developments located in the more urbanized communities of the Valley shall be designed to create a sense of neighborhood by:

    - promoting walkability and containing places that serve as centers of activity and identity (e.g. schools, multi-purpose facilities, parks, convenience services, neighborhood commercial centers, etc.);
    - containing a mix of housing types, densities, and parcel sizes, avoiding large areas and an over-concentration of homogeneous density units;
    - minimizing the dependence on, prominence, and area dedicated to the automobile;
    - featuring architectural design treatments along all frontages of new housing to promote continuity of architectural scale and rhythm and avoid "blank walls"; and
    - including pedestrian linkages, landscaped parkways and green corridors, and separated trails (e.g. pedestrian, bicycle or equestrian) where appropriate and feasible.

Vital Economy

21. Commercial and retail uses will be expanded and new centers developed to meet the needs of the Valley's residents, as supportable by the market, minimize the need to travel outside of the Valley, complement (and not adversely compete with) existing uses, and contribute to a balanced Valley economy.

22. New "clean" industries and businesses that provide job opportunities for local residents and enhance the economy shall be encouraged within and adjacent to existing and planned business centers/parks, and adjacent to transportation corridors.

23. Older commercial areas and corridors that are economically and/or physically obsolete or deteriorated, such as portions of Castaic, Val Verde, Newhall, Lyons Avenue, Sierra Highway, San Fernando Road, and Soledad Canyon Road, shall be redeveloped for commercial, mixed use, residential or other appropriate uses that complement and serve adjoining land uses and can be adequately supported by the market. Where appropriate, redeveloped uses and buildings shall reflect the area's important architectural and cultural history.

Mobility

24. A unified and well-maintained network of highways, streets, truck routes, bikeways, and pedestrian paths will provide access among Valley communities and to regional centers outside of the Valley.

25. Santa Clarita Valley's streets and highways shall be developed and maintained according to common standards for right-of-way, paving and other improvements, landscape, signage, lighting, and curb cuts for "like" street categories. These standards shall consider objectives for the character of the Valley's communities, consistent with public health and safety.

26. A continuous bikeway network shall provide circulation within each community, connect the various Santa Clarita Valley communities, and provide access to surrounding open spaces.

27. An integrated transit system shall serve the Valley (rail, bus, shuttle, other) offering convenient alternatives to the automobile, minimizing congestion and providing access to regional transportation systems, such as Metrolink.

Infrastructure

28. The location and timing of development shall be coordinated with the provision of adequate water, wastewater treatment, storm drainage, telecommunications, energy, roads and other infrastructure.

29. Public infrastructure shall be improved, maintained and expanded as needed to meet the needs of projected population and employment growth and contribute to the Valley's quality of life.

30. Common standards for providing utility infrastructure (e.g. flood control channels, energy transmission, and telecommunications) shall be developed and applied throughout the Valley, in consideration of the character of each community.

Schools and Public Services

31. The City and County shall work in partnership with the Santa Clarita Valley school districts and the State of California to ensure the development of adequate facilities and programs to serve the needs and achieve a high level of academic excellence for local students.

32. While the City and County do not have direct authority over the development of public schools, they shall continue to coordinate with the school districts on issues of mutual interest such as transportation services, shared facilities, and long-range planning for Valley schools.

33. Public services (e.g. police, fire, health care, youth, seniors, homeless, etc.) shall be expanded to support community needs and population growth.

Recreation

34. The City and County shall recognize that trails are an important recreational asset that, when integrated with transportation systems, contribute to mobility throughout the Santa Clarita Valley.

35. A continuous and unified hiking and equestrian trail network for a variety of users and developed according to common standards shall connect and unify Santa Clarita Valley communities and be interconnected with the regional and statewide system (e.g., Pacific Crest Trail).

36. New parklands will be developed throughout the Santa Clarita Valley, with priority on locations that are not now adequately served. These shall encompass a diversity of park types and functions, including passive and active areas, in consideration of the recreational needs of the residents to be served.

    a. Common park standards shall be developed and applied throughout the Valley, consistent with community character objectives.

b. A range of parkland types, sizes and uses shall be provided to accommodate recreational and leisure activities.

Chapter 2

LAND USE ELEMENT

TABLE OF CONTENTS

I. PURPOSE & INTENT 16
II. RELATION OF THE LAND USE ELEMENT TO OTHER ELEMENTS OF THE AREA PLAN 17
- Circulation Element 17
- Housing Element 17
- Conservation and Open Space Element 18
- Noise Element 18
- Safety Element 18

III. LAND USE CATEGORIES 18
IV. MEETING THE CHALLENGES OF REGIONAL GROWTH 19
V. VALLEY OF VILLAGES 20
- Newhall 21
- Valencia 22
- Saugus 22
- Canyon Country 23
- Sand Canyon 23
- Placerita Canyon 24
- Castaic 24
- Val Verde 25
- Agua Dulce 25
- West Ranch (Stevenson Ranch, Sunset Pointe, Westridge, and Pico Canyon) 25

VI. SPECIFIC PLANS 26
- Specific Plan Process 26
- Approved Specific Plans 26
- Newhall Ranch 26
- Northlake 27
- Canyon Park (Fair Oaks Ranch) 27
- Whittaker Bermite Property 27
- Downtown Newhall Specific Plan 27
- Valencia Specific Plans 27
- Pending and Future Specific Plans 28

VII. DEMOGRAPHICS CHARACTERISTICS OF THE SANTA CLARITA VALLEY 28
- Past Population Trends 28
- Projections for Population and Households 28

VIII. ECONOMIC ISSUES FOR THE SANTA CLARITA VALLEY 30
- Economic Assets in the Valley 30
- Employment Trends 31
- Employment Projections 32
- Projections for Commercial and Industrial Development 32
- Jobs/Housing Balance 33
- Economic Development Efforts 33

IX. URBAN FORM, COMMUNITY DESIGN, AND CITY BEAUTIFICATION 35
- Urban Form 36
- Community Design 37
- City Beautification 37

X. PLANNING FOR PUBLIC HEALTH AND ENVIRONMENTAL QUALITY 39
XI. COORDINATION OF LAND USE PLAN WITH RESOURCES AND OTHER AGENCIES 40
- Water Availability 40
- Schools 41
- Parks 43
- Libraries 44
- Local Government Offices 44
- Health Services 44
- Cultural Amenities 45
- Landfills 46
- Mineral Resources 46
- Noise and Flood Hazards 47
- Agricultural Resources 47
- Law Enforcement and Fire Protection 48

XII. LAND USE MAP DESIGNATIONS 49
- Land Use Designation Descriptions 49

XIII. REFERENCE TO OTHER AREA PLAN ELEMENTS 55
XIV. SUMMARY OF NEEDS FOR LAND USE PLANNING IN THE SANTA CLARITA VALLEY 55
XV. GOALS, OBJECTIVES, AND POLICIES 56
XVI. IMPLEMENTATION OF THE LAND USE ELEMENT 68

LIST OF TABLES

Table L-1: Farmland Designations in the Planning Area 48

Land Use Element

I. PURPOSE & INTENT

State law requires that the Area Plan include a Land Use Element that designates land for housing, business, industry, and open space, as well as other uses deemed appropriate by the agency (Government Code Sections 65302-03). Although all the Area Plan elements are needed to comprehensively address multiple planning issues, the Land Use Element is generally considered to be the most representative of and essential to the Area Plan, because it guides and directs the physical development of the community. This element constitutes the required Land Use Element for the City's General Plan; in addition, it forms the land use component of the Area Plan adopted for the Santa Clarita Valley by the County of Los Angeles.

The Land Use Element is the City's and County's long-term blueprint for development of property to meet the Santa Clarita Valley's future needs for new housing, retail, office, industrial, parks, open space, and other uses. The Element contains a Land Use Map and goals, policies and programs designed to address the development issues facing the community through a variety of land use planning strategies, along with the type, intensity, quality, and location of future uses within the planning area. Issues identified within each of the other Area Plan elements have been integrated into this element, to the extent that they affect land use planning. The element also serves as a statement of the standards and targets for residential population density and building intensity. The Land Use Element is the broadest of the elements in its scope, and forms the basis for implementing sound land use policies.

The Land Use Element addresses existing development patterns in the Santa Clarita Valley planning area and establishes a framework for focusing future growth in a logical and orderly manner. All of the principles of community and land use planning are applied to the preparation and adoption of a comprehensive, long-term land use plan for the physical development of the Valley. The process of developing the land use plan involves analysis of existing land use patterns and projected growth; current and future availability of public services and facilities; availability of water and other needed resources; the need to protect sensitive habitats and natural resources; protection of existing and future residents from natural and man-made hazards; analysis of social and economic conditions and needs; and consideration of the constraints and opportunities inherent in the physical environment. Based on this analysis, the element establishes the distribution of land uses by type and intensity. In addition, the element addresses the Valley's development pattern as an integrated network of villages, each with its own community character. Equally important in the Land Use Element is the goal to provide all residents with a well-rounded and healthy lifestyle including a variety of jobs, housing, goods, and services to meet the diverse needs of the Valley's growing population.

Specifically, the Land Use Element serves the following purposes:

1. The Land Use Element informs the public of the City's and County's land use goals, objectives, and policies for long-term development, and outlines programs designed to implement the stated goals.

2. The Element serves as a guide for the day-to-day operational decisions of staff and decision makers with respect to development matters. It sets forth policies on which to base recommendations and decisions regarding land use issues, and provides a basis for informing citizens and developers about the City's and County's policies on growth and development.

3. The Element establishes land use classifications for property within the planning area and sets forth standards of density and intensity for each classification, as well as projections of future population growth and its spatial distribution.

4. The Element addresses issues identified in other Area Plan elements that affect land uses and development patterns, including circulation systems, infrastructure availability, housing needs, economic development goals, resource conservation, open space preservation, and public safety.

5. As a State-mandated element, it fulfills one of the requirements of California Government Code Section 65000 et. seq. for preparation of adequate Area Plan documents.

II. RELATION OF THE LAND USE ELEMENT TO OTHER ELEMENTS OF THE AREA PLAN

State law requires that each element within an Area Plan be consistent with all the other elements of the Plan. This section describes how the Land Use Element has been prepared to maintain consistency with each of the other Plan elements adopted by both the City and the County.

Circulation Element

Closely related to the Land Use Element is the Circulation Element, which is directly affected by and has a constraining effect upon the viability of the land use plan. The Circulation Element contains a map showing major transportation facilities within the Santa Clarita Valley, including major streets (highways), rail and public transit routes, stations and terminals, and airport facilities. A logical correspondence between land use and circulation is essential for an effective plan.

This Land Use Element was evaluated in conjunction with the system of streets and highways set forth in the Circulation Element, through use of a computerized traffic model analysis. The objective of the traffic model analysis was to ensure that streets and highways are designed to convey vehicles through the planning area at acceptable service levels when the land uses shown in the Land Use Element are developed.

In addition, the map and policies of the Land Use Element were designed to encourage reduction of vehicle trips and use of other transportation modes, including public transit, cycling, and walking. This goal is promoted through inclusion of mixed-use districts, which allow supportive services to be located in proximity to residential neighborhoods; inclusion of a master plan for trails into the Circulation Element; and designation of higher residential densities in areas served by public transit.

The relationship between the Land Use and Circulation Elements cannot be over-emphasized. Traffic conditions and congestion are a direct result of the land uses that are approved and constructed in the planning area. When land use types are separated to an extent that residents are forced to take multiple vehicle trips to obtain services and reach employment centers, the number of vehicles on roadways will increase. The only way to allow continued economic development and creation of housing within the Santa Clarita Valley, without exacerbating traffic congestion to unacceptable service levels, is to plan for alternatives to use of the single-occupant vehicle and single-purpose vehicle trips. This can be done in a number of ways, some of which are described in the Circulation Element. With respect to the Land Use Element, emphasis has been placed on allowing mixed uses in order to allow residents to reach services in ways that are not exclusively automobile-dependent. Limited commercial service centers will be allowed within residential neighborhoods, and will be accessible by walking, bicycling, and bus transit. Multiple family residential uses will be allowed in regional and community commercial areas. More residences will be allowed within walking distance to rail transit stations to facilitate rail commuting to employment outside of the Santa Clarita Valley. Mixed residential densities will be allowed, to permit housing alternatives at all income levels and age preferences in proximity to transit jobs, and services. Through design of the Land Use Map in consideration of circulation patterns and needs, this Area Plan will result in projected traffic impacts that are less significant than the previous Area Plan, which was largely based on the separation of land uses.

Housing Element

The separate Housing Elements prepared for the City and the County each contain policies and programs to ensure that adequate housing is provided to meet the needs of all Valley residents. These elements address the need for affordable housing, housing for people with special needs, constraints to providing affordable housing, the agency's progress in meeting its housing goals, quantified objectives for provision of housing, a survey of adequate sites for housing, a resource inventory, and identification of at-risk affordable units and methods of preservation.

This Land Use Element is consistent with the Housing Elements prepared for both the City and the County because the location and density ranges shown for residential land use districts on the Land Use Map have been designated in consideration of the housing needs projected for all economic and demographic segments of the Valley's residents, including households with special needs and those with incomes of less than the County median. Adequate sites for attached and multi-family housing have been identified to ensure that the need for affordable housing has been met in the Santa Clarita Valley. Further, the number of dwelling units that can be built in the planning area based on the

land use plan will ensure that the regional housing needs allocated to the Santa Clarita Valley by the Southern California Association of Governments (SCAG) will be met.

Conservation and Open Space Element

The Conservation and Open Space Element contains maps and policies to ensure preservation of an open space greenbelt around large portions of the Santa Clarita Valley, in addition to preserving water quality, historic and cultural resources, scenic views, and providing recreational facilities to enhance the quality of life for Valley residents.

The Land Use Element was designed to ensure that irreplaceable natural resources and open spaces are preserved and protected from encroachment by future development. The Land Use Map designates a "green belt" of undeveloped land within and adjacent to the foothills surrounding the Santa Clarita Valley, with areas designated for rural development located between urban and suburban densities and the foothills. In addition, the Land Use Map was designed to protect Significant Ecological Areas and the riparian areas adjacent to the Santa Clara River and its tributaries, as well as ensuring provision of adequate open space for recreational purposes, water conservation and quality, and habitat preservation.

Noise Element

The Noise Element contains maps and policies to ensure that residents are not exposed to health risks or nuisances due to noise generated from freeways and high-volume roadways, airports, industrial and recreational uses, special events, and other uses emitting loud sounds. Policies in the Noise Element address sound attenuation measures to protect the public health, safety, and welfare, such as setbacks, noise barriers, and buffering.

The Land Use Element is consistent with the map and policies of the Noise Element through its requirements for buffer areas between "sensitive receptor" uses and noise sources. Sensitive receptors include residences, schools, hospitals, preschools, and other uses for which intrusive noise is considered annoying and/or unsafe. Policies have also been included in the Land Use Element to ensure noise attenuation to safe levels within individual development projects.

Safety Element

The Safety Element contains maps and policies to ensure that residents are not exposed to health risks due to air pollution, earthquakes, wildland fires, or other environmental hazards, and that adequate provisions are made for crime prevention, law enforcement, and fire protection services.

The Land Use Element is consistent with the Safety Element because land uses were designated in consideration of the locations of hazard areas, including known earthquake fault zones, areas subject to flooding or wild fires, unstable soils, and other environmental hazards. In addition, the Land Use Element includes policies to ensure that new development plans in the City are evaluated for conformance with accepted crime prevention measures, and that adequate law enforcement and fire protection services are provided to ensure the safety of City residents.

III. LAND USE CATEGORIES

When developing a Land Use Element and Land Use Map, certain terms are typically used to describe existing and planned land use types. Since these land use categories are referred to often throughout the text of this element, the following general descriptions are intended to clarify what is meant by the terms residential, commercial, industrial, and so forth. It should be noted that the following terms are general in nature and list uses typically found in most urban areas. The general land use terms listed below should not be interpreted as a description of permitted uses in this Plan; a general description of permitted uses in this Plan is contained on Section XII of this Element.

Residential

The residential category includes dwelling units developed at various densities and with varying housing types, including single-family detached, single-family attached, multiple-family, mobile home parks, and senior housing. Special residential uses include live-work units and group living facilities.

Commercial

The commercial category includes retail and offices providing goods and services to the general public, and wholesale and service uses provided to businesses. Commercial uses also include food services, personal services, automobile

services, entertainment and hospitality services, day care services, and regional commercial uses such as big box retailers and auto malls.

Mixed Use

The mixed-use category generally includes commercial retail, office, and service uses intermingled with higher density residential uses, within a master-planned complex (consisting of one or more buildings) designed to ensure that residents are not adversely impacted by commercial operations or traffic, and that businesses benefit from the proximity of customers living nearby. The intended benefits of mixed-use development include a reduction in vehicle trips by residents to shopping areas, and the proximity of residents to employment-generating uses.

Industrial

The industrial category includes heavy manufacturing, less intensive industrial uses that are typically located in business parks, and research and development complexes. Light industrial activities include warehousing, wholesale trade, and some assembly. Industrial uses may include fabrication and assembly of large items, resource extraction, processing of raw or recycled materials, and businesses that use or generate hazardous materials.

Public and Institutional

The public and institutional category includes government buildings, hospitals, libraries, schools, colleges, fire and police stations, solid waste facilities, museums, cultural and community centers, and other similar public uses. In addition, private schools, churches, convalescent care and other social care facilities, day care services, private meeting and convention facilities, and similar uses may be included. Special uses in this category include correctional facilities.

Transportation and Communication

The transportation and communication category includes freeways and major arterials, bikeways, railroads, park and ride lots, truck terminals, airports, train stations, multimodal transit stations, communication facilities, and similar uses.

Open Space and Recreation

The open space and recreation category includes the Angeles National Forest and land used for private and public recreational facilities, conservancy land and other land set aside for preservation of open space and natural resources, and local and regional parks and multi-purpose trails. Golf courses and water bodies are also included.

Rural

The rural lands category includes low-density residential uses on large lots, in areas characterized by rural development interspersed with natural open space. Agricultural uses in rural lands include grazing, horticulture, row, field, and tree crops, and limited keeping of livestock, horses and other large animals.

IV. MEETING THE CHALLENGES OF REGIONAL GROWTH

According to the regional planning agency for the Los Angeles basin, the Southern California Association of Governments (SCAG), a major challenge for Southern California will be continuing to meet the demands of rapid urban growth over the next several decades. A 2006 SCAG report states:

> For decades, Southern California has experienced some of the most dramatic growth seen anywhere in the world. Our collective population now surpasses 18 million. But it's not going to stop there. By 2035, experts tell us that another six million people are coming and that more than two-thirds of these will be children born to our growing families. Even as we have enjoyed a robust economy and weathered the recent downturn better than many parts of the state, growth and development issues are at the forefront of public concern. High on the list of complaints are increasing congestion, loss of open space, and an ill-defined but strongly held belief that "livability" is slipping away.

As the region's Metropolitan Planning Agency responsible for preparing regional plans for mobility, air quality, and housing, SCAG urges all local planning agencies to consider regional needs when preparing their general plans. Issues such as air quality, open space, transportation, housing, water supply, and jobs are not confined within city or county boundaries. A unique opportunity for the City of Santa Clarita and the County of Los Angeles in the *One Valley*

One Vision planning effort is to consider regional issues within an appropriate, meaningful context for the entire Santa Clarita Valley.

The challenges of determining where growth should occur and ensuring that housing is provided to new residents are also linked to transportation. Location of new housing without consideration for where residents will work and shop will result in more traffic congestion and air pollution. To address regional planning needs, SCAG has developed a regional growth vision based on four key principles:

- Mobility – Getting where we want to go;
- Livability – Creating positive communities;
- Prosperity – Long-term health for the region; and
- Sustainability – Preserving natural surroundings.

In order to achieve these principles SCAG has formulated a plan for its six-county Southern California planning area calling for the following measures:

- Focusing growth in existing and emerging centers and along major transportation corridors;
- Creating significant areas of mixed-use development and walkable communities;
- Targeting growth around existing and planned transit stations; and
- Preserving existing open space and stable residential uses.

SCAG's growth strategy calls for changes to land use and transportation trends on two percent of the land area within the six-county metropolitan region in order accommodate projected growth to achieve the goals of mobility, livability, prosperity, and sustainability. Within the Santa Clarita Valley, the two-percent growth strategy identifies areas with potential for growth in proximity to the three Metrolink commuter stations in Downtown Newhall, Saugus, and Canyon Country. (The existing temporary Via Princessa Metrolink station is being evaluated for relocation in the future to a permanent Metrolink station on the Valley's east side).

City and County staff compiled growth statistics and projections for the Santa Clarita Valley when preparing the Land Use Map for the Area Plan update. As of 2008, there were approximately 80,000 dwelling units within the Valley, of which 57,000 were in the City and 23,000 were in the County. Another 39,500 dwelling units had received land use approval, including 33,500 units in County areas and 6,000 units within the City, and several thousand more dwelling units were the subject of pending land use applications. The estimated population of the Santa Clarita Valley in 2008 was 252,000, with 177,000 people living in the City and 75,000 residing in unincorporated County areas. From these numbers, it is expected that growth, and the related issues of quality of life, will continue to be pressing for Valley residents and decision makers in the coming decades. According to a citizen survey in 2000, Valley residents identified traffic, growth, community, cultural arts, environmental issues, public safety, economic development, parks, open space, and transit as significant concerns. The primary objective of the Land Use Element is to demonstrate how projected growth can be accommodated within the Valley, and managed to maintain livability, mobility, sustainability, and prosperity for all residents.

V. VALLEY OF VILLAGES

The physical setting and history of the Santa Clarita Valley have combined to create several distinctive communities, each with its own special character, development patterns, and lifestyles. Topographically, many neighborhoods are separated from adjacent development by ridgelines or canyons. The location of the Santa Clara River and Interstate 5, both of which transect the planning area, also act as barriers that separate communities. In addition, the historical development of the Valley took place over a long period of time during which development occurred in different areas, at different times, and for different reasons. Old Town Newhall, Saugus, and Castaic developed along transportation routes, while Valencia and Stevenson Ranch developed according to master plans prepared by residential builders. Outlying areas, such as Val Verde and Hasley Canyon, developed as low-density rural areas based on their residents' desire for retreat from high-intensity urban centers.

The diversity of settlement patterns within the Santa Clarita Valley is viewed as a positive aspect of the community, an acknowledgement of the area's history and topography, in recognition that the Valley can accommodate and provide diverse areas suitable for different lifestyles. However, the benefits of a unified approach to good planning cannot be ignored in favor of diversity. It may appear that Valley residents desire two seemingly inconsistent goals: maintenance of diversity and community identity, and a coordinated approach to orderly development. It is the aim of the *One*

Valley One Vision planning effort to bring these two goals together into two workable planning policy documents, the City's General Plan and the County's Area Plan. The theme of these updated Plans is "Valley of Villages," in recognition of the various communities and neighborhoods within the Santa Clarita Valley that wish to maintain their own distinctive character, while at the same time recognizing their place in the "big picture" plan for development within the entire planning area.

The term "village" brings many images to mind. A village is a community in which people know one another, support local businesses, gather together at community events, and share common ideals about their future. The term "village" also implies a community that can sustain itself over many years without being severely impacted by economic setbacks, loss of housing, lack of education, inadequate parks or public services, and hazards or pollution that threatens its residents. Village residents typically send their children to neighborhood schools, use neighborhood parks, walk along neighborhood streets and trails, and work close to home. More than anything else, a village invokes the concept of quality of life based on a healthy living environment and productive social and civic interaction. Village residents can also be a part of a larger network of comprised of neighboring villages, connected by transportation routes and sharing major community facilities that benefit the larger Valley area.

The various existing communities identified in the Santa Clarita Valley, including approved specific plans are described below, and their general locations are indicated on Figure L-1.

Newhall

Newhall is located in the City of Santa Clarita and was one of the earliest permanent settlements in the Valley, established in 1876 in conjunction with the construction of the Southern Pacific Railroad. Henry Mayo-Newhall, who had deeded land to Southern Pacific Railroad to lay track connecting Los Angeles and San Francisco, also deeded Southern Pacific a parcel of land to build a depot and a town to be called Newhall. Old Newhall was once the largest community in the Valley, and its early development, typical of many western towns, was based on oil, mining, and the railroad. Newhall maintains its historic character, and includes the residence of silent film star William S. Hart, whose 300-acre ranch is now a County park, museum, and tourist attraction.

Prior to completion of the interstate highway system, Main Street (formerly San Fernando Road), which runs parallel to the railroad tracks and served as the community's main street, was a principal link between the San Joaquin Valley and the Los Angeles Basin. It still serves as the backbone for Downtown Newhall's commercial district.

Commercial land uses are concentrated in what has been called Old Town Newhall, along Lyons Avenue and Main Street. Residential uses in Newhall include higher density multi-family and single family uses, both north and south of Lyons Avenue. Some of the older single family and mobile home residences in east Newhall are in need of rehabilitation. The City recently completed a new 17,000 square foot recreation and community center in Old Town Newhall, offering a variety of programs and containing a Sheriff's substation. The new Metrolink train station, which provides commuter services and a parking lot adjacent to the community center, was built on the site of the original Newhall train station.

In December 2005 the City of Santa Clarita adopted the Downtown Newhall Specific Plan as a foundation for facilitating redevelopment and enhancement of the area. Based on extensive public input, economic analysis, and planning design, the specific plan encompasses 20 blocks (550 acres, including Hart Park) and provides opportunities for mixed use and transit-oriented development. Approximately 700 new dwelling units and over 250,000 square feet of new commercial space are projected by the specific plan, in addition to existing housing and business in the area. Both new development and redevelopment are accommodated in the specific plan.

Because the Downtown Newhall Specific Plan was the first plan targeted by the City towards transit-oriented development, it will serve as a prototype for other districts in the Valley that will be clustered around transit centers. The Design Principles for Transit Oriented Development as identified in the document will be considered in planning for similar districts near other existing and future transit centers. These principles included the following:

- Make great public places;
- Make great streets (both commercial and residential);
- Live above stores;
- Live near transit;
- Build a variety of buildings;
- Create a variety of housing choices;
- Provide for the right mix of retail;
- Provide the right amount of parking, in the right locations.

Implementation strategies in the specific plan included street improvements, provision of additional on-street parking and a future parking structure, re-routing of through-traffic to Railroad Avenue, bicycle baths, streetscape beautification, utility upgrades, affordable housing assistance, billboard abatement, historic preservation, and creation of a plaza for outdoor markets. The plan also contains detailed architectural guidelines designed to promote human-scale, pedestrian-oriented streets and buildings consistent with the old-town themes.

The primary planning issues for Newhall include implementation of the Downtown Newhall Specific Plan through redevelopment efforts, attracting private investment combined with public funds to create a mixed-use, transit-oriented, pedestrian-friendly, live-work-play environment that will provide dining, entertainment, retail, commercial, and housing choices to both residents and visitors. This will result in Newhall providing additional services, including parking amenities and a new branch library. Other planning issues include the future extension of Dockweiler Drive to Lyons Avenue, the future expansion of The Master's College campus, development of the 4.2 million square foot Gate-King industrial park, and providing any needed drainage infrastructure improvements.

Valencia

The community of Valencia is located within the City of Santa Clarita and is part of the original 37,500-acre Newhall Ranch, a Mexican land grant acquired by Henry Mayo Newhall and later owned by the Newhall Land and Farming Company. Named after a city in Spain, Valencia was initiated in 1965 as a master planned community. Residential, commercial, and industrial developments form the basic community structure, supported by shopping centers, recreational facilities, schools, colleges, a medical campus, golf courses, professional offices, and other support services connected by a system of walkways called paseos. The community is home to the local Los Angeles County Civic Center, College of the Canyons, California Institute of the Arts, Santa Clarita's City Hall, the Valencia Town Center Mall, and Six Flags Magic Mountain. Developments such as the Valencia Gateway (comprised of the Valencia Industrial Center and Valencia Commerce Center) have made Valencia the largest center for business and technology in the Valley and have resulted in the creation of approximately 60,000 jobs. New industrial development continues west of Interstate 5 in North Valencia, including a postal distribution facility.

Both the City and the County have jurisdiction over portions of Valencia, although the majority of the land is within City limits. Since 1965 more than 20,000 residential units have been constructed and over 50,000 residents call Valencia home. The primary planning issues for Valencia will be promoting development that provides employment opportunities for Valley residents, and maintaining Valencia's role as an economic center for the Valley, as other regional commercial uses are constructed in neighboring areas.

Saugus

Located within the City of Santa Clarita and established in 1887, Saugus was named for the Massachusetts birthplace of Henry Mayo Newhall and owes its existence to the Southern Pacific Railroad. Saugus has a colorful history. The Saugus Speedway, originally designed in 1924 as a rodeo arena, was the setting for the last great train robbery in California, which took place behind the speedway in 1928. A Metrolink station is now located near the speedway, which includes parking and provides a transfer point between commuter rail and buses. The 80-acre Santa Clarita Central Park is located in Saugus.

Residential areas of Saugus are located in Seco Canyon and Bouquet Canyon. Residential development has also occurred in Haskell Canyon and Plum Canyon. Commercial uses in the area primarily serve local residents. Saugus also contains older industrial development along Railroad Avenue, interspersed with newer commercial uses.

The northern portions of Saugus are hilly, with tree-lined streets adjacent to hills covered with natural vegetation. The natural areas remaining along Bouquet Canyon Creek present an opportunity to enhance the area by creating a greenbelt connecting the community with other parts of the Valley.

The primary planning issues for Saugus include addressing traffic congestion in established neighborhoods, vehicular access to activity centers and freeways, the need for beautification and public amenities such as roadway landscaping, trails, and the need for enhanced commercial to serve a broader range of needs for Saugus residents.

Canyon Country

Canyon Country is partially located within the City of Santa Clarita and partially located within unincorporated Los Angeles County, in the eastern portion of the Santa Clarita Valley along Soledad Canyon Road east of Saugus and extending north of Sand Canyon along State Route 14 to Agua Dulce. Portions of Canyon Country lie within both the City and the County. This area has the largest population of any community in the Valley and contains a wide range of housing types, including large-lot single-family custom homes, single-family tract homes, multiple-family developments, and mobile home parks. Commercial and manufacturing activities are concentrated along both sides of Soledad Canyon Road and along the northerly portion of Sierra Highway within the planning area. A business park/industrial hub, Centre Pointe Business Park, is located on Golden Valley Road. The City's Sports Complex and Aquatics Center provide recreational facilities serving all Valley residents, and the Via Princessa Metrolink station serves the east Valley communities. Commercial development is located along Soledad Canyon Road between White's Canyon and Sierra Highway, which includes the Jo Anne Darcy Canyon Country Library and a movie theatre complex. Newer townhomes and apartment are located along State Route 14 between Sand Canyon and Via Princessa. In addition, there are residential neighborhoods in Mint Canyon and Tick Canyon within unincorporated County territory. A variety of architectural styles exist along Soledad Canyon Road. Homes along the northern section of Sierra Highway are generally rural and of very low density, with the exception of multi-family development near the intersection of Sierra Highway and Soledad Canyon Road.

One issue for residents in Canyon Country has been access to jobs in the Valencia area to the west. However, with the planned completion of the Cross-Valley Connector, traffic movement between Canyon Country and employment centers along Interstate 5 is expected to improve significantly. Transit service improvements and additional park-and-ride facilities will also be evaluated to address this need.

College of the Canyons opened an East Valley campus on Sierra Highway in Canyon Country during the fall of 2007. The campus, which is open to students while construction continues, will encompass 70 acres and accommodate 8,000 full-time students when fully built out. The campus will operate as a full-service community college to residents on the east side of the Santa Clarita Valley.

Planning issues for Canyon Country include an opportunity to upgrade land uses along Sierra Highway in the area of the new college campus, from Soledad Canyon Road north to Vasquez Canyon Road. In this area Sierra Highway will be widened to six lanes, and there is an opportunity to provide services to area residents and the college on vacant land fronting the highway. Canyon Country residents have expressed a desire for higher end retail and restaurant uses in their area. In addition, older non-conforming uses in the area can be gradually phased out to upgrade the character of development and encourage new users to Canyon Country. This area will be planned as a mixed use corridor in order to create jobs and provide new housing and commercial services for area residents, as well as for college students and faculty. The mixed use corridor designation will encourage a mix of uses in a pedestrian-friendly environment, creating a focal point for Canyon Country. In order to realize the redevelopment potential along this corridor, a coordinated effort will be needed to address regional drainage infrastructure issues.Another planning opportunity for Canyon Country lies in the land adjacent to State Route 14 access points. Four existing on- and off-ramp systems provide direct freeway access to the area, and represent opportunities to enhance entryways into the community.

Sand Canyon

The Sand Canyon area is located within the City of Santa Clarita, southeast of Canyon Country and is comprised predominantly of low-density single-family residential uses. The area is rural with extensive stands of oak trees and is characterized by large estate homes and lots, many of which are equestrian and enjoy direct access to an equestrian trail system linking the community. The community is accessible via Sand Canyon Road and Placerita Canyon Road, and is bordered on the south and east by the Angeles National Forest.

Sand Canyon is largely developed. A challenge for the Sand Canyon area will be ensuring land use compatibility between homes and adjacent natural areas in Angeles National Forest and along the Santa Clara River. Major planning issues include protecting the rural and equestrian character from development pressures to create more traditional subdivisions in this low-density area; increasing multiple purpose trail linkages; and providing an effective interface between residents and National Forest lands. In addition, development in the area must comply with the City's Special Standards District to maintain the rural community character desired by residents.

Placerita Canyon

Site of the first gold strike in California in 1842, Placerita Canyon is located within the City of Santa Clarita and is now a rural residential area located northeast of downtown Newhall. Equestrian-oriented residential uses among oak woodlands typify development in this area, which still contains scattered ranches. Oil fields are located in the eastern portion of the canyon, west of State Route 14. East of State Route 14, Placerita Canyon is predominantly undeveloped with much of the land contained in the Angeles National Forest. Placerita Canyon is home to The Master's College, a private four-year liberal arts institution, and the Placerita Canyon Nature Center. Two historic ranches in Placerita Canyon have been converted to other uses but retain the rural character of the area: The Melody Ranch is now used primarily for filming and to host the annual Cowboy Festival and other events; and the Golden Oak Ranch is used by the Disney Company for filming and other corporate uses. A substantial number of newer estate homes on large lots have been constructed in the area in recent years.

Planning issues in Placerita Canyon include accommodating expansion plans for The Master's College; upgrading non-compliant older structures; extending sewer lines to serve existing uses throughout the area to protect groundwater quality; providing flood control and drainage improvements; providing additional vehicular access (possibly through extension of Dockweiler Drive); and opportunities for future development of the 100-acre site located at the westerly entrance of Placerita Canyon. In addition, development in the area must comply with the City's Special Standards District to maintain the rural community character desired by residents.

Castaic

Castaic, located in unincorporated Los Angeles County, developed from its role as a highway stop containing small cafes, hotels and automotive services along the old Ridge Route, which opened in 1914. By-passed when Highway 99 (now Interstate 5) opened in 1933, portions of the Ridge Route can still be driven today. When the Ridge Route was first constructed, it cut 30 miles off the Los Angeles to Bakersfield route and allowed the journey to be completed by automobile in only four days. The eight lanes of Interstate 5 now bisect Castaic, with new residential development on both sides of the freeway and the older portion of the community on the east side.

The 600-mile long California Water Project has turned the community of Castaic into one of the planning area's major recreational centers. Man-made Castaic Lake, the water project's western terminus, is a popular spot for swimming, sailing, fishing, boating, and water skiing. The Castaic Sports Complex is located just south of Castaic Lake and provides sports opportunities for all ages. These recreational attractions have increased Castaic's growth potential, but have also resulted in traffic impacts, especially on weekends.

Land use in Castaic is mixed, with new residential development surrounding freeway-oriented commercial uses along Castaic/Parker and Lake Hughes Roads. The community still provides important services and facilities to the trucking industry, and there is a need to ensure that long-term parking and servicing of big rigs does not adversely impact area residents. Castaic's commercial corridor is changing from a small highway oriented service center along I-5 to include more goods and services for residents. There is potential for additional commercial infill development. In addition, there is an opportunity to expand services to recreational users of the local lakes.

Also within Castaic is the Pitchess Detention Center (Wayside Honor Rancho), a Los Angeles County incarceration facility. A portion of the property is unused and presents an opportunity for future planning.

Hasley Canyon, located north of Val Verde and southwest of Castaic, is considered an outlying subarea of the Castaic community. With the exception of an older existing mobile home park, the area is characterized by low-density estate homes on larger lots amid scattered oak trees, and supports

a rural equestrian lifestyle. Major planning issues for Hasley Canyon include maintaining compatibility of proposed development with the area's rural character.

Los Angeles County developed a Community Standards District (CSD) for Castaic to address a wide range of planning issues for this evolving community. Regulations in the CSD include lot size requirements for new homes, hillside development restrictions, provisions for trail connections and protection of native vegetation, and buffering between incompatible uses. In addition, the CSD limited the expansion of trucking-related uses in the Castaic center and prohibited clustered subdivisions in the Hasley Canyon and Sloan Canyon areas.

Val Verde

Val Verde is located in unincorporated Los Angeles County, three miles west of Interstate 5 ,and is developed primarily with single-family homes in a rural setting, surrounded by chaparral-covered hillsides and scattered canyon oaks. The community is located near the intersection of San Martinez and Chiquita Canyon Roads in the hills north of State Route 126. The area was subdivided in the 1920's and lots were sold for use as vacation homes by African-American residents of Los Angeles. Today the area is ethnically diverse. The County of Los Angeles operates Val Verde Park, a community park with a swimming pool, open space, equestrian stables, and recreational amenities that provides a focal point for area residents.

Major planning issues for Val Verde include potential nuisance impacts from expansion of the landfill in Chiquita Canyon, the compatibility of proposed developments with the village's rural character, and providing residents with increased access to employment opportunities, social services, and adequate infrastructure.

Agua Dulce

Agua Dulce is located in unincorporated Los Angeles County, in the Sierra Pelona Valley northeast of Canyon Country. The Antelope Valley Freeway (State Route 14) is located to the south, providing access to the community via Agua Dulce Canyon Road and Escondido Canyon Road. The community's setting is distinctively rural and completely surrounded by hills, imparting a feeling of separation from nearby urban areas. Vasquez Rocks County Park, located just north of Agua Dulce off of State Route 14, is an area of unique geologic formations that has been the site of many movies and television shows.

Agua Dulce has been ranching country since the 1870's. Mining activity in nearby Soledad Canyon first brought attention to the area, bringing more ranchers into the community. The construction of Sierra Highway and the Antelope Valley Freeway have increased accessibility into the community, bringing additional residents; however, the land use character remains rural and equestrian, with a small commercial "town center," and a privately-owned airport.

Residents wish to maintain Agua Dulce as a rural community, but are generally open to additional low-density, large-lot, equestrian-oriented homes in the area utilizing non-urban infrastructure systems, in accordance with its Community Standards District (CSD). There is also an opportunity to enhance the rustic village center to provide residents with more goods and services and serve as a community focal point.

West Ranch (Stevenson Ranch, Sunset Pointe, Westridge, and Pico Canyon)

West of Interstate 5 are various communities in unincorporated Los Angeles County that have a common setting and shared interests, generally referred to as West Ranch. One of these is Stevenson Ranch, located west of Interstate 5 and north of Pico Canyon Road, a master-planned community developed in phases under a plan approved by Los Angeles County. The project's 4,000 acres are largely developed except for the last phase, which proposes 3,467 residential units. Over 100 acres of commercial uses were included, nearly all of which are developed with regional commercial, restaurant and office uses along the freeway corridor (Valencia Marketplace). The project also included 45 acres of parkland.

Adjacent to Stevenson Ranch is Westridge, a residential community that includes elementary, junior high, and high school sites. South of Stevenson Ranch lie the residential community of Sunset Pointe and the rural residential area of Pico Canyon, located west of the The Old Road. Pico Canyon extends into both City and County areas, and includes the Santa Clarita Woodlands State Park, Towsley Canyon State Park, Ed Davis Park, and the historic oil town of Mentryville. Mentryville is the location of Pico #4, the first suc-

cessful oil well in the western United States. Surrounding the developed areas are significant stands of oak trees and the Lyon Canyon Significant Ecological Area.

The primary planning issues for Pico Canyon include compatibility of proposed developments with the Lyons Canyon SEA, the Santa Clarita Woodlands, and other parks and natural areas in the area.

VI. SPECIFIC PLANS

Specific Plan Process

State planning law provides a process for local governments to use in approving large, complex development projects in a manner that provides for long-term buildout, phased with construction of infrastructure and public facilities, and supported with funding plans and implementation strategies. Such projects may be approved using the Specific Plan process, pursuant to Government Code Sections 65450-65457 and applicable local ordinances. Any applicant that meets the minimum requirements for filing a Specific Plan (including public agencies) may submit a project for review under these statutes, and each Specific Plan submittal will be reviewed on its own merit by the reviewing authority (City or County).

Every Specific Plan approved in California must be reviewed using the same process used for a General Plan or Area Plan, and must include the following components:

- The distribution, location, and extent of the uses of land, including open space, within the area covered by the Plan;
- The proposed distribution, location, and extent and intensity of major components of public and private transportation, sewage, water, drainage, solid waste disposal, energy, and other essential facilities proposed to be located within the area covered by the Plan and needed to support the land uses described in the Plan;
- Standards and criteria by which development will proceed, and standards for the conservation, development, and utilization of natural resources, where applicable;
- A program of implementation measures, including regulations, programs, public works projects, and financing measures necessary to carry out the project;
- An explanation of how the Specific Plan is consistent with the General Plan and/or Area Plan;
- Any other subjects who in the judgment of the planning agency are necessary or desirable for implementation of the General Plan and/or Area Plan.

Approved Specific Plans

Significant portions of the planning area encompassed by the Area Plan are included in Specific Plans that have already received land use approval. As these areas build out pursuant to approved Specific Plans and subdivision maps, the resulting land uses will be integrated into the Valley's development pattern and circulation network. Therefore, the following previously approved projects were considered in drafting the Area Plan Land Use Element and other related Elements.

Newhall Ranch

The County of Los Angeles adopted the Newhall Ranch Specific Plan on May 27, 2003. The planning area encompasses 11,963 acres and extends approximately 5 miles from east to west, and 5½ miles from north to south, from about one mile west of Interstate 5 to the Ventura County Line, both north and south of State Route 126. The southerly portion of the site contains steep terrain and high plateaus of the Santa Susana Mountains; over 6,000 acres of the planning area will remain in open space, including two special resource management areas. The adopted plan will allow construction of 20,885 dwelling units, 629 acres of mixed-use development, 67 acres of commercial, 249 acres of business park, and 37 acres of visitor commercial uses. Neighborhood parks, a 15-acre lake, public trails, an 18-hole golf course, fire stations, a branch library, and school sites are also planned, along with water and sewer infrastructure. The specific plan states the project's intent is to provide a high-quality, master planned environment, which offers homes, shopping, employment, and recreational opportunities. Development of the project is expected to occur over a 25-year timeframe.

A key design feature of the Newhall Ranch Specific Plan is its emphasis on the creation of interrelated villages, separated by significant open space areas and natural landforms. The

plan avoids "leap-frog" development into the Santa Susana foothills and instead accommodates projected growth in areas adjacent to existing and planned infrastructure, urban services, transportation routes and employment centers. Villages proposed by the project include Landmark Village, Mission Village, Homestead Village, and Potrero Village.

Natural landmarks and topographical features define each village. According to the specific plan, dividing the large project into villages allows for the creation of convenient village centers and gives future residents optimal access to commercial, recreational, and public facilities. In addition, this design gives residents access to nature by providing undeveloped open space accessible by trails from each village. Land uses were located to accommodate and preserve major natural landforms and significant environmental features, such as the river corridor, ridgelines, hillsides, creeks, bluffs, and oak woodlands. Each village and its central activity area will be allowed to develop a unique sense of identity, inspired by the natural features of the site. The village concept was designed to provide residents with a greater sense of identity with their community. Through its design and planned development pattern, the Newhall Ranch Specific Plan reinforces the theme for the Santa Clarita Valley as a *Valley of Villages*.

Northlake

The Northlake Specific Plan was approved for 3,623 residential units, both single family and multi-family, on 1,330 acres located two miles north of Castaic. The plan also calls for 450 acres of open space, school sites, and a golf course; however, the project proponents have requested revisions to the proposed project amenities that are under review by Los Angeles County. When developed, this project will be considered a part of the Castaic village community.

Canyon Park (Fair Oaks Ranch)

The Canyon Park Specific Plan (commonly known as Fair Oaks Ranch) is a residential development located between Sierra Highway and State Route 14, near Via Princessa. The project includes 4,763 multi-family units and 637 single-family units on approximately 308 acres, and is nearly built-out. The project is bisected by the Antelope Valley Freeway and contains no commercial uses. Therefore, there is an opportunity to create a service center for Fair Oaks Ranch in the vicinity of the project.

Whittaker Bermite Property

The 989-acre Whittaker Bermite site is situated in the center of the City and was used for over 80 years as a production site for military explosives and flares by various manufacturers. Manufacturing operations ceased in 1987. During these years, manufacturing and testing of various chemicals on the site involved use and improper disposal of hazardous materials, resulting in chemical contamination of both soil and groundwater. Directly beneath the site lies the Saugus Aquifer, a significant groundwater source for the Valley. Since manufacturing operations ended, remediation of soil and groundwater contamination (including perchlorate) has been ongoing; however, more progress must be made prior to redevelopment of the site.

The Porta Bella Specific Plan was approved for the property, which proposed clean-up of contaminants and re-use of the site for mixed uses, including 1,244 single-family units, 1,667 multi-family units, 96 acres of commercial and office uses, 407 acres of open space, and 42 acres of recreational use. Extension of major roadways designed to traverse the planning area include Via Princessa, Magic Mountain Parkway, and Santa Clarita Parkway. However, more work is needed to ensure site clean-up and the location of uses in an appropriate manner to avoid future health risks. The City has joined environmental agencies and the water district in promoting remediation of this brownfield site and re-use of the property for productive purposes.

Downtown Newhall Specific Plan

As noted above in the description of Newhall, the Downtown Newhall Specific Plan has been adopted by the City to encourage mixed-use and transit-oriented development in the historic community of Newhall, in order to promote new investment, spur economic development, and create new residential opportunities in this area. Other opportunities include creation of an arts district in the vicinity of existing theaters in the area, and construction of a new library. The Downtown Newhall Specific Plan was adopted in 2005.

Valencia Specific Plans

The North Valencia Specific Plan was adopted in 1998. The project encompassed 707 acres generally bordered by Newhall Ranch Road, Bouquet Canyon Road, Magic Mountain Parkway, east of San Francisquito Creek. The Specific Plan provided for a mix of residential and commercial uses, open space, and an industrial center. A significant segment of the Santa Clara River was preserved as open space as part of the specific plan.

The North Valencia Specific Plan No. 2 was adopted in 2000 for 596 acres in the northern portion of the City, generally located north of Newhall Ranch Road west of McBean Parkway. The Specific Plan called for mixed use development, including residential, industrial and commercial uses. A major component of this project was preservation of open space in environmentally sensitive areas along San Francisquito Creek.

These Specific Plan areas have been fully built out.

Pending and Future Specific Plans

At the time this Area Plan was adopted, several Specific Plan projects were in the process of being prepared for properties within the planning area, but were not yet ready for public hearings or land use decisions. The City and County agreed that these projects would not be shown on the Land Use Map or reflected in the City's General Plan or the County's Area Plan until such time as each such Specific Plan project is completed and reviewed, in conjunction with an environmental document prepared to meet the requirements of the California Environmental Quality Act, and circulated for public review and input. However, the decision not to reflect these projects in the City's General Plan or County's Area Plan until the required review process for each project is completed should not be interpreted to mean that any of the pending Specific Plans will or will not be approved in the future. Nothing in this Area Plan shall be interpreted to preclude the future review of any application for a Specific Plan that is pending at the time of Area Plan adoption. If and when the applicants for each pending Specific Plan project complete the requirements for review and approval, the decision on each project will be made based on the merits of the project, which shall include conformance with all applicable policies of the City's General Plan or the County's Area Plan. In addition, other Specific Plans may be undertaken in the future that are not yet identified, and each Specific Plan will be evaluated based on its own merits and conformance with the applicable policies of the City's General Plan or the County's Area Plan.

It should be noted that both the City and the County encourage use of the Specific Plan process for preparation of comprehensive master plans for development. This process allows for flexibility that can lead to innovative design solutions beyond that allowed by regulations in the Zoning Ordinance. Particularly in mixed-use developments where walkable, pedestrian-oriented neighborhoods are desired, such as near transit centers, the Specific Plan process is encouraged. Policies have been included in this element to encourage preparation of Specific Plans where appropriate to meet the goals for more healthy, vibrant, and attractive communities.

VII. DEMOGRAPHICS CHARACTERISTICS OF THE SANTA CLARITA VALLEY

Past Population Trends

A significant amount of the population growth in Los Angeles County over the past two decades has occurred in North Los Angeles County, which includes both the Santa Clarita Valley and the Antelope Valley (including the cities of Palmdale and Lancaster). In 2000 the City of Santa Clarita was the fourth largest city within the County in terms of population (following Los Angeles, Long Beach, and Glendale). The fastest-growing cities from 1990 to 2000 were Santa Clarita, Palmdale and Lancaster, which maintained annual average growth rates significantly higher than the County as a whole. During that decade, the Santa Clarita Valley grew by almost 60,000 residents to reach 212,611 by 2000, a population growth of over 39 percent.

The Valley's population has diversified as a result of this growth, with the percentage of residents who are of Hispanic, Asian, African-American, and mixed ethnicity backgrounds growing by over 75 percent between 1990 and 2000 (from 41,555 to 73,733). Households within the Valley had a higher average household income than County residents as a whole ($83,900 in the Valley compared to $63,909 as a Countywide average in 2000). The population continues to reflect larger households than the Countywide average, indicative of young families with children. Average household size increased from 2.93 to 3.09 persons per household over the Census decade. In the 2000 Census, the largest age group represented in the Valley was the "5 to 17" age bracket. Almost a third of the population in the planning area is under the age of 18, and less than 10 percent of the population in 2000 were in the over 65-year age bracket.

Projections for Population and Households

Based on a detailed analysis of the planning area conducted by traffic analysis zones, staff from the City and County have determined that population of the Santa Clarita Valley at full build-out of the uses shown on the Land Use Maps of the City's General Plan and the County's Area Plan will be approximately 460,000 to 485,000 residents, comprising approximately 150,000 to 155,000 households. This analysis

was conducted based on the need to project ultimate development in terms of various indicators, including dwelling units, commercial-industrial space, job creation, water use, traffic generation, noise generation, housing needs, park needs, and other public services and facilities. In compiling these projections, staff members from the City and County planning and traffic divisions reviewed data from multiple sources, including existing geographic information system (GIS) data layers, existing and proposed zoning, existing and proposed general plan land use designations, property subdivisions, existing development patterns, pending development applications, approved planning entitlements, topographic and environmental constraints, and other relevant information. The methodology used by staff to develop these detailed demographic projections involved the following steps:

Staff prepared projections for each traffic analysis zone (TAZ) contained in the traffic model. For purposes of traffic modeling, a TAZ is a portion of land within the planning area in which certain land uses have been designated, the development of which is expected to generate new vehicle trips to serve future development. Only undeveloped or under-utilized land will be expected to be used for new development that will generate new vehicle trips. Therefore, each TAZ must be analyzed to determine the percentage of land that is already fully built-out, and the amount of land that is available for new development or rebuilding. There are 455 TAZs in the traffic model for the planning area.

Staff compared each TAZ with a current aerial photograph and Planning Department records to determine the amount of developable land in each one. Land was considered to be developable if it was vacant or under-utilized, privately owned, designated and zoned for future development, and free of major constraints such as ridgelines and floodways.

For undeveloped and under-utilized land within each TAZ, staff estimated the projected actual build-out capacity under the draft Land Use Map, considering parcelization, surrounding development, access, topography, drainage patterns, infrastructure capacity, and similar site constraints.

The result of this analysis was an estimated build-out capacity for each TAZ in terms of dwelling unit number and type; non-residential development potential (including commercial, business park, retail, and institutional space); public uses, including government and school facilities, parks and open space; and land devoted to infrastructure (such as streets and highways, transmission corridors, and flood control easements).

The projections generated from the TAZ analysis represent staff's best efforts to achieve a realistic vision of actual build-out potential for the planning area. In preparing the *One Valley One Vision* land use projections, staff acknowledged that portions of the planning area are already largely developed, and that the City's General Plan and the County's Area Plan are not based on a "clean slate" of vacant, undeveloped land. Existing uses and development patterns must be recognized in planning for new uses.

For purposes of a theoretical comparison, the TAZ analysis could be compared to the "worst case" build-out projections of the Land Use Maps of the City's General Plan and the County's Area Plan. The worst case scenario assumes that all existing uses are subject to demolition, reconstruction, or intensification to achieve the maximum density allowed by the Land Use Map. For example, if an area is designated for single-family residential uses at five dwelling units per acre and the area is already developed at four dwellings per acre, the worst case scenario assumes that the existing subdivisions would be replaced with new subdivisions at a higher density, or that existing units would be subdivided into multi-family structures to achieve the higher density. Because many areas of the Santa Clarita Valley have been developed within the last 20 years with structures that have useful life-spans of 50 years or longer, staff determined that it would be unreasonable to assume that all existing development would be replaced with new development at the highest possible density allowed by the Land Use Map. For this reason, the "worst case" scenario under the land use plan was not used as the basis for demographic projections. Instead, the TAZ analysis described above formed the basis for reasonable build-out projections of land use, dwelling units, population, and employment.

VIII. ECONOMIC ISSUES FOR THE SANTA CLARITA VALLEY

Economic Assets in the Valley

The Santa Clarita Valley contains a wide variety of retail, office, industrial, medical, and entertainment centers that provide employment, goods, and services to both regional and local market areas. As an example, the Valencia Gateway consists of six commerce centers, including the regional mall, auto mall, office, and industrial parks; contains 4,700 acres; and houses more than 5,000 businesses. At build-out, the Gateway will encompass 22.5 million square feet. The following summary of some of the major economic assets in the Valley is intended to be representative of the quality and scale of these developments, rather than a complete listing of all business projects in the planning area.

Retail Centers

Primary shopping districts in the Valley include the following:

- Valencia Marketplace – a power center located west of Interstate 5 in Stevenson Ranch, containing a variety of big box anchor stores and supportive retail and food establishments;
- Westfield Valencia Town Center – a regional shopping mall with almost 2 million square feet of retail, restaurants, and office space, and a cinema complex. In 2008, a 300,000-square foot expansion of the mall was approved and construction began to add 40 new retailers, more outdoor pedestrian plazas and seating, and children's play areas; these improvements are scheduled to open in 2009;
- Old Town Newhall – as planned within the adopted Downtown Newhall Specific Plan, this area has potential for growth into a prime specialty retail and dining area with a direct rail link to Los Angeles;
- Valencia Auto Center - home to over 20 auto brands located in central Valencia;
- The Plaza at Golden Valley – a lifestyle center on the east side of State Route 14 at Golden Valley Road in Canyon Country, slated for 618,000 square feet of retail space for home and discount department stores, restaurants, specialty retail, a fire station and clinic.

Office Parks

Primary office parks in the Valley are generally located within the City adjacent to the Golden State Freeway (Interstate 5) and include the following:

- Valencia Corporate Center – an 80 acre office park with 1.6 million square feet of office space;
- Town Center Drive – a 23-acre office park with 395,000 square feet of office space.

Industrial Parks

Primary industrial parks in the Valley include the following:

- Valencia Industrial Center - a 1,150 acre business park with 10.4 million square feet of manufacturing and warehousing space;
- Rye Canyon Business Park – a 377 acre business park with 3.1 million square feet of office, manufacturing and warehousing space;
- Gate King Industrial Park – a 203 acre business park with 4.2 million square feet of manufacturing and warehousing space approved but not yet constructed;
- Valencia Commerce Center – a 1,600 acre business park with 12.9 million square feet of manufacturing and warehousing space;
- Centre Pointe Business Park – a 240 acre business park with 4.5 million square feet of manufacturing and warehousing space.

Medical Center

The Henry Mayo Newhall Memorial Hospital (HMNMH) campus located in west Valencia, with 750 employees, includes a 230-bed inpatient facility, medical offices, and outpatient services that provide health services to Valley residents. The HMNMH medical campus currently includes the Santa Clarita Valley's only trauma center. The approved 15-year HMNMH Master Plan includes an additional inpatient building, three medical offices, on-site parking facilities, and two helipads.

Entertainment Center

Six Flags Magic Mountain and Six Flags Hurricane Harbor theme parks together attract more than 3 million annual visitors from the national and international tourist markets with world-class roller coasters and water rides. The Six Flags theme parks are jointly one of the Santa Clarita Valley's largest employers, providing 3,900 jobs during the summer months.

Higher Education Institutions

The Santa Clarita Valley is home to three colleges, with a total enrollment of over 15,000 students and a variety of educational programs providing job training and employment development, as described below:

- College of the Canyons (COC) – a full-service community college with an enrollment of approximately 16,000 students and two locations, the East and West Valley campuses. COC provides several award-winning programs focused on economic and workforce development of the Santa Clarita Valley, including the Center for Applied Competitive Technologies, the Advanced Technology Incubator, the Small Business Development Center, and additional programs that retrain the existing workforce with marketable skill sets targeted to existing business industry clusters.

- California Institute of the Arts (CalArts) – the nation's first art institute to offer Bachelors of Fine Arts and Masters of Fine Arts in both the visual and performing arts, CalArts is dedicated to training and nurturing the next generation of professional artists, fostering brilliance and innovation within the broadest context possible.

- The Master's College – a private four-year liberal arts college; a 10-year Master Plan was approved in 2009 which will add additional educational facilities, dormitories and a new chapel/auditorium.

Transportation Links

The location of the Santa Clarita Valley at the confluence of major highway and rail corridors provides an excellent opportunity to move both people and freight efficiently in and out of the Valley. These links include the following:

- Freeways - Interstate 5 provides links between the Los Angeles basin, the San Joaquin/Central Valley, and northern California. State Route 14 provides access to Palmdale and Lancaster, and to major vacation resorts along the eastern Sierra Nevada Mountains. State Route 126 provides access to the coastal areas of Ventura County. Just to the south of the planning area, Interstate 210 provides links to the San Gabriel Valley and Inland Empire region of San Bernardino and Riverside Counties.

- Rail – Metrolink, a service of the Southern California Regional Rail Authority, is a regional rail system providing commuter and passenger service between the Valley and employment centers in the San Fernando Valley, Los Angeles, and other areas to the south. There are three Metrolink stations in the Santa Clarita Valley, which are served by a public bus system. In addition, plans for a future high-speed rail linking northern and southern California show a route generally following State Route 14 through the Newhall Pass. Freight rail service is provided by Union Pacific, using the same tracks as Metrolink. Freight rail spurs service some of the industrial areas of the community.

- Airports – the Valley has access to the Los Angeles International Airport, the Bob Hope (formerly Burbank/Glendale/Pasadena) Airport, and the Palmdale Airport. The Agua Dulce Air Park is also located in the Valley.

Employment Trends

From 1992 to 2005, almost 40,000 new jobs were created in the Santa Clarita Valley. Between 2000 and 2005, job growth averaged about 3,900 jobs per year. Most of this job growth occurred in the manufacturing, services, retail trade, and construction sectors. The planning area is becoming a significant employment center in north Los Angeles County.

Growth in construction was due to the rapid rate of development in the Valley since 1990, but construction as a component of the economy will slow as the Valley builds out and construction activities decline. More lasting are jobs in the manufacturing sector, which has added jobs in the Valley; this sector is involved in manufacture of machinery, transportation equipment, and electronics.

Wholesale trade also showed an increase in job creation, reflecting the Valley's excellent location for warehousing and distribution of goods.

The Services sector accounted for the greatest number of new jobs in the planning area, adding 18,960 new jobs between 1992 and 2005. Nearly half of these were in Business Services, including office workers and support staff. Job growth in other areas included Transportation and Utilities, and Retail Trade.

The total number of jobs in the Santa Clarita Valley in 2005 was 124,200, of which about 60 percent (74,889) were located within the City limits. The remaining 49,311 jobs were located in the unincorporated County areas, primarily west of Interstate 5 within Magic Mountain, Stevenson Ranch, and the Valencia Commerce Center (including the Postal Distribution Center). Major Valley employers include Six Flags Magic Mountain, the William S. Hart School District, Princess Cruises, the Henry Mayo Newhall Memorial Hospital, H. R. Textron, and Specialty Labs.

Although the planning area had higher job growth than the County as a whole, average pay per worker in the Valley has been only about 75 percent of the County average. In 2000, an average employee in the Valley earned $29,201 annually compared to $39,671 for Los Angeles County. This may reflect the number of service workers in the Valley, the lack of major corporate headquarters, and fewer jobs in financial and legal services.

Employment Projections

To project future job growth, a variety of data sources were used to identify actual employment numbers for existing businesses in the Valley. Based on this data, an average number of jobs per square foot of non-residential uses was derived; this number projected an employment generation range of one employee per approximately 550 to 725 square feet of floor area. Staff then estimated the potential for future construction or expansion of non-residential development on vacant and underutilized land in the planning area that is developable and designated for employment-generating uses. Based on this analysis, staff estimated that over 59 million square feet of new commercial, industrial and/or institutional space could be built within the Valley. (It should be noted that the actual number may fluctuate based upon floor areas of new construction). Using the employment generation factors and the estimated square footage of new employment-generating uses, staff developed a range of estimated employment at build-out of the Land Use Maps of the City's General Plan and the County's Area Plan. The estimated number of new jobs under build-out of the City's General Plan and the County's Area Plan ranges from 98,322 to 128,850. Added to existing jobs within the Valley, the total number of jobs in the planning area is estimated to range from 217,910 to 286,254 at build-out of the City's General Plan and the County's Area Plan.

Projections for Commercial and Industrial Development

To project future commercial and industrial development, an ad-hoc task force of staff members from the City and County conducted a detailed analysis of the planning area according to traffic analysis zones. This task force reviewed data from multiple sources, including existing geographic information system (GIS) data layers, existing and proposed zoning, existing and proposed General and Area Plan land use designations, property subdivisions, existing development patterns, pending development applications, approved planning entitlements, topographic and environmental constraints, and other relevant information. The methodology used by staff to develop these detailed development projections involved the following steps:

1. Staff prepared projections for each traffic analysis zone (TAZ) contained in the traffic model. For purposes of traffic modeling, a TAZ is a portion of land within the planning area in which certain land uses have been designated, the development of which is expected to generate new vehicle trips to serve future development. Only undeveloped or under-utilized land is expected to contain future development that will generate new vehicle trips. Therefore, each TAZ must be analyzed to determine the percentage of land that is already fully built-out, and the amount of land that is available for new development or rebuilding. There are 455 TAZs in the planning area's traffic model.

2. Staff compared each TAZ with a current aerial photograph and Planning Department records to determine the amount of developable land in each one. Land was considered to be developable if it was vacant or underutilized, privately owned, appropriately designated and zoned, and free of major constraints such as ridgelines and floodways.

3. For undeveloped and under-utilized land within each TAZ, staff estimated the projected actual build-out capacity under the draft Land Use Map, considering historical development trends, parcelization, surrounding development, access, topography, drainage patterns, infrastructure capacity, and similar site constraints.

4. The result of this analysis was an estimated build-out capacity for each TAZ in terms of commercial and industrial development potential (square footage). The estimated build-out capacity for the entire planning area is 83,931,788 square feet of of commercial and industrial space.

The projections generated from the TAZ analysis represent staff's best efforts to achieve a realistic vision of actual commercial and industrial development potential for the planning area. In preparing the *One Valley One Vision* commercial and industrial development projections, staff acknowledged that portions of the planning area are already largely developed and that the Area Plan is not based on a "clean slate" of vacant, undeveloped land. Existing uses and development patterns must be recognized in planning for new uses.

For purposes of a theoretical comparison, the TAZ analysis could be compared to the "worst case" commercial and industrial build-out projections of the Area Plan land use map. The worst case scenario assumes that all existing uses are subject to demolition, reconstruction, or intensification to achieve the maximum density allowed by the land use map. For commercial and industrial uses, maximum density is established by the calculation of floor to area ratios (FARs). An FAR is the total floor area of a building to the area of land on which the building is located. The Area Plan specifies a maximum density of 1.0 FAR for the Neighborhood Commercial (CN) and Light Industrial (IL) land use designations and a maximum density of 2.0 FAR for the Major Commercial (CM) and Office and Professional (IO) land use designations. Because many areas of the Santa Clarita Valley have been developed within the last 20 years that have useful life-spans of 50 years of longer, staff determined that it would be unreasonable to assume that all existing development would be replaced with new development at the highest possible density allowed by the land use map. For this reason, the "worst case" scenario under the land use plan was not used as the basis for commercial and industrial build-out projections. Instead, the TAZ analysis described above formed the basis for reasonable build-out projections.

Jobs/Housing Balance

The jobs/housing balance compares the available housing and available jobs within a community. Currently, over half of employed Valley residents must travel out of the Valley to work. In 2000, the Valley had a jobs-household ratio of 0.88, as compared to the County-wide ratio of 1.43 jobs per household. By 2008, the Valley's jobs/housing ration was estimated to range from 1.3 to 1.5 jobs per household. Achieving a jobs/housing balance can significantly reduce the total number of vehicle trips on the road network and provide greater quality of life for residents. Improving the jobs/housing balance requires planning for the location, intensity, and nature of jobs and housing in order to encourage a reduction in vehicle trips and miles traveled, and a corresponding increase in the use of mass transit and alternative transportation methods such as bicycles, carpools, and walking. Strategies include locating higher-density housing near employment centers, promoting infill development, promoting transit-oriented development, actively recruiting businesses that will utilize the local workforce, developing a robust telecommunications infrastructure (including broadband service to homes and businesses), developing workforce skills consistent with evolving local economies, and providing affordable housing opportunities within the community.

Using projected estimates of employment and residential development allowed by the Land Use Maps of the City's General Plan and the County's Area Plan, it is estimated that the jobs-housing ratio within the Santa Clarita Valley will maintain a minimum of 1.5 jobs per household and could approach nearly 2:1 depending on development trends. The City and County have identified a goal of achieving at least 1.5 jobs per household, as stated in the policy section of this Element.

Economic Development Efforts

The term *economic development* as used in the context of this Land Use Element describes efforts by the City and the County to promote land use planning that enhances the local economy of the Santa Clarita Valley, by expanding job creation, provision of goods and services to both retail and wholesale consumers, movement of goods, diversification of the economic base, enhancement of land values,

attraction of new businesses to the area, and retention and expansion of existing businesses within the Valley. Although successful economic development will benefit local jurisdictions by enhancing the local tax base, this is not the primary consideration for these efforts. The City and County understand that economic vitality is necessary to ensure the health and well-being of Valley residents.

In 2006, the City obtained approval of a State of California Enterprise Zone designation as one of 42 designated zones throughout the State. The Santa Clarita Enterprise Zone designation became effective July 1, 2007 and will remain in effect for 15 years. The designation provides for tax credits for qualifying businesses that can substantially reduce their State income tax obligation.

The City has formed a Redevelopment Agency, with the City Council acting as the Agency Board of Directors. The Redevelopment Agency has designated a Redevelopment Project Area and adopted a Redevelopment Plan for this area, which generally includes about 913 acres within Downtown Newhall, along Main Street, and south of Lyons Avenue. The Agency funded the preparation of the Downtown Newhall Specific Plan and is undertaking roadway and infrastructure improvements in the area pursuant to the adopted plan. During the life of the Redevelopment Plan, the Redevelopment Agency expects approximately 1,780 housing units will be either constructed or rehabilitated within the Redevelopment Area.

The City of Santa Clarita's Economic Development mission is to aid in the economic growth of the Santa Clarita Valley by fostering and encouraging responsible economic development opportunities that result in: 1) a jobs/housing balance established through quality employment opportunities for residents; 2) an economic base through increased sales tax generation; and 3) economic wealth by attracting external monies to the local economy.

In working towards a jobs/housing balance, the City and County have targeted four main industry clusters for expansion in the Santa Clarita Valley – Entertainment, Aerospace, Biomedical, and Technology, further described below.

- Entertainment: According to a 2005 Labor Base Analysis compiled by Alfred Gobar and Associates, approximately 6,600 Santa Clarita residents currently work in the film industry and approximately 58 percent of those workers commute out of the Valley for work. The Valley is home to over 20 sound stages that serve as the ongoing production home for several television shows as well as hosting temporary filming for movies, commercials, and music videos.

- Aerospace: With existing employers such as Aerospace Dynamics, ITT Aerospace Technologies, and HR Textron, the future is bright for aerospace advancement in the Santa Clarita Valley. Through a partnership with College of the Canyons, local aerospace companies in the Valley have been able to train new and retrain existing employees. This training partnership has produced a collaboration model that is recognized statewide for its innovation.

- Biomedical: Several companies have relocated to the Santa Clarita Valley since 2000 that specialize in biomedical and life sciences, creating a biomedical cluster in the Valley with companies such as Mann Biomedical, Advanced Bionics, Specialty Laboratories, Boston Scientific, BioNess, Celestis, and more. Many of these businesses are located in the Mann Biomedical Park, located in the Rye Canyon Business Park. The Valley is now home to more than 1,100 biotechnology jobs, and there are opportunities for continued job growth in this clean industry to create high paying jobs for residents of the Valley.

- Technology: A unique feature of the Santa Clarita Valley's business environment is the location of a thriving business district. The Valencia Gateway hosts nearly 1,500 companies and 45,000 employees, making it the largest and fastest growing center for business, technology, and industry in Los Angeles County. Three of Southern California's premier technology companies merged in 2005 to offer audio, video, and information technology services to businesses, homeowners and homebuilders, all under one roof, with the creation of Access Tech, Inc. in Valencia.

In order to reach the goal of enhancing and expanding the local economic base, the City and County work to attract and retain businesses in the retail, restaurant, and entertainment sectors that Santa Clarita Valley residents wish to patronize, thereby reducing sales tax leakage to other areas outside the Valley.

To generate economic wealth from external sources, the City and County have identified two primary opportunities: location filming and visitor attraction. These efforts are described below:

- The City of Santa Clarita launched its Film Office in 2002 to increase filming in the Santa Clarita Valley and to brand the Valley as one of Los Angeles County's most filmed and film-friendly areas. Santa Clarita has several advantages for the film industry, including a varied landscape suitable to depict international and domestic locations as well as being located within the 30-mile zone of several studios and production companies. Despite statewide loss of filming to other states and countries in recent years, the Santa Clarita has been able to increase location filming. In 2007, location filming contributed over $20 million to the local economy.

- In addition to the tourist attractions of Six Flags Magic Mountain and Six Flags Hurricane Harbor theme parks, the City focuses on visitor attractions through event tourism. The City sponsors or supports several special events throughout the year to attract visitors who positively impact the local economy without increasing need for public services. Some of these events include the AT&T Champions Golf Classic, the Amgen Tour of California cycling race, the Cowboy Festival, and adult and youth sport tournaments. These events along with the two theme parks in the Valley draw more than 3 million business and tourist travelers annually to the Valley.

IX. URBAN FORM, COMMUNITY DESIGN, AND CITY BEAUTIFICATION

The legal basis for all land use regulation is the police power granted to cities and counties to protect the public health, safety, and welfare of their residents. Justice William O. Douglas, speaking for the Supreme Court on this matter, wrote:

> The concept of the public welfare is broad and inclusive…the values it represents are spiritual as well as physical, aesthetic as well as monetary. It is within the power of the legislature to determine that the community should be beautiful as well as healthy, spacious as well as clean, well balanced as well as carefully patrolled. (*Berman v. Parker*, 348 U. S. at 33)

As noted above, the authority granted to local planning agencies has been interpreted by the Supreme Court as extending to land use regulation for the purpose of creating an attractive, aesthetically pleasing community character. In 2004, the California Legislature codified this authority by adopting the following legislation:

> The text and diagrams in the Land Use Element that address the location and extent of land uses, and the zoning ordinances that implement these provisions, may also express community intentions regarding urban form and design. These expressions may differentiate neighborhoods, districts, and corridors, provide for a mixture of land uses and housing types within each, and provide specific measures for regulating relationships between buildings, and between buildings and outdoor public areas, including streets. (California Government Code Section 65302.4)

The City of Santa Clarita has adopted the Community Character and Design Guidelines (2009) and Beautification Master Plan (2001), which contain design guidelines for individual development projects and for overall community design. During the *One Valley One Vision* planning effort undertaken by the City and County to develop consistent Plans for the Santa Clarita Valley, much discussion focused on the urban form and design characteristics desired throughout the Valley.

Urban form refers to the combination of individual elements in the built environment which together make up the cities and neighborhoods in which we live, work, play, and travel: the houses, schools, parking lots, shopping centers, streets, parks, business centers, offices and public buildings which together create urban places. The idea of urban form can be considered at varying scales of development. At the largest scale, the distribution of land uses and open space within the Valley can be considered one aspect of urban form. At the smallest scale, within the context of an individual development site, urban form can describe the placement of a building on a lot, the location of parking and access, and the height and massing of the building relative to the street. At an intermediate scale, urban form can describe

the physical relationships between neighborhoods and streets, and between residential and non-residential uses. Urban form is partly determined by natural features in the area, such as rivers, mountains, lakes and forests. Urban form also results from thousands of small, incremental decisions made over many years, each decision adding a building, parking lot, or other feature to the urban landscape. Sometimes these decisions result in unintended consequences that are not recognized until much later. Urban planners use terms such as density, concentration, centrality, diversity, mixed use, connectivity, and proximity to define aspects of urban form.

Community design is a term often used by planners to refer to the overall style and "look" of a community, based on predominant architectural styles, landscape materials, use of signs, street lights and street furniture, and other aspects of the built environment that convey a visual message about the community's setting, history, and character. For example, mountain communities often encourage use of gable roof designs and architecture typical of European mountain areas; desert communities often emphasize use of adobe-style southwestern motifs; and California Mission communities often promote Mission-style buildings. Collectively, these elements are referred as the "community design" of the area. Even communities that do not have specific design themes such as Alpine, Mission, or Southwest, often develop a general design style based on prevalent development trends in the region. Cities that have no community design standards risk losing a particular community identity, as corporations and franchises that use standard building plans tend to construct the same big boxes, chain stores, and fast food restaurants throughout their service area. Loss of community identity has been criticized by urban planners and social critics in recent years, most notably in James Howard Kunstler's book *The Geography of Nowhere*, which labels many modern cities as "depressing, brutal, ugly, unhealthy, and spiritually degrading".

City beautification, as used in the City's master plan, refers to the City of Santa Clarita's efforts to enhance public spaces such as streets, gateways, public buildings, and plazas with landscaping, lighting, signage and other improvements, in order to eliminate blight and beautify the city. Beautification also includes ongoing maintenance of these improvements.

A summary of how the Area Plan deals with urban form, community design, and beautification in the Santa Clarita Valley is provided below.

Urban Form

At a macro scale, looking at the distribution of land uses throughout the Santa Clarita Valley, development has been shaped by the National Forest lands occupying the mountain ranges to the north, east, and south of Valley communities. The Land Use Maps for the City's General Plan and the County's Area Plan have reinforced the concentration of urban land uses within central portions of the Valley by designating significant areas of open space and rural residential uses between more developed areas and the National Forest lands. The intent of these designations is to maintain urban uses within the flatter portions of the Valley that have access to infrastructure, roads, and public facilities, and to minimize encroachment of urban development into hillside areas. The overall urban form has also preserved open space near the Santa Clara River throughout most of the Valley, in order to protect water quality and provide scenic views, recreational trails, and habitat preservation.

At the intermediate scale, or neighborhood level of urban form, the City's General Plan and the County's Area Plan provide opportunities in some areas to create more urban environments with mixed uses, walkable pathways, and ready access to public transit. Residential densities and building heights in these areas have been increased to promote additional housing opportunities in proximity to supportive commercial and public services. In particular, the areas around rail commuter stations in Newhall and Saugus have been designated through specific plans with denser mixed uses to promote transit-oriented development, as suggested by SCAG in the Compass 2% Strategy discussed in Section IV, above. The urban form desired in these areas is called Transit-Oriented Development (TOD), which is defined as moderate- to high-density development located within an easy walk of a major transit stop, generally with a mix of residential, employment, and shopping opportunities. TOD encourages walking and transit use without excluding the automobile. TOD can be new construction or redevelopment of one or more buildings whose design and orientation facilitate transit use. Benefits of a well-designed, vibrant TOD neighborhood include increased transit ridership and decrease of vehicle trips; provision of mobility choices; increased public safety; reduction in

household income devoted to transportation cost; reduced air pollution and energy consumption; conservation of resources and open space; enhanced economic development; and increased housing supply.

In order to promote TOD, policies have been included in the Area Plan that encourage supportive densities, a mix of land uses, and design characteristics which may include but are not limited to higher residential density, reduced parking requirements, traffic calming strategies, street patterns with smaller blocks and high connectivity, and architecture that orients buildings to sidewalks, plazas and parks, rather than to parking lots. Within the planning area, transit-oriented development is planned in proximity to the Metrolink stations in downtown Newhall, Valencia, and Canyon Country (at the permanent east-Valley station location).

At the scale of site-specific development, the Area Plan contains policies to encourage the maintenance of neighborhood character in the various villages throughout the planning area, and to ensure that each new development incorporates measures for pedestrian accessibility, multimodal opportunities, water conservation and quality, energy conservation, and other similar measures.

Throughout all elements and policies of the Area Plan, the focus has been to avoid the negative effects of urban sprawl. *Urban sprawl* has been described by Oliver Gillham in *The Limitless City* as "a form of urbanization distinguished by leapfrog patterns of development, commercial strips, low density, separated land uses, automobile dominance, and a minimum of public open space." Urban sprawl is a function of the following factors:

- The strength or vibrancy of activity centers and downtown areas;
- Accessibility of the street network;
- Residential density;
- The mix of homes, jobs, and services at the neighborhood level.

In general, areas with vibrant commercial areas, accessible and walkable street networks, higher residential densities, and mixed uses can avoid the urban forms characteristic of urban sprawl. Sprawl is created by both transportation and land use patterns; therefore, both issues must be addressed in order to avoid the negative effects of this urban form. Policies have been included in both the Land Use and Circulation Elements to address this issue.

Community Design

According to the City of Santa Clarita's Architectural Design Guidelines, "no single architectural theme is being promoted, but rather the emphasis is to promote variety… Caution should be exercised when considering architectural styles that have recently become popular (i.e. 'trendy'), but have not yet stood the test of time. In addition, historic styles that cannot be faithfully replicated should be avoided."

In keeping with the Valley of Villages concept, each neighborhood or community within the City may define the community characteristics that are considered appropriate for that area. For example, residents in Canyon Country have endorsed rustic and natural building styles with emphasis on materials such as wood, stone, and enhanced paving. Design standards specific to Sand Canyon and Placerita Canyon have been included in the City's Zoning Ordinance, and will remain in place. Because of its historical character, development in Newhall is subject to a Special Standards District and the Downtown Newhall Specific Plan standards. Saugus, an area that is largely developed but may experience rebuilding over time, is seeking renovation of its older commercial areas with more architectural detailing. Valencia, with the largest commercial and industrial areas in the city, is also the site of more modern multi-story development and contemporary designs. Although Valencia is nearly built out, any new development within the remaining industrial portions of Valencia will be required to follow the City's design guidelines.

Within the County portion of the planning area, the design standards for Newhall Ranch are outlined in the adopted Specific Plan. The Community Standards Districts adopted by Los Angeles County will maintain desired design characteristics in Agua Dulce and Castaic.

City Beautification

Because the City and County are working together to promote comprehensive planning for the Santa Clarita Valley, opportunities exist for the *One Valley One Vision* effort to identify means of preserving and enhancing the scenic environment through a common approach to streetscape design and landscaping along arterial streets and highways and

major gateways. In addition, preservation and enhancement of significant ridgelines, hillsides, and the Santa Clara River provide opportunities for beautification efforts throughout the Valley.

Streetscapes along Major Arterials

In its Beautification Plan, the City has identified a goal of providing landscaped medians within major arterial roadways, in order to provide aesthetic appeal, control vehicle circulation, calm traffic, and provide area for directional and traffic signs. Specifically, the following arterials are identified for landscape median enhancement:

- Via Princessa
- Santa Clarita Parkway
- Soledad Canyon Road
- RoadRailroad Avenue
- Newhall Ranch Road (Cross-Valley Connector)
- Lyons Avenue
- Sierra Highway
- Bouquet Canyon Road

Standardized, drought-tolerant plant palettes along with decorative concrete are desired in the medians, which will help to enhance and unify the community. Policies and implementation measures have been included in this Element to promote coordination between the City and County on uniform approaches to streetscape design, including plant materials, hardscape, and street furniture.

Unified Sign Program and Street Furniture

Another area in which the City and County can coordinate beautification efforts is provision of unified signs, especially for regional trails, trail heads, open space and preserve areas. In addition, consistent street furniture such as bus shelters, benches and trash cans can be used to unify streetscapes throughout the Valley.

Both the City and the County will continue to require new development to provide utilities underground, in order to avoid the visual effects of overhead lines. In addition, the two agencies may coordinate on undergrounding projects for major arterials where appropriate.

Preservation of Significant Ridgelines, Hillsides, and Scenic Resources

The Santa Clarita Valley is characterized by numerous canyons, hills, and mountains. The planning area consists of a mountainous complex of sedimentary rock formations, dissected by long, narrow tributary valleys of the Santa Clara River. The Valley floor, which ranges in elevation from 1,000 to 3,000 feet above sea level, is surrounded by mountain ranges, including the San Gabriel, Santa Susana, and Sierra Pelona ranges. About half of the planning area consists of land on slopes of 10 percent or less, with the remaining area containing steeper slopes.

Both the City and the County have recognized the hillside areas of the Valley to be important resources and have adopted hillside management regulations to restrict development on steeper slopes, but the current hillside ordinances of the two agencies differ as to both process and intent. The County's ordinance applies to average slopes of 25 percent and greater, while the City regulates development on areas with an average cross slope of greater than 10 percent. The ordinances also vary in terms of development requirements for hillside areas. While both the City and the County regulate density of development based upon slope steepness, the City's ordinance also regulates building placement to preserve designated ridgelines. Currently, the County has not delineated significant ridgelines throughout the planning area, but has done so within the Castaic Community Standards District. Although County policies do not prohibit building placement on ridgelines, the County's ordinance is intended to protect hillsides from environmental degradation, preserve public safety and property, and maintain the natural topography to the extent possible. The County has prepared Hillside Design Guidelines (1989) to assist developers in preparing plans for hillside areas, but these are advisory only. The County's hillside ordinance requires no discretionary review for new development below density thresholds. The City's ordinance requires preservation of natural topographic features, designated ridgelines, maintenance of off-site and on-site views, and landform grading.

Sensitive treatment of the Valley's prominent hillsides and ridgelines is considered to be important for several reasons. These features contribute to the character of the Valley of Villages by forming a distinctive backdrop between neighborhood communities. They provide a scenic open space greenbelt around the perimeter of the Valley and provide

residents with a connection to the natural mountain environment. In addition, as the supply of land in level portions of the Valley diminishes, the development pressure for building in hillside areas is likely to increase. Therefore, it was considered to be important in the *One Valley One Vision* planning effort to reach agreement between the City and the County on a coordinated approach to ridgeline preservation and hillside protection, and policies have been added to the Land Use Element to address these issues.

Preservation of the Santa Clara River as an Ecological Resource

The Santa Clara River traverses the entire Valley and represents a joint opportunity to preserve and plan for the protection and enhancement of this significant resource. Los Angeles County has designated over 40,000 acres adjacent to the Santa Clara River as a Significant Ecological Area (SEA #25), which encompasses the surface and subsurface hydrology of the river from its headwaters to the western county border. As the last unchannelized river in Los Angeles County, the Santa Clara River represents opportunities to support diverse wildlife and vegetation communities. In some areas of the Valley open space and trails are provided adjacent to the river, and future plans for Newhall Ranch will preserve the river corridor in that project. Land use policies have been included to require that future planning in both City and County areas adjacent to the river consider the scenic and environmental qualities of this resource, with the goal of creating a continuous greenbelt along the river to the extent feasible.

X. PLANNING FOR PUBLIC HEALTH AND ENVIRONMENTAL QUALITY

Throughout much of the last sixty years, a period that has seen substantial growth in suburban areas, the relationship between city planning and public health has often received little emphasis in local land use policies. Planners have tended to focus more on other aspects of the urban environment such as zoning regulation, design guidelines, provision of infrastructure, and economic development. Recently, however, several studies have raised concerns about the link between health and the urban environment, particularly the effects of urban sprawl. These studies cite increasing cases of obesity, diabetes, asthma, cancer, depression, and other ills that appear to be related to the lifestyle in modern urban areas.[1] In the book *Urban Sprawl and Public Health*, the authors ask:

> What is life like in the expanding metropolitan areas? It is automobile-oriented; many young families live in neighborhoods with neither sidewalks nor walkable destinations. It is transient; most Americans cannot live in the same community throughout their lives and grow old with friends from school or child-raising years. It lacks diversity; in homogeneous subdivisions, many children grow up never befriending or even meeting anybody from a lower social class or, for that matter, from a wealthier social class. It is restrictive; many young people without driving licenses or cars, living in subdivisions without shops, community centers, and public transportation, are bored and alienated. As we age and reach the point where we no longer should be driving, there are few options such as walkable town centers with nearby services and user-friendly transit, a matter of growing concern to the baby boomer generation.[2]

Post-World War II actions of the federal government that led to creation of sprawling suburbs around American cities, including funding of freeway construction and provision of home mortgage lending guarantees, were intended to promote adequate housing, jobs, and healthy lifestyles. However, some of the unintended consequences of suburban development are now being recognized. Increased use of the automobile for commuting between suburban residential areas and urban job centers has raised air pollution levels significantly, leading to rising rates of respiratory illness and contributing to climate change. Increased paving over native vegetation and soil to create streets and parking lots has resulted in more stormwater runoff and less infiltration of surface water into the water tables, causing increased water pollution and flood control needs. Lengthy commutes by parents to out-of-town jobs takes away valuable time with their children. Young people and seniors without access to vehicles become isolated. Increased energy use for gasoline, and for heating and cooling of inefficient building construction, has increased our dependence on fossil fuels. Sedentary lifestyles contribute to epidemics

1 See Urban Sprawl and Public Health: Designing, Planning, and Building for Healthy Communities, by Howard Frumkin, Lawrence Frank, and Richard Jackson, Island Press, Washington, 2004, for an extensive bibliography on the subject.
2 Op. cit., page xiii.

of obesity, diabetes and associated diseases. In addition, urban environments dominated by automobile use are often unsightly.

According to the U. S. Green Building Council, new development can affect ecosystems in many ways, including land consumption, habitat destruction, and increased erosion. "The impacts of increased impervious surfaces to stormwater runoff should be controlled to mimic natural conditions and protect water quality…Heat from the sun is absorbed by buildings and paved surfaces and is radiated back, increasing temperatures in surrounding areas. External lighting systems may cause light pollution to the night sky and interfere with nocturnal ecology."[3]

New development also affects the environment based on the need and options for travel to and from the site. According to the Federal Bureau of Transportation Statistics, vehicle use in the United States nearly tripled, from 1 to 2.85 trillion miles per year, between 1970 and 2002. Vehicles are responsible for approximately 20 percent of U. S. greenhouse gas emissions annually. Vehicle fuel consumption and emissions contribute to climate change, smog, and particulate pollution, all of which have negative impacts on human health. The infrastructure required to support vehicle travel (parking and roadway surfaces, service stations, fuel distribution networks, etc.) increases the consumption of land and nonrenewable resources, alters storm water flow, and absorbs heat energy exacerbating heat island effects.

The use of zoning to separate land uses by allocating different uses within different areas was intended to create more orderly and organized cities. In the early years of the 1900's, zoning was used and supported by the courts to separate residences from noxious industrial uses. In the *One Valley One Vision* planning effort, the City and County have addressed the public health issues associated with urban sprawl and separation of land uses through the Land Use Maps and policies found in all of the Elements of the City's General Plan and the County's Area Plan. The Land Use Maps of the City's General Plan and the County's Area Plan have been designed to limit urban uses within rural and hillside areas in order to preserve a greenbelt around the developed portions of the Santa Clarita Valley and promote infill development within the urban core areas. Opportunities to mix compatible service uses with residential uses are provided within all rural and urban residential land use designations, subject to agency review. Commercial land use designations will allow inclusion of multi-family residential uses, where appropriate. Mixed-use designations have been included for transit-oriented urban areas, underutilized commercial corridors, and neighborhood village areas. Emphasis has been placed on higher residential densities near transit centers to limit dependence on the automobile and promote non-motorized transportation methods, and policies have been included to ensure that public health factors such as walkability are considered in all aspects of design review for future development projects.

3 U. S. Green Building Council, LEED-NC (New Construction) Version 2.2 Reference Guide, 2006, page 19.

XI. COORDINATION OF LAND USE PLAN WITH RESOURCES AND OTHER AGENCIES

In addition to the issues identified in the preceding sections, State law requires that a Land Use Element be coordinated with other agencies to ensure that adequate resources and support services will be provided in the planning area to support build-out of the designations shown on the Land Use Map. A summary of how the land use element has addressed these issues follows.

Water Availability

The Castaic Lake Water Agency (CLWA) was formed in 1962 for the purpose of contracting with the California Department of Water Resources (DWR) to provide a supplemental supply of imported water to the water purveyors in the Valley. CLWA serves an area of 195 square miles in Los Angeles and Ventura Counties, and wholesales imported water to local retail water purveyors through an extensive transmission pipeline system. In 2005, the retail water purveyors served about 65,800 connections.

The California Urban Water Planning Act requires water utilities with more than 3,000 connections to update and submit an Urban Water Management Plan (UWMP) every five years. In 2005, the Castaic Lake Water Agency (CLWA) prepared an UWMP that included CLWA and four local retail water purveyors that provide retail water service to customers in the Santa Clarita Valley: CLWA Santa Clarita Water Division; Newhall County Water District; Valencia Water Company; and Los Angeles County Waterworks District No. 36 (which participated even though it has fewer than 3,000 connections). The UWMP was prepared for a 25-year period, from 2005 – 2030. Growth projections for

this planning period were based on the *One Valley One Vision* planning effort jointly undertaken by the City and County.

Water resources available to CLWA and the retail water purveyors include wholesale (imported) water supplies from the State Water Project (SWP); local groundwater supplies from the Alluvium and Saugus Formation aquifers; and transfers, exchanges, and groundwater banking programs. The use of recycled water is also an important component of the districts' water management planning. The UWMP also details plans for short-term contingencies such as droughts, earthquakes, or service interruptions.

The 2005 Urban Water Management Plan adopted for the Valley's water providers concluded that adequate water would be available to serve projected growth through year 2030. However, a subsequent 2007 federal court decision to protect habitat in the threatened Sacramento-San Joaquin Delta curtailed SWP allocations for 2008-09. SWP reductions may be experienced in future years if habitat conditions for the Delta smelt and other endangered species are not improved. In order to address potential future reductions of SWP allocations, the local water districts are currently working to update the UWMP for the Santa Clarita Valley.

The districts are also developing additional plans and programs to ensure long-term water supply for the Valley in future planning periods beyond year 2030. According to the 2005 UWMP, the districts are aggressively implementing water audits/repairs, public outreach, conservation pricing, residential plumbing retrofit, residential ultra-low flush toilet replacement, large landscape conservation, and conservation programs for commercial, industrial, and institutional uses. In addition, the CLWA has explored opportunities for water exchanges, water banking, and conjunctive use (the coordinated operation of multiple water supplies to achieve improved supply reliability).

CLWA has also developed plans for use of recycled water to meet long-term water supply needs. Currently, wastewater from the two water reclamation plants operated by the County Sanitation Districts is treated to tertiary levels and discharged to the Santa Clara River. Recycled water from the Valencia reclamation plant has been used for landscape irrigation (including Westridge Golf Course) and construction. The Newhall Ranch development is also planning to construct a water recycling facility, and water is available from oilfield production. By 2030, CLWA projects that 17,400 acre-feet per year of recycled water will be available for landscaping purposes. However, more infrastructure will be needed in order to deliver this water to end users.

Two major factors that affect water usage are weather and water conservation. Historically, the districts have found that when the weather is hot and dry, water usage increases. During the 1987-1992 drought period, overall water requirements due to the effects of hot, dry weather were projected to increase by approximately 10 percent. However, as a result of extraordinary conservation measures enacted during this period, the overall water requirements actually decreased by more than 10 percent. The greatest opportunity for conservation is in developing greater efficiency and reduction in landscape irrigation, which can represent more than 50 percent of the water demand for residential customers, depending on lot size and amount of landscaping. The Area Plan contains policies for conservation of irrigation water through implementation of drought resistant landscaping materials and irrigation techniques.

More detailed information about water supply is contained in the Conservation and Open Space Element of the Area Plan.

Schools

Seven public school districts serve the Santa Clarita Valley planning area, listed below:

- William S. Hart Union High School District;
- Saugus Union Elementary School District;
- Newhall Elementary School District;
- Sulphur Springs Union Elementary School District;
- Castaic Union School District
- Acton-Agua Dulce Unified School District; and
- Los Angeles Unified School District.

All school districts have been impacted by residential growth over the last decade, and all schools are using temporary portable classrooms to accommodate student enrollment. In addition to public schools, the planning area includes nine private schools, the Golden Oak Adult School, and the Learning Post.

In planning for school capacity needs, school districts consider two factors: 1) the addition of new dwelling units within their district boundaries; and 2) changes in household size due to changing demographics, which may lead to increased enrollment. Given the existing overcrowding of public schools in the planning area, anticipated growth, and competing land use interests between schools and other public facilities, opportunities to share resources are being explored. While some of the districts have used year-round academic calendars in this past, none of the districts are using multi-track year-round education anymore for capacity expansion, and it is unlikely to be used in the future within the Santa Clarita Valley. Other methods of expanding facility space are being considered, including continued use of portable classrooms, use of two-story buildings, use of multi-purpose rooms, shared library facilities, joint use of technological resources, and shared recreational facilities. In addition, various funding sources are being explored such as developer impact fees, state bond proceeds, or local bond measures.

In general, an elementary school campus is recommended to include a minimum of 10 net usable acres; middle schools require 25 acres; and high schools require 35-40 acres. Many of the existing schools in the Valley are below these recommended areas. Because of the use of portable classrooms, outdoor play and field area is limited at many schools.

Funding for new school construction is provided by statewide bond measures and development impact fees. Funding to support students generated by new development is provided through a combination of these revenue sources, which may vary based on voter approval of bond measures and State funding availability. In addition, districts may use mitigation agreements reached with developers to ensure construction of new schools as dwellings are occupied.

Colleges within the planning area include the following:

- College of the Canyons (COC). Part of the California Community College System and fully accredited, COC offers a variety of two-year degree programs in academic and technical fields as well as access to four year and graduate degrees through the University Center. The University Center is an innovative concept in higher education with a mission to provide immediate access to upper-division and graduate level education opportunities through its affiliation with partnering universities, such as the University of La Verne, Chapman, University, California State University Bakersfield, California State University Northridge, and the University of California Los Angeles. Enrollment in both COC campus locations for spring, 2008 was 21,300 students, surpassing the State's enrollment target for 2016. The west campus is located on 158 acres in Valencia and contains 664,623 square feet of building space, including a 950 seat theater. Recent additions to the Valencia campus include three new buildings, two additions to existing buildings (the Library and Media Arts building) and one building under construction (Student Services/Administration, scheduled for completion in 2011). In addition to college classrooms, COC includes facilities for the William S. Hart Union High School District's Early College High School (ECHS), where students can take both high school and college level classes in order to graduate with both a high school diploma and an associate's degree. The ECHS opened with 86 freshman students in 2008 and will add a new class each year.

- The east campus, located on 70 acres in Canyon Country, opened in 2007 with 35,000 square feet of instructional space including science labs, computer labs, library, book store, classrooms, and other facilities. The east campus served 3,500 students and offered more than 300 courses in its first semester. At build-out, the east campus will serve nearly 10,000 students and contain at least seven permanent multi-story buildings.

- California Institute of the Arts (Cal Arts). Cal Arts is the Nation's only fully accredited visual and performing arts college and has won a national reputation as the first art institute to offer Bachelor's of Fine Arts and Master's of Fine Arts degrees in both the visual and performing arts. Founded through a partnership between Walt Disney, the Los Angeles Conservatory of Music, and the Choinard Art Institute, the campus is located on a 60-acre site in Valencia. Cal Arts has a film and entertainment focus and animation training program. Emphasis is placed on new and experimental work, and students are admitted solely on the basis of artistic ability.

- The Master's College is a private liberal arts college located on over 100 acres in Placerita Canyon, and offers 50 Bachelor of Arts and Bachelor of Science degrees. Enrollment is estimated at 1,000 students. The Master's College is planning a facility expansion on the current campus.

The challenge to provide additional school facilities needed to support new development will be met through on-going cooperation between the City, County, and school districts. Master-planned communities, such as Newhall Ranch, provide for school sites and funding mechanisms in their specific plans. As infill occurs in other portions of the planning area, however, it will be necessary to explore all options to alleviate over-crowding. Policies have been included in the Area Plan to address coordination of land use planning with school facility planning.

Parks

The provision of adequate park space and facilities to serve residents is not only required by State planning law, but is recognized as necessary to provide for public health and quality of life. Parkland provides recreational and aesthetic benefits as well as increased environmental quality, through maintenance of open space, permeable land area for surface water infiltration and percolation, trees and vegetation for habitat, and the economic benefits of increased property values. The Land Use Element is required to consider the number, size, and distribution of parklands and facilities to ensure that these public amenities will be adequate to serve the ultimate population level at build-out of uses permitted by the Land Use Map.

Based on a 2003 GIS inventory, the Valley contains over 14,000 acres of parkland, including both local and regional parks located within City and County areas; however, much of this parkland consists of natural open space and is not developed for active recreational uses. There are four State Parks located within the Planning Area: Castaic Lake Recreation Area, Placerita Canyon State Park, Vasquez Rocks State Park, and the Santa Clarita Woodlands. In addition, recreational facilities within the Angeles National Forest and Los Padres National Forest lands within and adjacent to the planning area are available for public use by Valley residents. A more detailed discussion of specific park locations and acreage is contained in the Conservation and Open Space Element.

In addition to parkland, the Valley contains an integrated trail system traversing both City and County areas and available for use by equestrians, hikers, joggers, and cyclists. Long-term plans call for a continuous trail along the Santa Clara River, to be completed as right-of-way is acquired. Schools also provide land and facilities for recreational use on a limited basis, through joint use agreements.

Developed parkland in the planning area accommodates a variety of organized sports, including soccer, baseball, tennis, volleyball, basketball, and a skateboard park. Facilities also include picnic areas and playgrounds. A 58-acre Sports Complex was constructed by the City within a former industrial complex in 2002, with an aquatic center added in 2003. Future expansion plans include multi-purpose fields, a second gymnasium, an expanded skate park (completed in 2009), and other amenities. The County has constructed a 53-acre sports complex in Castaic. Both the City and County operate recreational programs at their park facilities. Passive recreational areas include conservancy land located in Towsley Canyon and the Water Conservatory Garden and Learning Center owned by the Castaic Lake Water Agency.

The City has adopted a standard 5 acres of parkland per 1,000 residents, and the County has adopted a standard of 3 acres per 1,000 residents. Based on these standards and without considering improvements or distribution of park property, it may appear that the planning area has adequate overall parkland acreage to serve the existing population. However, much of the land designated for parks and open space is not accessible to residents or developed for recreational use. More parks are needed to handle specific recreational activities, such as ball fields for youth, in order to better serve the existing population and future growth. Within the City, there are only about 1.5 to 2 acres of developed parkland per 1,000 population, and the City has developed a separate master plan for parks to prioritize actions needed to expand parkland and services. Another issue for park development is distribution of park facilities, as many local parks are concentrated within master planned communities, and outlying areas have access to fewer local parks. There is a need for additional regional parks throughout the Valley, as both City and County residents are active park users in this family-oriented community.

It is anticipated that future dedications of parkland will be made from new developments in the planning area as development occurs. In addition, both the City and the County are planning for a variety of new parks to serve the growing population's recreational needs.

The City and County will continue to explore joint use opportunities with school districts, utility corridors, and other service providers and agencies to expand parkland and recreational facilities, including trails and playfields. It will be critical in the future to identify sources of funding and reserve lands for future parkland as the planning area continues to develop, in order to provide adequate parkland for all residents. More information about park planning is provided in the Open Space and Conservation Element.

Libraries

The County of Los Angeles operates all public libraries in the planning area, including the Main Branch in Valencia, the Jo Anne Darcy Branch in Canyon Country, the Newhall Branch, and a bookmobile that serves the communities of Castaic, Acton, Agua Dulce, Val Verde, and the Friendly Valley senior community. The County's system contains over eight million items in its collections and provides inter-library loan programs with other local and national libraries. Santa Clarita library branches also maintain local and regional history collections.

In addition to the public libraries, schools provide library facilities to their students. Both Cal Arts and The Master's College provide libraries for students, and College of the Canyons opens their library to both students and the general public.

Based on the County Library's service guidelines, the area and number of items within the Santa Clarita branches are not meeting service level standards. As population increases based on growth anticipated by the Area Plan, it will be necessary to increase funding to support library development. In order to meet the library needs of new development in the Valley, both the City and County assess a development impact fee for library construction. Other funding sources include property taxes, bond measures, and voter-approved special taxes.

In 2008 the City Council approved purchase of three parcels on Lyons Avenue so that the City can move ahead with plans to build a new public library in Downtown Newhall. Along with the new community center, this new library facility is part of the plan to revitalize Downtown Newhall.

Local Government Offices

Local government offices in the planning area include the Santa Clarita City Hall and Los Angeles County Civic Center (which includes County administrative offices and the Municipal Court), both located in Valencia. The planning area also has offices of the County Department of Children and Family Services, and the County Department of Senior and Social Services, which provide services for child welfare, emergency housing, food, domestic violence assistance, and referrals to other agencies. The County Department of Public Social Service (DPSS) has an office in Canyon Country that provides services for low-income and disabled persons, homeless assistance, and aid to families with dependent children.

Planning issues for government service providers include providing more accessible service to outlying portions of the planning area, and expansion of services as the population increases over the build-out horizon of the Land Use Plan. Working together, the City and County are exploring opportunities to maximize efficiency and provide enhanced public service by co-locating services within a unified civic center complex, which could include City Hall, County Administrative Offices, and the central Sheriff's Station.

Health Services

Henry Mayo Newhall Memorial Hospital, located in Valencia, is the primary acute care hospital serving the planning area with 230 beds for inpatient care. The hospital has a 21-bed emergency room and is certified for pediatrics, outpatient surgery, intensive care, and obstetrics, among other services.

The hospital undertook seismic retrofitting, which was completed in 2002. The facility contains a Level 2 regional trauma unit, one of 13 such centers in the County; as this is the only trauma center in the planning area, its maintenance and continued financial viability is of critical importance to Valley residents. The Hospital is planning for expansion, along with additional medical office space for outpatient services, specialized services, doctors offices, and hospital administrative functions.

The Santa Clarita Convalescent Hospital in Newhall is a 99-bed facility specializing in senior care, including physical therapy and rehabilitation. Kaiser Permanente operates a facility on Tourney Road that offers family medicine, internal medicine, obstetrics, gynecology, dermatology, optometry, endocrinology, physical therapy, and a pharmacy. Facey Medical Group is the largest medical care provider, with six facilities throughout the Valley in Canyon Country, Valencia, Stevenson Ranch and Castaic, with urgent care provided at the Valencia office. Several other medical groups provide health care services in the planning area, including an office of UCLA's Johnson Cancer Center in Valencia. The closest medical facilities for Valley military veterans are Wadsworth Hospital Center in West Los Angeles and the Sepulveda Ambulatory Hospital.

Residents in remote rural portions of the planning area generally do not have easy access to health care services. However, the Samuel Dixon Family Health Center in Val Verde provides health care services to residents in the northwest portion of the planning area, and the Center also operates mobile clinics.

The provision of emergency medical services is divided between basic life support (EMT) and advanced life support (paramedic service), and is overseen by the Los Angeles County Fire Department. All fire fighters are trained in basic EMT, while paramedic units provide advanced life support. Private ambulance companies provide emergency transportation services.

Mental health treatment is available at the Henry Mayo Newhall Memorial Hospital psychiatric unit, the Child and Family Center, and through a number of family counseling and mental health professionals. Services provided by both private and non-profit organizations also include substance abuse treatment, pregnancy counseling, parenting classes, programs for AIDS and other sexually transmitted diseases, and programs for disabled residents and those with special education needs.

As baby boomers age, the fastest-growing segment of the population is expected to be people in the age group 50 and older, generating increased needs for long-term care and gerontology services. Primary planning issues for the Santa Clarita Valley will be maintaining the trauma center, providing more services to outlying areas, and meeting the health needs of an aging population while maintaining services to children and young people.

Cultural Amenities

In 1996 the City of Santa Clarita, in cooperation with the Arts Alliance (a representative task force of arts community leaders) undertook an initiative to identify and address the community's cultural needs. In 1997 the cultural task force began Phase 1 of the Cultural Arts Master Plan, the first of a two-part process, with the objective of assessing the needs of the arts community, determining how arts organizations can cooperate, and make recommendations for future cultural arts planning.

Facilities for performing and visual arts are located at California Institute of the Arts, Valencia High School, Hart Performing Arts Theater, College of the Canyons (COC), Canyon Theatre Guild, and Repertory East Playhouse in Newhall. In addition, the City sponsors events with temporary stages in City parks. However, use of these facilities by the general public is limited, and there is a lack of exhibition space for visual arts display.

The City is the largest individual cultural arts provider, offering a variety of programs including the Cowboy Festival, Summer Concerts in the Parks, Street Arts Festival, art and cultural grant and scholarship programs, and classes in painting, dance, and the fine arts. Cultural awareness is celebrated annually through the Season of Diversity program, which includes essay and poster contests in cooperation with local schools. The City also provided funding for construction of the Performing Arts Center at COC, thereby facilitating joint use of that facility by the public. Cultural arts programming occurs throughout the year in this 47,000 square foot center, including performances by the Santa Clarita Symphony, COC Theatre, Santa Clarita Ballet, Santa Clarita Regional Theatre, Santa Clarita Master Chorale, and more. Los Angeles County also sponsors cultural events throughout the year, including the Native American Festival.

There is an active community of artists, performers, and musicians in the planning area that contribute to the cultural life of the community. The Santa Clarita Artists' Association sponsors fine arts exhibits, and the Santa Clarita Valley Film Festival highlights the community's importance in the film industry.

The Cultural Arts Master Plan identified the need to provide cultural arts to all members of the community, create a local arts agency for better coordination, and expand facilities. Community benefits from access to the arts include increased educational opportunities, an enriched cultural life, economic development, and redevelopment in the Newhall area. There are opportunities to share resources in the Valley, such as school auditoriums, libraries, technology centers, and recreational facilities for cultural arts purposes. Future planning for cultural arts expansion in the Valley includes development of an arts district in Old Town Newhall, as envisioned by the 2005 specific plan for that area; the need for more museum space; and expansion of performance venues, including evaluating the feasibility of an outdoor amphitheater.

Landfills

The Los Angeles County Department of Public Works has the responsibility to develop plans and strategies to manage and coordinate the solid waste generated in unincorporated areas and to address the disposal needs of the County as a whole. With respect to land use planning, solid waste transfer and disposal sites were reviewed for their potential impacts on adjacent uses and future residents. Based on the County's estimates, residents generate about 11 pounds of solid waste per day.

The Santa Clarita Valley is served primarily by three Class III (non-hazardous) landfills: Chiquita Canyon Landfill near Val Verde, the Antelope Valley Landfill in Palmdale, and Sunshine Canyon Landfill in Sylmar. Class III landfills receive more than 50,000 tons of solid waste per year. With approved expansions, these landfills will have capacity to serve the Valley beyond year 2020. However, the proposed expansion of the Chiquita Canyon Landfill has raised concerns by residents of nearby Val Verde, who are often impacted by wind-borne odors and truck traffic; compatibility of landfills with adjacent development must continue to be addressed.

Both the City and County manage programs to reduce waste generation through diversion programs such as recycling and re-use. Although these efforts will increase the life expectancy of local landfills, they do not eliminate the need for new landfill space. In 2000, a consortium of 78 cities and Los Angeles County signed agreements to purchase the Eagle Mountain Landfill in Riverside County and the Mesquite Regional Landfill in Imperial County. The plan calls for solid waste to be transported to these landfills by rail.

Additional facilities are needed for sorting and resource recovery from solid waste, including materials recovery facilities (MRFs), composting facilities, collection centers for electronic waste (such as discarded computers and televisions), and recycling facilities. In addition, the re-use of construction demolition debris requires storing and crushing of old asphalt and concrete for use as road base, and sites for these uses are needed. However, siting these facilities is often difficult due to local controversy from neighbors. Planning issues for the Valley include identifying areas for these uses that are required to support Valley businesses and residents.

A previous issue regarding landfill planning, which has since been resolved, relates to Elsmere Canyon, a canyon with coastal sage and oak woodlands habitat that provides a wildlife corridor from the Santa Susana Mountains to the San Gabriel range. Proposed as a site for a landfill in 1989, a coordinated citizen effort to preserve Elsmere Canyon resulted in eventual withdrawal of the application. During the environmental process for this project, thousands of Valley residents opposed development of a landfill in Elsmere Canyon. Public concern ultimately culminated in legislation in 1996 prohibiting the use of any land in the Angeles National Forest for landfill purposes. In 2007, 400 acres in Elsmere Canyon were donated by the owners to a conservancy for permanent open space.

Mineral Resources

The planning area contains extensive mineral resources. Historically, gold mining and oil production have been the primary mineral extraction activities in and around the Santa Clarita Valley. Other minerals in the area include construction aggregate (sand and gravel), titanium, tuff, and rock.

Existing oil and natural gas fields are primarily located in the western portion of the Valley, with over 700 wells in production. In 2003, approximately 3,180 acres were used for oil and natural gas extraction in the planning area. Over 800 abandoned well sites remain in the planning area, which may be subject to re-use or remediation.

Sand and gravel resources are primarily concentrated along waterways, including the Santa Clara River, Castaic Creek, and east of Sand Canyon Road. A significant deposit of construction-grade aggregate extends along the Santa Clara River approximately 15 miles from Agua Dulce Creek in the east, to the Ventura County line on the west. Almost 19,000 acres in the planning area are designated by the State as Mineral Resource Zone-2, or areas of prime importance due to known economic mineral deposits.

As of 2003 there were about 525 acres of land used for mineral extraction of sand, gravel, and rock. Generally, mining sites are located in Canyon Country, Agua Dulce, and Mint Canyon in the planning area, and in Acton to the north. A proposed sand and gravel mining operation in Soledad Canyon has been controversial due to concerns about noise, air pollution, truck traffic, and visual impacts.

Additional information about mineral resources is contained in the Conservation and Open Space Element. For purposes of the Land Use Element, however, the issues of land use compatibility between less intense uses and extraction operations must be considered, in order to provide for adequate separation of these uses. In addition, significant resource areas should be protected from development as they provide a needed resource to support the construction of new homes, businesses, and roads. Finally, the Land Use Element must consider restoration and re-use of mined areas once mining operations cease.

Noise and Flood Hazards

A complete discussion of flood hazards is contained in the Safety Element, and noise is addressed in the Noise Element of the Area Plan. For purposes of the Land Use Element, it was necessary to identify areas within the Valley that are or will be subject to flooding or excessive noise, and to ensure that the Land Use Map avoided placing uses in these areas that would be detrimentally affected.

In general, sensitive receptors with regard to noise impacts include residences, hospitals, schools, convalescent care, and similar uses. The Area Plan standard for these uses is established with a rating scale known as Community Noise Equivalent Levels (CNEL). For land planning purposes, sensitive receptors should be set back, away from noise sources such as freeways, or otherwise protected by sound barriers such as walls or earthen berms.

Development in the Valley is required to be protected from flood hazards by either staying out of areas prone to flooding, or through elevation of building pads in certain areas. Areas prone to flooding are shown on the Floodplain Map in the Safety Element. Policies in the Area Plan encourage accepted flood control standards for construction.

Agricultural Resources

Agricultural resources of significance to the land use planning process are those which have been classified by the California Department of Conservation (CDC) as important to the local or state agricultural economy. Agricultural lands are classified by soil type, slope, and potential for flooding and erosion hazards, with the most arable land identified as Class I and Class II by the United States Soil Conservation Service. The best soils for agriculture are deep, generally well drained, and easily worked. The western portion of the planning area contains soils within the Class I and Class II categories. The remainder of the planning area contains soils less suitable for agriculture, ranging from Class III to Class VIII.

Based on soil characteristics and the presence of agricultural uses, the CDC has designated land suitable for agriculture on a set of maps called the "Important Farmland Series". In order to be identified on the Important Farmland maps, land must have been farmed within the last four years prior to mapping. There are five categories of farmland within the planning area shown on the state farmland maps, described below:

- Prime Farmland – land with the best combination of physical and chemical features able to sustain long-term production of agricultural crops, due to soil quality, growing season, and moisture supply needed to produce sustained high yields;

- Farmland of Statewide Importance – land with good potential for agricultural production, but with slightly more gradient or less soil fertility than prime farmland;

- Unique Farmland – land of lesser quality soil used for production of agricultural crops, including non-irrigated orchards or vineyards;

- Farmland of Local Importance – land used for agriculture that is determined by the County Board of Supervisors to be significant to the local economy;

- Grazing Land – land with native vegetation that is suited to the grazing of livestock.

The planning area contains about 1,994 acres of land designated on the State's Farmland Map, of which about 150 acres are located within the City of Santa Clarita. Farmland acreage is shown on Table L-1.

These designated farmlands occur in scattered locations, generally on alluvial soils adjacent to the Santa Clara River, Castaic Creek, San Francisquito Canyon, and Bouquet Canyon. The largest areas of farmland are located along the Santa Clara River in the western portion of the planning area, north and south of State Route 126 in the area slated for development of Newhall Ranch. Designated farmlands extending along the east side of Interstate 5 along Castaic Creek, along San Francisquito Canyon, and near the intersection of Bouquet Canyon Road and Vasquez Canyon Road, are generally smaller in scale; some are used for horse ranches, non-irrigated cropland, improved pasture lands, and vineyards.

Table L-1: Farmland Designations in the Planning Area

State Farmland Designation	Acres in County	Acres in City	Total Acres in Planning Area
Prime Farmland	1,172.36	128.70	1,301.06
Farmland of Statewide Importance	178.25	0	178.25
Unique Farmland	364.11	2.45	366.56
Farmland of Local Importance	130.17	18.42	148.59
Total Acreage	1,844.98	149.46	1,994.44

The largest category of designated farmland in the planning area is Grazing Land, which includes over 61,000 acres within the planning area. Much of this land will remain vacant in the undeveloped foothills surrounding the Valley and adjacent to U. S. Forest Service land. Land use designations for these areas will be Rural Land, allowing low-density development on large lots to maintain the rural and open character of designated Grazing Lands.

Law Enforcement and Fire Protection

A full discussion of law enforcement and fire protection services is contained in the Safety Element. However, the Land Use Element addresses these issues in order to assure that new development allowed by the land use plan will not be adversely affected by wildland fire or lack of adequate services. In addition, policies have been added to the Land Use Element to ensure that development plans for new structures have incorporated design measures to reduce the potential for danger from crime and wildland fires.

Fire protection in the Santa Clarita Valley is provided by the Los Angeles County Fire Department. There are 11 fire stations with 12 engine companies, four paramedic squads, one hazardous material squad, and one ladder truck serving the planning area. In addition, the U. S. Forest Service has responsibility for non-structure fires in federal forests, and maintains five fire stations in the planning area at Bouquet Canyon, Oak Flat, Sand Canyon, and Agua Dulce.

According to the Fire Department, the average response time to emergency calls in the Valley is about five to seven minutes. However, response distances and times vary due to terrain, distance, and the size of the planning area. The department's median response times throughout the County are 4.5 minutes in urban areas, 5.8 minutes in suburban areas, and 8.3 minutes in rural areas.

The planning area is susceptible to wildland fires because of its hilly terrain, dry weather conditions, and native vegetation. Steep slopes allow for the quick spread of flames during fires, and pose difficulties for fire suppression due to access constraints for firefighting equipments. Late summer and fall are critical times for wildland fires, as Santa Ana winds deliver hot, dry desert air into the region. Chaparral and sage vegetation allows fires to spread easily in hillside areas. The Fire Department has classified 80 to 90 percent of the planning area in a Very High Fire Hazard Severity Zone. Areas in the City that are prone to wildland fire include portions of Newhall and Canyon Country, areas surrounding Sand Canyon, portions of Pico Canyon, Placerita Canyon, Hasley Canyon, Whites Canyon, Bouquet Canyon, and all areas at the interface between native vegetation with urban development. Records indicate that wildland fires occur almost every year, with large fires occurring fairly regularly about every ten years. This fire cycle is based upon the growth of vegetation in fire-prone areas.

The Fire Department operates fire suppression camps and maintains crews used for fire protection and suppression through use of fire cuts, water-dropping helicopters, and other equipment. However, the best planning tools for wildland fire safety are to protect hillside areas from encroachment by urban development, to provide adequate fire flow and fire access roads in hillside areas, and to maintain fuel modification zones between wildland areas and structures where possible.

With regard to law enforcement, the planning area is served by the Los Angeles County Sheriff's Department's Santa Clarita Valley Station, which serves over 600 square miles. Law enforcement within the City is provided by the Sheriff's Department under contract. The Sheriff's station, located in Valencia, is insufficient to meet current needs. The Department also operates a storefront station in Newhall. New facilities and additional staffing, along with equipment and vehicles, will be needed to serve anticipated growth allowed under the land use plan. Discussions are underway regarding a new Sheriff Station to be jointly funded by the City and County to serve Valley residents.

The Peter J. Pitchess Detention Center (Wayside Honor Rancho) in Castaic serves the entire County. The jail consists of several facilities which together comprise the largest jail complex in the County. In addition to these facilities, three youth camps serving the region are located within the planning area. The Los Angeles County Probation Department provides secure detention for delinquent minors in juvenile halls and control and rehabilitation programs in camps such as Camp Scott, Camp Scudder, and Camp Francis J. Scobee. These juvenile halls and camps provide confinement to minors ranging in age from 8 to 18 who await adjudication and disposition of legal matters. Camps provide treatment, care, custody, and training for the rehabilitation of delinquent minors as wards of the Juvenile Court.

Planning issues for law enforcement include expanding Sheriff station facilities and identifying funding sources for staffing and operational needs to support the Valley's growing population.

XII. LAND USE MAP DESIGNATIONS

The Land Use Element and accompanying Land Use Map (provided as a separate figure) describe and designate the distribution of land uses by type, location, intensity, and extent of use. Designations show land planned for development as residential, commercial, industrial, open space, public facilities, and other categories of public and private land use. Prior to adoption of this Area Plan a comprehensive assessment of existing land uses and their distribution was conducted using aerial photo analysis, field surveys, and a geographic information system. Land was evaluated for suitability of development type and intensity based on topography, access, proximity to infrastructure, environmental constraints, character of surrounding development, economic viability, and other criteria. Input on future land use needs was solicited through extensive public participation at workshops, meetings, through correspondence and the City's website. Based on this analysis and input, a Land Use Map was developed.

This Area Plan is unique in that the City of Santa Clarita and the County of Los Angeles have collaborated on a compatible system of land use designations that will maintain consistency of planning policies throughout the entire Santa Clarita Valley. The compatible land use designations will ensure that property owners, residents, and developers throughout the planning area understand the relationship between the Area Plan and the City of Santa Clarita's General Plan and operate from the same set of guidelines.

Land Use Designation Descriptions

The following descriptions identify the type, density, and/or intensity of land uses that conform to each of the land use designations shown on the Land Use Map. Any interpretation regarding uses that are not specifically included in the following land use designation descriptions shall be made by the designated authority, pursuant to applicable zoning regulations and based on the intent of each designation, as set forth in this section.

It is important to note, when reading the Land Use Map and the descriptions of each land use designation, that the maximum density or intensity is not guaranteed for any land use category. In determining the most appropriate use for each property shown on the Land Use Map, consideration will be given to topography; availability of roads and infrastructure; existing development patterns; potential

land use conflicts; public health, safety, and welfare; presence of environmental resources and hazards; and other site constraints. Therefore, the upper range of residential density and non-residential use intensity will be granted only when the reviewing authority determines that all other applicable Area Plan policies, codes, and requirements can be met on the site.

The density designations in the urban Residential land use designations are considered to be net density and the density designations in the Rural Land use designations are considered to be gross density. In practice, this means that the number of dwelling units allowed within each development site shall be divided by the net or gross area of the property, depending on the designation. Area Plan density is an indicator of the maximum number of dwelling units per unit of area; it does not regulate minimum lot size, which is a requirement of the Zoning Ordinance, although the Rural Land use designations include minimum lot sizes.

The California Legislature has identified second dwellings on residential lots as a valuable form of housing (Government Code Section 65852.150). State law requires that cities and counties allow second dwelling units on residential lots without imposing onerous requirements that would unreasonably restrict these units, except where findings are made that second units would result in "specific adverse impacts on the public health, safety, and welfare" (Section 65852.2). The County and City of Santa Clarita have both adopted ordinances regarding second units in residential areas, to implement state law; procedures and standards for second units shall be required as set forth in the applicable zoning ordinance.

In the titles of the following land use designation descriptions, the County's terminology for each designation is given first, with the corresponding designation in the City's General Plan shown in parenthesis.

RL20 – Rural Land 20 (NU1 – Non-Urban 1)

The Rural Land 20 designation identifies lands in the planning area that are distinguished by significant environmental features and extreme development constraints. Lands in this designation are largely undeveloped and consist of rolling hillside areas, steep slopes, and remote mountain lands with limited access.

Allowable uses in this designation include single-family homes at a maximum density of 1 dwelling unit per 20 acres, agriculture, equestrian uses, private recreation, and public and institutional facilities serving the local area. Specific allowable uses and development standards shall be determined by the underlying zoning designation.

In order to maintain a dispersed rural environment, the clustering of development will only be permitted if lots are 2 net acres or greater in size. Individual homes and other structures should be designed in consideration of topographic and environmental constraints.

RL10 – Rural Land 10 (NU2 – Non-Urban 2)

The Rural Land 10 designation identifies lands in the planning area that include environmental features and are not appropriate for intense development requiring urban services. Lands in this category are largely undeveloped and consist of rolling hillside areas, slopes, and mountain lands with limited access.

Allowable uses in this designation include single-family homes at a maximum density of 1 dwelling unit per 10 acres, agriculture, equestrian uses, private recreation, and public and institutional facilities serving the local area. Specific allowable uses and development standards shall be determined by the underlying zoning designation.

In order to maintain a dispersed rural environment, the clustering of development will only be permitted if lots are 2 net acres or greater in size. Individual homes and other structures should be designed in consideration of topographic and environmental constraints.

RL5 – Rural Land 5 (NU3 – Non-Urban 3)

The Rural Land 5 designation identifies lands in the planning area that include environmental features and are not appropriate for intense development requiring urban services. Lands in this category are undeveloped or partially developed and consist of rolling hillside areas with limited access.

Allowable uses in this designation include single-family homes at a maximum density of 1 dwelling unit per 5 acres, agriculture, equestrian uses, private recreation, and public and institutional facilities serving the local area. Specific allowable uses and development standards shall be determined by the underlying zoning designation.

In order to maintain a dispersed rural environment, the clustering of development will only be permitted if lots are 2 net acres or greater in size. Individual homes and other structures should be designed in consideration of topographic and environmental constraints.

RL2 – Rural Land 2 (NU4 – Non-Urban 4)

The Rural Land 2 designation provides for the maintenance and expansion of rural communities in the planning area that are distinguished by large lot sizes (generally two acres or greater), agricultural and equestrian uses, and an absence of urban services.

Allowable uses in this designation include single-family homes at a maximum density of 1 dwelling unit per 2 acres, agriculture, equestrian uses, private recreation, and public and institutional facilities serving the local area. Specific allowable uses and development standards shall be determined by the underlying zoning designation.

Supportive commercial uses serving the local area, such as grocery stores, restaurants, personal services, and retail sale of specialty goods for rural residents, such as feed and tack stores, may be allowed in "activity areas" within this designation without a Plan Amendment, but may require a zone change and/or other approvals. Such "activity centers" must be at least 1 mile from any commercial land use designation, must not exceed 5 acres in size, and must not contain any individual use with more than 10,000 square feet of floor area.

In order to maintain a dispersed rural environment, the clustering of development will not be permitted and lots must be 2 net acres or greater in size. Individual homes and other structures should be designed in consideration of topographic and environmental constraints.

RL1 – Rural Land 1 (NU5 – Non-Urban 5)

The Rural Land 1 designation provides for the maintenance and expansion of rural communities in the planning area that are distinguished by large lot sizes (generally one acre or greater), agricultural and equestrian uses, and the absence of urban services.

Allowable uses in this designation include single-family homes at a maximum density of 1 dwelling unit per 1 acre, agriculture, equestrian uses, private recreation, and public and institutional facilities serving the local area. Specific allowable uses and development standards shall be determined by the underlying zoning designation.

Supportive commercial uses serving the local area, such as grocery stores, restaurants, personal services, and retail sale of specialty goods for rural residents, such as feed and tack stores, may be allowed in "activity areas" within this designation without a Plan Amendment, but may require a zone change and/or other approvals. Such "activity centers" must be at least 1 mile from any commercial land use designation, must not exceed 5 acres in size, and must not contain any individual use with more than 10,000 square feet of floor area.

In order to maintain a dispersed rural environment, the clustering of development will not be permitted and lots must be 1 net acre or greater in size. Individual homes and other structures should be designed in consideration of topographic and environmental constraints.

H2 – Residential 2 (UR1 – Urban Residential 1)

The Residential 2 designation provides for residential neighborhoods at densities that require urban services. Many of these neighborhoods provide a transition between higher density, urban development and rural communities throughout the planning area, and this designation is appropriate in such urban/rural interface areas.

Allowable uses in this designation include single-family homes and other residential uses at a maximum density of 2 dwelling units per 1 acre. Specific allowable uses and development standards shall be determined by the underlying zoning designation.

Supportive commercial and institutional uses serving the local area, such as stores, restaurants, personal services, limited medical services, and retail sale of specialty goods for neighborhood residents, may be allowed in a proposed development project within this designation without a Plan Amendment, but may require a zone change and/or other approvals.

The clustering of development is encouraged on lands with significant environmental and/or topographical features or resources, in order to preserve open space for protection

of these natural features or resources, to provide recreational amenities, or to act as a buffer to surrounding rural communities.

H5 – Residential 5 (UR2 – Urban Residential 2)

The Residential 5 designation provides for residential neighborhoods that typify much of the planning area. Allowable uses in this designation include single-family homes and other residential uses at a maximum density of 5 dwelling units per 1 acre. Specific allowable uses and development standards shall be determined by the underlying zoning designation.

Supportive commercial and institutional uses serving the local area, such as stores, restaurants, personal services, limited medical services, and retail sale of specialty goods for neighborhood residents, may be allowed in a proposed development project within this designation without a Plan Amendment, but may require a zone change and/or other approvals.

The clustering of development is encouraged on lands with significant environmental and/or topographical features or resources, in order to preserve open space for protection of these natural features or resources, or to provide recreational amenities.

The Residential 5 designation has been applied to residential areas that existed prior to the effective date of the Area Plan and are surrounded by Rural Land designations, in order to recognize these existing areas as conforming to the Area Plan. However, the Residential 5 designation in these areas should not be interpreted as setting a precedent for expanding urban development into adjacent Rural Land designations, because these areas are not served with adequate levels of urban infrastructure to accommodate greater densities or intensities of use. These areas are described below and shown on Figure L-2.

Sleepy Valley, a neighborhood in the northeastern portion of the planning area adjacent to the Angeles National Forest, generally located along Sierra Highway between Oak Street and Steele Avenue;

Val Verde, a community in the western portion of the planning area adjacent to Newhall Ranch and the Valencia Commerce Center, generally located along San Martinez Road and Chiquito Canyon Road; and

Tract 25965, a subdivision in the southern portion of the planning area adjacent to the Angeles National Forest, generally located at the intersection of Placerita Canyon Road and Running Horse Road.

H18 – Residential 18 (UR4 – Urban Residential 4)

The Residential 18 designation provides for mixed residential neighborhoods of detaching and attached dwellings. Allowable uses in this designation include detached and attached single-family homes, duplexes, multiple family dwellings, and other residential uses at a minimum density of 9 dwelling units per 1 acre and a maximum density of 18 dwelling units per 1 acre. Specific allowable uses and development standards shall be determined by the underlying zoning designation.

Supportive commercial and institutional uses serving the local area, such as stores, restaurants, personal services, limited medical services, and retail sale of specialty goods for neighborhood residents, may be allowed in a proposed development project within this designation without a Plan Amendment, but may require a zone change and/or other approvals. Live-work units may also be allowed within this designation, subject to the requirements of the underlying zoning designation.

H30 – Residential 30 (UR5 – Urban Residential 5)

The Residential 30 designation provides for medium to high density apartment and condominium complexes in areas easily accessible to transportation, employment, retail, and other urban services. Allowable uses in this designation include multiple family dwellings at a minimum density of 18 dwelling units per 1 acre and a maximum density of 30 dwelling units per 1 acre. Specific allowable uses and development standards shall be determined by the underlying zoning designation.

Supportive commercial and institutional uses serving the local area, such as stores, restaurants, personal services, limited medical services, and retail sale of specialty goods for neighborhood residents, may be allowed in a proposed development project within this designation without a Plan Amendment, but may require a zone change and/or other

approvals. Live-work units may also be allowed within this designation, subject to the requirements of the underlying zoning designation.

CN – Neighborhood Commercial (CN – Neighborhood Commercial)

The Neighborhood Commercial designation provides for small neighborhood commercial districts that serve the short-term needs of residents in the immediate area. Allowable uses in this designation include supermarkets; drug stores; restaurants; personal services; repair services; automotive services; day care centers; and other shops and services for neighborhood residents. Allowable uses shall have a maximum Floor Area Ratio (FAR) of 1.0. Specific allowable uses and development standards shall be determined by the underlying zoning designation.

Multiple family dwellings (including live-work units) may be permitted in this designation, subject to the requirements of the underlying zoning designation, provided that the approval of multiple family dwellings in this designation does not adversely impact job creation or economic development in the planning area. Multiple family dwellings shall have a minimum density of 6 dwelling units per 1 acre and a maximum density of 18 dwelling units per 1 acre.

Mixed use developments, incorporating multiple family dwellings (including live-work units) and commercial uses, may also be permitted in this designation, subject to the requirements of the underlying zoning designation. Multiple family dwellings in mixed use developments shall have a minimum density of 6 dwelling units per 1 acre and a maximum density of 18 dwelling units per 1 acre, and commercial uses in mixed use developments shall have a maximum Floor Area Ratio (FAR) of 1.0.

CM – Major Commercial (CR – Regional Commercial)

The Major Commercial designation identifies major commercial districts in the planning area and is intended to promote the development of regional focal points for commercial, entertainment, and cultural uses serving the general public and drawing from a large market area. Allowable uses in this designation include regional shopping centers; retail sale of automobiles and recreational vehicles, furniture, and home improvement goods; theatres and other large-scale entertainment uses; corporate offices and financial institutions; day care centers; and hotels, restaurants, and other hospitality services. Allowable uses shall have a maximum Floor Area Ratio (FAR) of 2.0. Specific allowable uses and development standards shall be determined by the underlying zoning designation.

Multiple family dwellings (including live-work units) may be permitted in this designation, subject to the requirements of the underlying zoning designation, provided that the approval of multiple family dwellings in this designation does not adversely impact job creation or economic development in the planning area. Multiple family dwellings shall have a minimum density of 18 dwelling units per 1 acre and a maximum density of 50 dwelling units per 1 acre.

Mixed use developments, incorporating multiple family dwellings (including live-work units) and commercial uses, may also be permitted in this designation, subject to the requirements of the underlying zoning designation. Multiple family dwellings in mixed use developments shall have a minimum density of 18 dwelling units per 1 acre and a maximum density of 50 dwelling units per 1 acre, and commercial uses in mixed use developments shall have a maximum Floor Area Ration (FAR) of 2.0.

IL – Light Industrial (I – Industrial)

The Light Industrial designation provides for industrial districts in areas with adequate access, infrastructure, and services and is intended to accommodate the most intensive types of industrial uses allowed in the planning area. Allowable uses in this designation include storage and distribution of goods; vehicle storage; contractor's storage facilities; batch plants; heavy equipment repair and sales; wholesale sales; heavy vehicle repair; and supportive commercial uses. Allowable uses shall have a maximum Floor Area Ratio (FAR) of 1.0. Specific allowable uses and development standards shall be determined by the underlying zoning designation.

IO – Office and Professional (BP – Business Park)

The Office and Professional designation provides for mixed employment districts in areas accessible to transportation and visible from freeways and major arterials and is intended to promote the development of master-planned environments with a high quality of design and construction. Allowable uses in this designation include offices; research and development; light assembly and fabrication; warehousing and distribution; and supportive commercial uses. Allowable uses shall have a maximum Floor Area

Ratio (FAR) of 2.0. Specific allowable uses and development standards shall be determined by the underlying zoning designation.

P – Public and Community Serving (PI – Public/Institutional)
The Public and Community Serving designation identifies lands in the planning area that are used for various types of public and community serving facilities owned and operated by public agencies, special districts, non-profit organizations, and other entities. Allowable uses include civic and governmental offices; public or private schools; day care centers; libraries; museums; hospitals; fire stations; police stations; airports; landfills; prisons; and public works yards. Specific allowable uses, maximum intensity standards, and development standards shall be determined by the underlying zoning designation.

OS-PR –Parks and Recreation (OS – Open Space)
The Parks and Recreation designation identifies open space lands in the planning area that are used for public and private parks and golf courses. Specific allowable uses, maximum intensity standards, and development standards shall be determined by the underlying zoning designation.

OS-C –Conservation (OS – Open Space)
The Conservation designation identifies open space lands in the planning area that are preserved as open space or used for passive recreation. Allowable uses in this designation include conservancy lands; nature preserves; wildlife habitats; limited agriculture; drainage or slope easements; and utility right-of-ways. Specific allowable uses, maximum intensity standards, and development standards shall be determined by the underlying zoning designation.

OS-W – Water (OS – Open Space)
The Water designation identifies open space lands in the planning area that are water courses, including lakes, rivers, and creeks.

OS-BLM – Bureau of Land Management (OS-BLM – Bureau of Land Management)
The Bureau of Land Management designation identifies lands in the planning area owned by the United States Bureau of Land Management. Specific allowable uses, maximum intensity standards, and development standards shall be determined by the underlying zoning designation.

OS-NF – National Forest (OS-NF – National Forest)
The National Forest designation identifies lands in the planning area within the Angeles and Los Padres National Forests. For lands owned by the United States Forest Service, specific allowable uses, maximum intensity standards, and development standards shall be determined by the underlying zoning designation.

For privately owned lands within the National Forest (inholdings), allowable uses in this designation include single-family homes at a maximum density of 1 dwelling unit per 5 acres, agriculture, equestrian uses, private recreation, and public and institutional facilities serving the local area. Specific allowable uses and development standards are determined by the underlying zoning designation. The clustering of development will only be permitted if lots are 2 net acres or greater in size. Individual homes and other structures should be designed in consideration of topographic and environmental constraints.

SP – Specific Plan (SP – Specific Plan)
The Specific Plan designation indentifies lands in the planning area that are governed by an adopted Specific Plan. Specific allowable uses, maximum intensity standards, and development standards shall be determined by the adopted Specific Plan.

TC – Transportation Corridor (TC – Transportation Corridor)
The Transportation Corridor designation identifies major transportation facilities in the planning area, including freeways and railroad lines.

XIII. REFERENCE TO OTHER AREA PLAN ELEMENTS

In addition to the Land Use Map designation applied to each property within the planning area, other elements in the Area Plan contain maps and descriptions of land that is subject to special consideration due to the presence of significant environmental resources or natural hazards. These elements should be consulted for information on any constraints that may affect the approved density or intensity of land uses for any particular parcel of land.

The Safety Element identifies properties within the planning area that are subject to the following hazards that may affect development: seismic activity, unstable geologic and soils conditions, flooding and dam inundation, and fire hazards.

The Conservation and Open Space Element identifies properties within the planning area that may include the following resources which may require protection as part of the development review process: soils and geological features, scenic views, aggregate and other mineral resources, sensitive biological species and habitat, water resources, cultural and historical resources, and open space.

The Noise Element contains information on the locations of noise generators, and areas within the planning area that may be subject to noise levels exceeding recommended thresholds to maintain public health and safety.

The Circulation Element indicates locations of existing and future transportation facilities that may be needed to support future development, or that may impact certain types of development if not mitigated through site design or other appropriate requirements.

In making any land use decision, all applicable maps, goals and policies should be reviewed and considered to ensure conformity with the entirety of the Area Plan.

XIV. SUMMARY OF NEEDS FOR LAND USE PLANNING IN THE SANTA CLARITA VALLEY

Based on the discussion of issues as set forth in the background sections of the Land Use Element, and on the projected population growth in the Santa Clarita Valley, the following needs have been identified for land use planning which are addressed in the goals, policies, and Land Use Map portions of this element.

1. Manage growth in the Santa Clarita Valley to maintain livability, mobility, sustainability, and prosperity for all present and future residents.

2. Ensure that the basic needs of residents and businesses are met and that public health, safety and welfare are protected through orderly and equitable designations of land uses throughout the Valley.

3. Maintain the qualities that drew residents to the Valley, including open space and a small-town atmosphere, while accommodating growth at build-out of the planning area.

4. Ensure consistency between County and City visions and plans for the Valley.

5. Recognizing that the Santa Clarita Valley is a Valley of Villages, allow diversity within each neighborhood through appropriate land use designations and community design guidelines.

6. Improve the jobs/housing balance in the Valley, promote businesses that bring higher-paying jobs, and provide opportunities for jobs closer to all residents of the Valley.

7. Provide a wide range of retail, entertainment, and cultural opportunities to serve residents and visitors throughout the planning area.

8. Retain and enhance an open space greenbelt around the Valley through designation of uses that discourage urban sprawl into foothill areas.

9. Promote urban form, community design, and city beautification strategies that unify and enhance the Valley, increase quality of life, and provide a distinctive sense of place.

10. Promote land use strategies that enhance public health and environmental quality.

11. Improve traffic congestion and air quality by promoting mixed use and transit-oriented development patterns and by planning for improved transit centers and facilities.

12. Provide sufficient land designated for adequate housing affordable to all segments of the Valley's population.

13. Provide for the orderly phasing of infrastructure and public improvements to meet the needs of residents and businesses as development occurs, and require new development to provide the services needed to support growth.

14. Ensure compatibility between intensive uses, including the Chiquita Canyon Landfill and the aggregate mining sites, and adjacent sensitive land uses.

15. Provide incentives and opportunities to redevelop aging commercial and industrial areas.

16. Ensure that growth is supported by adequate natural resources, and that anticipated growth will not deplete or degrade these resources to unsustainable levels.

17. Ensure that growth is supported by adequate community services, and work with all service providers to coordinate land use decisions so as to maintain adequate levels of service.

XV. GOALS, OBJECTIVES, AND POLICIES

The goals and policies which apply to land use are:

Goal LU-1: Urban Form

An interconnected Valley of Villages providing diverse lifestyles, surrounded by a greenbelt of natural open space.

Objective LU-1.1

Maintain an urban form for the Santa Clarita Valley that preserves an open space greenbelt around the developed portions of the Valley, protects significant resources from development, and directs growth to urbanized areas served with infrastructure.

- **Policy LU-1.1.1:** Where appropriate, protect mountains and foothills surrounding the Valley floor from urban development by designating these areas as Open Space or Rural Land on the Land Use Map.

- **Policy LU-1.1.2:** On the Land Use Map, concentrate urban development within flatter portions of the Santa Clarita Valley floor in areas with limited environmental constraints and served with infrastructure.

- **Policy LU-1.1.3:** Discourage urban sprawl into rural areas by limiting non-contiguous, "leap-frog" development outside of areas designated for urban use.

- **Policy LU-1.1.4:** Preserve community character by maintaining natural features that act as natural boundaries between developed areas, including significant ridgelines, canyons, rivers and drainage courses, riparian areas, topographical features, habitat preserves, or other similar features, where appropriate.

- **Policy LU-1.1.5:** Promote infill development and re-use of underutilized sites within and adjacent to developed urban areas to achieve maximum benefit from existing infrastructure and minimize loss of open space, through redesignation of vacant sites for higher density or mixed uses where appropriate.

- **Policy LU-1.1.6:** Preserve the rural lifestyle in canyons and low-density, outlying areas of the Santa Clarita Valley, through designating these areas as Rural Land on the Land Use Map where appropriate.

- **Policy LU-1.1.7:** Preserve and protect important agricultural resources, including farmland and grazing land, through designating these areas as Rural Land on the Land Use Map where appropriate.

Objective LU-1.2

Maintain the distinctive community character of villages and neighborhoods throughout the planning area by establishing uses, densities, and design guidelines appropriate to the particular needs and goals of each area, including but not limited to the following:

- **Policy LU-1.2.1:** In Newhall, provide opportunities for new business and housing by implementing the Downtown Newhall Specific Plan, provide incentives to promote infill development and re-use of underutilized sites, and continue to plan for the future development of North Newhall.

- **Policy LU-1.2.2:** In Valencia, promote business development, job creation, and expansion of regional commercial, civic, cultural, and entertainment uses, to create a vibrant Town Center serving as a community focal point for the entire Santa Clarita Valley.

- **Policy LU-1.2.3:** In Saugus, promote revitalization of older commercial areas; relieve traffic congestion; look for opportunities to minimize cut-through traffic; and enhance streetscapes with landscaping, lighting, benches and other fixtures.

- **Policy LU-1.2.4:** In Canyon Country, promote revitalization along Sierra Highway from Soledad Canyon Road to Vasquez Canyon Road by encouraging retail and service uses, and enhance on and off ramps along the Antelope Valley Freeway with landscape amenities and appropriate uses.

- **Policy LU-1.2.5:** In Sand Canyon, ensure compatibility of development with existing rural, equestrian lots and the adjacent National Forest land; provide additional recreational trail links; minimize impacts to the Santa Clara River from incompatible development; and maintain community character in accordance with the City's Sand Canyon Special Standards District.

- **Policy LU-1.2.6:** In Placerita Canyon, ensure compatibility of development with existing rural, equestrian lots and the adjacent National Forest land; maintain community character in accordance with the City's Placerita Canyon Special Standards District; provide an orderly transition between existing rural and low-density residential uses and proposed new development; and encourage provision of needed infrastructure.

- **Policy LU 1.2.7:** On the Whittaker-Bermite site, continue to work with the property owner to facilitate master planning, remediation, and the economic re-use of the property to include roadway infrastructure and transit-oriented development around the Metrolink station.

- **Policy LU-1.2.8:** In Castaic, promote expansion of neighborhood commercial uses to serve local residents; address traffic congestion; ensure compatibility between highway-oriented commercial uses and nearby residential uses; and maintain community character in accordance with the County's Castaic Area Community Standards District.

- **Policy LU-1.2.9:** In Val Verde, protect the existing rural lifestyle and small town community character while providing residents with additional access to needed services; ensure compatibility between existing residential areas and the nearby landfill; and maintain community character in accordance with the County's Castaic Area Community Standards District.

- **Policy LU-1.2.10:** In Agua Dulce, recognize the scenic and environmental qualities of Vasquez Rocks in future planning; protect the existing rural lifestyle while providing opportunities to enhance the village center; provide additional services to residents; and maintain community character in accordance with the County's Agua Dulce Community Standards District.

- **Policy LU-1.2.11:** In Pico Canyon, recognize the historic significance of Mentryville in future planning; preserve the existing rural development pattern; and ensure compatibility of new development with the adjacent Significant Ecological Area and habitat.

- **Policy LU-1.2.12:** In the Fair Oaks community, facilitate location of commercial and community services in proximity to residences to serve local needs.

- **Policy LU 1.2.13:** Encourage use of the Specific Plan process to plan for cohesive, vibrant, pedestrian-oriented communities with mixed uses, access to public transit, and opportunities for living and working within the same community.

- **Objective LU 1.3:** Plan for density and intensity of development that respects and is reflective of the natural terrain.

- **Policy LU 1.3.1:** Encourage subdivision design techniques that reflect underlying physical topography or other unique physical features of the natural terrain.

- **Policy LU 1.3.2:** Substantially retain the integrity and natural grade elevations of significant natural ridgelines and prominent landforms that form the Valley's skyline backdrop.

- **Policy LU 1.3.3:** Discourage development on ridgelines and lands containing 50% slopes so that these areas are maintained as natural open space.

- **Policy LU 1.3.4:** Encourage density transfers where appropriate to facilitate development in more suitable locations while retaining significant natural slopes and areas of environmental sensitivity, provided that urban densities (exceeding one dwelling unit per acre) are not permitted in rural areas.

- **Policy LU 1.3.5:** Encourage flexible siting and design techniques within hillside areas in order to preserve steep slopes or other unique physical features, including clustering of residential units, provided all residential lots meet the applicable minimum lot size requirements of the Land Use Element and the Zoning Ordinance, including Community Standards Districts.

- **Policy LU 1.3.6:** Encourage retention of natural drainage patterns and the preservation of significant riparian areas, both of which are commonly located in hillside areas.

Goal LU-2: Mixed Land Uses

A mix of land uses to accommodate growth, supported by adequate resources and maintaining community assets.

Objective LU-2.1

Provide adequate, suitable sites for housing, employment, business, shopping, public facilities, public utility facilities, and community services to meet current needs and the anticipated needs of future growth.

- **Policy LU-2.1.1:** On the Land Use Map, designate a balance of land uses in appropriate amounts to meet future community needs while ensuring that no use designation is over-represented in a manner that is not economically viable.

- **Policy LU-2.1.2:** On the Land Use Map, integrate land use designations in a manner that promotes healthy, walkable communities, by providing an appropriate mix of residential and service uses in proximity to one another.

- **Policy LU-2.1.3:** Provide a range of land use types and densities to reflect the special characteristics, lifestyles, and opportunities that differentiate various communities and villages in the Santa Clarita Valley, including urban, suburban, and rural living environments.

- **Policy LU-2.1.4:** Adopt a compatible set of land use designations between the County and City of Santa Clarita for land in the Santa Clarita Valley, to be implemented through standards and zones applied by each agency to ensure compatibility with the character of each area and with the goals of the County's Area Plan and the City's General Plan.

- **Policy LU-2.1.5:** Identify areas with hazardous conditions and ensure that uses in or adjacent to these areas pose minimal risk to public health or safety.

Objective LU-2.2

Protect significant community resources from encroachment by incompatible uses, where feasible and appropriate.

- **Policy LU-2.2.1:** Identify areas of scenic or aesthetic value to the community, and avoid designating uses in these areas that would diminish their aesthetic quality.

- **Policy LU-2.2.2:** Identify sites and areas with historical or cultural value to the community, and ensure that uses in or adjacent to these areas will not impact their historical integrity.

- **Policy LU-2.2.3:** Consistent with adopted plans, ensure that adequate open space is set aside and protected from development throughout the planning area in order to provide the benefits of watershed management, habitat preservation and connectivity, and recreational opportunities.

Objective LU-2.3

Promote mixed use development where appropriate to create more livable neighborhoods, walkable business districts, and to reduce vehicle trips, while ensuring land use compatibility, through the following policies:

- **Policy LU-2.3.1:** In a mixed use development, residential densities at the higher end of the allowed range should be allowed only if the development incorporates a robust mix of non-residential uses.

- **Policy LU-2.3.2:** Either vertical or horizontal integration of uses should be allowed in a mixed use development, with an emphasis on tying together the uses with appropriate pedestrian linkages.

- **Policy LU-2.3.3:** Manufacturing, processing of goods and materials, and warehousing should not be allowable uses in a mixed use development, although some light manufacturing and warehousing may be appropriate in second story units.

- **Policy LU-2.3.4:** Adequate public spaces and amenities should be provided in a mixed use development to support both commercial and residential uses, including but not limited to plazas, landscaped walkways, village greens, and greenbelts.

- **Policy LU-2.3.5:** Mixed use developments should be designed to create a pedestrian-scale environment through appropriate street and sidewalk widths, block lengths, relationship of buildings to streets, and use of public spaces.

- **Policy LU-2.3.6:** Encourage provision of parking alternatives in mixed use developments, including subterranean parking and structured parking, to limit the amount of surface area devoted to vehicle storage.

Goal LU-3: Healthy Neighborhoods

Healthy and safe neighborhoods for all residents.

Objective LU-3.1

Provide for a diversity of housing types available to provide safe and suitable homes for all economic levels, household sizes, age groups, and special needs groups within the community.

- **Policy LU-3.1.1:** On the Land Use Map, designate adequate land for residential use at various densities to provide a mix of housing opportunities for all segments of the population, including attached, detached, senior, and mixed use housing types, which are consistent with community character and meet the region's housing goals.

- **Policy LU-3.1.2:** Promote a mix of housing types within neighborhoods that accommodates households with varied income levels.

- **Policy LU-3.1.3:** Promote opportunities for live-work units to accommodate residents with home-based businesses.

- **Policy LU-3.1.4:** Promote development of workforce housing to meet the needs of those employed in the Santa Clarita Valley.

- **Policy LU-3.1.5:** Promote development of housing affordable to residents, including households with incomes in the very low, low, and moderate income classifications, through provision of adequate sites on the Land Use Map, allowance for density bonuses and other development incentives, and other means as appropriate.

- **Policy LU-3.1.6:** Promote development of housing suitable to residents with special needs, including but not limited to senior citizens and persons with disabilities.

- **Policy LU-3.1.7:** Promote development of housing for students attending local colleges, in consideration of access to campuses to the extent practicable.

Objective LU-3.2

Promote walkable neighborhoods that provide safe access to community services and essential services.

- **Policy LU-3.2.1:** Require provision of adequate walkways in urban residential neighborhoods that provide safe and accessible connections to destinations such as schools, parks, and neighborhood commercial centers.

- **Policy LU-3.2.2:** In planning residential neighborhoods, include pedestrian linkages, landscaped parkways with sidewalks, and separated trails for pedestrians and bicycles, where appropriate and feasible.

Objective LU-3.3

Ensure that the design of residential neighborhoods considers and includes measures to reduce impacts from natural or man-made hazards.

- **Policy LU-3.3.1:** Identify areas subject to hazards from seismic activity, unstable soils, excessive noise, unhealthful air quality, or flooding, and avoid designating residential uses in these areas unless adequately mitigated.

- **Policy LU-3.3.2:** In areas subject to wildland fire danger, ensure that land uses have adequate setbacks, fuel modification areas, and emergency access routes.

- **Policy LU-3.3.3:** Identify neighborhoods in which uses that pose a potential hazard to human health and safety may be over-concentrated, and address public safety through use of buffer areas, policies on siting decisions for such uses, changing land use designations, or other means as deemed appropriate.

- **Policy LU-3.3.4:** Evaluate service levels for law enforcement and fire protection as needed to ensure that adequate response times are maintained as new residential development is occupied.

- **Policy LU-3.3.5:** Through the development review process, ensure that all new residential development is provided with adequate emergency access and that subdivision and site designs permit ready access by public safety personnel.

- **Policy LU-3.3.6:** Ensure adequate street-lighting in all urban residential neighborhoods, as appropriate for each community.

- **Policy LU-3.3.7:** Ensure adequate addressing in all residential neighborhoods for emergency response personnel.

- **Policy LU-3.3.8:** Within multiple family residential projects comprised of multiple buildings, ensure that project designs include crime prevention measures such as delineating public and private open space, designs for defensible space, easy surveillance by residents of all outdoor and indoor common areas, lack of dead end aisles or paths, and similar measures.

Objective LU-3.4

Encourage creation of pleasant neighborhoods that provide a high quality of life for residents.

- **Policy LU-3.4.1:** Promote the inclusion of green spaces, neighborhood parks, and other gathering places that allow neighbors to meet one another and encourage "eyes on the street" for safety purposes

- **Policy LU-3.4.2:** Ensure provision of street trees in urban residential areas where appropriate, to provide shade, comfort, and aesthetic enhancement.

- **Policy LU-3.4.3:** Provide appropriate levels of code enforcement to ensure maintenance of neighborhoods in a clean, healthy, and safe condition.

- **Policy LU-3.4.4:** Within higher density housing developments, ensure provision of adequate recreational and open space amenities to ensure a high quality living environment.

- **Policy LU-3.4.5:** Ensure compatibility between single family and multiple family residential developments through consideration of building height and massing, architectural treatment, connectivity, privacy, and other design considerations.

- **Policy LU-3.4.6:** Promote mixed-density residential neighborhoods that are consistent with community character, and avoid over-development of high density multiple family units in any particular location.

- **Policy LU-3.4.7:** Minimize the prominence of areas devoted to automobile parking and access in the design of residential neighborhoods.

- **Policy LU-3.4.8:** Require architectural design treatment along all sides of new housing to promote continuity of architectural scale and rhythm and avoid the appearance of blank walls (360 degree enhancement).

- **Policy LU 3.4.9:** Encourage street cross-sections that locate landscaped parkways between the curb and the sidewalk to create a visually pleasing streetscape and provide pedestrian protection.

Goal LU-4: Economic Vitality

A diverse and healthy economy.

Objective LU-4.1

Promote creation of strong regional and local economies.

- **Policy LU-4.1.1:** Promote expansion and enhancement of the Valencia Town Center to provide a focal point for cultural, civic, educational, and shopping activities serving the entire Santa Clarita Valley

- **Policy LU-4.1.2:** Promote creation of village commercial centers throughout the Santa Clarita Valley to meet the local and convenience needs of residents.

- **Policy LU-4.1.3:** Encourage business creation and expansion for larger companies within and adjacent to existing and planned business centers and major transportation corridors.

- **Policy LU-4.1.4:** Promote economic opportunity for all segments of the community, including small businesses and new businesses.

- **Policy LU-4.1.5:** Provide a clear and consistent planning and permitting process to encourage new development that conforms to the Area Plan.

- **Policy LU-4.1.6:** Encourage the development of a range of child care services and facilities to serve the needs of working families, including public and private child care centers, infant care, and after-school care, through supportive zoning regulations and permitting procedures.

Objective LU-4.2

Promote job creation, focusing on employment generators in the technical and professional sectors.

- **Policy LU-4.2.1:** Pursue business attraction and expansion programs for clean industries that provide job opportunities for local residents, particularly in the areas of film/entertainment, biotechnology, aerospace, and technology.

- **Policy LU-4.2.2:** Achieve a balanced ratio of jobs to housing through business expansion and economic development programs, with a goal of at least 1.5 jobs per household.

- **Policy LU-4.2.3:** Encourage businesses to locate in all appropriate areas of the community to encourage job creation in closer proximity to workforce housing.

- **Policy LU-4.2.4:** Coordinate with local colleges to promote job training programs for Santa Clarita Valley residents.

- **Policy LU-4.2.5:** Promote development of uses that create job opportunities for residents through the Santa Clarita Enterprise Zone and other business assistance programs ,as appropriate.

Objective LU-4.3

Enhance older commercial and industrial areas.

- **Policy LU-4.3.1:** Promote redevelopment in Old Town Newhall through construction of public improvements pursuant to the Downtown Newhall Specific Plan and future area planning efforts.

- **Policy LU-4.3.2:** Promote business development in Castaic and Val Verde to provide a greater range of goods and services to area residents.

- **Policy LU-4.3.3:** Promote revitalization of commercial uses along Sierra Highway between Soledad Canyon Road and Vasquez Canyon Road, to encourage businesses serving the Canyon Country neighborhoods and support services for the College of the Canyons east campus.

- **Policy LU-4.3.4:** Promote business development that upgrades and revitalizes older commercial corridors, including Lyons Avenue, Railroad Avenue, Newhall Avenue, Main Street, and Soledad Canyon Road, in a manner that reflects each area's character, architecture, and history.

- **Policy LU-4.3.5:** Support efforts by the City of Santa Clarita to coordinate with property owners and environmental agencies, and provide assistance as appropriate, to promote clean-up and redevelopment of the Whittaker Bermite property as a business and employment center.

- **Policy LU-4.3.6:** Support efforts by the City of Santa Clarita to coordinate with property owners and environmental agencies, and provide assistance as appropriate, to promote clean-up and remediation of oil fields west of State Route 14.

- **Policy LU-4.3.7:** Promote revitalization and reuse of the older industrial areas east of the railroad, adjacent to the intersection of Springbrook and Drayton Avenues and in the Honby area adjacent to the Santa Clara River.

Objective LU-4.4

Expand infrastructure to attract and sustain new business.

- **Policy LU-4.4.1:** Promote extension of state of the art communication facilities to serve commercial and industrial areas, including fiber optic cable, telecommunication facilities, and other technology as deemed appropriate.

- **Policy LU-4.4.2:** Improve flood control facilities along Sierra Highway north of Soledad Canyon Road to allow increased use of this corridor for business and employment uses.

- **Policy LU-4.4.3:** Evaluate the feasibility of connecting business activity centers throughout the Santa Clarita Valley with light rail, to provide increased mobility and access for customers and employees between the Valencia Town Center, Whittaker Bermite property, Newhall, Valencia Industrial Center, Magic Mountain and Entrada, Newhall Ranch, and other areas as deemed appropriate.

- **Policy LU 4.4.4:** Protect and enhance public utility facilities as necessary to maintain the safety, reliability, integrity, and security of essential public service systems for all Valley residents.

Objective LU-4.5

Ensure creation of attractive and technology-friendly business environments to attract tenants and employees.

- **Policy LU-4.5.1:** Promote inclusion of employee amenities in the workplace, including but not limited to outdoor seating and break areas, child care services, wellness facilities, and facilities for bicycle commuters, including bike lockers and showers, where appropriate.

- **Policy LU-4.5.2:** Encourage the provision of usable open space that is accessible to employees and visitors, and discourage the provision of large areas of water-consuming landscaping that are not usable or accessible.

- **Policy LU-4.5.3:** Promote the inclusion of state-of-the-art technology within business complexes for telecommunications, heating and cooling, water and energy conservation, and other similar design features.

- **Policy LU 4.5.4:** Encourage the provision of support services for employees within business park areas, such as dining and personal services where appropriate, to reduce vehicle trips and promote pedestrian-friendly work environments.

Goal LU-5: Mobility

Enhanced mobility through alternative transportation choices and land use patterns.

Objective LU-5.1

Provide for alternative travel modes linking neighborhoods, commercial districts, and job centers.

- **Policy LU-5.1.1:** Require safe, secure, clearly-delineated, adequately-illuminated walkways and bicycle facilities in all commercial and business centers.

- **Policy LU-5.1.2:** Require connectivity between walkways and bikeways serving neighborhoods and nearby commercial areas, schools, parks, and other supporting services and facilities.

- **Policy LU-5.1.3:** Ensure that adequate bus turnouts, served by walkways and comfortable, safe, and convenient waiting facilities, are provided for transit users within residential, shopping, and business developments.

Objective LU-5.2

Coordinate land use designations with support services and public transit in order to encourage vehicle trip reduction.

- **Policy LU-5.2.1:** Designate higher-density residential uses in areas served by public transit and a full range of support services.

- **Policy LU-5.2.2:** Provide for location of neighborhood commercial uses in proximity to the neighborhoods they serve, to encourage cycling and walking to local stores.

- **Policy LU-5.2.3:** Promote location of non-polluting businesses providing employment opportunities in proximity to neighborhoods, to encourage walking to work.

- **Policy LU-5.2.4:** Encourage transit-oriented development (TOD) through designation of land uses that allow compact, mixed-use development in proximity to rail stations and multi-modal transit facilities, in conformance with applicable policies.

- **Policy LU-5.2.5:** Encourage the mix of compatible uses in areas where, though not served by rail or transit, mixed uses will achieve more walkable neighborhoods and trip reduction, in conformance with applicable policies.

Goal LU-6: Community Appearance

A scenic and beautiful urban environment that builds on the community's history and natural setting.

Objective LU-6.1

Maintain the natural beauty of the Santa Clarita Valley's hillsides, significant ridgelines, canyons, oak woodlands, rivers and streams.

- **Policy LU-6.1.1:** Designate ridgelines throughout the planning area, and preserve these ridgelines from development by encouraging a minimum distance for grading and development from these ridgelines of 50 feet, or more if determined preferable by the reviewing authority based on site conditions.

- **Policy LU-6.1.2:** On the Land Use Map, designate publicly owned portions of the Santa Clara River corridor and its major tributaries as Open Space.

- **Policy LU-6.1.3:** Ensure that new development in hillside areas is designed to protect the scenic backdrop of foothills and canyons enjoyed by Santa Clarita Valley communities, through requiring compatible hillside management techniques that may include but are not limited to clustering of development; contouring and landform grading; revegetation with native plants; limited site disturbance; avoidance of tall retaining and build-up walls; use of stepped pads; and other techniques as deemed appropriate.

Objective LU-6.2

Provide attractive public and open spaces in places visited by residents and visitors, where feasible and appropriate.

- **Policy LU-6.2.1:** Promote the inclusion of plazas, courtyards, seating areas, public art, and similar features within commercial centers, business parks, and civic facilities visited by the general public.

- **Policy LU-6.2.2:** Provide and enhance trail heads where appropriate with landscaping, seating, trash receptacles and information kiosks.

Objective LU-6.3

Beautify streetscapes and gateways to the community.

- **Policy LU-6.3.1:** Promote planting of street trees throughout urban areas in the Santa Clarita Valley.

- **Policy LU-6.3.2:** Develop compatible landscape plans for major arterials traversing the Santa Clarita Valley, including landscaped medians and parkways, and implement these plans in both County and City of Santa Clarita areas, where feasible and appropriate based on right of way and other conditions.

- **Policy LU-6.3.3:** Enhance major entrance points to the community, including on and off ramps from Interstate 5 and State Route 14; entrances along State Route 126; and at the northern and southern entrance points on Sierra Highway, where feasible and appropriate.

- **Policy LU-6.3.4:** Require undergrounding of utility lines for new development where feasible, and plan for undergrounding of existing utility lines in conjunction with street improvement projects where economically feasible.

- **Policy LU-6.3.5:** Restrict the establishment of billboards within the planning area.

Objective LU-6.4

Protect the Santa Clarita Valley's significant historical and cultural resources in a scenic setting through appropriate land use designations.

- **Policy LU-6.4.1:** Maintain the historic buildings in Newhall, including the William Hart Regional Park buildings, the Tom Mix cottages at Heritage Junction, the American Theater, the Melody Ranch, and various other commercial and residential structures designated as local historic resources, through implementation of preservation measures in the Downtown Newhall Specific Plan.

- **Policy LU-6.4.2:** Enhance the area around historic Lang Station by requiring a Specific Plan for redevelopment of this area.

- **Policy LU-6.4.3:** Maintain cultural resources from pre-historical Native American habitation and historical settlement in the areas around Vasquez Rocks, Elsmere Canyon, and along the Santa Clara River, through designation of these areas as Open Space on the Land Use Map.

- **Policy LU-6.4.4:** Maintain the historic site of Mentryville by designating the site as Open Space on the Land Use Map.

- **Policy LU-6.4.5:** Maintain the historic area of the Rancho San Francisco Estancia through implementation of preservation measures in the Newhall Ranch Specific Plan.

- **Policy LU-6.4.6:** Through the environmental review and development review processes, evaluate impacts on historic and cultural sites from proposed development and require appropriate mitigation.

Objective LU-6.5

Promote high quality development that enhances the urban environment and builds long-term value.

- **Policy LU-6.5.1:** Require use of high quality, durable, and natural-appearing building materials, pursuant to the ordinances developed through the County's Green Building Program.

- **Policy LU-6.5.2:** Encourage the use of designs and architectural styles that incorporate classic and timeless architectural features.

- **Policy LU-6.5.3:** Require architectural enhancement and articulation on all sides of buildings (360 degree architecture), with special consideration at building entrances and corners, and along facades adjacent to major arterial streets.

- **Policy LU-6.5.4:** Evaluate new development in consideration of its context, to ensure that buildings create a coherent living environment, a cohesive urban fabric, and contribute to a sense of place consistent with the surrounding neighborhoods.

Goal LU-7: Environmentally Responsible Development

Environmentally responsible development through site planning, building design, waste reduction, and responsible stewardship of resources.

Objective LU-7.1

Achieve greater energy efficiency in building and site design.

- **Policy LU-7.1.1:** Require shade trees within parking lots and adjacent to buildings to reduce the heat island effect, in consideration of Fire Department fuel modification restrictions.

- **Policy LU-7.1.2:** Promote the use of solar panels and renewable energy sources in all projects.

- **Policy LU-7.1.3:** Encourage development of energy-efficient buildings, and discourage construction of new buildings for which energy efficiency cannot be demonstrated.

- **Policy LU-7.1.4:** Support the establishment of energy-efficient industries in the Santa Clarita Valley.

Objective LU-7.2

Ensure an adequate water supply to meet the demands of growth.

- **Policy LU-7.2.1:** Monitor growth, and coordinate with water districts as needed to ensure that long-range needs for potable and reclaimed water will be met.

- **Policy LU-7.2.2:** If water supplies are reduced from projected levels due to drought, emergency, or other unanticipated events, take appropriate steps to limit, reduce, or otherwise modify growth permitted by the Area Plan in consultation with water districts to ensure adequate long-term supply for existing businesses and residents.

Objective LU-7.3

Protect surface and ground water quality through design of development sites and drainage improvements.

- **Policy LU-7.3.1:** Promote the use of permeable paving materials to allow infiltration of surface water into the water table.
- **Policy LU-7.3.2:** Maintain stormwater runoff onsite by directing drainage into rain gardens, natural landscaped swales, rain barrels, permeable areas and use of drainage areas as design elements, where feasible and reasonable.
- **Policy LU-7.3.3:** Seek methods to decrease impermeable site area where reasonable and feasible, in order to reduce stormwater runoff and increase groundwater infiltration, including use of shared parking and other means as appropriate.
- **Policy LU-7.3.4:** Implement best management practices for erosion control throughout the construction and development process.
- **Policy LU-7.3.5:** Limit or restrict development within flood-prone areas to minimize down-stream impacts.

Objective LU-7.4

Promote water conservation through building and site design.

- **Policy LU-7.4.1:** Require the use of drought tolerant landscaping, native California plant materials, and evapotranspiration (smart) irrigation systems.
- **Policy LU-7.4.2:** Require the use of low-flow fixtures in all non-residential development and residential development with five or more dwelling units, which may include but are not limited to water conserving shower heads, toilets, waterless urinals and motion-sensor faucets, and encourage use of such fixtures in building retrofits as appropriate.

Objective LU-7.5

Promote waste reduction through site and building design.

- **Policy LU-7.5.1:** Ensure that all new development provides adequate space for recycling receptacles and bins on site.
- **Policy LU-7.5.2:** Promote the use of recycled building materials.

Objective LU-7.6

Protect natural habitats through site design where reasonable and feasible.

- **Policy LU-7.6.1:** Limit outdoor lighting levels to the minimum needed for safety and security, and encourage lower lighting levels when businesses are closed.
- **Policy LU-7.6.2:** Preserve habitat connectivity in site planning where feasible, and discourage the creation of open space islands surrounded by paving.
- **Policy LU-7.6.3:** Protect wildlife corridors through site design and appropriate land use designations, including mapped corridors and other corridors that may be identified through biological surveys.
- **Policy LU 7.6.4:** Encourage site designs that protect oak trees, hillsides, and biological resources through creative solutions.

Objective LU-7.7

Protect significant mineral resources, natural gas storage facilities, and petroleum extraction facilities from encroachment by incompatible uses.

- **Policy LU-7.7.1:** Maintain a suitable distance and/or provide buffering to separate aggregate mining and processing activities from nearby residential uses and other uses with sensitive receptors to noise and airborne emissions.
- **Policy LU-7.7.2:** Avoid designating land uses in areas with significant mineral resources or utility facilities that would preclude the future extraction and use of those resources and facilities.

Objective LU-7.8

Protect significant woodlands, heritage oak trees, and other biological resources from the impacts of development.

- **Policy LU-7.8.1:** Adopt and implement policies for protection of oak woodlands and oaks trees throughout the planning area that are compatible with City of Santa Clarita policies.

- **Policy LU-7.8.2:** Protect all designated Significant Ecological Areas (SEA's) from incompatible development.

Goal LU-8: Environmental Justice

Equitable and convenient access to social, cultural, educational, civic, medical, and recreational facilities and opportunities for all residents.

Objective LU-8.1

Work with service providers to plan for adequate community facilities and services to meet the needs of present and future residents.

- **Policy LU-8.1.1:** Coordinate plans for new residential development with affected school districts to ensure adequate mitigation of impacts on school facilities; provision of facilities and programs to promote academic excellence for Santa Clarita Valley students; coordination on joint use of facilities and transportation; and long-range planning.

- **Policy LU-8.1.2:** Implement a master plan for trails throughout the Santa Clarita Valley to serve all residents.

- **Policy LU-8.1.3:** Implement master plans for parks, with special focus on provision of additional playfields for youth sports in locations accessible to underserved neighborhoods.

- **Policy LU-8.1.4:** Ensure that an adequate and diverse supply of child care facilities and services is available to parents who live and/or work in the Santa Clarita Valley, by promoting child care facilities in commercial and residential areas, subject to the provisions of the County Zoning Ordinance.

- **Policy LU-8.1.5:** Coordinate with the Los Angeles County Library System to assist in expanding library services as needed to meet the needs of the community.

- **Policy LU-8.1.6:** Coordinate with the Arts Alliance and other similar entities to promote access to cultural events and facilities for all residents.

- **Policy LU-8.1.7:** Work with medical service providers to facilitate preservation and enhancement of health services, including the Santa Clarita Valley's trauma center, provided applications are in conformance with applicable Area Plan policies and environmental requirements.

- **Policy LU-8.1.8:** Work with social service agencies providing assistance to homeless persons to develop and maintain a suitable shelter in the Santa Clarita Valley.

- **Policy LU-8.1.9:** Assist persons and households with temporary housing needs by promoting transitional housing facilities for victims of domestic violence in multiple family residential land use designations, subject to the provisions of the County Zoning Ordinance.

- **Policy LU 8.1.10:** Coordinate with agencies that provide services to seniors and the elderly to expand senior facilities, which may include a new senior center.

- **Policy LU-8.1.4:** Ensure that an adequate and diverse supply of child care facilities and services is available to parents who live and/or work in the Santa Clarita Valley, by promoting child care facilities in commercial and residential areas, subject to the provisions of the County Zoning Ordinance.

- **Policy LU-8.1.5:** Coordinate with the Los Angeles County Library System to assist in expanding library services as needed to meet the needs of the community.

- **Policy LU-8.1.6:** Coordinate with the Arts Alliance and other similar entities to promote access to cultural events and facilities for all residents.

- **Policy LU-8.1.7:** Work with medical service providers to facilitate preservation and enhancement of health services, including the Santa Clarita Valley's trauma center, provided applications are in conformance with applicable Area Plan policies and environmental requirements.

- **Policy LU-8.1.8:** Work with social service agencies providing assistance to homeless persons to develop and maintain a suitable shelter in the Santa Clarita Valley.

- **Policy LU-8.1.9:** Assist persons and households with temporary housing needs by promoting transitional housing facilities for victims of domestic violence in multiple family residential land use designations, subject to the provisions of the County Zoning Ordinance.

- **Policy LU 8.1.10:** Coordinate with agencies that provide services to seniors and the elderly to expand senior facilities, which may include a new senior center.

Objective LU-8.2

Ensure equal access to community services and facilities by all residents.

- **Policy LU-8.2.1:** In making locational decisions for siting new community facilities, consider ease of access for all users (vehicular, pedestrian, and transit).

- **Policy LU-8.2.2:** Identify neighborhoods that are underserved by public facilities and community services, and plan for equitable distribution of these facilities.

Objective LU-8.3

Promote equitable development and utilization of land.

- **Policy LU-8.3.1:** Require fair and equitable treatment in considering, adopting, implementing, and enforcing development regulations and policies, including but not limited to providing equal opportunity for public input and considering impacts from development approvals on all segments of the population.

Goal LU-9: Public Facilities

Adequate public facilities and services, provided in a timely manner and in appropriate locations to serve existing and future residents and businesses.

Objective LU-9.1

Coordinate land use planning with provision of adequate public services and facilities to support development.

- **Policy LU-9.1.1:** Ensure construction of adequate infrastructure to meet the needs of new development prior to occupancy.

- **Policy LU-9.1.2:** Coordinate review of development projects with other agencies and special districts providing utilities and other services.

- **Policy LU-9.1.3:** Protect major utility transmission corridors, pumping stations, reservoirs, booster stations, and other similar facilities from encroachment by incompatible uses, while allowing non-intrusive uses such as plant nurseries, greenbelts and recreational trails.

- **Policy LU-9.1.4:** Develop and apply compatible standards within County and City of Santa Clarita areas for design and maintenance of utility infrastructure, in consideration of the character of each community.

- **Policy LU-9.1.5:** Work with the Los Angeles County Sheriff's Department to expand law enforcement facilities to meet the needs of the Santa Clarita Valley's growing population.

- **Policy LU-9.1.6:** Coordinate with appropriate agencies and organizations to ensure that landfill expansion needs are met while minimizing adverse impacts to Valley residents.

- **Policy LU-9.1.7:** Provide for location of additional waste transfer stations and other facilities to promote recycling and reuse of materials within Industrial designations on the Land Use Map, subject to the provisions of the County Zoning Ordinance.

XVI. IMPLEMENTATION OF THE LAND USE ELEMENT

The County of Los Angeles will implement the goals, objectives and policies of the Land Use Element of the Santa Clarita Valley Area Plan through the following actions.

- **Action 1:** Revise the County Zoning Ordinance and Map, including Community Standards Districts, as deemed necessary to ensure consistency with the Land Use Map and the goals and policies of the Land Use Element.

- **Action 2:** Through the review process for new discretionary development applications, require all new development to be consistent with the Land Use Map and the goals and policies of the Land Use Element.

- **Action 3:** Implement policies and guidelines for hillside development and ridgeline protection within the Santa Clarita Valley that are compatible with City of Santa Clarita policies and guidelines.

- **Action 4:** Implement guidelines for streetscape beautification, enhancement of Santa Clarita Valley gateways, enhancement of regional trail facilities, transit benches and shelters, and other similar features that are compatible with City of Santa Clarita guidelines and will create a distinctive community identity for the Santa Clarita Valley.

- **Action 5:** Implement policies for protection of oak woodlands and significant trees throughout the planning area that are compatible with City of Santa Clarita policies.

- **Action 6:** Coordinate review of major development projects, such as Specific Plans and projects that may have regional impacts, with the City of Santa Clarita in order to ensure consistency of such projects with the mutual objectives of the Area Plan and the City General Plan.

- **Action 7:** Coordinate review of any proposed Area Plan Amendments that may have regional effects with the City of Santa Clarita to ensure compliance with the mutual objectives of the Area Plan and the City General Plan.

Chapter 3

CIRCULATION ELEMENT

TABLE OF CONTENTS

I. PURPOSE & INTENT 70
II. BACKGROUND 70
III. FUNDAMENTAL CONCEPTS FOR CIRCULATION PLANNING 71
- Access and Mobility 71
- Capacity and Connectivity 72
- Level of Service 72
- Peak Hour and Average Daily Traffic Volumes 73
- Intersection Capacity 73
- Air Quality and Safety Issues 73

IV. CONGESTION MANAGEMENT 74
V. EXISTING ROADWAY SYSTEM WITHIN THE SANTA CLARITA VALLEY 75
- Regional Access 75
- Streets and Highways 75
- Arterial Highways and Collectors in the Santa Clarita Valley 76
- Cross-Valley Connector 77
- Major Roadway Improvements Recently Completed or Underway 78
- Peak Hour Traffic Conditions 78
- Transportation Management System 78
- Neighborhood Traffic Management 79
- Street Maintenance 79

VI. METHODOLOGY FOR TRAFFIC ANALYSIS 79
VII. RECOMMENDATIONS FOR STREET AND HIGHWAY SYSTEM 80
- Level of Service Standard 80
- Revised Roadway Designations 80
- Standard Cross Sections 89
- Truck Route Plan 96

VIII. CONSTRAINTS AND OPPORTUNITIES FOR IMPROVING ROADWAYS 96
- Funding for Roadways 96
- Travel Demand Management 96
- Parking Management 97
- Intersection Improvements 97
- Land Use Strategies 97
- Congestion Relief 98

IX. RAIL SERVICE 98
- Rail Freight Service 98
- Metrolink Service 98
- Amtrak California 99
- High Speed Rail Development 99

X. AIR SERVICE 100
XI. PUBLIC TRANSIT AND OTHER TRANSPORTATION SERVICES 101
- City of Santa Clarita Transit 101
- Commuter Transit Service 102
- Special Transit Services 102
- Bus Stop Improvement Program 102
- Park-and-ride Lots 102
- School Bus Transportation 103
- Taxi Service 103

XII. NON-MOTORIZED TRAVEL MODES 103
- Planning for Bikeways 103
- Regional Bikeway Planning 103
- City of Santa Clarita Bikeway Planning 104
- Bicycle Parking and Support Facilities 105
- Pedestrian Circulation System 106
- Hiking Trails 107

XIII. HEALTHY STREETS FOR WALKABLE COMMUNITIES 107
XIV. CIRCULATION SYSTEMS, CARBON EMISSIONS, AND GLOBAL CLIMATE CHANGE 109
XV. SUMMARY OF CIRCULATION NEEDS 110
XVI. GOALS, OBJECTIVES, AND POLICIES 111
XVII. IMPLEMENTATION OF THE CIRCULATION ELEMENT 119

LIST OF TABLES

Table C-1: Level of Service Standards for Urban Streets 73
Table C-2: Highway Plan Roadways in the Planning Area 82
Table C-3: Roadway Improvements Needed for Build-Out of Highway Plan 84
Table C-4: Gaps in the Inter-Jurisdictional Bikeway Network - Santa Clarita Valley 104

LIST OF FIGURES

Figure C-3: Standard Roadway Cross Sections 89

Circulation Element

I. PURPOSE & INTENT

The Santa Clarita Valley's circulation system provides vital connections linking neighborhoods, services, and employment centers throughout the community and the region. A comprehensive transportation network of roadways, multi-use trails and bike paths, bus transit, and commuter rail provides mobility options to Valley residents and businesses. Planning for the ultimate location and capacity of circulation improvements will also enhance economic strength and quality of life in the Valley.

The Circulation Element plans for the continued development of efficient, cost-effective and comprehensive transportation systems that are consistent with regional plans, local needs, and the Valley's community character. The Circulation Element complements and supports the Land Use Element, insofar as a cohesive land use pattern cannot be achieved without adequate circulation. The Circulation Element identifies and promotes a variety of techniques for improving mobility that go beyond planning for construction of new streets and highways. These techniques include development of alternative travel modes and support facilities; increased efficiency and capacity of existing systems through management strategies; and coordination of land use planning with transportation planning by promoting concentrated, mixed-use development near transit facilities.

II. BACKGROUND

The California Government Code describes conditions and data that must be researched, analyzed, and discussed in a Circulation Element. Section 65302(b) states that the general plan shall include the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals and other local public utilities and facilities. The City and County are also required to coordinate the Circulation Element provisions with regional transportation plans, as set forth in Government Code Sections 65103(f) and 65080. Regional plans affecting the Santa Clarita Valley include those of the California Department of Transportation (Caltrans); the Regional Mobility Plan prepared by the Southern California Association of Governments (SCAG); the Los Angeles Metropolitan Transportation Authority's (MTA or Metro) Congestion Management Program and bikeway strategic plan; Santa Clarita Transit's Transportation Development Plan; and Los Angeles County's Airport Land Use Plan. The Circulation Element has been developed in conformance with these regional transportation programs.

The proposed street and highway network is based on projected development permitted by the Land Use Element. Policies have been included requiring coordination of land use and circulation planning in order to reduce vehicle trips by mixing land uses, locating higher densities within proximity of public transit, and providing greater access and connectivity for non-motorized travel modes. In addition, implementation of the Circulation Element will assist the City and County in achieving their land use goals for job creation, because the economic viability of new commercial and industrial development throughout the Valley will be improved with better access.

The Circulation Element is also consistent with other elements of the General Plan and Area Plan. Projected noise levels as contained in the Noise Element are based upon traffic volumes estimated for the Circulation Element. By planning for a smooth-flowing transportation system, the potential of shorter trip lengths, and alternative travel modes, the Circulation Element encourages reduction of vehicle emissions as envisioned by the Conservation and Open Space Element. Trails and bikeways are addressed in the Circulation Element as well as in the Conservation and Open Space Element. Policies to ensure that the circulation system is safe, such as provision of emergency access and maintenance of evacuation routes, are consistent with provisions of the Safety Element. Finally, the provision of an adequate circulation system to support residential development is consistent with the Housing Element.

The Circulation Element has been developed based on analysis of existing conditions in the Valley, future development in both City and County areas, and anticipated growth. A variety of data were used to quantify and characterize existing and future projected traffic volumes and conditions along roadway links and at key intersections. A traffic model was developed to distribute and analyze projected trips based on development projections. Based on this information, recommendations were formulated

for the roadway designations shown on the Circulation Map, and for goals, policies and programs included in the Circulation Element.

III. FUNDAMENTAL CONCEPTS FOR CIRCULATION PLANNING

To provide greater clarity on circulation issues and needs affecting the street and highway system, several key terms are discussed in this section.

Access and Mobility

The Valley's system of streets and highways consists of a range of transportation facilities that serve two basic functions for motorists: mobility, and land access. Mobility means providing the facilities for motorists to travel between points of activity, and access means providing for entrance and egress to a particular land parcel or development site at the final destination. A circulation network is composed of facilities that emphasize the mobility or access functions to different degrees. For example, freeways provide limited access but good mobility between access points, while local neighborhood streets provide access to every residence but a low degree of mobility, due to slow speeds and frequent stops. The streets and highways in the Valley have been classified as follows, based on differing degrees of mobility and access:

- Freeways. Freeways provide mobility with very limited access. Generally, federal guidelines call for at least one mile of separation between freeway access ramps. Within the Santa Clarita Valley, Interstate 5 (I-5, or the Golden State Freeway) and State Route 14 (SR-14, or the Antelope Valley Freeway) are classified as freeways; both are under the jurisdiction of Caltrans for maintenance and traffic control.

- Expressways. Expressways refer to State routes that provide a high degree of mobility and limited access, but do not meet the design standards for freeways. Access to expressways can be either by grade separated crossings or by at-grade intersections, and state guidelines call for at least one mile of separation between signalized intersections. Within the planning area, State Route 126 west of I-5 is classified as an expressway.

- Arterial streets (Highways). Arterials provide a high degree of mobility as major traffic carriers with access to collectors and some local streets. These roadways are referred to as Highways in the County Highway Plan, a component of the Countywide General Plan, and in the City of Santa Clarita General Plan. Arterials are typically the widest streets in terms of right-of-way and pavement width, and they generally have the highest speed limits. Arterials may be further classified as major or secondary, based on their width and capacity.

- Collector streets. Collectors connect local streets with arterials and also provide access to adjacent land uses, thus balancing mobility with access. While a collector street is not as wide as an arterial, it is often wider than local streets in terms of right-of-way and lane width.

- Local streets. Local streets are intended to provide access to adjacent land uses exclusively, and are not designed or intended to carry through-traffic or allow for high speeds. Typically, residential streets within neighborhoods are designed as local streets.

Roadway systems are designed with different types of streets to balance mobility and access needs in an efficient manner. The different functions of various roadways require specific methods of analysis and design, because each street type must meet different traffic capacity and access requirements. While it might be considered desirable to provide both access and mobility on all roadways, most residents would not like their local neighborhood streets to be designed to carry large volumes of through traffic. Conversely, congestion problems occur when a street designed to provide mobility is expected to provide for access as well. Local streets typically require numerous driveways to move vehicles off the street and onto adjacent properties. When too many access points are provided on a street intended for mobility, friction and conflicts occur between those vehicles needing access and other vehicles using the facility for mobility. Therefore, the designation of streets for different uses has both a functional and economic value, and must be considered in developing a viable circulation plan.

Capacity and Connectivity

In evaluating and planning for a functional circulation system, both capacity and connectivity must also be considered. Capacity refers to the ability of the street system, including roadways and intersections, to adequately serve the traffic demand. It is a measure of how well the mobility needs of the Valley are met. Connectivity is defined as a measure of how well various parts of the Valley are linked, and how easy it is to move between different parts of the Valley.

A poorly connected transportation system can make even nearby destinations functionally far apart. Conversely, a well-connected system can ease travel between destinations by shortening on-the-ground distances. The street arrangement with the greatest connectivity is a grid pattern, which provides many intersections and routes. Subdivision patterns that contain numerous cul-de-sacs and looped streets provide low connectivity, increasing dependence on the automobile to reach destinations that may be relatively nearby "as the crow flies." One of the defining features of urban sprawl is lack of connectivity, which requires more driving time to reach destinations.

Within the Santa Clarita Valley, connectivity of the street network is interrupted by topographic constraints, including rolling terrain, canyons, and the Santa Clara River. In addition, the prevalent subdivision pattern, comprised of local cul-de-sac streets with limited connectivity, acts to funnel all traffic onto collector and arterial streets. As a result, regional traffic is concentrated on a limited number of arterial streets. Projects such as completion of the Cross-Valley Connector, the Via Princessa gap closure, and plans to create a new north-south connection through the center of the Valley (Santa Clarita Parkway), are examples of projects intended to increase connectivity.

The capacity of a roadway is affected by several factors, including the street's width, the number of cross streets, the amount of green time given to the street at each signal (signal timing), the presence or absence of on-street parking, the number of turn lanes at each intersection, and the number of driveways. Intersection capacity depends on the lane configuration, meaning the number of through lanes and turn lanes, their width and alignment, and the signal timing. Daily capacity analysis is a general measure of a street's ability to carry traffic; this indicator is typically used to identify roadways which are nearing or exceeding their capacity, and which should be the subject of further peak hour analysis. Traffic operations are usually described by a roadway's or intersection's level of service during peak traffic hours.

Planners and traffic engineers are faced with competing demands when designing street patterns. In order to increase traffic flow and reduce congestion, they need to increase roadway capacity and limit access; however, in order to increase connectivity and public safety, they need to slow traffic down to allow for turn movements, bikeways, and pedestrian crossings. The design solutions to these challenges are complex, but many potential problems can be solved by creating mixed-use communities that provide alternative travel modes between homes, employment, schools, shopping, and services.

Level of Service

The level of service (LOS) designation of a roadway or intersection indicates whether the capacity is adequate to handle the volume of traffic using the facility. The LOS provided by street segments and intersections are dependent upon traffic volumes, number of lanes, whether the roadway is divided, the number of access points (driveways and cross streets) along the roadway, and the lane configuration at intersections. LOS is a term used to describe prevailing conditions and their effect on traffic. It is a qualitative measure which describes operational conditions within a traffic stream, generally in terms of such factors as travel speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort, and convenience. The LOS is represented alphabetically, with LOS A representing the least impacted roadway, and LOS E representing a roadway operating at the maximum capacity. LOS F represents long queues of traffic and unstable flows, and is generally considered to be unsatisfactory (see Table C-1).

Although level of service is an important factor in transportation planning, it is not the only or even the most important criterion used in all cases. Depending on the area being planned, other factors may be considered as having priority over expedited movement of vehicles. For example, in pedestrian-oriented commercial areas, high-speed vehicle movements could be detrimental to the desired character of development, and traffic-calming measures may be used to slow vehicle speeds. In all portions of the planning area, traffic LOS must be weighed against other community pri-

Table C-1: Level of Service Standards for Urban Streets

LOS	Description of Traffic Conditions
A	LOS "A" describes primarily free-flow operations at average travel speeds, usually about 90 percent of the Free Flow Speed (FFS) for the given street class. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at signalized intersections is normal.
B	LOS "B" describes reasonably unimpeded operations at average travel speeds, usually about 70 percent of the FFS for the street class. Vehicles are completely unimpeded in their ability to maneuver with the traffic stream. Control delay at signalized intersections is minimal.
C	LOS "C" describes stable operations; however, ability to maneuver and change lanes in midblock locations may be more restricted that at LOS "B," and longer queues, adverse signal coordination, or both may contribute to lower average travel speeds of about 50 percent of the FFS for the street class.
D	LOS "D" borders on a range in which small increases in flow may cause substantial increases in delay and decreases in travel speed. LOS "D" may be due to adverse signal progression, inappropriate signal timing, high volumes, or a combination of these factors. Average travel speeds are about 40 percent of FFS.
E	LOS "E" is characterized by significant delays and average travel speeds of 33 percent or less of the FFS. Such operations are caused by a combination of adverse progression, high signal density, high volumes, extensive delays at critical intersections, and inappropriate signal timing.
F	LOS "F" is characterized by urban street flow at extremely low speeds, typically one-third to one-fourth of the FFS. Intersection congestion is likely at critical signalized locations, with high delays, high volumes, and extensive queuing.

orities such as quality of life and environmental resource protection, in order to achieve a balanced approach to transportation and land use planning.

Peak Hour and Average Daily Traffic Volumes

Average Daily Traffic (ADT) is a measurement of the average number of vehicles that travel a segment of roadway during a 24-hour period. The ADT is a useful benchmark for determining roadway capacities, and is typically used for long-range planning analysis. Peak hour information, which is the highest volume of traffic to pass over a road in a one-hour period, allows for a more detailed method of evaluating traffic conditions along roadways and intersections, and is used whenever operational analysis is required.

Intersection Capacity

The LOS along urban streets is typically dependent on the quality of traffic flow at the intersections along that roadway. Usually bottlenecks and delays start at intersections rather than on the roadway between them. The LOS at intersections is based on factors such as delay time or volume to capacity ratios, with specific methods of analysis utilized for signalized and unsignalized intersections.

Air Quality and Safety Issues

In addition to vehicular mobility and access issues, the Circulation Element addresses broader issues of public health and safety as they relate to the circulation network. The greatest source of air pollutants in the Valley is generated from transportation (mobile sources). Because of its geographical location and meteorological conditions, the Santa Clarita Valley records some of the highest ozone readings in the South Coast Air Basin. Although ozone concentrations are generated largely from pollutants transported from outside the Valley, locally-generated air pollutants are also an issue for Valley residents due to increased automobile traffic associated with growth. Localized carbon monoxide concentrations are found at congested intersections, especially in winter. Concentrations of fine airborne particulates also result from locally generated emissions, such as increased truck traffic.

Land use patterns and the density of development directly affect the amount of air pollution that is generated from mobile sources within a community. Land uses that are segregated increase the number of motor vehicle trips and associated air pollutant emissions, because it is inconvenient or impossible to walk or bicycle between destinations or public transit is not available. Communities in which the ratio of jobs to housing units is not balanced result in additional vehicle miles traveled by commuters who must drive to employment centers. When communities are

designed to mix residential with commercial, business, and employment uses, the trip length and frequency of motor vehicle use can be reduced. Goals and policies included the Land Use, Conservation, and Circulation Elements have been coordinated to address the related issues of traffic, land use patterns, and air quality.

A recent book on the impacts of urban sprawl highlights the enormous toll that automobile accidents and pedestrian fatalities take on public health, stating that "Automobiles claim more than 40,000 lives each year in the United States. Automobile crashes are the leading cause of death among people from one year to 24 years old, cause about 3.4 million nonfatal injuries each year, and cost an estimated $200 billion annually."[1] Designing a roadway system that protects public safety is of paramount importance, and this issue is addressed in the goals and policies of the Circulation Element. The issue of safety for bicyclists and pedestrians is also a primary concern for developing a healthy and safe circulation system for the Valley, and the maps and policies of the Circulation Element have been prepared to address safe pedestrian routes and bikeways.

IV. CONGESTION MANAGEMENT

The Congestion Management Program (CMP) was enacted by the California Legislature in 1989 to improve traffic congestion in urban areas. The program became effective with the passage of Proposition 111 in 1990, which also increased the State gas tax. Funds generated by Proposition 111 are available to cities and counties for regional road improvements, provided these agencies are in compliance with CMP requirements. The intent of the legislation was to link transportation, land use, and air quality decisions by addressing the impact of local growth on the regional transportation system. State statute requires that a CMP be developed, adopted, and updated biennially for every county that includes an urbanized area, which shall include every city and county government within that county. Therefore, the City of Santa Clarita and County of Los Angeles must comply with CMP requirements in developing a circulation plan for the Santa Clarita Valley.

Under the legislation regional agencies are designated within each county to prepare and administer the CMP for agencies within that county. Each local planning agency included in the CMP has the following responsibilities:

- Assisting in monitoring the roadways designated within the CMP system;
- Adopting and implementing a trip reduction and travel demand ordinance;
- Analyzing the impacts of local land use decisions on the regional transportation system; and
- Preparing annual deficiency plans for portions of the CMP system where LOS standards are not maintained.

In Los Angeles County, the CMP agency is the Los Angeles County Metropolitan Transportation Authority (Metro). Metro has the responsibility to review compliance with the CMP by agencies under its jurisdiction. For any agency out of compliance, after receiving notice and after a correction period, a portion of state gas tax funds may be withheld if compliance is not achieved. In addition, compliance with the CMP is necessary to preserve eligibility for state and federal funding for transportation projects.

Metro adopted the County's first CMP in 1992, and completed its most recent update in 2004. The statute requires that all state highways and principal arterials be included within the CMP roadway system. Within the Santa Clarita Valley, the following roadways are designated as CMP roadways:

- Interstate 5 (I-5, or Golden State Freeway);
- State Route 14 (SR-14, or Antelope Valley Freeway);
- Sierra Highway from Newhall Avenue (formerly San Fernando Road) to SR-14 at Red Rover Mine Road;
- Magic Mountain Parkway from I-5 to Railroad Avenue (formerly San Fernando Road);
- Railroad Avenue/Newhall Avenue (formerly San Fernando Road) from Magic Mountain Parkway to SR-14; and
- State Route 126 west of I-5.

1 Frumkin, Howard, Lawrence Frank, Richard Jackson. *Urban Sprawl and Public Health: Designing, Planning and Building for Healthy Communities*. Washinton, Island Press, 2005, page 110.

The 2004 CMP noted that both I-5 and SR-14 within the planning area demonstrate traditional commute patterns, with congestion flowing into Los Angeles and the San Fernando Valley in the morning and a reverse flow in the afternoon. The CMP indicates that all CMP roadways in the Santa Clarita Valley except SR-14 operate at a LOS D or better during a.m. and p.m. peak hours. Portions of SR-14 are reported to operate at LOS E during a.m. and p.m. peak hours. However, the 2004 CMP indicates that both I-5 and SR-14 traffic conditions have improved since the first CMP was completed in 1991, due to the completion of widening projects on these routes.

Preparation of a General Plan update constitutes a project that must be evaluated for CMP compliance. If a new General Plan is found to further impact traffic conditions on CMP roadways, mitigations may be required. The Los Angeles County CMP allows a local jurisdiction to define acceptable levels of service up to LOS E.

The 2004 CMP adopted by Metro found that, while 46 of the County's cities experienced very limited growth in the planning period, most of the County's growth has occurred in 10 jurisdictions, of which the Santa Clarita Valley is ranked fourth in terms of growth. Sixteen percent of the county's growth occurred in the San Fernando Valley and North County areas, including residential, commercial, and office growth sectors.

Various strategies are available to local jurisdictions to mitigate CMP traffic impacts, including constructing new roadway improvements, managing traffic flow through signal improvements and trip reduction measures, and land use strategies such as locating higher density uses in proximity to public transit. The 2004 CMP found that only three percent of the total mobility benefit throughout the County was a result of land use measures used by local agencies. In the Santa Clarita Valley, the City and County have an opportunity, with the *One Valley One Vision* (OVOV) planning effort, to increase the coordination of land use planning with transportation improvements in order to increase mobility benefits.

The traffic analysis conducted for the OVOV planning effort addressed these issues, and its conclusions are presented in the traffic report. Based on the traffic model, all roadway segments within the planning area that are designated as CMP roadways will operate at LOS E or better at build-out of the City's General Plan and the County's Area Plan. Therefore, the Circulation Element is consistent with the CMP as required by State law.

V. EXISTING ROADWAY SYSTEM WITHIN THE SANTA CLARITA VALLEY

Regional Access

Regional access to the Santa Clarita Valley is provided by two primary freeway corridors: Interstate 5 (I-5, or the Golden State Freeway) traverses the planning area in a northwesterly direction and is delineated with eight travel lanes; and State Route 14 (SR-14, or the Antelope Valley Freeway) traverses the planning area in a northeasterly direction and accommodates between four and 10 travel lanes. I-5 provides an important link between the southern and northern portions of the United States, and also serves as a vital link for commuter traffic between Santa Clarita communities and Los Angeles. SR-14 is also used by a significant amount of commuter traffic, as well as providing a regional link between the Los Angeles basin and the high desert communities of Palmdale and Lancaster. I-5 and SR-14 converge in the Newhall Pass, located south of the southerly planning area boundary. Newhall Pass has traditionally been one of the most congested regional corridors in Southern California and is in need of additional capacity improvements.

Secondary regional access is provided to motorists in the western portion of the planning area via State Route 126 (SR-126), which extends from the City of Ventura east to I-5. East of I-5, SR-126 was once designated along portions of Magic Mountain Parkway and San Fernando Road (now known as Railroad Avenue and Newhall Avenue) between I-5 and SR-14; however, these roadways were turned over to the City in 2002 and no longer serve as a State highway alignment.

Streets and Highways

Streets and highways within the planning area have been classified into the following categories, based on their function and design:

- **Major Highways** are arterials with at least six travel lanes for high mobility, designed with limited vehicular access to driveways and cross streets. The typical road section includes a raised landscaped median with left

turn pockets at intersections. When fully improved and operating at LOS E, major highways can accommodate approximately 54,000 vehicles per day. Street sections may include striped, on-street bike lanes or separated bike paths.

- **Secondary Highways** are arterials with an ultimate design section of four travel lanes, designed for high mobility and with limited vehicular access from driveways and cross streets. The typical road section includes a median with left turn pockets provided at intersections. Secondary highways are designed to service both through traffic, and to collect traffic from collector and local streets. When fully improved and operating at LOS E, secondary highways can accommodate approximately 36,000 vehicles per day.

- **Limited Secondary Highways** are arterials with more limited mobility and greater access, with an ultimate roadway design section of two travel lanes and with partial control of vehicular and pedestrian access to the roadway from driveways, cross streets, and crosswalks. The roadway is usually undivided and may accommodate limited parking activity and left turn pockets at major intersections. These streets are designed to accommodate moderate volumes of traffic and provide local access to major and secondary highways. When fully improved and operating at LOS E, these streets can accommodate approximately 18,000 vehicles per day.

- **Collector Streets** are roadways which have an ultimate roadway design section of two travel lanes with limited vehicular access to the roadway from driveways and cross streets. The roadway is usually undivided and does not always accommodate left turn pockets at intersections. Collector streets are designed to provide both access and limited mobility, servicing local traffic from residential, commercial, and industrial uses and providing access to the arterial roadway system. Collector streets are not depicted on the adopted Highway Plan. When fully improved and operating at LOS E, collectors can accommodate approximately 15,000 vehicles per day.

- **Local streets** are streets designed for full access and limited mobility, and may include residential streets, private streets, service roads, and public alleys. For the purposes of circulation planning at the General Plan level, local streets are not included on the adopted Highway Plan. However, policies have been included in the Circulation Element to ensure that local streets contribute to healthy, safe neighborhoods.

Arterial Highways and Collectors in the Santa Clarita Valley

Arterial highways traversing the Santa Clarita Valley provide connections between communities and to outlying areas. Bouquet Canyon Road connects the Santa Clarita Valley to the Antelope Valley through the Angeles National Forest. Sierra Highway, which generally parallels the SR-14 corridor, also provides connection to the Antelope Valley as well as a non-freeway connection between the Santa Clarita Valley and the Los Angeles Basin, through the Newhall Pass. The combination of Valencia Boulevard and Soledad Canyon Road currently provides the primary east-west connection between I-5 and SR-14 through the Santa Clarita Valley. Soledad Canyon Road also provides the primary non-freeway connection between the City of Santa Clarita and the communities of Agua Dulce and Acton. Escondido Canyon Road, Crown Valley Road, and Santiago Road also serve the Acton community and provide north-south connections between Soledad Canyon Road and SR-14. Agua Dulce Canyon Road, which connects Soledad Canyon Road to Sierra Highway, is the main north-south facility in the Agua Dulce community. Escondido Canyon Road, running east and west, also connects the communities of Acton and Agua Dulce.

Other canyon routes connect the Santa Clarita Valley to the Antelope Valley, including Lake Hughes Road and San Francisquito Canyon Road. Sand Canyon Road and Placerita Canyon Road connect the Santa Clarita Valley to the northeast San Fernando Valley communities of Sunland and Tujunga, via their connection with Little Tujunga Road through the Angeles National Forest.

The City recently renamed San Fernando Road as Railroad Avenue between Magic Mountain Parkway and Lyons Avenue. Between Lyons Avenue and Newhall Avenue, through downtown Newhall, San Fernando Road was renamed as Main Street. Between Newhall Avenue and its terminus at SR-14, San Fernando Road was renamed to Newhall Avenue and was restriped to increase roadway capacity from four lanes to six, which significantly improved traffic circulation through the intersection at Newhall Avenue and Sierra

Highway. In downtown Newhall, between Lyons Avenue and Pine Street, Main Street was restriped from four travel lanes to two lanes with on-street parking as part of the Downtown Newhall Specific Plan improvements in 2007. To accommodate north-south through traffic in this area, Railroad Avenue in downtown Newhall was expanded to accommodate four travel lanes.

Other major new roadways, planned to increase both connectivity and capacity of the arterial system, were included in the prior Circulation Element and are also included in this update, including the following arterial roadway segments:

- The Via Princessa gap closure between its current westerly terminus near Oak Ridge Drive and its current easterly terminus near Isabella Parkway;
- The extension of Magic Mountain Parkway from the intersection of Bouquet Canyon Road/Railroad Avenue south to Via Princessa;
- Santa Clarita Parkway, a new north-south arterial that extends from SR-14 at Placerita Canyon Road to Bouquet Canyon Road;
- Long Canyon Road, a new north-south arterial in the west side of the valley, extends from SR-126 to a westerly extension of Valencia Boulevard;
- Dockweiler Drive from Railroad Avenue to Sierra Highway; and
- The Golden Valley Road bridge over the Santa Clara River.

A complete list of planned new roadways and roadway extensions as depicted in the Highway Plan is provided in Section VII.

Based on existing conditions traffic data collected for approximately 100 selected major segments of County and City roadway network throughout the Santa Clarita Valley, all links studied are currently operating at LOS E or better except for the following:

- Soledad Canyon Road between Bouquet Canyon Road and Commuter Way;
- Whites Canyon Road between Soledad Canyon Road and Pleasantdale Street;
- Lyons Avenue between Orchard Village Road and Newhall Avenue; and
- Newhall Avenue between Lyons Avenue and Main Street.

The existing deficiencies noted above are being addressed by this Circulation Element update through a combination of measures, such as the completion of future roadways as identified in the Highway Plan, development of alternative travel modes and support facilities, increased efficiency of existing systems through management strategies, and coordination of land use planning with transportation planning by promoting concentrated, mixed-use development near transit facilities. The traffic model developed for the *One Valley One Vision* (OVOV) planning effort was used to evaluate projected traffic conditions for both the existing and proposed City General Plan and County Area Plan Circulation Elements at build-out of the land uses envisioned by both documents. This analysis concluded that build-out under the existing City General Plan and County Area Plan Circulation Elements and Land Use Elements would result in worse traffic congestion than under the City General Plan and County Area Plan Circulation Elements developed through the OVOV planning effort, because more roadway segments would operate at unacceptable levels of service under the prior plans than under the updated plans. Further information on this analysis is contained in the traffic study.

Cross-Valley Connector

In order to provide greater connectivity and capacity for east-west traffic across the Santa Clarita Valley, the City and County have worked in partnership to complete the Cross-Valley Connector. When completed, the 8.5-mile system of arterial road, bridges, and intersections will provide a seamless connection between Newhall Ranch Road and Golden Valley Road, and a direct connection between the I-5/SR-126 junction and the SR-14/Golden Valley Road interchange. In addition to serving auto and truck traffic in the Valley with an ultimate width of six to eight travel lanes, the Cross-Valley Connector was designed

to include a Class 1 bike path adjacent to the roadway and a landscaped median. Anticipated for completion in 2010, the Cross-Valley Connector is projected to substantially reduce traffic volumes on Soledad Canyon Road and other major arterials in the City.

Major Roadway Improvements Recently Completed or Underway

The most recent phase of construction for the Cross-Valley Connector was the "gap closure", construction of a one-mile segment linking I-5/SR-126 with Copper Hill Drive/ Rye Canyon Road. Completed in 2007, this portion of the roadway provides multi-modal access to the area's largest employment centers (1,000 companies and 50,000 jobs).

In a cooperative effort between Newhall Land, Caltrans, Metro, the County and the City, expansion of the interchange of I-5 and Magic Mountain Parkway began in 2007 and is expected to be completed in 2009. The project will help relieve existing and future traffic congestion by widening the freeway on- and off-ramps and Magic Mountain Parkway.

The Hasley Canyon Road interchange at I-5 is also currently being reconstructed in a cooperative effort between the County, Caltrans, Metro, and Newhall Land. Construction began in 2007 and is expected to be completed in 2009. The project will significantly improve traffic conditions at the interchange and includes constructing a new bridge over the I-5 freeway, building modern roundabouts on the east and west sides of the freeway, and providing additional ramps for freeway access.

Construction of new bridges along Sierra Highway over the railroad between Canyon Park Boulevard and Flying Tiger Drive was initiated in 2007 and completed in 2009. This project replaced the northbound bridge and rehabilitated the southbound bridge on Sierra Highway, eliminating the gap between the two bridges. The new bridge will provide wider traffic lanes and shared lanes for bicycles and pedestrians.

A new bridge planned over the Santa Clara River as part of the Cross-Valley Connector is slated for completion by 2010. This bridge will provide a seamless connection between Golden Valley Road and Newhall Ranch Road.

Peak Hour Traffic Conditions

The Santa Clarita Valley experiences typical suburban traffic patterns, which are characterized by traffic volumes that peak during the AM and PM commute periods. Based on existing conditions traffic data and traffic model forecast data for 23 key intersections within the Valley, the current AM and PM peak hour conditions will continue to worsen over time absent any changes to the current circulation system. This Circulation Element update addresses the existing and potential future deficiencies through a combination of land use and transportation planning, as noted in prior sections.

Transportation Management System

The City has completed the first stage of an Intelligent Transportation Management System (ITMS) project. Through the use of real-time video and other traffic-related information, ITMS interconnects 172 traffic signals to the new Traffic Operation Center located at City Hall. There, City staff can adjust signal problems, minimize congestion and provide additional capacity on alternate routes in case of an accident or other incidents. Staff can quickly be alerted to situations that require the dispatch of a maintenance crew or law enforcement personnel. Subsequent stages of the project will increase the number of roadways and intersections included in the system, with the ultimate goal of including all signalized intersections within the Santa Clarita Valley.

The County Department of Public Works is in the process of evaluating communications devices to enable traffic signals in the unincorporated areas of the Valley to be monitored and controlled from their Traffic Management Center in Alhambra. This traffic signal control system provides for continuous monitoring of conditions and will provide once-per-second monitoring of traffic signals. The system enables traffic signal timing to be controlled and coordinated from the Traffic Management Center.

The County's Information Exchange Network (IEN) is an advanced traffic management system and network capable of sharing information and control of various traffic control systems and field devices between agencies. The IEN is currently being deployed Countywide and will improve regional traffic flow through the exchange of traffic signal data among multiple agencies. The County and City are

currently discussing connecting the City's traffic control system to the IEN, which will allow for a coordinated response to traffic congestion and incidents.

In addition, the City and County have been implementing signal timing along major arterials, using signal synchronization to coordinate signals with each other in an effort to improve vehicle progression and reduce traffic congestion. The City retimes and synchronizes approximately one-third of its traffic signals every year, which means that all traffic signals are evaluated and retimed within a three-year period.

Neighborhood Traffic Management

As traffic volumes and congestion increase on arterial roadways, some drivers attempt to reduce travel times by traveling alternate routes using local neighborhood streets. This neighborhood intrusion by "cut-through" traffic has become a concern in some residential areas. The City takes action when necessary to minimize intrusion of regional cut-through traffic in residential neighborhoods through traffic management and traffic calming strategies, including the use of circles, chokers, and diverters. The County has an established neighborhood traffic management program to make neighborhoods safer for pedestrians, bicyclists, residents and the motoring public.

Street Maintenance

The City Public Works Department currently manages a $5 million annual program for overlay and slurry-seal of streets. Approximately seven miles of street pavement per year is maintained under this program. Private streets are required to be maintained by property owners or homeowners associations.

Some portions of the planning area require additional street maintenance due to substandard street sections. In particular, older and more rural canyon areas were developed with substandard streets and lack curbs and gutters for drainage, and sidewalks. As a result, stormwater runoff undermines the pavement, and maintenance costs are increased. Road improvements will be required to upgrade street systems in these areas.

VI. METHODOLOGY FOR TRAFFIC ANALYSIS

The following steps were followed in developing the roadway component of the Circulation Element:

1. Documentation of existing conditions and assembling the data base;
2. Update of the City/County traffic model for the Santa Clarita Valley used to forecast future usage of existing and planned circulation routes;
3. Identification of problems, opportunities and issues on the roadway network;
4. Testing and evaluation of alternative improvement plans; and
5. Selection and refinement of the recommended circulation plan.

The Santa Clarita Valley's existing roadway network is illustrated on Figure C-1. Average daily traffic volumes for arterials within the Valley were obtained through traffic counts, to assess existing levels of service. Both capacity and connectivity of the network were evaluated.

The traffic engineers utilized a computerized traffic demand model, the Santa Clarita Valley Consolidated Traffic Model (SCVCTM), which is jointly maintained by the City of Santa Clarita and the County of Los Angeles, to analyze the roadway system and develop a circulation plan. For modeling purposes, the planning area is divided into 455 traffic analysis zones (TAZ's). The model used a software program comparable to the regional modeling done by the Southern California Association of Governments (SCAG) and the County's Congestion Management Program, in order to assure consistency with regional plans.

Traffic analysis with a traffic demand model involves four general steps: 1) specification of the roadway network; 2) calculation of vehicle trip generation amounts for uses within each TAZ; 3) distribution of these vehicle trips to destination points; and 4) assignment of vehicle trips to specific roadway segments. Based on this analysis, the model indicates whether planned roadway widths will be adequate to handle projected traffic volumes, and where capacity problems will occur. The process requires a model that has been calibrated to existing conditions, and the SCVCTM underwent a comprehensive update and recalibration in

2004. With this calibrated model, the traffic engineers performed several different model runs based on various assumptions. The model was run to predict traffic volumes at build-out of the land uses permitted by the City and County's Land Use Elements.

Based on the traffic model analysis, the traffic engineers identified several needed improvements to the street and highway system. Traffic issues identified through the public input process were also considered and evaluated. These traffic issues and needs have been addressed in the Circulation Plan and the goals and policies section of the element.

Once the traffic model was completed and run, it became necessary to make certain adjustments to the Land Use Plan and the road network to achieve acceptable levels of service at General Plan build-out for most roadways. In some cases, adjustments were made to the ultimate right-of-way for specific roadway links. The final recommended Highway Plan is shown on Figure C-2, and is discussed in further detail in Section VII.

VII. RECOMMENDATIONS FOR STREET AND HIGHWAY SYSTEM

Level of Service Standard

The Countywide General Plan does not specify an acceptable Level of Service (LOS) for the purpose of long-range planning; however, in conformance with the Congestion Management Program, the preferred maximum acceptable LOS on arterial roads (i.e., major, secondary, and limited secondary highways) within the planning area is LOS E. The City strives to achieve LOS D or better on highways to the extent feasible given right-of-way and physical constraints, while recognizing that in higher density urban areas there is generally a tradeoff between vehicle LOS and other factors such as pedestrian mobility; therefore, LOS F may be necessary at limited locations to implement the City's General Plan In residential neighborhoods, the City and County desire conditions of LOS C or better.

Revised Roadway Designations

Designations of the following roadway segments were recommended to be reclassified as a result of the traffic analysis:

1. Lake Hughes Road from Ridge Route Road to Angeles National Forest Boundary – Reclassify from a major highway to a limited secondary highway.

2. Vasquez Canyon Road from Bouquet Canyon Road to Sierra Highway – Reclassify from a secondary highway to a limited secondary highway.

3. Sand Canyon Road from the Santa Clarita City boundary to Sierra Highway – Reclassify from a major highway to a secondary highway along existing alignment.

4. Shadow Pines Boulevard/Tick Canyon Road from Grandifloras Road to Davenport Road – Reclassify from a secondary highway to a limited secondary highway.

5. Bouquet Canyon Road from Plum Canyon Road to Vasquez Canyon Road – Reclassify from a major highway to a secondary highway.

6. Skyline Ranch Road from Plum Canyon Road to Sierra Highway – Reclassify planned major highway to a secondary highway.

7. Valencia Boulevard/Potrero Canyon Road from the Newhall Ranch/Stevenson Ranch boundary to the planned Long Canyon Road – Reclassify planned secondary highway to a major highway.

8. Long Canyon Road from the planned Santa Clara River Bridge to the planned Valencia Boulevard/Potrero Canyon Road – Reclassify planned secondary highway to a major highway.

9. Pico Canyon Road from the Newhall Ranch/Stevenson Ranch boundary to Valencia Boulevard – Reclassify planned secondary highway to a major highway.

10. Jakes Way from Canyon Park Boulevard to the planned Lost Canyon Road extension – Add classification for the existing roadway as a limited secondary highway.

11. McBean Parkway from Copper Hill Drive to San Francisquito Canyon Road – Reclassify planned secondary highway to a limited secondary highway.

12. San Fransisquito Canyon Road from the planned extension of McBean Parkway to the Angeles National Forest – Reclassify from a secondary highway to a limited secondary highway.

13. Lost Canyon Road from Jakes Way to Sand Canyon Road – Reclassify planned major highway to a secondary highway.

The following roadway segments were recommended to be removed from the Highway Plan as a result of the traffic analysis:

1. 16th Street from Newhall Avenue to Railroad Avenue – Remove planned secondary highway.

2. Sloan Canyon Road from Hillcrest Parkway to Quail Valley Road – Remove planned limited secondary highway.

3. Castaic Road from Parker Road to Newhall Ranch Road – Remove planned secondary highway.

4. Biscailuz Drive from The Old Road to the previously planned extension of Castaic Road – Remove planned secondary highway.

5. Landmark Village (VTTM 53108) Spine Road – Remove planned secondary highway.

6. "A" Street (Mallory Drive) from Poe Parkway to Valencia Boulevard – Remove planned secondary highway.

7. Poe Parkway from Stevenson Ranch Parkway to Valencia Boulevard – Remove secondary (existing and planned) highway.

8. Cruzan Mesa Road from Whites Canyon Road to Sierra Highway – Remove planned limited secondary highway.

The following roadway alignments were recommended to be realigned as a result of the traffic analysis:

1. Sand Canyon Road from the Santa Clarita City boundary to Sierra Highway – Realign planned secondary highway along the existing driven roadway.

2. Long Canyon Road/Potrero Canyon Road/Valencia Boulevard at planned intersection – Realign to make Long Canyon Road/Valencia Boulevard the continuous roadway.

3. Chiquito Canyon Road/Long Canyon Road at State Route 126 – Revise alignments to create a continuous north/south roadway.

4. Whites Canyon Road from Plum Canyon Road to Vasquez Canyon Road – Revise alignment to connect from Plum Canyon Road to Sierra Highway (as the proposed Skyline Ranch Road).

Table C-2 indicates the designation of all General Plan roadways within the planning area. It should be noted that local and collector streets are not included on the Highway Plan, which contains only major and secondary highways, expressways, and parkways.

Table C-2: Highway Plan Roadways in the Planning Area

Roadway Classification	Roadway Segments in Planning Area
Expressways	SR-126
Major Highways	Avenue Scott (from Rye Canyon to Avenue Tibbitts) Avenue Tibbitts Bouquet Canyon Road (from Plum Canyon Road to Magic Mountain Parkway) Castaic Road (from Lake Hughes Road to Parker Road) Commerce Center Drive Copper Hill Drive (from Newhall Ranch Road to Seco Canyon Road) Golden Valley Road (from Newhall Ranch Road to SR-14 freeway) Hasley Canyon Road (from Commerce Center Drive to I-5 freeway) Lake Hughes Road (from The Old Road to Ridge Route Road) Long Canyon Road (from SR-126 to Valencia Boulevard) Lost Canyon Road (from Jakes Way to Via Princessa) Lyons Avenue Magic Mountain Parkway (from Commerce Center Drive to Via Princessa) McBean Parkway (from I-5 freeway to Copper Hill Drive) Newhall Avenue (from Railroad Avenue to SR-14 freeway) Newhall Ranch Road Orchard Village Road Parker Road (from The Old Road to Castaic Road) Pico Canyon Road Plum Canyon Road Railroad Avenue (from Magic Mountain Parkway to Lyons Avenue) Rye Canyon Road Sand Canyon Road (from Soledad Canyon Road to Lost Canyon Road) Santa Clarita Parkway (from Bouquet Canyon Road to Sierra Highway) Sierra Highway Soledad Canyon Road Stevenson Ranch Parkway The Old Road (from Hasley Canyon Road to Lyons Avenue) The Old Road (from Calgrove Boulevard to Sierra Highway) Valencia Boulevard Via Princessa (from Wiley Canyon Road to Lost Canyon Road) Whites Canyon Road Wiley Canyon Road (from Lyons Avenue to Via Princessa)

Roadway Classification	Roadway Segments in Planning Area
Secondary Highways	16th Street (from Orchard Village Road to Newhall Avenue) Agua Dulce Canyon Road Avenue Scott (from Avenue Tibbitts to McBean Parkway) Bouquet Canyon Road (from Plum Canyon Road to Angeles National Forest boundary) Calgrove Boulevard Canyon Park Boulevard Copper Hill Drive (from Seco Canyon Road to Bouquet Canyon Road) Davenport Road Decoro Drive Dickason Drive Dockweiler Drive Escondido Canyon Road Golden Valley Road (from Newhall Ranch Road to Plum Canyon Road) Golden Valley Road (from SR-14 freeway to Via Princessa) Haskell Canyon Road (from Copper Hill Drive to Bouquet Canyon Road) Hasley Canyon Road (from Del Valle Road to Commerce Center Drive) Hillcrest Parkway Long Canyon Road (from Chiquito Canyon Road to SR-126) Lost Canyon Road (from Jakes Way to Sand Canyon Road) Magic Mountain Parkway (from Long Canyon Road to Commerce Center Drive) Newhall Avenue (from 16th Street to Railroad Avenue) Placerita Canyon Road (from Sierra Highway to Sand Canyon Road) Potrero Canyon Road Railroad Avenue (from Lyons Avenue to Newhall Avenue) Ridge Route Road (from approximately ¾ mile north of Northlake Hills elementary school to Castaic Road) Rockwell Canyon Road Sand Canyon Road (from Sierra Highway to Soledad Canyon Road) Seco Canyon (from Copper Hill Drive to Bouquet Canyon Road) Shadow Pines Boulevard Skyline Ranch Road Sloan Canyon Road (from The Old Road to Quail Valley Road) The Old Road (from Oak Valley Road to Hasley Canyon Road) The Old Road (from Pico Canyon Road to Calgrove Boulevard) Tourney Road Valley Street Via Princessa (from Lost Canyon Road to Golden Valley Road) Wiley Canyon Road (from Lyons Avenue to Calgrove Boulevard)
Limited Secondary Highways	Bouquet Canyon (from Angeles National Forest Boundary to Elizabeth Lake Road) Chiquito Canyon Road (from Del Valle Road to Long Canyon Road) Del Valle Road (from Chiquito Canyon Road to Hasley Canyon Road) Hasley Canyon Road (from Sloan Canyon Road to Del Valle Road) Jakes Way Lake Hughes Road (from Ridge Route Road to Pine Canyon Road) Lost Canyon Road (from Sand Canyon Road to Oak Springs Canyon Road) McBean Parkway (from San Francisquito Canyon Road to Copper Hill Drive) Ridge Route Road (from Templin Highway to approximately ¾ mile north of Northlake Hills elementary school) San Francisquito Canyon Road (from McBean Parkway to Elizabeth Lake Road) Sand Canyon Road (from Lost Canyon Road to Little Tujunga Canyon Road) Seco Canyon (from Discovery Ridge Drive to Copper Hill Drive) Sloan Canyon Road (from Hillcrest Parkway to Hasley Canyon Road) Tick Canyon Road Tournament Road Vasquez Canyon Road
Parkways	Henry Mayo Drive (from Commerce Center Drive to The Old Road)

A complete listing of the future roadway improvements needed to implement the recommended Highway Plan is provided in Table C-3.

Table C-3: Roadway Improvements Needed for Build-Out of Highway Plan

Roadway / Segment	Improvement	Comments
Agua Dulce Canyon Road		
Between Sierra Highway and Escondido Canyon Road	Widen roadway from 2 lanes to a 4 lane Secondary Highway	---
Between Escondido Canyon Road and Davenport Road	Construct new 4 lane Secondary Highway	Gap closure segment
Between Davenport Road and Soledad Canyon Road	Widen roadway from 2 lanes to a 4 lane Secondary Highway	---
Avenue Scott		
Between Rye Canyon Road and Avenue Tibbitts	Re-stripe roadway from 4 lanes to 6 lanes	---
Avenue Tibbitts		
Between Avenue Scott and Avenue Hopkins	Re-stripe roadway from 4 lanes to 6 lanes	---
Between Avenue Hopkins and Magic Mountain Parkway	Construct new 6 lane Major Highway	Includes new bridge over the Santa Clara River
Bouquet Canyon Road		
Between Angeles National Forest and Plum Canyon Road	Widen roadway from 2 lanes to a 4 lane Secondary Highway	Includes realignment in the Copper Hill Drive area
Between Plum Canyon and future Santa Clarita Parkway	Re-stripe roadway from 4 lanes to 6 lanes	Will lose the existing Class II bike lane due to re-striping
Between future Santa Clarita Parkway and Seco Canyon Road	Re-stripe roadway from 5 lanes to 6 lanes	Will lose the existing Class II bike lane due to re-striping
Between Seco Canyon Road and Espuella Drive	Widen roadway from 6 lanes to an 8 lane Major Highway	Includes bride widening
Between Soledad Canyon Road and Magic Mountain Parkway	Re-stripe roadway from 4 lanes to 6 lanes	---
Castaic Road		
Between Lake Hughes Road and Ridge Route Road	Re-stripe roadway from 4 lanes to 6 lanes	---
Commerce Center Drive		
Between Henry Mayo Drive and Magic Mountain Parkway	Construct new 6 lane Major Highway	Includes new bridge over the Santa Clara River
Copper Hill Drive		
Between Avenida Rancho Tesoro and San Francisquito Creek Bridge	Re-stripe roadway from 4 lanes to 6 lanes	---
Between San Francisquito Creek Bridge and McBean Parkway	Widen roadway from 4 lanes to a 6 lane Major Highway	Includes widening bridge over the San Francisquito Creek
Davenport Road		
Between Sierra Highway and Agua Dulce Canyon Road	Widen roadway from 2 lanes to a 4 lane Secondary Highway	---
Dockweiler Drive		
Between Sierra Highway and Agua Dulce Canyon Road	Widen roadway from 2 lanes to a 4 lane Secondary Highway	---

Roadway / Segment	Improvement	Comments
Dockweiler Drive		
Between Railroad Avenue and Leonard Tree Lane	Construct new 4 lane Secondary Highway	---
Between Leonard Tree Lane and Sierra Highway	Re-stripe roadway from 2 lanes to 4 lanes	Will lose the existing on-street parking due to re-striping
Escondido Canyon Road		
East of Agua Dulce Canyon Road	Widen roadway from 2 lanes to a 4 lane Secondary Highway	---
Golden Valley Road		
Between Plum Canyon Road and Dorothy Street	Re-stripe roadway from 2 lanes to 4 lanes	---
Between Dorothy Street and Newhall Ranch Road	Construct new 4 lane Secondary Highway	---
Between Newhall Ranch Road and Valley Center Drive	Construct new 6 lane Major Highway	Includes new bridge over the Santa Clara River
Between Valley Center Drive and Center Pointe Parkway	Re-stripe roadway from 4 lanes to 6 lanes	---
Between Center Pointe Parkway and Sierra Highway	Widen roadway from 4 lanes to a 6 lane Major Highway	---
Between SR-14 freeway and Via Princessa	Construct new 4 lane Secondary Highway	---
Haskell Canyon Road		
Between Copper Hill Drive and Grovepark Drive/Ridgegrove Drive	Re-stripe roadway from 2 lanes to 4 lanes	---
Henry Mayo Drive		
Between Commerce Center Drive and The Old Road	Widen roadway from 2 lanes to a 4 lane Parkway	---
Lake Hughes Road		
Between I-5 freeway and Castaic Road	Re-stripe roadway from 4 lanes to 6 lanes	---
Long Canyon Road (future)		
Between Chiquito Canyon Road and SR-126	Construct new 4 lane Secondary Highway	---
Between SR-126 and Valencia Boulevard	Construct new 6 lane Major Highway	Includes new bridge over the Santa Clara River
Lost Canyon Road		
Between Sand Canyon Road and La Veda Avenue	Widen roadway from 2 lanes to a 4 lane Secondary Highway	---
Between La Veda Avenue and Jakes Way	Construct new 4 lane Secondary Highway	---
Between Jakes Way and railroad bridge	Construct new 6 lane Major Highway	---
Between railroad bridge and Via Princessa	Re-stripe roadway from 4 lanes to 6 lanes	---
Lyons Avenue		
Between Orchard Village Road and Railroad Avenue	Re-stripe roadway from 4 lanes to 6 lanes	Will lose the existing on-street parking due to re-striping
Magic Mountain Parkway		
Between Long Canyon Road and Commerce Center Drive	Construct new 4 lane Secondary Highway	---

Roadway / Segment	Improvement	Comments
Between Commerce Center Drive and Westridge Parkway	Construct new 6 lane Major Highway	---
Between Westridge Parkway and Six Flags Magic Mountain	Construct new 8 lane Major Highway	---
Between Six Flags Magic Mountain and I-5 freeway	Widen roadway from 4 lanes to an 8 lane Major Highway	---
Between I-5 freeway and Auto Center Drive	Re-stripe roadway from 6 lanes to 8 lanes	---
Between Auto Center Drive and Valencia Boulevard	Widen roadway from 4 lanes to an 8 lane Major Highway	---
Between Valencia Boulevard and Railroad Avenue	Re-stripe roadway from 4 lanes to 6 lanes	---
Between Railroad Avenue and Via Princessa	Construct new 6 lane Major Highway	---
McBean Parkway		
Between San Francisquito Canyon Road and Copper Hill Drive	Construct new 2 lane Limited Secondary Highway	---
Between Avenue Scott and Creekside Road	Widen roadway from 6 lanes to an 8 lane Major Highway	Includes widening bridge over the Santa Clara River
Between Magic Mountain Parkway and Valencia	Re-stripe roadway from 6 lanes to 8 lanes	---
Newhall Ranch Road		
Between Rye Canyon Road and Avenue Tibbitts	Widen roadway from 4 lanes to an 8 lane Major Highway	---
Between Avenue Tibbitts and McBean Parkway	Widen roadway from 6 lanes to an 8 lane Major Highway	Includes widening bridge over the San Francisquito Creek
Between McBean Parkway and Bouquet Canyon Road	Re-stripe roadway from 7 lanes to 8 lanes	---
Between Bouquet Canyon Road and Santa Clarita Parkway	Re-stripe roadway from 4 lanes to 6 lanes	---
Between Santa Clarita Parkway and Golden Valley Road	Construct new 6 lane Major Highway	---
Newhall Avenue		
Between 16th Street and Railroad Avenue	Re-stripe roadway from 2 lanes to 4 lanes	Will lose the existing on-street parking due to re-striping
The Old Road		
North of Lake Hughes Road	Re-stripe roadway from 2 lanes to 4 lanes	---
Between Lake Hughes Road and Sedona Way	Widen roadway from 2 lanes to a 4 lane Secondary Highway	---
Between Hasley Canyon Road and I-5 SB Ramps at Rye Canyon Road	Widen roadway from 4 lanes to a 6 lane Major Highway	---
Between I-5 SB Ramps at Rye Canyon Road and Rye Canyon Road	Re-stripe roadway from 4 lanes to 6 lanes	---
Between Rye Canyon Road and Magic Mountain Parkway	Widen roadway from 4 lanes to a 6 lane Major Highway	Includes widening bridge over the Santa Clara River
Between McBean Parkway and Lyons Avenue	Re-stripe roadway from 4 lanes to 6 lanes	---
Between Sagecrest Circle (South) and Calgrove Boulevard	Widen roadway from 2 lanes to a 4 lane Secondary Highway	---
Between Calgrove Boulevard and Sierra Highway	Widen roadway from 4 lanes to a 6 lane Major Highway	---

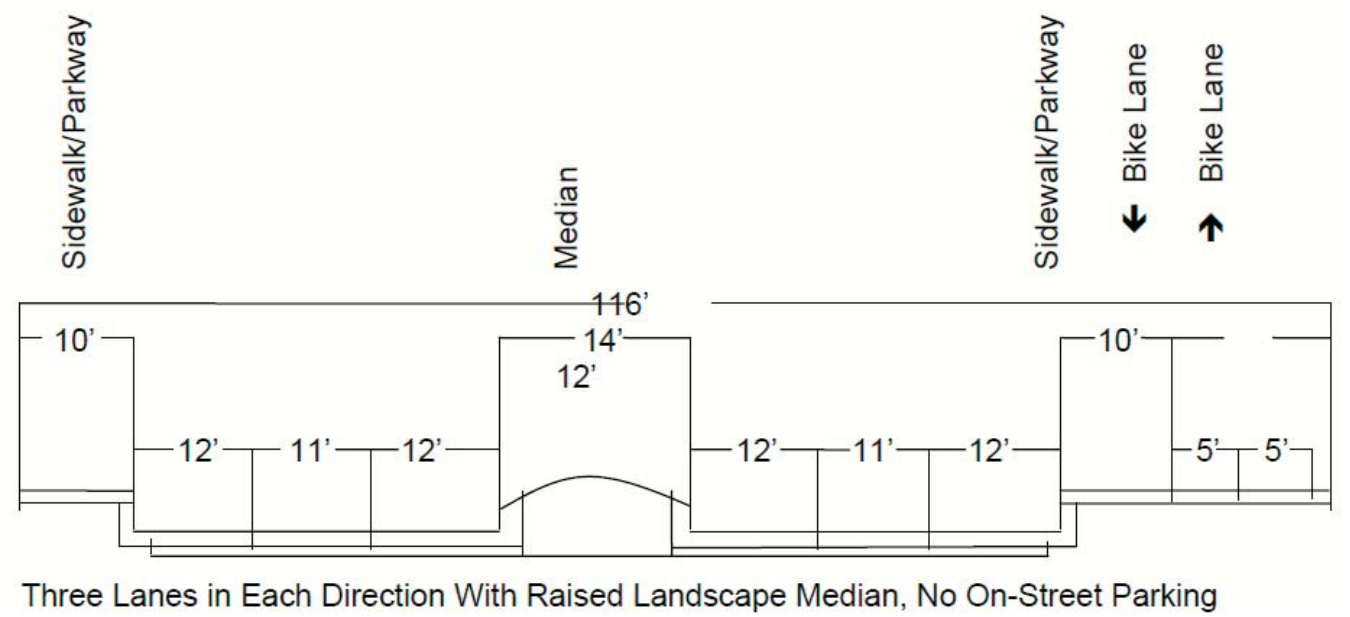
Roadway / Segment	Improvement	Comments
Orchard Village Road		
Between McBean Parkway and Lyons Avenue	Widen roadway from 4 lanes to a 6 lane Major Highway	---
Parker Road		
Between The Old Road and I-5 freeway	Widen roadway from 2 lanes to a 6 lane Major Highway	---
Pico Canyon Road		
Between Valencia Boulevard and Whispering Oaks Road	Construct new 6 lane Major Highway	---
Between Whispering Oaks Road and I-5 freeway	Re-stripe roadway from 4 lanes to 6 lanes	---
Placerita Canyon Road		
Between SR-14 freeway and Sand Canyon Road	Widen roadway from 2 lanes to a 4 lane Secondary Highway	---
Plum Canyon Road		
Between Bouquet Canyon Road and Golden Valley Road	Re-stripe roadway from 4 lanes to 6 lanes	---
Potrero Canyon Road (future)		
Between SR-126 and Long Canyon Road	Construct new 4 lane Secondary Highway	Includes new bridge over the Santa Clara River
Railroad Avenue		
Between Magic Mountain Parkway and Lyons Avenue	Re-stripe roadway from 4 lanes to 6 lanes	---
Ridge Route Road		
Between I-5 freeway and Castaic Road	Widen roadway from 2 lanes to a 6 lane Major Highway	---
Sand Canyon Road		
Between Sierra Highway and Soledad Canyon Road	Widen roadway from 2 lanes to a 4 lane Secondary Highway	---
Between SR-14 freeway and Lost Canyon Road	Widen roadway from 2 lanes to a 6 lane Major Highway	Includes widening bridge over the Santa Clara River
Santa Clarita Parkway (future)		
Between Bouquet Canyon Road and Sierra Highway	Construct new 6 lane Major Highway	Includes new bridge over the Santa Clara River
Shadow Pines Blvd./Tick Canyon Rd.		
Between Grandifloras Road and Davenport Road	Construct new 2 lane Limited Secondary Highway	---
Sierra Highway		
East of Agua Dulce Canyon Road	Widen roadway from 2 lanes to a 6 lane Major Highway	---
Between Agua Dulce Canyon Road and Vasquez Canyon Road	Widen roadway from 2 lanes to a 6 lane Major Highway	---
Between Vasquez Canyon and Soledad Canyon	Widen roadway from 4 lanes to a 6 lane Major Highway	---
Between Via Princessa and Newhall Avenue	Re-stripe roadway from 4 lanes to 6 lanes	---
Between Newhall Avenue and The Old Road	Widen roadway from 4 lanes to a 6 lane Major Highway	---

Roadway / Segment	Improvement	Comments
Skyline Ranch Road (future)		
Between Whites Canyon Road and Sierra Highway	Construct new 4 lane Secondary Highway	---
Sloan Canyon Road		
Between The Old Road and Parker Road	Widen roadway from 2 lanes to a 4 lane Secondary Highway	---
Between Parker Road and Quail Valley Road	Re-stripe roadway from 2 lanes to 4 lanes	---
Between Hillcrest Parkway and Hasley Canyon Road	Construct new 2 lane Limited Secondary Highway	---
Soledad Canyon Road		
Between River Circle and SR-14 freeway	Re-stripe roadway from 4 lanes to 6 lanes	Will lose the existing Class II bike lane due to re-striping
East of SR-14 freeway	Widen roadway from 2 lanes to a 6 lane Major Highway	---
Stevenson Ranch Parkway		
Between The Old Road and Pico Canyon Road	Re-stripe roadway from 4 lanes to 6 lanes	Will lose the existing Class II bike lane due to re-striping
Valencia Boulevard		
Between Long Canyon Road and existing Valencia Boulevard terminus just west of Boulder Crest Drive	Construct new 6 lane Major Highway	---
Between I-5 freeway and McBean Parkway	Reconstruct roadway from 7 lanes to an 8 lane Major Highway	---
Via Princessa		
Between existing Via Princessa terminus just east of Claibourne Court and existing Via Princessa terminus just west of Sheldon Avenue	Construct new 6 lane Major Highway	Gap closure segment
Between Sheldon Avenue and Rainbow Glen Drive	Widen roadway from 2 lanes to a 6 lane Major Highway	---
Between Rainbow Glen Drive and Whites Canyon Road	Re-stripe roadway from 4 lanes to 6 lanes	---
Between SR-14 freeway and Lost Canyon Road	Re-stripe roadway from 4 lanes to 6 lanes	---
Between Golden Valley Road and the existing Via Princessa terminus just south of Swan Lane	Construct new 4 lane Secondary Highway	---
Whites Canyon Road		
Between Ashboro Drive and Soledad Canyon Road	Re-stripe roadway from 4 lanes to 6 lanes	---
Wiley Canyon Road		
Bridge over Railroad Avenue	Widen roadway from 4 lanes to a 6 lane Major Highway	Includes bridge widening
Between bridge over Railroad Avenue and Lyons Avenue	Re-stripe roadway from 4 lanes to 6 lanes	Will lose the existing Class II bike lane due to re-striping
Between Lyons Avenue and Wabuska Street	Widen roadway from 4 lanes to a 6 lane Major Highway	---
Between Wabuska Street and Calgrove Boulevard	Widen roadway from 2 lanes to a 6 lane Major Highway	---

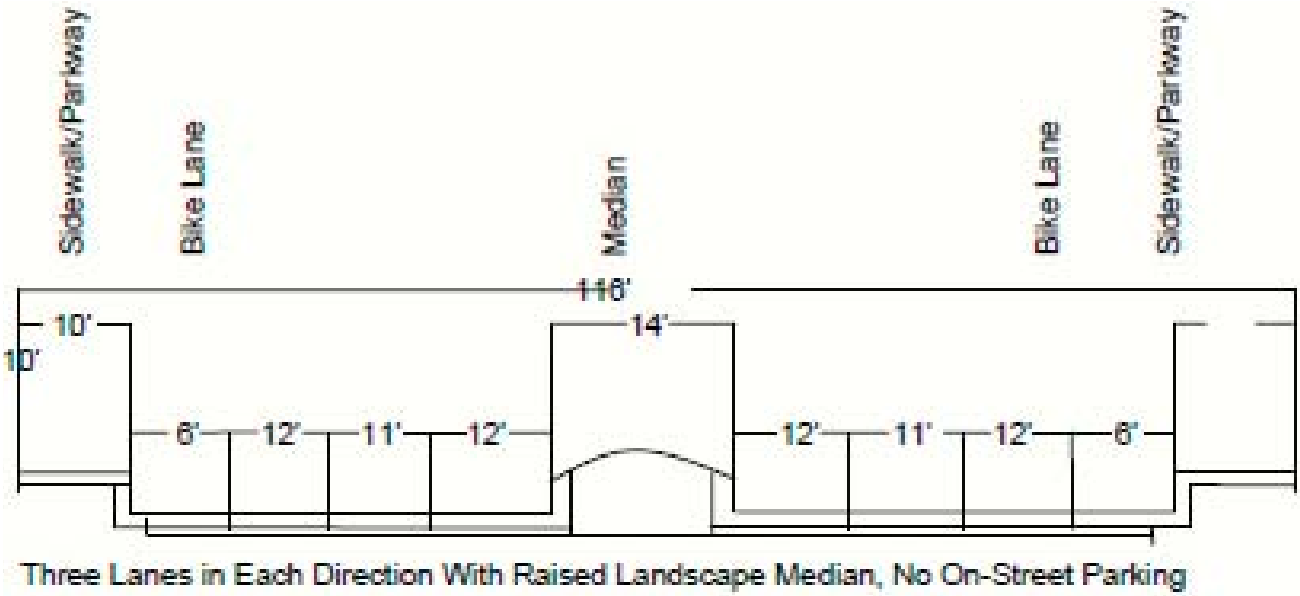
Standard Cross Sections

The standard cross sections shown in Figure C-3 are adopted for both City and County areas of the Santa Clarita Valley.

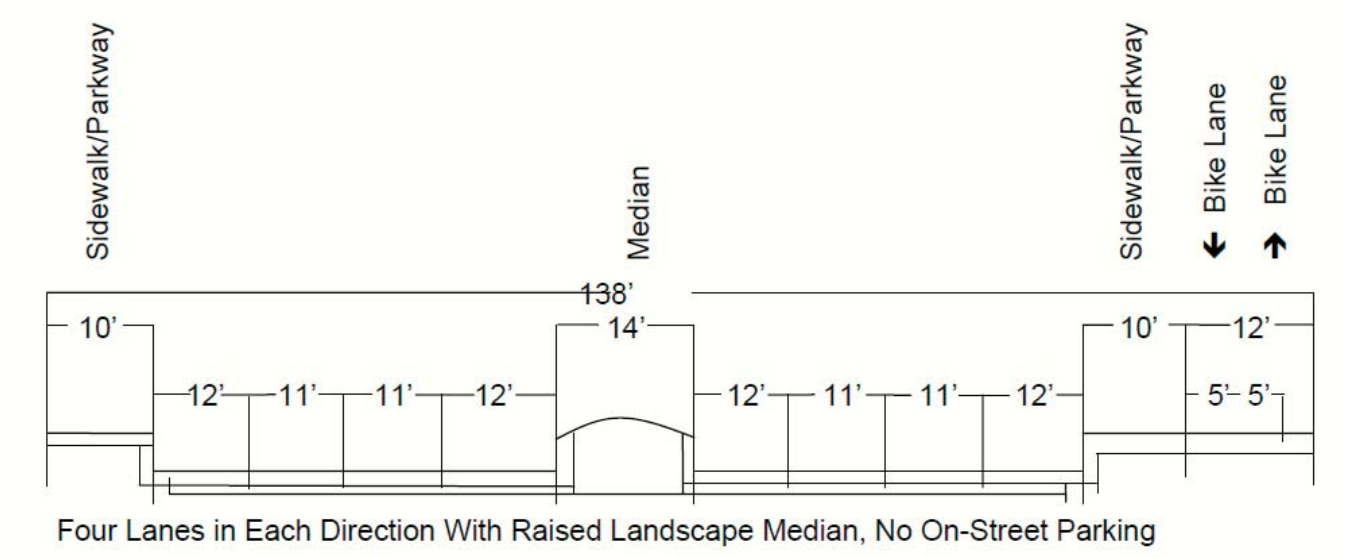
Figure C-3: Standard Roadway Cross Sections



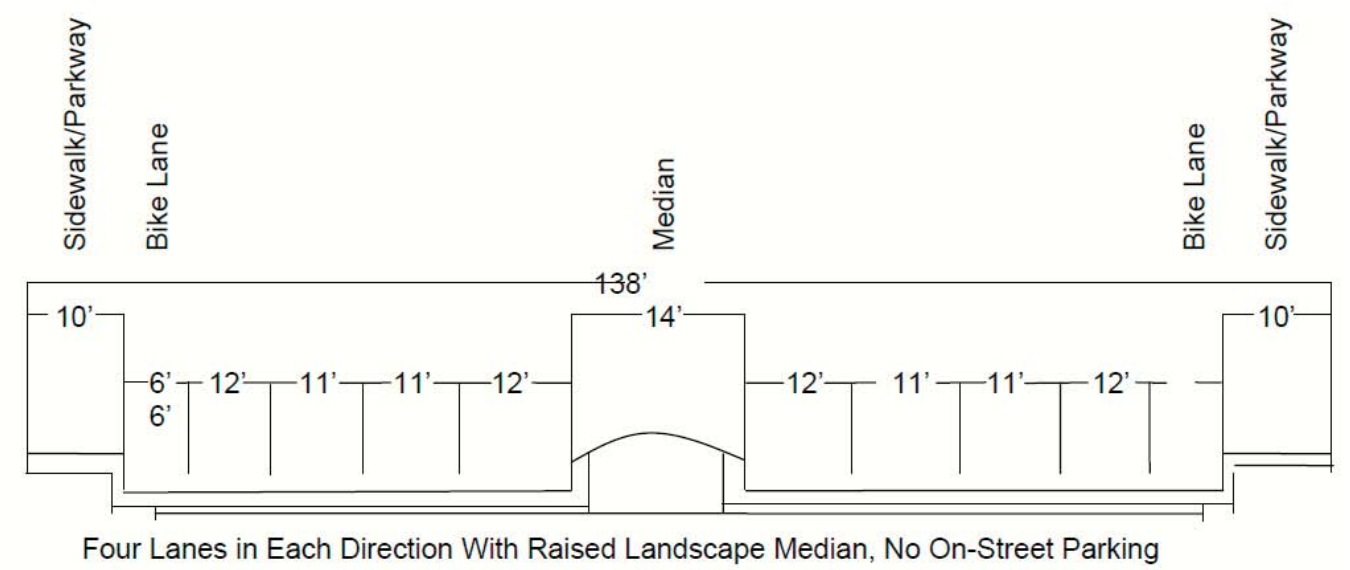
Major Highway with Bike Trail Detail



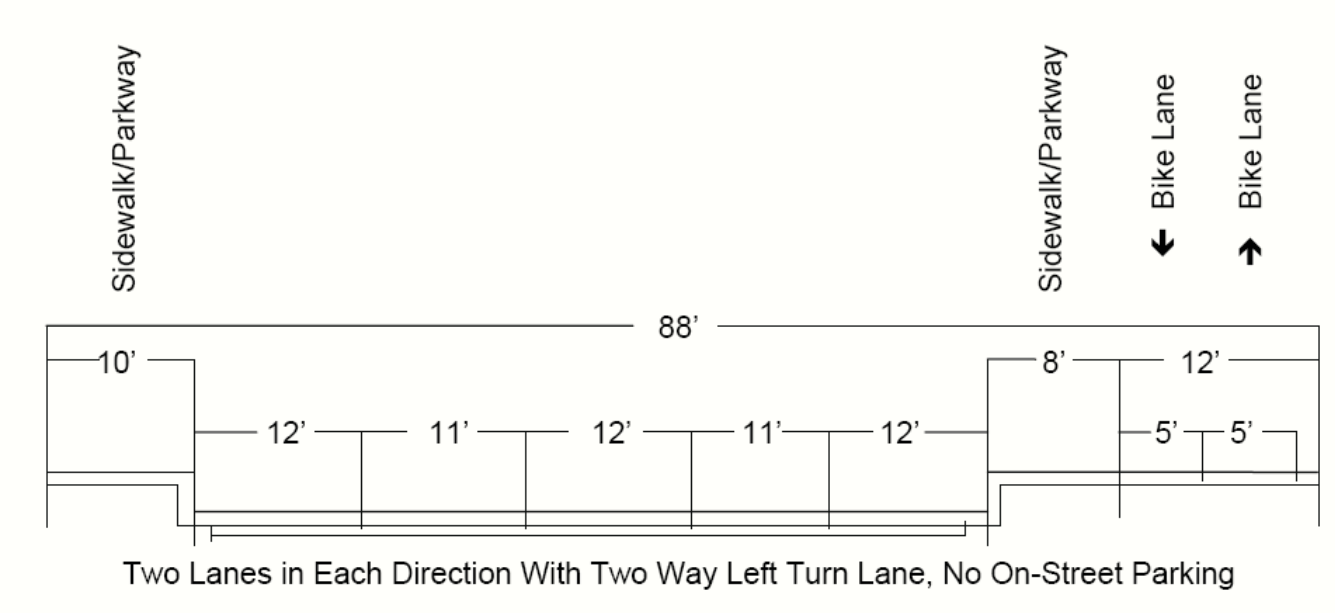
Major Highway with Bike Lane Detail



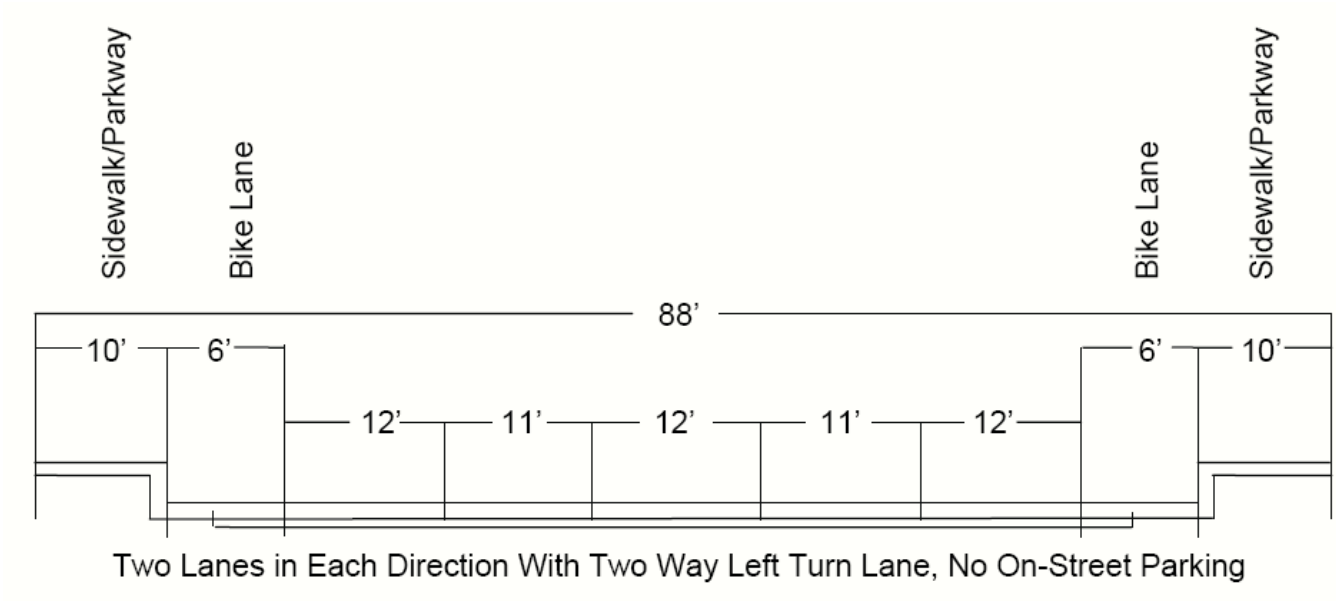
Major Highway 8-Lane Alternative with Bike Trail Detail



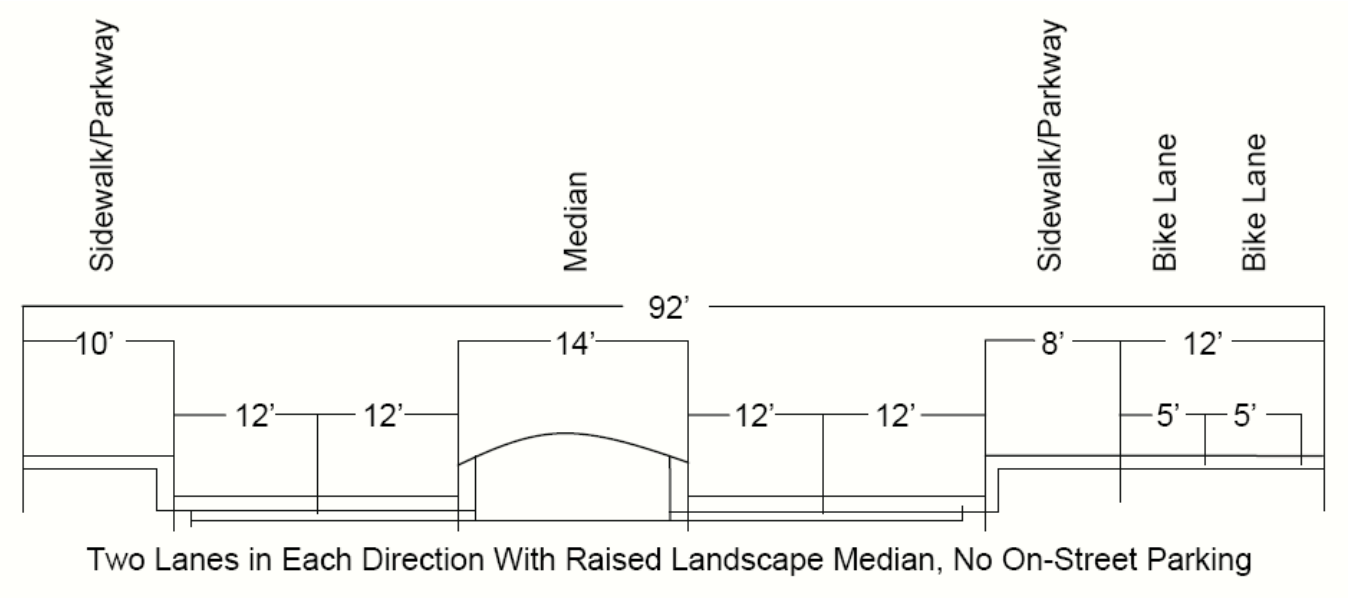
Major Highway 8-Lane Alternative with Bike Lane Detail



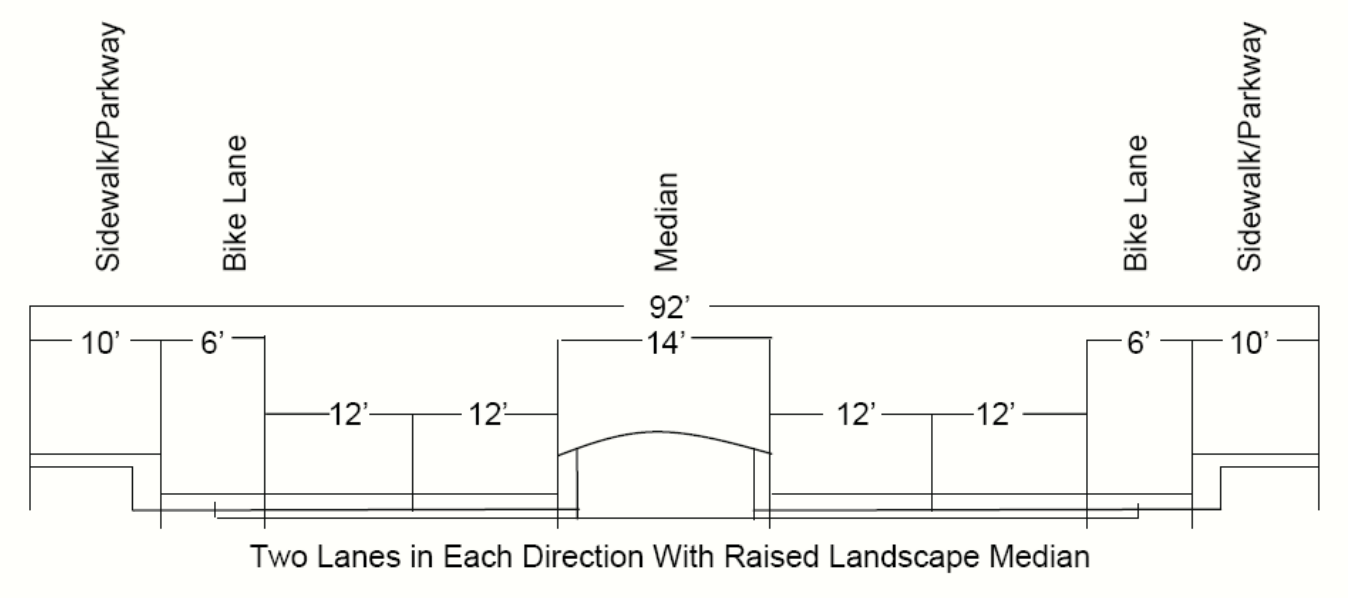
Urban Secondary Highway with Bike Trail Detail



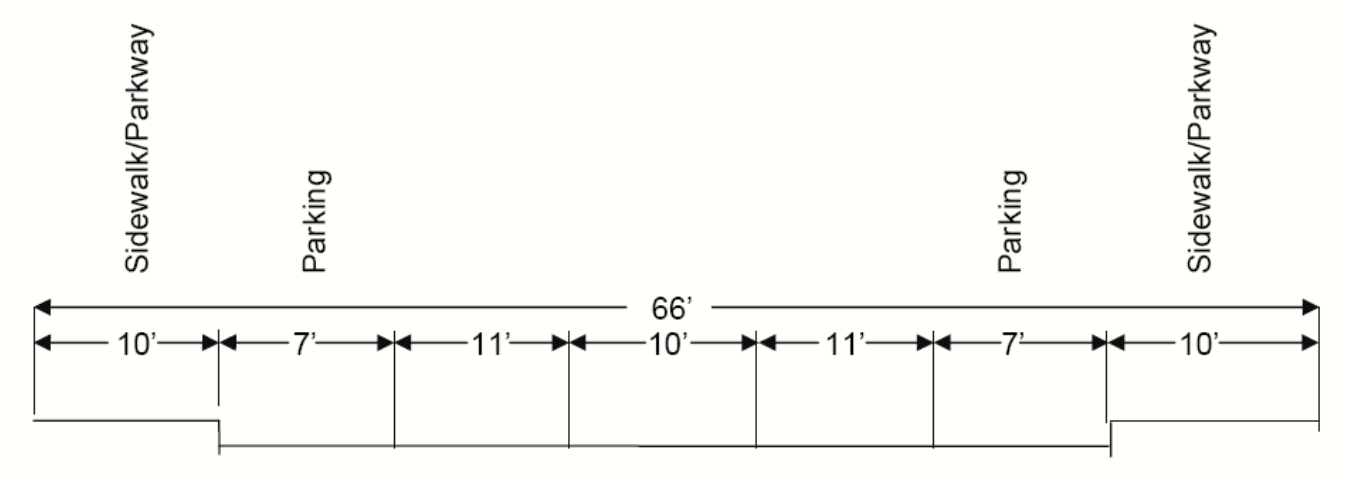
Urban Secondary Highway with Bike Lane Detail



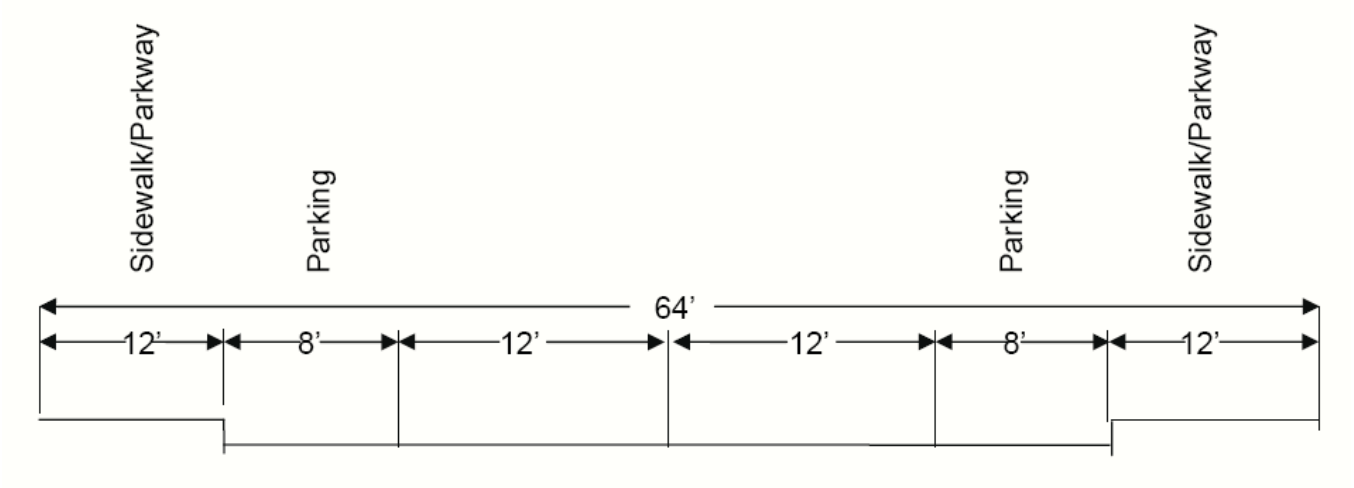
Sub-Urban Secondary Highway with Bike Trail Detail



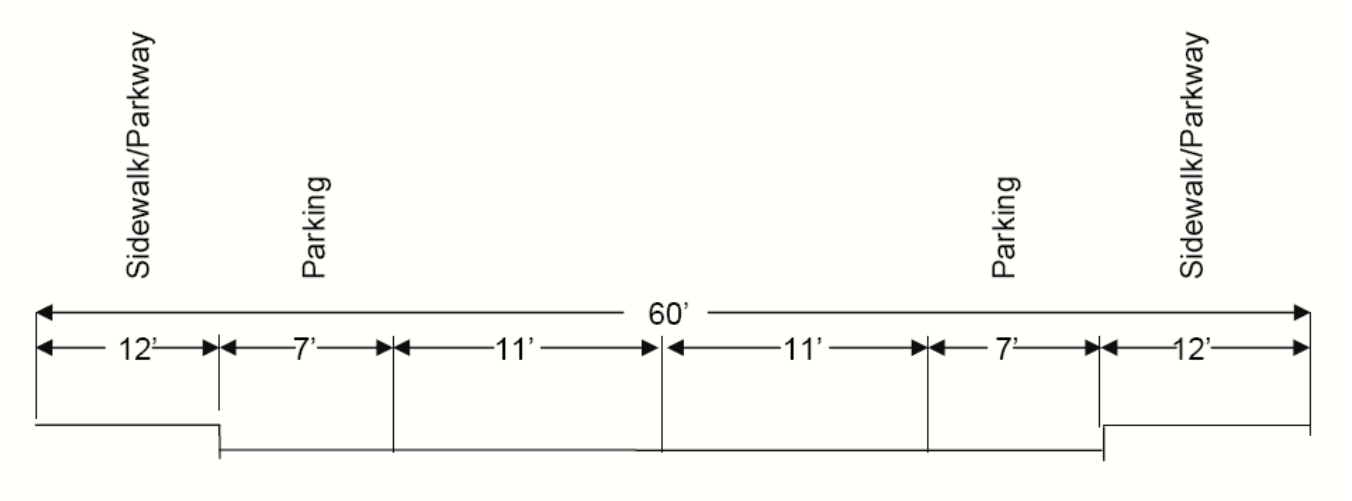
Sub-Urban Secondary Highway with Bike Lane Detail



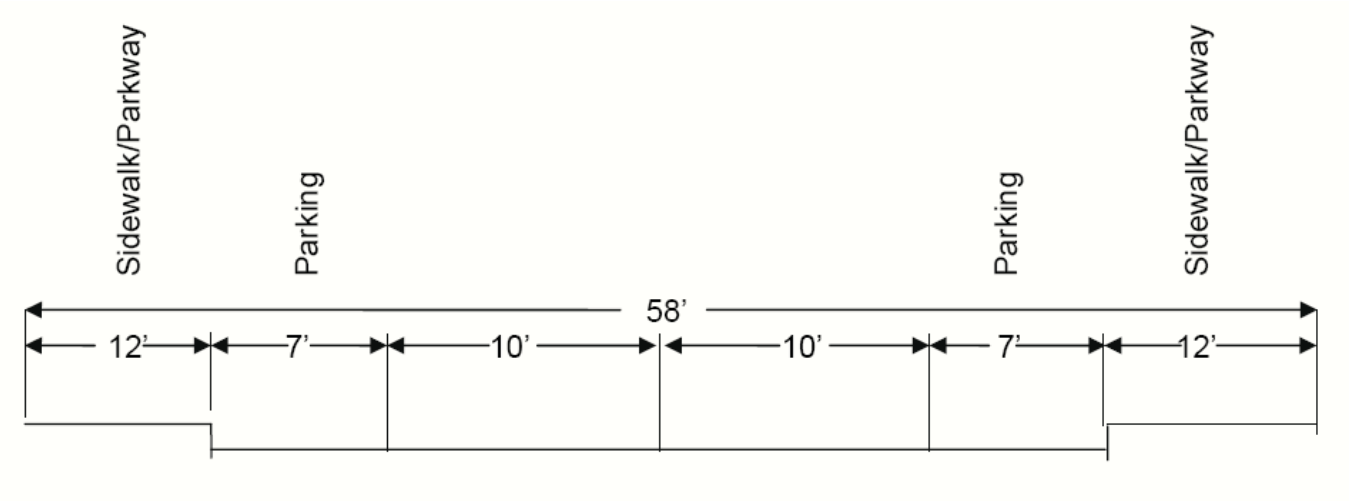
Industrial/Commercial Cul-de-sac



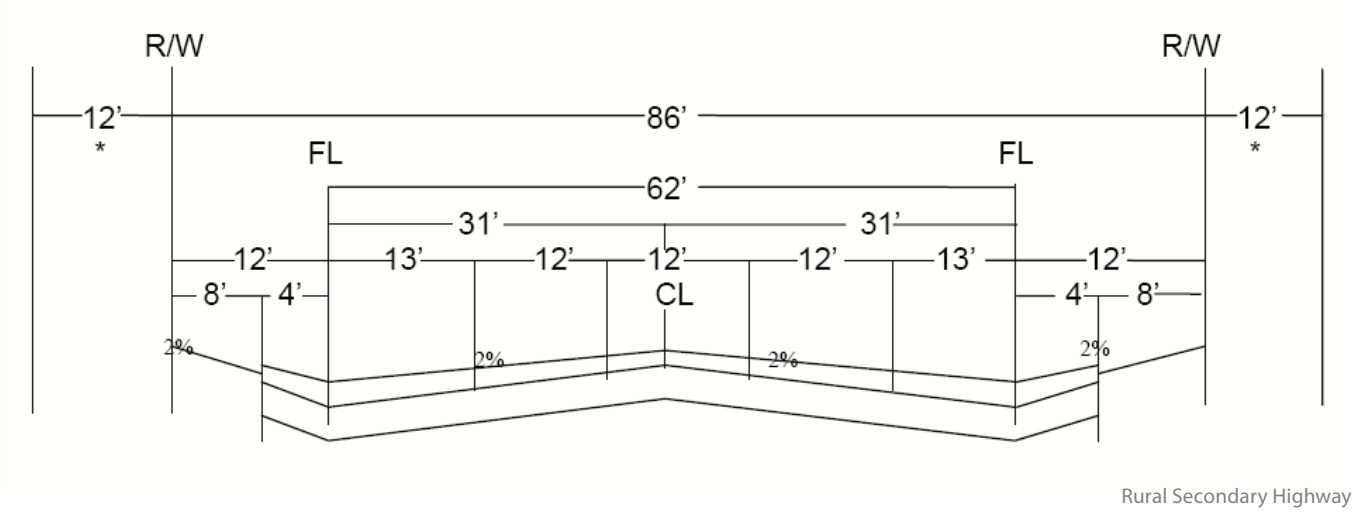
Residential Collector



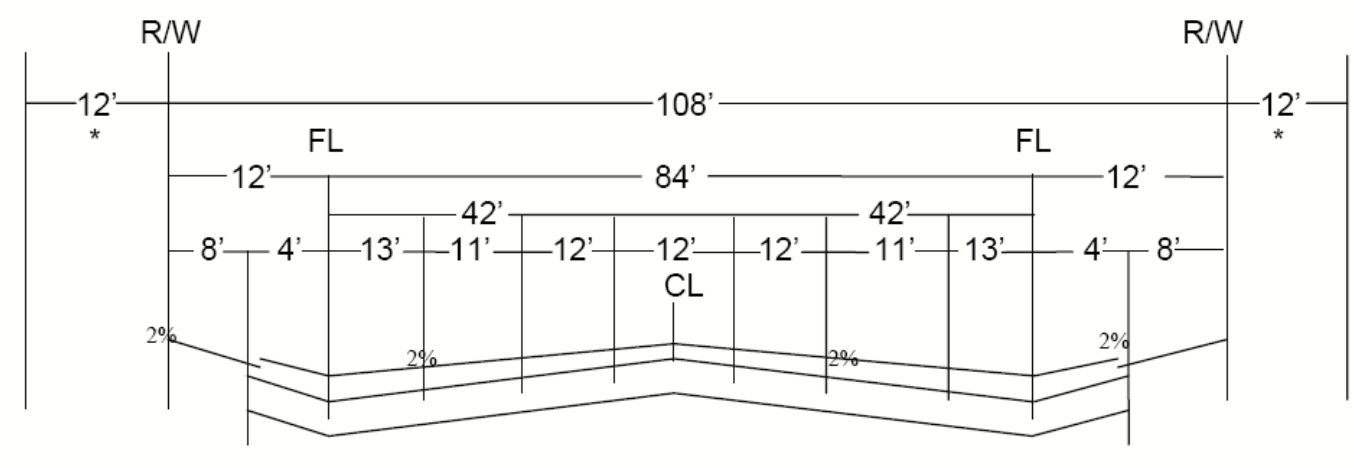
Residential Through Street



Residential Cul-de-sac



Rural Secondary Highway



Rural Major Highway

* Master Plan Multi-Purpose Riding and Hiking Trail per Santa Clarita Area Plan.
Final design of rural highways to be approved by Los Angeles County Department of Public Works.

Truck Route Plan

One of the primary goals of the Circulation Element is to provide for the safe and efficient movement of goods throughout the planning area. Industrial uses require truck access for the delivery of raw materials or parts, the shifting of inventory, and the delivery of finished products. Commercial uses require the delivery of sales goods to market and the transferring of commercial inventories.

Designating appropriate routes for trucks within the planning area serves to minimize the effects of truck traffic on normal vehicular traffic, and to limit noise and air pollution impacts on residential neighborhoods. In addition, the weight of trucks can have deleterious effects on paving, if the roadway was not designed for truck traffic. Within the planning area, streets approved to be used for truck traffic include all streets designated as major and secondary highways. Allowing trucks to use these streets, rather than local and collector streets except for the purpose of local deliveries, will ensure that the noise and diesel exhaust generated by truck traffic will not adversely impact residential neighborhoods. In addition, by allowing trucks to use all major and secondary highways, instead of designating only certain truck routes through the planning area, truck traffic will be dispersed instead of concentrated in a few locations, thereby lessening impacts on pavement.

Truck parking has also been identified as a concern, especially in areas where residential neighborhoods are subject to noise from idling engines and refrigeration units. Truck parking will continue to be regulated in terms of location and hours, as issues arise.

VIII. CONSTRAINTS AND OPPORTUNITIES FOR IMPROVING ROADWAYS

Funding for Roadways

Metro has the authority as the Regional Transportation Planning Agency to award regional transportation funds in Los Angeles County. Metro administers two local transportation sales tax initiatives, receiving the collected funds from the State. The primary sources of Metro funds are local sales taxes (Propositions A and C) and portions of the State and federal gasoline tax. California sales tax on motor vehicle fuel provides additional revenue. Metro provides funding directly to projects through grants of local funds, or indirectly through allocated federal or State grants.

Another funding source for traffic improvements is provided by developers, who are required to provide infrastructure to support new growth as it occurs. As part of the land use entitlement and subdivision approval process, developers are required to build on-site roadway improvements and to contribute their fair share to off-site improvements. Often this fair-share contribution to off-site regional improvements is collected in the form of a traffic impact fee.

City and County have received sufficient funds over the last 10 years to make significant improvements to the street systems in the Valley. More improvements are planned, including completion of the Cross-Valley Connector, road widening, and intersection improvements. However, the availability of funding is limited and targeted to increasing capacity of the existing roadway system. Additionally, the Valley's topography, with its ridgelines, canyons, drainage courses, and utility rights-of-way, makes building many new arterial highways and freeways infeasible for environmental as well as financial reasons. As a result of these constraints, no new freeways or new arterial highways are planned as part of this Circulation Element, other than those planned for in the prior Element. Instead, the Element proposes methods and policies to make more efficient use of the existing roadway system through various types of system improvements, as described in this section.

Travel Demand Management

Travel Demand Management (TDM) refers to strategies intended to result in more efficient use of transportation resources, which may include moving people more efficiently as well as designing land uses to reduce distances between destinations. Typical TDM strategies include policies to reduce congestion through alternative work schedules, use of high-occupancy vehicle lanes, promotion of alternative travel modes, and mixed-use zoning designations. The City's Non-Motorized Transportation Plan identified the following TDM measures which could effectively reduce vehicle trips in the Santa Clarita Valley:

- Employer incentives to promote alternatives to single-occupancy vehicle work trips;
- Employer incentives to promote ridesharing;
- Promotion of alternative work schedules, including compressed work weeks, staggered shifts, and flex time;
- Guaranteed Ride Home programs for employees who use alternative travel modes to work;
- Telecommuting;

- Shuttle buses along high-use routes; and
- Increased use of non-motorized travel modes.

In addition to the City's plans for non-motorized transportation improvements, regional plans have been developed to promote alternative travel modes. The Long Range Transportation Plan for Los Angeles County, approved in April 2006 by the Metro Board, establishes goals and strategies to improve mobility, air quality, and access throughout the County. Strategies include TDM measures such as incentives by employers for alternative travel modes by employees and smart growth strategies to maximize use of public transit.

Parking Management

Parking management refers to strategies that encourage efficient use of parking spaces as a method of reducing vehicle trips. Recent studies have concluded that parking spaces are provided at a higher rate than needed to support development. In his book *The High Cost of Free Parking*, UCLA Urban Planning Professor Dr. Donald Shoup presents documentation supporting his conclusion that reforming parking policy will lead to better pedestrian environments, cleaner streets and air, safer shopping districts, and no significant inconvenience to motorists.[2] In addition, the reduction of parking requirements may free land for other more beneficial uses, and alleviate the heat-island effect of large asphalt parking lots. Based on these concepts, some cities have revised their zoning ordinances to reduce parking requirements. Possible parking management strategies for the Santa Clarita Valley include the following:

- Allowance for shared parking between uses and sites
- Provision of public parking to serve multiple uses
- Within transit-oriented, mixed-use areas, the separation of parking requirements from development entitlements
- Pricing (fee parking) strategies
- Regulation of parking to restrict duration, and designation of spaces for employees and residents
- Restricting vehicles within pedestrian-oriented areas

Intersection Improvements

Traffic congestion is usually generated at intersections, due to turn movements, pedestrian crossings, signal timing and other traffic control devices. If traffic flow at intersections is maintained, then the intervening roadway segments also generally operate at acceptable levels of service. As noted above, the City has implemented programs for intersection monitoring and signal synchronization to improve capacity at intersections.

Based on the traffic model analysis undertaken for the *One Valley One Vision* planning effort, which evaluated 23 key intersections within the Santa Clarita Valley, intersection improvements are required at the following locations. These improvements may include but are not limited to additional turn lanes, installation of traffic signals, synchronization of signals, and other traffic control devices.

City Intersections

- Bouquet Canyon Road at Newhall Ranch Road
- Bouquet Canyon Road at Soledad Canyon Road
- Sierra Highway at Soledad Canyon Road
- Sierra Highway at Newhall Avenue
- McBean Parkway at Newhall Ranch Road
- McBean Parkway at Magic Mountain Parkway
- McBean Parkway at Valencia Boulevard
- Valencia Boulevard at Magic Mountain Parkway
- Railroad Avenue at Lyons Avenue
- Whites Canyon Road at Soledad Canyon Road
- Orchard Village Road at McBean Parkway
- Orchard Village Road at Wiley Canyon Road

County Intersections

- The Old Road at Rye Canyon Road
- The Old Road at Magic Mountain Parkway
- The Old Road at McBean Parkway
- The Old Road at Pico Canyon Road

Land Use Strategies

As further explained in the Land Use Element, trip reductions can be gained by allowing mixed land uses so that residents can walk or bicycle to needed services, recreational facilities, parks, and shops. The land use plan developed for the Santa Clarita Valley includes many strategies designed to reduce vehicle trips, including designation of mixed use designations; allowance for neighborhood commercial uses within residential areas; allowance for higher residential densities in urban areas; restrictions on urban sprawl through land use designations; and promotion of transit-oriented, compact development around Metrolink stations. People are generally comfortable walking to destinations

2 Shoup, Donald. *The High Cost of Free Parking*. Chicago: Planners Press, 2005.

within one-quarter mile, but routinely walk one-half mile to access rail transit.[3] Surveys of bicycle commuters indicate that average bicycle commute distance can vary from approximately 4.5 miles[4], to 7.5 miles[5]. By encouraging mixed uses, the land use plan will create opportunities for non-motorized travel modes.

Congestion Relief

The strategies identified in this section, including intersection enhancements, signal synchronization, mixed land uses, transportation demand and parking demand management, and transportation system management, will all be used to address traffic congestion on the Valley's street and highway system. However, even with aggressive use of these programs, traffic congestion may still occur at some locations due to daily and seasonal fluctuations in traffic volumes, lack of a grid pattern of streets to provide alternate routes to motorists, and relatively high volumes of traffic concentrated along major arterial corridors. The most cost-effective way to achieve congestion relief on surface streets will be provision of alternative transportation modes that are convenient, safe, efficient, pleasant and cost-effective, as described in later sections of this Element.

IX. RAIL SERVICE

Rail Freight Service

The rail freight element of the State Rail Plan provides a detailed account of the State's rail system, including service in North Los Angeles County. Port projections in Southern California show a doubling of international container shipments by year 2020. Capacity issues are a growing concern among California's railroads and rail freight shippers. There is only one rail line extending through the Santa Clarita Valley, which is shared by both freight and passenger rail service. Only about five freight trains per day use the rail line. The primary issue for freight service on this line is competition with the service needs of passenger rail, and potential conflicts with surface street traffic at rail crossings.

Due to the rapidly increasing use of the ports at San Pedro and Long Beach, it has been proposed that the port facilities at Port Hueneme in Ventura County be expanded to handle a larger proportion of incoming freight. As part of this proposal, a freight rail line has been proposed from Port Hueneme through Santa Clarita to Victorville, which is emerging as a distribution hub. However, this concept has not won wide support in the Santa Clarita Valley, due to concerns about potential environmental impacts as well as economic feasibility. Other rail needs, such as additional grade separations and capacity expansion of the Antelope Valley Route (through double-tracking and/or passing sidings) have been identified as more necessary and feasible within the Valley.

Metrolink Service

The Southern California Regional Rail Authority (SCRRA) operates Metrolink, a five-county commuter rail network of over 400 miles. Metrolink's seven commuter rail routes all connect at Union Station near downtown Los Angeles, where connections to other trains operated by Amtrak can be made, or where riders may board buses, vans, or the Metro Red Line subway to other Los Angeles locations. Union Station also provides connections to the Metro Gold Line, a light rail transit line connecting to Pasadena and other San Gabriel Valley destinations, and to Los Angeles International Airport (LAX) via the Metro Purple, Blue and Green light rail lines or the Fly-Away Bus service. Average daily ridership on all Metrolink commuter train lines trains is over 48,000, and more than one million passengers ride Metrolink trains each month.

Metrolink began service between Santa Clarita, the San Fernando Valley, Burbank, Glendale, and Los Angeles Union Station in 1992. Metrolink now provides commuter service between Santa Clarita and downtown Los Angeles, Glendale, Burbank, San Fernando, and the Antelope Valley. The Antelope Valley line operates on the Union Pacific rail line, which is also used for freight rail service. About 24 Metrolink trains per day use the line.

When established in 1992, Metrolink commuter rail service included only one station, the Santa Clarita station in Saugus, near Soledad Canyon Road about two miles east of Valencia. This station has parking for about 500 vehicles, restroom facilities, and a passenger drop-off area. The station also serves as a major transit center for buses. A second station, Via Princessa, was opened as a temporary facility in 1994 to serve Canyon Country residents in the

3 Scholssberg, Agrawal, Irvin, and Bekkouche, "How Far, By Which Route, and Why? A Spatial Analysis of Pedestrain Preference," Mineta Transportation Institute, 2007.
4 Forester, John, "Bicycle Transportation: A Handbook for Cycling Transportation Engineers," MIT Press, 1994.
5 Moritz, William E., "A Survey of North Amerian Bicycle Commuters," Transportation Research Record 1578, 1997.

wake of the Northridge earthquake. This station contains 420 parking spaces. Recommendations to develop a permanent Metrolink station with transfer facilities to accommodate bus service, and increased park-and-ride spaces, were included in the City's *2006 Transportation Development Plan*. The Jan Heidt Newhall station opened in 2000 with 150 parking spaces, and was later expanded by an additional 100 spaces in 2006. A need has been identified for a future fourth station on the east side of the Valley.

As of 2008, 12 commuter trains run daily in each direction on the Antelope Valley line from Monday through Friday, with five trains departing Santa Clarita to Union Station before 8:00 a.m. Three of the twelve daily trains in each direction do not extend to the Antelope Valley, and City of Santa Clarita Transit provides connecting express buses for those trips. Commuters benefit from the line's easy access to the Metro Red Line subway and buses. Reduced Saturday and Sunday service is also available on the Antelope Valley Line, with six trains on Saturday and three trains on Sunday running between Union Station and Lancaster.

Approximately 6,500 passengers typically ride the Antelope Valley Line on weekdays, with about 1,100 passengers from the Santa Clarita Valley. Interviews with riders indicate that gas prices, avoiding clogged freeways, environmental concerns, and time for reading while commuting are primary reasons for riding Metrolink. Recently some issues of crowding have been identified by passengers of the Antelope Valley line. In response to increased ridership, SCRRA has ordered new cars which will be in use on the Antelope Valley line by 2008. Passengers have also asked for additional runs during mid-day hours.

An abandoned railroad right-of-way parallels State Route 126 and Magic Mountain Parkway connecting Santa Clarita with Fillmore and Santa Paula in Ventura County. A portion of the railroad corridor has been displaced by development along Magic Mountain Parkway. If this right-of-way were re-used for transportation purposes, a new alignment would be required over much of this distance. The Newhall Land and Farming Company has indicated its intent to preserve the segment of right-of-way within its development area to allow for potential future use as a rail passenger corridor, and has indicated interest in construction of a station and park-and-ride lot. No funding has been identified for rail in this corridor; however, future rail service between the Santa Clarita Valley and Ventura County could be provided through this linkage. One proposal being studied by the Ventura County Transportation Committee calls for extending the Santa Paula Line to the terminus at the Santa Clarita Metrolink Rail Station. The Santa Clarita City Council has supported extending the Santa Paula Line into the Santa Clarita Valley for tourism and passenger service, but has not indicated support for any portion of this line to be used for freight service.

Another concern regarding commuter rail service in the Valley is the number of at-grade crossings in urbanized areas, which have the potential to result in conflicts with vehicles and pedestrians, especially during peak traffic periods. In California, grade crossings are regulated by the State Public Utilities Commission, whose policy is to increase public safety by reducing the number of at-grade crossings. Additional at-grade crossings will generally not be allowed except where the total number does not increase. Opportunities for grade separations will be considered where feasible in the future. In the North Newhall Specific Plan, where an at-grade crossing is proposed to be relocated and improved, upgrades to other crossings may also be proposed.

In cooperation with SCRRA, the City has studied a proposed realignment of the Metrolink tracks within the Whittaker-Bermite property; however, due to the cost of such realignment it was found to be infeasible. Planning studies for this area are also addressing the issue of grade separations to allow for extension of two major arterial streets (Magic Mountain Parkway and Santa Clarita Parkway.)

Amtrak California

Amtrak California rail service does not operate between Bakersfield and Santa Clarita. However, Amtrak California operates an extensive network of daily express buses along I-5 that connects throughout Southern California, to and from the daily San Joaquin trains that originate at the Bakersfield Amtrak station. Of these connecting Bakersfield buses, a total of five daily northbound and six daily southbound trips stop in Santa Clarita at the Newhall Metrolink station.

High Speed Rail Development

The State of California has been studying the feasibility of a statewide intercity high speed rail network since the early 1990's. Various possible alignments have been looked at by the California High Speed Rail Authority for the 700-mile route linking the cities of Sacramento, San Francisco, Los Angeles and San Diego. The proposed rail system would use steel wheels on steel rails and be powered by electricity,

with top speeds of over 200 miles per hour. One segment of the proposed route would extend from Union Station in Los Angeles to Bakersfield, through the San Fernando Valley, Santa Clarita, the Antelope Valley, and Tehachapi Pass. Under this scenario, the closest station serving Santa Clarita would likely be Sylmar. The greatest potential impacts of a high speed rail line on the Santa Clarita Valley of may be from noise, aesthetics, and on biological resources along the Santa Clara River. The environmental studies for this project are underway.

In addition to the State's high speed rail project, the Orangeline Development Authority (OLDA) was formed as a joint powers authority to finance, design, construct, and operate an environmentally sensitive, high-speed transportation system. OLDA includes 14 Orange County and Los Angeles County cities, including the City of Santa Clarita. The new transportation infrastructure is proposed as an elevated transportation system that would provide service between Irvine and Palmdale with stations located at key locations along the 108-mile route, including one in the Santa Clarita Valley adjacent to the Antelope Valley Freeway. Vehicles in the new system would travel at top speeds of 120 miles per hour. Other high-speed lines would link Los Angeles International Airport to airports in Ontario and Palmdale as well as extend to Las Vegas. To date, the alternatives analysis, feasibility analysis, and Phase 1 Engineering have been completed. The next step is to begin work on the Environmental Impact Report. The City and County will work cooperatively with the OLDA on the alignment for the new system through the planning area to identify the most suitable station site in the Santa Clarita Valley. While the station is envisioned generally in the vicinity of the Antelope Valley Freeway, more information is needed before a specific site can be identified. The station would serve as a regional hub within the Santa Clarita Valley but would also act as a gateway between the Valley and the rest of California. The station area would likely contain hotels, parking structures, office buildings, retail space, residential units and even recreational or cultural amenities. The station would require significant investment in new infrastructure and would require a large amount of land. Several possible locations exist, including an area known as the Vulcan properties, located in the eastern portion of the planning area east of the current City limits. Planning for the new transportation system remains preliminary and it is too early in the process to know which potential station site would best serve the Valley's high-speed transportation needs with the least impact on existing development.

X. AIR SERVICE

Aviation facilities are an integral component of the regional transportation system. The Los Angeles World Airports (LAWA) provides commercial air travel to the planning area through its main facilities in Los Angeles (LAX); the Van Nuys Regional Airport; and Palmdale Regional Airport. In addition, the Burbank/Glendale/Pasadena Regional Airport (also called the Bob Hope Airport) serves residents of the planning area.

Santa Clarita Valley residents primarily use the Bob Hope Airport in Burbank for shorter distance flights and LAX for international flights, or for destinations not served by Burbank. In addition to taxi service, there are shuttle services providing trips to local airports, including the Antelope Valley Airport Express and the Van Nuys Fly-Away Shuttle. Fly-Away service to LAX is also available from Union Station in Los Angeles, which connects with Metrolink service to the Santa Clarita Valley.

Planned expansion of passenger air service at the Palmdale Regional Airport is being studied as an alternative to continued expansion of service at LAX. Officials representing the Santa Clarita Valley have indicated support for this plan, which would make air service more accessible to Valley residents. Due to congestion on Interstate Routes 5 and 405, expanded airport operations in Palmdale would provide a shorter and less congested alternative for air passengers from the Santa Clarita Valley.

The Agua Dulce Airpark is a privately owned airport serving general aviation needs with one runway, aircraft parking, fuel, and basic passenger services. The Airpark averages about 28 operations per week and stores about 35 aircraft. Most of the Airpark's activity involves local operations. The Airpark is located in an unincorporated area of Los Angeles County, and the County has adopted an Airport Land Use Plan to protect the clear zones and ensure land use compatibility with airport operations. In 2006, the County approved continued operation and expansion of Airpark services, including allowing up to 300 airplanes and adding helicopter operations.

There are also several helipads in the planning area, used for medical transport, law enforcement, fire department activities, and other special transport needs. The locations of these helipads are shown on Figure C-4.

XI. PUBLIC TRANSIT AND OTHER TRANSPORTATION SERVICES

City of Santa Clarita Transit

Local and regional bus service is provided by City of Santa Clarita Transit, which operates local routes within the planning area and commuter service into and out of Downtown Los Angeles, Century City, the Antelope Valley, and Warner Center. The City of Santa Clarita assumed responsibility for local transit in 1991 from Los Angeles County, which operated a small transit system. Under City management, express services to the San Fernando Valley, West Los Angeles, and downtown Los Angeles were expanded. The City completed a Transit Development Plan (TDP) in 1997 which made several recommendations for improvements and modifications. Since 1997 and based on the TDP, total transit system ridership has more than doubled. The City updated the TDP in 2006.

With ridership of 3.7 million passengers in 2006, City of Santa Clarita Transit provides connections with services by Metrolink, Antelope Valley Transit Authority, Metro, and other regional transit providers. City of Santa Clarita Transit provides service on nine local fixed routes, nine commuter express routes, four station link routes, and supplemental school day service. Local routes provide service seven days a week while the remaining services operate on weekdays only. Express buses operate to and from the Antelope Valley, Downtown Los Angeles, Westwood/Century City, and Woodland Hills. City of Santa Clarita Transit's regional routes serve several park-and-ride lots located throughout the Valley, as well as the Santa Clarita and Newhall Metrolink stations.

The City has adopted a program to subsidize fares for senior citizens, and all buses are wheelchair accessible. City of Santa Clarita Transit also provides daily Dial-a-Ride (DAR) service within the Valley to provide service to senior citizens and disabled residents. Much of the DAR services are to the Adult Day Care Center and the Senior Center in Newhall. DAR passengers represent only two percent of daily patronage, but almost 20 percent of the transit budget. The updated TDP proposes several operational improvements to improve efficiency of this program.

A new state-of-the-art transit maintenance facility opened in the Rye Canyon Business Park in April 2006, replacing scattered facilities rented from the private sector. The building was constructed using environmentally-sensitive design features and materials, including hay-bale walls and drought-resistant landscaping, and has received a Gold rating from the U. S. Green Building Council under the Leadership in Environmental Energy and Design (LEED) rating system. In 2002, the McBean Regional Transfer Center was opened adjacent to the Valencia Town Center; this facility provides a central transfer focal point to serve the community and has improved overall efficiency.

The City of Santa Clarita Transit's 2006 TDP calls for a 58 percent expansion of services over the next several years. In the future, the major capital facility needs for transit will be additional buses and vehicles. Planned improvements include automated vehicle location equipment, passenger information systems, and automated ridership count equipment. Signage will be posted throughout the community to highlight when buses will arrive; this information will also be accessible through personal computers and hand held computer devices.

The areas generating the highest transit ridership are Newhall and Canyon Country in the vicinity of the intersection of Soledad Canyon Road and Sierra Highway. The City and County have opportunities to promote denser, transit-oriented development in areas where transit use is already high. Low-density residential development along the outskirts of the urban area provides the least opportunity to make effective use of transit.

The 2006 TDP identified major employers and other activity centers which are served by transit, including Six Flags Magic Mountain, Henry Mayo Newhall Memorial Hospital, the Valencia Industrial Center, the Valencia Commerce Center, and the Valencia Town Center. The Plan also identified employers and destinations that are not yet served. According to the Plan, "transit service is desirable at locations where very large employers or clusters of employment are found. Locations that attract large numbers of visitors, students, children, the elderly or disabled should also have transit service available."

City of Santa Clarita Transit provides good coverage and generates high ridership throughout the Valley. However, about 40 percent of the Valley's residents live outside a ¼-mile walking distance from a bus route, generally accepted as the distance most people are readily willing to walk to bus service. Lack of adequate access to transit stops causes service deficiencies in Sand Canyon, Castaic, Val Verde, Placerita Canyon, and other areas along the

rural fringe. In some areas, such as Placerita Canyon and Calgrove Boulevard, gates have been installed across collector streets, precluding transit service in adjacent neighborhoods. Even in more urbanized areas, barriers that separate residents from transit stops include steep terrain, aqueducts, flood control channels, power line corridors, walled neighborhoods, lack of street connectivity, and grade separations. Many of the internal paseo systems do not connect to transit stops. There is a need for better pedestrian links to transit stops throughout the Valley in order to increase ridership.

In recent years, increased ridership and traffic congestion have affected service reliability by delaying buses. The intersection of Soledad Canyon Road and Bouquet Canyon Road has been particularly problematic in causing bus delay; however, completion of the Cross Valley Connector is expected to alleviate some of this delay. In addition, it is recommended that traffic signals be programmed to give priority to buses at major intersections. Congestion is also caused by lack of adequate bus turnouts on heavily traveled arterial streets; these should be designed with sufficient length to allow the bus to re-enter the travel lane.

The City has implemented a transit impact fee to recover capital costs from new development to mitigate impacts of that development on the transit system. This fee is currently under review with respect to anticipated system needs. In the future, the County will also evaluate the feasibility of adopting a similar fee to fund the capital costs of expanding the public transit system to serve new development in unincorporated areas of the Valley.

Commuter Transit Service

City of Santa Clarita Transit operates local commuter service into and out of Downtown Los Angeles, Century City, the Antelope Valley, and Warner Center. Most of these routes are well used; use is monitored and adjustments are made to times if necessary to accommodate demand. The busiest commuter transit stops serve the Metrolink stations and park-and-ride lots. Commuters have identified the need to increase service to downtown Los Angeles during midday hours, and to provide service to the North Hollywood Metrolink Station which has service to the Orange and Red Lines. City of Santa Clarita Transit will continue to expand service to meet customer needs as funding allows.

Special Transit Services

City of Santa Clarita Transit provides special bus routes to major destination points throughout the Los Angeles area and to special events. Other special transit services include provision of transit to the Getty Center, Hollywood Bowl, beaches, and various festivals with destinations and routes determined on an as-needed basis.

In order to facilitate multi-modal transportation, City of Santa Clarita Transit installed bicycle racks on all buses in July, 2006. These racks can accommodate two to three bicycles per bus. Approximately 100 riders per month use the bicycle racks.

Bus Stop Improvement Program

The Bus Stop Improvement Program identified opportunities to create uniform and aesthetically pleasing bus stop improvements throughout City and County portions of the Santa Clarita Valley. As highly visible features within the streetscape right-of-way, bus shelters and benches provide an opportunity to assist in creating a distinctive identity for the Valley, as well as promoting a positive environment for transit riders. A goal of the program is to remove shelters that provide advertising and replace them with an architecturally enhanced bus shelter design that meets federal regulations and enhances the Valley's image.

A significant need identified in the 2006 TDP was improving accessibility, convenience and safety for bus stops. Some stops have no paved waiting areas for transit riders to stand while waiting for the bus, causing them to stand on unpaved shoulders of busy streets, or in landscaped areas where sprinklers spray intermittently. The Plan recommended retrofitting bus waiting areas to provide pavement and connections to walkways, and ensuring that new development provides or contributes to adequate transit stop facilities as a condition of approval, where appropriate.

Park-and-ride Lots

Six park-and-ride lots are located in and near the planning area to encourage the use of public transit for a portion of commuter travel. All park-and-ride lots within the City have transit service except for the lot at Golden Valley Road at SR-14. Several of the park-and-ride lots, including those at the Newhall and Santa Clarita Metrolink stations, are at or exceeding capacity. Additional commuter parking is provided in scattered locations within businesses adjacent to transit routes.

The 2006 TDP identified a need for development of a major (500+ spaces) park-and-ride lot at the intersection of Newhall Avenue and Sierra Highway. In addition to improving service at that location, a larger lot would increase parking capacity at the Newhall and Santa Clarita Metrolink Stations by diverting some bus riders from parking at the Metrolink stations. A second park-and-ride lot is also needed near the McBean Transfer Station, according to the plan. Funding sources for these improvements are being evaluated.

School Bus Transportation

Each of the elementary school districts provides limited yellow bus transportation to students. Over the last decade the William S. Hart School District has gradually eliminated school buses to junior high and high schools. City of Santa Clarita Transit provides transit services near the schools, providing an alternative means of transportation for students although not designated as the official school transport provider.

Taxi Service

Taxi service is provided in the Santa Clarita Valley by Yellow Cab and Eagle Cab Companies, which have comparable rates. There are no subsidies provided for taxi service.

XII. NON-MOTORIZED TRAVEL MODES

According to the regional planning agency, Southern California Association of Governments (SCAG), average travel time on southern California roadways is higher than both the state and national averages. The resulting congestion contributes to poor air quality, opportunity costs of delay, high energy costs, and greenhouse gas emissions contributing to global climate change, and decreased quality of life for residents. The Congestion Management Program for Los Angeles County predicts that the largest increase in daily trips is expected to occur in North Los Angeles County, including the Santa Clarita and Antelope Valleys. Because of the expected growth within the Santa Clarita Valley, and the growing concern about traffic congestion, a major component of the Circulation Element is promotion of non-motorized travel modes, including bikeways and walkways.

Planning for Bikeways

A vital component of the Valley's circulation system is an integrated system of bikeways, both on-street and off-street. An interconnected network of safe and convenient bikeways provides residents with both recreational benefits and options for reducing vehicle trips for short trips. In addition, providing attractive bikeways can provide public health benefits by encouraging exercise.

For planning purposes, bikeways are classified as to their location and type into three categories. A Class I bikeway is an exclusive, two-way path for bicycles that is completely separated from a street or highway. Class II bike lanes are signed and striped one-way lanes on streets or highways, typically at the edge of the pavement. Bike lanes provide a demarcated space for bicyclists within the roadway right-of-way, which is especially important on streets with moderate or higher volumes and speeds. Class III bike routes share the right-of-way with vehicles; they may be signed, but are not exclusively striped for use by cyclists. Although bike routes offer little benefit to cyclists on busy roadways, they can be used to guide cyclists through the street network. On any street carrying over 10,000 vehicles per day at speeds of 30 mph or higher, striped bike lanes are recommended over bike routes. In selecting routes for bikeways that share the right-of-way with vehicles, design criteria include connectivity, traffic volumes, speeds, curb width, intersection protection, and the number of commercial driveways.

In planning for bikeways, consideration should also be given to the differing needs of experienced cyclists versus casual riders, and to utilitarian cyclists versus recreational riders. In general, cyclists who are less experienced or who are riding for enjoyment prefer using Class I, off-street bike paths that are landscaped, shaded, and may meander through neighborhoods or open areas. Cyclists who are experienced racers, long-distance riders, or who regularly ride as a way of commuting to work or services, generally prefer to ride within the travel lanes of the right-of-way because the directness of the route is more important than visual interest, and they can avoid conflicts with recreational trail users and pedestrians.

Regional Bikeway Planning

The MTA Board adopted the *Metro Bicycle Transportation Strategic Plan* in 2006 to promote bicycle use throughout the County. The Plan's vision is to make cycling a viable travel choice by promoting links between bicycle facilities and the transit network. The plan identifies four "bike-

transit" hubs within the Santa Clarita Valley: the Valley's three Metrolink commuter rail stations, and the McBean Transfer Station.

Another goal of the *Metro Bicycle Transportation Strategic Plan* was to evaluate gaps in the inter-jurisdictional bikeway network connecting cities and unincorporated areas to destinations and transit stops, and provide strategies for connecting bikeway links. Where gaps in the system were identified, city and county planners are encouraged to consider projects to complete the bikeway network.

Within the Santa Clarita Valley, four gaps in the inter-jurisdictional bikeway network were identified by the Metro plan. These are summarized in Table C-4. Funds are available from the Bicycle Transportation Account program to help improve bicycle facilities, provided local agencies have adopted Bicycle Transportation Plans. The City of Santa Clarita's Non-Motorized Transportation Plan will fulfill this funding requirement.

It should be noted that a portion of Bikeway Link No. 31 in Table C-4 extends through the Newhall Ranch Specific Plan area, adopted by Los Angeles County in 2003. The Master Plan for Trails within the Specific Plan shows a regional trail planned adjacent to the Santa Clara River from the eastern edge of the project to the Ventura County Line. When completed, this trail will fulfill the need for a bikeway connection between the Santa Clarita Valley and Ventura County.

Both the City and the County have actively planned for and promoted development of trails and bikeways. Los Angeles County has adopted and is currently updating the *County Plan of Bikeways*, which divides the County into six subareas, of which the North County area is one. When the update is complete, the County's bikeway plan will be incorporated into the comprehensive Valley-wide bikeway plan in this Element (Figure C-5).

City of Santa Clarita Bikeway Planning

The City of Santa Clarita first adopted the Multi-Use Corridor System plan as part of its Circulation Element update in 1997. The Multi-Use Corridor System is a trail system that serves a combination of users, including pedestrians, bicyclists, and equestrians; an example of this type of facility is the South Fork Trail. Multi-Use Corridors are encouraged within and adjacent to local river and flood plain facilities, and typically include a right-of-way of 17 feet in order to provide separation between cyclists and pedestrians. Where equestrian use is allowed, a minimum of 30 feet is desirable.

Table C-4: Gaps in the Inter-Jurisdictional Bikeway Network - Santa Clarita Valley

MTA #	Corridor	Jurisdiction	Description	Constraints
30	Old Road	LA County	Located along Old Road adjacent to Golden State Freeway. Connection between Valencia, Santa Clarita and San Fernando Road Metrolink right-of-way bike path in the San Fernando Valley	May require shoulder improvements and road widening in some places to create Class II or III bikeway May require shoulder improvements and road widening in some places to create Class II or III bikeway.
31	Route 126	LA County	Connection between Santa Clarita and the Ventura County Line.	May require shoulder improvements and road widening in some places to create Class II or III bikeway.
49	Castaic/ San Francisquito Creek	Santa Clarita/LA County	Connection between Santa Clarita and Castaic Lake along Castaic Creek, San Francisquito Creek, and the Golden State Freeway	May require shoulder improvements and road widening in some places to create Class II or III bikeway.
50	Sierra Highway	Santa Clarita/LA County	Connection between the Old Road and Soledad Canyon Bike Path	May require shoulder improvements and road widening in some places to create Class II or III bikeway.

Source: Los Angeles Metropolitan Transportation Authority: 2006 Metro Bicycle Transportation Strategic Plan, p. 103-104.

The first bike paths built in the City generally followed the Santa Clara River and its tributaries. Newer paths have been developed which connect residential neighborhoods to the river paths. Bike paths exist in most neighborhoods, providing connections to the Santa Clarita Metrolink Station, several schools, businesses along Soledad Canyon Road and McBean Parkway, and to recreational opportunities along the rivers. Grade-separated undercrossings are generally provided where Class I bike paths cross major highways.

The City of Santa Clarita initiated preparation of a Non-Motorized Transportation Plan in 2006, with the general goal of reducing the number and length of vehicle trips through promotion of walking and biking as alternate modes of transportation. In undertaking a plan to increase non-motorized transportation, the City identified quality of life benefits such as reduced noise from traffic, better air quality, reduced fuel costs, and less time spent in traffic congestion. The resulting plan, entitled *City of Santa Clarita Non-Motorized Transportation Plan*, found that generally people tend to walk to destinations within ¼-mile, and bike to destinations within ½-mile. Other studies have found that people routinely walk one-half mile to access rail transit [6]and surveys of bicycle commuters indicate that average bicycle commute distance can vary from approximately 4.5 miles[7], to 7.5 miles[8]. Initial surveys of residents and cyclists indicated that some of the reasons cited for not walking or cycling to destinations included the following:

- Too many cars that drive too fast;
- Difficult to cross streets;
- No bike lanes or walking paths;
- Paths in poor conditions;
- Destinations are too far away;
- Inadequate lighting; and
- Lack of time.

The City's Non-Motorized Transportation Plan, adopted in June 2008, addressed these issues through development of connected, safe, and convenient routes for cyclists and pedestrians. The plan also included a Safe Routes to Schools Program for three elementary schools. Policies and programs in the plan were designed to identify and prioritize bikeway needs; provide a plan for needed facilities and services; contribute to the quality of life through trail development; improve safety for cyclists and pedestrians; identify land use patterns that promote walking and cycling; improve access to transit; maximize funding opportunities for trails; and provide educational and incentive programs. According to City staff, "primary goals of the plan are to alleviate the current traffic congestion in the City and to encourage future decreases in motor vehicle use by making it easier, safer and more enjoyable to bicycle and walk as a general means of transportation. The plan will also encourage transit use and address equestrian needs."

The coordinated master plan for bikeways in the Santa Clarita Valley is shown on Figure C-5.

The City has already taken several steps to encourage walking and biking, including providing bicycle racks on City buses; promoting transit-oriented development in Downtown Newhall; constructing over 30 miles of off-street bicycle trails and over 14 miles of bicycle lanes; providing bicycle lockers at Metrolink stations, the McBean transfer station and City Hall; modifying traffic signal detection for bicycles; promoting Bike-To-Work days; and hosting the Amgen Tour Bicycle Race in 2007.

Within the City of Santa Clarita, many opportunities are available for recreational riders on Class I trails, and more such trails are planned. The Non-Motorized Transportation Plan also identified a need to accommodate on-street riders through designation of bike lanes on arterials, wide curb lanes, loop detectors at signals, direct commuter routes, and protected intersection crossing locations. In addition, connections between residential areas and bikeways are needed to facilitate increased bicycle use for both recreational and commuting purposes.

Bicycle Parking and Support Facilities

Adequate bicycle parking to serve transit facilities and commercial areas has also been identified as a goal by both the City and the County. Bicycle lockers are provided at all three Metrolink stations and at City Hall. Several major employers, such as Six Flags Magic Mountain and The Master's College, provide bicycle parking and changing facilities to promote bicycle support for employees. In order to encourage bicycle use at major employment and commercial centers, it is necessary that bicycle parking facilities be secure. Policies have been added to the Circulation and Land Use Elements to require adequate bicycle parking and support facilities where appropriate.

6 Scholssberg, Agrawal, Irvin, and bekkouche, "How Far, By Which Route, and Why? A Spatial Analysis of Pedestrain Preference," Mineta Transportation Institute, 2007.
7 Forester, John, "Bicycle Transportation: A Handbook for Cycling Transportation Engineers," MIT Press, 1994.
8 Moritz, William E., "A Survey of North American Bicycle Commuters," Transportation Research Record 1578, 1997.

Pedestrian Circulation System

A fundamental goal of this Area Plan is to create walkable communities and neighborhoods within the Santa Clarita Valley. In order to achieve this objective, pedestrian access must be considered in all phases of development planning, including site design, subdivision design, and public improvement projects. The basic needs for pedestrian travel are safety, connectivity, and accessibility for all, including the disabled.

The Valley's existing pedestrian network is comprised of sidewalks, paseos, and multi-use trails. Sidewalks are defined as pathways running alongside a parallel roadway. Paseos are paved walking paths that provide pedestrian links outside of the street network. Multi-use trails are unpaved trails that are suitable for walkers, hikers, equestrians and mountain bikers.

Most of the major roadways in the Valley have sidewalks along portions of their length. Along many arterials, such as Soledad Canyon Road, sidewalks are located adjacent to the curb and are not buffered from vehicle traffic by landscaped parkways, causing an unpleasant walking environment due to traffic noise and fumes. In other areas, such as portions of McBean Parkway and Newhall Ranch Road, sidewalks are separated from vehicle lanes by landscaped parkways, resulting in a more user-friendly pedestrian experience. The network of sidewalks is discontinuous in many areas; sidewalks are not provided on some residential streets, in some industrial areas, or on designated rural roads. Not all bus stops are served by sidewalks, and in some areas sidewalks are not provided on both sides of a street. Some rural communities in the Valley, such as Agua Dulce and those with special standards districts such as Placerita Canyon and Sand Canyon, have opted not to have concrete sidewalks and prefer streetscape designs more in keeping with the rural and equestrian character of these neighborhoods; however, even in these areas, walking trails of some type are desirable for pedestrians in certain locations.

Major intersections are striped with pedestrian crosswalks, and signalized intersections have pedestrian push buttons to activate walk signals. Pedestrian countdown signals are planned for approximately 200 intersections in the City; about 80 signals have been installed as of 2008, and the work will be completed in 2009. However, crossing eight to 10 lanes of traffic on streets where speeds average 45 to 55 miles per hour can be daunting for pedestrians. Intersections can be made more pedestrian-friendly by installing traffic calming features such as striping, landscaping, and pedestrian islands. Pedestrian bridges have been provided for crossing of arterial streets in several areas throughout the community; these improvements will continue to be required to enhance pedestrian safety and connectivity, where feasible and practical. The City is also exploring the feasibility of using round-abouts at certain intersections, which are designed to slow traffic and allow merging and turn movements without causing long periods of idling for vehicles, while allowing pedestrians to walk safely around the intersection.

Portions of the planning area, such as Valencia and Saugus, were planned with paseos that provide attractive, landscaped pedestrian pathways connecting residential neighborhoods, commercial and public uses. The Valencia paseo system also provides pedestrian overpasses of arterial streets to increase public safety and preserve mobility on the arterials. Paseos were designed to provide connections between cul-de-sacs, to schools, neighborhood parks, and activity areas. They are landscaped, paved, and illuminated. In some areas paseos take the place of sidewalks.

In other portions of the planning area, topography and subdivision design have discouraged the use of walkways and, consequently, the use of public transit. Walled communities and steep hills make it difficult for many residents to conveniently access buses operating on arterials. In addition, the Non-Motorized Transportation Plan identified the following needs for pedestrians:

- Sufficient crossing time at signalized intersections;
- Visibility at crossings;
- Continuity of walkways;
- Adequate walkway width, removing obstructions in the walkway, and providing buffer or separation from travel lanes;
- Traffic calming to slow speeds in pedestrian areas;
- Mixed land uses decreasing distance between destinations; and
- Providing connectivity through cul-de-sacs and non-grid street patterns.

The City's Unified Development Code also contains requirements for incorporating non-motorized transportation amenities into new development. These include requiring pedestrian access ways through blocks of over 700 feet in length; requiring amenities for transit users, cyclists and pedestrians; requiring installation of pedestrian crossing

treatments near schools, parks, senior facilities, and other destinations for special needs groups; requirements for sidewalks in most new development; and requirements for bicycle parking.

Recommendations for new development by the Non-Motorized Transportation Plan include increasing connectivity to encourage walking and bicycling. Subdivision patterns that create numerous cul-de-sacs, developments surrounded by block walls, and shopping centers with no pedestrian connections to adjacent neighborhoods are discouraged. Where cul-de-sacs are used, pedestrian connections to adjacent streets should be provided, and walkways should be provided connecting neighborhoods to services and facilities. Policies have been included in the Element to emphasize these objectives.

In addition to the policies in the Circulation Element designed to promote walkable communities, the Land Use Element has been developed to promote non-motorized transportation by concentrating shops, restaurants, and other destinations in proximity to residences so that people can walk to these services.

Hiking Trails

The City has developed several hiking trails, some shared by equestrian users, which are used primarily for recreational purposes. The City maintains seven miles of multi-purpose trails, which are unpaved and intended for hiking, horseback riding, and mountain biking. Trails are located in rural areas, generally in the southern and eastern parts of the City. The network includes an equestrian path that parallels the South Fork Trail, and one that parallels Sand Canyon Road. The City plans to develop another five to six miles of multi-purpose trails in the future.

The County also maintains a master plan for hiking trails in the Santa Clarita Valley, which was most recently updated in 2007. The City's and County's hiking and recreational trails are combined in the Valleywide Trail Master Plan, shown on Figure CO-9 in the Conservation and Open Space Element.

XIII. HEALTHY STREETS FOR WALKABLE COMMUNITIES

Although the location and alignment of local neighborhood streets are not typically addressed at the Area Plan level, the City and County share a common goal to ensure that neighborhood streets in urban areas are designed to be as safe and healthful as possible, for residents and pedestrians as well as drivers. This section addresses pedestrian safety in urban areas where full street improvements are required. While the need for public safety is also recognized in rural areas with unimproved streets, other design measures are appropriate in these areas in order to maintain rural character.

The need to consider pedestrian safety in street design has prompted traffic engineers to develop a variety of design options which generally seek to improve pedestrian safety in three ways: by separating pedestrians from vehicles (such as with pedestrian overpasses, refuge islands, and paseos); by making pedestrians more visible and conspicuous to drivers (such as through lighting, raised crosswalks, and "bulb-outs" of the sidewalk into the street at corners); and by reducing vehicle speeds (such as with traffic circles, narrowed travel lanes, curving roadways, raised intersections, and speed humps). These measures, often called "traffic-calming" devices, have been successfully used in many cities to slow traffic and improve pedestrian safety.

In California, the Local Government Commission has developed *Street Design Guidelines for Healthy Neighborhoods*[9], which outlines street-making guidelines initially prepared for communities in the San Joaquin Valley but that are widely applicable, based on their compliance with adopted standards of the Institute of Transportation Engineers (ITE), American Society of Civil Engineers (ASCE), the National Fire Code, and other national standards. The guidelines are intended to be used for development of new residential communities of six to twelve dwellings per acre and mixed use areas in proximity to transit, and for protection of existing traditional communities. Healthy streets are defined as "networks of roadways and connector trails in communities, designed primarily for use by people, not just motorized vehicles. Such streets are designed for motorists to feel comfortable operating at low speeds (15 to 20 mph). Low traffic volume and low noise, easy access, and multiple

9 Burden, Dan. *Street Design Guidelines for Healthy Neighborhoods*, Local Government Commission , 2002.

routes to destinations are also featured. Pedestrian and bicycle movements are favored." Healthy streets incorporate design characteristics such as the following:

- Interconnected networks linking mixed uses;
- Shorter block length (250 to 350 feet);
- Landscaped medians, parkways, and tree canopies;
- On-street parking;
- Sidewalks;
- Curbs and gutters (in favor of rolled curbs or swales);
- Street furniture and lighting;
- Transit stops within ¼-mile;
- Building setbacks proportional to street width;
- Narrower intersections with smaller radii; and
- Speed control through geometrics, tee intersections and curves.

In addition to enhanced pedestrian and traffic safety, the use of narrower streets (where safe and appropriate) can have other benefits. According to *Livable Oregon*, the use of narrower street widths provides more efficient use of land, decreased storm water runoff, lower maintenance costs, increased market value, lower development costs, and an enhanced sense of community.

The Bay Area Stormwater Management Agencies Association has encouraged reducing impervious area throughout cities as a means of maintaining water quality. According to their publication *Start at the Source*[10], streets comprise up to 25 percent of the total land area in residential neighborhoods, and street pavement is often the largest component of total impervious land coverage. Residential streets provide a major opportunity for reducing pavement width to lower speeds, as well as reducing impervious surface area.

Many traditional residential neighborhoods developed prior to World War II were based on a prototypical residential subdivision designed by Frederick Law Olmsted for Riverside, Illinois in 1869, with a pavement width of 24 feet and 12-foot parkway strips planted with street trees and provided with five-foot sidewalks on both sides. After World War II new street standards were developed to accommodate increased automobile use, higher traffic volumes and greater speeds. The paved area was increased by up to 50 percent, with a typical residential street width of 36 feet, plus curb, gutter, and five-foot sidewalks on both sides, and often no landscaped parkway.

10 Bay Area Stormwater Management Agencies Association, *Start at the Source*, May, 2003, page 19.

In 2006 the ITE published *Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities: An ITE Proposed Recommended Practice*. The report "provides guidance for the development of improvement projects on major urban thoroughfares, facilities that are typically classified as arterial and collector roadways in urbanized areas . . . and in the design of roadway improvement projects in places where community objectives support walkable communities – compact development, mixed land uses and support for pedestrians and bicyclists - whether it already exists or is a goal for the future." This document recommends an interdisciplinary team approach to designing thoroughfares, incorporating input from citizens, emergency services personnel, and other stakeholders to achieve community goals, and states that where the community has expressed a desire for walkable environments, context sensitive solutions can be used to create places with the following characteristics:

1. Mixed land uses in close proximity to one another;
2. Building entries that front directly onto the street without parking between entries and the public right-of-way;
3. Building, landscape and thoroughfare design that is pedestrian-scale, in other words, it provides architectural and urban design detail with size and design appreciated by persons who are traveling slowly and observing from the street level;
4. Relatively compact developments (both residential and commercial);
5. A highly-connected, multimodal circulation network, usually with a fine "grain" created by relatively small blocks; and
6. Thoroughfares and other public spaces that contribute to "placemaking" – the creation of unique locations that are compact, mixed-use and pedestrian- and transit-oriented and have a strong civic character with lasting economic value.

The references cited above, which address methods of creating walkable streets in residential neighborhood streets as well as along arterial thoroughfares, stress the need to coordinate land use and development patterns with street patterns. Mixed land uses, building orientations and setbacks, and location of parking are important components of creating walkable communities, in addition to street design. The ITE's *Context Sensitive Solutions* defines walkable communities as follows:

> Walkable communities are desirable places to live, work, learn and play. Their desirability comes from two factors. First, by locating, within an easy and safe walk, goods (such as housing, offices, and retail) and services (such as transportation, schools, libraries) that a community resident or employee needs on a regular basis. Second, by definition, walkable communities make pedestrian activity possible, thus expanding transportation options and creating a streetscape that better serves a range of users – pedestrians, bicyclists, transit riders, and drivers. To foster walkability, communities must mix land uses and build compactly, and ensure safe and inviting pedestrian corridors.

Within the Santa Clarita Valley, much of the development during the last twenty years has been low-density with a suburban character, circuitous cul-de-sac street patterns, and wide streets. In many of these existing areas, large-scale changes to street patterns will not be feasible or desirable until redevelopment occurs many years in the future. However, small improvements may be used to enhance pedestrian connectivity by linking cul-de-sac bulbs to adjacent streets and transit stops, providing paseo links, and using traffic calming devices. Arterial streets can be made more walkable by provision of connected walkways, transit stops and shelters, street trees and landscaping, bulb-outs and refuge islands at intersections, and use of overpasses where appropriate and feasible.

The greatest opportunities in the Valley to create walkable communities exist in areas planned for infill development and redevelopment around transit centers, commercial corridors, mixed-use nodes, and new development. The City and County have identified a common goal to increase the health and livability of the community by encouraging the inclusion of walkable streets in these areas, and policies have been included in the Circulation Element to achieve this goal.

XIV. CIRCULATION SYSTEMS, CARBON EMISSIONS, AND GLOBAL CLIMATE CHANGE

In 2007 the Intergovernmental Panel on Climate Change of the United Nations published its finding that overwhelming evidence establishes that global warming is occurring and is caused by human activity. According to the State of California Attorney General's office:

> With respect to impacts in the State, the California Climate Change Center reports that temperatures are expected to rise 4.7 degrees Fahrenheit to 10.5 degrees Fahrenheit by the end of the century. These increases would have serious consequences, including substantial loss of snow-pack, an increase of as much as 55% in the risk of large wildfires, and reductions in the quality and quantity of agricultural products. Additionally, the report predicts increased stress on the State's vital resources and natural landscapes. Global warming will also slow the progress toward attainment of the ozone air quality standard by increasing the number of days that are meteorologically conducive to the formation of ozone.

In response to concerns about climate change, Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006 (codified at Health and Safety Code Section 38500 et seq.), was signed into law by the Governor on September 27, 2006. AB 32 requires reduction of the State's greenhouse gas (GHG) emissions to 1990 levels by 2020, a time within the planning horizon of this Area Plan. This emissions cap is equal to a 25 percent reduction from current levels. The bill directs that the California Air Resources Board (CARB) publish a list of early action emission reduction measures to be implemented by 2010. CARB's early action measures include reduction of emissions from fuel consumption. To further combat global warming, California is promoting the development of alternative technologies to reduce reliance on fossil fuels, including development of hydrogen and fuel cell technologies.

According to the California Energy Commission, transportation accounts for the largest single share of California's GHG emissions (41 percent). The Governor's Climate Action Team has identified increased vehicle efficiency, the use of bio-fuels, and planning measures, as strategies to

reduce greenhouse gas emissions generated by transportation. The Climate Action Team identified land use planning as a strategy to reduce vehicle travel by more than 10 percent of the required reductions, including concentrating development in infill locations and at transit nodes to reduce the automobile mode share of vehicle trips, increasing transit ridership, and providing alternative transportation modes. Bond measures passed by California voters in 2006 earmarked funds for transit-oriented development and for incentives to promote planning, housing and infill development using smart growth planning principles.

Pursuant to AB 32, standards and regulations for measuring and mitigating GHG emissions were still being developed during the time this Area Plan was prepared. However, because of the importance of this issue and in response to the State's mandate that local agencies consider the effects of greenhouse gas emissions in local planning decisions, the City and County have incorporated policies in the Area Plan to reduce vehicle trips and thereby reduce carbon emissions through a variety of planning strategies. These strategies include establishing an urban limit line on the Land Use Map, encouraging infill development through increased densities allowed in the urban core, encouraging mixed use development in specified land use designations, promoting transit oriented development around Metrolink stations and the bus transfer station, expanding bikeways and walkways, and using transportation demand management measures.

Future transportation technologies are being developed using alternative energy sources such as hydrogen cells and electric vehicles. Some communities are exploring opportunities for accommodating Neighborhood Electric Vehicles (NEV), which are capable of traveling up to 25 mph, are equipped with safety features, and may be operated on roads where the posted speed is 35 mph or less. Most of these devices are electric powered with zero emissions, and they are often used at resorts and senior communities. According to a recent publication from the American Planning Association:

> As fuel prices increase and people look for more environmentally friendly driving options, it is likely that the number of NEV's will increase. Most states already regulate them in some way, and transportation planners are beginning to examine the role of such vehicles in the roadway hierarchy. In some parts of the country, NEV's are most common in communities where there is a network of multi-use paths. In other places, they are found on bike paths. . . Communities that cater to seniors or focus on recreation often plan a network of paths specially designed for these vehicles.[11]

The City and County recognize that opportunities may exist to incorporate new vehicle technology into transit-oriented villages, as these areas are developed in the future. Therefore, policies have been added to the Circulation Element encouraging flexibility in transportation planning in order to maximize benefits from alternative travel modes as they become available.

XV. SUMMARY OF CIRCULATION NEEDS

Based on the existing conditions and transportation issues outlined in the background sections of the Circulation Element, the circulation planning needs for the Santa Clarita Valley are summarized below. Policies and objectives in the following section have been developed to address these needs.

1. Balance the needs for mobility and access in designing the roadway system.

2. Increase connectivity between neighborhoods and districts.

3. Maintain acceptable levels of service on streets and at intersections.

4. Comply with the County's Congestion Management Program and other regional transportation planning efforts.

5. Implement roadway improvements needed to build out the Highway Plan as identified by the traffic analysis (see Table C-2).

6. Reduce congestion and vehicle miles traveled by managing transportation systems and travel demand.

7. Make more efficient use of parking facilities, to reduce the cost of vehicle storage and to free land for other uses.

11 Hunter-Zaworski, Katharine, "Getting Around in an Aging Society," *Planning: the Magazine of the American Planning Association*, Volume 73, Number 5, page 25.

8. Enhance use of public transit by promoting transit-oriented, mixed use development near transit hubs.

9. Continue to explore opportunities for high speed rail connections to other regions, in cooperation with other agencies.

10. Enhance bus transit use through implementing recommendations of City of Santa Clarita Transit's planning efforts, including evaluation of bus rapid transit (BRT).

11. Evaluate park-and-ride lot locations and capacity, and expand facilities as needed.

12. Plan for and implement a regional bikeway network, to meet both recreational and non-motorized travel needs.

13. Make the Santa Clarita Valley a walkable community, by retrofitting pedestrian connections and facilities into existing development where needed, and by promoting healthy streets in new development.

14. Contribute to a regional reduction in greenhouse gas emissions through land use planning and transportation strategies.

XVI. GOALS, OBJECTIVES, AND POLICIES

The goals, objectives, and policies which apply to circulation are:

Goal C-1: Multi-Modal Circulation Network

An inter-connected network of circulation facilities that integrates all travel modes, provides viable alternatives to automobile use, and conforms with regional plans.

Objective C-1.1

Provide multi-modal circulation systems that move people and goods efficiently while protecting environmental resources and quality of life.

- **Policy C-1.1.1:** Reduce dependence on the automobile, particularly single-occupancy vehicle use, by providing safe and convenient access to transit, bikeways, and walkways.

- **Policy C-1.1.2:** Promote expansion of alternative transportation options to increase accessibility to all demographic and economic groups throughout the community, including mobility-impaired persons, senior citizens, low-income persons, and youth.

- **Policy C-1.1.3:** Work with local and regional agencies and employers to promote an integrated, seamless transportation system that meets access needs, including local and regional bus service, dial-a-ride, taxis, rail, van pools, car pools, bus pools, bicycling, walking, and automobiles.

- **Policy C-1.1.4:** Promote public health through provision of safe, pleasant, and accessible walkways, bikeways, and multi-purpose trail systems for residents.

- **Policy C-1.1.5:** Plan for efficient links between circulation systems at appropriate locations, including but not limited to bus-rail connections and pedestrian-bus connections.

- **Policy C-1.1.6:** Encourage multi-modal travel through provision of adequate facilities, including but not limited to bicycle parking and storage, expansion of park-and-ride lots, and provision of adequate station and transfer facilities in appropriate locations.

- **Policy C-1.1.7:** Consider the safety and convenience of the traveling public, including pedestrians and cyclists, in design and development of all transportation systems.

- **Policy C-1.1.8:** Acquire and/or reserve adequate right-of-way in transportation corridors to accommodate multiple travel modes, including bus turnouts, bus rapid transit (BRT), bikeways, walkways, and linkages to trail systems.

- **Policy C-1.1.9:** Incorporate funding for all modes of transportation in the capital improvement program, and seek funding from all available sources for multi-modal system development.

- **Policy C-1.1.10:** Provide for flexibility in the transportation system to accommodate new technology as it becomes available, in order to reduce trips by vehicles using fossil fuels where feasible and appropriate.

- **Policy C-1.1.11:** Promote use of multi-modal facilities by providing adequate and attractive way-finding programs directing users to transit stations, park-and-ride lots, bicycle storage, and other facilities.

- **Policy C-1.1.12:** Encourage the City of Santa Clarita to implement recommendations of its Non-Motorized Transportation Plan to expand opportunities for alternative travel modes.

- **Policy C-1.1.13:** Design new activity centers and improve existing activity centers to prioritize walking, bicycling and circulator transit for internal circulation of person-travel.

Objective C-1.2

Coordinate land use and circulation planning to achieve greater accessibility and mobility for users of all travel modes.

- **Policy C-1.2.1:** Develop coordinated plans for land use, circulation, and transit to promote transit-oriented development that concentrates higher density housing, employment, and commercial areas in proximity to transit corridors.

- **Policy C-1.2.2:** Create walkable communities, with paseos and walkways connecting residential neighborhoods to multi-modal transportation services such as bus stops and rail stations.

- **Policy C-1.2.3:** Require that new commercial and industrial development provide walkway connections to public sidewalks and transit stops, where available.

- **Policy C-1.2.4:** Consider location, availability, and accessibility of transit in evaluating new development plans.

- **Policy C-1.2.5:** Encourage compact development and mixed uses to locate housing, workplaces, and services within walking or bicycling distance of each other.

- **Policy C-1.2.6:** Provide flexible standards for parking and roadway design in transit-oriented development areas to promote transit use, where appropriate.

- **Policy C-1.2.7:** In pedestrian-oriented areas, provide a highly connected circulation grid with relatively small blocks to encourage walking.

- **Policy C-1.2.8:** Provide safe pedestrian connections across barriers, which may include but are not limited to major traffic corridors, drainage and flood control facilities, utility easements, grade separations, and walls.

- **Policy C-1.2.9:** Emphasize providing right-of-way for non-vehicular transportation modes so that walking and bicycling are the easiest, most convenient modes of transportation available for short trips.

- **Policy C-1.2.10:** Protect communities by discouraging the construction of facilities that sever residential neighborhoods.

- **Policy C-1.2.11:** Reduce vehicle miles traveled (VMT) through the use of smart growth concepts.

- **Policy C-1.2.12:** Balance the anticipated volume of people and goods movement with the need to maintain a walkable and bicycle friendly environment.

Objective C-1.3

Ensure conformance of the Circulation Plan with regional transportation plans.

- **Policy C-1.3.1:** Continue coordinating with the Metropolitan Transportation Authority (MTA or Metro) to implement the County's Congestion Management Program (CMP) for designated CMP roadways.

- **Policy C-1.3.2:** Through trip reduction strategies and emphasis on multi-modal transportation options, contribute to achieving the air quality goals of the South Coast Air Quality MManagement District Air Quality Management Plan.

- **Policy C-1.3.3:** Coordinate circulation planning with the Regional Transportation Plan prepared by the Southern California Association of Governments (SCAG), to ensure consistency of planned improvements with regional needs.

- **Policy C-1.3.4:** Continue coordination with Caltrans on circulation and land use decisions that may affect Interstate 5, State Route 14, and State Route 126, and support programs to increase capacity and improve operations on these highways.

- **Policy C-1.3.5:** Ensure consistency with the County's adopted Airport Land Use Plan as it pertains to the Agua Dulce Airport, in order to mitigate aviation-related hazards and protect airport operations from encroachment by incompatible uses.

- **Policy C-1.3.6:** Support the expansion of Palmdale Regional Airport and the extension of multi-modal travel choices between the airport and the Santa Clarita Valley, in conformance with regional planning efforts.

Goal C-2: Street and Highway System

A unified and well-maintained network of streets and highways which provides safe and efficient movement of people and goods between neighborhoods, districts, and regional centers, while maintaining community character.

Objective C-2.1

Implement the Circulation Plan (as shown on Exhibit C-2) for streets and highways to meet existing and future travel demands for mobility, access, connectivity, and capacity.

- **Policy C-2.1.1:** Protect mobility on arterial highways by limiting excessive cross traffic, access points, and turning movements; traffic signals on arterial highways should be spaced at least ½-mile apart, and the minimum allowable separation should be at least ¼-mile.

- **Policy C-2.1.2:** Enhance connectivity of the roadway network to the extent feasible given the constraints of topography, existing development patterns, and environmental resources, by constructing grade separations and bridges; connecting discontinuous streets; extending secondary access into areas where needed; prohibiting gates on public streets; and other improvements as deemed appropriate based on traffic analysis.

- **Policy C-2.1.3:** Protect and enhance the capacity of the roadway system by upgrading intersections to meet level of service standards, widening and/or restriping for additional lanes, synchronizing traffic signals, and other means as appropriate.

- **Policy C-2.1.4:** Ensure that future dedication and acquisition of right-of-way is based on the adopted Circulation Plan, proposed land uses, and projected demand.

- **Policy C-2.1.5:** Periodically monitor levels of service, traffic accident patterns, and physical conditions of the existing street system, and upgrade roadways as needed through the Capital Improvement Program.

Objective C-2.2

Adopt and apply consistent standards throughout the Santa Clarita Valley for street design and service levels, which promote safety, convenience, and efficiency of travel.

- **Policy C-2.2.1:** Designate roadways within the planning area based on their functional classification as shown on Exhibit C-2.

- **Policy C-2.2.2:** Adopt consistent standard street cross sections for City and County roadways in the planning area, as shown on Exhibit C-3.

- **Policy C-2.2.3:** Coordinate circulation plans of new development projects with each other and the surrounding street network, within both City and County areas.

- **Policy C-2.2.4:** Strive to maintain a Level of Service (LOS) D or better on most roadway segments and intersections to the extent practical; in some locations, a LOS E may be acceptable, or a LOS F may be necessary, for limited durations during peak traffic periods.

- **Policy C-2.2.5:** Adopt common standards for pavement width in consideration of capacity needs to serve projected travel demand, provided that a reduction in pavement width may be allowed in order to reduce traffic speeds, protect resources, enhance pedestrian mobility, or as otherwise deemed appropriate by the reviewing authority.

- **Policy C-2.2.6:** Within residential neighborhoods, promote the design of "healthy streets" which may include reduced pavement width, shorter block length, provision of on-

street parking, traffic-calming devices, bike routes and pedestrian connectivity, landscaped parkways, and canopy street trees.

- **Policy 2.2.7:** Where practical, encourage the use of grid or modified grid street systems to increase connectivity and walkability; where cul-de-sacs are provided, promote the use of walkways connecting cul-de-sac bulbs to adjacent streets and/or facilities to facilitate pedestrian access; where street connectivity is limited and pedestrian routes are spaced over 500 feet apart, promote the use of intermediate pedestrian connections through or between blocks.

- **Policy C-2.2.8:** Design local street patterns to create logical and understandable travel paths for users and to provide access between neighborhoods for local residents while discouraging cut-through traffic; cul-de-sac length should not exceed 600 feet, and "dog-leg" cul-de-sacs with one or more turns between the bulb and the outlet should be avoided where possible.

- **Policy C-2.2.9:** Medians constructed in arterial streets should be provided with paved crossover points for emergency vehicles, where deemed necessary by the Fire Department.

- **Policy C-2.2.10:** The street system design, including block length, width, horizontal and vertical alignments, curves, and other design characteristics, should function safely and effectively without the subsequent need for excessive traffic control devices to slow or deflect traffic.

- **Policy C-2.2.11:** For intersections of collector or larger streets, four-way intersections are preferred over offset intersections.

- **Policy C-2.2.12:** Private streets, other than driveways and alleyways typically associated with multi-family development, should be constructed to standards for public rights-of-way, except as otherwise approved by the reviewing agency.

- **Policy C-2.2.13:** Protect the community character of rural areas by requiring use of rural street standards, which may include reduced pavement width, reduced street lighting to protect night skies, rolled curbs or no curbs, and no sidewalks.

- **Policy C-2.2.14:** Streets should be designed in context with the terrain and the natural and built features of the area, but excessively circuitous streets should be avoided to minimize unnecessary vehicle, bicycle and pedestrian mileage.

- **Policy C-2.2.15:** Adopt consistent standards for implementation of Americans with Disabilities Act requirements such as curb ramp design and accessible pedestrian signals.

Objective C-2.3

Balance the needs of congestion relief with community values for aesthetics and quality of life.

- **Policy C-2.3.1:** Enhance community appearance through landscaping, street lighting, street furniture, bus shelters and benches, and other aspects of streetscape design within the right-of-way, where appropriate.

- **Policy C-2.3.2:** Encourage unified treatment of arterial streets within both City and County areas, while permitting flexibility of streetscape design between neighborhoods and districts to preserve village character.

- **Policy C-2.3.3:** When evaluating road widening projects, consider the impacts of additional traffic, noise, and fumes on adjacent land uses and use context-sensitive design techniques where appropriate.

- **Policy C-2.3.4:** Protect residential neighborhoods from cut-through traffic using local streets to avoid congested arterials, through use of street design and traffic control devices.

Objective C-2.4

Allow trucks to utilize only major and secondary highways as through routes, to minimize impacts of truck traffic on surface streets and residential neighborhoods.

- **Policy C-2.4.1:** Require design of pavement sections on major and secondary highways to account for truck traffic, to prevent excessive pavement deterioration from truck use.

- **Policy C-2.4.2:** Establish adequate setbacks from major and secondary highways for sensitive receptors and sensitive uses, so as to minimize impacts on these individuals and uses from noise and air pollution caused by truck traffic.

- **Policy C-2.4.3:** Prohibit through truck traffic on designated scenic routes.

- **Policy C-2.4.4:** Adopt regulations for truck parking on public streets, to avoid impacts to residential neighborhoods.

Objective C-2.5

Consider the needs for emergency access in transportation planning.

- **Policy C-2.5.1:** Maintain a current evacuation plan as part of emergency response planning.

- **Policy C-2.5.2:** Ensure that new development is provided with adequate emergency and/or secondary access for purposes of evacuation and emergency response; require two points of ingress and egress for every subdivision or phase thereof, except as otherwise approved for small subdivisions where physical constraints preclude a second access point.

- **Policy C-2.5.3:** Require provision of visible street name signs and addresses on all development to aid in emergency response.

- **Policy C-2.5.4:** Provide directional signage to Interstate 5 and State Route 14 at key intersections in the Valley, to assist emergency evacuation operations.

Objective C-2.6

Ensure that funding and phasing of new transportation improvements is coordinated with growth.

- **Policy C-2.6.1:** Require that new development construct or provide its fair share of the cost of transportation improvements, and that required improvements or in-lieu contributions are in place to support the development prior to occupancy.

- **Policy C-2.6.2:** Evaluate the feasibility of establishing a joint City/County Intelligent Transportation Management System (ITMS) impact fee for new development that is unable to otherwise mitigate its impacts to the roadway system through implementation of the adopted Highway Plan.

- **Policy C-2.6.3:** Support local, regional, state and federal agencies in identifying and implementing funding alternatives for the Valley's transportation systems.

- **Policy C-2.6.4:** Coordinate road construction with improvements to other utility systems in the right-of-way.

Goal C-3: Vehicle Trip Reduction

Reduction of vehicle trips and emissions through effective management of travel demand, transportation systems, and parking.

Objective C-3.1

Promote the use of travel demand management strategies to reduce vehicle trips.

- **Policy C-3.1.1:** In evaluating new development projects, require trip reduction measures as feasible to relieve congestion and reduce air pollution from vehicle emissions.

- **Policy C-3.1.2:** Promote home-based businesses and live-work units as a means of reducing home-to-work trips.

- **Policy C-3.1.3:** Promote the use of flexible work schedules and telecommuting to reduce home to work trips.

- **Policy C-3.1.4:** Promote the use of employee incentives to encourage alternative travel modes to work.

- **Policy C-3.1.5:** Promote the use of van pools, car pools, and shuttles to encourage trip reduction.

- **Policy C-3.1.6:** Promote the provision of showers and lockers within businesses and employment centers, in order to encourage opportunities for employees to bicycle to work.

Objective C-3.2

Encourage reduction in airborne emissions from vehicles through use of clean vehicles and transportation system management.

- **Policy C-3.2.1:** Adopt clean vehicle purchase policies for City and County fleets.

- **Policy C-3.2.2:** Continue to enhance signal timing and synchronization to allow for free traffic flow, minimizing idling and vehicle emissions.

- **Policy C-3.2.3:** When available and feasible, provide opportunities and infrastructure to support use of alternative fuel vehicles and travel devices.

Objective C-3.3

Make more efficient use of parking and maximize economic use of land, while decreasing impervious surfaces in urban areas, through parking management strategies.

- **Policy C-3.3.1:** Evaluate parking standards and reduce requirements where appropriate, based on data showing that requirements are in excess of demand.
- **Policy C-3.3.2:** In pedestrian-oriented, high density mixed use districts, provide for common parking facilities to serve the district, where appropriate.
- **Policy C-3.3.3:** Promote shared use of parking facilities between businesses with complementary uses and hours, where feasible.
- **Policy C-3.3.4:** Within transit-oriented development projects, consider providing incentives such as higher floor area ratio and/or lower parking requirements for commercial development that provides transit and ride-share programs.
- **Policy C-3.3.5:** Encourage convenient short-term parking in high-activity areas, and all day parking at the periphery of the development areas.
- **Policy C-3.3.6:** In the development review process, prioritize direct pedestrian access between building entrances, sidewalks and transit stops, by placing parking behind buildings where possible, to the sides of buildings when necessary, and always away from street intersections.

Goal C-4: Rail Service

Rail service to meet regional and inter-regional needs for convenient, cost-effective travel alternatives, which are fully integrated into the Valley's circulation systems and land use patterns.

Objective C-4.1

Maximize the effectiveness of Metrolink's commuter rail service through provision of support facilities and land planning.

- **Policy C-4.1.1:** Develop permanent Metrolink facilities with an expanded bus transfer station and additional park-and-ride spaces at the Via Princessa station, or other alternative location as deemed appropriate to meet the travel needs of residents on the Valley's east side.
- **Policy C-4.1.2:** Coordinate with other agencies to facilitate extension of a passenger rail line from the Santa Clarita Station to Ventura County, which may be used for Metrolink service.
- **Policy C-4.1.3:** Continue to expand and improve commuter services, including park-and-ride lots, bicycle parking and storage, and waiting facilities, at all Metrolink stations.
- **Policy C-4.1.4:** Encourage the preservation of abandoned railroad right-of-way for future transportation facilities, where appropriate.
- **Policy C-4.1.5:** Work with other agencies to increase rail efficiency and public safety through street and track improvements and grade separations, where needs are identified.
- **Policy C-4.1.6:** Provide incentives to promote transit-oriented development near rail stations.
- **Policy C-4.1.7:** Facilitate coordination of planning for any future high speed regional rail systems in the Valley with Metrolink services.
- **Policy C-4.1.8:** Minimize impacts to passenger rail service and the community from any proposed increase to freight rail service through the Valley.

Objective C-4.2

Access to a high speed rail system connecting the Santa Clarita Valley with other regions, and other regional rail service connections.

- **Policy C-4.2.1:** Continue to work with the Orange Line Development Authority (OLDA) to plan for development of an environmentally sensitive high speed transportation system with a route through the Santa Clarita Valley, including a regional transit hub with associated infrastructure that would provide connections to the Los Angeles Basin, Palmdale Regional Airport, and other destinations.
- **Policy C-4.2.2:** Coordinate with other agencies as needed to facilitate planning for other high-speed rail alternatives in the Santa Clarita Valley.
- **Policy C-4.2.3:** Promote and encourage the expansion of Amtrak Rail Service to the Santa Clarita Valley.

Goal C-5: Bus Transit

Bus transit service as a viable choice for all residents, easily accessible and serving destinations throughout the Valley.

Objective C-5.1

Ensure that street patterns and design standards accommodate transit needs.

- **Policy C-5.1.1:** Require that new subdivisions provide for two means of access into and out of the development, in order to provide for transit access, where feasible.
- **Policy C-5.1.2:** For private gated communities, require the developer to accommodate bus access through the entry gate, or provide bus waiting facilities at the project entry with pedestrian connections to residential streets, where appropriate.
- **Policy C-5.1.3:** Consider the operational characteristics of buses when determining acceptable street designs, including grades and turning radii.
- **Policy C-5.1.4:** Provide for location of bus stops within ¼-mile of residential neighborhoods, and include paved bus waiting areas in street improvement plans wherever appropriate and feasible.
- **Policy C-5.1.5:** Locate and design bus turnouts to limit traffic obstruction and to provide sufficient merging length for the bus to re-enter the traffic flow.
- **Policy C-5.1.6:** Evaluate the feasibility of giving buses priority at signalized intersections to maintain transit service level standards, where appropriate.

Objective C-5.2

Maximize the accessibility, safety, convenience, and appeal of transit stops.

- **Policy C-5.2.1:** Require paved waiting areas, accessible by paved walkways and reasonably direct pedestrian routes, for bus stops in new development; and provide for retrofitting of existing bus stops, where feasible and practicable.
- **Policy C-5.2.2:** Adopt and implement consistent design standards for use in both City and County areas for bus shelters, bus benches, trash receptacles, lighting, and other improvements for transit stops that are aesthetically pleasing and consistent with community character.
- **Policy C-5.2.3:** Adopt and implement common design standards for bus turnouts and merging lanes along arterial streets, in convenient, accessible locations.
- **Policy C-5.2.4:** Enhance way-finding signage along walkways and paseos to direct pedestrians to transit stops.
- **Policy C-5.2.5:** Complementary transportation modes should be interconnected at intermodal transit centers, including provisions for bicycles on buses, bicycle parking at transit centers, and park-and-ride at transit stops.

Objective C-5.3

Explore opportunities to improve and expand bus transit service.

- **Policy C-5.3.1:** Continue to provide fixed route service to significant activity areas and neighborhoods with moderate to high density, and serve low-density and rural areas with dial-a-ride, flexible fixed routes, or other transit services as deemed appropriate.
- **Policy C-5.3.2:** Promote concentrated development patterns in coordination with transit planning to maximize service efficiency and ridership.
- **Policy C-5.3.3:** Evaluate the feasibility of providing "fly-away" bus transit service to airports located at Burbank, Palmdale, and Los Angeles, and implement this program when warranted by demand.
- **Policy C-5.3.4:** Evaluate the feasibility of providing bus rapid transit (BRT) for key transit corridors when light-rail is not feasible or cost effective.

Objective C-5.4

Provide adequate funding to expand transit services to meet the needs of new development in the Valley.

- **Policy C 5.4.1:** Establish transit impact fee rates that are based on the actual impacts of new development on the transit system, and regularly monitor and adjust these fees as needed to ensure adequate mitigation.

- **Policy C-5.4.2:** Evaluate the feasibility of establishing a joint City/County transit impact fee to equitably distribute the capital costs of transit system expansion to meet the needs of new development in both County and City areas of the Valley.

- **Policy C-5.4.3:** Seek funding for transit system expansion and improvement from all available sources, including local, state, and federal programs and grants.

Goal C-6: Bikeways

A unified and well-maintained bikeway system with safe and convenient routes for commuting, recreational use and utilitarian travel, connecting communities and the region.

Objective C-6.1

Adopt and implement a coordinated master plan for bikeways for the Valley, including both City and County areas, to make bicycling an attractive and feasible mode of transportation.

- **Policy C-6.1.1:** For recreational riders, continue to develop Class 1 bike paths, separated from the right-of-way, linking neighborhoods to open space and activity areas.

- **Policy C-6.1.2:** For long-distance riders and those who bicycle to work or services, provide striped Class 2 bike lanes within the right-of-way, with adequate delineation and signage, where feasible and appropriate.

- **Policy C-6.1.3:** Continue to acquire or reserve right-of-way and/or easements needed to complete the bicycle circulation system as development occurs.

- **Policy C-6.1.4:** Where inadequate right-of-way exists for Class 1 or 2 bikeways, provide signage for Class 3 bike routes or designate alternative routes as appropriate.

- **Policy C-6.1.5:** Plan for continuous bikeways to serve major destinations, including but not limited to regional shopping areas, college campuses, public buildings, parks, and employment centers.

Objective C-6.2

Encourage provision of equipment and facilities to support the use of bicycles as an alternative means of travel.

- **Policy C-6.2.1:** Require bicycle parking, which can include bicycle lockers and sheltered areas, at commercial sites and multi-family housing complexes for use by employees and residents, as well as customers and visitors.

- **Policy C-6.2.2:** Provide bicycle racks on transit vehicles to give bike-and-ride commuters the ability to transport their bicycles.

- **Policy C-6.2.3:** Promote the inclusion of services for bicycle commuters, such as showers and changing rooms, as part of the review process for new development or substantial alterations of existing commercial or industrial uses, where appropriate.

Goal C-7: Pedestrian Circulation

Walkable communities, in which interconnected walkways provide a safe, comfortable and viable alternative to driving for local destinations.

Objective C-7.1

A continuous, integrated system of safe and attractive pedestrian walkways, paseos and trails linking residents to parks, open space, schools, services, and transit.

- **Policy C-7.1.1:** In reviewing new development proposals, consider pedestrian connections within and between developments as an integral component of the site design, which may include seating, shading, lighting, directional signage, accessibility, and convenience.

- **Policy C-7.1.2:** For existing walled subdivisions, promote the extension of pedestrian access to connect these neighborhoods to transit and services through public education and by facilitating retrofitted improvements where feasible.

- **Policy C-7.1.3:** Where feasible and practical, consider grade separated facilities to provide pedestrian connections across arterial streets, flood control channels, utility easements, and other barriers.

- **Policy C-7.1.4:** Identify and develop an improvement program to connect existing walkways and paseos to transit and services, where needed and appropriate.

- **Policy C-7.1.5:** In new commercial development, provide for direct, clearly delineated, and preferably landscaped pedestrian walkways from transit stops and parking areas

to building entries, and avoid placement of uses (such as drive-through facilities) in locations that would obstruct pedestrian pathways.

- **Policy C-7.1.6:** Encourage placement of building entries in locations accessible to public sidewalks and transit.

- **Policy C-7.1.7:** Promote use of pedestrian-oriented scale and design features in areas intended for pedestrian use.

- **Policy C-7.1.8:** Upgrade streets that are not pedestrian-friendly due to lack of sidewalk connections, safe street crossing points, vehicle sight distance, or other design deficiencies.

- **Policy C-7.1.9:** Promote pedestrian-oriented street design through traffic-calming measures where appropriate, which may include but are not limited to bulb-outs or chokers at intersections, raised crosswalks, refuge islands, striping, and landscaping.

- **Policy C-7.1.10:** Continue to expand and improve the Valley's multi-use trail system to provide additional routes for pedestrian travel.

XVII. IMPLEMENTATION OF THE CIRCULATION ELEMENT

The County of Los Angeles will implement the goals, objectives and policies of the Circulation Element of the Santa Clarita Valley Area Plan through the following actions.

- **Action 1:** Amend the Countywide Highway Plan within the Santa Clarita Valley to reflect the Area Plan and be consistent with the City's Highway Plan.

- **Action 2:** Adopt the standard street cross sections in the Area Plan, consistent with the City's street standards.

- **Action 3:** Ensure that all future street improvements conform to the adopted Highway Plan and street cross sections in the Area Plan.

- **Action 4:** Continue to monitor traffic conditions within the planning area on an ongoing basis, and amend the Area Plan as needed to address changing needs and conditions.

- **Action 5:** As part of the review process for proposed development projects, require traffic studies where appropriate to evaluate impacts to the roadway network, and require improvements as needed to maintain acceptable service levels.

- **Action 6:** Continue to coordinate with the City and other regional agencies to ensure orderly phasing of roadway improvements with new development as it occurs.

- **Action 7:** Continue to improve traffic operations through signal upgrades, striping, synchronization, and other improvements where needed.

- **Action 8:** Provide directional signage where needed to facilitate efficient traffic movement through the Valley.

- **Action 9:** Adopt the Valleywide Bikeway Plan in the Area Plan (as it may be amended from time to time).

- **Action 10:** Continue to require walkways, sidewalks, and trails within development projects as part of the approval process, consistent with adopted plans, special standards districts, and other applicable policies and regulations.

- **Action 11:** Annually update the Capital Improvement Program (CIP) to implement roadway improvements, trails, transit facilities, and other circulation facilities identified in the Area Plan.

- **Action 12:** Annually review the CIP to ensure consistency with the Circulation Element.

- **Action 13:** Ensure consistency with the Area Plan for all transportation improvement projects, including right-of-way acquisition and roadway design.

- **Action 14:** During development review of new projects, require integration of multi-modal circulation systems as part of project designs, to the extent feasible.

- **Action 15:** Through the regulatory and development review process, evaluate options for reducing the amount of land occupied by vehicle parking, which may include alternative parking options or flexible standards such as shared parking and off-site parking, where appropriate.

- **Action 16:** In coordination with the City, develop and implement uniform or compatible design standards for bus turnouts, benches, shelters, lighting, and furniture at bus stops within the Santa Clarita Valley.

- **Action 17:** Support construction of regional transportation improvements through joint funding programs and other efforts as appropriate.

- **Action 18:** Continue to actively participate on regional boards and commissions that address circulation needs and improvements.

- **Action 19:** Maintain consistency with regional plans, and complete all local plans needed to compete successfully for funding.

- **Action 20:** Continue to require new development to fund its fair share of transportation improvements, which may include construction or payment of impact fees.

Chapter 4

CONSERVATION AND OPEN SPACE ELEMENT

TABLE OF CONTENTS

I. PURPOSE & INTENT 122
II. BACKGROUND 122
Consistency with Other Area Plan Elements 122
Resource Maps 122
Organization of the Element 123
III. PRIOR PLANNING EFFORTS FOR OPEN SPACE & CONSERVATION 123
City Resource Conservation Planning 123
County Planning for Open Space & Conservation 123
IV. ENVIRONMENTAL SUSTAINABILITY 123
V. SOILS & GEOLOGIC RESOURCES 125
Soils & Geologic Resource Issues 125
Soil Resources & Conservation 125
Hillside Development & Ridgeline Protection 125
Mineral Resources 126
VI. WATER RESOURCES 127
Surface Water Resources 127
Streams 127
Groundwater Resources 128
Water Supply 129
Sacramento-San Joaquin Delta Issues 130
Water Conservation 133
Water Recycling 134
AB 1881 135
Water Quality 135
Low Impact Development 136
VII. BIOLOGICAL RESOURCES 137
Biological Setting 137
Sensitive Species 138
Significant Ecological Areas 139
Cruzan Mesa Vernal Pools 139
Wildlife Corridors 140
National Forest Lands 141
Urban Forestry Program 142
Development Impacts on Biological Resources 142
VII. CULTURAL & HISTORICAL RESOURCES 143
Historical Overview of the Santa Clarita Valley 143
Identification of Historical Sites 146
Historic Preservation Efforts 146
VIII. SCENIC RESOURCES 152
The Value of Scenic Resources 152
Scenic Mountains and Canyons 152
Scenic Woodlands 154
Scenic Water Bodies 154
Vasquez Rocks 154
Impacts of Development on Scenic Views 154
IX. AIR RESOURCES 154
X. CLIMATE CHANGE & ENERGY CONSERVATION 156
Background & Legal Requirements 156
Actions to Address Climate Change in the Santa Clarita Valley 159
Additional Program & Policies to Address Climate Change 159
XI. PARK & RECREATION RESOURCES & FACILITIES 160
County & State Parks 160
City Parks & Recreation Planning 161
Joint Park Planning Issues 162
XII. OPEN SPACE RESOURCES 165
Legal Requirements for Open Space Preservation 165
Open Space Designations in the Santa Clarita Valley 166
Open Space Preservation Efforts 166
Future Directions for Open Space 168
XIII. RECREATIONAL TRAILS 168
XIV. SUMMARY OF CONSERVATION AND OPEN SPACE NEEDS IN THE SANTA CLARITA VALLEY 169
XV. GOALS, OBJECTIVES, AND POLICIES 171
XVI. IMPLEMENTATION OF THE CONSERVATION AND OPEN SPACE ELEMENT 184

LIST OF TABLES

Table CO-1: Historical Resources in the Santa Clarita Valley Planning Area 148
Table CO-2: Inventory of Park and Open Space Lands 163

Conservation and Open Space Element

I. PURPOSE & INTENT

The Conservation and Open Space Element combines two of the mandatory Area Plan elements required by State law into a single element. Section 65302(d) of the California Government Code requires "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." Article 10.5 of the Government Code establishes the framework for open space planning by local jurisdictions and the required contents of an Open Space Element, including open space for outdoor recreation, public health, and the safety and preservation of natural resources.

Many resource conservation issues are related to planning for open space preservation. For example, lands containing significant natural resources, such as Towsley Canyon and Elsmere Canyon, are designated as open space on the Area Plan land use map. Some historical and cultural resources have been incorporated into park and recreational facilities, such as the William S. Hart Park and Museum. Many hiking and recreational trails connect open space lands with developed parks, and provide access to natural resource areas. Open space areas provide opportunities for groundwater percolation to enhance water quality and recharge of groundwater aquifers. These examples show the connection between resource protection and open space preservation, and highlight the benefits of planning for both as a coordinated effort. Because of the close relationship between resource conservation and open space planning, these two topics have been combined into an integrated Conservation and Open Space Element.

This combined Element establishes a policy framework for the designation and long-term preservation of open space within the planning area, and addresses the wide range of community benefits derived from open space. In addition to providing land for park and recreational facilities, open spaces provide the benefits of wildlife habitat preservation, scenic views, water recharge and watershed protection, enhancement of air quality, protection of cultural and historical resources, moderation of microclimates, and enhanced property values. In addition, preservation of scenic and accessible open spaces around the urbanized portions of the Valley, and between neighborhoods and districts, contributes to community character and the distinctive sense of place enjoyed by Santa Clarita Valley residents.

II. BACKGROUND

Consistency with Other Area Plan Elements

The Conservation and Open Space Element of the Area Plan is consistent with the Land Use Element, because those areas having value for resource conservation purposes have been designated for open space, agriculture, or rural, low-density development on the Land Use Map. In addition, policies in the Conservation and Open Space Element to protect air and water quality are consistent with Land Use Element policies promoting mixed use development and sustainable and walkable communities. The Conservation and Open Space Element is consistent with the Circulation Element, because both Elements promote air quality goals through multi-modal strategies to reduce vehicle trips. The Element is consistent with the Safety Element, because many of the areas prone to natural hazards, such as flooding and seismic shaking, are also subject to conservation issues such as water quality, groundwater recharge, slope stability, and soil erosion; the maps, policies and programs of both elements have been coordinated to preserve such areas as open space. The Element is consistent with the Noise Element, because policies have been included to ensure that noise from aggregate resource extraction will not be detrimental to residents and other sensitive uses, and that noise from human activities will not be detrimental to natural communities.

Resource Maps

The background, goals and policies of this Conservation and Open Space Element are supplemented with exhibits that show the locations and extent of the following resources within the planning area:

- Significant ridgelines and hillsides subject to development restrictions (Figure CO-1);
- Mineral Resources, including areas with significant aggregate resources as designated by the State (Figure CO-2);

- Water Resources, including surface waters such as rivers and lakes, and underground basins (Figure CO-3);
- Biological Resources (Figure CO-4) and Significant Ecological Areas as designated by the County (Figure CO-5);
- Cultural and Historical Resources, including areas of local significance as well as sites having State or national historical designations (Figure CO-6);
- Scenic Resources, including canyons, geological features, and significant ridgelines (Figure CO-7);
- Open Space Resources, including passive and active parks and natural open areas protected for resource conservation (Figure CO-8);
- Master Plan for Trails, including regional, County, and City trails and bikeways (Figure CO-9).

Development and conservation policies have been established for each of these resource types as set forth in this element.

Organization of the Element

The Background section of the Conservation and Open Space Element contains subsections for the following resource issues: soils and geological resources; water, including water supply, quality and conservation; biological resources; cultural and historical resources; air quality, energy conservation and climate change; parks, recreation, and trails; and open space conservation. Goals, objectives and policies have been included to address each of these issues.

III. PRIOR PLANNING EFFORTS FOR OPEN SPACE & CONSERVATION

City Resource Conservation Planning

The City adopted its first Open Space and Conservation Element in 1991, and updated the Element in 1999. The element addressed the issues of open space, biological resources, soil resources, mineral resources, water resources, energy conservation, and cultural and historical resources. Policies in the element addressed preservation of natural features and ridgelines, sensitive habitats, recreation, the designation of open space as a buffer from natural hazards, protection of mineral resources, groundwater quality and recharge, and preservation of cultural resources. In addition, policies were included to address energy conservation and recycling. In order to implement the resource conservation policies of the original General Plan, the City adopted ordinances as part of Title 17 (Zoning) of the Municipal Code to regulate soil erosion and dust prevention, hillside development, ridgeline preservation, stormwater quality, and oak tree preservation. The City also adopted a Park and Recreation Master Plan in 1995, which is currently being updated; and an Open Space Acquisition Plan in 2002, which will be updated as part of the Open Space Initiative passed by the voters in 2007. The City adopted the Non-Motorized Plan in 2008. These plans are discussed in greater detail in subsequent sections of this Element.

County Planning for Open Space & Conservation

The County adopted the Santa Clarita Valley Area Plan in 1984 with a comprehensive update in 1990 to address specific planning issues within the Valley. Areas with special significance for resource preservation were depicted on the Land Use Map of the Area Plan, including Open Space, Hillside Management, Significant Ecological Areas, and Floodways/Floodplains. The Area Plan contained a Scenic Highways Plan and plans for Trails and Bikeways, along with goals and policies to promote preservation of open space and conservation of resources. Hillside development policies were included for areas with slopes of 25 percent or greater.

The County has also adopted ordinances to regulate and protect natural resources, including native oak trees, water quality, significant ecological areas, and hillside development. In 2007 the County recently updated the Master Trails Plan for the Santa Clarita Valley, and has made numerous improvements to park and open space areas. More information about these topics is contained in applicable sections of this element.

IV. ENVIRONMENTAL SUSTAINABILITY

The term *sustainable development* has been defined as balancing the fulfillment of human needs with the protection of the natural environment, so that these needs can be met not only in the present, but in the indefinite future. The term was first used in 1980 in the *World Conservation Strategy*

published by the International Union for the Conservation of Nature. In 1987 the Brundtland Commission (established by the United Nations General Assembly) defined sustainable development as meeting "the needs of the present without compromising the ability of future generations to meet their own needs", and this definition has come into general usage.

Research on sustainable development has generally focused on four areas: environmental sustainability, economic sustainability, social sustainability, and political sustainability. For purposes of the Conservation and Open Space Element, the concept of environmental sustainability is addressed throughout the various background sections as well as in the goals and policies.

An environmentally sustainable approach to land use planning is an interdisciplinary process, considering proposed development and the surrounding ecosystem as components of interdependent systems. These systems are complex, interconnected, and dynamic. The fundamental basis of environmental sustainability is that the well-being of people is maintained and enhanced only when the integrity of the ecosystem is maintained; therefore, the outcomes of development decisions on all systems must be evaluated to ensure the well-being of both the human and natural environments. Sustainability should be considered at every level of urban organization, from individual development sites to neighborhoods, districts, and regions. Environmental sustainability goes beyond the concept of minimizing individual impacts through mitigation measures, and is instead a positive approach geared toward achieving long-term well-being for human and natural ecosystems.

Because the issues of air quality, energy consumption, water supply and quality, climate change, depletion of non-renewable resources, loss of biodiversity, use of land, and human health are all interrelated, ensuring environmental quality and public welfare requires new approaches to environmental protection. In the early years of regulation, environmental requirements focused on "end-of-pipe" treatment that limited the amount of pollutants entering water bodies and air basins from particular sources. In more recent years, the focus in environmental protection has shifted to "upstream" approaches called source controls, which may include minimizing resource use, reducing waste generation, product substitution, and producing fewer pollutants. Evaluating pollution control and waste minimization at the source requires a greater understanding of the wider impacts of development through the life cycle of construction, use, re-use, demolition, and recycling of materials – impacts that may go beyond the boundaries of the planning area, and that may extend over many years. Understanding life cycles for development projects requires a more integrated, systematic approach to evaluating and planning for development. For example, it has been pointed out that constructing a "green" building with recycled materials and energy-efficient lighting may have minimal benefit, if the location of the building causes a large increase in vehicle emissions due to its location many miles from employees, suppliers, and markets.

In the following background sections, and in the goals and policies set forth in of this element, environmental sustainability has been addressed for the following issues:

- Renewable resource systems, including watersheds, aquifers, air resources, and biological resources;
- Non-renewable resource systems, including mineral resources, use of materials from fossil fuels, loss of open space, and generation of waste that cannot be recycled;
- Long-term chemical impacts, including existing and future pollutants that enter the environment from industrial, transportation, and other sources;
- Human-built systems, including land use, cultural resources, green building and design, and low impact development;
- Information and decision-making, including developing tools for monitoring the well-being of environmental systems, and providing this information to decision-makers and residents to assist them in making more sustainable decisions.

Approaching the land planning process from a standpoint of environmental sustainability will require a shift in thinking on the part of local officials, staff, and builders. As with many new ideas, resistance to change is expected. Methods of reducing pollution have already been developed and are generally available at affordable prices, but have yet to be widely adopted. Recent studies have found that barriers to sustainability arise because technological and

economic systems and governing institutions are designed for permanence and reliability, rather than change. For example, the economic systems and social mores based on consumption of oil, including automobile sales and use, are rooted in American institutions and lifestyles. In other cases, sustainable materials and practices have not been adopted because cost savings would be deferred, rather than realized immediately. For instance, The Economist reported in 2007 that even though use of available energy-efficient materials and design practices can reduce the cost of operating buildings by 30 percent, most builders do not incorporate them in project design because they don't plan to own and operate the buildings long-term. Addressing the issue of resistance to change will be a major objective in creating more environmentally sustainable communities in the Santa Clarita Valley. Government, business, and citizens must work together to create a vision of sustainable development that includes both human and environmental wellness.

V. SOILS & GEOLOGIC RESOURCES

Soils & Geologic Resource Issues

State law requires that the Area Plan address the prevention, control, and correction of the erosion of soils, and the location, quantity and quality of the rock, sand, and gravel resources (Government Code Section 65302). Within the Santa Clarita Valley, the primary conservation issues with respect to soils and geologic resources are soil conservation; hillside development and ridgeline protection; and extraction of mineral resources.

Soil Resources & Conservation

The loss of topsoil is the most significant on-site consequence of erosion that occurs during and after construction or other soil disturbance. Topsoil is the soil layer that contains organic matter, plant nutrients, and biological activity. Loss of topsoil reduces the soil's ability to support plant life, regulate water flow, and maintain the biodiversity of soil microbes and insects that control disease and pest outbreaks. Loss of nutrients, soil compaction, and decreased biodiversity of soil inhabitants can severely limit the vitality of landscaping. This can lead to additional site management and environmental concerns, such as increased use of fertilizers, irrigation and pesticides, and increased stormwater runoff that contribute pollution to nearby water bodies.

The off-site consequences of soil erosion from developed sites include a variety of water quality issues. Runoff from developed sites carries pollutants, sediments and nutrients that disrupt aquatic habitats in the receiving waters. Nitrogen and phosphorous from runoff hasten eutrophication by causing unwanted plant growth in aquatic systems, including algal blooms that alter water quality and habitat conditions. Algal blooms can also result in decreased recreation potential and diminished diversity of indigenous fish, plant, and animal populations.

Sedimentation also contributes to the degradation of water bodies. The build-up of sedimentation in stream channels can lessen flow capacity, potentially leading to increased flooding. Sedimentation also affects aquatic habitat by increasing turbidity levels. Turbidity reduces sunlight penetration into the water and leads to reduced photosynthesis in aquatic vegetation, causing lower oxygen levels that cannot support diverse communities of aquatic life.

Erosion and sedimentation control measures are needed in order to minimize difficult and expensive mitigation measures in receiving waters. The cost of erosion and sedimentation control on construction sites involves minimal expense associated with installing and inspecting control measures and devices, particularly before and after storm events.

Best management practices have been established under the National Pollutant Discharge Elimination System (NPDES) as part of the federal Clean Water Act, to decrease erosion and sedimentation. The topic of post-construction runoff management continues to expand and is addressed in NPDES permits, which require pre-project runoff water balance, sedimentation balance, and channel protection. Policies have been included in the Area Plan to underscore the importance of soil conservation in the Santa Clarita Valley.

Hillside Development & Ridgeline Protection

The planning area is surrounded by the Santa Susana Mountains to the south and west, the San Gabriel Mountains to the southeast, and the Sierra Pelona Mountains to the north, all of which are part of the Transverse Ranges. Smaller hills and ridgelines bisect the valley floor, which contains the drainage courses of the Santa Clara River and its tributaries. About 45 percent of the planning area (168,345 acres)

contains land with slopes greater than 10 percent, and 7,866 acres of land contain slopes of 25 percent or greater (see Figure CO-1).

Both the City and the County have adopted policies and ordinances to regulate development in hillside areas, in order to protect the scenic quality and integrity of hillside areas from over-development and erosion. In the City, average slopes exceeding 10 percent are subject to special development standards, while in County areas such standards apply to land with average slopes of 25 percent or more. Both City and County standards for hillside development are intended to ensure that development in hillside areas maintains the natural topography, resources, and amenities of these areas. In addition, the City has designated significant ridgelines, and the County has designated significant ridgelines within the Castaic Community Standards District, which is located within the western portion of the planning area (see Figure CO-1). Standards have been adopted by both agencies to regulate development in order to preserve these scenic resource areas.

Policies have been included in this Element to support regulating development within hillside areas and along significant ridgelines in a consistent manner. In order to achieve a more uniform approach to regulating hillside development throughout the planning area, the City and County have agreed to cooperate on developing a set of hillside guidelines that would apply throughout the Santa Clarita Valley.

Mineral Resources

Mining activities in California are regulated by the Surface Mining and Reclamation Act of 1975 (SMARA). This Act provides for the reclamation of mined lands and directs the State Geologist to classify and map mineral resources to show where economically significant mineral deposits occur, or are likely to occur. Areas known as Mineral Resource Zones (MRZ) are classified according to the presence or absence of significant deposits. MRZ-2 areas are underlain by mineral deposits where geologic data indicate that significant measured, or indicated, resources are present.

The planning area contains extensive aggregate mineral resources. Almost 19,000 acres in the planning area are designated by the State as MRZ-2, or areas of prime importance due to known economic mineral deposits. Sand and gravel resources are primarily concentrated along waterways, including the Santa Clara River, the South Fork of the Santa Clara River, Castaic Creek, and east of Sand Canyon Road. A significant deposit of construction-grade aggregate extends approximately 15 miles from Agua Dulce Creek in the east, to the Ventura County line on the west.

As of 2003 there were about 525 acres of land in the planning area used for mineral extraction of sand, gravel, and rock. There were 14 permits for surface mining activities filed with the County. Generally, aggregate mining sites are located in Canyon Country, Agua Dulce, Mint Canyon, and Soledad Canyon (see Figure CO-2).

SMARA requires that significant mineral resources be protected from encroachment by incompatible development, as they provide a needed resource to support the construction of new homes, businesses, and roads. Mineral extraction within the County is an allowed use within agricultural zones, subject to approval of a surface mining permit. Within the City, areas that have significant mineral aggregate resources have been designated by overlay Zoning overlay district that permits extraction, along with other compatible uses.

The major goals of SMARA are to assure that (1) adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition which is readily adaptable for alternative land uses; (2) the production and conservation of minerals are encouraged, while giving consideration to values relating to recreation, wildlife, range and forage, and aesthetic enjoyment; and (3) residual hazards to the public health and safety are eliminated. These goals are achieved through the planning process by allowing the City and County to balance the economic benefits of resource reclamation with other land use and environmental goals. The Area Plan identifies significant mineral resource areas on the Mineral Resources Map, and contains policies to protect these areas from incompatible development, while ensuring that extraction and reclamation activities are compatible with other development and that adverse environmental impacts are mitigated.

The Santa Clarita Valley also contains other mineral resources which have been extracted historically, including gold, natural gas, and oil. Many older mines and oil wells have been abandoned, although several oil and natural gas wells are still in production (see Figure CO-2). Policies

have been included in the element to ensure that wells are properly capped and mines sealed, and that any pollutants associated with extraction activities are remediated, in order to ensure public safety after these operations are completed.

VI. WATER RESOURCES

California Government Code Section 65302(d) requires that the "portion of the conservation element including waters shall be developed in coordination with any countywide water agency and with all district and city agencies that have developed, served, controlled or conserved water for any purpose for the county or city for which the plan is prepared." Further, it requires that the element address prevention and control of the pollution of streams and other waters, regulation of the use of land in stream channels required for accomplishment of the conservation plan, protection of watersheds, and flood control. In compliance with these requirements, this section addresses the issues of surface water, groundwater, and long-term water supply.

Surface Water Resources

The planning area is located within the Santa Clara River Valley basin, a watershed that encompasses approximately 1,634 square miles. The Santa Clara River is the largest river system in Southern California that remains in a relatively natural state. From its headwaters in the San Gabriel Mountains to its terminus at the Pacific Ocean, the Santa Clara River flows approximately 84 miles. Historically, the river has generally flowed year-round from the area near Interstate 5 westerly into Ventura County (a noted exception is the "dry gap" area located between the Los Angeles County/Ventura County line and Piru Creek). The upper reach of the river, has been typically dry except in periods following storm events; this portion of the river extends from the Bouquet Canyon Road overpass to Lang Station, located on Lang Station Road south of Soledad Canyon Road and east of Lost Canyon Road. Flows within the river are largely a result of stormwater runoff in the rainy months and wastewater treatment discharges in the drier months. Effluent from the Saugus Water Reclamation Plant (WRP) and Valencia WRP accounts for up to 40 percent of total stream flow within the Santa Clara River during the winter, and up to 90 percent during summer months.

Principal tributaries to the upper Santa Clara River include creeks located in Mint, Bouquet, San Francisquito, Castaic, Oak Spring, and Sand Canyons. The principal tributaries of the South Fork of the river, which drains in a northerly direction toward its confluence with the main course of the river, include Placerita Creek, Newhall Creek, and Pico Creek. At higher elevations these creeks are typically perennial, flowing all year unless rainfall is below normal. Flow in the stream canyons near the valley floor is normally limited to the rainy season.

Dry Canyon Reservoir is a 1,313 acre-foot storage facility located in Dry Canyon between Bouquet and San Francisquito Canyons, north of Saugus[1]. The reservoir was placed in service in 1913 to provide aqueduct storage and regulate flows in the Los Angeles Aqueduct, but was taken out of service in 1966 due to seepage problems. Currently the reservoir impounds water only during storms.

Castaic Lake is a 324,000 acre-foot storage facility created by an earth-filled dam across Castaic Creek. The reservoir serves as the West Branch Terminus of the California Aqueduct. In addition to its State Water Project (SWP) functions, the lake is operated to conserve local floodwaters for use in water recharge of underlying groundwater basins. Castaic Lagoon is located directly south and downstream of Castaic Dam, and was created by the California Department of Water Resources (DWR) to provide recreational opportunities. The Lagoon has a surface area of 197 acres and a capacity of 5,701 acre feet. Elderberry Forebay is also a part of the Castaic Reservoir system, and is an enclosed section of Castaic Lake. Surface water resources are shown on Figure CO-3.

Streams

Topographical maps prepared by the U. S. Geological Survey (USGS) show several types of water courses and drainage areas with different symbols, and these symbols have changed somewhat over time. Perennial streams (in which water typically runs year-round) and intermittent streams (in which water runs for only part of the year) are both shown with blue lines on most USGS maps, although some maps show intermittent streams with a brown dotted line or with a different line width from perennial streams.

1 An acre foot is the amount of water required to fill one acre to the depth of one foot, equivalent to 325,000 gallons, and is estimated to be the amount of water needed to serve two families of four for one year.

Wide wash areas are shown with a brown dot pattern. These symbols are used to delineate various topographic features, based on field observation or aerial photos. However, USGS does not claim legal authority for the classification of streams, and the stream classification used on the maps is a somewhat subjective process based on the observations and judgment of personnel in the field, during a limited period of time. Although USGS topographical maps are meant to be as accurate as possible in providing the public with information about topography and other mapped features, USGS does not perform scientific measurements to determine stream classifications.

This is an important point because of some confusion about the term "blue-line streams" as it has been used in legislation and in general discussion of stream characteristics. The term is sometimes used to refer to "jurisdictional waters," meaning areas that are under the jurisdiction of State and Federal agencies ("waters of the United States"). However, jurisdictional waters can include more streams than are shown on USGS maps; conversely, streams that are shown on topographical maps may no longer flow in the same location on the ground as what was shown on the map. As development has occurred in many areas, streams may have been diverted or channelized for flood control purposes, and drainage patterns may have changed. Topographical maps are updated periodically, but may not reflect all changes to stream courses. Therefore, topographical maps cannot be depended on as a final authority for delineating possible streams, riparian areas, or wetlands.

For this reason, the Area Plan does not use USGS topographical map information on blue line streams as a basis for planning or land use decisions. The most recent information available to the City and County on streambed locations are the Federal Insurance Rate Maps from the Federal Emergency Management Agency (FEMA) mapping program for flood control hazard areas. These maps were most recently updated in 2008, and the information from these maps has been included in the Safety Element as shown on Figure S-4, Floodplains.

It is not feasible to map all jurisdictional waters for the Area Plan, because each stream must be mapped individually by a trained specialist. Also, because streams change course over time, jurisdictional waters surveys are valid for only five years. However, the Conservation and Open Space Element contains policies to protect the Santa Clara River and its tributaries, as well as other riparian areas, from the adverse impacts of development. Development proposals that affect jurisdictional waters may also require permits from the U. S. Army Corps of Engineers, the California Department of Fish and Game, and the Regional Water Quality Control Board.

Groundwater Resources

Groundwater is concentrated into natural hydro-geological units called basins. An aquifer is a subsurface area where water collects, concentrates, and can be extracted within a basin. Multiple aquifers may be located within each basin. The three major groundwater basins underlying the planning area are the Santa Clara River Valley Groundwater Basin, East Subbasin (East Subbasin) and the Acton Valley Groundwater Basin. The East Subbasin encompasses the upper Santa Clara River Valley and is comprised of two aquifer systems, the Alluvium (also referred to as the Alluvial Aquifer), and the Saugus Formation. The Alluvial Aquifer generally underlies the Santa Clara River and its tributaries, and the Saugus Formation underlies nearly the entire Upper Santa Clara River area. Groundwater in the East Basin generally flows from east to west, following the movement of the Santa Clara River. The East Subbasin is the sole source of local groundwater for urban water supply in the Valley. Groundwater basins are shown on Figure CO-3.

Because up to 80 percent of the average annual precipitation occurs between November and March, most groundwater infiltration is in the form of winter-storm flow. However, the East Subbasin is also replenished by deep percolation of agricultural land, urban irrigation, percolation from septic tanks and leach field systems, and treated effluent from water reclamation plants.

The Acton Valley Groundwater Basin encompasses about 17 square miles and is bounded by the Sierra Pelona on the north and the San Gabriel Mountains on the south, east, and west. Groundwater in the basin is unconfined and found in alluvium and stream terrace deposits. The regional direction of groundwater flow is in a southwesterly direction toward Soledad Canyon. Replenishment of this basin is achieved through percolation of direct rainfall and infiltration of surface water runoff, agriculture and irrigation, and septic tanks. There is no pumping for urban water supply

and distribution from this basin, although individual users in the far eastern portion of the planning area may have private wells in the Acton Valley Groundwater Basin.

Natural or soft bottom drainage channels and wide natural floodways and flood plains maximize the groundwater recharge potential and help to replenish the aquifers. As an unchannelized river, the Santa Clara River and its tributaries provide opportunities for groundwater recharge. The best available evidence shows that no adverse impacts on basin recharge have occurred due to the existing use of local groundwater supplies, consistent with the Castaic Lake Water Agency (CLWA)/purveyor groundwater operating plan for the basin (see *2005 Basin Yield Report*). In addition, according to the memorandum prepared by CH2MHill (*Effect of Urbanization on Aquifer Recharge in the Santa Clarita Valley*, February 22, 2004), urbanization in the Santa Clarita Valley has been accompanied by long-term stability in pumping and groundwater levels, and the addition of imported SWP water to the Valley, which together have not reduced recharge to groundwater, nor depleted the amount of groundwater in storage within the local groundwater basin.

In March 2006, a technical memorandum specific to the recharge of the Saugus Formation, was prepared by Luhdorff & Scalmanini Consulting Engineers. This technical memorandum, *Evaluation of Groundwater Recharge Methods for the Saugus Formation in the Newhall Ranch Specific Plan Area*, presented the following findings:

- Historical observations for several decades have shown that there have been no long-term changes in groundwater storage or levels and that natural recharge processes have sustained groundwater levels, including long-term, essentially constant, high groundwater levels – without the need for artificial recharge operations to augment natural recharge to the basin.

- The future operating plan for the basin has been evaluated in both the 2005 Urban Water Management Plan and the 2005 Basin Yield Report and neither document calls for attempts to artificially recharge the basin.

- The Saugus Formation is generally recharged in the east to central portion of the basin. Groundwater flow in the basin is generally east to west with resulting groundwater discharge at the western end of the basin.

- If artificial recharge of the Saugus Formation were to become desirable in the future, the recharge is hydrogeologically feasible through injection wells. This mechanism would alleviate the need to set aside land area for artificial recharge purposes, and would likely occur in the eastern portion of the Saugus Formation. There would be no need for artificial recharge in the western part of the basin.

Water Supply

The primary sources of water in the planning area include groundwater pumped from the aquifers in the East Subbasin, supplemented by imported water from the State Water Project (SWP). Completed in 1972, the SWP is the largest water diversion system in the world, consisting of 22 dams and reservoirs; the largest of these is an earthen dam near Oroville which holds 3.5 million acre feet of surface runoff from the northern Sierras. When released from the Oroville Dam, SWP water flows down the Feather and Sacramento Rivers into the Sacramento-San Joaquin Delta, where it is pumped across the Delta to prevent it from flowing into the ocean. From the Delta, SWP water is conveyed 444 miles south through the Edmund G. Brown California Aqueduct, which parallels Interstate 5 as far as the Tehachapi Mountains. The water is raised 2,000 feet by the Robert D. Edmonston Pumping Plant, enabling it to be conveyed across the Tehachapi Mountains and into the Antelope Valley. The water is then distributed to SWP reservoirs in Castaic and Moreno Valley. At full capacity the SWP system can convey 4 million acre feet per year. About 30 percent of the water is used for agricultural irrigation, primarily in the San Joaquin Valley, and 70 percent is used for residential, municipal, and industrial use.

The most southerly reservoir on the West Branch of the SWP California Aqueduct is Castaic Lake. Castaic Lake Water Agency (CLWA) receives water from Castaic Lake and distributes it to the local purveyors following treatment. CLWA was formed in 1962 for the purpose of contracting with the California Department of Water Resources (DWR) to provide a supplemental supply of imported water to the water purveyors in the Valley. CLWA serves an area of 195 square miles in Los Angeles and Ventura Counties, with an annual contract for 95,200 acre feet of SWP water. The Agency treats and distributes a portion of SWP water to four water purveyors (also referred to as retailers) in the planning area, which in turn provide water to households and business customers in the City and unincorporated communities.

State law requires water utilities that serve over 3,000 customers to update and submit an Urban Water Management Plan (UWMP) every five years. CLWA and the four local retail water purveyors jointly prepared and adopted an UWMP for the Santa Clarita Valley in 2005. The 2005 UWMP was prepared for a 25-year planning horizon, through 2030, and addressed the following question: *Will there be enough water for the Santa Clarita Community in future years, and what mix of programs should be explored for making this water available?* The 2005 UWMP concluded that a reliable and high quality water supply would be available to Valley water customers, based on conservative water demand and implementation of conservation measures.

Although the 2005 UWMP acknowledged that SWP water will remain an important supplemental water supply source for the Valley in the long term, it also emphasized the need for conjunctive use of local groundwater, increased use of reclaimed water, and a substantial water conservation effort. Local water retailers currently pump over 50 percent of the domestic water supply from groundwater aquifers. This water is generally blended with SWP supplies prior to distribution to domestic customers.

Another source of water comes from transfers, exchanges, and groundwater banking programs. In 2007, CLWA completed acquisition of an 11,000 acre-foot per year supply of high-flow Kern River water that is being delivered to Castaic Lake using SWP facilities. In addition, CLWA has banked over 115,000 acre-feet in groundwater banks in Kern County; this water will be used to offset shortages during future dry years.

Due to the rapid growth in the Santa Clarita Valley, annual total water demand has more than doubled between 1980 and 2004 (from about 37,000 acre-feet to about 88,000 acre-feet). The UWMP projects annual increases in water usage of about 2.2 percent through 2030 *without* conservation measures in place, and 1.3 percent annual water usage increases *with* conservation measures. Projected 2030 demand is estimated at 138,300 acre feet. This estimate is in line with population growth projections prepared for the update of the City's General Plan and the County's Area Plan.

As part of the 2005 UWMP, water shortage contingency planning was also addressed by the water agencies. These contingencies included continued drought, an interruption of SWP delivery, and power outages. Plans for such contingencies include water conservation, mandatory limits on use, and penalties for excessive use, among other measures. The amount of SWP water supply delivered to the SWP contractors in a given year depends on the demand for the supply, the amount of rainfall, snowpack, runoff, water in storage, pumping capacity from the Delta, and legal and environmental constraints on SWP operation. According to the DWR, water delivery reliability depends on three general factors: (1) the availability of water at the source; (2) the ability to convey water from the source to the desired point of delivery; and (3) the magnitude of demand for the water.

A topic of growing concern for water planners and managers is climate change and the potential impacts it could have on California's future water supplies. Current literature suggests that climate change is likely to significantly impact the hydrological cycle, changing California's precipitation pattern and amount from that shown by the historical record. According to DWR, there is evidence that some changes are already occurring, such as snowmelt beginning earlier in the Sierras, an increase in water runoff as a fraction of the total runoff, and an increase in winter flooding frequency. More variability in rainfall, wetter at times and drier at times, would place more stress on the reliability of existing flood management and water supply systems, such as the SWP. Local responses to climate change due to greenhouse gas emissions are discussed in a later section of this element.

Sacramento-San Joaquin Delta Issues Affecting Water Supply

After adoption of the joint 2005 UWMP by Santa Clarita Valley water agencies, a 2007 judicial decision concerning the Sacramento-San Joaquin Delta temporarily reduced water allocations by the SWP, pending further actions by the U. S. Fish and Wildlife Service (USFWS) to mitigate habitat impacts from water exports. As noted above, CLWA contracts with the DWR to purchase SWP water, with an annual contract amount of 95,200 acre feet. SWP water represents nearly half of the water used by Valley residents and businesses during a typical year, with groundwater resources providing the rest. Because of the importance of SWP water to continued growth and development in the Valley, a brief description of the issues pertaining to the Delta, and their impact on water supply, is provided in this section.

The current issues with distribution of SWP supplies result from a legal decision on a court case that concerned impacts of water pumping on fragile ecosystems of the Sacramento-San Joaquin Delta. The Delta is a network of natural and artificial channels and reclaimed islands at the confluence of the south-flowing Sacramento River and the north-flowing San Joaquin River, just east of where they enter Suisun Bay, an upper arm of San Francisco Bay. Extending in width more than 40 miles from Sacramento to Tracy, the Delta encompasses 1,600 square miles, receives runoff from four major rivers, drains over 40 percent of the State, and carries more water seaward than the Colorado River. The Delta provides habitat for numerous species of fish and wildlife; nearly half of the State's migrating waterfowl and shorebirds, and two thirds of the State's spawning salmon, pass through the Delta. Author William Fulton described the multiple functions served by the Delta for both ecological and economic purposes:

> The Delta is a crossroads for all of California. Its flush of fresh water contains almost half the runoff in the state, and helps forestall saltwater intrusion that would harm people and wildlife. The Delta contains vital shipping channels that serve long-established industrial ports in Martinez, Pittsburg, Stockton…It is a heavily used recreation area prized by fishing interests, boaters, and others. It is home to several towns, including at least two below sea level. Thanks to a system of levees constructed over a century, the Delta has hundreds of thousands of acres in farmland, including some 150,000 acres that lie below sea level. And finally, the Delta is a switching station for California's water. Most of the water used in the state – from municipal and federal dams to the east and state dams to the north – is stored, flushed, and pumped across the Delta to reach farm and urban customers to the west and south. Sixty percent of the state's drinking water travels through the Delta, along with water to irrigate almost half the fruits and vegetables in the United States.[2]

In the spring of 2007, the State saw the first voluntary shutdown of the SWP pumps in the Delta to protect fish. The goldfish-sized Delta smelt (*Hypomesus transpacificus*), a state- and federally-listed endangered species, and some other pelagic (open water) fishes have been in decline since the early 2000s for reasons that likely include the presence of invasive species, which have altered the basic food web in the Delta, and the impacts of toxins, in-Delta diversions, and water project operations. In 2007, SWP operational changes in the Delta costing over 500,000 acre-feet were taken to help protect the endangered Delta smelt. Unfortunately, these actions did not result in an increase in the abundance of Delta smelt in the fall of 2007, suggesting that more than just water project operational changes in the Delta are needed to increase Delta smelt abundance. In addition, another pelagic fish, the longfin smelt, is now being considered for listing under the State Endangered Species Act. DWR states that a more comprehensive approach to address the decline in pelagic fish is needed.

The Delta smelt is considered to be an "indicator species." Because of its wide range and historically large numbers throughout the Delta, some believe its health and abundance serve to indicate the general health of the Delta as habitat for other species. Like the proverbial canary in a mine shaft, Delta smelt populations react quickly to degradations of water quality, indicating changes that may affect other species. In addition, smelt and other small fish in the Delta serve as the foundation for the food chain that supports larger species of fish and marine life, including striped bass, a popular fish for recreational fishermen. Populations of smelt have seriously declined over the last twenty years. From a population of 800,000 during the 1960s and 1970s, the smelt population has dropped to about 35,000 in the Delta. Of most immediate concern to conservationists, smelt and other small fish are in danger of being sucked into the large pumps that siphon water from the Delta into aqueducts that carry it to water customers located hundreds of miles to the south. During 2007, new Delta planning efforts – including the Delta Vision process established by Governor Arnold Schwarzenegger and the Bay/Delta Conservation Planning process – have reached important conclusions about the need to change the way water is conveyed across or around the Delta to both better protect fish and provide a sustainable and reliable water supply for the State. Those efforts are expected to continue into 2008 and beyond.

2 Fulton, William. *The Reluctant Metropolis: the Politics of Urban Growth in Los Angeles*. Point Arena CA, Solano Press Books, 1997, pages 110-111.

As noted above, the Sacramento-San Joaquin Delta is the largest estuary on the West Coast. It functions as the hub of California's water system, as a vital resource in the fishing and agricultural economies, serves as a recreational area, and is home to millions of Californians. A 2007 report by the Public Policy Institute of California concluded that "most Californians rely on the Delta for something, whether they know it or not." Numerous water agencies rely on the State pumps in the Delta, and many would face water rationing within a few weeks if Delta supplies become unavailable. Regions of the State that depend on imported water from the Delta must consider the importance of this region for all Californians, and plan for contingencies in the event water supplies from the Delta are temporarily or permanently reduced due to competing demands.

As to the ability to convey source water to the desired point of availability, DWR reports that an uncertainty factor exists with respect to SWP operations, because they are closely regulated by Delta water quality standards established by the State Water Resources Control Board (SWRCB) and set forth in Water Rights Decision 1641. DWR also reports other factors of uncertainty due to the continuing unexplained decline in many pelagic fish species, including the Delta smelt since the early 2000's, and the legal challenges to SWP operation and on-going planning activities related to the Delta. Other uncertainties include future sea level rise associated with global climate change, which could increase salinity in the Delta and the risk of interruptions in SWP diversions from the Delta due to levee failures. The referenced litigation challenges are described in more detail below.

As to estimating the future demand for SWP water, DWR has identified uncertainty factors including population growth, water conservation, recycling efforts, other supply sources, and global climate change. In addition to the above-identified factors affecting water delivery reliability, DWR has reported other limitations and assumptions, all of which are explained in the *Draft State Water Project Delivery Reliability Report 2007*. This report has also identified the status of four major concurrent Delta planning efforts that are underway with objectives related to providing a sustainable Delta over the long-term. These planning efforts may propose changes to SWP operations, which in turn could affect SWP water supply availability. The planning efforts are the *Delta Vision*, the *Delta Risk Management Strategy*, the *CALFED Ecosystem Restoration Program Conservation Strategy*, and the *Bay-Delta Conservation Plan*. According to DWR, each planning effort could affect SWP and Central Valley Project operations in the Delta, and each is explained in detail in the *Draft State Water Project Delivery Reliability Report 2007*.

Recent litigation has had an effect upon the availability and reliability of imported SWP supplies. For example, in October 2006, plaintiff Watershed Enforcers, a project of the California Sportfishing Protection Alliance, filed a lawsuit in Alameda County Superior Court alleging that DWR was not in compliance with the California Endangered Species Act (CESA) and did not have the required state incidental take permit to protect the Delta smelt as part of DWR's pumping operations at the Harvey O. Banks Pumping Plant located near the town of Tracy (*Watershed Enforcers, et al. v. California Department of Water Resources, et al. Alameda County Superior Court No. RG06292124 [Watershed decision]*). In April 2007, the court agreed with the plaintiff and ordered a shutdown of pumping from the Delta if appropriate permits could not be obtained in 60 days. In May 2007, the DWR filed an appeal of the trial court's decision, which automatically stayed the decision pending the outcome of the appeal. At the same time, DWR entered into a Memorandum of Understanding with California Department of Fish and Game (CDFG) to jointly work with the appropriate federal agencies to develop a federal Biological Opinion that complies with CESA. During preparation of the new Biological Opinion, DWR committed itself to actions related to protecting the Delta smelt and other species through adaptive management provisions. Upon completion of this effort, DWR plans to submit a request to CDFG for a consistency determination under CESA that would allow for incidental take based on the new federal Biological Opinion.

On May 25, 2007, the U.S. District Court for the Eastern District, the Honorable Oliver W. Wanger, presiding, found that the 2005 United States Fish and Wildlife Service (USFWS) Biological Opinion for Delta smelt was not consistent with the requirements of the federal Endangered Species Act and must be rewritten. On August 31, 2007, Judge Wanger established interim operating rules to protect Delta smelt until the USFWS rewrites the Biological Opinion. The interim operating rules set in-Delta flow targets in Old and Middle Rivers from late December through June that will restrict CVP and SWP pumping in 2008 and until the Biological Opinion is rewritten. Judge Wanger's restrictions on CVP/SWP operations will last while the new Biological

Opinion for Delta smelt is completed. The new Biological Opinion is expected to impose restrictions that may continue reduced pumping operations in the SWP/CVP until broader solutions are implemented for the Bay-Delta. Other implications are described below based on the best available current information.

In terms of short-term water supply availability, there have been short-term effects related to issues presented in the Watershed and Wanger decisions. There is also concern that the remedy adopted by the District Court could ultimately become part of the conditions in the new Biological Opinion and incidental take permit expected to be issued in the fall of 2008. These concerns, if they materialize, could limit the amount of SWP water that can be delivered to SWP contractors, including CLWA.

Governor Schwarzenegger directed DWR to take immediate action to improve conditions in the Delta. According to the Office of the Governor, the Governor is building on his Strategic Growth Plan, which consists of approximately $6 billion to upgrade California's water systems. The Governor has also directed the Delta Vision Blue Ribbon Task Force to develop a delta management plan. The Task Force has presented its findings and recommendations, and its strategic plan is due by October 31, 2008. The Bay-Delta Conservation Plan is also underway. This plan is intended to ensure compliance with federal and state Endangered Species Act requirements in the Delta. The $1 billion proposed in the Governor's comprehensive plan will be used to fund recommendations from both the Delta Vision Task Force and the Conservation Plan.

Over the long-term, water supply availability and reliability will continue to be assessed by DWR in DWR's biennial SWP delivery reliability reports. These reports necessarily take into account a myriad of factors in evaluating long-term water supply availability and reliability. These factors include multiple sources of water, a range of water demands, timing of water uses, hydrology, available facilities, regulatory restraints (including pumping constraints due to impacts on listed fish species), water conservation strategies, and future weather patterns. The Watershed and Wanger decisions highlight the regulatory restraints applicable to SWP supplies, which have impacted DWR deliveries of SWP supplies in the past, and could curtail such deliveries in the future.

Following the final court order issued in the Wanger decision, representatives of CLWA and the four local retail water purveyors met with Los Angeles County and City of Santa Clarita planning staff to coordinate water supply and land use planning activities for the Santa Clarita Valley. In addition, DWR has issued its *Draft State Water Project Delivery Reliability Report, 2007.* Based on this information, CLWA has determined that there are sufficient water supplies available for pending and future development within the CLWA service area for the foreseeable future through 2030, as set forth in the 2005 UWMP. The Valley's water suppliers are presently reviewing their projected service needs and water supply estimates, and will be jointly preparing an amended UWMP, beginning in 2009.

Water Conservation

Water conservation has become an increasingly important factor in water supply planning throughout California, especially in light of continuing drought conditions and the Delta issues described above. A monthly newsletter issued by Governor Arnold Schwarzenegger's office in January, 2008 underscored the State's concern about water availability:

> Today California has more than 37 million people with a water system built for half that, and we are seeing the consequences. Businesses and homes are facing mandatory reductions in water use, and new developments that would provide good-paying jobs have been delayed because local governments don't know if there will be enough water to go around.[3]

Adding to concerns about water supply are recent studies of the effect of climate change on precipitation rates and snowpack in the western United States. A 2007 study by scientists at the Scripps Institution of Oceanography showed that climate change from human activity is disrupting water supplies in the region. "Trends in snowpack, river runoff and air temperatures – three fundamental indicators of the status of the West's hydrological cycle – point to a decline in the region's most valuable natural resource, water, as population and demand grows in the West," according to a Scripps press release describing the study's conclusions.[4] Through extensive data analysis and multiple models, all

3 State of California, Office of the Governor, External Affairs, Montly Newsletter January, 2008.
4 Scripps Institution of Oceanography/UC San Diego, "Climate Crisis in the West Predicted with Increasing Certainty," December 17, 2007. Available on-line at http://scrippsnews.ucsd.edu/Releases/?releasesID=856

of which yielded the same results, the study forecasted a serious water supply problem for those dependent on the Colorado River drainage, and substantial alterations to the hydrology of the Sacramento River Delta, home to many sensitive ecosystems and economically important wildlife. Although the Santa Clarita Valley does not use water imported from the Colorado River, this water source is critical to portions of the Los Angeles basin served by the Metropolitan Water District of Southern California. Any reduction in Colorado River water availability is likely to affect demands for water from the State Water Project. The Colorado River basin is now in the eighth year of drought, and water levels in Lakes Mead and Powell are at only about 50 percent of capacity.

One of the greatest opportunities for conservation is reduction of landscape irrigation through greater efficiency and use of native, drought-tolerant plant materials. Grasses bred for use in lawns are not native to North America, and require a large amount of water to promote growth. Since the Santa Clarita Valley's annual precipitation is only about 13 inches per year, much of the water used for landscape irrigation must be imported. As much as 60 to 70 percent of the water used by residential customers is typically for landscape irrigation. Water conservation by residential customers through minimizing water-dependent landscaping and maximizing low-water use landscaping (xeriscape) could contribute significantly to ensuring that long term water needs are met in the Valley.

The term *xeriscape* was coined by the Denver Water Board in 1978 to mean "water conservation through creative landscaping". A well-designed xeriscape landscape can reduce yard maintenance by as much as 50 percent, and requires less fertilizer and pesticides. Watering efficiently and mulching can also save significantly on water usage. Xeriscape plants use just one tenth of the water that a lawn of green grass uses. Each lawn that is replaced with xeriscape plants can save up to 260 gallons of water per day.

Public agencies have an opportunity to set an example on water conservation in landscaping, by replacing water-thirsty turf with xeriscape on street medians and parkways, around public buildings, and on other public land that is not actively used for recreational purposes. CLWA has installed a demonstration garden adjacent to its administration building, and provides information on xeriscape landscaping techniques. In 2008, Los Angeles County adopted an ordinance limiting the amount of turf and requiring drought-tolerant landscaping on new development. Included in the ordinance was a list of drought-tolerant plants suitable for various climate zones within the County. Both the City and the County will show their commitment to wise water use through converting turf to xeriscape on new capital projects. Policies have been included in this element supporting these measures.

In other water conservation measures, CLWA and the retail water purveyors in the valley have been aggressively implementing demand management measures and best management practices. Activities include water audits and repairs, public outreach, conservation pricing, residential plumbing retrofit, residential ultra low flush toilet replacement, large landscape conservation, and conservation programs for commercial, industrial, and institutional accounts. For new construction, the California plumbing code has instituted requirements that mandate installation of low-flow toilets and showerheads. CLWA estimates that conservation will result in a long-term reduction of water demand.

Water Recycling

State water policy identifies water recycling as a beneficial use of water, and recycled water is an important component of water management planning. The Sanitation Districts of Los Angeles County (LACSD) own and operate two water reclamation plants in the Valley, the Saugus WRP (No. 26) and the Valencia WRP (No. 32). Wastewater is treated at these plants to tertiary levels and discharged to the Santa Clara River. The primary sources of wastewater to the Saugus and Valencia WRPs are domestic. Together, the WRPs have a design capacity of 28.1 million gallons per day. Current plans call for recycled water from only the Valencia plant, located on The Old Road near Magic Mountain Amusement Park, to be used as a source of recycled water. Use of water from the Valencia WRP for landscaping purposes began in 2003, with deliveries to the Westridge Golf Course. Recycled water from the Valencia WRP has also been used by the City for landscape irrigation, and for construction applications via tanker truck.

The ability of CLWA to use recycled water is constrained by its rights to use the water available. CLWA has been approved to use 1,700 acre-feet per day of recycled water, but the ultimate recycled water use is governed by various

laws, court decisions, and water rights of downstream users. Only "foreign" water, such as water imported from the State Water Project, can be used for recycling purposes.

Developers of the Newhall Ranch Specific Plan are also planning to construct a water recycling facility, and non-potable water from this source will be utilized for the Newhall Ranch development. The proposed facility would be located south of SR-126 at the western edge of the project site, with an ultimate capacity of 6.8 million gallons per day. Effluent from the proposed WRP would be used to meet non-potable water demand within the project area. The plant is projected to produce approximately 5,000 acre-feet per year on average.

Currently, CLWA serves approximately 448 acre-feet per year of recycled water to the Valencia Water Company for irrigation purposes at Westridge Golf Course and other sites. CLWA has identified a number of potential users of recycled water in the future. Demands for recycled water are seasonal, with the highest demands occurring during the hot, dry summer months when irrigation requirements are greatest. CLWA estimates that the total potential annual recycled water demand that is cost effective to serve is approximately 17,400 acre-feet per year. Implementation of the recycled water system is expected to occur over the next 25 years. CLWA has identified various strategies to encourage the use of recycled water, including rate reductions and working with the City to mandate recycled water use for certain applications.

AB 1881

The California State approved Assembly Bill 1881, which requires the Department of Water Resources to create a model ordinance to improve the efficiency of water use in new and existing urban irrigated landscape in California. A draft ordinance has been created and is currently undergoing a public review process by public and private agencies. It is anticipated that the ordinance will be finalized and local agencies will be required to adopt the ordinance no later than January 1, 2010. Once the ordinance is finalized, the County and City of Santa Clarita will pursue meeting its requirements, including the implementation of water efficient irrigation and landscaping on all future developments.

Water Quality

The federal Clean Water Act was adopted to restore and maintain the chemical, physical, and biological integrity of the nation's waters. The Act directs each state to establish water quality standards for all "waters of the United States." The Environmental Protection Agency has delegated responsibility for implementation of portions of the Clean Water Act, including water quality control planning, to the State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCB). The SWRCB establishes statewide policies and regulations for implementing water quality control programs. The RWQCBs develop and implement Water Quality Control Plans (Basin Plans) that consider regional beneficial uses, water quality characteristics, and water quality problems. Each Basin Plan also provides strategies and implementation plans for the control of pollutants, remediation of pollution, monitoring, and assessment of the region's waters.

The National Pollutant Discharge Elimination System (NPDES) Program was established in the Clean Water Act to regulate discharges of pollutants into surface waters of the United States. Both point discharges (such as a municipal or industrial discharge at a specific location or pipe) and nonpoint source discharges (such as diffuse runoff of surface water from streets and parking lots) are regulated by the NPDES Program. In addition, construction activities which may result in water-born erosion from grading or stockpiling are regulated through various techniques called "best management practices." Water quality management plans and stormwater pollution prevention plans are required for development projects to meet the requirements of the NPDES Program to maintain water quality.

Surface water quality within the planning area is affected by a variety of discharges from both point and nonpoint sources. Wastewater treatment plant effluent is the largest and most common point-source discharge. Urban runoff, erosion, agricultural runoff, and other natural causes are common nonpoint sources. Pollutants from both point and nonpoint sources include dissolved and suspended solids, oil, grease, nutrients, metals, bacteria, and pesticides.

The Santa Clarita Valley planning area is within the hydrological areas covered by the 1994 Water Quality Control Plan for the Santa Clara River Basin (California Department of Water Resources Hydrological Unit No. 403.51). Portions of the Santa Clara River watershed have been identified as an "impaired water body" by the SWRCB because waters in

these areas exceed adopted standards for various pollutants. Pollutants of concern include chloride, coliform, ammonia, nitrates, nitrites, and various organics. In 2005, the Upper Santa Clara River Chloride Total Maximum Daily Load (TMDL) became effective, outlining a 13-year plan to reduce chloride levels in the river. Chloride sources include SWP water imported into the Valley for drinking water, reclaimed water from the Valencia and Saugus WRPs, and domestic sources (including water softeners and salt-water pools). The use of residential self-regenerating water softeners installed prior to 2003 is the most significant controllable source of chloride entering in to the community sewer system, accounting for approximately 30 percent of all chloride in the discharge. The WRPs have not been designed to remove chloride. Although installation of new automatic water softeners was prohibited in 2003, it is estimated that thousands of self-regenerating water softeners are still in use within the Santa Clarita Valley Joint Sewerage System. The Sanitation District has initiated a public awareness and education program, financial incentives for removal of water softeners, and a voluntary sales ban of salt and water softeners in local business. In 2007, the Sanitation District entered into an agreement with a water softener provider to remove nearly 600 rented water softeners from Valley residences in order to protect water quality. If salt levels discharged into the river do not decrease due to these compliance efforts, the Sanitation District may have to install additional costly treatment equipment, resulting in higher rate charges to sewage customers. A referendum proposed by the Santa Clarita Valley Sanitation Districts of Los Angeles County to ban existing water softeners was passed in November 2008.

Both the County and the City are working closely with the SWRQCB to meet requirements for the TMDL, through programs to provide pro-active public education and outreach, incentives for residents and business owners, and implementation of new technologies. A policy has been included in this element supporting cooperative efforts to address TMDL requirements, in order to improve water quality in the Santa Clara River.

To ensure drinking water quality of SWP water, CLWA has two surface water treatment plants that eliminate microbial contaminant, salts, minerals and algae. According to the 2005 UWMP, groundwater from the East Subbasin does not have microbial water problems. Parasites, bacteria, and viruses are filtered out as water percolates through soil, sand and rock on its way to the aquifer. However, disinfectants are added to local groundwater when it is pumped by wells to protect public health. All groundwater used for potable water meets or exceeds drinking water standards.

Perchlorate contamination emanating from the former Whittaker-Bermite site in the central portion of the Valley has been detected in the Saugus formation, and to a lesser extent, in the Alluvium formation in the East Subbasin. As discussed in the 2005 UWMP, Chapter 5 and Appendix D, there has been extensive investigation of the extent of perchlorate contamination, which, in combination with groundwater modeling, has led to the current plan for integrated control of contamination migration and restoration of impacted pumping (well) capacity.

The short-term response plan for the protection of other alluvial wells, down gradient from the Whittaker-Bermite site, will be to promptly install wellhead treatment to ensure adequate water supplies. This plan complements the longer-term source control actions being undertaken by the Whittaker-Bermite property owner under supervision of the State Department of Toxic Substances Control (DTSC) to address perchlorate contamination in the northern alluvium (to the north of the former Whittaker-Bermite site). The long-term plan also includes the CLWA groundwater containment, treatment and restoration project to prevent further downstream migration of perchlorate, the treatment of water extracted as part of the containment process, and the recovery of lost local groundwater production from the Saugus Formation.

There are four Saugus wells contaminated by perchlorate. The four contaminated wells consist of one owned by Newhall County Water District, two owned by Santa Clarita Water District, and Valencia Water Company well 157, which has been sealed and abandoned. These four wells represent a total of 7,900 gallons per minute of pumping capacity (or full-time source capacity of about 12,700 acre-feet per year) inactivated due to perchlorate contamination.

Low Impact Development

In the past, traditional planning and design techniques have often focused on particular characteristics of a building site and the immediate area, rather than on the relationship of each new development project to the surrounding regional environment. Even more holistic planning concepts such as new urbanism and smart growth have often overlooked the implications of a specific development project on environmental conditions in the greater watershed. Planners

now understand that development decisions cannot be limited to site specific conditions, but must be made in consideration of broader environmental conditions such as regional water quality.

The construction of impervious surfaces such as roads, parking lots, and rooftops leads to the degradation of water quality by increasing runoff volume, stream sedimentation and water acidity, altering regular stream flow and watershed hydrology, and reducing groundwater recharge. According to the EPA, a one-acre parking lot produces a runoff volume almost 16 times as great as would an undeveloped meadow of the same size.

The concept of Low Impact Development (LID) was created to ensure that new development is designed in consideration of overall environmental conditions, including regional water quality. LID is a land-use planning approach that incorporates "green infrastructure" concepts such as zero runoff, rainfall harvesting, groundwater recharge, biofiltration, native landscapes, green streets, and other measures to promote water quality protection in new development. The goal of LID is to protect a community's natural, pre-development water flow in order to minimize ecological impacts of urbanization.

The LID concept was created in the early 1990's in Maryland, with support from the U. S. Environmental Protection Agency, to improve water quality in Chesapeake Bay. LID was designed to provide cost-effective alternatives to conventional stormwater management, which is typically designed to transport heavily polluted stormwater and urban runoff through pipes and concrete channels as quickly as possible into larger regional water bodies. LID principles were developed to control runoff at the source. According to information from the Low Impact Development Center, basic planning principles include the following:

1. Stormwater management. In LID, stormwater is managed as in a natural system, by creating permeable surfaces to infiltrate stormwater and urban runoff into the underlying soil and reduce the amount of runoff from impervious surfaces. Design measures to manage stormwater at the source include trenches, drainfields, dry wells, and bio-retention areas. Rain gardens are shallow depressions filled with soil, sand and plants that retain, filter, and treat stormwater. Filter strips and bioswales provide pretreatment before waters an infiltrated area. Constructed wetlands are designed to remove pollutants from runoff and provide habitat and recreation value. Vegetated swales move runoff to infiltration systems, slow the erosive velocity, and filter pollutants.

2. Urban runoff reduction. Urban runoff during dry weather is largely the result of too much water for landscape irrigation, and washing of driveways and sidewalks. This runoff mixes with fertilizer, pesticides, pollutants on roadways, and other contaminants to create some of the most polluted water entering creeks and rivers. LID measures include irrigation control and the use of native and compatible plant species that require less water.

3. Site design and circulation. Minimizing the amount of asphalt and other impervious road and parking surfaces in site design and circulation decreases the amount of runoff and pollutants, while reducing both infrastructure and maintenance costs. Modifications to conventional design to reduce impervious surfaces area includes reduced street widths, reduced parking, use of porous materials in driveways and parking areas, and the use of traffic calming measures that include stormwater capture components. Mixed use development which allows pedestrian circulation and incorporates green belts, conserves open space, and protects natural features will also protect water quality.

Policies have been included in this element to require low impact development techniques in the design of both private development and capital projects, for the purpose of managing stormwater at the source, enhancing surface water quality, reducing runoff volumes, and economizing on infrastructure costs for drainage systems and treatment facilities. In October 2008, the County Board of Supervisors approved a LID ordinance.

VII. BIOLOGICAL RESOURCES

Biological Setting

The Santa Clarita planning area encompasses the Santa Clara River Valley, the east extension of the Santa Susana Mountains, the western reaches of the San Gabriel Mountains, and the southern slopes of the Sierra Pelona range.

Because of the range of ecosystems found in this geographic setting, the planning area contains a wide variety of natural vegetation types. Approximately 49 percent (237 square miles) of the planning area is located within National Forest lands. Predominant vegetation within National Forest lands include mixed chaparral with hardwood and conifer forests at higher elevations, and riparian vegetation along stream channels. Much of the undeveloped portions of the Valley floor are vegetated with coastal scrub interspersed with annual grasslands. Around and east of Agua Dulce, desert scrub components and scattered junipers are found.

Wildlife within the planning area is also diverse. River channels and open upland areas of the planning area provide habitat for movement and foraging, as does the adjacent National Forest land. Species of bats, rodents, rabbits, weasels, badgers, skunks, raccoons, fox, bobcat, black bear, and coyote are known to inhabit canyons throughout the planning area.

Various habitats within the planning area also support bird diversity for resident, migratory, and seasonal species. Numerous species of raptors, sparrow, quail, hummingbirds, swallows, larks, and owls have been identified, along with such federal and State special status species as Southwestern Willow Flycatcher (*Empidonax traillii extimus*), and Least Bell's Vireo (*Vireo bellii pusillus*). The flycatcher typically occupies the unincorporated County portion of the planning area near Castaic Creek just west of the City boundary, while the vireo is found in local riparian habitats.

Amphibians and reptiles are abundant and relatively diverse within certain portions of the planning area. Snakes, toads, frogs, lizards, and salamanders are primarily found along the Santa Clara River and its tributaries, as well as other riparian areas. The Unarmored Threespine Stickleback (*Gasterosteus aculeatus williamsoni*), a Federal and State-listed endangered species, has also been identified in the planning area.

As one of the last free-flowing natural riparian systems left in southern California, the Santa Clara River supports a diversity of organisms by providing breeding sites, traveling routes, and other resources for wildlife. Protection of the watershed for habitat preservation is a key conservation goal. During the history of settlement and resource extraction in the Santa Clarita Valley, the watershed has been damaged repeatedly by human activities. The rupture of the St. Francis Dam in March, 1928 sent a 180-foot high wall of water crashing down San Francisquito Canyon to its junction with the Santa Clara River, sweeping structures, farms, and people in its path as well as wildlife habitat. Mining activities have degraded habitats through pollution of surface and groundwater, crushing activities, roads, pipelines, and other infrastructure constructed within the watershed. Agriculture has generated stormwater runoff that impacts surface and groundwater quality with increased salts, nitrogen, and pesticides. Off-road vehicle use within the watershed damages wildlife directly as well as through destruction of habitat and introduction of exotic and invasive plants. Stormwater drainage systems have changed the path and rate of flow for water entering the river, necessitating the construction of concrete banks for stabilization that impact groundwater recharge. Many of the water conservation policies contained in this element, including water conservation, promoting infiltration through pervious surfaces, use of native landscaping, limiting use of invasive landscape species, and acquisition of open space in the watershed for conservation purposes, will also protect the quality of the Santa Clarita Watershed for habitat conservation purposes.

Sensitive Species

Sensitive biological resources are those habitats or species that have been recognized by federal, State, and/or local agencies as being endangered, threatened, rare, or in decline throughout all or part of their historical distribution. Numerous sensitive plant and animal species and communities have been identified within the planning area, especially within National Forest lands (see Figure CO-4). Sensitive communities include southern coast live oak woodlands, valley oak woodland, southern mixed riparian, southern riparian scrub, sycamore alder riparian woodland, and southern willow scrub. Vernal pools have also been identified on Cruzan Mesa, in Plum Canyon, and within Fair Oaks Ranch. The federally endangered Least Bell's vireo and Southwestern Willow Flycatcher depend on nesting and foraging habitat provided by vegetation communities within the planning area. Riparian habitats along the Santa Clara River, Soledad Canyon, Bouquet Canyon, and San Francisquito Canyon support the endangered Unarmored Threespine Stickleback.

Habitat for the following sensitive species is known to occur within the planning area or in forest lands adjacent to the planning area, which should be protected from adverse impacts of development:

- Gnatcatcher, coastal California (*Polioptila californica californica*);
- Frog, California red-legged (*Rana aurora draytonii*);
- Toad, arroyo (arroyo southwestern) (*Bufo californicus microscaphus*);
- Barberry, Nevin's (*Berberis nevinii*);
- Stickleback, unarmored threespine (*Gasterosteus aculeatus williamsoni*);
- Flycatcher, southwestern willow (*Empidonax trailli extimus*).

Significant Ecological Areas

The County first began to inventory biotic resources and identify important areas of biological diversity in the 1970s. These biologically important areas, such as the Santa Clara River, have historically been identified in the General Plan. The primary mechanism used by the County to conserve biological diversity continues to be a planning overlay called Significant Ecological Areas (SEA). SEAs are defined as ecologically important land and water systems that are valuable as plant or animal communities, often important to the preservation of threatened or endangered species, and conservation of biological diversity in the County. The SEA overlay, along with the SEA conditional use permit process, are referred to as the SEA program, which allows the County to implement its biotic resource goals through land use regulations and biological resource assessments.

Conservation of the County's biotic diversity is the main objective of the SEA program, and connectivity between important natural habitats plays an important role in maintaining biotic communities. The preservation of large biologically diverse areas is also important because new species may still be found within a few miles of major urban centers, such as the Xylotrechus hovorei, a beetle recently discovered near the Placerita Nature Center. The five SEAs designated within the Santa Clarita Valley are depicted in Figure CO-5 and a more comprehensive description of each of the following SEAs is contained in Appendix I of this Area Plan.

Cruzan Mesa Vernal Pools

The Cruzan Mesa Vernal Pools SEA lies in the southeastern end of the Liebre Mountains, north of the Santa Clara River and east of Bouquet Canyon. The SEA boundaries encompass the watershed and drainages of the Cruzan Mesa and Plum Canyon vernal pools, considered as a single ecosystem within the SEA. The SEA is located within an unincorporated portion of Los Angeles County and lies entirely within the United States Geological Survey (USGS) Mint Canyon Quadrangle.

Piru Creek

The Piru Creek SEA encompasses the entire Los Angeles County portion of the Santa Felicia watershed draining into Lake Piru. This watershed is largely undeveloped and contains vast stands of intact coastal sage scrub and chaparral communities on south and north facing slopes, respectively. In addition to the undisturbed upland habitats, the watershed is dissected by excellent examples of mixed riparian (sycamore-willow), oak riparian and coast live oak forests and alluvial scrub in the bottomlands. Non-native grasslands occur in areas where grazing has taken place; however, there is little invasion of these ruderal taxa into the native communities.

Santa Clara River

The Santa Clara River SEA encompasses the entire Los Angeles County reach of the Santa Clara River, primarily within unincorporated areas of Los Angeles County. The Santa Clara River SEA covers the length of the river and with the watershed extensions encompasses a wide variety of topographic features and habitat types. The orientation and extent of the SEA also consists of the surface and subsurface hydrology of the Santa Clara River, from its headwater tributaries and watershed basin to the point at which it exits Los Angeles County jurisdiction.

Santa Susana Mountains/Simi Hills

The Santa Susana Mountains/Simi Hills SEA is located northwest of the San Fernando Valley within unincorporated areas of Los Angeles County and an incorporated area of the City of Los Angeles west of Chatsworth. The area is south of State Route 126 and the Santa Clara River, west of Interstate 5, and includes much of the Santa Susana Mountains in the north, the Santa Susana Pass, Chatsworth Reservoir, and the eastern portion of the Simi Hills in the south.

Valley Oaks Savannah

The Valley Oaks Savannah SEA contains one of the last remaining stands of valley oak (*Quercus lobata*) in the Santa Clarita Valley. The site consists of specimens of this species scattered over the southerly 75 percent of the site. While trees generally appear to be healthy, there is limited evidence of new trees on the property, which raises questions about their sustainability. The northerly 25 percent of the site consists of a mixture of plants from the coastal sage scrub and chaparral communities typical of those found in the Santa Clarita Valley. The entire area serves as habitat for coyote, deer, and other animal life.

SEAs are not "preserves," therefore, limited development is allowed within these designated areas. However, in order to conserve important biological resources, land-intensive development in SEAs within County areas requires approval of a Conditional Use Permit and an additional level of review by the SEA Technical Advisory Committee. This committee prepares formal recommendations for the Regional Planning commission to consider during the hearing process. The SEA review process was established to ensure that development is designed to be highly compatible with the biological resources present in a manner that is consistent with the overall intent of the SEA program.

Within the City, any development proposal in an SEA is required to include a biological study evaluating impacts on biological resources from the proposed development, and appropriate mitigation measures. In addition, the City's Unified Development Code requires that any such project be designed to be compatible with biological resources, maintain watercourses and water bodies in a natural state, maintain wildlife corridors, preserve adequate buffer areas or barriers between development and natural resources, and ensure that roads and utilities are designed to mitigate impacts to biological resources.

Wildlife Corridors

Fragmentation of open-space areas by urbanization creates "islands" of wildlife habitat. In the absence of linkages that allow movement between habitat areas, some wildlife species will not be able to maintain viable populations. Wildlife corridors provide connections between habitat areas that allow animals to move from one habitat area to another. Maintaining wildlife corridors helps to compensate for the isolation and fragmentation of habitats resulting from natural and man-made alterations to the environment; they link habitat areas that may otherwise be separated by rugged terrain, changes in vegetation, or human disturbance. Wildlife use corridors to move between remaining habitat areas in order to mate and replenish depleted populations, to escape from fire and other natural or manmade hazards, and to seek food, water, and other necessities.

The Santa Clara River Enhancement and Management Plan Study (SCREMP) identified several key movement corridors within the Planning Area. These corridors are generally located in undisturbed canyon and ravine stream habitat areas. The preservation of these areas is essential for maintaining the wildlife diversity within the planning area.

The Santa Monica Mountains Conservancy (SMMC) and the Mountain Recreation and Conservation Authority have also identified wildlife corridors in the Santa Clarita Valley, including Elsmere Canyon, Towsley Canyon, Weldon/Bee Canyon, crossings along SR-14 near Whitney Canyon, and crossings between Canyon Country and Sulphur Springs. Elsmere Canyon is an integral part of the Rim of the Valley Trail Corridor and Wildlife Corridor, linking the Santa Clarita Woodlands, Whitney, and Placerita Canyons. The Rim of the Valley Trail Corridor traverses the Santa Monica, Santa Susana, and San Gabriel Mountains.

As mitigation to a major transportation project, the San Gabriel/Santa Susana Wildlife Corridor and Open Space Acquisition Project identified key wildlife linkage corridors within the mountainous areas along the high occupancy vehicle lanes proposed for State Route 14 between Newhall Avenue and Sand Canyon Road. The corridors include the Whitney Canyon Movement Route and the highway underpass known as the Los Pinetos undercrossing. These corridors link significant coastal sage scrub, oak woodland, and riparian woodland and scrub habitats. To date, the City of Santa Clarita has secured and preserved more than 1,000 acres of wildlife corridor lands.

A wildlife corridor linkage design has been developed for the San Gabriel-Castaic Connection by the South Coast Wildland, in partnership with the Resources Agency, the U. S. Forest Service, California State Parks, National Park Service, SMMC, and several other agencies. The linkage design provides for a wildlife corridor connecting the two sections of Angeles National Forest within the planning area. According to a report on this linkage design prepared by South Coast Wildlands:

The final Linkage Design has several branches to accommodate diverse species and ecosystems functions. The northwest branch is dominated by coastal sage scrub and chaparral and encompasses all or portions of Bee, Spring, Tapia, Tick, and Mint Canyons. It serves most of the focal species, including puma, mule deer, Pacific kangaroo rat, and California thrasher. The eastern branch connects a series of desert scrub and juniper woodland habitats, thereby linking habitat for species such as American badger, burrowing owl, and Bear sphinx moth that prefer open habitat that are prevalent in desert plant communities. The third distinct branch of the Linkage Design follows the Santa Clara River and Soledad Canyon and provides large stepping-stones of habitat for semi-aquatic species, such as the western pond turtle, two-striped garter snake, and mountain kingsnake; it also serves a suite of aquatic and riparian-dependent species (e.g. Unarmored three-spine stickleback, Santa Ana sucker, Arroyo chub, California red-legged frog, Arroyo toad) not addressed by our analysis. State Route 14 and Sierra Highway are major transportation routes and pose the greatest barriers to wildlife movement. Wildlife crossings should be located near the confluence of Spring Canyon, Bee Canyon, and the Santa Clara River; in Agua Dulce Canyon, and at both places where Escondido Creek crosses the freeway.

The City of Santa Clarita has purchased several parcels within the Linkage to protect as open space, and will continue to seek ways to protect these important wildlife corridors.

National Forest Lands

The Angeles National Forest forms the northern and southern border of the Santa Clarita Valley planning area. In terms of planning for future development, the National Forest is an important part of the envisioned greenbelt surrounding the Valley. The mission of the U. S. Forest Service is to "sustain the health, diversity, and productivity of the nation's forests and grasslands to meet the needs of present and future generations." In 2005, the Forest Service updated its Land Management Plan for the Angeles National Forest, which was amended by a Record of Decision in 2006 selecting Alternative 4(a) as the Land Management Plan that will govern land use and resource management decisions in the Angeles National Forest for the next 10 to15 years. The final Land Management Plan identified four major threats to the health of the forest:

1. Fire and fuels – decades of fuel buildup, coupled with drought and disease, have created a situation that poses a threat to the lives and property living in the communities of southern California. Fire is a fact; it is not a question if fires will burn, rather, it is a question of when and how intensively.

2. Invasive species – invasive species are spreading at alarming rates, adversely affecting people and the ecosystems of the Angeles National Forest.

3. Loss of open space – The loss of open space (also known as "fragmentation") has three aspects that challenge effective land management: (1) habitat fragmentation, (2) ownership fragmentation, and (3) use fragmentation.

4. Unmanaged recreation – The phenomenal increase in the use of national forests for recreational activities raises the need to manage most forms of recreation, particularly the use of off-highway vehicles (OHVs), including all-terrain vehicles (ATVs), snowmobiles, sport utility vehicles (SUVs), off-highway motorcycles, motorized trail bikes, and similar means of transportation.

In response to these identified threats, the Land Management Plan contains strategies to limit motorized public access to designated areas of the forest; limit development to reduce the loss of open space and retain the undeveloped character of the forest; protect adjacent communities from wildfire; and emphasize plant and wildlife management in all program areas, including a reduction in invasive species.

It is recognized that effective forest management requires that City and County residents be good forest neighbors. Of particular importance for City and County dwellers is the area known as the Wildland/Urban Interface, in which urban and rural development abut the forest boundaries. In these areas fuel modification and fire protection will be of prime importance to reduce fire hazards and potential damage to lives and property from spreading forest fires. These areas are also critical to limiting the spread of invasive

species into forest areas, and limiting unauthorized motor vehicle use within the forest. City staff reviewed and provided extensive input on the Land Management Plan when it was being prepared, and has reiterated the City's commitment to ensuring that the forest is protected from off-road vehicles, invasive species, and over-development.

Urban Forestry Program

Planting trees in urban environments delivers substantial economic, environmental, and aesthetic benefits. Trees absorb rain, reducing runoff and decreasing stormwater impacts on drainage facilities. Trees provide windbreaks and shade that lower energy costs in nearby buildings. Green landscapes reduce carbon dioxide and absorb air pollutants, improving air quality. Attractive, tree-lined streets improve property values. In terms of biological resources, trees provide habitat for birds and other wildlife.

The City of Santa Clarita maintains an Urban Forestry program as part of its Public Works Department. The Urban Forestry Division maintains all of the City's street, park, trail, and facility trees, while planting many more each year. The Division is responsible for the maintenance of 50,000 trees, reforestation, weed abatement, the Neighborhood Leaf Out Program, the Arbor Day celebration, and tree removal. Through its Neighborhood Leaf Out Program, the Division provides education and public outreach to encourage tree planting throughout the City. The Division also maintains recommended tree planting lists. Through these efforts, the City has been recognized as a Tree City USA award winner for many years. The City has long recognized the value of a healthy urban forest, and will continue to promote this program.

Development Impacts on Biological Resources

Urban development can have an impact on biological resources by reducing habitat and foraging grounds, increasing nighttime lighting and noise, causing air and water pollution, changing ambient air and water temperatures, introducing invasive species and household pets into native habitats, and generating off-road vehicle use, among other impacts. Although not all of these impacts can be reduced to insignificant levels within urbanized areas, it is possible to minimize adverse impacts on the natural environment through good planning and sustainable development practices.

Several strategies for new development have been recommended by the U. S. Green Building Council as part of its Leadership in Energy and Environmental Design (LEED) program. The LEED Green Building Rating System™ is the nationally accepted benchmark for the design, construction, and operation of high performance green buildings. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality.

With respect to minimizing impacts of new development on biological resources, LEED recommends the following measures:

- Provide a high ratio of open space to development footprint to promote biodiversity. LEED recommends vegetated open space equal to 20 percent of the project's site area, which may include vegetated roof areas ("green roofs"). Pedestrian-oriented hardscape areas may also be included, provided they use permeable paving or include vegetated open space. Wetlands, vegetated swales, and ponds may also be included to meet open space requirements. Open space provides habitat for vegetation, which in turn provides habitat for local wildlife. Even small open spaces in urban areas can provide refuges for wildlife populations, which have become increasingly marginalized. Plants that specifically support local species such as insects and other pollinators can help sustain populations up the food chain.

- Use vegetated open space to reduce the urban heat island effect, increase stormwater infiltration, and provide the human population on the site with a connection to the outdoors.

- Provide connections between vegetated open space areas within a site and between adjacent sites; avoid isolated landscaped areas surrounded by paving to the extent possible.

- Minimize nighttime lighting to the extent possible, while maintaining adequate security lighting. Outdoor lighting is necessary for illuminating connections between buildings and support facilities such as sidewalks, parking lots, and roadways. However, light

trespass can affect the nocturnal ecosystem and light pollution limits night sky access. Establishing time limits and maximum illumination levels for nighttime hours when businesses are closed is recommended to cut light pollution.

- Prohibit new development within 100 feet of any wetlands as defined by federal, state or local regulations, or within 50 feet of a water body, including lakes, rivers and streams; or within any areas identified as habitat for threatened or endangered species, including wildlife corridors.

- For new development proposed on previously undeveloped sites ("greenfields"), perform a site survey to identify biological resources, and plan for resource protection in the site design. On sites where habitat areas are to be protected, establish disturbance boundaries during construction; delineate stockpiles, lay- down, recycling and disposal areas. Use paved areas for staging, and erect construction fencing around the drip line of existing trees to protect them from soil compaction by construction vehicles.

- Minimize site disturbance to the extent feasible and restore previously degraded areas to their natural state. Preserve and enhance natural site elements, including water courses, trees and native vegetation, where possible.

- Choose appropriate native or adapted plant materials, and prohibit invasive or noxious weed species. Native and adapted plants require minimal or no irrigation following establishment; do not require active maintenance such as mowing or chemical inputs such as fertilizers, pesticides or herbicides; and provide habitat value and promote biodiversity through avoidance of monoculture plantings. Replace turf-grass with native or adapted plantings to promote biodiversity and habitat.

- Reduce the amount of site area devoted to paving when not functional or necessary, and replace paving with landscaped areas.

- Use landscaping to shade buildings and impervious areas, decrease cooling loads and energy expenditures, and reduce the heat-island effect. The term heat island refers to urban air and surface temperatures higher than nearby rural areas. Many cities have air temperatures up to 10 degrees (Fahrenheit) warmer than the surrounding natural landscape. Heat islands form as cities replace natural landscape with pavement, buildings, and other infrastructure. The heat island effect can be lowered by reducing the amount of surface parking lots and by replacing heat-absorbing surfaces with plants, groundcover, small trees, and green roofs. Some cities have developed parking areas below green space to reduce the overall heat island effect and provide for greater pedestrian connectivity.

- Local landscape ordinances should be revised to avoid any landscape requirements that are not sustainable and horticulturally sound. "No lawns" should become the norm.

- Minimize erosion to protect habitats and reduce stress on natural water systems by preserving vegetation and limiting development on any slopes greater than 15 percent.

Issues for biological resource protection within the planning area will continue to be the reduction of open space and habitat due to urbanization; the separation of habitat areas into disconnected, isolated islands; and other impacts of development. However, measures such as those listed above can be taken to make urban development less harmful to the natural environment. Policies have been included in this element to protect biological resources as described in this section.

VII. CULTURAL & HISTORICAL RESOURCES

Historical Overview of the Santa Clarita Valley

The earliest physical evidence of human occupation in the Upper Santa Clara River area dates from 7,000 to 4,000 years ago, and was recovered from two sites near Vasquez Rocks. The identity of the area's first inhabitants is unknown. The Tataviam peoples, Uto-Aztecan speakers of Shoshonean descent, began to reach the planning area in approximately A. D. 450. They were described as a distinct linguistic group when they were first encountered in 1776 by Spanish explorer Pedro Fages.

The Tataviam lived primarily on the upper reaches of the Santa Clara River, east of Piru Creek and extending from the Antelope Valley to the San Gabriel Mountains. Archaeological data indicate that subsistence patterns and ritual practices were similar to neighboring Chumash and Gabrielino culture groups; these groups were hunter-gatherers, subsisting on acorns, yucca, juniper berries, seeds, and small game. Tataviam village sites with known names were located at San Francisquito, Piru, Camulos, Castaic Reservoir, Piru Creek, Elizabeth Lake, and in the Newhall environs; additional archaeological sites have been recorded along the Santa Clara River and Vasquez Rocks. The Native American Heritage Commission (NAHC) has identified three sites of Native American cultural significance near the Santa Clara River including CA-LAN-361, CA-LAN-366, and CA-LAN-367. Many of the place names in the valley, such as Castaic, Piru, Camulos, and Hasley, reflect a Tataviam linguistic origin. One site of extreme cultural significance, Bowers Cave near Val Verde, yielded one of the most significant assemblages of American Indian religious and ceremonial artifacts ever found in North America. Discovered in 1884 by two local boys, many of the cave's cultural artifacts were removed, but most found their way to the Native American collection in the Peabody Museum of American Ethnology at Harvard University.

Spanish explorer Gaspar de Portola's chronicles of his 1769 expedition from San Diego to Monterey provide the first European documentation of the Santa Clarita region. Father Juan Crespi, who accompanied Portola, wrote that the peaceful Tataviam offered them food and respite. The expedition passed north through the San Fernando Valley to Newhall and on to the Castaic Junction area, then west along the Santa Clara River to San Buenaventura, and from there north to Monterey. The trail blazed by Portola became known as El Camino Viejo (The Old Road). In 1772, Pedro Fages, commander of the Presidio of San Diego, traveled through Castaic Junction and Soledad Canyon in search of army deserters.

After establishment of the Mission San Fernando in 1797, much of the Santa Clarita Valley was used by the Mission for ranching. Known as the Estancia de San Francisco Xavier, the estancia buildings were constructed by Tataviam workers in 1804 near the confluence of Castaic Creek and the Santa Clara River. In later decades the buildings fell into disrepair and were vandalized; in 1937 their remnants were bulldozed into the ground. The archaeologically rich midden remains a significant and protected site.

Following the establishment of the Mission San Fernando, the native peoples of the Santa Clarita Valley were deprived of their lands and relocated to the mission grounds where they were baptized and forced to work in the mission fields and vineyards. At the Missions San Fernando and San Gabriel, they intermarried with other similarly dislocated tribes.

With the Mexican Revolution of the 1820s and 1830s came secularization of the former mission lands. In 1839 the Rancho San Francisco, comprising 48,000 acres of the Santa Clarita Valley, was granted to Ignacio Del Valle, mayor of Los Angeles and later a state legislator. However, falling cattle prices and financial woes brought the ranch land back on the market in the 1860's, where it again changed hands several times before being purchased on January 15, 1875 by Henry Mayo Newhall.

The first documented discovery of gold in California occurred in Placerita Canyon in 1842, near what is now called the Oak of the Golden Dream. Nearly 1,300 pounds of gold was retrieved from Placerita Canyon between 1842 and 1847. Anecdotal evidence has been found indicating that placer gold mining occurred in Hasley Canyon and other areas of the Valley as early as the 1820's.

Various mineral resources discovered throughout the Valley spurred development of mining camps and settlements. San Francisquito Canyon was one of the first canyons to be mined and settled. By 1860 copper was being mined in Soledad Canyon, and a small town developed near the head of Williamson's Pass. Both copper and gold bearing quartz veins were mined into the 20th Century, although the rush was over by about 1875. In addition to gold, the local canyons yielded silver, lead, borates, manganese, titanium, gravel, agates, and other gemstones and minerals.

The upper Santa Clarita Valley was the first location of oil drilling in Southern California, after oil seeps were discovered by American settlers in Pico Canyon in 1865. (The seeps had been known for centuries to the Tataviam, who had used the raw asphaltum for waterproofing and other purposes.) Mexican General Andres Pico and other investors sold their oil fields in Pico Canyon in 1875, along with

the oil company they had formed to extract and process the oil. Their California Star Oil Company (CSO) later became part of the Standard Oil Company of California. CSO's new superintendent, Charles Alexander "Alex" Mentry, laid the groundwork for an oil town that became known as Mentryville, after deepening an older well, Pico No. 4, to produce a "gusher" on September 26, 1876. By the 1880s there were nearly 100 families living in Mentryville, which included Mentry's 13-room mansion known as the "Big House." Pico No. 4 became the longest-running oil well in the world before it was taken out of service in 1990, having pumped crude oil almost continuously for 114 years. In 1976 the well site was dedicated as a California State Historic Landmark, and a plaque now marks the historic oil well's location. Although the Big House, the 1885 schoolhouse and certain other buildings remain, most of Mentryville's early homes and company structures were dismantled or removed in the early 20th Century, ravaged by fire, or destroyed by the 1994 earthquake. The site is now overseen by the Santa Monica Mountains Conservancy, which has begun renovation of the Big House.

The completion of the Southern Pacific Railroad through the area in 1876, along with the development of the Pico oil field and construction of the Pioneer Oil Refinery in the mid-1870s, spurred an oil boom in the Valley. Pico Canyon oil flowed to the refinery via a pipe, and was refined into kerosene, lamp oil, naphtha and other petroleum derivatives. The remnants of the Pioneer Oil Refinery, which was the first viable oil refinery in the State, were damaged in the 1994 earthquake. Now owned by the City of Santa Clarita, along with 4.5 acres of land donated by Chevron Oil, the site is being evaluated for partial restoration as a historical depiction of an early oil refinery.

American explorer John C. Fremont, who would later challenge Abraham Lincoln for the Republican nomination for U.S. president, arrived at Castaic Junction with his "Buckskin Battalion" in 1847, following the future route of SR-126 from Ventura. After camping for two days in the Santa Clarita Valley, he crossed into the San Fernando Valley near the present alignment of Sierra Highway. Near the current Universal Studios Hollywood, he accepted the surrender of California from General Andres Pico. Fremont's crossing point through the Santa Susana Mountains occurred at what became known as Fremont Pass, and is now known as Newhall Pass.

In 1854, Phineas Banning made a 30-foot cut in the pass to allow the first stagecoach through. The Butterfield Overland Stage took the "Great Southern" route from St. Louis to San Francisco over Fremont Pass from 1858 until the outbreak of the Civil War in 1861. In 1863, under a construction contract awarded by the Los Angeles County Board of Supervisors, General Edward F. Beale's workers cut a 90-foot deep passageway through the pass between the present alignments of SR-14 and Sierra Highway to improve the roadway. Beale also constructed a toll house when the pass was widened, and collected toll for the right of passage for 22 years before the County halted the practice. Beale's Cut was a vital route that served the Southern California area until it was bypassed by the Newhall Tunnel in 1910. By 1915, the Ridge Route extended from downtown Los Angeles north through the Newhall Tunnel and into the San Joaquin Valley.

In 1875 most of the Rancho San Francisco was purchased by Henry Mayo Newhall, a San Francisco entrepreneur. Much of the Valley's history from that time has been linked to the activities of Newhall and the company formed by his heirs, The Newhall Land and Farming Company. When Henry Newhall purchased the Rancho, he knew the Southern Pacific Railroad intended to lay tracks north out of Los Angeles to join with the Central Pacific and its connection to the Transcontinental Railroad. A rail route through his property would increase its value, so he sold an alignment to the Southern Pacific for $1 and a square-mile townsite to the railroad's development company for another $1.

Three months after Newhall's land purchase, the Southern Pacific began tunneling through the mountains and the San Fernando and Santa Clarita Valleys. Built with Chinese labor, at 6,940 feet the San Fernando (Railroad) Tunnel was the third-longest tunnel in the United States when it was completed on July 27, 1876. As the Southern Pacific extended track to the north, the Central Pacific was coming south to meet it. The two companies joined track near Lang Station in Canyon Country in a "golden spike" ceremony on September 5, 1876. The following month, on October 18, 1876, the Southern Pacific began subdividing the town of Newhall.

Initially the town was located at Bouquet Junction, in what would later become Saugus, named for Henry Newhall's home town in Massachusetts. Little more than a year later, in January and February 1878, the town moved three miles

south to its present location at Old Town Newhall, probably because of better water availability from a natural artesian spring. The Pioneer Oil Refinery, which handled the oil piped from Pico Canyon and was initially set up along the wagon route in the Newhall Pass, moved to present-day Pine Street in Railroad Canyon next to the new train tracks. The earliest productive refinery on the West Coast, it operated until 1888.

A unique feature of Santa Clarita's historical setting is the extent of early filming in the Valley, due to its proximity to Hollywood and the presence of distinctive topographic and geologic features used as settings for early Western films. The community of Newhall contains many notable Hollywood movie sets and is the site of the Walk of Western Stars. Some of the Western relics in downtown Newhall include the Tom Mix cottages, used as housing for the early motion picture industry; the American Theater (originally the Tumbleweed Theater) designed by Charles S. Lee and funded in large part by Actor William S. Hart in 1940; Melody Ranch (aka Placeritos Ranch and Monogram Ranch), built in the early 1920s and owned from 1952 to 1990 by actor Gene Autry and used as a location for hundreds of Western films, television series and commercials; and the Walt Disney Co.'s Golden Oak Ranch in nearby Placerita Canyon. Heritage Junction on Main Street has been set aside for the preservation of several local historic structures.

William S. Hart Park and Museum contains the 1927 retirement home of silent screen cowboy star William S. Hart, along with original furnishings, Western art, mementos of early Hollywood, and American Indian artifacts. The home and its contents were left to the people of Los Angeles County by Hart upon his death in 1946. Today it is a part of the Los Angeles County Natural History Museum system. In addition to the buildings, the site contains the 260-acre Horseshoe Ranch property, operated by the Los Angeles County Department of Parks and Recreation, and features picnic facilities, nature trails, and ranch animals, including bison initially donated in 1962 by Walt Disney. Another early Western movie actor's home that has been preserved as a County-operated museum within the planning area is that of Harry Carey Sr. and his actress-wife Olive Carey, who arrived in San Francisquito Canyon in 1916. Their son, actor Harry Carey Jr., was born at the Saugus ranch in 1921.

The Santa Clarita Valley was also the location of the second-worst disaster in California history. In 1908 the City of Los Angeles obtained rights to the watershed of the Owens Valley. Under direction of William Mulholland, chief engineer for the Los Angeles Department of Water and Power, the project was expanded in the 1920's into San Francisquito Canyon, where the St. Francis Dam was completed in 1926. From there the aqueduct traversed the eastern part of Newhall Ranch and crossed over San Fernando Pass to the spillway above the San Fernando Reservoir. In 1928 the concrete dam failed. The resulting flood of the river valley on March 12 and 13 caused at least 450 deaths and destroyed 990 homes and large areas of farmland. It was America's worst civil engineering failure of the 20th Century. In 1932-34, the Los Angeles Department of Water and Power built a new earthen dam in Bouquet Canyon.

Identification of Historical Sites

The Valley's historical heritage has been preserved in numerous historical sites throughout the planning area. When updated in 1999, the City's General Plan listed dozens of significant historical properties, sites and landmarks in the planning area, which have been included and updated in this element (see Table CO-1 and Figure CO-6). Of these sites, one is listed on the National Register of Historic Places and 13 are recognized by the State of California. The remaining sites are designated as City Points of Historical Interest.

In addition to the listed historic sites, a literature search indicates that almost 70 Native American archeological sites have been identified near the Santa Clara River within the planning area. Native American settlements and ceremonial sites were often located in river valleys. Development in proximity to the River and its major tributaries may impact Native American heritage sites, and should be evaluated for historic resources as part of the review process.

Historic Preservation Efforts

The Santa Clarita Valley Historical Society was formed in 1975 to identify, preserve and protect the unique historical sites and structures throughout the Valley. The City and County have both worked cooperatively, along with the Historical Society, to protect significant sites. For example, the County has provided a portion of Hart Park to be set aside as "Heritage Junction," and the City and Historical Society have cooperated on relocating structures to that location for renovation and preservation. The County has also been instrumental in setting aside Harry Carey Ranch

Historic District and providing funding to preserve the Placerita Canyon Park and Nature Center, where a historic cabin has been preserved and is open to the public. The City has worked cooperatively with the Santa Monica Mountains Conservancy and the Mountains Recreation and Conservation Authority to preserve artifacts related to the oil history and cultural lifeways of Mentryville in Pico Canyon. In addition, the City routinely conditions commercial and residential developers to halt work in the event that cultural resources are encountered during grading.

The City of Santa Clarita is evaluating the adoption of a Historic Preservation Ordinance, and will pursue completion of this ordinance as a General Plan objective. The City has also adopted the Downtown Newhall Specific Plan, with architectural guidelines that acknowledge the importance of the historic buildings within the Downtown Newhall planning area. The City has consistently involved the Historic Society in review of development proposals in areas containing historic sites and resources, and has required projects to mitigate impacts to historic resources as a condition of development approval.

Table CO-1 contains a listing of known sites and structures in the Santa Clarita Valley that have been identified as having historical or cultural significance based on building characteristics, events that took place at the site, or the site's role in the historical or cultural development of the community. The list is a compilation of sites that were known at the time this document was prepared. In order to ascertain whether additional sites exist within the community that should be protected due to their historical or cultural significance, the City will continue to identify any additional sites that should be added to the list.

Figure CO-6: Cultural & Historical Resources in the Santa Clarita Valley - Map Legend

Map Reference Number	Cultural or Historical Site
1	22502-22510 Fifth Street
2	22506 Sixth Street
3	22614 Ninth Street
4	22621 Thirteenth Street
5	24148 Pine Street
6	24238 San Fernando Road
7	24244 Walnut Street
8	24247-24251 San Fernando Road
9	24287 Newhall Avenue
10	24307 Railroad Avenue
11	24311-24313 San Fernando Road
12	24522 Spruce Street
13	Asistencia/Rancho San Francisco
14	Beale's Cut
15	Bowers Cave
16	Harry Carey Ranch
17	Heritage Junction Historic Park • Newhall Ranch House • Mitchell Adobe Schoolhouse • Kingsburry House • Callahan's School House • Ramona Chapel • Edison House • Pardee House/Good Templars • Saugus Depot
18	La Puerta
19	Lang Station
20	Lyon Station/Eternal Valley
21	Melody Ranch
22	Mentryville
23	Oak of the Golden Dream
24	Old Ridge Route
25	Pico #4 Oil Well
26	Pioneer Oil Refinery
27	Railroad Tunnel
28	St. Francis Dam Disaster Site
29	Sterling Borax Works in Tick Canyon
30	Vasquez Rocks
31	Walker Cabin
32	William S. Hart Park and Museum

Table CO-1: Historical Resources in the Santa Clarita Valley Planning Area

Site	Historic Significance
Oak of the Golden Dream Placerita Canyon	Site of the first discovery of gold in California in 1842 State Historic Landmark #168
Pioneer Oil Refinery 23552 Pine Street, Newhall	Oldest continuously operated oil refinery in the world; first refinery in State, producing illuminating oil. Donated to City in 1998, restored in 1930 and 1950s and 1976, but damaged in 1994 earthquake. State Historic Landmark #172
Pico #4 27201 West Pico Canyon	First successful oil well in California and longest-producing commercial oil well in the world; developed in 1876 by California Star Oil Company, a predecessor of Standard Oil Company of California. Located in Mentryville/Pico Canyon. National Register of Historic Places State Historic Landmark #516
Mentryville 27201 West Pico Canyon	Oil boom town that grew around Pico #4 for derrick workers. Four buildings remain, and many others have been relocated to Newhall. Located in Santa Clarita Woodlands Park, maintained by Santa Monica Mountains Conservancy, and open to the public. State Historic Landmark #516-2
Asistencia/Rancho San Francisco West of Magic Mountain Parkway near SR-126	The Santa Clara River Valley was a part of Mission San Fernando in 1797. A granary and estancia (outpost) were established on this site in 1804. Historic plaque located at Castaic Junction. State Historic Landmark #556
Lang Station East of Lang Station Road	A health spa, hotel, and freight station were established on this site in 1871. In 1876, a golden spike was driven connecting San Francisco and Los Angeles by rail. Only relics of the station remain. State Historic Landmark #590
Lyons Station/Eternal Valley Cemetery 23287 Sierra Highway, Newhall	A stage stop was built here in 1852. It was used by the Butterfield Overland Stage line from 1857 to 1861 as a resting place for soldiers and camel caravans from Fort Tejon. Many pioneers are buried in the Eternal Valley Cemetery. State Historic Landmark #688
St. Francis Dam Disaster Site DWP Power Plant 2 San Francisquito Canyon Road	On March 12, 1928, the dam, which was a part of the Los Angeles Aqueduct system, collapsed, spilling more than 12 billion gallons of water into the Valley and killing at least 450 people. State Historic Landmark #919
22621 Thirteenth Street Newhall	Single-family dwelling built in February 1873 for Adam Malinzewski at Lyons Station; moved by J. O. Newhall to San Fernando Road in Newhall about 1879. At the turn of the century it was acquired by the Frew family, who were pioneer blacksmiths, and later Ed Jauregui, who moved it to its present location. City Point of Historical Interest
24148 Pine Street Newhall	Single-family dwelling constructed in 1878 by California Star Oil Company as a guest house for visiting executives and politicians. Standard Oil later sold it to Josh Woodbridge, who lived there until his death in 1950. City Point of Historical Interest
24522 Spruce Street Newhall	Commercial structure once known as the "hoosegow". Initially planned as a wooden structure on this site in 1888, bids for a jailhouse were opened February 20, 1906, resulting in the construction of this building in the Spanish Mission style. It served as a jail/constable's office until 1926, when a sheriff's substation opened. The structure still retains the original cell doors and barred windows. City Point of Historical Interest

Site	Historic Significance
24311-24313 Main Street Newhall	Commercial structure in historic downtown Newhall built by Thomas M. Frew in 1910 for his blacksmith shop. Originally built in Mission Revival style, the building was expanded in 1924 when his son, Thomas Frew Jr, modified the structure into a welding and machine shop. In 1935, concurrent with the widening of San Fernando Road (Main Street), it was remodeled into its present Spanish Mission style. City Point of Historical Interest
22502-22510 Fifth Street Newhall	Commercial structure used by Newhall Ice Company. The structure was built in 1922 by Fred Lamkin as a warehouse and storage yard. Lamkin came to Newhall in 1917, opening a garage facing San Fernando Road. Shortly after construction the warehouse was converted into an ice house, which is still in operation. City Point of Historical Interest
24244 Walnut Street Newhall	Church building erected in 1940 under the direction of pastor Leroy Hux, for First Baptist Church of Newhall. The building was later used by several religious groups, and is now known as Queen of Angels Catholic Church. City Point of Historical Interest
22616 Ninth Street Newhall	Single-family dwelling built circa 1908 as a residence for Ray Osborne, Superintendent of the Sterling Borax Works in Tick Canyon. The house was originally located in the small mining town of Lang in Canyon Country, and was moved to its present location in 1928. City Point of Historical Interest
24287 Newhall Avenue Newhall	Single-family dwelling, commonly known as the Erwin house, built in the California bungalow style around 1910. Unusual in design, the structure is one of the last remaining bungalows in Santa Clarita. City Point of Historical Interest
22506 Sixth Street Newhall	Commercial building originally erected on San Fernando Road by Albert Swall in 1902. Swall also developed other commercial properties along San Fernando Road to establish a business district. In 1925 the structure was moved to its present location. The building was later used as the circulation office for the Newhall Signal newspapers from the 1960's until 1986. City Point of Historical Interest
24238 Main Street Newhall	Commercial building constructed by the Sheriff's department in 1926 as Substation #6. The building housed a company of eight Sheriff's deputies commanded by Captain Jeb Steward, and served as the community's second jail after closing of the old constabulary/jail building on Spruce Street. The Newhall Signal newspaper used the building from 1968-1986. City Point of Historical Interest
24307 Railroad Avenue Newhall	Commercial building commonly known as "Ye Olde Courthouse." The Newhall Masonic Building Company, Ltd. was incorporated in 1931 and completed this two-story project in 1932. The County Courthouse occupied the ground floor, and the Masonic Lodge the second story. Lumber from the old Mayhue building was later used, including the floor of the Hap-A-Lan dance hall which previously occupied the site. The County relocated the court to Valencia and the first floor was renovated into office uses. City Point of Historical Interest
24247-24251 Main Street Newhall	Seven commercial structures commonly known as the Tom Mix Cottages. The small building at 24247 was built by Halsey W. Russell in 1919. In 1922 the other six cottages were added, forming a motor court catering to drivers on the old Ridge Route. These structures were also used by people in the motion picture industry for lodging during filming in the area. Tom Mix used one as a dressing room on several occasions, and the area was known as a "Mixville" – earlier albeit smaller than his primary Mixville studio in Glendale. City Point of Historical Interest
William S. Hart Park and Museum	The mansion on this property was built for western film actor William S. Hart in 1927, and Hart filled it with Western art and artifacts. Many Western movies were filmed here. In addition to the historic listing for the property as a whole, several features of the site qualify for individual listing as historic resources, including the bunk house, headquarters building, garage and chauffeur's quarters, gate tower, pool house, ranch house museum, and sundeck/tea room. State Point of Historical Interest
Heritage Junction Historic Park 24151 Newhall Avenue Newhall	City Point of Historical Interest located within William S. Hart Park, and containing the following structures:

Site	Historic Significance
1. Newhall Ranch House	1. Built around 1865 as a small house with a basement, this building served as the headquarters of the Rancho San Francisco, the original land grant comprising 48,000 acres of the Santa Clara River Valley. This ranch was owned after 1875 by Henry Mayo Newhall and was administered by his son George, who expanded the Ranch House in 1893. Originally located in sight of the Estancia de San Francisco Xavier (on what is now Six Flags Magic Mountain property), the structure was relocated to Heritage Junction in 1990.
2. Mitchell Adobe Schoolhouse	2. Colonel Thomas Finley Mitchell, an officer of the Mexican-American War, homesteaded Sulphur Springs in the 1860's, building an adobe that served as his family's home. One room of the adobe was used as a schoolhouse for the local children, the first in the area and home of the second oldest school district in Los Angeles County. In 1986 the adobe was rescued from destruction and moved brick-by-brick to Heritage Junction, where it was rebuilt.
3. Kingsburry House	3. This house was built in 1878 as a residence at 8th Street and San Fernando Road (Main Street). In 1883 it was occupied by Lyman Steward, a founder of the Union Oil Company. In 1911 it was moved to Walnut Street near Market. It is a one-story Colonial Revival cottage with a porch supported by four turned columns. This house is largely intact with original features, including double-hung windows. It was moved to Heritage Junction in 1987, and decorated in historic style by the Questers.
4. Callahan's Schoolhouse	4. This 1927 structure originated at Robert E. Callahan's Western town/amusement area that operated in the 1920's in Santa Monica as the Mission Village, and was relocated to Mint Canyon (Saugus) when the freeway was built in 1963 and renamed Callahan's Old West. The structure was built to house six antique school desks which came from a mining camp in Vallejo, along with a speaker's podium and blackboard representative of a one-room schoolhouse. The building was donated by Callahan's widow, Marion, and moved to Heritage Junction in 1987.
5. Ramona Chapel	5. Designed by noted composer Carrie Jacobs Bond, this chapel was based on the chapel at Rancho Camulos made famous in Helen Hunt Jackson's novel Ramona. It was built in 1926 as part of Robert E. Callahan's Mission Village in Santa Monica, later operated as Callahan's Old West, and was relocated in 1963 due to freeway construction. Wall paintings in the chapel are by Frank Tinney Johnson. The altar is said to be over 200 years old, and the wooden pews date back to 1858. The chapel was donated by Callahan's widow, Marion, and moved to Heritage Junction in 1987.
6. Edison House	6. This Bavarian-style structure was built in 1919 and modified in 1925 as part of a group of houses provided for Edison workers assigned to the Saugus substation. When the St. Francis Dam broke and flooded the area in 1928, these structures escaped damage. After years of use by Edison employees, the cottages were acquired by Newhall Land and Farming Company, which demolished six of the cottages. This house, being in the best condition, was preserved and relocated to Heritage Junction in 1989.
7. Pardee House/Good Templars 24275 Walnut Street Newhall	7. Built in 1890 on Pine Street in Newhall by Henry Clay Needham, a prominent orator and later a prohibitionist candidate for president, as a Good Templar's Lodge. Moved in 1893 by Ed Pardee, local oilman and police constable, who expanded the structure and used it as his residence. The structure was later used as a telephone exchange by Pacific Bell; as a teen center by the Santa Clarita Valley Boys Club; as the Newhall-Saugus-Valencia Chamber of Commerce office; and as a movie set by Tom Mix in the 1920's. Donated to the historical society and moved to Heritage Junction in 1992. State Point of Historical Interest
8. Saugus Depot Hart Park Site Newhall	8. The last remaining railroad station in the Santa Clarita Valley, this structure was built in 1887 by Southern Pacific Railroad when completing the spur line to Ventura. The station was used until 1978, and was moved to Heritage Junction at Hart Park in 1980, where it is used by the SCV Historical Society as a general history museum. Next to the station is a historic Mogul steam locomotive, built in New York in 1900 and donated to the Historical Society by Gene Autry in 1982. City Point of Historical Interest

Site	Historic Significance
Beale's Cut Stagecoach Pass Adjacent to Sierra Highway near Newhall Avenue Newhall	In 1862-63, General Edward Beale improved the wagon route through the present-day Newhall Pass between the current locations of SR-14 and Sierra Highway to a depth of 90 feet. Beale installed a toll booth at this location, which he continued to operate for 20 years. The Newhall Tunnel, part of the Ridge Route, bypassed Beale's Cut in 1910. State Point of Historic Interest #1006
Old Ridge Route	First opened in 1915, the narrow, curvy 30-mile Ridge Route is a 20-foot wide roadway, carved out using horse-drawn dirt scrapers that zigzagged across the ridges of the western San Gabriel Mountains. The road was named for the way it followed the ridgeline of the mountains. Paved in 1919, the Ridge Route Highway, officially named the Castaic-Tejon Route, became the first direct road connecting Los Angeles and Bakersfield. Often referred to as the original Grapevine route, the nickname stems from the fact that early wagoners had to hack their way through thick patches of Cimarron grapevines that inhabited "La Canada de Las Uvas" ("Canyon of the Grapes"). Without this road, California may have become two separate states. In 1933 the State opened the Ridge Route Alternate, a three-lane road with fewer curves that would eventually be designated California Route 99. This alternate was widened to four lanes in the 1950s, then realigned and rebuilt in the 1960s as a high-speed interstate freeway. The original Ridge Route was abandoned, but parts of the old road are still visible north of Castaic. National Register of Historic Places
Melody Ranch Placerita Canyon Road and Oak Creek Canyon Road, Newhall	Historic ranch set used for western films. The buildings were originally developed by pioneer filmmakers Ernie Hickson and Trem Carr about 1922 and consisted of authentic Western buildings located at the present location of Golden Oak Ranch. In 1936 the buildings were moved to their current location. The site at that time was also known as the Monogram Ranch, as so many of the company's Westerns were filmed there. From 1949 to 1951 the site was the scene of Newhall's Old West 4th of July celebration, when it became "Slippery Gulch." Purchased by western actor Gene Autry in 1952, the site was renamed Melody Ranch and used for many early television programs, including the long-running "Gunsmoke." Most of the structures burned down in a valleywide brush fire on August 26, 1962; however, the trademark Spanish-style arches and parts of the main street and Mexican village are still intact. In 1990 the ranch was purchased by the Veluzat family of Newhall and rebuilt. Today it remains a working movie ranch and the site of the City's annual Cowboy Festival. City Point of Historical Interest
Harry Carey Ranch Historic District 28515 San Francisquito Canyon Road	This complex contains historic buildings associated with western film actor Harry Carey, who purchased the property for a residence and filming in 1916. Nine buildings of the complex comprise the Harry Carey Historic District. Harry and Olive Carey had the ranch house and its various outbuildings built during the 1920s and 1930s, a period when they and their children lived at the ranch. Carey's 20-year career included more than 200 films. In 2005, the County accepted the donation of the Historic District from the property owner as part of the approval process for an adjacent housing development. The significance of the district is based not only on its role in the early film industry, but on the character and quality of the ranch buildings and the main residence known as the Tesoro Adobe. The property is maintained as a museum by the County of Los Angeles.
Railroad Tunnel Newhall Pass	Completed in 1876 by the Southern Pacific Railroad with Chinese immigrant labor, the 6,940-foot tunnel was the third longest tunnel in the world at that time. The tunnel is still used for freight rail and Metrolink commuter rail service. California Register of Historical Resources.
Bowers Cave Near Val Verde	Discovery site of significant Native American cultural artifacts, the cave is located at the entry to Chiquita Canyon Landfill.
La Puerta Elsmere Canyon	The "door of The Old Road" is located in the southwestern portion of Elsmere Canyon. Identified as both a natural physical and visual resource, La Puerta also figures as a significant anthropological, military, religious, and cultural resource in the planning area. La Puerta served as a geographic landmark for local Native Americans, Spanish explorers, and American pioneers crossing the Valley.
Walker Cabin Placerita Canyon Natural Area	Built by Frank Walker around 1920, the cabin served as the family's second home for about 10 years. The cabin has been fully restored and refurnished as part of the County-maintained Visitor's Center.

Site	Historic Significance
Borax Mine Tick Canyon	In the spring of 1905 gold prospectors Henry Shepard and Louis Ebbenger found a rich deposit of borates in Tick Canyon. They sold the claim to Thomas Thorkildson and Steven Mather for $30,000. Sterling Borax Works was formed to mine the claim, and began operations in 1908. A large mill was constructed north of what is now Davenport Road, and a narrow-gauge train line connected the mine to Lang Station, six miles away. Borax was hauled along this rail line by engine "Sterling No. 2" for 70 years. The mining camp, called Lang, included a boarding house, offices, company store, a dozen residences, corral, and warehouses. The Sterling Mine was never a big producer, generating about 20,000 tons per year of borates during peak production. Borax Consolidated, a forerunner of U.S. Borax, bought the Sterling Mine in 1911 for $1.8 million. For many years, the corporate headquarters were located in Valencia.
Vasquez Rocks Agua Dulce	This 745-acre park of unique geological rock formations is located near Agua Dulce Springs. The park features a history trail tour about the Tataviam Indians and early Spanish settlers. Located on the San Andreas fault, the sandstone rock formations were uplifted during the Cenozoic era, approximately 25 million years ago. In 1873-74, one of California's most notorious bandits, Tiburcio Vasquez, used these rocks as a hiding place to evade law enforcement. His name has since been associated with the geologic feature. National Register of Historic Places (Site #72000228, 1972)
Sources: Santa Clarita Valley Historical Society, State of California Office of Historic Preservation, The Signal, and City of Santa Clarita	

VIII. SCENIC RESOURCES

The Value of Scenic Resources

For many people, the primary sensory experience of a place is visual. A community's appearance and scenic resources contribute to a sense of place and influence residents' perceptions about their quality of life. Memorable and distinctive images provide residents with spatial orientation and identity, heightening their feeling of belonging to the place, and instilling a sense of civic pride.

"Aesthetic value" refers to the perception of the natural beauty of an area, as well as the elements that create or enhance its visual quality. While aesthetic value is subjective, it is one of the elements that contribute to people's experience of an area. Most communities identify scenic resources as an important asset, although what is considered "scenic" may vary according to its environmental setting. For example, a valley community has distinctive scenic resources that differentiate it from a coastal or mountain community.

"Scenic resources" can include natural open spaces, topographic formations, and landscapes that contribute to a high level of visual quality. These are significant resources that can be maintained and enhanced to promote a positive image in the community. Many people associate natural landforms and landscapes with scenic resources, such as lakes, rivers and streams, mountain meadows, and oak woodlands. These areas, generally felt by residents to possess natural beauty, provide a positive visual experience and help to define the aesthetic character of an area. Scenic resources can also include man-made open spaces and the built environment, such as parks, trails, nature preserves, sculpture gardens, and similar features.

"Viewsheds" constitute the range of vision in which scenic resources may be observed. They are defined by physical features that frame the boundaries or context of one or more scenic resources. A region's topography can lend aesthetic value through the creation of public view corridors of ridgelines, and through the visual backdrop created by mountains and hillsides. Viewsheds and scenic vistas may include views of both natural and built environments, and are also considered important scenic resources.

Scenic resources in the Santa Clarita Valley are described below and shown on Figure CO-7.

Scenic Mountains and Canyons

Due to its diverse topography, including mountain backdrops, hillsides and ridgelines, canyons and streams, and a broad river valley, the planning area contains a wide range of scenic views and resources. Natural areas range from grasslands to forest, contributing to the variety of scenic experiences. Within the built environment, greenbelts and parkways, trail systems, and parks provide scenic amenities.

The mountains surrounding the Valley provide a sense of form and containment. Well-defined ridgelines, slopes and canyons provide a visual backdrop to the urban envi-

ronment, create a sense of place for each neighborhood or district, and provide opportunities for residents throughout the Valley to experience the natural environment.

Ridgelines project from the lower foothills of the San Gabriel and Sierra Pelona mountain ranges to the Valley floor. The City and County have designated specific ridgelines and established land use policies designed to preserve the views of these ridgelines, as described in the Land Use Element. Sloping from the ridgelines are numerous canyons that give local identity to neighborhoods within the planning area. These foothill and canyon zones are important scenic resources that, because of inherent slope constraints, have remained undeveloped and support a variety of natural habitats. Major scenic canyon areas are described below.

- Placerita Canyon, running east and west in the southerly portion of the planning area, is characterized by shaded oak groves, a seasonal stream lined with cottonwoods, willows and sycamores, sandstone formations, and many other plant and animal communities. Its historic "Oak of the Golden Dream" is the site of California's first gold discovery in 1842, and is a designated State Historic Landmark. The Canyon contains a seasonal waterfall and hiking trails, including a trail leading to the top of the Santa Clara Divide in the San Gabriel Mountains. From this vantage point one can view the entire Santa Clarita Valley to the north and the San Fernando Valley to the south, with long-range views beyond. The Placerita State Park and Nature Center is located within the canyon.

- Whitney Canyon is located at the intersection of Sierra Highway and Newhall Avenue, just east of SR-14, and serves as the gateway to Angeles National Forest and the Rim of the Valley Trail Corridor. Due to its location between Elsmere and Placerita Canyons, Whitney Canyon is the middle link for the continuation of the Rim of the Valley Trail Corridor and the natural wildlife corridor through these canyons into Towsley Canyon and the Santa Clarita Woodlands. The canyon area contains oak forests, waterfalls, chaparral, coastal sage scrub, and a riparian watershed area; 442 acres are publicly owned for preservation as natural open space, through a partnership between the City and a conservation authority.

- Elsmere Canyon lies within the Angeles National Forest, near the intersection of Sierra Highway and Newhall Avenue, east of SR-14. Encompassing 2,700 acres, about half the canyon area is within the National Forest. Like other canyons in the planning area, Elsmere Canyon has served as a popular film site for western movies. A proposal to locate a landfill in the Canyon was withdrawn in 2004 based on public concerns about environmental quality, and in 2007 the property owner donated 400 acres of Elsmere Canyon to the Mountains and Recreation Conservation Authority for use as an open space preserve. Elsmere Canyon contains abundant wildlife, riparian habitat, coastal sage, and oak woodlands, and provides a wildlife corridor from the Santa Susana Mountains to the San Gabriel range.

- Bouquet Canyon, in the northerly portion of the planning area, follows the course of Bouquet Creek, generally from Bouquet Reservoir south to the junction of Bouquet Canyon Road and Soledad Canyon Road. The canyon contains oak, willow, and sycamore groves, and the development character north of Saugus is rural.

- San Francisquito Canyon runs north and south from Saugus to Green Valley, and is a rural environment supporting numerous horse ranches. The Canyon also contains sites of historic significance, such as the Harry Carey Historic Ranch.

- Sand Canyon, located in the eastern portion of the planning area, runs northward from the steep slopes in the Angeles National Forest to the Santa Clara River floodplain. The character of the canyon ranges from heavy woodland to large, rustic rural estates with abundant trees. Views from the upper reaches of the canyon include the valley floor.

- Pico Canyon, located in the northern portion of the Santa Clarita Woodlands Park in the western portion of the planning area, has been used extensively for oil extraction. The canyon was once occupied by Mentryville, an oil boomtown, and now contains valley and coast live oaks and views of the valley floor. The Mentryville historic site is contained within a State Park.

- Towsley Canyon, located in the central portion of the Santa Clarita Woodlands Park, offers visitors a diverse natural area. Evidence of Native American heritage and early California oil interests are visible, along with spectacular geologic formations in "The Narrows". The Canyon contains numerous hiking trails along with Ed Davis Park.

- Tick Canyon lies in the Soledad Basin and is a tributary of the Santa Clara River channel, between Mint Canyon to the west and Tapia and Spring Canyons to the east. The Canyon was mined for various minerals during early settlement of the Valley.

- Wiley Canyon forms a portion of the pass through which Interstate 5 passes as it enters the planning area from the south. The upper reaches of the canyon provide a sense of enclosure and include views of scrub-filled hillsides and stands of oak trees, while the northerly portion of the canyon offers expansive views of the Santa Clarita Valley.

- Rice Canyon is located south of Wiley Canyon in the southwestern portion of the planning area, and offers views of rugged topography, coastal sage scrub, and stands of oak trees.

Scenic Woodlands

Protected forest land within the Angeles and Los Padres National Forests surround the planning area. Oak woodlands within these forests also extend into rural portions of the planning area, contributing to its rural and scenic character. Oak woodlands occur in scattered locations, primarily in the southerly portions of the planning area, and contain a diverse habitat including six species of oak. Cottonwood-willow riparian forests are found primarily along the Santa Clara River and its tributaries. Several of the County's Significant Ecological Areas (described above) have been adopted to protect oak woodland and cottonwood-willow riparian forest areas.

Scenic Water Bodies

Rivers and streams located in canyon bottoms provide scenic visual relief from urbanization as well as habitat for wildlife. The most significant river feature in the Valley is the Santa Clara River, which flows approximately 100 miles from its headwaters near Acton to the Pacific Ocean, and is one of only two natural river systems remaining in Southern California. The river flows east to west through a beautiful valley formed between the Santa Susana Mountains and the Transverse Ranges. Over 4,000 acres of high quality riparian habitat have been preserved in a natural state along the length of the River.

Some of the major tributaries to the Upper Santa Clara River watershed include Castaic Creek, San Francisquito Canyon, Bouquet Canyon, Sand Canyon, Mint Canyon, Sand Canyon, Oak Springs Canyon, and the South Fork of the Santa Clara River. Newhall Creek, Placerita Creek, and Towsley Creek are tributaries to the South Fork. Castaic Lake, in the northern portion of the planning area, provides scenic views as well as recreational opportunities. The west side of the lake is surrounded by parkland and sandy beaches.

Vasquez Rocks

Vasquez Rocks County Park, located in the community of Agua Dulce west and north of SR-14, is an area of unique geologic formations that has been the site of hundreds of film shoots. Sculpted by earthquake activity along the Elkhorn fault, the rock formations were compressed, folded, and tilted up to a height of nearly 150 feet. Erosion has shaped the coarse-grained yellow sandstone into jutting and sweeping formations interspersed with shale and basalt layers. Vasquez Rocks are both a visual and historical landmark in the community.

Impacts of Development on Scenic Views

Urban development has the potential to impair scenic resources if not carefully planned and controlled. Increasing development pressures could impact the quantity, quality, and variety of scenic vistas in the Valley through increased smog and light pollution, development on prominent ridgelines and hillsides, obstruction of scenic views along various roadways, signage and streetscape clutter, and aesthetically deficient development. Policies have been added to the element to address the goal of protecting the scenic and aesthetic beauty of the Valley.

IX. AIR RESOURCES

The planning area is located within the South Coast Air Basin, a 6,745-square mile area encompassing Orange County and the non-desert portions of Los Angeles, San Bernardino, and Riverside Counties. The regional climate

within the Basin is semi-arid, characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. Bounded by the Pacific Ocean to the west, and mountains to the north, east, and south, and with abundant sunshine and frequent inversions, the South Coast Air Basin is naturally conducive to the formation of air pollution.

The Santa Clarita Valley is surrounded by the Santa Susana and San Gabriel mountain ranges on the south, east and west, and the Sierra Pelona Mountains on the north. The Valley lies in a transitional microclimatic zone of the Basin between the "valley marginal" and "high desert" climate types. Situated far enough from the ocean to escape coastal influences, the Valley's climate is generally mild with hot summers and sunny, warm winters. Average annual precipitation is about 13 inches, usually received between November and March, although some mountain areas south of the Valley may receive up to 24 inches of precipitation per year.

Predominant wind patterns for the Santa Clarita Valley generally follow those of a mountain/valley regime. During the day, effects of the onshore flow reach inland and are enhanced by a localized up-valley or mountain pass wind. During the night, surface radiation cools the air in the mountains and hills, which flows down-valley producing a gentle "drainage wind." The predominant wind patterns in the Valley are broken by occasional winter storms and episodes of Santa Ana winds, which are strong winds that originate in the desert. Usually warm and often carrying dust and sand, the Santa Ana winds occur 5 to10 times per year between September and March, and are particularly strong in mountain passes and at canyon outlets.

Air pollution emissions within air basins are generated by stationary, mobile, and natural sources. Stationary sources are further classified as point or area sources, with point sources occurring at an identified location such as a manufacturing plant, and area sources comprised of multiple dispersed emissions such as use of paints, generators, lawn mowers, aerosol cans, and agriculture. Mobile sources refer to emissions from motor vehicles, aircraft, trains, and construction equipment. Air pollution can also be generated by the natural environment, such as when fine dust particles are pulled off the ground surface and suspended in the air during high winds.

Both the federal and State governments have established ambient air quality standards for outdoor concentrations of various pollutants in order to protect public health. These standards have been set at levels that could be generally harmful to human health and welfare, and to protect the most sensitive persons from illness or discomfort with a margin of safety. The South Coast Air Quality Management District (SCAQMD) is responsible for bringing air quality within the South Coast Air Basin into conformity with these standards. SCAQMD defines typical sensitive receptors as residences, schools, playgrounds, child care centers, athletic facilities, hospitals, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.

The air pollutants which are most relevant to air quality planning and regulation in the planning area include ozone, carbon monoxide, nitrogen dioxide, fine suspended particulate matter, sulfur dioxide, and lead. Ozone is a gas formed when volatile organic compounds and nitrogen oxides, byproducts of internal combustion engine exhaust, undergo photochemical reactions in the presence of sunlight. The most frequent transport route for ozone into the planning area is from the Los Angeles Basin and San Fernando Valley, borne by daily wind patterns through the Santa Clara River Valley. Carbon monoxide is a colorless, odorless gas produced by incomplete combustion of fuels, with the highest concentrations generally found near congested transportation corridors. Major sources of fine suspended particulate matter are diesel engines, tires and brakes.

The greatest source of air pollutants in the basin is from mobile sources. Because of its geographical location and meteorological conditions, the Santa Clarita Valley records some of the highest ozone readings in the Basin. The data indicate that local ozone concentrations usually result from pollutants transported from outside the valley. However, locally-generated air pollutants are also an issue for Valley residents, due to increased growth and automobile traffic. Localized carbon monoxide concentrations are found at congested intersections, especially in winter. Concentrations of fine airborne particulates result from locally generated emissions, such as increased truck traffic. Stationary sources include oil and gas producers and industrial uses.

Land use patterns and the density of development directly affect the amount of air pollution that is generated within a community. Land uses that are segregated increase the number of motor vehicle trips and associated air pollutant emissions, because it is inconvenient or impossible for

residents to walk or bicycle between destinations, or public transit is not available. Higher density communities that mix residential with commercial, business, and employment uses are designed to reduce reliance on motor vehicle use, or reduce the trip length and frequency needed. In addition, communities in which the ratio of jobs to housing units is not balanced result in additional vehicle miles traveled by commuters who must drive to employment centers.

The SCAQMD is the agency principally responsible for comprehensive air pollution control in the South Coast Air Basin. However, the City and the County, like all other local planning agencies, have an important role to play in controlling air pollution through their land use and transportation policies. Local agencies have a shared responsibility to promote strategies for trip reduction, congestion management, low emission vehicle infrastructure, transit accessibility, and energy conservation.

The California Air Resources Board (CARB) has prepared guidelines for local jurisdictions to consider incorporating into planning documents, such as this Area Plan, to protect residents, particularly sensitive receptors, from harmful air pollutants. Sensitive individuals refer to those segments of the population most susceptible to poor air quality (i.e. children, the elderly, and those with pre-existing serious health problems affected by air quality). The health of these individuals can be seriously impacted by continuous or repeated exposure to air pollution, which can increase the risk of cancer, asthma, impaired lung function in children, bronchitis, and cardiovascular disease. The CARB guidelines recommend minimum spacing requirements between sensitive uses and individuals, and sources of air pollution. Policies have been included in the element to require adequate separation of uses to protect public health.

In addition to pollutants, some land uses generate odors which are irritating or have the potential to cause headaches, nausea or other health effects. Examples of uses which have the potential to generate odors include sewage treatment plants, landfills, recycling facilities, waste transfer stations, auto body shops, coating operations, fiberglass operations, and uses that process or store chemicals or petroleum products. Control and regulation of odors in the planning area is the responsibility of the SCAQMD. However, adequate separation between uses which have the potential to generate odors and sensitive land uses has been considered in preparation of the land use map.

Land uses that have the potential to be sources of air-borne dust and particulates include rock crushing and gravel operations, quarrying, mining, and recycling of construction debris. In addition, diesel engines have been identified as a source of toxic particulate matter. According to CARB, diesel particulates represent 70 percent of the known potential cancer risk from air toxics in California. CARB recommends that planning documents, such as this Area Plan's Land Use and Circulation Elements, consider air quality and public health issues by locating residences and other sensitive land uses away from sources of air pollution, and by ensuring that circulation facilities such as truck routes and truck stops are not located near sensitive uses.

Another major issue in terms of air quality is climate change associated with carbon emissions. This issue is discussed in the next section.

X. CLIMATE CHANGE & ENERGY CONSERVATION

Background & Legal Requirements

The Intergovernmental Panel on Climate Change (IPCC) was established under the auspices of the United Nations to produce a global consensus on the science and economics of climate change. The IPCC does not conduct any research nor does it monitor climate related data. Its role is to assess the latest scientific, technical and socio-economic literature produced worldwide relevant to the understanding of the risk of human-induced climate change. In 2007, the IPCC issued a series of reports. The first report provided a summary of the science of what is causing climate change (Physical Science Basis), and the second report (Summary for Policy Makers) outlined the expected impacts, adaptation, and vulnerability of the environment to climate change. The conclusions of these two reports were:

- The global atmospheric concentrations of greenhouse gases (including methane, carbon dioxide and nitrous oxide) have increased due to human activity since 1750.
- The increase in these concentrations is primarily due to the consumption of fossil fuels.
- The global mean temperature is likely to increase between 1.8°C and 4.0°C by the end of the century.

- Sea levels are likely to rise between 0.2 and 0.6 meters by the end of the century.

- Heat waves, thaw events, and heavy precipitation are likely to become more intense.

The third IPCC report (Mitigation of Climate Change) addressed mitigation measures that can be taken to address climate change. This report concluded that although climate change threatens the global environment if unchecked, catastrophic impacts of climate change can be avoided if immediate and consistent actions are taken to reduce global greenhouse gas emissions.

The term "*greenhouse gases*" (GHG) refers to gases in the Earth's atmosphere that act to absorb long-wave radiation from the sun. These gases act like an insulating blanket and may result in an increase in global temperatures. The primary GHGs are water vapor, carbon dioxide, methane, and nitrous oxide.

"*Climate Change*" is a term that refers to changes in the global temperature over time. Global temperature is generally determined by three different methods, or "*forcings*":

- Changes in how the Earth receives incoming solar radiation

- Changes in the way solar radiation is reflected by the Earth

- Changes in the way solar radiation is absorbed by the Earth

Each of these forcings occurs naturally and have influenced global climate for billions of years, resulting in a series of gradual warm periods and cold periods. The concept of man-made, or "*anthropogenic*" climate change is contained within the third forcing listed above. As previously stated, an increase in the concentration of GHG affects how the earth absorbs solar radiation and can lead to an increase in global temperature.

According to the United States Environmental Protection Agency, the leading causes of GHG emissions in the United States are the generation of electricity, primarily by coal burning power plants, and tailpipe emissions from vehicles, primarily passenger cars. The United States emits over seven billion tons of GHG annually and has the highest per-capita GHG emission in the world. By contrast, California is the twelfth largest emitter of carbon dioxide in the world. A study completed in 2007 by the Netherlands Environmental Assessment agency concluded, however, that China has superseded the United States in total annual carbon dioxide emissions.

California leads the nation in vehicle miles traveled. In California, over 70 percent of GHG emissions come from burning fossil fuels, and over 50 percent of the total GHG emissions in the State are from vehicle exhaust. GHG emissions are created by vehicle transit in three ways :

- The fuel efficiency of the vehicle

- The carbon content of the fuel itself

- The amount of vehicle miles travelled over a given amount of time

The United States Department of Transportation estimates that the national per-capita vehicle miles travelled (VMT) exceeded 10,000 miles in 2005. Since 1980, VMT has increased three times faster than the national population and twice as fast as vehicle registration. Municipalities have an opportunity to impact VMT through land use policy.

A 2006 report to Governor Schwarzenegger prepared by the California Action Team concludes that the climate in California will likely increase between 3°F and 10°F by the end of the century. Consequences of this temperature rise in the State of California would include substantial loss of snowpack, increased risk of large wildfires, impacts to local air quality, increased demand for the generation of electricity, reduced agricultural yield, and negative impacts on tourism. The State Department of Water Resources has identified the following projected impacts to California's water from climate change:

- By 2050, a loss of at least 25 percent of the Sierra snowpack, an important source of urban, agricultural and environmental water

- Variable weather patterns, with more severe winters and spring flooding and longer droughts

- Flood levels on many California rivers exceeding design flows and causing levees, dams and other infrastructure to fail

- Rising sea level, threatening many coastal communities as well as the Sacramento-San Joaquin Delta, which supplies 25 million Californians with drinking water

- Rising water temperatures and changes in runoff patterns that may affect aquatic species and agriculture

- Lower groundwater tables due to hydrologic changes and greater demand

The third IPCC report outlines a series of steps that should be taken to reduce the effects of climate change. Many of these steps can be taken with no or very little cost, such as improving building insulation and banning incandescent light bulbs. Other low-carbon technologies may increase expense, but are considered feasible. For example, enhancing the effectiveness of wind and solar power would require improvements in technology and infrastructure, but these costs may be outweighed by the benefits of reducing carbon emissions from coal generation plants. Overall, the IPCC report recommends stabilizing GHG at 550 parts per million, a level that would limit the increase in global temperature to acceptable levels.

The Obama Administration is in the process of developing a carbon dioxide "cap-and-trade" system for regulating carbon emissions from point sources. This cap-and-trade system (as opposed to a carbon dioxide tax) would work by first establishing a total emission cap for GHG and then permitting companies to emit a specific amount of GHG. Companies would be able to sell any excess credits to other companies for a profit if they emit less than their permitted amount. Given its link to climate change, the United States Environmental Protection Agency is also exploring the inclusion of carbon dioxide under the Federal Clean Air Act, thereby subjecting carbon dioxide to regulations under the Clean Air Act.

Responding to the threat of global warming, Governor Schwarzenegger signed Executive Order S-3-05 in June 2005, recognizing global climate change and its impacts on California, and creating the Governor's Climate Action Team. In September 2006, the Governor signed Assembly Bill 32 (AB 32) into law, mandating the reduction of GHG emissions in California. AB 32 requires reduction of the State's GHG emissions to 1990 levels by 2020, a cap equal to a 25 percent reduction from current levels. Over 400 cities in the United States have signed commitments to reduce GHG emissions by at least 7 percent below 1990 levels by 2012.

The State of California strongly encourages local planning agencies to respond to the threat of global warming by implementing carbon reduction measures at the local level. Letters from the State Attorney General's Office to various jurisdictions throughout the State have emphasized the need to incorporate mitigations to reduce GHG emissions in local policy documents, such as General Plans and Area Plans, stating:

AB 32 requires both reporting of greenhouse gas emissions and their reduction on a brisk time schedule, including a reduction of carbon dioxide emissions to 1990 levels by 2020. Local governments will be called upon to help carry out the legislation's provisions, and the General Plan revision is the appropriate place to identify both carbon dioxide and other greenhouse gas sources, as well as actions for mitigation of the increases in emissions in greenhouse gases resulting from actions set forth in the General Plan revision.

The Governor's Office of Planning and Research (OPR) is expected to release guidelines to assist lead agencies in defining thresholds of significance for GHG emissions as a part of the California Environmental Quality Act (CEQA) review process. Senate Bill 97 requires OPR to adopt these guidelines by January 1, 2010.

On December 12, 2008 the California Air Resources Board (CARB) adopted the Climate Change Draft Scoping Plan (Scoping Plan). The Scoping Plan details how the mandates established by AB 32 will be implemented. The plan recommends sixteen "reduction measures" that will result in a state-wide emission reduction target of 174 million metric tons (mmt) of carbon dioxide. CARB estimates that achieving this target will reduce GHG emissions in California to 1990 levels.

One of the recommended reduction measures identified by the Scoping Plan is the GHG emission reduction target within future Regional Transportation Plans (RTP). This measure sets an emission reduction target of 5 mmt to be derived from RTP policies regarding VMT that will be implemented by Municipal Planning Organizations (MPO) and local governments. Specifically, regional MPO's and local governments across the State will be required to reduce VMT through the creation of regional Sustainable Community Strategies (SCS) and local land use policy. Senate Bill

375 (SB 375) was approved by the Governor on September 30, 2008 and provides the legislative framework for this target to be achieved. CARB is the regulating agency. The new SCS's will be a part of the next state-wide Regional Housing Needs Assessment (RHNA) process, which must be completed by 2012.

Actions to Address Climate Change in the Santa Clarita Valley

The City of Santa Clarita and County of Los Angeles have been working cooperatively on the *One Valley One Vision* General Plan Update since 2000, well before climate change was identified as a local planning issue and before adoption of AB 32. However, the land use plan developed for the Santa Clarita Valley was designed to address the related issues of urban sprawl, traffic congestion, air quality, watershed management, and open space preservation, in a manner that also addresses some of the issues of global warming. Specifically, the General Plan elements for land use, circulation, open space and conservation set forth the following programs and objectives for the Valley:

1. Delineation of areas designated for urban use and non-urban (rural) use in order to limit urban sprawl into outlying hillside areas and to encourage urban infill development;

2. Provision of incentives for infill development and revitalizing older commercial areas, through adoption of a Mixed Use designation in the City of Santa Clarita, and by increasing standards for density and floor area ratio in urban areas, which will allow greater land use intensity and mixing of residential with commercial and service uses;

3. Designation of Mixed Use designations in the City of Santa Clarita adjacent to transit centers, including Metrolink stations and the McBean Transfer Facility, in order to concentrate mixed use, higher intensity development within walking distance of public transit;

4. Inclusion of non-residential "activity areas" within urban residential land use designations, to allow location of uses serving a local clientele, such as small groceries, dry cleaners, and personal services, within walking distance of adjacent neighborhoods without approval of a General Plan or Area Plan Amendment;

5. Development of continuous and connected paseo and bikeway systems that link neighborhoods to public transit, parks, schools, business and community service areas;

6. Incorporation of planning policies to increase local bus service and improve pedestrian access to transit stops;

7. Preservation of the Santa Clara River watershed through acquisition of open space along the river and its tributary streams, and designation of low-intensity uses within the 100-year flood plain;

8. Continuation of the City's urban forestry program that has resulted in the planting of 50,000 trees to date and will continue to provide for tree planting and maintenance throughout the Valley;

9. Adoption of a goal to create two jobs for every new dwelling unit, and to balance job growth with housing growth in various locations throughout the Santa Clarita Valley to reduce commuting distances to employment;

10. Continuation of the City's open space acquisition policies to create a continuous greenbelt around the Valley and along the Santa Clara River, supported by a City voter-approved ballot measure to provide funding for land purchases;

11. Adoption by Los Angeles County of ordinances to promote use of green building materials and techniques, low impact development for stormwater control at the source, and drought-tolerant landscaping.

Additional Program & Policies to Address Climate Change

The challenge of addressing climate change at the local level is being met by cities and communities throughout the country, and more information about successful programs is becoming available. Response to climate change by local jurisdictions will require a two-pronged approach: first, adopting measures to reduce energy consumption and GHG emissions; and second, identifying measures to adapt to changing climatic conditions, which may include water and power shortages in combination with drought. The California Department of Water Resources (DWR) has urged a state-wide reduction in water consumption as a means of reducing energy expended to pump, treat, heat,

de-salt, and discharge water. According to the California Energy Commission, conserving one acre foot of water (enough to serve two families of four for one year) reduces GHG emissions by approximately one metric ton. Scientific evidence indicates that even if GHG emissions were to cease immediately, the atmosphere will continue to warm for the greater part of this century, resulting in changes to snowpack, runoff, drought conditions, fires, and other impacts as discussed above. At the same time, California's population is expected to grow to 48 million people by 2030. Due to these factors, DWR will continue to emphasize water conservation and water banking throughout the State as primary tools to protect the state's water supply in response to global warming.

A large portion of the GHG emissions in California are associated with buildings, because they use so much energy for lighting, cooling and heating, and water for landscape irrigation. Several new laws are pending in the California Legislature to mandate green building practices in new building construction. Economists have calculated that buildings could cut 30 percent of their emissions and save money at the same time, through use of low-energy light bulbs, intelligent lighting systems, enhanced insulation, energy-efficient heating and cooling systems, and use of recycled steel. One way to decrease cooling costs is through installation of shade trees around buildings and parking lots to reduce the "heat island" effect of pavement and hard surfaces.

A necessary step for the Santa Clarita Valley jurisdictions to comply with AB 32 will be completion of separate Greenhouse Gas Emissions inventories for the City and County. The purpose of these inventories is to identify and categorize the major sources and quantities of greenhouse gas emissions being produced by the City's and County's residents, businesses, and municipal operations. Based on the requirements of AB 32, 1990 will be used as the baseline year for the inventory, and will serve as a reference against which to measure the City's and County's progress towards reducing greenhouse gas emissions over time. Goals and policies have been included in this element to address the issues of greenhouse gas emissions and climate change, and implementation measures have been included outlining steps to complete separate Climate Action Plans for the City and County.

XI. PARK & RECREATION RESOURCES & FACILITIES

County & State Parks

The County owns and operates 13 parks in the planning area, totaling 578 acres and serving various communities throughout the Valley. County parks are classified as follows:

- Neighborhood parks, generally from five to 10 acres in area, provide active recreational areas intended to serve a population of up to 5,000 within a half-mile radius. There are seven County-owned neighborhood parks in the planning area (Chesebrough, Del Valle, Hasley Canyon, Jake Kuredjian, Pico Canyon, Plum Canyon/David March, and Northbridge).

- Community parks are generally 10-40 acres, provide both passive and active recreation facilities, and are intended to serve a population of up to 20,000 within a two-mile radius. There is one County-owned community park in the planning area (Richard Rioux Park).

- Regional parks are generally over 50 acres, and offer a wide range of specialized recreational activities to serve the a population within a one-hour's drive. There are two County regional parks in the planning area: Val Verde Park and William S. Hart Park.

- Originally built in the 1920s, Val Verde Park provides a focal point for many community activities. The County has recently undertaken an expansion of Val Verde Park by purchasing a lot near the park entrance, and providing new football fields, basketball courts, tennis courts, restrooms, playground, and landscaping.

- Part of the Natural History Museum of Los Angeles County, William S. Hart Park is the former home and ranch of William S. Hart, silent film cowboy star and director. The park includes a museum within a Spanish Colonial Revival style mansion, which contains original furnishings, a collection of western art, mementos of early Hollywood, and Native American artifacts. In addition, there is a furnished 1910 ranch house which is open for unguided tours.

- Recreation parks are generally at least 50 acres and are designed to handle large-scale multiple participant sports programs and tournaments. Within the planning area, Castaic Sports Complex is the only County park in this category.

- Reservations are lands set aside in order to protect scenic resources, biologic resources, geological features and/or open space, and provide only passive recreational facilities such as hiking and picnicking. Within the planning area, Vasquez Rocks is a County facility in this category.

Due to growth pressures in County areas, particularly in and around Castaic, the need for additional playfields for youth sports has been identified as a significant park planning objective. With over 1,000 children involved in youth sports in the Castaic area, the community has only two places for sports practice: one five-acre park and the Castaic Regional Sports Complex. The County is making plans to expand facilities at the Sports Complex to include more play fields, in addition to adding an aquatic center there. Pending and approved development projects in the area will also be required to provide sports fields to meet future facility needs.

There are three State parks located within the planning area, which are operated by the County: Castaic Lake Recreation Area, Placerita Canyon State Park, and Vasquez Rocks State Park. State parklands total approximately 13,476 acres within the planning area. County and State parks are listed on Table CO-2 and shown on Figure CO-8.

City Parks & Recreation Planning

The City's first General Plan after incorporation, adopted in 1991, contained a Parks and Recreation Element as an optional element. At that time the City owned and operated 10 parks encompassing 67.25 acres; in addition, the 15-acre William S. Hart Park, owned and operated by Los Angeles County, was located within the City limits. The element established standards for community and neighborhood parks, included an inventory of parks and other public recreational facilities, established a trail plan, included a needs assessment, and established goals and policies for park planning.

The City adopted a Parks, Recreation and Open Space Master Plan in 1995, setting forth specific strategies for upgrading existing facilities and developing new parks and trails. The 1995 plan identified park classifications for neighborhood parks, metro/community parks, and special use parks, and proposed a goal of four acres of parkland per 1,000 residents.

In 2007, the City initiated an update of a Parks, Recreation and Open Space Master Plan (Master Plan). Since the first Master Plan was adopted in 1995, the City had added 240 acres to the park system, constructed 165 acres of improved parkland, and secured land for Central Park. New parks included an activities center, aquatic center, gymnasium, and community center. The City also constructed 33 miles of trails, and set aside over 3,000 acres of open space.

The City and County have adopted park fee ordinances pursuant to the State's Quimby Act (Government Code 66477), which allows local agencies to collect impact fees from residential subdividers to finance development of new parks to serve residents. In order to collect these fees, state law requires that the agency have an adopted General Plan with standards for park and recreational facilities. Section 16.15 of the City's Municipal Code allows developers to dedicate and build parks to serve residents of a new development, or to pay in-lieu fees to the City for parkland acquisition and development.

In conformance with the Quimby Act, the City's park fee ordinance requires dedication or payment of in-lieu fees for a minimum of three acres of parkland for each 1,000 residents. However, the City's General Plan standard calls for parks to be provided at a ratio of 5 acres per 1,000 residents. The City's General Plan standard will remain five acres per 1,000 after the General Plan is update through the *One Valley One Vision* planning effort, and additional funding sources will be identified to acquire and develop parkland above that financed from park impact fees in order to meet the General Plan standard. Based on current parks facilities in the City, there are approximately 1.5 to two acres of developed parkland per 1,000 residents in the City as of 2007, with 246 acres of developed park space and about 173 acres of passive park land. In addition, the City has purchased land for preservation of natural open space along the Santa Clara River and as a greenbelt surrounding urban areas.

The City of Santa Clarita Parks, Recreation and Community Services Department operates 20 City parks totaling 246 acres and ranging in area from about 0.5 to 80 acres, which provide a wide range of recreational facilities. City standards for neighborhood and community parks are similar to the categories used by the County, described above. Based on

these categories, there are 12 neighborhood parks within the City and five community parks, including Bouquet Canyon, Bridgeport, Canyon Country, Valencia Heritage, and Newhall Parks. Special use and passive parks are also included in the City's Master Plan, and are generally used for open space greenbelts and vista points. These parks include Rivendale, Sand Canyon River Park, Lost Canyon Park, Pioneer Park, and several others. There are dozens of passive and special use parks in the City. The City's Central Park is a multi-use park intended to serve the entire Santa Clarita Valley, and is classified as a regional park. This park provides facilities for league sports, cultural enrichment, and passive open space. The Newhall Community Center, which opened in 2006, is a special use facility.

In addition to acquiring and developing new park land, the City continues to expand and upgrade sports and recreational facilities at its existing parks. In 2007, the City awarded a design contract for a major expansion to the existing sports complex in the Centre Pointe Business Park, which will include an 18,000-square-foot gymnasium, a remodeled and expanded skate park, and multi-use fields on 15 acres.

The City's updated Parks, Recreation, and Open Space Master Plan will serve as a guiding document for park planning, identifying opportunities and strategies to meet service needs, and outlining funding strategies in the City. Due to the concurrent planning efforts on this Master Plan, this Element will not serve as the City's Master Plan but will instead focus on broad policy issues relating to park planning and more particularly on joint goals for the City and County to pursue in order to coordinate efforts on open space preservation and park development.

A summary of existing park and open space land is included in Table CO-2, and shown on Figure CO-8. The City has also acquired almost 260 acres of additional land for future parks or expansion of existing parks which are not yet fully developed. To supplement City and County park facilities, 12 school facilities have been made available for community recreational purposes through approval of joint use agreements. National Forest areas also provide recreational facilities available to Valley residents, including hiking trails and campgrounds. Privately-owned golf courses, which provide scenic open space as well as recreation, are also listed.

Joint Park Planning Issues

Some of the future park planning needs that have been identified in public surveys and meetings of Valley residents include more play fields for youth sports, sports complexes large enough to accommodate lighted fields for tournaments, more community swimming pools and water parks, and an amphitheater for outdoor concerts and theater festivals. In addition, a need has been identified to provide additional parks and recreational facilities in some of the older, underserved areas of the valley.

Table CO-2: Inventory of Park & Open Space Lands in Santa Clarita Valley (2008)

Facility	Acreage	Location	Owner/Responsible Agency
City Parks			
Almendra	4.3	Valencia	City
Begonias Lane	4.2	Canyon Country	City
Bouquet Canyon	10.5	Bouquet Canyon	City
Bridgeport	16.0	Valencia	City
Canyon Country	19.3	Canyon Country	City
Central Park	80.0	Saugus	City
Circle J Ranch	5.3	Saugus	City
Creekview	5.0	Newhall	City
Newhall	14.3	Newhall	City
North Oaks	2.3	Canyon Country	City
Oak Spring Canyon	5.7	Canyon Country	City
Old Orchard	5.4	Valencia/Newhall	City
Pamplico	7.6	Saugus	City
Santa Clarita	7.3	Saugus	City
Valencia Glen	7.3	Valencia	City
Valencia Heritage	17.2	Valencia	City
Valencia Meadows	6.1	Valencia	City
Caravahlo/SC Sports Complex	22	Centre Pointe	City
Todd Longshore	5.6	Canyon Country	City
Veterans Historical Plaza	0.5	Newhall	City
County Parks			
Chesebrough	5.1	Valencia	County
Del Valle	5.8	Castaic	County
Hasley Canyon	5.4	Castaic	County
Jake Kuredjian	5.0	Stevenson Ranch	County
Northbridge	9.8	Valencia	County
Pico Canyon	18.0	Stevenson Ranch	County
David March (Plum Canyon)	12.9	Stevenson Ranch	County
Richard Rioux	15.5	Stevenson Ranch	County
Val Verde	57.6	Val Verde	County
Castaic Regional Sports Complex	51.0	Castaic	County
William S. Hart Park	224.3	Newhall	County
Tesoro Adobe Park	2.2	Valencia	County
Ed Davis Park	168.0	Towsley Canyon	County/Santa Monica Mountains Conservancy
Passive Parks			
Chevron-Pioneer	4.6	Newhall	
Lost Canyon	41.2	Canyon Country	City
Mint Canyon	18.6	Canyon Country	City
Rivendale	64.0	Towsley Canyon	City

Facility	Acreage	Location	Owner/Responsible Agency
River Park	24.3	Canyon County	City
Sand Canyon River	20.0	Sand Canyon	City
Summit Park	46.16	Valencia	Summit Homeowners Association
State Parks/Recreation Areas			
Castaic Lake Recreation Area	8700.0	Castaic	State/County
Placerita Canyon Nature Area	341.0	Placerita Canyon	State/County
Vasquez Rocks	905.0	Agua Dulce	State/County
Nature Preserve and Other Open Space			
Santa Clarita Woodlands (includes Ed Davis Park)	4,000.0	Towsley Canyon/ Santa Susana Mountains	Santa Monica Mountains Conservancy (SMMC)
Whitney Canyon	442.0	Entrance at end of San Fernando Road near Highway 14	City and Mountains and Recreation Conservation Authority (MRCA)
Elsmere Canyon	400.0	Near intersection of San Fernando Rd and Sierra Hwy	SMMC
Mentryville	800.0	Pico Canyon	MRCA
Santa Clara River Open Space	2,000.0	Along Santa Clara River	City
Wagoner Open Space	412.0	Canyon Country (1 mile east of City boundary, bisected by SR-14)	City
Quigley Canyon Open Space	158.0	East Newhall	City
Golden Valley Ranch	901.0	East of SR-14 from Golden Valley Road to Placerita Canyon Road	County
Placerita Canyon Open Space	140.0	Adjacent to Placerita Canyon State Park	City
Michael D. Antonovich Open Space	480.0	East/Rice Canyon. Trailhead along Old Road	MRCA
Castaic Open Space	335.0	Castaic	MRCA
Wilson Canyon Ranch	240.0	Castaic	MRCA
Newhall High Country Open Space	140.0	South of Newhall	SMMC/SCWRCA
Round Mountain	136.4	Valencia near I-5 and Magic Mtn. Parkway	City
National Forest Land			
Angeles National Forest Los Padres National Forest	151,827.0	North and southeast of developed portions of Valley	United States Forest Service

Facility	Acreage	Location	Owner/Responsible Agency
Planned Communities Open Space			
Newhall Ranch	6,000.0	High country west of I-5, south of SR-126	Newhall Ranch High Country Recreation and Conservation Joint Powers Agency
Private Golf Courses			
Valencia Country Club	194.0	Valencia	Private
Vista Valencia	51.0	Valencia	Private
Robinson Ranch	344.0	Santa Clarita	Private
TPC at Valencia	226.0	Valencia	Private
Utility Facilities/Corridors			
Castaic Lake Water Agency Conservatory Garden and Learning Center	48.7	Bouquet Canyon	Cataic Lake Water Agency
Cemetaries			
Eternal Valley Memorial	56.0	Santa Clarita	Private

XII. OPEN SPACE RESOURCES

Legal Requirements for Open Space Preservation

State law contains extensive provisions directing preservation of open space by local jurisdictions. In enacting these statutes, the Legislature made the following findings: (1) the preservation of open-space land is necessary not only for the maintenance of the economy of the state, but also for the assurance of the continued availability of land for the production of food and fiber, for the enjoyment of scenic beauty, for recreation and for the use of natural resources; (2) discouraging premature and unnecessary conversion of open-space land to urban uses is a matter of public interest and will be of benefit to urban dwellers because it will discourage noncontiguous development patterns which unnecessarily increase the costs of community services to community residents; (3) the anticipated increase in the population of the state demands that cities, counties, and the state at the earliest possible date make definite plans for the preservation of valuable open-space land and take positive action to carry out such plans by the adoption and strict administration of laws, ordinances, rules and regulations as authorized by this chapter or by other appropriate methods; (4) in order to assure that the interest of all its people are met in the orderly growth and development of the state and the preservation and conservation of its resources, it is necessary to provide for the development of statewide coordinated plans for the conservation and preservation of open-space lands; (5) cities and counties must recognize that open-space land is a limited and valuable resource which must be conserved wherever possible.

Based on these findings, the California Legislature added the requirement for an Open Space Element to state law in 1970. Government Code Section 65302(e) states: [The general plan shall include] an Open Space Element as provided in Article 10.5 (commencing with [Government Code] Section 65560). Along with the housing element, the open-space element has a clear statutory intent and, next to land use, is broadest in scope. Because of this breadth, open space issues overlap those of several other elements. For example, the Land Use Element's issues of agriculture, natural resources, recreation, enjoyment of scenic beauty and public lands are covered by open space provisions. "Open space for the preservation of natural resources" and "open space used for the managed production of resources" encompass the concerns of the Conservation Element. "Open space for public health and safety" covers issues similar to those found in the Safety Element.

As explained in the introductory section of this Element, the State-mandated Elements of Open Space and Conservation have been combined into a single Element in this Area Plan update, because of the close relationship between the needs to conserve natural resources and open space. In various sections of this element dealing with biological, historical, scenic, water, and other resources, the need to establish adequate open space to meet conservation goals has been discussed. Therefore, it was determined to be beneficial to

plan open space protection in a coordinated manner with resource conservation and to include goals and policies for each of these issues into a single document.

Open Space Designations in the Santa Clarita Valley

State law defines "open-space land" as any parcel or area of land or water which is essentially unimproved and devoted to specified open-space uses and which is designated on a local or regional open space plan. Within the Santa Clarita Valley, the following types of areas have been designated for open space preservation pursuant to State law:

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, lake shores, 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; 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 lake shores, 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.

State law also requires that every local open-space plan shall contain an action program consisting of specific programs which the legislative body intends to pursue in implementing its open-space plan. Within the planning area, both the City and County have taken numerous actions to preserve open space land for preservation of historic and cultural resources, biological resources, park and recreation use, visual and aesthetic resources, aggregate resources, flood control and watershed protection, and protection of the public from hazardous conditions. These measures have been described in the previous sections of this element, and in the Land Use and Safety Elements. In addition to the open space lands set aside by the City and County, there are several State parks and recreation areas located within the planning area.

Open Space Preservation Efforts

The City of Santa Clarita began planning for preservation of open space shortly after its incorporation in 1987. The Santa Clara River Recreation and Water Feature Study was adopted by the City in 1991. This document was the City's first step in planning for recreational use of the Santa Clara River, and formed the basis for development of the current Santa Clara River trail. The plan envisioned a continuous river environment encompassing active and passive parks, natural open space, and riverfront community centers and retail establishments, linked by a system of bikeways, paseos, and multi-use trails. The plan also identified the City's goal to coordinate with adjacent jurisdictions to develop a trail network along the Santa Clara River that would link the San Gabriel Mountains to the Pacific Ocean.

In 1995 the City adopted a Parks, Recreation and Community Services Master Plan, containing an inventory of existing facilities and establishing a plan for park development through 2005. The City began updating this plan in 2007.

The City of Santa Clarita's Open Space Acquisition Plan (OSAP) was adopted in 2002 to create a systematic and objective mechanism for evaluating and acquiring open space. This plan was intended to assist in the creation of a "green belt" surrounding the Santa Clarita Valley to improve and expand wildlife habitat and corridors, and to provide a framework for the City to evaluate, acquire, and maintain the most beneficial parcels within and surrounding the Santa Clarita Valley for preservation as open space. The OSAP also identified a goal of acquiring open space to augment the Rim of the Valley open space and trail system.

Since its incorporation in 1987, the City of Santa Clarita has acquired more than 3,000 acres of land for the purpose of preservation of natural habitat and open space. The City

Council has focused on preserving a greenbelt of open space around the City's incorporated boundaries, and about 50 percent of that greenbelt was completed as of 2007. The City also partnered with the Santa Monica Mountains Conservancy (SMMC) to pool resources for open space acquisition, as in the 2002 joint acquisition of 442 acres of land in Whitney Canyon, adjacent to Elsmere Canyon at the end of Newhall Avenue near Highway 14. Preservation of this land will contribute to the open space greenbelt around the Valley, provide for extension of the Rim of the Valley Trail Corridor, and preserve this canyon in perpetuity for future generations. In 2005, the City required dedication of the 907-acre Golden Valley Ranch open space area from PacSun, Inc., as a condition of approval on the developer's projects. This land is located east and south of State Road 14 and runs generally from Golden Valley Road south to Placerita Canyon Road. Other examples of preserved open space are listed on Table CO-2.

In another innovative partnership, the County teamed with the developer to preserve the 6,000 acres of the Newhall Ranch high country, located between the City limits and the Ventura County line. The Newhall Ranch High Country Recreation and Conservation Joint Powers Agency was formed to maintain this open space land.

On March 7, 2007, the donation by the property owner of 400 acres of Elsmere Canyon to the Mountains and Recreation Conservation Authority (MRCA) for use as an open space preserve received final approval. Elsmere Canyon is a natural, riparian area that contains vital links between the Angeles National Forest, Placerita Canyon Nature Center and Whitney Canyon for the wildlife corridor, connecting the San Gabriel, Santa Susana and Santa Monica mountains. The canyon contains waterfalls, rolling hills, riparian habitats, coastal sage and oak woodlands, and significant ecological, cultural and historical treasures. Another 800 acres of the canyon are deemed in need of protection in the future.

The SMMC and its affiliate agency, the MRCA, own and manage more than 55,000 acres of public land in Southern California, of which over 7,000 acres are located within the planning area. One of these properties is the historic town of Mentryville and more than 3,000 surrounding acres, which was donated to the Mountains Recreation and Conservation Authority by Chevron USA in 1995.

The Santa Clarita Watershed Recreation and Conservation Authority was formed in 1997 by the SMMC and the City of Santa Clarita as an independent government agency to improve and maintain 442-acre Whitney Canyon Park, which includes park improvements, shutting of old oil wells, and enhancing habitat use as a wildlife corridor. This Authority may be used to maintain other joint acquisitions of open space land in the future.

In 2005, a proposed Open Space and Parkland Preservation district was voted down by the City's voters by a narrow margin. However, open space proponents continued to promote the measure throughout the community, with a successful measure passing two years later. In July, 2007 the voters of the City of Santa Clarita voted by a margin of 69 percent to 31 percent to support formation of a new Open Space Preservation District within the City. The City Council had proposed the district formation to help increase the amount of preserved open space in and around the Santa Clarita Valley. The voters approved an annual assessment to be levied on each homeowner and property owner within the City, with an average single family home paying $25 per year, which is estimated to generate about $1.5 million per year for the next 30 years. The vote also included possible future increases to be approved by City Council after a public hearing. The District will allow the City to purchase land to be held in perpetuity for the purpose of open space preservation. Funds generated from the annual assessments will be overseen by five member Financial Accountability and Audit Panel to be appointed by the City Council.

The City plans to use bond funding supported by revenue from the annual open space assessments to purchase up to $34 million in open space lands throughout the Santa Clarita Valley. Plans for open space acquisition include more community parks, preservation of biological habitat and geological resources, and creation of open space. In addition, the City plans to acquire land to complete an open space greenbelt around the Santa Clarita Valley. The City hopes to work cooperatively with the County, land conservancies, and other agencies to effectively leverage open space funds with State grants and other funding sources to provide for shared open space opportunities to benefit residents of the entire Valley. An example of such a successful partnership in the past was the purchase of the 442-acre Whitney Canyon Ranch, a partnership between the City and the SMMC operating as a joint powers authority with State bond funds.

Table CO-2 contains an inventory of existing open space land within the Santa Clarita Valley, including both City and County parkland, resource protection areas, private open space, and open space land controlled by other agencies.

Future Directions for Open Space

The City and County will continue to pursue their goal of creating an open space greenbelt encircling the Santa Clarita Valley, protecting important river and canyon habitats, maintaining the scenic hillsides and ridgelines that enhance community character in the Santa Clarita Valley, and conserving the Santa Clara River watershed. The 2007 Open Space District formation will be a powerful funding tool in achieving these goals. In addition, the City and County will continue to seek partnerships with the State, conservation agencies, and other entities as deemed appropriate in order to maximize funding opportunities and benefit all citizens in the Valley through preservation of open space.

XIII. RECREATIONAL TRAILS

Public Resources Code Section 5076 requires that "In developing the open-space element of a general plan as specified in subdivision (e) of Section 65302 of the Government Code, every city and county shall consider demands for trail-oriented recreational use and shall consider such demands in developing specific open-space programs. Further, every city, county, and district shall consider the feasibility of integrating its trail routes with appropriate segments of the state system."

In compliance with this State requirement, both the City and the County have developed trail plans for adoption as part of their General Plans. In 2007, the County Board of Supervisors approved an updated trails map for the Santa Clarita and Antelope Valleys. The map was five years in the making, and was developed based on input from the Santa Clarita Valley Trails Advisory Committee. Members of the Advisory Council walked, biked, drove and rode horses on potential trails with global positioning systems to finalize recommendations for trails to be included on the map. The trails were planned to connect different communities and link with other trails across county and city lines, including trails in Kern and Ventura Counties and within U. S. Forest Service land.

The County has been a strong proponent of trail use and development. For the last 15 years, Supervisor Michael D. Antonovich has sponsored annual trail rides to raise awareness about County trails that are available to all residents. Areas such as Towsley Canyon and Placerita Canyon have miles of trails that link City and County areas and are available to equestrians as well as hikers and non-motorized mountain bikes. In 2006, the City received a $150,000 grant from Supervisor Antonovich's District's Competitive Trails and Cities Grant Program to finance an extension of the Sand Canyon multi-use trail to connect north toward the planned extension of the 14.5-mile-long Santa Clara River Trail.

The City has been planning for an interconnected trail system since shortly after its incorporation in 1987. In 1991, even before adoption of its first General Plan, the City adopted the Santa Clara River Recreation and Water Feature Study, which emphasized the need for a multi-use trail system along the Santa Clara River that would serve as "a continuous trail system that connects recreational features along the river corridor, as well as local and regional destination points." In addition to recommending the river trail system, the plan recommended removing fences and barriers along the river to provide public access to the river trail, planning bicycle routes and pedestrian walkways from residential neighborhoods to the river, directional signs for pedestrians, and providing pedestrian and trail links between the north and south sides of the river. The plan envisioned a river trail that would extend from the San Gabriel Mountains to the Pacific Ocean. The Santa Clara River runs along the bottom of the Santa Clarita Valley, and about seven and a half miles are within the city limits. The City had about five miles of the trail completed or under construction as of 2007, and is planning to extend the trail further to the east and west. All of the other trails within the City are planned to connect to the river trail, which also functions as a wildlife corridor. The City successfully petitioned the State Recreational Trails Committee to include the Santa Clara River as a trail corridor on the State trail plan, which has increased the project's success in competing for grant funding.

The City also included trail plans in the 1991 General Plan and 1995 Parks, Recreation and Community Services Master Plan. The City has developed standards for hard surface trails, equestrian trails, soft surface trails, pedestrian bridges, and connection and access points. (Trail standards are discussed further in the Circulation Element). The City has developed public information brochures with

maps, available on the City's website, for residents seeking information on paseo systems and regional recreational trails. City trails are open from sunrise to 10:00 p.m., and bike lockers provided at the three Metrolink stations are available for trail users. The City has also developed trailheads with parking and services to provide convenient access to trails.

The City funds trail construction on a project-by-project basis by combining general fund money with grant applications. Since 1995 the City has received $12-$13 million in grants used for trail construction, including both State and federal funds. For example, an MTA grant was used to fund design and construction of the continuation of the Santa Clara River trail from the South Fork to Interstate 5. The City and County also require developers to construct trail segments within the project boundaries of new development, based on adopted trail plans, and to provide connections to regional trails where required.

City staff attempts to coordinate with County and federal agencies and developers on projects outside the city limits, including U.S. Forest Service lands, to ensure that the City's trail systems connect with regional trails. One of the city's specific goals is to tie its trail system in with the Pacific Crest Trail, which passes through Agua Dulce near Vasquez Rocks on its north-south path from the U.S.-Canada border to the U.S.-Mexico border. The City and County will continue to cooperate with neighboring agencies and stakeholders to create additional regional trail segments.

With wildfires, floods, and general forest growth conditions, trail maintenance is a constant need throughout the City's trail systems. The City and County are fortunate to benefit from the labors of a dedicated volunteer trail maintenance crew that helps staff maintain nature trails.

Figure CO-9 shows regional recreational trails within City and County areas throughout the planning area.

XIV. SUMMARY OF CONSERVATION AND OPEN SPACE NEEDS IN THE SANTA CLARITA VALLEY

Based on the existing conditions and issues outlined in the background sections of the Conservation and Open Space Element, planning needs for the Santa Clarita Valley are summarized below. Policies and objectives in Part 2 of the element have been developed to address these needs.

1. Strive to balance the needs of new residents, businesses and employment centers with the community's goals for retention of open space and preservation of natural resources.

2. Limit losses of valuable topsoil by erosion, construction, and development practices.

3. Maintain and protect the scenic backdrop of hills and ridgelines around and within the valley, to preserve community character.

4. Protect the scenic beauty of the Santa Clarita Valley's canyons, woodlands, water bodies, and unique geological features, to enhance the sense of place.

5. Allow recovery of aggregate resources while minimizing impacts to the community and environment, and ensuring reclamation of mined lands.

6. Protect sensitive habitat, including wildlife corridors, endangered species, and the National Forest, from the adverse impacts of development, including noise, pollution, light, pets, off-road vehicles, and invasive species.

7. Effectively manage stormwater at the source, to promote infiltration into local aquifers, minimize flood impacts downstream, and reduce drainage infrastructure costs.

8. Require water conservation in all aspects of development, with particular emphasis on landscape irrigation.

9. Work with local water agencies to increase opportunities for use of reclaimed water.

10. Protect and enhance water quality within the Santa Clara River and watershed.

11. Cooperate with landowners and affected districts to assist in mitigating perchlorate contamination in the East Subbasin.

12. Protect culturally significant sites and districts throughout the valley, including Native American sites and those associated with exploration, settlement, and filming.

13. Contribute to a regional reduction in greenhouse gas emissions through land use planning and transportation strategies, and through reductions in energy consumption in buildings and site development, with a focus on older and existing buildings.

14. Recognizing that air quality is regional in nature, protect residents, especially sensitive receptors, from the harmful health effects of air pollution to the extent feasible.

15. Ensure that Santa Clarita Valley residents have access to adequate park and recreation facilities, and provide adequate facilities for all age groups.

16. Develop a continuous network of multi-use trails within the Valley and connecting to adjacent forest and river areas, integrating both recreational and mobility components.

17. Preserve and protect open space throughout the Valley, focusing on completion of the open space greenbelt surrounding urbanized areas, and along the Santa Clara River.

18. Reduce vehicle miles traveled to locations outside the Santa Clarita Valley, as well as the number of vehicle trips within the Valley, through the application of land use strategies that incorporate a sustainable mix of land uses and transit and pedestrian opportunities.

XV. GOALS, OBJECTIVES, AND POLICIES

Goal CO-1: Responsible Management of Environmental Systems

A balance between the social and economic needs of Santa Clarita Valley residents and protection of the natural environment, so that these needs can be met in the present and in the future.

Objective CO-1.1

Protect the capacity of the natural "green" infrastructure to absorb and break down pollutants, cleanse air and water, and prevent flood and storm damage.

- **Policy CO-1.1.1:** In making land use decisions, consider the complex, dynamic, and interrelated ways that natural and human systems interact, such as the interactions between energy demand, water demand, air and water quality, and waste management.

- **Policy CO-1.1.2:** In making land use decisions, consider the impacts of human activity within watersheds and ecosystems, to maintain the functional viability of these systems.

- **Policy CO-1.1.3:** In making land use decisions, encourage development proposals that preserve natural ecosystem functions and enhance the health of the surrounding community.

Objective CO-1.2

Promote more sustainable utilization of renewable resource systems.

- **Policy CO-1.2.1:** Improve the community's understanding of renewable resource systems that occur naturally in the Santa Clarita Valley, including systems related to hydrology, energy, ecosystems, and habitats, and the interrelationships between these systems, through the following measures:

  a. Through the environmental and development review processes, consider development proposals within the context of renewable resource systems and evaluate potential impacts on a system-wide basis (rather than a project-specific basis), to the extent feasible;

  b. In planning for new regional infrastructure projects, consider impacts on renewable resources within the context of interrelationships between these systems;

  c. Provide information to decision-makers about the interrelationship between traffic and air quality, ecosystems and water quality, land use patterns and public health, and other similar interrelationships between renewable resource systems in order to ensure that decisions are based on an understanding of these concepts.

- **Policy CO-1.2.2:** Working with other agencies as appropriate, develop and apply models and other tools for decision-making to support the sustainability of renewable systems.

Objective CO-1.3

Conserve and make more efficient use of non-renewable resource systems, such as fossil fuels, minerals, and materials.

- **Policy CO-1.3.1:** Explore, evaluate, and implement methods to shift from using non-renewable resources to use of renewable resources in all aspects of land use planning and development.

- **Policy CO-1.3.2:** Promote reducing, reusing, and recycling in all Land Use designations and cycles of development.

- **Policy CO-1.3.3:** Provide informational material to the public about programs to conserve non-renewable resources and recover materials from the waste stream.

Objective CO-1.4

Minimize the long-term impacts posed by harmful chemical and biological materials on environmental systems.

- **Policy CO-1.4.1:** In cooperation with other appropriate agencies, identify pollution sources and adopt strategies to reduce emissions into air and water bodies.

- **Policy CO-1.4.2:** In cooperation with other appropriate agencies, abate or remediate known areas of contamination, and limit the effects of any such areas on public health.

- **Policy CO-1.4.3:** Encourage use of non-hazardous building materials, and non-polluting materials and industrial processes, to the extent feasible.

- **Policy CO-1.4.4:** In cooperation with other appropriate agencies, continue to develop and implement effective methods of handling and disposing of hazardous materials and waste.

Objective CO-1.5

Manage urban development and human-built systems to minimize harm to ecosystems, watersheds, and other natural systems, such as urban runoff treatment trains that infiltrate, treat and remove direct connections to impervious areas.

- **Policy CO-1.5.1:** Promote the use of environmentally-responsible building design and efficiency standards in new development, and provide examples of these standards in public facilities, pursuant to the County's Green Building Program.

- **Policy CO-1.5.2:** Design and manage public urban infrastructure systems to reduce impacts to natural systems.

- **Policy CO-1.5.3:** Consider life-cycles for buildings, development patterns, and uses, and their long-term effects on natural systems, through the following measures:

  a. Through the environmental review and development review processes, consider the impacts of new development on renewable systems through various phases including construction, use and operation, potential reuse, cessation of use, demolition, and reuse or restoration of the development site.

  b. Ensure that mitigation measures and conditions of approval intended to protect natural systems are adequately funded and monitored for the required timeframe.

- **Policy CO-1.5.4:** Seek ways to discourage human behavior that may be detrimental to natural systems and to encourage environmental responsibility, through education, incentives, removing barriers, enforcement, and other means as practicable and feasible.

- **Policy CO-1.5.5:** Promote concentration of urban uses within the center of the Santa Clarita Valley through incentives for infill development and rebuilding, in order to limit impacts to open space, habitats, watersheds, hillsides, and other components of the Valley's natural ecosystems.

- **Policy CO-1.5.6:** Through the development review process, consider the impacts of development on the entire watershed of the Santa Clara River and its tributaries, including hydromodification.

- **Policy CO-1.5.7:** Consider the principles of environmental sustainability, trip reduction, walkability, stormwater management, and energy conservation at the site, neighborhood, district, city, and regional level, in land use decisions.

- **Policy CO-1.5.8:** Consider environmental responsibility in all procurement decisions, including purchasing policies and capital projects.

Objective CO-1.6

To the extent feasible, minimize long-term effects of development on natural systems and adjust development strategies as needed to promote sustainability.

- **Policy CO-1.6.1:** Identify environmental conditions that represent a healthy, sustainable community.

- **Policy CO-1.6.2:** Use Geographic Information Systems, modeling, and other tools to indicate the locations of natural systems, such as floodplain and floodway areas, oak tree woodlands, Significant Ecological Areas, and plant and animal species habitat.

- **Policy CO-1.6.3:** Provide information on the condition of natural systems to decision makers as part of the decision-making process regarding land use and development.

Goal CO-2: Geological Resources

Conserve the Santa Clarita Valley's hillsides, canyons, ridgelines, soils, and minerals, which provide the physical setting for the natural and built environments.

Objective CO-2.1

Control soil erosion, waterway sedimentation, and airborne dust generation, and maintain the fertility of topsoil.

- **Policy CO-2.1.1:** Review soil erosion and sedimentation control plans for grading activities related to development, where appropriate to ensure mitigation of potential erosion by water and air.

- **Policy CO-2.1.2:** Promote conservation of topsoil on development sites by stockpiling for later reuse, where feasible.

- **Policy CO-2.1.3:** Promote soil enhancement and waste reduction through composting, where appropriate.

Objective CO-2.2

Preserve the Santa Clarita Valley's prominent ridgelines and limit hillside development to protect the valuable aesthetic and visual qualities intrinsic to the Santa Clarita Valley landscape. (Guiding Principle #7)

- **Policy CO-2.2.1:** Locate development and designate land uses to minimize the impact on the Santa Clarita Valley's topography, minimizing grading and emphasizing the use of development pads that mimic the natural topography in lieu of repetitive flat pads, to the extent feasible. (Guiding Principle #8)

- **Policy CO-2.2.2:** Ensure that graded slopes in hillside areas are revegetated with native drought tolerant plants or other approved vegetation to blend manufactured slopes with adjacent natural hillsides, in consideration of fire safety and slope stability requirements.

- **Policy CO-2.2.3:** Preserve designated natural ridgelines from development by ensuring a minimum distance for grading and development from these ridgelines of 50 feet, or more if determined appropriate by the reviewing authority based on site conditions, to maintain the Santa Clarita Valley's distinctive community character and preserve the scenic setting.

- **Policy CO-2.2.4:** Identify and preserve significant geological and topographic features through designating these areas as open space or by other means as appropriate.

- **Policy CO-2.2.5:** Promote the use of adequate erosion control measures for all development in hillside areas, including single family homes and infrastructure improvements, both during and after construction.

- **Policy CO-2.2.6:** Encourage building and grading designs that conform to the natural grade, avoiding the use of large retaining walls and build-up walls that are visible from offsite, to the extent feasible and practicable.

Objective CO-2.3

Conserve areas with significant mineral resources, and provide for extraction and processing of such resources in accordance with applicable laws and land use policies.

- **Policy CO-2.3.1:** Identify areas with significant mineral resources that are available for extraction pursuant to Zoning Ordinance requirements.

- **Policy CO-2.3.2:** Consider appropriate buffers near mineral resource areas that are planned for extraction, to provide for land use compatibility and prevent the encroachment of incompatible land uses.

- **Policy CO-2.3.3:** Through the review process for any mining or mineral extraction proposal, ensure mitigation of impacts from mining and processing of materials on adjacent uses or on the community, including but not limited to air and water pollution, traffic and circulation, noise, and land use incompatibility.

- **Policy CO-2.3.4:** Ensure that mineral extraction sites are maintained in a safe and secure manner after cessation of extraction activities, which may include the regulated decommissioning of wells, clean-up of any contaminated soils or materials, closing of mine openings, or other measures as deemed appropriate by the agencies having jurisdiction.

- **Policy CO-2.3.5:** Promote remediation and restoration of mined land to a condition that supports beneficial uses, which may include but are not limited to recreational open space, habitat enhancement, groundwater recharge, or urban development.

Goal CO-3: Biological Resources

Conservation of biological resources and ecosystems, including sensitive habitats and species.

Objective CO-3.1

In review of development plans and projects, encourage conservation of existing natural areas and restoration of damaged natural vegetation to provide for habitat and biodiversity.

- **Policy CO-3.1.1:** On the Land Use Map and through the development review process, concentrate development into previously developed or urban areas to promote infill development and prevent sprawl and habitat loss, to the extent feasible.

- **Policy CO-3.1.2:** Avoid designating or approving new development that will adversely impact wetlands, floodplains, threatened or endangered species and habitat, and water

bodies supporting fish or recreational uses, and establish an adequate buffer area as deemed appropriate through site specific review.

- **Policy CO-3.1.3:** On previously undeveloped sites ("greenfields"), identify biological resources and incorporate habitat preservation measures into the site plan, where appropriate. (This policy will generally not apply to urban infill sites, except as otherwise determined by the reviewing agency).

- **Policy CO-3.1.4:** For new development on sites with degraded habitat, include habitat restoration measures as part of the project development plan, where appropriate.

- **Policy CO-3.1.5:** Promote the use of site-appropriate native or adapted plant materials, and prohibit use of invasive or noxious plant species in landscape designs.

- **Policy CO-3.1.6:** On development sites, preserve and enhance natural site elements including existing water bodies, soil conditions, ecosystems, trees, vegetation and habitat, to the extent feasible.

- **Policy CO-3.1.7:** Limit the use of turf-grass on development sites and promote the use of native or adapted plantings to promote biodiversity and natural habitat.

- **Policy CO-3.1.8:** On development sites, encourage tree planting to provide habitat and shade to reduce the heat island effect caused by pavement and buildings.

- **Policy CO-3.1.9:** During construction, ensure preservation of habitat and trees designated to be protected through use of fencing and other means as appropriate, so as to prevent damage by grading, soil compaction, pollution, erosion or other adverse construction impacts.

- **Policy CO-3.1.10:** To the extent feasible, encourage the use of open space to promote biodiversity.

- **Policy CO-3.1.11:** Promote use of pervious materials or porous concrete on sidewalks to allow for planted area infiltration, allow oxygen to reach tree roots (preventing sidewalk lift-up from roots seeking oxygen), and mitigate tree-sidewalk conflicts, in order to maintain a healthy mature urban forest.

Objective CO-3.2

Identify and protect areas which have exceptional biological resource value due to a specific type of vegetation, habitat, ecosystem, or location.

- **Policy CO-3.2.1:** Protect wetlands from development impacts, with the goal of achieving no net loss (or functional reduction) of jurisdictional wetlands within the planning area.

- **Policy CO-3.2.2:** Ensure that development is located and designed to protect oak, sycamore, and other significant indigenous woodlands. (Guiding Principle #9)

- **Policy CO-3.2.3:** Ensure protection of any endangered or threatened species or habitat, in conformance with State and federal laws.

- **Policy CO-3.2.4:** Protect biological resources in the designated Significant Ecological Areas (SEAs) through the siting and design of development which is highly compatible with the SEA resources. Specific development standards shall be identified to control the types of land use, density, building location and size, roadways and other infrastructure, landscape, drainage, and other elements to assure the protection of the critical and important plant and animal habitats of each SEA. In general, the principle shall be to minimize the intrusion and impacts of development in these areas with sufficient controls to adequately protect the resources. (Guiding Principle #10)

Objective CO-3.3

Protect significant wildlife corridors from encroachment by development that would hinder or obstruct wildlife movement.

- **Policy CO-3.3.1:** Protect the banks and adjacent riparian habitat along the Santa Clara River and its tributaries, to provide wildlife corridors.

- **Policy CO-3.3.2:** Cooperate with other responsible agencies to protect, enhance, and extend the Rim of the Valley trail system through Elsmere and Whitney Canyons, and other areas as appropriate, to provide both recreational trails and wildlife corridors linking the Santa Susana and San Gabriel Mountains.

- **Policy CO-3.3.3:** Identify and protect one or more designated wildlife corridors linking the Los Padres and Angeles National Forests through the Santa Clarita Valley (the San Gabriel-Castaic connection).

- **Policy CO-3.3.4:** Support the maintenance of Santa Clarita Woodlands Park, a critical component of a cross-mountain range wildlife habitat corridor linking the Santa Monica Mountains to the Angeles and Los Padres National Forests.

- **Policy CO-3.3.5:** Encourage connection of natural open space areas in site design, to allow for wildlife movement.

Objective CO-3.4

Ensure that development in the Santa Clarita Valley does not adversely impact habitat within the adjacent National Forest lands.

- **Policy CO-3.4.1:** Coordinate with the United States Forest Service on discretionary development projects that may have impacts on the National Forest.

- **Policy CO-3.4.2:** Consider principles of forest management in land use decisions for projects adjacent to the National Forest, including limiting the use of invasive species, discouraging off-road vehicle use, maintaining fuel modification zones and fire access roads, and other measures as appropriate, in accordance with the goals set forth in the Angeles National Forest Land Management Plan.

- **Policy CO-3.4.3:** On the Land Use Map, maintain low density rural residential and open space uses adjacent to forest land, and protect the urban-forest interface area from overdevelopment.

- **Policy CO-3.4.4:** Participate as a stakeholder in planning efforts by the United States Forest Service for land uses within the National Forest, providing input as appropriate.

Objective CO-3.5

Maintain, enhance, and manage the urban forest throughout developed portions of the Santa Clarita Valley to provide habitat, reduce energy consumption, and create a more livable environment.

- **Policy CO-3.5.1:** Continue to plant and maintain trees on public lands and within the public right-of-way to provide shade and walkable streets, incorporating measures to ensure that roots have access to oxygen at tree maturity, such as use of porous concrete.

- **Policy CO-3.5.2:** Where appropriate, promote planting of trees that are native or climactically appropriate to the surrounding environment, emphasizing oaks, sycamores, maple, walnut, and other native species in order to enhance habitat, and discouraging the use of introduced species such as eucalyptus, pepper trees, and palms except as ornamental landscape features.

- **Policy CO-3.5.3:** Pursuant to the requirements of the Zoning Ordinance, protect heritage oak trees that, due to their size and condition, are deemed to have exceptional value to the community.

Objective CO-3.6

Minimize impacts of human activity and the built environment on natural plant and wildlife communities.

- **Policy CO-3.6.1:** Minimize light trespass, sky-glow, glare, and other adverse impacts on the nocturnal ecosystem by limiting exterior lighting to the level needed for safety and comfort; reduce unnecessary lighting for landscaping and architectural purposes, and encourage reduction of lighting levels during non-business nighttime hours.

- **Policy CO-3.6.2:** Reduce impervious surfaces and provide more natural vegetation to enhance microclimates and provide habitat. In implementing this policy, consider the following design concepts:

  - Consideration of reduced parking requirements, where supported by a parking study and/or through shared use of parking areas;
  - Increased use of vegetated areas around parking lot perimeters; such areas should be designed as bioswales or as otherwise determined appropriate to allow surface water infiltration;
  - Use of connected open space areas as drainage infiltration areas in lieu of curbed landscape islands, minimizing the separation of natural and landscaped areas into isolated "islands";
  - Breaking up large expanses of paving with natural landscaped areas planted with shade trees to reduce the heat island effect, along with shrubs and groundcover to provide diverse vegetation for habitat.

- **Policy CO-3.6.3:** Restrict use of unauthorized off-road vehicles within sensitive habitat areas through signage, fencing, or other means as appropriate.

- **Policy CO-3.6.4:** Provide public information and support with demonstration sites at County facilities on gardening and landscaping techniques to reduce spread of invasive species and pollution from pesticides and fertilizers that threaten natural ecosystems.

- **Policy CO-3.6.5:** Ensure revegetation of graded areas and slopes adjacent to natural open space areas with native plants (consistent with fire prevention requirements).

Objective CO-3.7

Provide public access to, and education about, natural habitats and ecosystems.

- **Policy CO-3.7.1:** Support the public education programs offered at the Placerita Canyon Natural Area and Ed Davis Park (Sonia Thompson Nature Center).

- **Policy CO-3.7.2:** Seek opportunities for partnerships with schools, non-profit organizations, and volunteers, to increase public access to and information about natural areas.

Goal CO-4: Water Resources

An adequate supply of clean water to meet the needs of present and future residents and businesses, balanced with the needs of natural ecosystems.

Objective CO-4.1

Promote water conservation as a critical component of ensuring adequate water supply for Santa Clarita Valley residents and businesses.

- **Policy CO-4.1.1:** In coordination with applicable water suppliers, adopt and implement a water conservation strategy for public and private development.

- **Policy CO-4.1.2:** Provide examples of water conservation in landscaping through use of low water use landscaping in public spaces such as parks, landscaped medians and parkways, plazas, and around public buildings.

- **Policy CO-4.1.3:** Promote low water use landscaping in new residential subdivisions and other private development projects, including a reduction in the amount of turf-grass.

- **Policy CO-4.1.4:** Provide informational materials to applicants and contractors on the Castaic Lake Water Agency's Landscape Education Program, and/or other information on xeriscape, native California plants, and water-conserving irrigation techniques as materials become available.

- **Policy CO-4.1.5:** Promote low-flow and/or waterless plumbing fixtures and appliances in all new non-residential development and residential development of five or more dwelling units.

- **Policy CO-4.1.6:** Support amendments to the County Building Code that would promote upgrades to water and energy efficiency when issuing permits for renovations or additions to existing buildings.

- **Policy CO-4.1.7:** Apply water conservation policies to all pending development projects, including approved tentative subdivision maps, to the extent permitted by law; where precluded from adding requirements by vested entitlements, encourage water conservation in construction and landscape design.

- **Policy CO-4.1.8:** Upon the availability of non-potable water services, discourage and consider restrictions on the use of potable water for washing outdoor surfaces.

Objective CO-4.2

Work with water providers and other agencies to identify and implement programs to increase water supplies to meet the needs of future growth.

- **Policy CO-4.2.1:** In cooperation with the Sanitation District and other affected agencies, seek to expand opportunities for use of recycled water for the purposes of landscape maintenance, construction, water recharge, and other uses as appropriate.

- **Policy CO-4.2.2:** Require new development to provide the infrastructure needed for delivery of recycled water to the property for use in irrigation, even if the recycled water main delivery lines have not yet reached the site, where deemed appropriate by the reviewing authority.

- **Policy CO-4.2.3:** Promote the installation of rainwater capture and gray water systems in new buildings for irrigation, where feasible and practicable.

- **Policy CO-4.2.4:** Identify and protect areas with substantial potential for groundwater recharge, and promote recharge of groundwater basins throughout the watershed (excluding the river bed).

- **Policy CO-4.2.5:** Participate and cooperate with other agencies to complete, adopt, and implement an Integrated Regional Water Management Plan to build a diversified portfolio of water supply, water quality, and resource stewardship priorities for the Santa Clarita Valley.

Objective CO-4.3

Limit disruption of natural hydrology by reducing impervious cover, increasing on-site infiltration, and managing stormwater runoff at the source.

- **Policy CO-4.3.1:** On undeveloped sites proposed for development, promote onsite stormwater infiltration through design techniques such as pervious paving, draining runoff into bioswales or properly designed landscaped areas, preservation of natural soils and vegetation, and limiting impervious surfaces.

- **Policy CO-4.3.2:** On previously developed sites proposed for major alteration, provide stormwater management improvements to restore natural infiltration, as required by the reviewing authority.

- **Policy CO-4.3.3:** Provide flexibility for design standards for street width, sidewalk width, parking, and other impervious surfaces when it can be shown that such reductions will not have negative impacts and will provide the benefits of stormwater retention, groundwater infiltration, reduction of heat islands, enhancement of habitat and biodiversity, saving of significant trees or planting of new trees, or other environmental benefit.

- **Policy CO-4.3.4:** Encourage and promote the use of new materials and technology for improved stormwater management, such as pervious paving, green roofs, rain gardens, and vegetated swales.

- **Policy CO-4.3.5:** Where detention and retention basins or ponds are required, seek methods to integrate these areas into the landscaping design of the site as amenity areas, such as a network of small ephemeral swales treated with attractive planting.

- **Policy CO-4.3.6:** Discourage the use of mounded turf and lawn areas which drain onto adjacent sidewalks and parking lots, replacing these areas with landscape designs that retain runoff and allow infiltration.

- **Policy CO-4.3.7:** Reduce the amount of pollutants entering the Santa Clara River and its tributaries by capturing and treating stormwater runoff at the source, to the extent possible.

Objective CO-4.4

Promote measures to enhance water quality by addressing sources of water pollution.

- **Policy CO-4.4.1:** Cooperate with the Los Angeles County Sanitation District and Regional Water Quality Control Board as appropriate to achieve Total Maximum Daily Load (TMDL) standards for chlorides in the Santa Clara River.

- **Policy CO-4.4.2:** Support the cooperative efforts of property owners and appropriate agencies to eliminate perchlorate contamination on the Whittaker-Bermite property, and eliminate the use of any industrial chemicals or wastes in a manner that threatens groundwater quality.

- **Policy CO-4.4.3:** Discourage the use of chemical fertilizers, herbicides and pesticides in landscaping to reduce water pollution by substances hazardous to human health and natural ecosystems.

- **Policy CO-4.4.4:** Promote the extension of sanitary sewers for all urban uses and densities, to protect groundwater quality, where feasible.

Goal CO-5: Cultural and Historical Resources

Protection of historical and culturally significant resources that contribute to community identity and a sense of history.

Objective CO-5.1

Protect sites identified as having local, state, or national significance as a cultural or historical resource.

- **Policy CO-5.1.1:** For sites identified on the Cultural and Historical Resources Map (Figure CO-6), review appropriate documentation prior to issuance of any permits for grading, demolition, alteration, or new development, to avoid significant adverse impacts. Such documentation

may include cultural resource reports, Environmental Impact Reports, or other information as determined to be adequate by the reviewing authority.

- **Policy CO-5.1.2:** Review any proposed alterations to cultural and historic sites identified in Table CO-1 or other sites which are so designated, based on the guidelines contained in the Secretary of the Interior's Standards for the Treatment of Properties (Title 36, Code of Federal Regulations, Chapter 1, Part 68, also known as 36 CFR 68), or other adopted County guidelines.

- **Policy CO-5.1.3:** As new information about other potentially significant historic and cultural sites becomes available, update the Cultural and Historical Resources Inventory and apply appropriate measures to all identified sites to protect their historical and cultural integrity.

Objective CO-5.2

Protect and enhance the historic character of Downtown Newhall.

- **Policy CO-5.2.1:** Support efforts by the City of Santa Clarita to implement its Downtown Newhall Specific Plan policies by ensuring that the scale and character of new development is compatible with and does not detract from the context of historic buildings and block patterns.

- **Policy CO-5.2.2:** Support expansion and enhancement of a City of Santa Clarita historical park adjacent to the Pioneer Oil Refinery to illustrate historic oil operations in the Santa Clarita Valley.

- **Policy CO-5.2.3:** Support efforts by the City of Santa Clarita to ensure that all aspects of community design in Newhall, including street furniture, lighting, trash collection and storage areas, seating, and other accessory structures, are of a design and scale appropriate for the historic character of the district, while maintaining a sense of authenticity.

- **Policy CO-5.2.4:** Continue to support "Heritage Junction" and the historical museum within William S. Hart Park as historical resources that illustrate the various phases of settlement within the Santa Clarita Valley.

Objective CO-5.3

Encourage conservation and preservation of Native American cultural places, including prehistoric, archaeological, cultural, spiritual, and ceremonial sites on both public and private lands, throughout all stages of the planning and development process.

- **Policy CO-5.3.1:** For any proposed Area Plan Amendment, Specific Plan, or Specific Plan Amendment, notify and consult with any California Native American tribes on the contact list maintained by the California Native American Heritage Commission that have traditional lands within the County's jurisdiction, regarding any potential impacts to Native American resources from the proposed action, pursuant to State guidelines.

- **Policy CO-5.3.2:** For any proposed development project that may have a potential impact on Native American cultural resources, provide notification to California Native American tribes on the contact list maintained by the Native American Heritage Commission that have traditional lands within the County's jurisdiction, and consider the input received prior to a discretionary decision.

- **Policy CO-5.3.3:** Review and consider a cultural resources study for any new grading or development in areas identified as having a high potential for Native American resources, and incorporate recommendations into the project approval as appropriate to mitigate impacts to cultural resources.

Goal CO-6: Scenic Resources

Preservation of scenic features that keep the Santa Clarita Valley beautiful and enhance quality of life, community identity, and property values.

Objective CO-6.1

Protect the scenic character of local topographic features.

- **Policy CO-6.1.1:** Protect scenic canyons, as described in Part I of this element, from overdevelopment and environmental degradation.

- **Policy CO-6.1.2:** Preserve significant ridgelines, as shown on Figure CO-7, as a scenic backdrop throughout the community by maintaining natural grades and vegetation.

- **Policy CO-6.1.3:** Protect the scenic quality of unique geologic features throughout the planning area, such as Vasquez Rocks, by including these features within park and open space land where possible.

Objective CO-6.3

Protect the scenic character of major water bodies.

- **Policy CO-6.3.1:** Protect the shores of Castaic Lake to preserve its scenic quality from development.

- **Policy CO-6.3.2:** Protect the banks of the Santa Clara River and its major tributaries through open space designations and property acquisitions, where feasible, to protect and enhance the scenic character of the river valley.

Objective CO-6.4

Protect the scenic character of oak woodlands, coastal sage, and other habitats unique to the Santa Clarita Valley.

- **Policy CO-6.4.1:** Preserve scenic habitat areas within designated open space or parkland, wherever possible.

- **Policy CO-6.4.2:** Through the development review process, ensure that new development preserves scenic habitat areas to the extent feasible.

Objective CO-6.5

Maintain the scenic character of designated routes, gateways, and vista points along roadways.

- **Policy CO-6.5.1:** In approving new development projects, consider scenic views at major entry points to the Santa Clarita Valley, including gateways located at Newhall Pass and along Lake Hughes Road, Route 126, Bouquet Canyon Road, Sierra Highway, State Route 14, and other locations as deemed appropriate by the reviewing authority.

- **Policy CO-6.5.2:** Establish scenic routes in appropriate locations as determined by the reviewing agency, and adopt guidelines for these routes to maintain their scenic character.

Objective CO-6.6

Limit adverse impacts by humans on the scenic environment.

- **Policy CO-6.6.1:** Enhance views of the night sky by reducing light pollution through use of light screens, downward directed lights, minimized reflective paving surfaces, and reduced lighting levels, as deemed appropriate by the reviewing authority.

- **Policy CO-6.6.2:** Improve views of the Santa Clarita Valley through various policies to minimize air pollution and smog, as contained throughout the Area Plan.

- **Policy CO-6.6.3:** Restrict establishment of billboards throughout the planning area, and continue abatement efforts to remove existing billboards that impact scenic views.

- **Policy CO-6.6.4:** Where appropriate, require new development to be sensitive to scenic viewpoints or viewsheds through building design, site layout and building heights.

- **Policy CO-6.4.5:** Encourage undergrounding of all new utility lines, and promote undergrounding of existing lines where feasible and practicable.

Goal CO-7: Air Quality

Clean air to protect human health and support healthy ecosystems.

Objective CO-7.1

Reduce air pollution from mobile sources.

- **Policy CO-7.1.1:** Through the mixed land use patterns and multi-modal circulation policies set forth in the Land Use and Circulation Elements, limit air pollution from transportation sources.

- **Policy CO-7.1.2:** Support the use of alternative fuel vehicles.

- **Policy CO-7.1.3:** Support alternative travel modes and new technologies, including infrastructure to support alternative fuel vehicles, as they become commercially available.

Objective CO-7.2

Apply guidelines to protect sensitive receptors from sources of air pollution as developed by the California Air Resources Board (CARB), where appropriate.

- **Policy CO-7.2.1:** Ensure adequate spacing of sensitive land uses from the following sources of air pollution: high traffic freeways and roads; distribution centers; truck stops; chrome plating facilities; dry cleaners using perchloroethylene; and large gas stations, as recommended by CARB.

Objective CO-7.3

Coordinate with other agencies to plan for and implement programs for improving air quality in the South Coast Air Basin.

- **Policy CO-7.3.1:** Coordinate with local, regional, state, and federal agencies to develop and implement regional air quality policies and programs.

Goal CO-8: Greenhouse Gas Reduction

Development designed to improve energy efficiency, reduce energy and natural resource consumption, and reduce emissions of greenhouse gases. (Guiding Principle #11)

Objective CO-8.1

Comply with the requirements of State law, including AB 32, SB 375, and implementing regulations, to reach targeted reductions of greenhouse gas (GHG) emissions.

- **Policy CO-8.1.1:** Support the County's efforts to create and adopt a Climate Action Plan that meets State requirements and includes the following components:
    - Plans and programs to reduce GHG emissions to State-mandated targets, including enforceable reduction measures
    - Mechanisms to ensure regular review of progress towards the emission reduction targets established by the Climate Action Plan
    - Procedures for reporting on progress to officials and the public
    - Procedures for revising the plan as needed to meet GHG emissions reduction targets
    - Allocation of funding and staffing for Plan implementation

- **Policy CO-8.1.2:** Participate in the preparation of a regional Sustainable Communities Strategy (SCS) to meet regional targets for greenhouse gas emission reductions, as required by SB 375.

- **Policy CO-8.1.3:** Implement the ordinances developed through the County's Green Building Program.

- **Policy CO-8.1.4:** Provide information and education to the public about energy conservation and local strategies to address climate change.

- **Policy CO-8.1.5:** Coordinate various activities within the community and County agencies related to GHG emissions reduction activities.

Objective CO-8.2

Reduce energy and materials consumption and greenhouse gas emissions in public uses and facilities.

- **Policy CO-8.2.1:** Ensure that all new County buildings and all major renovations and additions meet adopted green building standards, with a goal of achieving the LEED (Leadership in Energy and Environmental Design) Silver rating or above, or equivalent, where appropriate.

- **Policy CO-8.2.2:** Ensure energy efficiency of existing public buildings through energy audits and repairs, and retrofit buildings with energy efficient heating and air conditioning systems and lighting fixtures.

- **Policy CO-8.2.3:** Support purchase of renewable energy for public buildings, which may include installing solar photovoltaic systems to generate electricity for County buildings and operations and other methods as deemed appropriate and feasible, in concert with significant energy conservation efforts.

- **Policy CO-8.2.4:** Establish maximum lighting levels for public facilities, and encourage reduction of lighting levels to the level needed for security purposes after business hours, in addition to use of downward-directed lighting and use of low-reflective paving surfaces.

- **Policy CO-8.2.5:** Support installation of photovoltaic and other renewable energy equipment on public facilities, in concert with significant energy conservation efforts.

- **Policy CO-8.2.6:** Promote use of solar lighting in parks and along paseos and trails, where practical.

- **Policy CO-8.2.7:** Support the use of sustainable alternative fuel vehicles for machinery and fleets, where practical, by evaluating fuel sources, manufacturing processes, maintenance costs and vehicle lifetime use.

- **Policy CO-8.2.8:** Promote the purchase of energy-efficient and recycled products, and vendors and contractors who use energy-efficient vehicles and products, consistent with adopted purchasing policies.

- **Policy CO-8.2.9:** Reduce heat islands through installation of trees to shade parking lots and hardscapes, and use of light-colored reflective paving and roofing surfaces.

- **Policy CO-8.2.10:** Support installation of energy-efficient traffic control devices, street lights, and parking lot lights.

- **Policy CO-8.2.11:** Implement recycling in all public buildings, parks, and public facilities, including for special events.

- **Policy CO-8.2.12:** Provide ongoing training to appropriate County employees on sustainable planning, building, and engineering practices.

- **Policy CO-8.2.13:** Support trip reduction strategies for employees as described in the Circulation Element.

Objective CO-8.3

Encourage green building and sustainable development practices on private development projects, to the extent reasonable and feasible.

- **Policy CO-8.3.1:** Evaluate development proposals for consistency with the ordinances developed through the County's Green Building Program.

- **Policy CO-8.3.2:** Promote construction of energy efficient buildings through the certification requirements of the ordinances developed through the County's Green Building Program.

- **Policy CO-8.3.3:**Promote energy efficiency and water conservation upgrades to existing non-residential buildings at the time of major remodel or additions.

- **Policy CO-8.3.4:** Encourage new residential development to include on-site solar photovoltaic systems, or pre-wiring, in at least 50% of the residential units, in concert with other significant energy conservation efforts.

- **Policy CO-8.3.5:** Encourage on-site solar generation of electricity in new retail and office commercial buildings and associated parking lots, carports, and garages, in concert with significant energy conservation efforts.

- **Policy CO-8.3.6:** Encourage new development to use passive solar heating and cooling techniques in building design and construction, which may include but are not be limited to building orientation, clerestory windows, skylights, placement and type of windows, overhangs to shade doors and windows, and use of light colored roofs and paving materials.

- **Policy CO-8.3.7:** Encourage the use of trees and landscaping to reduce heating and cooling energy loads, through shading of buildings and parking lots.

- **Policy CO-8.3.8:** Encourage energy-conserving heating and cooling systems and appliances, and energy-efficiency in windows and insulation, in all new construction.

- **Policy CO-8.3.9:** Limit excessive lighting levels, and encourage a reduction of lighting when businesses are closed to a level required for security.

- **Policy CO-8.3.10:** Provide incentives and technical assistance for installation of energy-efficient improvements in existing and new buildings.

- **Policy CO-8.3.11:** Consider allowing carbon off-sets for large development projects, if appropriate, which may include funding off-site projects or purchase of credits for other forms of mitigation, provided that any such mitigation shall be measurable and enforceable.

Objective CO-8.4

Reduce energy consumption for processing raw materials by promoting recycling and materials recovery by all residents and businesses throughout the community.

- **Policy CO-8.4.1:** Encourage and promote the location of enclosed materials recovery facilities (MRF) within the Santa Clarita Valley.

- **Policy CO-8.4.2:** Adopt mandatory residential recycling programs for all residential units, including single-family and multi-family dwellings.

- **Policy CO-8.4.3:** Allow and encourage composting of greenwaste, where appropriate.

- **Policy CO-8.4.4:** Promote commercial and industrial recycling, including recycling of construction and demolition debris.

- **Policy CO-8.4.5:** Develop and implement standards for refuse and recycling receptacles and enclosures to accommodate recycling in all development.

- **Policy CO-8.4.6:** Introduce and assist with the placement of receptacles for recyclable products in public places, including at special events.

- **Policy CO-8.4.7:** Provide information to the public on recycling opportunities and facilities, and support various locations and events to promote public participation in recycling.

- **Policy CO-8.4.8:** Take an active role in promoting, incubating, and encouraging businesses that would qualify under the Recycling Market Development Zone program or equivalent, including those that manufacture products made from recycled products, salvage, and resource recovery business parks.

Goal CO-9: Park, Recreation, and Trail Facilities

Equitable distribution of park, recreational, and trail facilities to serve all areas and demographic needs of existing and future residents.

Objective CO-9.1

Develop new parklands throughout the Santa Clarita Valley, with priority given to locations that are not now adequately served, and encompassing a diversity of park types and functions (including passive and active areas) in consideration of the recreational needs of residents to be served by each park, based on the following guidelines: (Guiding Principle #36)

- **Policy CO-9.1.1:** Common park standards shall be developed and applied throughout the Santa Clarita Valley, consistent with community character objectives, with a goal of five acres of parkland per 1,000 population. (Guiding Principle #36.a.)

- **Policy CO-9.1.2:** A range of parkland types, sizes, and uses shall be provided to accommodate recreational and leisure activities. (Guiding Principle #36.b)

- **Policy CO-9.1.3:** Provide local and community parks within a reasonable distance of residential neighborhoods.

- **Policy CO-9.1.4:** Explore and implement opportunities to share facilities with school districts, utility easements, flood control facilities, and other land uses, where feasible.

- **Policy CO-9.1.5:** Promote development of more playfields for youth and adult sports activities, in conjunction with tournament facilities, where needed.

- **Policy CO-9.1.6:** Continue to upgrade and expand existing facilities to enhance service to residents, including extension of hours through lighted facilities, where appropriate.

- **Policy CO-9.1.7:** Establish appropriate segments of the Santa Clara River as a recreational focal point, encouraging a beneficial mix of passive and active recreational uses with natural ecosystems by providing buffers for sensitive habitat.

- **Policy CO-9.1.8:** Make available easily accessible park and recreation facilities throughout the Santa Clarita Valley.

- **Policy CO-9.1.9:** Ensure that new development projects provide a fair share towards park and recreational facilities, phased to meet needs of residents as dwelling units become occupied, pursuant to the Quimby Act (California Government Code Section 66477) and local ordinances as applicable.

- **Policy CO-9.1.10:** Where appropriate, use flexible planning and zoning tools to obtain adequate park and open space land, including but not limited to specific plans, development agreements, clustering, and transfer of development rights.

- **Policy CO-9.1.11:** Locate and design parks to address potential adverse impacts on adjacent development from noise, lights, flying balls, traffic, special events, and other operational activities and uses.

- **Policy CO-9.1.12:** Establish minimum design standards for both public and private parks to provide for public safety and welfare through lighting, access, crime prevention through design, equipment, visibility, and other aspects of design.

- **Policy CO-9.1.13:** Provide passive areas for natural habitat, meditation, bird-watching, and similar activities in parks, where feasible and appropriate, including meditation gardens, wildflower and butterfly gardens, botanic gardens, and similar features.

- **Policy CO-9.1.14:** Ensure adequate park maintenance, and encourage programs for volunteers to assist in maintaining local parks, where feasible and appropriate.

- **Policy CO-9.1.15:** Provide a wide variety of recreational programs geared to all ages and abilities, including passive, active, educational, and cultural programs.

Objective CO-9.2

Recognize that trails are an important recreational asset that, when integrated with transportation systems, contribute to mobility throughout the Santa Clarita Valley. (Guiding Principle #34)

- **Policy CO-9.2.1:** Plan for a continuous and unified multi-use trail network for a variety of users, to be developed with common standards, in order to unify Santa Clarita Valley communities and connect with regional and state trails such as the Pacific Crest Trail. (Guiding Principle #35)

- **Policy CO-9.2.2:** Provide trail connections between paseos, bike routes, schools, parks, community services, streets and neighborhoods.

- **Policy CO-9.2.3:** Use the Santa Clara River as a major recreational focal point for development of an integrated system of bikeways and trails, while protecting sensitive ecological areas.

- **Policy CO-9.2.4:** Ensure that new development projects provide trail connections to local and regional trail systems, where appropriate.

- **Policy CO-9.2.5:** Promote the expansion of multi-use trails within rural areas of the Santa Clarita Valley.

- **Policy CO-9.2.6:** Provide trails to scenic vistas and viewpoints.

- **Policy CO-9.2.7:** Explore joint use opportunities to combine trail systems with utility easements, flood control facilities, open spaces, or other uses, where feasible.

- **Policy CO-9.2.8:** Ensure that trails are designed to protect habitat, ecosystems, and water quality.

- **Policy CO-9.2.9:** Pursue funding for trail maintenance and encourage volunteer participation in trail maintenance programs, where appropriate.

Goal CO-10: Open Space

Preservation of open space to meet the community's multiple objectives for resource preservation.

Objective CO-10.1

Identify areas throughout the Santa Clarita Valley which should be preserved as open space in order to conserve significant resources for long-term community benefit.

- **Policy CO-10.1.1:** Provide and protect a natural greenbelt buffer area surrounding the entire Santa Clarita Valley, which includes the Angeles National Forest, Santa Susana, San Gabriel, and Sierra Pelona Mountains, as a regional recreational, ecological, and aesthetic resource. (Guiding Principle #5)

- **Policy CO-10.1.2:** The Santa Clara River corridor and its major tributaries shall be preserved as open space to accommodate storm water flows and protect critical plant and animal species, as follows: (Guiding Principle #6)

    - Uses and improvements within the corridor shall be limited to those that benefit the community's use of the river in its natural state.
    - Development on properties adjacent to, but outside of the defined primary river corridor shall be:
    - Located and designed to protect the river's water quality, plants, and animal habitats by controlling the type and density of uses, drainage runoff (water treatment) and other relevant elements; and
    - Designed to maximize the full range of river amenities, including views and recreational access, while minimizing adverse impacts to the river.

- **Policy CO-10.1.3:** Through dedications and acquisitions, obtain open space needed to preserve and protect wildlife corridors and habitat, which may include land within SEA's, wetlands, woodlands, water bodies, and areas with threatened or endangered flora and fauna.

- **Policy CO-10.1.4:** Maintain and acquire, where appropriate, open space to preserve cultural and historical resources.

- **Policy CO-10.1.5:** Maintain open space corridors along canyons and ridgelines as a way of delineating and defining communities and neighborhoods, providing residents with access to natural areas, and preserving scenic beauty.

- **Policy CO-10.1.6:** Delineate open space uses within hazardous areas to protect public health and safety, which may include areas subject to seismic rupture, flooding, wildfires, or unsafe levels of noise or air pollution.

- **Policy CO-10.1.7:** Acquire adequate open space for recreational uses, coordinating location and type of open space with master plans for trails and parks.

- **Policy CO-10.1.8:** Encourage the use of vacant lots as community gardens, where appropriate.

- **Policy CO-10.1.9:** Preserve forested areas, agricultural lands, wildlife habitat and corridors, wetlands, watersheds, groundwater recharge areas, and other open space that provides nature carbon sequestration benefits.

- **Policy CO-10.1.10:** Support efforts by the City of Santa Clarita to ensure that the open space acquisition plan developed pursuant to the 2007 Open Space District formation conforms to the goals and objectives of the City's General Plan.

- **Policy CO-10.1.11:** Partner with conservation agencies and other entities to acquire and maintain open space, combining funding and other resources for joint-use projects, where appropriate.

- **Policy CO-10.1.12:** Identify, pursue, and ensure adequate funding sources to maintain open space areas.

- **Policy CO-10.1.13:** Provide reasonable accommodation to ensure that residents throughout the Santa Clarita Valley have equal access to open space areas, in consideration of the health benefits to residents from access to nature.

- **Policy CO-10.1.14:** Protect open space from human activity that may harm or degrade natural areas, including but not limited to off road motorized vehicles, vandalism, campfires, overuse, pets, noise, excessive lighting, dumping, or other similar activities.

- **Policy CO-10.1.15:** In conformance with State law, ensure that any action by which open space land is acquired or disposed of, restricted, or regulated, be consistent with the open space plan contained in this Element.

- **Policy CO-10.1.16:** In conformance with State law, ensure that all development is consistent with the open space plan contained in this Element.

- **Policy CO-10.1.17:** Allow alternative energy projects in areas designated for open space, where consistent with other uses and values.

Objective CO-10.2

Ensure the inclusion of adequate open space within development projects.

- **Policy CO-10.2.1:** Encourage provision of vegetated open space on a development project's site, which may include shallow wetlands and ponds, drought tolerant landscaping, and pedestrian hardscape that includes vegetated areas.

- **Policy CO-10.2.2:** Encourage that open space provided within development projects be usable and accessible, rather than configured in unusable strips and left-over remnants, and that open space areas are designed to connect to each other and to adjacent open spaces, to the extent reasonable and practical.

- **Policy CO-10.2.3:** Where feasible, integrate open space areas with neighboring uses and parcels, to create shared amenities and green spaces.

- **Policy CO-10.2.4:** Seek opportunities to incorporate site features into the open space of a project design, which may include significant trees, vegetation, terrain, or water features, to provide thermal, acoustic, and aesthetic benefits.

- **Policy CO-10.2.5:** Where appropriate, allow density transfers and clustering to encourage retention of open space, provided all residential lots meet the applicable minimum lot size requirements of the Land Use Element and the Zoning Ordinance, including Community Standards Districts..

XVI. IMPLEMENTATION OF THE CONSERVATION AND OPEN SPACE ELEMENT

The County of Los Angeles will implement the goals, objectives, and policies of the Conservation and Open Space Element of the Santa Clarita Valley Area Plan through the following actions:

Area Plan Monitoring and Coordination

- **Action 1.1:** : Periodically review the Area Plan to ensure consistency with changing conditions, needs and policies related to resource conservation and open space, and process amendments as deemed appropriate.

- **Action 1.2:** Coordinate with the City of Santa Clarita on any pending Area Plan Amendment that may affect the open space and conservation goals of this Element.

- **Action 1.3:** In considering any future proposals to amend the Land Use Map, consider open space needs as a major priority in planning for the Santa Clarita Valley.

- **Action 1.4:** In decisions regarding acquisition or disposal of real property, ensure consistency with the open space and conservation goals of this Element.

- **Action 1.5:** Require that master plans and improvements for streets and highways, drainage and flood control facilities, sewer and water systems, and other infrastructure are consistent with the goals and policies of this Element.

Zoning Ordinance Updates

- **Action 2.1:** Revise the County Zoning Ordinance and Map, including Community Standards Districts, as deemed necessary to ensure consistency with the goals and policies of this Element.

- **Action 2.2:** Implement policies and guidelines for hillside development and ridgeline protection within the Santa Clarita Valley that are compatible with City of Santa Clarita policies and guidelines.

Measures to Address Global Warming

- **Action 3.1:** Include the Santa Clarita Valley Area Plan as part of the Countywide Climate Action Plan to address the requirements of AB 32.

- **Action 3.2:** Participate in the preparation of a regional Sustainable Communities Strategy (SCS) to meet regional targets for greenhouse gas emission reductions, as required by SB 375.

Development Review Process

- **Action 4.1:** Through the development and environmental review process, ensure that proposed development projects and subdivisions are consistent with the maps, goals, and policies of this element, including but not limited to energy and water conservation, low impact development techniques for handling stormwater, protection of night skies, trees and habitat, clustering development to protect open space, and preservation of resources.

- **Action 4.2:** Coordinate review of major development projects, such as Specific Plans, that may have regional impacts, with the City of Santa Clarita in order to ensure consistency of such projects with the maps, goals, and policies of this element.

Water Conservation

- **Action 5.1:** Evaluate County-owned facilities for water use and conservation opportunities, and program funding for improvements annually in the Capital Improvement Program to retrofit landscaping and fixtures as needed to reduce consumption.

- **Action 5.2:** For all new landscaping within the public right-of-way, use drought tolerant landscape techniques, including hardscape, plant material and smart irrigation systems.

- **Action 5.3:** Establish a program to convert existing turf within the public right of way to drought tolerant landscaping within a specified time period, and allocate funds annually to implement the program.

- **Action 5.4:** For all existing and new County-owned buildings, grounds, and facilities that are not used for recreational purposes, limit the amount of site area planted with turf, and landscape these open areas using xeriscape techniques.

- **Action 5.5:** For County-owned parks, sports fields, and recreational facilities, evaluate the feasibility of converting turf grass to artificial turf.

- **Action 5.6:** In County-owned buildings and facilities, evaluate the feasibility of installing automatic faucets and waterless urinals.

- **Action 5.7:** Through the Sanitation Districts, expand the amount of recycled water available to various users.

- **Action 5.8:** Create opportunities to use reclaimed water for landscaping on County-owned facilities.

- **Action 5.9:** Provide information to the public on suitable plants and landscape techniques for water conservation, through making such information available to homeowners and development applicants.

- **Action 5.10:** Require drought tolerant, non-invasive landscaping on new development that incorporates native plants, pursuant to the County Zoning Ordinance.

Biological Resource Conservation

- **Action 6.1:** Implement the development guidelines of adopted Significant Ecological Areas (SEA), and update SEA boundaries as needed to reflect biological resource conditions, policies, and requirements.

- **Action 6.2:** Encourage and facilitate mitigation land banking in Significant Ecological Areas for resource protection.

- **Action 6.3:** Protect the interface between U. S. Forest Service land and adjacent County territory from encroachment by incompatible uses and/or hazards, through maintaining low densities on the Land Use Map and conducting code enforcement.

- **Action 6.4:** Continue preserving significant oak trees and woodlands through enforcement of the County Zoning Ordinance.

- **Action 6.5:** Require tree planting as a condition of approval on new development projects.

- **Action 6.6:** Continue maintaining designated areas as nature preserves, including Vasquez Rocks, Placerita Canyon, and Castaic Lake Recreation area.

Waste Reduction

- **Action 7.1:** Encourage recycling of construction and demolition debris.

- **Action 7.2:** Encourage recycling receptacles in all multi-family and non-residential development.

- **Action 7.3:** Implement recycling programs in all County facilities.

Parks, Recreation, Trails, and Open Space

- **Action 8.1:** Include the Santa Clarita Valley in the County-wide Parks Master Plan.

- **Action 8.2:** Seek opportunities to partner with other agencies on open space acquisition and maintenance.

- **Action 8.3:** Require open space and trail dedication from developers as a condition of project approval, where appropriate.

- **Action 8.4:** Continue to maintain County and State-owned park and open space lands.

- **Action 8.5:** In cooperation with the City of Santa Clarita, work towards establishing a common standard for open space throughout the Santa Clarita Valley.

- **Action 8.6:** Continue providing recreational programs that meet the needs of all economic and demographic segments of the population, and expand these programs as needed to serve additional residents.

- **Action 8.7:** Continue to maintain and expand the recreational trail system in County areas.

Historic Preservation

- **Action 9.1:** Coordinate with the Native American Heritage Commission on any land use or planning decisions that may affect Native American cultural resources.

- **Action 9.2:** Coordinate with the Santa Clarita Historical Society on any land use or planning decisions that may affect historical sites.

- **Action 9.3:** Continue to maintain historical sites and resources at the William S. Hart Park and the Harry Carey historical site.

Regulatory Compliance

- **Action 10.1:** For all new development projects, implement the procedures and requirements of the California Environmental Quality Act.

- **Action 10.2:** Implement the procedures and requirements of the State Mining and Reclamation Act for any active or proposed aggregate mining operations in the Santa Clarita Valley.

- **Action 10.3:** Implement procedures and requirements of the National Pollutant Discharge Elimination System (NPDES) on County projects, and through enforcement of compliance on private construction projects.

- **Action 10.4:** Require compliance with the requirements of the U. S. Fish and Wildlife Service and the California Department of Fish and Game regarding protection of biological species and habitats.

- **Action 10.5:** Ensure compliance with State waste diversion mandates.

Chapter 5

SAFETY ELEMENT

TABLE OF CONTENTS

I. PURPOSE & INTENT **188**
II. BACKGROUND **188**
III. SEISMIC & GEOLOGICAL HAZARDS **188**
- Earthquakes & Fault Zones **188**
- Affecting the Planning Area **188**
- Impacts of Earthquakes **192**
- Seismic Design Requirements **193**
- Landslides **193**
- Subsidence **194**

IV. FLOOD HAZARDS **194**
- Surface Water Drainage Patterns **194**
- Flood Control Regulations **196**
- Dam Failure **196**

V. FIRE HAZARD **196**
- Fire Protection Services **196**
- Wildland Fire Protection **198**

VI. SEVERE WEATHER CONDITIONS **200**
VII. HAZARDOUS MATERIALS **200**
VIII. EMERGENCY PREPAREDNESS AND RESPONSE **201**
- Emergency Preparedness Plans **201**
- Community Preparedness and Training **203**
- Emergency Access **204**

IX. LAW ENFORCEMENT AND CRIME PREVENTION **205**
- Police Protection **205**
- Detention Facilities **206**
- Crime Prevention Through Environmental Design **206**

X. TERRORISM **207**
- Bioterrorism Planning **209**
- Emergency Medical Services **210**

XI. ACCIDENT PREVENTION **210**
XII. SUMMARY OF SAFETY PLANNING NEEDS IN THE SANTA CLARITA VALLEY **210**
XII. GOALS, OBJECTIVES, AND POLICIES **212**
XIV. IMPLEMENTATION OF THE SAFETY ELEMENT **216**

LIST OF TABLES

Table S-1: Richter Scale of Magnitude for Earthquakes **189**
Table S-2: Historic Earthquakes Affecting the Santa Clarita Valley Planning Area from 1855 to 1999 ..... **192**

Safety Element

I. PURPOSE & INTENT

Local governments are charged with the responsibility of protecting their citizens from unsafe conditions in the planning area, including natural and man-made hazards that could affect life or health, property values, economic or social welfare, and/or environmental quality. The Safety Element describes natural and man-made hazards that may affect existing and future residents, and provides guidelines for protecting public health and safety. It identifies present conditions and public concerns, and establishes policies and standards designed to minimize risks from hazards to acceptable levels. In addition, the Safety Element informs citizens about hazardous conditions in specific areas, and assists policy makers in making land use and development decisions.

Although some degree of risk is inevitable because disasters cannot be predicted with certainty, unsafe conditions may be minimized through development of plans and policies to limit the public's exposure to hazards. For those cases in which disasters cannot be avoided, the Safety Element addresses emergency response services, and includes policies intended to minimize disruption and expedite recovery following disasters.

II. BACKGROUND

Section 65302 of the California Government Code requires that the Safety Element address risks associated with ground rupture and shaking, seiche and dam failure, slope and soil instability, flooding, urban and wildland fires, evacuation routes, and any locally-identified issues, such as crime reduction, emergency preparedness, and hazardous materials incidents. The aim of the Safety Element is to reduce the potential risk of death, injuries, property damage, and economic and social dislocation resulting from these hazards, by providing a framework to guide local land use decisions related to zoning, subdivisions, and entitlement permits.

Many of the issues covered in the Safety Element are also addressed in other Area Plan elements. The Safety Element is consistent with the Land Use Element because hazards were identified and considered when establishing appropriate land use patterns on the Land Use Map, in order to limit public exposure to risk. The Element is consistent with the Circulation Element, because circulation policies require adequate evacuation routes and emergency access throughout the community. The Element is consistent with the Housing Element, because residential areas have been designated and are required to be designed to protect neighborhoods from hazardous conditions. The Element is consistent with the Conservation and Open Space Element, because areas identified as potentially subject to flooding, slope failure, seiche, or other hazard, have been designated as Open Space. In addition, conservation policies to protect watersheds and hillsides are also intended to limit risk from flooding and slope failures. The Safety Element is consistent with the Noise Element, because policies in both elements are intended to protect the public from unhealthful conditions.

III. SEISMIC & GEOLOGICAL HAZARDS

Earthquakes & Fault Zones Affecting the Planning Area

The planning area contains, and is in the vicinity of, several known active and potentially active earthquake faults and fault zones. The term *fault* describes a fracture or zone of closely associated fractures, where rocks on one side have been displaced with respect to those on the other side. A fault zone consists of a zone of related faults which may be braided or branching. New faults within the region continue to be discovered. Scientists have identified almost 100 faults in the Los Angeles area known to be capable of a magnitude 6.0 or greater earthquake. The January 17, 1994, magnitude 6.7 Northridge Earthquake, which produced severe ground motions causing 57 deaths and 9,253 injuries, left over 20,000 displaced from their homes. Scientists have indicated that such devastating shaking should be considered the norm near any large thrust fault earthquake in the region. Recent reports from the U. S. Geological Survey and the Southern California Earthquake Center conclude that the Los Angeles area could expect one earthquake every year of magnitude 5.0 or more, for the foreseeable future.

A major earthquake in or near the Santa Clarita Valley may cause deaths and casualties, property damage, fires, hazardous materials spills, and other hazards. The effects could

be aggravated by aftershocks and the secondary effects of fire, chemical accidents, water contamination, and possible dam failures. The time of day and season of the year could affect the number of casualties and property damage sustained from a major seismic event. In addition to impacts on human safety and property damage, a major earthquake could cause socio-economic impacts on Valley residents and businesses through loss of employment, interruption of the distribution of goods and services, and reductions in the local tax base. Disruption of transportation, telecommunications, and computer systems could further impact financial services and local government. A catastrophic earthquake could exceed the response capability of the City and County, requiring disaster relief support from other local governmental and private organizations, and from the State and federal governments.

Earthquakes are classified by their magnitude and by their intensity. The intensity of seismic ground shaking is a function of several factors, including the magnitude of the quake, distance from the epicenter, and local geologic conditions. The largest or maximum credible earthquake a fault is capable of generating is used for community planning purposes. Earthquakes are typically defined by their magnitude as measured on the Richter Scale. Each whole number step in magnitude on the scale represents a tenfold increase in the amplitude of the waves on a seismogram, and about a 31-fold increase in energy released. For example, a 7.5-magnitude earthquake is 31 times more powerful than a 6.5-magnitude quake. The Modified Mercalli Intensity Scale is a measure of the damage potential of earthquakes, and contains 12 levels of intensity from I (tremor not felt) to XII (damage nearly total). For purposes of the discussion in this section, intensity is given using the Richter Scale, which is generally described in Table S-1.

Table S-1: Richter Scale of Magnitude for Earthquakes

Richter Magnitude	Earthquake Effects
Less than 3.5	Generally not felt, but recorded
3.5-5.4	Often felt, but rarely causes damage
5.5-6.0	Slight damage to well-designed buildings, can cause major damage to poorly constructed buildings over small regions.
6.1-6.9	Can be destructive in areas up to about 100 kilometers across, in areas where people live
7.0-7.9	Major earthquake; can cause serious damage over large areas.
8 or greater	Great earthquake; can cause serious damage in areas several hundred kilometers across.

Active faults are those that have caused soil and strata displacement within the last 11,000 years (the Holocene epoch). Potentially active faults show evidence of surface displacement during the last two million years (the Quaternary period). Figure S-1 shows the general location of faults which have experienced seismic activity within the last two million years and are considered to be active or potentially active, and which are located within or in the vicinity of the planning area. Faults capable of causing major damage within the planning area are listed below, with estimated potential magnitude indicated on the Richter scale.

- The San Andreas Fault Zone extends approximately 1,200 kilometers from the Gulf of California north to the Cape of Mendocino, where it continues northward along the ocean floor. The San Andreas Fault Zone marks the boundary between the Pacific and North American geotechnical plates; it is a right-lateral strike-slip fault that occurs along the line of contact between the two plates. The Fault Zone is located north of the City of Santa Clarita and extends through the communities of Frazier Park, Palmdale, Wrightwood, and San Bernardino. In 1857, a magnitude 8.0 earthquake occurred along a 255-mile long segment of this Fault, between Cholame and San Bernardino. This seismic event is the most significant historic earthquake in Southern California history. The length of the San

Andreas Fault Zone and its active seismic history indicate that it has a high potential for large-scale movement in the near future, with an estimated Richter magnitude of 6.8 to 8.0. Along the Mojave segment, closest to the Santa Clarita Valley, the interval period between major ruptures is estimated to be 140 years.

- The San Fernando Fault Zone is a thrust fault, 17 kilometers long, generally located approximately 20 miles southeast of Santa Clarita near the communities of San Fernando and Sunland. The Fault Zone's last major movement occurred on February 9, 1971, producing a quake with a Richter magnitude of 6.6 known as the San Fernando earthquake. The ground surface ruptures during this earthquake occurred on a little-known pre-existing fault in an area of low seismicity and previously unknown historic ground placement. The zone of displacement was approximately 12 miles long and had a maximum of three feet of vertical movement. The estimated interval between major ruptures along the San Fernando fault zone is estimated between 100 and 300 years, with a probable earthquake magnitude of 6.0 to 6.8.

- The San Gabriel Fault Zone traverses the planning area from northwest to southeast, extending 140 kilometers from the community of Frazier Park (west of Gorman) to Mount Baldy in San Bernardino County. Within the Santa Clarita Valley, the San Gabriel Fault Zone underlies the northerly portion of the community from Castaic and Saugus, extending east through Canyon Country to Sunland. Holocene activity along the Fault Zone has occurred in the segment between Saugus and Castaic. The length of this Fault, and its relationship with the San Andreas Fault system, contribute to its potential for future activity. The interval between major ruptures is unknown, although the western half is thought to be more active than the eastern portion. The Fault is a right-lateral strike-slip fault with an estimated earthquake magnitude of 7.2.

- The Holser Fault is approximately 20 kilometers in length extending from east of former Highway 99, westward to the vicinity of Piru Creek. Nearby communities include Castaic, Val Verde, and Piru. The surface trace of the Fault intersects the San Gabriel Fault east of Saugus. The most recent surface rupture has been identified as Quaternary period. Subsurface data in nearby oil fields demonstrate that the Holser Fault is a southward dipping, sharply-folded reverse fault. Subsurface exposures of this Fault in the Metropolitan Water District's Saugus Tunnel show at least 14 feet of terrace deposits offset by this Fault, which suggest that the Fault is potentially active. This Fault could generate a maximum estimated earthquake magnitude of 6.5.

- The Sierra Madre Fault is a 55-kilometer long fault zone generally located southeast of the planning area along the north side of the San Gabriel Mountains, extending from Sunland to Glendora. The Sierra Madre Fault is a reverse fault that dips to the north. The zone of faulting is similar to, and may lie within, the same fault system as the San Fernando Fault Zone, which moved in 1971. Movement along faults in this zone has resulted in the uplift of the San Gabriel Mountains. Geologic evidence indicates that the Sierra Madre Fault Zone has been active in the Holocene epoch. The interval between major ruptures is estimated at several thousand years, and the Fault Zone has an estimated earthquake magnitude of 6.0 to 7.0.

- The Santa Susana Fault is a thrust fault, dipping to the north. The Fault is located south of the intersection of Interstate 5 and State Route 14, and extends 38 kilometers from Simi Valley to the San Fernando Valley. Nearby communities include Sylmar and San Fernando. This Fault has been classified as potentially active by geologists based on evidence suggesting that movement has occurred within the past two million years (Quaternary period). In its western portions, there is evidence that the fault plane has been folded and would, therefore, probably not have renewed movement. The interval between major ruptures is unknown. Portions of the Fault Zone have an estimated earthquake magnitude of 6.5 to 7.3.

- The Oak Ridge Fault is a thrust fault extending 90 kilometers. The Fault is located west of the City and parallels the Santa Clara River and State Route 126 from Piru to the coast. Movement along the portion of the fault between Santa Paula and Ventura has been identified in the Holocene period. At its eastern end, the Oak Ridge thrust becomes more difficult to trace and appears to be overthrust by the Santa Susana Fault. The magnitude 6.7 Northridge earthquake in 1994 is thought to have occurred along the eastern edge

of the Oak Ridge Fault. The interval between major ruptures is unknown, and the maximum earthquake magnitude is estimated to be 6.5 to 7.5.

- The Clearwater Fault is an east/west trending reverse fault, approximately 32 kilometers in length. The Fault is located approximately 10 miles northeast of the Castaic community and runs through Lake Hughes and Leona Valley, where it merges with the San Andreas Fault Zone. Evidence of movement along this Fault has been identified in the Late Quaternary period. Although an estimate of the amount and type of displacement on the Clearwater Fault is difficult to determine, the Fault is considered to be potentially active.

- The Soledad Fault is a left-lateral normal fault 20 kilometers in length, located near the communities of Acton and Soledad Canyon. The Fault is considered to be active, with surface rupture during the Quaternary period.

- The Northridge Hills Fault crosses the San Fernando Valley through Northridge and Chatsworth, disappearing under thick alluvium in the east central valley. This Fault is believed either to be more than one fault plane or a splinter of faults that align and possibly blend with the fault complex in the Santa Susanna Pass, which extends west into Simi Valley. Near Northridge in the San Fernando Valley, the Northridge Hills Fault is buried beneath the alluvium, and the Fault's location is interpreted from oil industry data and from topographic patterns. The Fault is a reverse fault, 25 kilometers in length. This portion of the Fault has had movement during the late Quaternary period. Despite its name, it is not the fault responsible for the Northridge Earthquake (which occurred along the Oak Ridge Fault).

- The San Francisquito Fault is a subsidiary fault of the San Andreas Fault Zone. Although there is no evidence of recent activity, it has experienced up to seven meters of vertical displacement in the past. Originating just north of the Bouquet Reservoir, it extends under the dam and travels southwest to San Francisquito Canyon.

- The Pelona Fault, seven kilometers in length, is located near the community of Sleepy Valley and has ruptured in the Late Quaternary period.

In addition to seismic impacts from these faults, there is a potential for ground shaking from blind thrust faults, which are low angle detachment faults that do not reach the ground surface. Recent examples of blind thrust fault earthquakes include the 1994 Northridge (magnitude 6.7), 1983 Coalinga (magnitude 6.5), and 1987 Whittier Narrows (magnitude 5.9) events. Much of the Los Angeles area is underlain by blind thrust faults, typically at a depth of six to 10 miles below ground surface. These faults have the capacity to produce earthquakes of a magnitude up to 7.5.

The Alquist-Priolo Earthquake Fault Zoning Act, adopted by the State of California in 1972, requires identification of known fault hazard areas on a map and prohibits construction of specified building types within these fault hazard areas. The primary purpose of the Act is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. Pursuant to this law, the State Geologist has established Special Studies Zones around active faults, as depicted on maps distributed to all cities and counties. Local agencies are required to regulate development within these Special Studies Zones, and may be more restrictive than the State law based upon local conditions. Generally, the Act requires that structures for human occupancy must be set back 50 feet from the fault trace. Areas within the Santa Clarita Valley that are designated as Alquist-Priolo Special Studies Zones are shown on Figure S-1.

The planning area has experienced shaking from several earthquakes recorded back to 1855, as listed on Table S-2. Prior to that date the historic record is incomplete. Epicenters of historic earthquakes affecting the planning area are shown on Figure S-2. One of the largest occurred in 1857 in the area of Fort Tejon. Estimated at a magnitude of 8.0, this earthquake resulted in a surface rupture scar of about 220 miles in length along the San Andreas Fault, and shaking was reported from Los Angeles to San Francisco. The strongest recent seismic event was the January 1994 Northridge earthquake. The earthquake epicenter was located approximately 13 miles southwest of the Santa Clarita Valley in the Northridge community of Los Angeles County. Estimated damages from the quake included $650 million to residential structures, $41 million to businesses, and over $20 million to public infrastructure. Although no deaths were recorded in the Santa Clarita Valley from the earthquake, the event resulted in damage to water distribution and filtration systems, natural gas service, electrical service, and roads throughout the planning area.

Damage included the collapse of a freeway bridge at the Interstate 5/State Route 14 interchange, resulting in traffic and circulation impacts to the planning area for an extended period of time. Other damage included a crude oil release from a pipeline rupture and the dislocation of many mobile homes from their foundations. The City, County, and many other agencies cooperated in disaster recovery efforts, quickly re-establishing essential services and rebuilding critical facilities.

Table S-2: Historic Earthquakes Affecting the Santa Clarita Valley Planning Area 1855-1999

Year	Location	Richter Magnitude
1855	Los Angeles, Los Angeles County	Est. 6.0
1857	Fort Tejon, Kern County	Est. 8.0
1883	Ventura-Kern County border	Est. 6.0
1893	San Fernando Valley, Los Angeles County	Est. 5.5 - 5.9
1916	Near Lebec, Kern County	5.2
1925	Santa Barbara Channel, Santa Barbara County	6.3
1933	Huntington Beach, Orange County	6.3
1941	Santa Barbara Channel, Santa Barbara County	5.9
1946	Northeastern Kern County	6.3
1947	Central San Bernardino County	6.2
1948	Near Desert Hot Springs, Riverside County	6.5
1952	White Wolf Fault, Kern County	7.5
1971	San Fernando (Sylmar), Los Angeles County	6.7
1987	Whittier Narrows, Los Angeles County	5.9
1988	Pasadena, Los Angeles County	5.5
1991	Sierra Madre, Los Angeles County	5.8
1994	Northridge, Los Angeles County	6.7
1999	Hector Mine, San Bernardino County	7.1

Impacts of Earthquakes

Ground shaking is the most significant earthquake action in terms of potential structural damage and loss of life. Ground shaking is the movement of the earth's surface in response to a seismic event. The intensity of the ground shaking and the resultant damages are determined by the magnitude of the earthquake, distance from the epicenter, and characteristics of surface geology. This hazard is the primary cause of collapsed buildings and other structures. The significance of an earthquake's ground shaking action is directly related to the density and type of buildings and the number of people exposed to its effect.

Surface rupture or *displacement* is the break in the ground's surface and associated deformation resulting from the movement of a fault. Surface rupture occurs along the fault trace, where the fault breaks the ground surface during a seismic event. Buildings constructed on or adjacent to a fault trace are typically severely damaged from fault rupture in the event of a major fault displacement during an earthquake. As this hazard cannot be prevented, known faults are identified and mapped so as to prevent or restrict new construction of structures within fault hazard areas.

Liquefaction refers to a process by which water-saturated granular soils transform from a solid to a liquid state during strong ground shaking. Liquefaction usually occurs during or shortly after a large earthquake. The movement of saturated soils during seismic events from ground shaking can result in soil instability and possible structural damage. In effect, the liquefaction soil strata behave as a heavy fluid. Buried tanks may float to the surface, and structures above the liquefaction strata may sink. Pipelines passing through liquefaction materials typically sustain a relatively large number of breaks in an earthquake.

Liquefaction has been observed to occur in soft, poorly graded granular materials (such as loose sands) where the water table is high. Areas in the Valley underlain by unconsolidated alluvium, such as along the Santa Clara River and tributary washes, may be prone to liquefaction.

Dam inundation is another potential hazard from seismic shaking. Within the Santa Clarita Valley, dams are located at the Castaic Reservoir and the Bouquet Reservoir. If the Castaic Reservoir Dam were to rupture from a seismic event, potential flooding could occur in Castaic, Val Verde, and Valencia. Failure of the two dams at the Bouquet Reservoir

could result in flooding downstream in Saugus and Valencia. These potential flood hazards are further discussed in Section IV (Flood Hazards).

A *seiche* is an earthquake-produced wave in a lake or reservoir. Seiches can be triggered by ground motion from distant earthquakes or from ground displacement beneath the water body. In reservoirs, seiches can generate short-term flooding of downstream areas. Within the planning area, the Bouquet and Castaic Reservoirs may be subject to seiches due to earthquake activity.

In addition to these impacts, a City emergency plan has identified the following potential damage to vital public services, systems, and facilities which may result from a catastrophic earthquake:

- Bed loss in hospitals;
- Disruption or interruption of communications systems;
- Damage to flood control channels and pumping stations;
- Damage to power plants and interruption of the power grid;
- Fires due to downed power lines and broken gas lines, exacerbated by loss of water pressure and potential damage to fire stations and equipment;
- Damage to freeway systems and bridges, and blocking of surface streets;
- Damage to natural gas facilities, including major transmission lines and individual service connections;
- Petroleum pipeline breakage and fuel spills;
- Interruption of rail service due to possible bridge and track damage;
- Interruption of sanitary sewage treatment; and
- Interruption of water import through the State Water Project system.

Seismic Design Requirements

In order to limit structural damage from earthquakes, seismic design codes have undergone substantial revision in recent years. Earthquake safety standards for new construction became widely adopted in local building codes in Southern California following the 1933 Long Beach Earthquake, and have been updated in various versions of the California Building Code since that date. The 1994 Northridge Earthquake resulted in significant changes to building codes to ensure that buildings are designed and constructed to resist the lateral force of an earthquake and repeated aftershocks. Required construction techniques to ensure building stability include adequate nailing, anchorage, foundation, shear walls, and welds for steel-frame buildings.

Both the City and County enforce structural requirements of the Building Code. The Alquist-Priolo Special Studies Zones and sound engineering and geotechnical practices are instrumental in evaluating the structural stability of proposed new development. Policies in the Safety Element are included to ensure that proposals for new development in the planning area are reviewed to ensure protection of lives and property from seismic hazards, through analysis of existing conditions and requirements for safe building practices.

Landslides

Landslides occur when the underlying geological support on a hillside can no longer maintain the load of material above it, causing a slope failure. The term landslide also commonly refers to a falling, sliding, or flowing mass of soil, rocks, water, and debris which may include mudslides and debris flows. Landslides generated by the El Nino storms of 1998 and 1992 illustrate the hazards to life and property posed by debris flows and landslides. The size of a landslide can vary from minor rock falls to large hillside slumps. Deep-seated landslides are caused by the infiltration of water from rain or other origin into unstable material. Fast-moving debris flows are triggered by intense rains that over- saturate pockets of soil on hillsides. Landslides may result from either natural conditions or human activity. They are often associated with earthquakes although there are other factors that may influence their occurrence, including improper grading, soil moisture and composition, and subsurface geology. Soils with high clay content or located on shale are susceptible to landslides, especially when saturated from heavy rains or excessive landscape

irrigation. Much of the planning area consists of mountainous or hilly terrain, in which conditions for unstable soils and landslides may be present.

The California Division of Mines and Geology has prepared Seismic Hazard Zone Maps of the Newhall, Mint Canyon, Oat Mountain, and San Fernando 7.5-minute quadrangles. These four quadrangles include land within the City limits. The maps identify areas of liquefaction hazard and earthquake-induced landslide hazard. Figure S-3 shows areas prone to earthquake-induced landslides and liquefaction, based on these maps.

Subsidence

Subsidence is the gradual, local settling or sinking of the earth's surface with little or no horizontal motion. Subsidence usually occurs as a result of the extraction of subsurface gas, oil, or water, or from hydro-compaction. It is not the result of a landslide or slope failure. Subsidence typically occurs over a long period of time and can result in structural impacts in developed areas, such as cracked pavement and building foundations, and dislocated wells, pipelines, and water drains. No large-scale problems with ground subsidence have been reported in the planning area.

Both the City and the County have adopted ordinances requiring soil and geotechnical investigations for grading or new construction in areas with a potential for landslide or subsidence activity, in order to mitigate potential hazards from soil instability.

IV. FLOOD HAZARDS

Surface Water Drainage Patterns

The term *flooding* refers to a rise in the level of a body of water or the rapid accumulation of runoff resulting in the temporary inundation of land that is usually dry. Flooding can be caused by rivers and streams overflowing their banks due to heavy rains. Flood hazards in the planning area are related to rainfall intensity and duration, regional topography, type and extent of vegetation cover, amount of impermeable surface, and available drainage facilities.

The size, or magnitude, of a flood is described by a term called a "recurrence interval." By studying a long period of flow records for a stream, hydrologists estimate the size of a flood that would have a likelihood of occurring during various intervals. For example, a five-year flood event would occur, on the average, once every five years (and would have a 20 percent chance of occurring in any one year). Although a 100-year flood event is expected to happen only once in a century, there is a one percent chance that a flood of that size could happen during any year. The magnitude of flood events could be altered if changes are made to a drainage basin, such as by diversion of flow or increased flows generated by additional impervious surface area.

The Federal Emergency Management Agency (FEMA) has mapped most of the flood risk areas within the United States as part of the National Flood Insurance Program. Most communities with a one percent chance of a flood occurring in any given year have the floodplains depicted on a Flood Insurance Rate Map (FIRM). Figure S-4 depicts the 100-year flood event boundaries for the major watercourses in the planning area, which are generally located within and directly adjacent to the Santa Clara River and its tributaries.

The Santa Clarita Valley contains many natural streams and creeks that function as storm drain channels, conveying surface water runoff into the Santa Clara River. From its headwaters in the San Gabriel Mountains to its mouth at the Pacific Ocean, the Santa Clara River drains a watershed of 1,643 square miles, approximately 80 miles in length and about 25 miles in width. Ninety percent of the watershed consists of mountainous terrain; the remaining portion is a mix of valley floor, floodplain, and coastal plain. Within the headwater areas of the Santa Clarita Valley, discharge during rainfall events tends to be rapid due to the steep terrain. High intensity rainfalls, in combination with alluvial soils, sparse vegetation, erosion, and steep gradients, can result in significant debris-laden flash floods.

The Santa Clara River and its tributary streams play a major part in moving the large volume of runoff that is generated from the valley and surrounding foothills and mountains. The drainage system, including natural streams as well as constructed storm drain infrastructure within City and County areas, is adequate to handle normal precipitation in the region (15 to 19 inches per year). With the rapid urbanization of the Valley since 1960, stormwater volumes have increased due to increased impervious surface area from parking lots, rooftops, and streets. Flood control facilities have been constructed to mitigate the impacts of development on drainage patterns, including flood control channels,

debris basins, and runoff control systems. Throughout the central portion of the planning area, streams have been channelized into soft bottom channels with concrete sides to allow for development in the floodplain of the Santa Clara River.

Because the channelization of stormwater can increase velocity and flows, much of the Santa Clara River has remained unchannelized and in a natural condition. Where flood control improvements have been required, the City has used buried bank stabilization as the preferred method of protecting adjacent development from flood hazards. Buried bank stabilization has been used along various reaches of the Santa Clara River, the South Fork of the Santa Clara River, and San Francisquito Creek. Stabilizing banks from erosion by use of buried reinforcement structures provides opportunities to maintain stormwater flows while protecting habitat along the river banks, providing aesthetic views of the watercourse, and creating opportunities to integrate channel improvements with trail systems.

The Los Angeles County Flood Control District (LAFCD) has constructed major flood control facilities in the planning area, including the concrete-lined portions of the Santa Clara River and its tributaries. The Los Angeles County Department of Public Works operates and maintains major drainage channels, storm drains, sediment basins, and streambed stabilization structures. Both the City and County are responsible for maintaining surface water quality through street sweeping, catch basin clearing, public education, and other measures required by the National Pollutant Discharge Elimination System (NPDES) permits issued by the Regional Water Quality Control Board.

As described in the Conservation and Open Space Element, both the City and County have acted to protect the Santa Clara River floodplain from development in order to maintain the river's natural character and to protect future development from flood hazards. The City's 1996 Santa Clara River Enhancement and Management Plan recommended an acquisition program for land adjacent to the river for open space, recreational, and flood protection uses, and the City has since acquired hundreds of acres of land along the river for these purposes. Within the County's adopted Newhall Ranch Specific Plan, land adjacent to the River was set aside for open space, floodplain and habitat protection; flood protection in this area will be achieved through bank stabilization, detention basins combined with habitat areas, rip rap, and soft-bottom channels designed to appear natural.

Localized flooding has been experienced intermittently in some areas of the Valley due to local drainage conditions. During heavy rains over the last few years some areas of Castaic, Newhall, Friendly Valley, and Bouquet Canyon have experienced mudflows or flooding. Local flooding can be exacerbated by erosion and mudslides when heavy rains occur after wildfires. Two areas of the City known to experience intermittent flooding are portions of Placerita Canyon, Sand Canyon, and Newhall Creek. During storm events, transmission of storm flows within the street right-of-way may cause localized flooding in these areas, rendering some roads impassable. Throughout most areas of the City, curbs and gutters have been designed to contain and carry storm flows into drainage structures; in these areas, stormwater water within the street that is contained by the curbs is an indication that the combined roadway-drainage system is functioning correctly.

The City has no plans to construct any new major drainage facility improvements. Engineering studies show that the current City system has adequate capacity to handle projected storm flows, provided it is properly maintained. In County areas, major drainage improvements will be constructed by developers as part of the infrastructure requirements for new master-planned communities. Portions of Sierra Highway north of the Santa Clara River are subject to flooding from Mint Canyon, and the lack of adequate flood control facilities in this area represents the last major constraint to development along this arterial corridor in Canyon Country. It is expected that new development along Sierra Highway will generate requirements for flood control improvements in this area. Within both jurisdictions, localized, short-term flooding resulting from excessive rainfall, soil erosion resulting from wildland fires, or inadequate local drainage infrastructure will be addressed by providing or requiring local improvements as needed.

As discussed in the Conservation and Open Space Element, one way to maximize use of existing flood control and drainage facilities is to limit the use of impermeable surface area on development sites. Design techniques available to increase infiltration and decrease runoff on development sites include use of permeable paving materials, eliminating

curbs that channel stormwater away from natural or landscaped areas, use of green roofs, and allowing greater building height to limit building footprints and maximize pervious site area. These and other similar techniques, collectively known as Low Impact Development (LID), were designed to enhance water quality by limiting soil erosion, sedimentation, and pollution from pavement into streams and rivers. LID principles also reduce impacts to drainage and flood control systems from increased flows generated by new development, and provide for recharge of local groundwater aquifers. Although flood protection devices and structures are necessary in some areas to preserve public safety, they will be combined with other available methods of reducing flooding by promoting infiltration of stormwater at the source through LID design principles.

Flood Control Regulations

Both the City and the County have adopted floodplain management ordinances to implement the National Flood Insurance Program and other federal requirements established by the Federal Emergency Management Agency. The County's ordinance is found in Chapter 11.60 of the County Code. In August 2008, the City adopted a new ordinance that is found in Chapter 10.06 of the City Municipal Code. These ordinances establish floodway maps, govern land uses and construction of structures within floodplains, and establish water surface elevations. Floodplains are divided into two types of hazard areas: 1) the "floodway," which is the portion of the stream channel that carries deep, fast-moving water (usually defined as the area needed to contain a 100-year storm flow); and 2) the "flood fringe" area, the remainder of the floodplain outside of the floodway, which is subject to inundation from shallow, slow-moving water. Drainage requirements are also addressed in other portions of the County Code and City Municipal Code, in order to ensure that stormwater flows are directed away from buildings into drainage devices to prevent flooding.

Dam Failure

Dam failure can result from natural or man-made causes, including earthquakes, erosion, improper siting or design, rapidly-rising flood waters, or structural flaws. Dam failure may cause loss of life, damage to property, and displacement of persons residing in the inundation path. Damage to electric generating facilities and transmission lines could also impact life support systems in communities outside of the immediate inundation area. Within the Santa Clarita Valley, the two major reservoirs which could have a significant impact on the Santa Clarita Valley in the event of a dam failure are located in Bouquet Canyon and Castaic. These facilities, along with potential inundation areas, are shown on Figure S-3.

The Bouquet Canyon Reservoir is located in the central portion of the planning area. The reservoir has two earth-filled dams, one on the west side overlooking Cherry Canyon, and one on the south side above Bouquet Canyon. Both these reservoirs are owned and operated by the City of Los Angeles, Department of Public Works. The Bouquet Reservoir has a maximum capacity of 36,505 acre feet of water and 7.6 miles of shoreline. Because of its two dams, two potential inundation areas have been identified in the event of a dam failure. On the Cherry Canyon side, the water would flow west for approximately two miles through the Canyon into San Francisquito Canyon, and then south for approximately 11 miles into the Santa Clara River. The Bouquet Creek dam would drain south through Bouquet Canyon for 17 miles, into the Santa Clara River.

The Castaic Dam is located on Lake Hughes Road, one mile northeast of Interstate 5, just north of the community of Castaic. This dam is operated by the State of California Resources Agency, Department of Water Resources. Castaic Dam is an earth-filled dam located at the confluence of Castaic and Elizabeth Lake Creeks. The dam facing is approximately one mile across with a maximum capacity of 350,000 acre-feet of water, covering a surface area of 2,600 acres with 34 miles of shoreline. Should a breach in the dam occur, the water will flow south in Castaic Creek for approximately five miles to the Santa Clara River.

Failure of these dams during a catastrophic event, such as a severe earthquake, is considered unlikely, due to their type of construction. However, local safety plans have considered the possibility of dam failure and have outlined a procedure for response and recovery from this type of hazard, including identification of inundation areas and evacuation routes.

V. FIRE HAZARD

Fire Protection Services

As part of the Consolidated Fire Protection District, the entire planning area receives urban and wildland fire protection services from the Los Angeles County Fire Department.

Mutual aid agreements are maintained with several local, State, and federal agencies. The Fire Department also provides fire prevention services, emergency medical services, hazardous materials services, and urban search and rescue services.

In 2007, the Fire Department stations in the Santa Clarita Valley responded to 15,432 calls within the planning area, of which 594 were fire related and 10,093 were emergency medical services. The Fire Department also responded to 10 hazardous materials calls, including reports of hazardous conditions. The Fire Department has adopted a goal of responding to calls in urban areas within five minutes, in suburban areas within eight minutes, and in rural areas within 12 minutes. However, actual response times vary due to distances and road conditions. The 2007 median response times throughout the planning area were five minutes within the City limits, and less than eight minutes within unincorporated County areas.

As of December 2006 there were 10 fire stations in the planning area. Two additional stations, #75 in Chatsworth and #77 in Gorman, although outside the planning area, were able to provide support as needed and will continue to do so. In 2006, the Fire Department retained a consulting firm to analyze service levels and needs within its service area. The study concluded that there were insufficient fire stations in the Santa Clarita Valley to maintain desired service levels, and that the coverage areas were too large for the existing stations to meet target response times. Based on projected needs, the Fire Department planned construction of approximately 15 new stations in the Santa Clarita Valley by 2016. Since that time, the Fire Department has undertaken construction of Station #108 on Rock Canyon Drive, and has established temporary Stations #156 on Copper Hill Drive, #132 on Sand Canyon Road, and #104 on Golden Valley Road. As of the adoption date of this plan there were 13 stations in the planning area. Two additional stations serve portions of the planning area, although they are outside the boundaries; these are Station #77 in Gorman and Station #75 in Chatsworth. Existing and planned fire stations are shown on Figure S-5.

Some fire stations in the Valley are geared toward providing urban fire protection services, while others in outlying areas respond to brush fires along the urban-wildland interface. According to Los Angeles County Fire Chief P. Michael Freeman, "The whole objective of firefighting is to try to catch the fire when it's small. The closer the station is to the location of the fire, the quicker we can get there and the better chance we'll have to keep it small." In 2007, the Fire Department opened two temporary fire stations (No. 132 on Sand Canyon Road in Stetson Ranch, and No. 156 on Copper Hill Drive in Saugus) to provide service until permanent stations are completed. The County also moved forward with plans and environmental documents to build two additional stations (No. 128 on Whites Canyon Road and No. 108 on Rock Canyon Road).

The County has adopted fire impact fees within the planning area to fund new construction of fire stations and purchase of capital fire equipment. These fees are collected from developers who are required to mitigate potential health and safety impacts from fire danger by funding construction of a new fire station or purchase of equipment. Funding is also provided by the County and the City through property tax revenue. Additionally, voters approved a special tax in 1997 to pay for essential fire suppression and emergency medical services.

In 2007, the Fire Department received funding from Los Angeles County to purchase new fire engines as part of the County's plan to phase out older fire equipment. Fire engines typically last about 15 years before they need to be replaced. Normally one or two engines are maintained within each fire station in the County. Other equipment is also planned for replacement to maintain effective operational capacity.

Fire prevention activities are headed by the County Fire Marshall, and include preparation of codes, ordinances and standards; plan checking for fire safety, sprinkler systems and fire alarms; fire inspections of structures; brush clearance compliance programs; fuel modification; education; fire investigation; establishing standards for access and fire flow in new subdivisions; and environmental review, among other activities. The Fire Department's Emergency Medical Services unit was established in 1969 to provide paramedics to respond to medical calls and implement advance life support. The Urban Search and Rescue service provides trained responders to rescue in confined spaces, by helicopter, by diving, and in other special circumstances. Hazardous material programs provided by the Fire Department are discussed in Section VII of this element.

The Peak Load Water Supply is the supply of water available to meet both domestic water and fire fighting needs during the particular season and time of day when domestic water demand on a water system is at its peak. Both the City and the County review new development plans to ensure that adequate water supply is available to provide fire flow as well as daily water supply, prior to issuance of building permits.

The City, Fire Department and various other County agencies are collaborating on a Joint Task Force to examine the ongoing needs of the Santa Clarita Valley for fire station development. This examination includes funding for construction and personnel and ways to assure appropriate fire staffing to meet anticipated growth, with the goal of continuing to provide the highest level of public safety services to Santa Clarita Valley residents.

Wildland Fire Protection

Wildland fire refers to a fire that occurs in a suburban or rural area that contains uncultivated lands, timber, range, watershed, brush, or grasslands, including areas in which there is a mingling of developed and undeveloped lands. For thousands of years, fires have been a natural part of the Southern California ecosystem. However, as urban development has spread throughout hillside areas of the region, wildland fires have come to represent a significant hazard to life and property.

The classic "wildland/urban interface" exists where well-defined urban and suburban development presses up against open expanses of wildland areas. Certain conditions must be present for significant interface fires to occur, including hot, dry, windy weather; the inability of fire protection forces to contain or suppress the fire; the occurrence of multiple fires that overwhelm committed resources; and a large fuel load (dense vegetation). Once such a fire has started, several conditions influence its behavior, including fuel load, topography, weather, drought, and development patterns. Southern California has two distinct areas of risk for wildland fires: 1) the foothills and lower mountain areas, typically covered with scrub brush or chaparral; and 2) the higher elevations of mountains, covered with heavily forested terrain.

Historical records kept by the U. S. Department of Forestry indicate that wildland fires occur regularly within the planning area, with large fires occurring approximately every 10 years. Fire danger rises based on the age and amount of vegetation; therefore, fire incidents tend to be cyclical in an area as vegetation intensity increases with age, and dead vegetation accumulates. The fall of 2003 was the most destructive wildfire season in California history. In a 10-day period, 12 separate fires raged across Los Angeles, Riverside, San Bernardino, San Diego, and Ventura Counties, burning almost 750,000 acres and resulting in the loss of 22 lives and 4,812 homes. The magnitude of the 2003 fires resulted from a combination of factors, including extended drought followed by thunderstorms, lightning strikes and windy conditions; an infestation of bark beetles that killed thousands of mature trees; and the practice of suppressing wildfires over the last century that has led to buildup of brush and highly flammable fuel loads.

Wildland fires can require evacuation of portions of the population, revised traffic patterns to accommodate emergency response vehicle operations, and restrictions on water usage during the emergency. Health hazards may exist for elderly or disabled persons who cannot evacuate or succumb to smoke and heat. The loss of utilities, and increased demand on medical services, can also be anticipated.

The Santa Clarita Valley planning area is susceptible to wildland fires because of its hilly terrain, dry weather conditions, and native vegetation. Steep slopes allow for the quick spread of flames during fires, and pose difficulty for fire suppression due to access problems for firefighting equipment. Late summer and fall months are critical times of the year when wildland fires typically occur, when the Santa Ana winds deliver hot, dry desert air into the region. Highly flammable plant communities consisting of variable mixtures of woody shrubs and herbaceous species, such as chaparral and sage vegetation, allow fires to spread easily on hillsides and in canyons. According to the Fire Department, 80 to 90 percent of the planning area is located in a Very High Fire Hazard Severity Zone, which is the highest classification for areas subject to wildfires. The potential wildland fire hazard areas within the planning area are shown on Figure S-6.

Areas subject to wildland fire danger include portions of Newhall and Canyon Country, Sand Canyon, Pico Canyon, Placerita Canyon, Hasley Canyon, White's Canyon, Bouquet Canyon, and all areas along the interface between urban development and natural vegetation in hillside areas. Fire hazards increase with any drought periods, and are highest

for structures at the fringe of forested or wildland areas. In addition to the damage caused directly by a foothill fire, further damage may be caused by resulting mudslides during subsequent rains.

In October 2007, wildfires again swept through Southern California, including the Santa Clarita Valley. Emergency response procedures put into place after the 2003 fires reduced losses through better notification and evacuation procedures, and through quick action by the State and Federal governments to declare an emergency and provide suppression support. Within the Santa Clarita Valley the 2007 fires included the Buckweed Fire, which burned 38,356 acres; the Magic Fire, which burned 1,750 acres; and the Newhall Fire, which burned 40 acres. The Ranch Fire, which burned 55,756 acres, started near Castaic and burned primarily wildland areas. To respond to these fires, the City set up a telephone bank that handled thousands of phone calls, and transformed Central Park into a Fire Department base camp for firefighters. Local Assistance Centers were set up to help residents file FEMA claims, and the nonprofit Santa Clarita Valley Disaster Coalition solicited and disbursed funds for fire victim relief. Twenty-one homes were destroyed and 15 homes damaged by the Buckweed Fire, but no lives were lost.

Local fire response resources include those of the Los Angeles County Fire Department, the Fire Services mutual aid system, the California Division of Forestry, and the United States Forest Service (USFS). The combination of forces applied will depend upon the severity of the fire, other fires in progress, and the availability of resources. Suppression efforts can involve fire equipment, heavy construction equipment, and air fire bombardment aircraft, in addition to hand crews.

The Fire Department operates 10 fire suppression camps assigned to the Air and Wildland Division, of which four camps employ paid personnel and six camps are staffed with inmate crews from detention facilities. Wildland fire crews are used for fire protection, prevention, and suppression activities. They control wildland fires by cutting a control line around the perimeter of a fire, coordinating activities of bulldozers, and use of water-dropping helicopters and fixed wing aircraft, as deemed appropriate. The Fire Department also oversees vegetation management for fuel reduction, and provides response to other emergency incidents as required.

Under a mutual aid agreement covering federal forest lands, responsibility for non-structure fires within the National Forest belongs to the USFS, while the Fire Department has the responsibility for suppressing structure fires. In practice, each agency cooperates in fighting both wildland and structural fires during actual fire emergencies. There are five USFS fire stations located within the planning area.

In addition to suppression activities, the Fire Department has adopted programs directed at wildland fire prevention, including adoption of the State Fire Code standards for new development in hazardous fire areas. Fire prevention requirements include provision of access roads, adequate road width, and clearance of brush around structures located in hillside areas. In addition, proof of adequate water supply for fire flow is required within a designated distance for new construction in fire hazard areas. The Fire Department also provides fire safety training to County residents and youth education programs on fire safety and prevention. The City teams with the County to provide training to residents on fire prevention and response, through the Community Emergency Response Training (CERT) program, and other educational programs described in Section VIII of this element (Emergency Preparedness and Response).

Residents with homes located in urban/wildland interface areas must bear some of the responsibility for preventing the spread of wildland fires. Houses surrounded by brushy growth rather than cleared space allow for greater continuity of fuel and increase the fire's ability to spread. Homeowners should also consider whether their home is located near a fire station, has adequate access for fire suppression vehicles, has adequate water supply for fire flow, is located away from slopes or canyons which act to draw fires upward, and is constructed with fire-resistant materials and design features, such as non-combustible roofing and boxed eaves. The California Department of Forestry and Fire Protection has issued guidelines for fuel reduction and other fire safety measures in urban/wildland interface areas.[1] These guidelines were issued in response to recent changes to Public Resources Code Section 4291 that increased the defensible space clearance requirement from 30 feet to 100 feet around structures. For fire protection purposes, "defensible space" means the area within the perimeter of a

1 California Department of Forestry and Fire Protection, *General Guidelines to Implement Performance Based on Defensible Space Regulations under PRC 4291*, 2005.

parcel where basic wildfire protection practices are implemented. This area is characterized by adequate emergency vehicle access, emergency water reserves, street names and building identification, and fuel modification measures. Fuel reduction through vegetation management around homes is the key to saving homes in hillside areas. The City, County and Fire Department will continue to provide public education programs about fire prevention strategies for residents in interface areas.

After a fire has been suppressed in a wildland area, the work of restoration begins. The Burned Area Emergency Response (BAER) Team is a group of specialists in fields such as hydrology, soil sciences and wildlife management who evaluate damage to habitat areas from fires, and from firebreaks which may have been constructed to contain fires by cutting and clearing vegetation with earthmovers. In order to prevent erosion and re-establish vegetation consistent with native plant communities, appropriate planting and other management techniques must occur as soon as possible after a fire is extinguished.

VI. SEVERE WEATHER CONDITIONS

Severe weather threats for Santa Clarita Valley residents were identified in the City's Natural Hazard Mitigation Plan as including extreme heat and high-velocity winds. Extreme heat results in excessive demands on the regional power grid to supply electricity for air conditioners. Long periods of extreme summer heat can affect the local water table levels and soil quality, increasing the risk of flash floods if rain occurs. In addition, extreme heat for extended periods increases the risk of wildland fires and exacerbates formation of ozone, resulting in impaired air quality. Exposure by humans to excessive heat can result in heat exhaustion or heatstroke; each year, about 175 Americans die as a result of summer heat waves.

The planning area is also subject to strong winds, with hot dry Santa Ana winds often reaching a velocity of 60 miles per hour between the months of October and March. These winds may overturn trees, create unsafe driving conditions for motorists, and damage utility lines. They also create ideal conditions for the origin and spread of wildfires, by drying out vegetation and spreading sparks. High wind events occur from 5 to 10 times per year in the planning area.

The Natural Hazard Mitigation Plan addressed these potential safety hazards with goals focused on public education regarding precautions against exposure to high heat and poor air quality; tree trimming programs to address falling limbs and trunks during high winds; participation in regional notification programs regarding power black-outs; debris management after windstorms; and undergrounding of utility lines.

VII. HAZARDOUS MATERIALS

Hazardous materials include any substance or combination of substances which, because of quantity, concentration, or characteristics, may cause or significantly contribute to an increase in death or serious injury, or pose substantial hazards to humans and/or the environment. These materials may include pesticides, herbicides, toxic metals and chemicals, liquefied natural gas, explosives, volatile chemicals, and nuclear fuels.

Within the planning area, a hazardous materials release or spill would most likely involve either transportation of materials by railroad or truck, use of hazardous materials at a business, or illegal dumping of hazardous wastes. Hazardous materials are transported to and through the planning area by vehicles using Interstate 5, State Routes 14 and 126, and the Union Pacific Railroad.

California law provides a general framework for regulation of hazardous wastes by the Hazardous Waste Control Law (HWCL), passed in 1972. The Department of Toxic Substances Control (DTSC) is the State's lead agency for implementing the HWCL, which regulates hazardous waste facilities and requires permits for facilities involved in the generation, treatment, storage, and disposal of hazardous wastes. In 1986 the State passed the Tanner Act (AB 2948) which governs the preparation of hazardous waste management plans and siting of hazardous waste facilities. Under this Act each County must adopt a Hazardous Waste Management Plan. The Los Angeles County Hazardous Waste Management Plan provides direction for the proper management of all hazardous waste in the County and 38 contract cities, including data on hazardous waste generation, existing treatment facilities, household and other small generator waste, and siting criteria for hazardous waste management facilities. Any such facility is required to consider protection of residents, surface and

groundwater quality, air quality, environmentally sensitive areas, structural stability, safe transportation routes, social and economic goals.

Within Los Angeles County, the Fire Department has the responsibility of regulating hazardous waste management through its Health Hazardous Materials Division (HHMD). The County's Public Works Department assists through implementation of the underground storage tank program. There are three County fire stations that handle hazardous materials incidents (known as Haz Mat Stations); Station 76 is located in Valencia and serves the Santa Clarita Valley. Emergency response to accidents associated with hazardous material is generally undertaken by the Fire Department and its HHMD Division, pursuant to the Los Angeles County Fire/Health Haz Mat Administering Agency Plan. The transport of hazardous materials and explosives through the planning area on State highways and freeways is regulated by the State Department of Transportation (CalTrans).

The U. S. Environmental Protection Agency maintains a list of all sites in the nation that are contaminated with hazardous substances. This list is known as the CERCLIS Database. The Department of Toxic Substances Control (DTSC) also maintains a list of contaminated sites in the State for which it is providing oversight and enforcement of clean-up activities, known as the Cal-Sites Database. As of 2003, there were nine sites in the planning area on which clean-up was either on-going or completed. Of these, the most significant in terms of area and potential for redevelopment is the Whittaker-Bermite property, a 988-acre site previously used for explosive and flare manufacture. Today the site is largely vacant and is undergoing clean-up of perchlorate and other chemicals released by previous industrial users. The DTSC is responsible for overseeing the soil and groundwater remediation activities at the site.

A number of options are provided to help residents and businesses safely dispose of hazardous waste. The City's residential waste hauler (Waste Management) provides bulky item pickup service, which includes electronic waste (e-waste) such as old computers and televisions. Residents may also drop off e-waste items at the waste hauler's yard. The City also has a door-to-door Household Hazardous Waste pick-up program run through Curbside, Inc., under which limited amounts of antifreeze, automobile batteries, motor oil and filters, house paint, and e-waste will be picked up upon receiving telephone notification. Programs for disposal of e-waste and small amounts of hazardous waste generated from businesses in the City are also available through Curbside, Inc., while larger quantities generated from businesses must be disposed of through a qualified hauler.

The County offers weekly household hazardous waste collection events at various locations throughout the county, including the Santa Clarita Valley, at which residents can drop off their hazardous waste for disposal. The County also maintains several permanent collection facilities; for Santa Clarita Valley residents, the closest permanent hazardous waste collection facility is located in Palmdale (1200 W. City Ranch Road). County residents may also use City of Los Angeles hazardous waste collection centers; the closest of these facilities is in Sun Valley (11025 Randall Street). Hazardous waste collection for businesses located in County areas must be arranged with private waste haulers. All hazardous waste collected is disposed of in a hazardous waste landfill.

Information on City and County programs for disposal of hazardous waste is available on the websites of each agency.

VIII. EMERGENCY PREPAREDNESS AND RESPONSE

Emergency Preparedness Plans

In an emergency, local governments must provide emergency response services in addition to maintaining normal day-to-day duties, to the extent possible. The California Code of Regulations establishes the standard response structure and basic procedures to be used by local governments for emergency response and recovery. As required by State law, both the County and City have adopted the Standardized Emergency Management System (SEMS) for managing response to multi-agency and multi-jurisdictional emergencies, and to facilitate communications and coordination among all levels of government and affected agencies. SEMS establishes organizational levels for managing emergencies, standardized emergency management methods, and standardized training for responders and managers. When fully activated, SEMS activities occur at five levels: field response, local government, operational areas (county-wide), Mutual Aid Regions, and at the State level.

Both City and County emergency plans provide operational concepts, describe responsibilities, and outline procedures for emergency response. The County has adopted an Operational Area Emergency Response Plan, which describes the planned responses to emergencies associated with natural and man-made disasters and technological incidents. The City's 2003 *SEMS Multihazard Functional Plan* addresses planned response to emergencies associated with natural disasters and technological incidents, including both peacetime and wartime nuclear defense operations. Along with all the hazards discussed above, the plan addresses response procedures for a major airplane crash, train derailment, truck incident, Metrolink incident or collision, civil unrest, terrorism, and nuclear attack. Emphasis is given to emergency planning; training of full-time, auxiliary and reserve personnel; public awareness and education; and assuring the adequacy and availability of sufficient resources to cope with emergencies. The plan also identifies appropriate land use, design, and construction regulations to reduce losses from disasters. The City's SEMS plan addresses the following four phases of emergency response:

1. Preparedness phase, requiring increased readiness for emergency through preparation of emergency plans and procedures, providing information and training, inspection of critical facilities, recruitment of disaster personnel, mobilization of resources, and testing of systems.

2. Response phase, which may require evacuation of threatened populations, dissemination of public information about the disaster, coordination with other agencies, obtaining mutual aid, declaration of a Local Emergency, evaluation of damage, establishment of care and shelter operations, and restoration of vital services and utilities.

3. Recovery phase, which may include coordinating assistance programs and support priorities, rejoining affected families, providing essential services, restoring property, identifying residual hazards, mitigating future hazards, and recovering costs.

4. Mitigation phase, designed to mitigate impacts after the disaster through updating local ordinances and codes, upgrading structures, recovering costs, providing information and training, and revising land use plans as needed.

In addition to the *SEMS* plan, in 2004 the City adopted a five-year Natural Hazard Mitigation Action Plan as a collaborative effort between City staff and citizens, public agencies, non-profit organizations, the private sector, and regional and State agencies. The plan provides a list of activities that may assist the City in reducing risk and preventing loss from natural hazard events, including earthquakes, floods, hazardous material spills, landslides and earth movement, severe weather, and wildland fires. The plan contains a five-year action matrix based on the following mission statement: "To promote sound public policy designed to protect citizens, critical facilities, infrastructure, private property, and the environment from natural hazards. This can be achieved by increasing public awareness, documenting the resources for risk reduction and loss-prevention, and identifying activities to guide the City toward building a safer, more sustainable community." The Natural Hazard Mitigation Plan also identifies all critical facilities and infrastructure and establishes goals to increase emergency response and enhance recovery.

In 2006, the City of Santa Clarita adopted and implemented the National Incident Management System (NIMS) to comply with Federal Department of Homeland Security requirements, based on Homeland Security Presidential Directive 5 (HSPD-5), Management of Domestic Incidents. This directive required a phased-in adoption and implementation of NIMS by State and local governments as a condition of receipt of federal preparedness funding, including Homeland Security grants. HSPD-5 requires all federal, State, local and tribal jurisdictions to adopt NIMS and use it in their individual domestic incident management, emergency prevention, preparedness, response, recovery, and mitigation activities. NIMS does not replace SEMS, but will rather be integrated into SEMS by emergency personnel. Because the federal government modeled NIMS after SEMS, the two systems use similar terminology and procedures, although NIMS also includes new requirements for reporting and qualifications.

The City has implemented a regional telephone notification system that will be able to send information to residents and businesses within the Santa Clarita Valley affected by, or in danger of, the impacts of an emergency or disaster. Emergency response personnel can use the system to notify those homes and businesses that are at potential risk with information on the events and/or actions (such as evacuation) that the City and local public safety officials are asking

them to take. The City's notification system includes the incorporated City limits as well as areas outside the City. The school districts have separate notification systems, and the County is preparing to implement a Countywide call system. In the event of evacuations, the Fire Department directs the Sheriff's Department regarding areas that need to be evacuated. That information is then shared with the City's Emergency Operations Center, and emergency notification is then conveyed to residents.

Another method of relaying emergency-related information is through the City's e-alert. This phone-based tool allows residents to receive mobile phone text alerts concerning emergencies affecting the community. Residents can subscribe and automatically receive emergency-related text alerts (eAlerts) from the City by texting the term "SCEMERGENCY" to 41411 from any mobile phone device and mobile service provider.

Community Preparedness and Training

The County and City both implement comprehensive programs for emergency preparedness, including community involvement and training. To educate the public about emergency response, the City and County cooperate to offer residents training through the Community Emergency Response Training (CERT) program, which focuses on effective disaster/emergency response techniques. The CERT program is designed to help families, neighborhoods, schools and businesses prepare for effective disaster and emergency response through training and pre-planning. Program material covers earthquakes, fires, floods, hazardous materials incidents, and other life-threatening situations. Participants attend seven weekly classes designed to help them recognize potential hazards and take appropriate actions; identify, organize, and utilize available resources and people; and treat victims of life-threatening conditions through Simple Triage and Rapid Treatment (START). A second class is also offered to graduates of the basic CERT course, which provides more in-depth training on critical incident stress management, handling animals during disasters, community traffic safety, and the Incident Command System. From 1997 through 2007, more than 1,100 Santa Clarita Valley residents were trained in the CERT program.

In 2001, the CERT program was expanded with another level of training, CERT II. The training provided in this second CERT program was developed and implemented based on the emergency response issues of the Santa Clarita Valley, and includes modules on Community Traffic Safety; Psychological First Aid (Critical Incident Stress Management); SEMS, NIMS, and Incident Command; and Animal Preparedness.

Once a year the City also presents an Emergency Expo, attended by several thousand residents, at which residents are provided with information materials on emergency preparedness. Over 60 agencies and vendors participate in this event, in an effort to provide relevant information with an interactive approach. The City promotes the CERT program at the Emergency Expo by using CERT-trained volunteers to provide information at various booths and activities.

Through its emergency management program, the City also provides ongoing training and outreach to schools, businesses, faith-based institutions, seniors, and the special needs community. The City uses its website, City Hall, and local libraries as locations to distribute information on disaster preparedness and response to residents.

Since 2006, the City has collaborated with the College of the Canyons, the Los Angeles County Department of Public Health, the Sheriff's Department, and CERT volunteers to develop and adopt a Point of Dispensing (POD) plan to respond to bioterrorism, pandemic flu epidemics, or similar public health threats. The plan is based on a multi-agency approach using the NIMS model, and included conducting a drive-through medication dispensing exercise to be used in the event a mass quantity of medications needs to be distributed to the public within a short period of time. In 2006 and 2007, trained student nurses from College of the Canyons worked side by side with Public Health personnel administering flu shots, in order to test the drive-through model.

The Santa Clarita Emergency Communications Team is a local chapter of the County Disaster Communication Service and is registered as a civil defense organization under the Radio Amateur Civil Emergency Service (RACES). The team's primary purpose is to supply emergency communications for the Los Angeles County Sheriff's Department and the City of Santa Clarita. Members are volunteer amateur radio operators who assist other emergency responders by enhancing communications services. Members also assist with the Santa Clarita Fire Watch program and the School

Emergency Communication Plan. In addition to emergency response, the group assists with community events such as the Santa Clarita Marathon, Cowboy Poetry Festival, and Fourth of July Parade.

In spite of these programs and the outreach efforts by the City and County, many residents are not adequately prepared for emergencies. A 2007 County Department of Public Health Report found that more than 20 percent of households in the County did not have emergency supplies on hand, and only 41 percent of the respondents said they had an emergency plan for their family. In a major disaster each household may need to survive on its own resources for several days before help arrives. It is necessary for each family and head of household to proactively prepare for emergencies by developing a plan and stockpiling adequate supplies. Information on how to prepare for disasters is available on the City's website and through the training programs described in this section.

Emergency Access

The Santa Clarita Valley has freeway access along only three routes – Interstate 5 and State Route 14 going north and south, and State Route 126 going west – to use for evacuation purposes in the event of an emergency such as fire or earthquake. Residents in some areas, such as Stevenson Ranch and Castaic, will need alternate evacuation routes in case Interstate 5 is closed during an emergency incident. City and County staff have developed alternate evacuation routes along surface streets to provide alternate travel routes through and out of the Santa Clarita Valley. Opening of the new Cross Valley Connector will also provide an effective east-west route for use in the event of an emergency.

In addition to addressing evacuation routes, detour routes have been implemented through the Santa Clarita Valley in the event that the local freeways are closed. The Santa Clarita Valley has been affected by major highway closures that, like the 1994 Northridge Earthquake, cut off the Santa Clarita Valley from the San Fernando Valley and beyond. One of the most recent incidents occurred when a big rig crashed inside a truck route tunnel under the Interstate 5. The result was a 30-plus big rig and car pile up that cost three lives and caused the two-day closure of the north and southbound lanes of Interstate 5. Interstate 5 is California's main north/south highway, and locally, handles in upwards of 250,000 cars per day. The resulting impacts to local streets put the City of Santa Clarita's Emergency Operations Center into action, along with its state-of-the-art traffic monitoring and control technology.

The Los Angeles County Sheriffs Traffic Division, City of Santa Clarita, California Highway Patrol, and Caltrans developed a traffic plan that included three alternate routes (A, B, and C as noted in Figure S-7) through the City of Santa Clarita from Interstate 5 to State Route 14. In addition, the City of Santa Clarita worked with Metrolink to add additional commuter trains and parking at the City's three Metrolink stations. City staff also personally directed commuters to the newly expanded parking lots for the Monday morning commute and provided shuttle service for quick access to the stations. Residents were also able to stay informed of unforeseen changes to their specific route through U-Text, a text messaging service that allows commuters to subscribe and receive mobile phone text alerts when there are urgent changes to a commuter route.

The 1994 Northridge Earthquake toppled the Interstate 5/State Route 14 interchange, and the same interchange also collapsed during the 1971 Sylmar earthquake. Since that time, the interchange has been rebuilt to enhanced seismic standards. Caltrans has also tested all freeway bridges and interchanges in Los Angeles and Ventura Counties to ensure they meet current seismic standards for structural safety.

During the development review process, emergency access is evaluated for all pending development projects. Two means of ingress and egress are required for all major development projects, including subdivisions and commercial/industrial sites. Adequate road and driveway widths are required to provide access to fire trucks, along with turnouts and turnaround areas where deemed necessary. Traffic control during evacuation procedures will be based upon the nature of the emergency and the condition of the roads. Temporary signage will be placed by the City and County Public Works Departments to ensure that evacuation routes are clearly marked for motorists.

IX. LAW ENFORCEMENT AND CRIME PREVENTION

Police Protection

Communities within the planning area are served by the Los Angeles County Sheriff's Department, which is housed within the Department's Santa Clarita Valley Station located in Valencia. The Station's service area covers 656 square miles, including both City and County areas and portions of the Angeles National Forest. The Sheriff's Department oversees general law and traffic enforcement within the City, while the California Highway Patrol (CHP) has jurisdiction over traffic on State highways and in unincorporated County areas. The location of law enforcement facilities is shown on Figure S-5.

The Santa Clarita Sheriff's Station was designed to house a staff of about 90 personnel, and space is insufficient to meet current staffing and future needs. In the year 2008, there were a total of 242 budgeted personnel housed at the station, including deputies, sergeants, and support staff. The Sheriff's Department also operates two storefront substations, one in Newhall and the other in Canyon Country. Storefront stations are staffed 8 to 12 hours per day, sometimes with civilian personnel. The Department provides helicopter air support, search and rescue coordination, and the Career Offenders Burglary Robbery (COBRA) unit, which handles juvenile and gang-related crimes. Special programs offered in conjunction with community members and other organizations include the Anti-Gang Task Force, Citizens' Option for Public Safety (COPS) grants, drug education, the Family Violence Task Force, gang education, graffiti abatement, local law enforcement block grants, and emergency response programs. The station also has an extensive off-road enforcement team that spends considerable time working complaint areas in the rural portions of both City and County jurisdictions.

The Sheriff's Department is planning for expansion of the main station, and is also planning to expand staffing levels to meet the needs of the Santa Clarita Valley's growing population. Although there is no adopted law enforcement staffing level standard, the Sheriff's Department strives to maintain one officer per 1,000 people, and this service level is being met within the Santa Clarita Valley.

Response times for law enforcement calls vary by time of day, number of officers on duty, traffic conditions, and call volume. Calls for service are classified as *Routine*, *Priority*, or *Emergent*. Routine calls, such as vandalism reports, do not require a priority response from field units. Priority incidents, such as domestic disturbances, require an immediate response but not a "code three" response. Emergent incidents, such as a traffic accident or shooting, require an automatic code three response. From 1990 to 1999, the total volume of calls for service increased by about 35 percent (from 35,031 to 47,470); however, response times for priority and emergent incident calls remained approximately the same.

For the purpose of compiling crime statistics, the term *Part I Crimes* is used to describe the most serious offenses, including homicide, rape, robbery, aggravated assault, burglary, larceny, theft, grand theft auto, and arson. According to annual reports compiled by the Sheriff's Department, the rate of Part 1 Crimes in the Santa Clarita Valley has remained fairly constant since year 2000. In 2006, the California Department of Justice ranked the City of Santa Clarita as the third safest city in California for cities with a population of 150,000 or more (following Irvine and Glendale). The Sheriff's Department and City credit proactive law enforcement and crime prevention programs with achieving this ranking.

In addition to providing law enforcement and response services, the Sheriff's Department uses community-oriented policing strategies to prevent crime, and engages citizens in crime prevention efforts through a number of programs. The Community Relations Unit at the Sheriff's Station oversees community-oriented policing programs, including Neighborhood Watch, Business Watch, vacation security, and other crime prevention programs. Sheriff's deputies hold regular meetings throughout the Santa Clarita Valley to educate the public on crime prevention and provide information about gangs, personal safety, vehicle security, and teen and parent survival. The Sheriff's Department also includes a Teen Resource page on its website listing information about substance abuse, suicide prevention, gang membership, sexual assault, pregnancy and birth control, and AIDS.

According to the Sheriff's Department, "the Neighborhood Watch Program is a working network of concerned and proactive citizens throughout the Valley. Meetings

are conducted in neighborhoods to establish an effective crime prevention plan. Each neighborhood in the program has developed relationships with each other and with Law Enforcement to protect them against crime." Through the Neighborhood Watch Training Program, the Sheriff's Department trains citizens on techniques to protect themselves and their properties from auto theft, identity theft, burglary, graffiti, and "senior scam protection."

In 2007, the Santa Clarita Valley Sheriff's Station and the City, in conjunction with the Santa Clarita Valley Chamber of Commerce, launched the first Business Watch program in the Santa Clarita Valley. This program provides information to business owners about strategies to enhance building security, ensure security for employees, prevent loss from theft and forgery, minimize the risk of identity theft, and other crime prevention techniques. The program provides training for both employers and employees on how to develop emergency procedures and prevent loss from crime.

The primary planning issue for the Sheriff's Department at this time is expansion of space, both at the main station and at additional substations, in order to meet existing and projected needs for law enforcement programs and services in the Santa Clarita Valley. In 2008, the Sheriff's Department adopted a funding program for capital facilities needed to meet the law enforcement needs of expected growth in the Santa Clarita Valley, through collection of a law enforcement impact fee. Both the City and the County collect the law enforcement fee on new development permits, to fund future facilities.

Detention Facilities

The Peter J. Pitchess Detention Center (Pitchess) in Castaic is the largest jail complex in the County, and serves the entire planning area, as well as other County areas. The jail consists of four facilities, but only three are currently operated. The North Facility is a maximum-security facility with a housing capacity of 1,556. The East Facility, the oldest operational jail in the County, has been renovated and houses a maximum capacity of 1,974 inmates. The North County Correctional Facility is a maximum security complex housing a maximum capacity of 3,928 inmates. This facility also includes vocational training programs in the areas of computer sign production, clothing manufacturing, and printing. As of 2007, Pitchess had a housing capacity of 7,500 inmates. The location of this facility is shown on Figure S-5.

In 2007, plans were developed to expand the barracks at Pitchess to house more than 1,000 female inmates. The County Board of Supervisors approved the $136.6 million expansion project to serve female inmates from throughout the County, in order to relieve overcrowding and improve safety and security. Construction is slated for 2008, and the project, which also includes construction of a new cogeneration power plant, is estimated to be completed in 2009.

The Los Angeles County Probation Department provides secure detention for delinquent minors in juvenile halls, and control and rehabilitations programs in Camp Scott and Camp Scudder. Juvenile halls provide confinement to minors ranging in age from 8 to 18 who await adjudication and disposition of legal matters. Camps provide treatment, care, custody, and training for the rehabilitation of delinquent minors as wards of the juvenile court.

Crime Prevention Through Environmental Design

One of the ways in which land use planning can assist law enforcement and promote public safety is through incorporating crime prevention techniques into development site designs. This concept was promoted by the U. S. Department of Housing and Urban Development in its 1996 publication *Creating Defensible Space* by Oscar Newman.[2] Newman first published his theories about defensible space in 1972 and they were successfully adopted in many communities. The use of environmental design features to prevent crime has been called CPTED (Crime Prevention Through Environmental Design). In 1995 the City of Los Angeles issued CPTED Design Guidelines based on the premise that "proper design and effective use of the built environment can lead to a reduction in the incidents and fear of crime, reduction in calls for police services, and to an increase in the quality of life."[3] The County uses similar guidelines for public housing facilities administered by the Community Development Commission.

2 Newman, Oscar. *Creating Defensible Space.* U.S. Department of Housing and Urban Development, Office of Policy Development and Research. April, 1996.
3 *Design Out Drime: Crime Prevention Through Environmental Design Guidelines*, City of Los Angeles, 1995.

According to Newman, "Defensible space operates by subdividing large portions of public spaces and assigning them to individuals and small groups to use and control as their own private areas…All defensible space programs have a common purpose: they restructure the physical layout of communities to allow residents to control the areas around their homes. This includes the streets and grounds outside their buildings and the lobbies and corridors within them."[4] In his studies of St. Louis and other cities, Newman found that when residents had some control over public space around their homes they maintained these areas in a clean, safe condition. However, when common areas were open to many dwelling units and to the public, with no oversight or supervision by residents, these areas were subject to vandalism, dumping, and crime. Newman found that crime was also influenced by building height and design. High-rise residential buildings (over four stories) were found to be unsuitable for families with children, although they could be effective for senior communities if properly designed. Within public housing for families, he found that project size and the number of dwelling units sharing common entries correlated to crime rates. Large building size also affected residents' fear of crime, and resulted in high rates of residential turnover and vacancy.

Defensible space is an important consideration in residential development, particularly in high-density, multiple family residential areas. Other CPTED principles include the following:

- **Surveillance.** Areas that are accessible to the public but are not readily visible, such as dead-end alleys and drive aisles, often attract crime. Surveillance is a design concept directed at keeping intruders under observation by locating windows overlooking common areas.

- **Access control.** Controlling access to a site protects users from crime by creating a perception of risk for potential offenders.

- **Territorial reinforcement.** The physical design of a site can contribute to a sense of territorial "ownership" by site users. Areas that are not clearly under the supervision of adjacent buildings are subject to trespass and illicit activities.

CPTED design strategies include provision of adequate lighting; grouping common activity areas together to promote surveillance; providing clear travel paths with avoidance of dead-end pathways or drive aisles; provision of security devices such as fencing and cameras; clearly delineating public and private spaces; avoidance of "no man's land" areas on the site; providing secure, lighted storage areas; avoidance of long corridors shared by all and owned by none; encouraging neighborhood watch programs; use of landscaping to avoid graffiti; and elimination of hiding places within landscaped areas.

Although neither the City nor County have formally adopted CPTED guidelines, safety issues are addressed through the development review process in both agencies. Policies have been added to the Safety Element to promote crime prevention through site design in future development decisions.

X. TERRORISM

Terrorism is defined as the use of fear for intimidation. Terrorism is a crime where the threat of violence is often as effective as the commission of the violent act itself. Terrorism affects us through fear, physical injuries, economic losses, psychological trauma, and erosion of faith in government. Terrorism is a strategy used by individuals or groups to achieve their political goals.

Terrorists espouse a wide range of causes. They can be for or against almost any issue, religious belief, political position, or group of people of one national origin or another. Because of the tremendous variety of causes supported by terrorists and the wide variety of potential targets, there is no place that is truly safe from terrorism. Throughout California there is a nearly limitless number of potential targets, depending on the perspective of the terrorist. Some of these targets include: abortion clinics, religious facilities, government offices, public places (such as shopping centers), schools, power plants, refineries, utility infrastructure, water storage facilities, dams, private homes, prominent individuals, financial institutions and other businesses.

In March 2002, Presidential Directive 3 established a Homeland Security Advisory System to provide a comprehensive and effective means to disseminate information regarding the risk of terrorist acts to Federal, State, and local authorities and citizens. The system provides warnings in the

4 Newman, page 2.

form of a set of graduated "Threat Conditions" that would increase as the risk of the threat increases. This system creates a common vocabulary, context, and structure for an ongoing discussion about the nature of the threats that confront the homeland and the appropriate measures that should be taken in response. It seeks to inform and facilitate decisions appropriate to different levels of government and to private citizens at home and at work.

The Homeland Security Advisory System (HSAS) is binding at the Executive Branch level and is suggested, although voluntary, at other levels of government and within the private sector. There are five Threat Conditions, each identified by a description and corresponding color. Higher Threat Conditions indicate a greater risk of a terrorist attack. Risk includes both the probability of an attack occurring and the potential gravity. Threat conditions are assigned by the Attorney General in consultation with the Secretary of Homeland Security. Threat conditions may be assigned for the entire nation, or they may be set for a particular geographic area or industrial sector. Assigned threat conditions are reviewed at regular intervals to determine whether adjustments are warranted. The assignment of a threat condition will prompt the implementation of an appropriate set of Protective Measures. Protective Measures are the specific steps an organization will take to reduce its vulnerability or increase its ability to respond during a heightened alert.

Treat Condition Levels and corresponding Protective Measures are listed below:

Low Condition (Green)
This condition is declared when there is a low risk of terrorist attack. Emergency Operations Center activation level is inactive.

- Ensure staff receives proper training on Homeland Security Advisory System, and protective measures
- Regularly assess facilities for vulnerabilities and take measures to reduce them
- Refine and exercise as appropriate preplanned protective measures

Guarded Condition (Blue)
This condition is declared when there is a general risk of terrorist attacks. Emergency Operations Center activation level is inactive.

- Review and update emergency response procedures
- Provide the public with any information that would strengthen its ability to act appropriately
- Check communications with designated emergency response or command locations

Elevated Condition (Yellow)
An elevated condition is declared when there is a significant risk or terrorist attacks. This condition may or may not activate the Emergency Operations Center depending on a regional/local assessment.

- Increase surveillance of critical locations whose loss will have an adverse effect on the City and County's ability to provide service to the public and/or accomplish its primary mission
- Coordinate emergency plans as appropriate with nearby jurisdictions
- Assess preplanned protective measures within the context of the current threat
- Keep staff aware of what procedures are taking place

High Condition (Orange)
A high condition is declared when there is a high risk of terrorist attacks. This condition may or may not activate the Emergency Operations Center depending on local/regional assessment.

- Take additional precautions at public events
- Review building evacuation plans
- Review mail handling/package delivery procedures
- Review information technology system security issues including remote capabilities
- Review emergency reporting procedures

- Be prepared to have someone monitor the Emergency Management Information System (EMIS) if directed
- Restrict public access to buildings if threat assessment is credible regionally/locally
- Coordinate necessary security effort with law enforcements agencies, including the Los Angeles County Sheriff and California Highway Patrol
- Prepared to execute contingency procedures
- Test staff notification procedures/systems

Severe Condition (Red)

A severe condition reflects a severe risk of terrorist attacks. Emergency Operations Center activation may activate from monitoring to full activation; this will depend on the local/regional assessment.

- Stand ready to increase or redirect personnel to address critical emergency needs
- Monitor, redirect, or constrain transportation systems
- Consider closing public facilities based on Terrorism Early Warning Group threat guidance
- Consider canceling large scale public events if their security cannot be enhanced, based on Terrorism Early Warning Group threat guidance
- Activate Emergency Operations Center, level of activation determined by threat assessment from Terrorism Early Warning Group threat guidance
- Direct staff to monitor EMIS
- Ensure all staff are kept informed

Bioterrorism Planning

Bioterrorism is the threatened or intentional release of biological agents (virus, bacteria, or air toxins) for the purpose of influencing the conduct of government or intimidating or coercing a civilian population. These agents can be released by way of air (as aerosols), food, water, or insects. Since the terrorist attacks of September 1, 2001, and the subsequent anthrax incidents, there has been a great concern about bioterrorism in the United States. With this concern, there is growing recognition that the unique characteristics of a bioterrorist attack, in contrast to a conventional attack, would require additional response preparation and coordination.

An integral part of bioterrorism response is mass prophylaxis. Mass prophylaxis is the capability to protect the health of the population through administration of critical intervention (e.g., antibiotics, vaccinations, antivirals) to mitigate the development of disease among those who are exposed or potentially exposed to public health threats.

Every public health jurisdiction in the country is charged with the responsibility to develop and maintain the capability to carry out first response and ongoing mass antibiotic dispensing and vaccination campaigns tailored to its local population.

There are two conceptual approaches to mass prophylaxis: "push" and "pull" approach; one is utilizing the U.S. Postal Service to bring medications directly to individuals or homes in an affected community. The "pull" approach requires that individuals travel to centers where they can receive medications or vaccinations. Points of Dispensing (POD) are an example of the "pull" approach.

In preparation for a unique response to a bioterrorism attack, the City of Santa Clarita, the Los Angeles County Department of Health, and the College of the Canyons (COC) have collaborated to coordinate and respond with a drive-thru POD models to assist those potentially exposed to a biological agent. Utilizing the drive thru POD, the City, COC and Department of Health Services have tested the model by operating an influenza vaccination clinic. Since 2006, this yearly exercise serves as an opportunity to test the POD model while providing a vital real-world service to the general population.

COC is a designated POD site because it has a school of nursing and an Emergency Medical Technician (EMT) program that support the medical operations component of the POD. In addition, COC's site has the capacity to handle the vehicle traffic flow. The Community Emergency Response Training (CERT) team, volunteers, and City staff

from emergency management, recreation and community services, traffic engineering, and public works also support the POD operations.

Emergency Medical Services

Los Angeles County Department of Health Emergency Services Agency developed a Disaster Resource Center (DRC) program to address issues related to healthcare surge capacity. There are 13 DRCs geographically located in Los Angeles County. In the Santa Clarita Valley, Henry Mayo Newhall Memorial Hospital (HMNMH) is one of the designated DRCs. As the designated DRC site, HMNMH is the lead for 11 other hospitals.

DRCs are hospitals that address surge capacity in a disaster through procurement, storage, maintenance and security of extra medical equipment, supplies and pharmaceuticals. Each DRC works with hospitals, clinics and other healthcare providers in their geographic location to plan, train, exercise and facilitate regional disaster preparedness. Each DRC also has capability to mobilize storage trailers outfitted with equipment and supplies to set up a mobile triage area with inflatable surge tents.

HMNMH has a medical cache and a pharmaceutical cache, ventilators, patient monitors, communication equipment, security equipment for crowd control, evacuation equipment and staff to manage the program. HMNMH also has the capability to expand and provide care with surgery beds, isolation areas, pharmaceuticals, personal protective equipment for chemical, biological, radiological, nuclear and explosive events, and decontamination facilities. In addition, HMNMH has a certified trained decontamination team, and staff trained in psychological first aid and trauma burn care.

When a disaster strikes and it is beyond the capability of the local jurisdictions, the affected area would contact Los Angeles County Medical Alert Center (MAC). MAC then would survey other DRC's for items requested.

XI. ACCIDENT PREVENTION

Safety issues related to accident prevention overlap some of the other areas addressed in the Area Plan. As with crime prevention, design features can be used to forestall accidents from trip-and-fall hazards on development sites through provision of adequate lighting, clearly delineated pathways, well-marked building entrances, and appropriate selection and maintenance of landscape material. Accidental injuries on trails and bikeways can be prevented through planning and design as well, including illumination, signage, traffic markings, adequate trail width and surface material, removal of hazardous landscaping and other obstructions, and safe crossings at intersections. Accidents involving vehicles, pedestrians and bicyclists within the public right-of-way can be minimized through installation of traffic control devices and implementation of other policies contained in the Circulation Element. Through the design review process, the layout of parking lots and driveways on new development projects is evaluated for potential conflicts between vehicles, delivery trucks, and pedestrians, in order to avoid potentially hazardous areas on the site. Both the City and County continually monitor traffic accident data in order to determine if additional traffic control devices are needed to maintain public safety, and traffic improvements are installed where warranted.

XII. SUMMARY OF SAFETY PLANNING NEEDS IN THE SANTA CLARITA VALLEY

Based on the existing conditions and issues outlined in the background sections of the Safety Element, safety planning needs for the Santa Clarita Valley are summarized below. Policies and objectives in the following section have been developed to address these needs.

1. Reduce risks to public safety and property from seismic activity and related hazards, through identification of seismic hazard zones and requirements for seismic design.

2. Identify and mitigate hazards from soil instability, including landslides and subsidence, through identification of hazard areas and requirements for design mitigations to address unstable soils.

3. Plan for and ensure construction and maintenance of adequate flood control facilities to protect existing and future residents from flood hazards.

4. Identify risks from, and plan for emergency response, in the event of dam failure from the Castaic or Bouquet Canyon Reservoirs.

5. Address drainage improvement needs to mitigate localized flooding problems.

6. Require Low Impact Development techniques in planning and construction, to reduce stormwater runoff, promote infiltration, and reduce the need for costly flood control infrastructure.

7. Control and regulate new development and construction in identified floodplains by applying appropriate development standards, and implement federal floodplain management policies to protect public safety and property.

8. Promote planning for and coordination with the Los Angeles County Fire Department to construct new fire stations as needed throughout the Santa Clarita Valley.

9. Adopt and implement policies for fire-safe development in urban/wildland interface areas.

10. Require adequate emergency access, street identification, and address numbers in all development, to ensure timely response to emergencies.

11. Identify, sign, maintain, and provide public information regarding evacuation routes through and out of the Santa Clarita Valley, in the event of a major disaster.

12. Continue coordinating with other agencies to provide information and training to residents about maintaining adequate firebreaks in wildland interface areas.

13. Ensure provision of adequate fire flow for new development.

14. Continue providing tree maintenance services for trees on public property as part of the urban forestry management program, to limit damage during windstorms from falling limbs.

15. Protect residents from the harmful effects of hazardous materials through appropriate zoning and development standards, and coordinate with other agencies as needed on clean-up efforts for contaminated areas.

16. Continue to prepare, update and implement emergency preparedness procedures and response plans.

17. Continue to provide training to public officials and residents on emergency preparedness and response.

18. Cooperate with the Los Angeles County Sheriff's Department to expand facility space in the Valley to meet current and projected law enforcement needs.

19. Promote crime prevention through public education and support of Neighborhood Watch, Business Watch, and CPTED (Crime Prevention Through Environmental Design) programs.

20. Promote measures to prevent accidental injury by ensuring adequate lighting, addressing trip and fall hazards, analyzing traffic accident data and providing traffic safety improvements where needed, promoting walkable neighborhoods, ensuring safe trails, and other similar programs.

21. Cooperate with appropriate agencies and the public to create a plan to prepare for and respond to potential terrorist activities.

XII. GOALS, OBJECTIVES, AND POLICIES

The goals, objectives, and policies which apply to safety are:

Goal S-1: Geologic Hazards

Protection of public safety and property from hazardous geological conditions, including seismic rupture and ground shaking, soil instability, and related hazards.

Objective S-1.1

Identify and map areas in the Santa Clarita Valley that are susceptible to geological hazards, for use by the public and decision makers in considering development plans.

- **Policy S-1.1.1:** Maintain maps of potentially active faults and fault zones, based on information available from the Alquist-Priolo Special Studies Zone maps, United States Geological Survey, State Board of Geologists, State Mining and Geology Board, and other appropriate sources.
- **Policy S-1.1.2:** Maintain maps of areas subject to liquefaction and landslides, based on data provided by the State and other appropriate sources.
- **Policy S-1.1.3:** In the event of significant incidents of soil subsidence, compile data and prepare maps showing areas with potential for this hazard..
- **Policy S-1.1.4:** Maintain maps showing potential inundation areas from dam failure.

Objective S-1.2

Regulate new development in areas subject to geological hazards to reduce risks to the public from seismic events or geological instability.

- **Policy S-1.2.1:** Implement requirements of the Alquist-Priolo Earthquake Fault Zoning Act.
- **Policy S-1.2.2:** Restrict the land use type and intensity of development in areas subject to fault rupture, landslides, or liquefaction, in order to limit exposure of people to seismic hazards.
- **Policy S-1.2.3:** Require soils and geotechnical reports for new construction in areas with potential hazards from faulting, landslides, liquefaction, or subsidence, and incorporate recommendations from these studies into the site design as appropriate.
- **Policy S-1.2.4:** Enforce seismic design and building techniques in the County Building Code.
- **Policy S-1.2.5:** Consider the potential for inundation from failure of the Castaic or Bouquet Canyon Reservoir dams when reviewing development proposals within potential inundation areas.

Objective S-1.3

Reduce risk of damage in developed areas from seismic activity.

- **Policy S-1.3.1:** Identify any remaining unreinforced masonry buildings or other unstable structures, and require remediation or seismic retrofitting as needed to meet seismic safety requirements.
- **Policy S-1.3.2:** Increase earthquake safety in all public facilities through bracing of shelves, cabinets, equipment and other measures as deemed appropriate.
- **Policy S-1.3.3:** Provide informational materials to the public on how to make their homes and businesses earthquake safe.
- **Policy S-1.3.4:** Cooperate with other agencies as needed to ensure regular inspections of public infrastructure such as bridges, dams, and other critical facilities, and require repairs to these structures as needed to prevent failure in the event of seismic activity.

Goal S-2: Flood Hazards

Protection of public safety and property from unreasonable risks due to flooding.

Objective S-2.1

Plan for flood protection as part of a multi-objective watershed management approach for the Santa Clara River and its tributaries.

- **Policy S-2.1.1:** On the Land Use Map, designate appropriate areas within the floodplain as open space for multi-use purposes, including flood control, habitat preservation, and recreational open space. Development in the floodplain will require mitigation as deemed necessary by the reviewing authority.
- **Policy S-2.1.2:** Promote Low Impact Development standards on development sites, including but not limited to minimizing impervious surface area and promoting infiltration, in order to reduce the flow and velocity of stormwater runoff throughout the watershed.
- **Policy S-2.1.3:** Promote the use of vegetated drainage courses and soft-bottom channels for flood control facilities to the extent feasible, in order to achieve water quality and habitat objectives in addition to flood control.
- **Policy S-2.1.4:** Cooperate with other agencies, as appropriate, regarding the related issues of flood control, watershed management, water quality, and habitat protection.
- **Policy S-2.1.5:** Promote the joint use of flood control facilities with other beneficial uses where feasible, such as by incorporating detention basins into parks and extending trails through floodplains.

Objective S-2.2

Identify areas in the Santa Clarita Valley that are subject to inundation from flooding.

- **Policy S-2.2.1:** Prepare and maintain maps of floodways and floodplains based on information from the Federal Emergency Management Agency (FEMA) and other appropriate sources in order to qualify for FEMA's National Flood Insurance Program.
- **Policy S-2.2.2:** Identify areas subject to localized short-term flooding due to drainage deficiencies.

Objective S-2.3

Plan for and construct adequate drainage and flood control infrastructure to ensure flood protection.

- **Policy S-2.3.1:** Implement drainage master plans designed to handle storm flows from the 100-year storm.
- **Policy S-2.3.2:** Include funding for drainage and flood control improvements in the annual County Budget.

Objective S-2.4

Implement flood safety measures in new development.

- **Policy S-2.4.1:** Require that new development comply with FEMA floodplain management requirements.
- **Policy S-2.4.2:** On the Land Use Map, restrict the type and intensity of land use in flood-prone areas, or require flood-proof construction, as deemed appropriate.

Objective S-2.5

Limit risks to existing developed areas from flooding.

- **Policy S-2.5.1:** Address drainage problems that cause flooding on prominent transportation corridors by working with multi-jurisdictional agencies and stakeholders to construct needed drainage improvements.
- **Policy S-2.5.2:** Provide for the maintenance of drainage structures and flood control facilities to avoid system malfunctions and overflows.

Goal S-3: Fire Hazards

Protection of public safety and property from fires.

Objective S-3.1

Provide adequate fire protection infrastructure to maintain acceptable service levels as established by the Los Angeles County Fire Department.

- **Policy S-3.1.1:** Coordinate on planning for new fire stations to meet current and projected needs.

- **Policy S-3.1.2:** Program adequate funding for capital fire protection costs and explore all feasible funding options to meet facility needs.

- **Policy S-3.1.3:** Require adequate fire flow as a condition of approval for all new development, which may include installation of additional reservoir capacity and/or distribution facilities.

Objective S-3.2

Provide for the specialized needs of fire protection services in both urban and wildland interface areas.

- **Policy S-3.2.1:** Identify areas of the Santa Clarita Valley that are prone to wildland fire hazards and address these areas in fire safety plans.

- **Policy S-S 3.2.2:** Enforce standards for maintaining defensible space around structures through clearing of dry brush and vegetation.

- **Policy S- 3.2.3:** Establish landscape guidelines for fire-prone areas with recommended plant materials, and provide this information to builders and members of the public.

- **Policy S -3.2.4:** Require sprinkler systems, fire resistant building materials, and other construction measures deemed necessary to prevent loss of life and property from wildland fires.

- **Policy S- 3.2.5:** Ensure adequate secondary and emergency access for fire apparatus, which includes minimum requirements for road width, surface material, grade, and staging areas.

- **Policy S-3.2.6:** For areas adjacent to the National Forest, cooperate with the United States Forest Service regarding land use and development issues.

- **Policy S-3.2.7:** Continue to provide information and training to the public on fire safety in wildland interface areas.

Objective S-3.3

Maintain acceptable emergency response times throughout the planning area.

- **Policy S-3.3.1:** Plan for fire response times of five minutes in urban areas, eight minutes in suburban areas, and 12 minutes in rural areas.

- **Policy S-3.3.2:** Require the installation and maintenance of street name signs on all new development.

- **Policy S-3.3.3:** Require the posting of address numbers on all homes and businesses that are clearly visible from adjacent streets.

Goal S-4: Hazardous Materials

Protection of public safety and property from hazardous materials.

Objective S-4.1

Identify sites that are contaminated with chemicals and other hazardous materials, and promote clean-up efforts.

- **Policy S-4.1.1:** Continue to support clean-up efforts and re-use plans for the Whittaker-Bermite property in the City of Santa Clarita.

- **Policy S-4.1.2:** Coordinate with other agencies to address contamination of soil and groundwater from hazardous materials on various sites, and require that contamination be cleaned up to the satisfaction of the County and other responsible agencies prior to issuance of any permits for new development.

Objective S-4.2

Cooperate with other agencies to ensure proper handling, storage, and disposal of hazardous materials.

- **Policy S-4.2.1:** On the Land Use Map, restrict the areas in which activities that use or generate large amounts of hazardous materials may locate, to minimize impacts to residents and other sensitive receptors in the event of a hazardous materials incident.

- **Policy S-4.2.2:** Through the development review process, ensure that any new development proposed in the vicinity of a use that stores or generates large amounts of hazardous materials provides adequate design features, setbacks, and buffers to mitigate impacts to sensitive receptors in the event of a hazardous materials incident.

- **Policy S-4.2.3:** Require businesses to verify procedures for storage, use, and disposal of hazardous materials.

- **Policy S-4.2.4:** Cooperate with other agencies to hold regular events to promote safe disposal of small amounts of household hazardous waste, including e-waste, by Santa Clarita Valley residents.

Goal S-5: Law Enforcement

Protection of public safety through the provision of law enforcement services and crime prevention strategies.

Objective S-5.1

Cooperate with the Los Angeles County Sheriff's Department's plans for expansion of facility space to meet current and future law enforcement needs in the Santa Clarita Valley.

- **Policy S-5.1.1:** Participate in a multi-jurisdictional task force to evaluate alternatives for combining public safety services with administrative services within a centralized government complex serving the entire Santa Clarita Valley.

- **Policy S-5.1.2:** Provide staff assistance to assess future law enforcement needs, and work together with the Sheriff's Department, the City of Santa Clarita, and other partners to develop and implement plans for meeting these needs.

- **Policy S-5.1.3:** Cooperate on implementation of funding mechanisms for law enforcement services.

Objective S-5.2

Cooperate with the Sheriff's Department on crime prevention programs to serve residents and businesses.

- **Policy S-5.2.1:** Promote and participate in the Business Watch program to assist business owners in developing and implementing crime prevention strategies.

- **Policy S-5.2.2:** Promote and support Neighborhood Watch programs to assist residents in establishing neighborhood crime prevention techniques.

- **Policy S-5.2.3:** Provide code enforcement services to maintain minimum health and safety standards and as a deterrent to crime.

Goal S-6: Accidents

Reduced risk to public safety and property damage from accidental occurrences.

Objective S-6.1

Reduce damage from high winds through effective urban forest management.

- **Policy S-6.1.1:** Continue tree trimming and maintenance programs for trees in the right-of-way and on public property, to limit damage from falling limbs.

- **Policy S-6.1.2:** Promote the planting of tree types appropriate to the local climate, to avoid breakage by brittle, non-native trees.

Objective S-6.2

Increase public safety through the design of public facilities and urban spaces.

- **Policy S-6.2.1:** In reviewing development plans, ensure that lighting levels are adequate to provide safe and secure nighttime use of each site, while limiting excessive or unnecessary light and glare.

- **Policy S-6.2.2:** In reviewing development plans, consider Crime Prevention Through Environmental Design (CPTED) principles to increase public safety through establishing defensible space, clearly delineated public and private areas, and effective surveillance of common areas.

- **Policy S-6.2.3:** In reviewing development plans, ensure that pedestrian pathways, stairs, steps and ramps are designed to provide clear and unimpeded passage in order to avoid trip hazards and conflicts with vehicles.

- **Policy S-6.2.4:** Continue to monitor traffic accident data in order to evaluate and address any traffic control needs to enhance public safety.

- **Policy S-6.2.5:** Use traffic calming devices and reduced street widths to slow traffic speeds and reduce accidents, where deemed appropriate.

Objective S-6.3

Provide for the safety of disadvantaged persons.

- **Policy S-6.3.1:** In cooperation with other agencies, ensure adequate shelter for homeless persons to limit their exposure to accidental injury and illness.

- **Policy S-6.3.2:** Implement the provisions of the Americans with Disabilities Act to ensure safe travel paths and accommodations for persons with disabilities.

Objective S-6.4

Minimize damage resulting from aircraft accidents near the Agua Dulce Airpark.

- **Policy S-6.4.1:** Require all new development in the vicinity of the Agua Dulce Airpark to comply with the Airport Land Use Plan and applicable Federal Aviation Administration (FAA) regulations.

Goal S-7: Emergency Planning

Protection of the public through planning for disaster response and recovery, in order to minimize damage from emergency incidents or terrorist activities.

Objective S-7.1

Maintain and implement plans and procedures to prepare for disaster response and terrorist activities.

- **Policy S-7.1.1:** Regularly update emergency preparedness and response plans that are consistent with State plans.

- **Policy S-7.1.2:** Continue to provide regular training to public officials and the public on emergency procedures.

- **Policy S-7.1.3:** Ensure that evacuation routes are clearly posted throughout the Santa Clarita Valley.

- **Policy S-7.1.4:** Strengthen communication and cooperation between agencies, citizens and non-profit groups to plan for disaster response.

Objective S-7.2

Plan for ways to minimize economic and social disruption, and expedite recovery from emergency incidents.

- **Policy S-7.2.1:** In cooperation with other agencies, plan for temporary shelters for residents displaced by disasters and emergency incidents.

- **Policy S-7.2.2:** Plan for expedited plan check, permitting, and inspection programs to aid recovery efforts involving the rebuilding of damaged structures.

- **Policy S-7.2.3:** Ensure that proper record-keeping procedures are in place for purposes of obtaining reimbursement from State and Federal agencies.

- **Policy S-7.2.4:** Purchase disaster and recovery supplies locally to assist local businesses in their recovery efforts.

XIV. IMPLEMENTATION OF THE SAFETY ELEMENT

The County of Los Angeles will implement the goals, objectives and policies of the Safety Element of the Santa Clarita Valley Area Plan through the following actions:

- **Action 1:** On the Land Use Map, designate areas that are subject to potential damage from natural or man-made hazards for appropriate land uses, such as open space or low-density residential, in order to reduce exposure of persons and property to hazardous conditions.

- **Action 2:** Revise the County Zoning Ordinance and Map, including Community Standards Districts, as deemed necessary to ensure consistency with the goals and policies of the Safety Element.

- **Action 3:** Through the review process for new discretionary development applications, require consistency with the goals and policies of the Safety Element, including requirements to mitigate hazards from seismic, geotechnical, soils, flooding, fire, crime, or other unsafe conditions as appropriate.

- **Action 4:** Review any proposed Area Plan Amendments to ensure compliance with the goals and policies of the Safety Element, and coordinate such amendments with the City of Santa Clarita as appropriate.

- **Action 5:** Ensure compliance with seismic safety standards through plan review and inspection procedures on all new construction, pursuant to the Los Angeles County Code.

- **Action 6:** Consider the goals and policies of the Safety Element when updating master plans for flood control, highways, and other County infrastructure and facilities, and include projects in Capital Facilities Plans as appropriate.

- **Action 7:** Periodically review the Safety Element and other elements of the Santa Clarita Valley Area Plan. Update these documents in cooperation with the City of Santa Clarita as deemed necessary to reflect changing conditions, needs, and policies.

- **Action 8:** Through the Fire Department, work cooperatively with the City of Santa Clarita to ensure provision of fire protection services and facilities throughout the Santa Clarita Valley, with adequate funding for facilities, operations and maintenance.

- **Action 9:** Through the Sheriff's Department, work cooperatively with the City of Santa Clarita to ensure provision of law enforcement services throughout the Santa Clarita Valley, with adequate funding for facilities, operations and maintenance.

- **Action 10:** Continue cooperating with the City of Santa Clarita and other appropriate entities on control of hazardous substances, addressing the safe use, storage, and disposal of these substances as appropriate.

- **Action 11:** Implement policies and guidelines for hillside development within the Santa Clarita Valley that are compatible with City of Santa Clarita policies and guidelines, to protect the public from landslides and other geotechnical hazards.

- **Action 12:** Implement policies and guidelines for flood control and drainage improvements within the Santa Clarita Valley that are compatible with City of Santa Clarita policies and guidleines, to protect the public from regional and local flooding (including dam inundation).

- **Action 13:** Implement policies for wildland fire safety that are compatible with City of Santa Clarita policies, including but not limited to policies related to fuel reduction and defensible space, building materials and design, emergency access and evacuation routes, and fire flow requirements, to protect the public from wildfires.

- **Action 14:** Continue to cooperate with the City of Santa Clarita and other agencies as needed to coordinate disaster response plans, and respond to emergencies throughout the Santa Clarita Valley.

THIS PAGE INTENTIONALLY LEFT BLANK

Chapter 6

NOISE ELEMENT

TABLE OF CONTENTS

I. PURPOSE & INTENT **248**
II. BACKGROUND **248**
III. FUNDAMENTAL CONCEPTS FOR NOISE ANALYSIS **249**
- Sound Level and Frequency **249**
- Propagation of Noise **249**
- Duration of Sound **250**
- Change in Noise **250**
- Masking Effect **250**
- Factors Influencing Human Response to Sound **251**
- Sound Rating Scales **251**
- Single Event Metrics **251**
- Cumulative Metrics **252**

IV. HEALTH EFFECTS OF NOISE **253**
- Hearing Loss **254**
- Sleep Interference **254**
- Physiological Responses to Noise **254**
- Annoyance **254**
- School Room Effects **255**

V. ANALYSIS OF EXISTING AND FUTURE NOISE ENVIRONMENT IN THE PLANNING AREA **255**
- Methodology **255**
- Results **256**
- Noise Contour Maps **256**
- Projected Noise Impacts from City General Plan and County Area Plan Buildout **257**

VI. OTHER NOISE ISSUES IN THE PLANNING AREA **260**
- High-Speed Rail Line **260**
- High Density Residential Development Adjacent to Railroad **260**
- Mixed-Use Developments that Combine Residential and Non-Residential Uses **261**
- Agua Dulce Airport **261**
- Six Flags Magic Mountain Theme Park **261**
- Special Events **262**
- Emergency Vehicles **262**

VII. PLANNING STRATEGIES TO MINIMIZE NOISE IMPACTS **262**
VIII. SUMMARY OF NOISE PLANNING ISSUES **263**
IX. GOALS, OBJECTIVES, AND POLICIES **264**
X. IMPLEMENTATION OF THE NOISE ELEMENT **266**

LIST OF TABLES

Table N-1: Factors Affecting Human Response to Noise **251**
Table N-2: Projected Noise Increases Along roadway Links **259**
Table N-A1: Proposed Traffic Noise Contours for Arterial Streets **267**
Table N-A2: Proposed Traffic Noise Contours for Freeways **273**

LIST OF FIGURES

Figure N-1: Typical Sound Levels in A-Weighted Decibels **250**
Figure N-2: Single & Cumulative Noise Metric Definitions **252**
Figure N-3: Examples of Typical Outdoor CNEL Levels **253**

Noise Element

I. PURPOSE & INTENT

Noise is often defined as unwanted or undesired sound. Excessive noise levels are not only a potential annoyance but can constitute a health threat, potentially resulting in temporary or permanent hearing loss and mental distress. Physical health, psychological well-being, social cohesion, property values, and economic productivity can all be affected by excessive amounts of noise. The noise environment is an integral component of the quality of life for Santa Clarita Valley residents.

The Noise Element of the Area Plan is a comprehensive program for including noise management in the planning process, providing a tool for planners to use in achieving and maintaining land uses that are compatible with existing and future environmental noise levels. The Noise Element identifies current noise conditions within the planning area, and projects future noise impacts resulting from continued growth allowed by the Land Use Element. The element identifies noise-sensitive land uses and noise sources, and defines areas of noise impact for the purpose of developing programs to ensure that residents in the Santa Clarita Valley will be protected from excessive noise intrusion. As development proposals are reviewed in the future, the City and County will evaluate each proposal with respect to the Noise Element to ensure that noise impacts are reduced through planning and project design. Through implementation of the policies and programs of the Noise Element, current and future adverse noise impacts will be reduced or avoided in order to protect the general health, safety, and welfare of the community.

II. BACKGROUND

The issues in the Noise Element include those set forth in California Government Code Section 65302(f), which requires that the Noise Element of the Area Plan "identify and appraise noise problems in the community." Noise elements are required to address noise generated from highways and freeways, arterials and major streets, rail operations and transit, aviation and airports, industrial plants, and other stationary noise sources. Noise contours must be shown for all these sources, and the noise contours are to be used as a guide for establishing a pattern of land uses that minimizes the exposure of residents to excessive noise. The California Office of Planning and Research has developed guidelines to assist local agencies in the development of a noise element. This Noise Element has been prepared in conformance with the State's General Plan Guidelines and Government Code requirements. The Element quantifies the community noise environment in terms of noise exposure contours for both near and long-term levels of growth and traffic activity.

The Noise Element is directly related to the Land Use and Circulation Elements, because traffic on highways and arterial roadways has been identified as a major source of noise that has the potential to affect sensitive land uses. Within the context of a noise analysis, sensitive land uses are those in which persons occupying the use are particularly sensitive to the effects of noise, including housing, schools, medical facilities, libraries, social care facilities, and similar facilities. The Noise Element contains policies that are intended to protect sensitive land uses from noise that exceeds recommended levels. Analysis of noise from mobile sources, including traffic on streets and highways, airport activity, and rail operations, has been completed for the Noise Element based on projected traffic volumes identified in the Circulation Element. The Noise Element is consistent with policies of the Safety Element because it contains policies and guidelines designed to protect residents from noise exceeding recommended levels. The Noise Element is also consistent with the Conservation and Open Space Element because policies in the Noise Element address noise compatibility between sensitive receptors adjacent to parks, sports and recreation uses, and entertainment centers.

The City of Santa Clarita adopted a Noise Element as part of the first comprehensive General Plan on June 25, 1991, and subsequently amended the Noise Element on May 23, 2000. The 2000 Noise Element contained guidelines for acceptable noise levels in residential, commercial, and industrial areas, along with goals and policies designed to protect residents from excessive noise levels. The City has also adopted provisions in the Municipal Code establishing noise standards for various uses and circumstances. Chapter 11.40 of the City's Municipal Code contains restrictions on "noisy street hawking and advertising." Chapter 11.44 (the City's Noise Ordinance) establishes noise limits for residential, commercial and manufacturing zones during daytime and nighttime hours, and addresses noise from machinery, construction, and amplification equipment.

The stated purpose of this code section is, in part, "to prohibit unnecessary, excessive and annoying noises from all sources," and the Ordinance contains provisions for enforcement and violations.

The Board of Supervisors adopted the first Noise Element for Los Angeles County in 1974. The County also regulates noise in Chapter 12.08 of the County Code, which sets forth acceptable exterior noise levels for noise sensitive areas and for residential, commercial, and industrial uses within the County's jurisdiction. The County's first noise control ordinance was adopted in 1977. In 2001, the County amended Title 13 of the County Code to prohibit loud, unnecessary and unusual noise that disturbs the peace or quiet of any neighborhood. In addition to these Countywide provisions, local communities throughout the County may address local noise concerns in their individual Area, Community, or Neighborhood Plans. Within unincorporated portions of the Santa Clarita Valley, noise policies will be adopted through the Santa Clarita Valley Area Plan, developed in conjunction with the *One Valley One Vision* planning effort by the City of Santa Clarita and the County of Los Angeles.

This Noise Element update was prepared in conjunction with a noise analysis and technical report prepared by Mestre Greve Associates, a noise consultant retained to assist with the element. Their final report, entitled *One Valley One Vision Noise Element of the General Plan (Technical Appendix)*, was used as the primary reference and is included as an appendix to the Element. This Technical Appendix contains detailed information on the methodology, analysis, and sources of information referenced in the Noise Element.

III. FUNDAMENTAL CONCEPTS FOR NOISE ANALYSIS

This section of the Noise Element presents background information on the characteristics of noise, in order to provide an understanding of how noise levels are measured for planning purposes.

Sound Level and Frequency

Sound is produced when an action causes air pressure to vibrate in all directions around the source, similar to waves produced in a pond when a stone is thrown into the water. When people hear sounds, they are actually detecting the changes in air pressure on their eardrums. Sound can be described technically in terms of the sound pressure (amplitude) and frequency (similar to pitch). Sound pressure is a direct measure of the magnitude of a sound without consideration for other factors that may influence its perception.

The range of sound pressures that occur in the environment is so large that it is convenient to express these pressures as sound pressure levels on a logarithmic scale, which compresses the wide range of sound pressures to a more usable range of numbers. The standard unit of measurement of sound is the decibel (dB), which describes the pressure of a sound relative to a reference pressure.

The frequency (pitch) of a sound is expressed as Hertz (Hz), or cycles per second. The normal audible frequency for young adults is 20 Hz to 20,000 Hz1.[1] Community noise, including aircraft and motor vehicles, typically ranges between 50 Hz and 5,000 Hz. The human ear is not equally sensitive to all frequencies, with some frequencies judged to be louder for a given signal than others. As a result of this, various methods of frequency weighting have been developed. The most common weighting is the A-weighted noise curve (dBA). The A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear. In the A-weighted decibel, everyday sounds normally range from 30 dBA (very quiet) to 100 dBA (very loud). Most community noise analyses are based upon the A-weighted decibel scale. Examples of various sound environments, expressed in dBA, are presented in Figure N-1.

Propagation of Noise

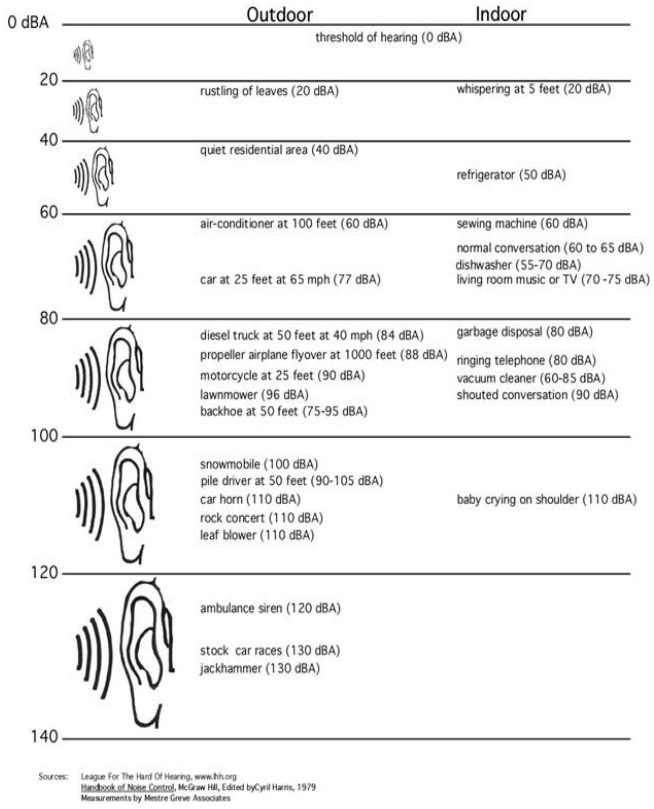
Outdoor sound levels decrease as the distance from the source increases, and as a result of wave divergence, atmospheric absorption, and ground attenuation. Sound radiating from a source in a homogeneous and undisturbed manner travels in spherical waves. As the sound wave travels away from the source, the sound energy is dispersed over a greater area, decreasing the sound power of the wave. Spherical spreading of the sound wave reduces the noise level at a rate of 6 dB per doubling of the distance.

Atmospheric absorption also influences the sound levels received by the observer. The greater the distance traveled, the greater the influence of the atmosphere and the

1 Young adults are considered a good baseline population for measuring normal hearing, because hearing is typically at its best within this group and deteriorates with age.

resultant fluctuations in sound. Atmospheric absorption becomes important at distances of greater than 1,000 feet. The degree of absorption varies depending on the frequency of the sound as well as the humidity and temperature of the air. For example, atmospheric absorption is lowest (i.e., sound carries farther) at high humidity and high temperatures. Turbulence and gradients of wind, temperature, and humidity also play a role in determining the degree of sound attenuation. Certain conditions, such as air temperature inversions, can channel or focus the sound waves, resulting in higher noise levels than would result from simple spherical spreading. Absorption effects in the atmosphere vary with frequency, with higher frequencies more readily absorbed than lower frequencies. Over large distances, the lower frequencies become the dominant sound as the higher frequencies are attenuated. More information on atmospheric conditions affecting the noise environment is included the Technical Appendix. However, for purposes of land use planning based on consideration of the effects of continuous noise sources, local weather conditions are typically not a factor in land use decisions because they are changeable and intermittent.

Figure N-1: Typical Sound Levels in A-Weighted Decibels



Duration of Sound

Annoyance from a noise event increases with increased duration of the noise event; in general, the longer the noise event lasts, the more annoying it is. The "*effective duration*" of a sound is the time between when a sound rises above the background sound level until it drops back below the background level. Psycho-acoustic studies have determined the relationship between duration and annoyance, and the amount that a sound must be reduced in order to be judged equally annoying for an increased duration. Duration is an important factor in describing sound in a community setting.

The relationship between duration and noise level is the basis of the equivalent energy principal of sound exposure. Reducing the *acoustic energy* of a sound by one half results in a 3 dB reduction. Doubling the duration of the sound increases the total energy of the event by 3 dB. This equivalent energy principal is based on the premise that the potential for a noise to impact a person is dependent on the total acoustical energy content of the noise. Defined in subsequent sections of this element, noise metrics such as CNEL, DNL, LEQ and SENEL are all based on the equal energy principle.

Change in Noise

The concept of change in ambient sound levels can be understood with an explanation of the receptor's reaction to sound. The human ear is a far better detector of relative differences in sound levels than absolute values of levels. Under controlled laboratory conditions, listening to a steady unwavering pure tone sound that can be changed to slightly different sound levels, a person can just barely detect a sound level change of approximately one decibel for sounds in the mid-frequency region. When ordinary noises are heard, a young healthy ear can detect changes of two to three decibels. A five-decibel change is readily noticeable, while a 10 decibel change is judged by most people as a doubling or a halving of the loudness of the sound. It is typical in environmental documents to consider a 3 dB change as potentially discernable.

Masking Effect

The tendency for one sound to limit a listener from hearing another sound is known as the masking effect. The presence of one sound effectively raises the threshold of audibility for the second sound. For a signal to be heard, it must exceed the threshold of hearing for that particular individual *and* exceed the masking threshold for the background noise.

The masking characteristics of sound depend on many factors, including the spectral (frequency) characteristics of the two sounds, the sound pressure levels, and the relative start time of the sounds. Masking effect is greatest when the frequencies of the two sounds are similar or when low frequency sounds mask higher frequency sounds. High frequency sounds do not easily mask low frequency sounds.

Factors Influencing Human Response to Sound

Many factors influence sound perception and annoyance. These factors include not only physical characteristics of the sound, but also secondary influences such as sociological and external factors. Molino, in the *Handbook of Noise Control*, describes human response to sound in terms of both acoustic and non-acoustic factors. These factors are summarized in Table N-1.

Table N-1: Factors Affecting Human Response to Noise

Primary Acoustic Factors	• Sound level • Frequency • Duration
Secondary Acoustic Factors	• Spectral complexity • Fluctuations in sound level • Fluctuations in frequency • Rise-time of the noise • Localization of noise source
Non-Acoustic Factors	• Physiology • Adaptation and past experience • How the listener's activity affects annoyance • Predictability of when a noise will occur • Whether the noise is necessary • Individual differences and personality

Source: C. Harris, 1979

Sound rating scales are developed in reaction to the factors affecting human response to sound. Nearly all of these factors are relevant in describing how sounds are perceived in the community. Many non-acoustic parameters play a prominent role in affecting individual response to noise. Background sound, an additional acoustic factor not specifically listed, is also important in describing sound in rural settings. Researchers have identified the effects of personal and situational variables on noise annoyance, and have identified a clear association of reported annoyance and various other individual perceptions or beliefs. Thus, it is important to recognize that non-acoustic factors as well as acoustic factors contribute to human response to noise.

Sound Rating Scales

The description, analysis, and reporting of community sound levels is made difficult by the complexity of human response to sound, and the large number of sound-rating scales and metrics developed to describe acoustic effects. Various rating scales have been developed to approximate the human subjective assessment to the "loudness" or "noisiness" of a sound. Noise metrics have also been developed to account for additional parameters such as duration of sound, and the cumulative effect of multiple noise events.

Noise metrics are categorized as single event metrics and cumulative metrics. Single event metrics describe the noise from individual events, such as one aircraft flyover. Cumulative metrics describe the noise in terms of the total noise exposure throughout the day. Noise metrics used in this study are described below.

Single Event Metrics

- **Frequency Weighted Metrics (dBA)**. In order to simplify the measurement and computation of sound loudness levels, frequency weighted networks have obtained wide acceptance. The A-weighting (dBA) scale has become the most prominent of these scales and is widely used in community noise analysis. Its advantages are that it has shown good correlation with community response and is easily measured. The metrics used in the Noise Element are all based on the dBA scale.

- **Maximum Noise Level** or **Lmax** is the highest noise level reached during a noise event. For example, as an aircraft approaches, the sound of the aircraft begins to rise above ambient noise levels. The closer the aircraft gets the louder it is, until the aircraft is at its closest point directly overhead. Then, as the aircraft passes, the noise level decreases until the sound level again settles to ambient levels. Such a history of a flyover is plotted at the top of Figure N-2. It is this metric to which people generally instantaneously respond when an aircraft flyover or a loud vehicle like a truck or motorcycle passes by.

- **Single Event Noise Exposure Level (SENEL)** or **Sound Exposure Level (SEL)** is computed from dBA sound levels, and is used to quantify the total noise associated with an event such as an aircraft overflight or a train pass-by.

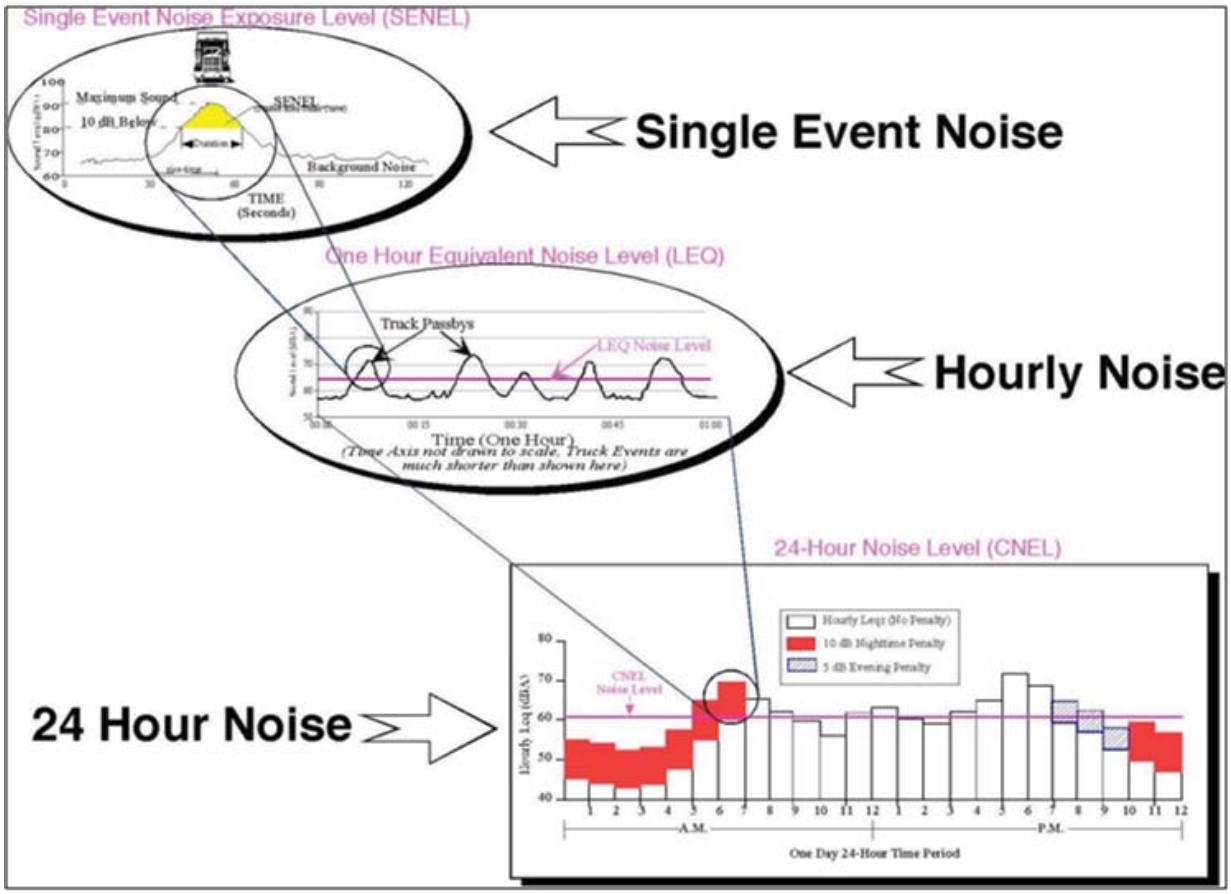
Referring again to the top of Figure N-2, the shaded area, or the area within 10 dB of the maximum noise level, is the area from which the SENEL is computed. The SENEL value is the integration of all the acoustic energy contained within the event. Speech and sleep interference research can be assessed relative to SENEL data. The SENEL metric takes into account the maximum noise level of the event and the duration of the event. Single event metrics are a convenient method for describing noise from individual aircraft events. This metric is useful in that airport noise models contain aircraft noise curve data based upon the SENEL metric. In addition, cumulative noise metrics such as LEQ, CNEL and DNL can be computed from SENEL data.

Cumulative Metrics

Cumulative noise metrics assess community response to noise by including the loudness of the noise, the duration of the noise, the total number of noise events, and the time of day these events occur into one single number rating scale.

- **Equivalent Noise Level (Leq)** is the sound level corresponding to a steady-state A-weighted sound level containing the same total energy as several SEL events during a given sample period. Leq is the "energy" average noise level during the time period of the sample. It is based on the observation that the potential for noise annoyance is dependent on the total acoustical energy content of the noise. This is graphically illustrated in the middle graph of Exhibit N-2. Leq can be measured for any time period, but is typically measured for 15 minutes, 1 hour or 24-hours. Leq for a one-hour period is used by the Federal Highway Administration for assessing highway noise impacts. Leq for one hour is called Hourly Noise Level (HNL) in the California Airport Noise Regulations and is used to develop Community Noise Equivalent Level (CNEL) values for aircraft operations.

Figure N-2: Single and Cumulative Noise Metric Definitions



Source: Mestre Greve Associates, 1998

- **Community Noise Equivalent Level**, or **CNEL** is a 24-hour, time-weighted energy average noise level based on the A-weighted decibel. It is a measure of the overall noise experienced during an entire day. The term "time-weighted" refers to the penalties attached to noise events occurring during certain sensitive time periods. In the CNEL scale, noise occurring between the hours of 7 p.m. and 10 p.m. is penalized by approximately 5 dB. This penalty accounts for the greater potential for noise to cause communication interference during these hours, as well as typically lower ambient noise levels during these hours. Noise that takes place during the night (10 p.m. to 7 a.m.) is penalized by 10 dB. This penalty was selected to attempt to account for the higher sensitivity to noise in the nighttime, and the expected further decrease in background noise levels that typically occur in the nighttime.

  CNEL is graphically illustrated at the bottom of Figure N-2. Examples of various noise environments in terms of CNEL are presented in Figure N-3. The State's General Plan Guidelines specify the use of CNEL or Ldn by local planning agencies in preparation of the General Plan Noise Element for purposes of land use compatibility planning. This element uses CNEL for that purpose.

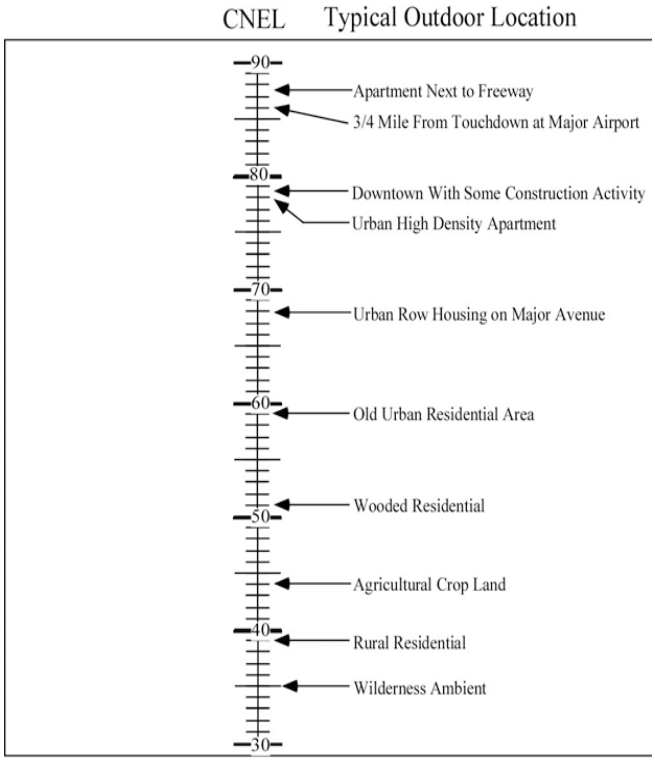
- The **Daily Noise Level (DNL)** index is very similar to CNEL, but does not include the evening (7 p.m. to 10 p.m.) penalty that is included in CNEL. It does include the nighttime (10 p.m. to 7 a.m.) penalty. Typically, DNL is about 1 dB lower than CNEL, although the difference may be greater if there is an abnormal concentration of noise events in the 7 p.m. to 10 p.m. time period. DNL is specified for use in all states except California.

- **L(%)**, **Lmax** and **Lmin** are statistical methods of describing noise which accounts for variance in noise levels throughout a given measurement period. L(%) is a way of expressing the noise level exceeded for a percentage of time in a given measurement period. For example, since five minutes is 25% of 20 minutes, L(25) is the noise level that is equal to or exceeded for five minutes in a 20-minute measurement period. It is L(%) that is used for most Noise Ordinance standards. Lmax represents the loudest noise level that is measured. The Lmax only occurs for a fraction of a second with all the other noise less than the Lmax level. Lmin represents the quietest noise level during a noise measurement. All other noise during the measurement period is louder than the Lmin.

IV. HEALTH EFFECTS OF NOISE

Noise, often described as unwanted sound, is known to have several adverse effects on humans. From these known adverse effects of noise, criteria have been established to help protect the public health and safety and prevent disruption of certain human activities. These criteria are based on effects of noise on people such as hearing loss (not a factor with typical community noise), communication interference, sleep interference, physiological responses, and annoyance. Each of these potential noise impacts on people is briefly discussed below.

Figure N-3: Examples of Typical Outdoor CNEL Levels



Source: Adapted from "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare With an Adequate Margin of Safety," EPA, 1974.

Hearing Loss

Hearing loss is generally not a concern in community noise problems, even very near a major airport or a major freeway. The potential for noise induced hearing loss is more commonly associated with occupational noise exposures in heavy industry, very noisy work environments with long term exposure, or certain very loud recreational activities such as target shooting, motorcycle or car racing. The Occupational Safety and Health Administration (OSHA) identifies a noise exposure limit of 90 dBA for eight hours per day to protect workers from hearing loss (higher limits are allowed for shorter duration exposures). Noise levels in neighborhoods, even in very noisy neighborhoods, are not sufficiently loud to cause hearing loss.

Communication Interference

Communication interference is one of the primary concerns in environmental noise problems, and includes speech interference and interference with activities such as watching television. Normal conversational speech is in the range of 60 to 65 dBA, and any noise in this range or louder may interfere with speech. There are various methods of describing speech interference as a function of distance between speaker and listener and voice level.

Sleep Interference

Sleep interference is a major noise concern in noise assessment and is most critical during nighttime hours. Sleep disturbance is one of the major causes of annoyance due to community noise. Noise can make it difficult to fall asleep, create momentary disturbances of natural sleep patterns by causing shifts from deep to lighter stages, and cause awakening. Noise may even cause awakening that a person may not be able to recall.

Extensive research has been conducted on the effect of noise on sleep disturbance, with varying results. Recommended values for desired sound levels in residential bedroom space range from 25 to 45 dBA, with 35 to 40 dBA being the norm. In 1981, the National Association of Noise Control Officials published data on the probability of sleep disturbance with various single event noise levels. Based on laboratory experiments conducted in the 1970s, this data indicated that noise exposure from a 75 dBA interior noise level event will cause noise-induced awakening in 30 percent of the cases. More information on these studies is contained in the Technical Appendix.

Physiological Responses to Noise

Physiological responses are those measurable effects of noise on people that are realized as changes in pulse rate, blood pressure, and other vital signs. While such effects can be induced and observed, the extent to which these physiological responses cause harm or are a sign of harm is unknown. Generally, physiological responses are a reaction to a loud short-term noise such as a rifle shot or a very loud jet over flight.

Health effects from noise have been studied around the world for over thirty years. Scientists have attempted to determine whether high noise levels can adversely affect human health in ways other than auditory damage, which is well documented. These research efforts have covered a broad range of potential impacts, from cardiovascular response to fetal weight and mortality. While a relationship between noise and health effects seems plausible, it has yet to be conclusively demonstrated by multiple scientific studies. Health effects from noise may also be associated with a wide variety of other environmental stressors. Isolating the effects of aircraft noise alone as a source of long-term physiological change has proved to be difficult in studies completed to date. More information on these studies is contained in the Technical Appendix.

Annoyance

Annoyance is the most difficult of all noise responses to describe. Annoyance is a very individual characteristic and can vary widely from person to person. Noise that one person considers tolerable can be unbearable to another of equal hearing capability. The level of annoyance depends both on the characteristics of the noise (including loudness, frequency, time, and duration), and how much activity interference (such as speech interference and sleep interference) results from the noise. However, the level of annoyance is also a function of the attitude of the receiver. Personal sensitivity to noise varies widely. It has been estimated that two to 10 percent of the population is highly susceptible to annoyance from any noise not of their own making, while approximately 20 percent are unaffected by noise. Attitudes may also be affected by the relationship between the person affected and the source of noise, and whether attempts have been made to abate the noise.

Various studies have correlated annoyance levels to CNEL levels, including a well-known analysis developed by Theodore Schultz. Schultz developed a curve that estimates the percent of a populace that can be expected to be annoyed by various DNL (CNEL in California) values for residential

land use with outdoor activity areas. At 65 dB DNL, the Schultz curve predicts approximately 14% of the exposed population reporting themselves to be "highly annoyed." At 60 dB DNL this decreases to approximately 8% of the population.

However, the Schultz curve and recent updates include data showing that some communities report much higher percentages of population highly annoyed at these noise exposure levels. A 1981 study in Orange County of communities near John Wayne Airport found that populations in some areas were approximately 5 dB CNEL more sensitive to noise than the average population predicted by the Schultz curve. While the precise reasons for this increased noise sensitivity were not identified, it is possible that non-acoustic factors, including the socio-economic status of the surveyed population, may have played a role in increasing the sensitivity of these communities during the period of the survey. Also, it should be noted that annoyance levels have never been correlated statistically to single event noise exposure levels in airport related studies. More information on these studies is contained in the Technical Appendix.

School Room Effects

Interference with classroom activities and learning from aircraft noise is an important consideration, and the subject of much recent research. Studies from around the world indicate that noise from vehicle traffic, railroads, and aircraft operations can have adverse effects on reading ability, concentration, motivation, and long term learning retention among students who are subjected to such noise.[2] A complicating factor in this research is the extent of background noise from within the classroom itself. The studies that indicated the most adverse effects examined cumulative noise levels equivalent to 65 CNEL or higher, and single event maximum noise levels ranging from 85 to 95 dBA. In other studies, the level of noise was unstated or ambiguous. According to these studies, a variety of adverse school room effects can be expected from *interior* noise levels equal to or exceeding 65 CNEL and or 85 dBA SEL. Some interference with classroom activities can be expected with noise events that interfere with speech. As discussed in other sections of this element, speech interference begins at 65 dBA, which is the level of normal conversation. Typical building design and construction materials attenuate outdoor noise by 20 dBA with windows closed, and 12 dBA with windows open. Thus, some interference of classroom activities can be expected at outdoor levels of 77 to 85 dBA.

V. ANALYSIS OF EXISTING AND FUTURE NOISE ENVIRONMENT IN THE PLANNING AREA

The Noise Element of the City of Santa Clarita General Plan, adopted in May 2000, identified roadways as the primary source of noise in the City. While traffic noise is still the major noise source in the City, other sources of noise have also become a concern. The City of Santa Clarita and County of Los Angeles retained a noise consultant, Mestre Greve Associates, to conduct a noise study for the *One Valley One Vision (OVOV)* planning effort. This study evaluated existing noise conditions throughout the planning area, and projected future noise levels based upon growth and traffic projections developed through the OVOV planning effort. This section of the element describes existing sources of noise in the Santa Clarita Valley, and the methodology used to analyze noise levels.

Methodology

Twenty sites in the OVOV planning area were selected for measurement of the existing noise environment. A review of noise complaints, discussions with City and County staff, and identification of major noise sources in the community provided the initial basis for development of the community noise survey. The measurement locations were selected on the basis of proximity to major noise sources and noise sensitivity of the land use. The measurement locations are depicted in Figure N-4.

Noise measurements were made of the short-term Leq values. These measurements provide a short 'snapshot' view of the noise environment. The noise measurements were made at an average human receptor height of about five feet above the ground. Measurements were made on August 7 and 8, 2007. The measurements were made with a Bruel & Kjaer Type 2236 Sound Level Meter, and calibrated every few hours. These noise measurement systems meet the American National Standards Institute "Type 1" specifications, which is the most accurate for community noise measurements. The meter and calibrator have current certification traceable to the National Institute of Standards and Technology (NIST).

2 For more information, see "Effects of Aircraft Noise: Research Update on Selected Topics," by Vincent Mestre, published by the Transportation Research Board of the National Academies, 2008.

Results

The results of the noise measurements for existing conditions are shown in Figures N-5a, N-5b, and N-5c. These figures also depict the date and time of the measurement. The cause of the loudest event is identified and the most predominant noise source(s) are identified. The quantities measured were the Equivalent Noise Level (Leq), the maximum noise level (Lmax) and the minimum noise levels (Lmin).

When examining the noise data shown in Exhibit N-5, it is important to note that this data is intended to identify noise levels over a broad range of the study area; it is not an assessment of impacts at these sites. The noise levels measured cover a wide range of noise exposure throughout the planning area. In almost all cases, the major sources of noise were motor vehicles. The quietest environment was in a residential area in the foothills, where noise levels were often below 50 dBA. The loudest events were generated by buses and trucks, and these events would push the noise levels into the mid 80 dBA range. In general, aircraft noise, industrial noise, and commercial noise sources did not appear to contribute significantly to the noise levels measured.

A detailed discussion of the noise measurements at each of the 20 sites is presented in the Noise Study prepared by Mestre Greve Associates in 2008, attached as the Technical Appendix.

Noise Contour Maps

Noise contour maps of the planning area were prepared to show both existing and anticipated future noise levels. The contour map of existing noise levels was based on field measurements described above. Based on this data, the consultant concluded that the noise environment in the Santa Clarita Valley is attributable primarily to roadways, which include both surface streets and freeways. The Union Pacific Railroad, which runs from the southern portion of the City to the center of the City and then directly to the east, is also a major noise source. The Agua Dulce Airport is located in the study area; however, sporadic airplane or helicopter operations that occur across the OVOV study area were not determined to be loud enough and consistent enough to be substantial noise generators.

The noise contours for the planning area are presented in Figure N-6 for existing conditions as of August, 2007, and in Figure N-7 for build-out conditions projected for the City's General Plan and the County's Area Plan. The existing contours are based on the existing conditions of traffic volumes and other sources of noise in the community derived from field measurements. The future contours represent a year 2030 scenario, based on traffic volumes estimated by a traffic study performed by Austin Foust, a traffic consultant. The traffic noise contours, including the average daily traffic, are also presented in a tabular form in the Appendix to the Noise Element.

The noise contours for arterial roadways and highways were generated using a mathematical model developed by the Federal Highway Administration ("Traffic Noise Model," Version 2.5, April 14, 2004). The Traffic Noise Model (TNM) uses traffic volume, vehicle mix, average vehicle speed, roadway geometry, and sound propagation path characteristics to predict hourly A-weighted Leq values adjacent to a road. Vehicle mix is reported in terms of the number of automobiles, medium trucks, and heavy trucks. The truck categories are defined in the TNM model by number of axles and weight. In order to compute a CNEL value for roadways, the hourly data for a 24-hour period are used according to the CNEL formula. Vehicle distribution over the 24 hour day must be known, including the percent of vehicles in the daytime period (7 a.m. to 7 p.m.), evening period (7 p.m. to 10 p.m.), and night period (10 p.m. to 7 a.m.). The mix of automobiles, medium trucks and heavy trucks has an effect on noise levels. The assumption used to model noise is based on known traffic mix data. For arterial roadways, the vehicle mix data are obtained from mix data collected by the County of Orange during extensive surveys of 53 intersections within the County. This survey is the most comprehensive conducted in Southern California, and is considered representative for the vast majority of arterial highways throughout Southern California. Caltrans conducts periodic traffic counts on freeways and publishes them on their website (www.dot.ca.gov/hq/traffops/saferesr/trafdata/). The various truck percentages reported by Caltrans were used for the projections on Interstate 5, State Route 14 and State Route 126. The traffic mix data used for the Noise Element are contained in the Noise Study prepared for the project by Mestre Greve Associates, included as the Technical Appendix.

The Southern Pacific Railroad line handles two types of trains in the Santa Clarita Valley, Metrolink commuter rail and freight. In terms of rail noise, freight is the more dominant noise source. Published train schedules were consulted in 2008 and it was determined that 24 Metrolink trains run through the Santa Clarita Valley each day. No precise numbers of daily freight train operations could be

provided; however, it was estimated that up to five freight trains pass through the planning area each day. According to the Multi-County Goods Movement Action Plan prepared for Los Angeles County in April 2008, the number of freight trains expected to use the Union Pacific rail line from Los Angeles through the Santa Clarita Valley by 2025 ranges from 27-49 trains per day. Based on this information, the model included 48 freight trains per day. Metro, which operates the Metrolink system, has also prepared an updated draft 2008 Long Range Transportation Plan (LRTP) that shows proposed rail facilities and increased operations throughout its service area. The list of projects for North Los Angeles County in the LRTP includes adding reverse commute service on the Antelope Valley line, expanding capacity on existing trains, and adding four Metrolink trains from the Santa Clarita Valley to Los Angeles. These two documents contain the most recent available data on existing and future planned rail operations in the Santa Clarita Valley, and were used to generate the existing and projected train noise contours shown on Figures N-6 and N-7.

Noise contours on the contour map exhibits represent lines of equal noise exposure, just as the contour lines on a topographic map show lines of equal elevation. The contours shown on the map are for the 60, 65 and 70 dB CNEL noise levels. These noise contour maps can be used as a guide for land use planning decisions. The 60 CNEL contour defines the Noise Referral Zone. This is the noise level for which noise considerations should be included when making land use policy decisions.

The contours presented in this report are a graphic representation of the existing and future projected noise environment. These distances to contour values are also shown in tabulated format in the Noise Element Technical Appendix. However, it should be understood when consulting these maps and tables that topography and intervening buildings or barriers have a very complex effect on the propagation of noise, because barriers deflect sound waves. The effect of topography and building placement on specific development sites was not considered when preparing the noise contour maps for the entire planning area; therefore, the contours present a worst-case projection of existing and future noise levels, and should be considered in conjunction with local conditions when evaluating specific development plans.

Projected Noise Impacts from City General Plan and County Area Plan Buildout

Because of continued growth and development allowed by the City General Plan and County Area Plan, traffic levels will change throughout the planning area in future years, and the resulting noise levels will also undergo a corresponding change. In order to evaluate the future estimated noise levels, a comparison was made between the existing noise levels and future noise levels within the OVOV planning area (i.e., cumulative noise increase), based on the anticipated growth permitted by the City General Plan and County Area Plan update.

Table N-2 shows the expected incremental traffic noise level increases on the primary arterial roadways that were analyzed in the OVOV traffic study. The traffic study divided up the arterial roadway network into 318 roadway links; the roadway segment numbers on Table N-2 correspond to the segment number identified by the traffic engineer. However, only those arterial roadway links on which discernable changes in noise levels are projected are included on Table N-2; roadway links with negligible change in noise levels are not listed. Also, since the traffic study did not include local and collector streets, these streets were not included in the noise model. Such streets carry substantially less traffic, with lower speed limits, than arterial streets, which reduces the noise generated.

A significance threshold of five (5) dB is often used to evaluate a change in environmental noise that occurs slowly over a long period of time. A total of 29 roadway links were identified that showed a change in noise level of 5 dB or more between the existing conditions and future build-out of the City General Plan and County Area Plan. The noise analysis also compared projected future noise levels under the OVOV planning effort with the noise levels anticipated to be generated under build-out of the City General Plan and County Area Plan that were in effect prior to the Plans updated through the OVOV effort. Table N-2 shows roadway links that will experience an increase of one (1) dB with the updated City General Plan and County Area Plan, as compared to the previously adopted City General Plan and County Area Plan. As shown by the minus signs in the fourth column of Table N-2, many roadway segments will experience decreased noise impacts under the updated City General Plan and County Area Plan, as compared with the previously adopted City General Plan and County Area Plan. The land uses listed in the fifth column of Table N-2 were based on observations from aerial photographs and on-site visits. It should be noted that the land use listed on

the table may not be the same as the zoning designation, as these are generalized land use categories rather than Area Plan designations or zones.

The Santa Clarita Valley will experience population growth in upcoming years and, as a result, noise levels will increase along many roadways. Some of the roadway links bordered by residential uses that will experience much of the noise increase include portions of Pico Canyon Road, Via Princessa, Golden Valley Road, and Lost Canyon Road. However, with development under the updated City General Plan and County Area Plan, the noise levels will go down on more roadways than will go up in comparison to the currently adopted City General Plan and County Area Plan. There are only three roadway links out of the 318 links that in the entire roadway network where the noise levels with the updated City General Plan and County Area Plan increase by one (1) dB or more, in comparison to the previously adopted City General Plan and County Area Plan. For purposes of evaluating environmental noise, a difference of three (3) dB is barely discernable. Only one roadway link, Ridge Route north of Castaic, will experience a noise increase of 3 dB in comparison to the previously adopted City General Plan and County Area Plan. This area is primarily developed and planned for commercial uses, which are not considered to be sensitive to that level of noise increase. Therefore, although the Santa Clarita Valley will experience substantial increases in traffic over existing levels and corresponding increases in traffic noise, the updated City General Plan and County Area Plan will result in slightly lower noise levels for more streets than would otherwise occur under the previously adopted City General Plan and County Area Plan.

Even for the residential areas where the noise levels are projected to increase by more than one (1) dB over existing conditions, the Noise Study determined that in most cases residences are currently protected by existing sound walls or are set back far enough from the roadway so that future noise levels generated by build-out under the updated City General Plan and County Area Plan will be consistent with the Noise and Land Use Compatibility Guidelines. Therefore, noise impacts in these areas from City General Plan and County Area Plan build out were determined to be minimal.

Noise levels were also projected for the railroad line that passes through the Santa Clarita Valley. Both Metrolink and freight trains utilize the railroad line. In future years both the operations of freight and Metrolink are expected to increase. A moderate increase in the CNEL noise level of 2.4 dB is projected to occur between existing levels and build-out of the City General Plan and County Area Plan. This level of noise increase is expected to occur with build-out under either the previously adopted City General Plan and County Area Plan or the updated City General Plan and County Area Plan. The projected 2.4 dB increase for rail-generated noise is not considered to be a substantial noise increase that would adversely affect community noise levels.

Table N-2: Projected Noise Increases Along Roadway Links in CNEL (dB) - Based on City General Plan and County Area Plan Build-out

Segment No.	Roadway Link	Cumulative Increase[3]	Change Due to OVOV[4]	Land Use
2	Agua Dulce n/o Davenport	6.4	0.0	Sparse Residential
3	Agua Dulce n/o SR-14	6.7	0.0	Open Space
4	Agua Dulce s/o SR-14	4.8	1.8	Open Space
8	Ave Stanford s/o Vanderbilt	5.3	0.8	Commercial
29	Chiquito Cyn (Long Cyn) n/o SR-126	11.0	-0.3	Open Space
41	Copper Hill e/o Haskell	5.3	-0.2	Residential
43	Davenport e/o Sierra Hwy	4.8	1.8	Commercial
53	Dockweiler w/o Sierra Hwy	6.8	-0.2	Sparse Residential
55	Franklin e/o Wolcott Way	9.0	0.0	Open Space
57	Golden Valley s/o Plum Cyn	7.8	0.0	Residential
59	Golden Valley n/o Soledad	5.0	0.0	Commercial / Industrial
68	Hasley Cyn w/o Del Valle	6.4	0.7	Open Space
72	Henry Mayo e/o Commerce Center	5.1	-0.3	Residential
77	Lake Hughes e/o Castaic	6.1	-0.7	Mixed
78	Lake Hughes e/o Ridge Route	5.4	-2.3	Commercial
84	Lost Cyn n/o Jakes Way	n/a	1.1	Residential
85	Lost Cyn n/o Canyon Park	n/a	1.1	Residential
87	Lost Cyn s/o Via Princessa	7.4	-0.4	Residential
98	Magic Mtn w/o The Old Road	7.3	0.1	Open Space
99	Magic Mtn e/o The Old Road	5.0	0.2	Office
105	Magic Mtn e/o Valencia	5.3	0.2	Mixed
128	Newhall Ranch e/o Bouquet Cyn	8.2	0.2	Mixed
143	Pico Cyn w/o Stevenson Ranch	9.9	0.0	Residential
161	Ridge Route n/o Lake Hughes	8.5	-0.1	Mixed
162	Ridge Route n/o Castaic	2.0	3.0	Commercial
172	San Martinez Grande Cyn n/o SR-126	7.0	-1.5	Open Space
233	Stevenson Ranch n/o Poe	-0.7	1.4	Open Space
238	The Old Road n/o Hillcrest	6.4	-0.3	Mixed
254	Ave. Tibbitts s/o Newhall Ranch	5.8	0.0	Commercial
262	Valencia w/o The Old Road	5.8	0.1	Residential
276	Via Princessa e/o Oak Ridge	5.7	0.0	Residential
279	Via Princessa w/o Rainbow Glen	11.3	0.7	Residential
280	Via Princessa e/o Rainbow Glen	7.6	0.5	Residential
283	Via Princessa n/o Lost Cyn	6.8	0.2	Residential
290	Wiley Cyn e/o Orchard Village	5.8	0.34	Residential

[3] "Cumulative Increase" refers to projected noise levels over existing conditions based on development allowed by the OVOV City General Plan and County Area Plan Update.

[4] "Change Due to OVOV" refers to the net increase or decrease in projected noise levels between the City General Plan and County Area Plan in effect prior to OVOV, and the OVOV update. A minus sign in this column indicates that future noise levels are projected to be less under the OVOV Plans than under the previously adopted Plans.

Segment No.	Roadway Link	Cumulative Increase[3]	Change Due to OVOV[4]	Land Use
295	Wolcott n/o SR-126	7.8	0.0	Open Space

[3] "Cumulative Increase" refers to projected noise levels over existing conditions based on development allowed by the OVOV City General Plan and County Area Plan Update.
[4] "Change Due to OVOV" refers to the net increase or decrease in projected noise levels between the City General Plan and County Area Plan in effect prior to OVOV, and the OVOV update. A minus sign in this column indicates that future noise levels are projected to be less under the OVOV Plans than under the previously adopted Plans.

VI. OTHER NOISE ISSUES IN THE PLANNING AREA

In addition to traffic-generated noise impacts, several other noise-related issues were identified during preparation of the Noise Element, based on discussions with staff. Some of these additional noise issues may be addressed in local planning decisions by the City of Santa Clarita and the County of Los Angeles, as described below. With regard to other noise issues that are outside the authority of local planning agencies, the discussion below is provided for informational purposes only.

High-Speed Rail Line

A high-speed rail line is being planned by the California High-Speed Rail Authority to connect northern and southern California. The anticipated route of this railway would run from Sacramento to Los Angeles, and would likely traverse the Santa Clarita Valley in the area of the Antelope Valley Freeway (State Route 14) corridor. As the planning for this project proceeds, a separate Environmental Impact Report will be required to evaluate potential impacts of the proposed high-speed rail line, including noise. At this time, the precise route of the future high-speed rail line through the planning area is not known, and the type of train and corresponding noise levels have not been determined. Therefore, no substantive planning in regard to future noise impacts from high-speed rail can be addressed in the Noise Element at this time. However, a policy has been included in the Element that calls for the City and County to participate in the review of the high-speed rail plan documents to ensure adequate mitigation of noise and other impacts, if and when the rail project is approved.

High Density Residential Development Adjacent to Railroad

As part of the OVOV strategy to encourage Transit-Oriented Development (TOD) in the Santa Clarita Valley, higher density residential housing, and mixed-use commercial districts that may contain residential uses, are planned in proximity to portions of the railroad corridor currently used for freight and Metrolink passenger service. Most notably, this will occur in the areas where the railroad parallels Railroad Avenue and along Soledad Canyon Road, especially in the vicinity of the Soledad Metrolink Station, which is well-suited for future transit-oriented development to occur. The TOD strategy will provide residents with ready access to public transit for commuting to work and service centers that are accessible by Metrolink, thereby decreasing dependence on single-use automobile trips, and reducing vehicle emissions and vehicle-generated noise.

Developing residential uses along railroad corridors presents special challenges with respect to noise. First, constructing sound walls along railroads is often not feasible because of height restrictions. Sound walls that are constructed may provide some protection for lower residential floors, but provide little or no protection for the upper floors. Secondly, although the CNEL noise scale is the best scale to use for environmental noise, it is not the only measurement to consider when dealing with train events (and, to a similar extent, aircraft noise). Train noise is what is referred to as "single event noise". When a train passes a residence, it generates loud levels of noise for a short period of time, and then there will be no railroad noise for an extended period of time. The CNEL scale accounts for the number of trains, the time of day that they occur, and how loud the trains are; but it can be argued that the annoyance and activity disruption that is generated by the single event of a train is not fully accounted for in such CNEL measurements. For example, if a train passes by and awakens a resident, his or her main focus is on that one train and not on the other factors that go into the CNEL scale calculation. The use of CNEL (or the similar Ldn scale) for noise and land use planning is required by State code. In most instances, the use of the CNEL scale provides the best correlation with how people view the noise environment.

One of the actions the City and County can take to address potential annoyance from train noise is to require disclosure to potential buyers and renters of homes near the railroad. This notification would provide information to buyers and renters about the location and type of noise sources in the area, and the fact that there may be loud events generated by these sources. A policy has been included in this Element to address disclosure requirements for residents near the railroad.

In many cases, high-density residential and mixed uses developments contain few outdoor private areas where quiet can be anticipated. Generally, dwellings in such

developments might be provided with small balcony or patio areas, but there is little expectation that the noise levels for these private outdoor areas will be low. A noise barrier, often made of glass, is the only way to provide noise protection for a small balcony area adjacent to a noise source such as a freeway or railroad. Balcony barriers are often disliked by residents because they create a "closed-in" feeling. In order to address this issue, it is recommended that the design of high- density residential uses include one or more outdoor areas in the complex where peace and quiet can be found. Such an area may be provided in communal courtyards, or a pool area where people can sit and relax. It is important to provide noise protection for these areas. Such common outdoor areas can often be protected through site design, such as by locating buildings or parking structures between noise sources and common open space. A policy has been included in the Element to encourage site designs for multi-family and mixed-use projects that promote the inclusion of common recreational or open space areas that are protected from noise.

Mixed-Use Developments that Combine Residential and Non-Residential Uses

The City General Plan and County Area Plan Land Use Maps developed through the OVOV planning effort shows several areas that can be developed with mixed uses. In addition, the City of Santa Clarita Unified Development Code allows mixed uses in certain zone districts, with discretionary approval of a development plan. The commercial/residential interface that can occur in mixed-use developments presents special challenges in terms of noise mitigation. The primary concern is that some commercial uses may operate through the evening hours and into the nighttime hours. Clubs, theaters, late-night restaurants, and banquet facilities are some examples of commercial uses that could locate in a mixed-use area and generate noise into nighttime hours. Another characteristic of commercial areas is that the tenants in a building often change over time. For example, a bookstore that did not operate at night could be replaced by a popular restaurant where operations could extend through the evening and into nighttime hours. Because of changes in use, the noise levels that are reviewed when a development plan is approved may change over time. For these reasons, it is difficult to properly soundproof residences that are constructed in a mixed-use development.

It would be desirable to take some additional action in mixed-use developments so that residents would view the noise environment as favorable. Putting time limits on the commercial uses might be viable in some cases, but it may also deter some commercial uses from locating in or near a mixed-use development. The State requires that buildings be designed to meet a 45 CNEL indoor noise standard for multi-family residences. It would not be possible to set an indoor noise standard more restrictive than the State standard, because the State law has precedence.

Buyer and renter notification is often the only recourse in trying to improve the noise acceptability for residents in mixed-use projects. The notification should inform the potential residents that commercial uses are located nearby, that their hours of operation may change from time to time, and that the use within the commercial area, along with the noise generation potential, may also change over time. A policy has been included in this Element to encourage proper notification of residents in mixed-use developments of potential noise levels.

Agua Dulce Airport

The Agua Dulce Airport is located in the northeast quadrant of the Santa Clarita Valley, in a rural area under the jurisdiction of the County of Los Angeles. The airport is privately owned but is open to the public. The airport has a single 4,600 foot-long runway and serves general aviation aircraft only. There are many noise restrictions in place for flight operations. No night operations are allowed at the airport. Aircraft are not allowed to fly within 1,000 feet of the Agua Dulce Elementary School, which is located one mile southwest of the airport. If aircraft depart to the north on Runway 4, they are to avoid flying over the homes 2,000 feet northeast of the end of the runway. Finally, touch-and-go practices are not allowed at the airport. A 65 CNEL noise contour has been generated for the airport by the County of Los Angeles and is included in the Technical Appendix. The noise contour barely extends past the ends of the runway and does not impact any residences. Therefore, no significant noise effects from airport operations were identified in the Noise Study.

Six Flags Magic Mountain Theme Park

Six Flags Magic Mountain is an amusement park located in the western quadrant of the Santa Clarita Valley. The park operates a large number of thrill rides including a number of roller coasters, has live entertainment, and periodically puts on firework displays. The fireworks displays occur predominantly during the summer months and at Thanksgiving and Christmas. With the exception of the display on July 4th, which typically lasts 15 minutes, the displays last between one and two minutes. All displays occur

before 10:00 p.m. Fireworks are an impulsive noise source, which means, under Section 12.08.190 of the County's Noise Ordinance, that it is of short duration, usually less than one second and of high intensity, with an abrupt onset and rapid decay.

The noise levels and hours of operation around the park vary considerably depending on the time of day, the day of the week, the presence of holidays, and the season of the year. The noise levels generated by park activities can be heard for a considerable distance around the park at certain times. People buying or renting homes in the area may be surprised later when they can hear park activities. A buyer/renter notification program may be appropriate for new developments that locate in the area, and a policy has been included in the Element to encourage proper notification, where appropriate.

Special Events

Special events, such as outdoor concerts, may be held in the planning area on an irregular or regular basis. The noise levels as they impact surrounding parcels would be limited by the Los Angeles County Noise Ordinance and the Santa Clarita Noise Ordinance. The noise ordinances apply to any events that are held on private property. The City of Santa Clarita Noise Ordinance consists of Chapter 11.44 of Municipal Code. The limits contained in the ordinance would apply to any special event, with only "lawfully conducted parades" and "emergency work" exempted from the Ordinance. The Los Angeles County Noise Ordinance is contained in Chapter 12.08 of the County Code. Similar to the City of Santa Clarita Noise Ordinance, the Los Angeles County Ordinance contains specific noise limits that cannot be exceeded at the property boundary. The limits vary depending on the time of day and land uses involved. Finally, it should be noted that the noise ordinances are contained in the City or County codes, and are not part of the Noise Element of the Area Plan. Control of noise sources on private property is usually regulated through the imposition of a city or county regulation, and is not typically part of an Area Plan.

Emergency Vehicles

Noise generated by emergency vehicles is not under the control of the City or the County. Both the City and County noise ordinances exempt emergency operations from noise regulation. The State has preempted local jurisdictions from controlling noise generated by emergency equipment. The use of sirens on police vehicles, ambulances, and fire trucks cannot be controlled by the City or County. Similarly, emergency flights of helicopters and airplanes cannot be controlled by the City or County. Therefore, noise from these sources is not subject to policies in the Noise Element. However, the location of heliports and helipads is subject to zoning requirements for discretionary review, and to environmental review pursuant to the California Environmental Quality Act.

VII. PLANNING STRATEGIES TO MINIMIZE NOISE IMPACTS

The information on existing and future projected noise levels described in the previous sections of this Element has been used as a guideline for the development of policies to ensure that land uses are compatible with the noise environment. This information will also provide baseline levels and noise source identification for enforcement of local noise regulations.

The most basic planning strategy to minimize adverse impacts on new land uses due to noise is to avoid designating sensitive land uses in areas that are subject to high levels of noise. Uses such as schools, hospitals, child care, senior care, congregate care, churches, and all types of residential use should be located outside of any area anticipated to exceed acceptable noise levels as defined by the Noise and Land Use Compatibility Guidelines, or should be protected from noise through sound attenuation measures such as site and architectural design and sound walls. The State of California has adopted guidelines for acceptable noise levels in various land use categories (California Office of Planning and Research, General Plan Guidelines 2003, Appendix C). The City of Santa Clarita and the County of Los Angeles have adopted these guidelines in a modified form as a basis for planning decisions based on noise considerations. The modified guidelines are shown in Figure N-8. Modifications were made to eliminate overlap between categories in the table, in order to make the guidelines easier for applicants and decision makers to interpret and apply to planning decisions.

As described earlier in this Element, most residential uses throughout the planning area have generally been designed with adequate setbacks from noise sources such as arterial roadways, or have been protected by sound walls. This measure has already been implemented throughout the planning area and will continue to be applied in the future, based on the policies in the Element. However, future residential development next to Interstate 5 may require increased

wall height for sound attenuation, based on projected traffic volumes. Excessive wall height needed for noise control is subject to both engineering and aesthetic constraints. Sound wall heights greater than 16 feet are generally considered to be infeasible, and the appearance of walls this high may not be acceptable in rural residential areas. Therefore, a policy has been included in the Element that prohibits residential buildings within 150 feet of the Interstate 5 centerline. The policy references the centerline because the right-of-way width for I-5 varies throughout the planning area. It should be noted that the recommendation to require a separation between freeways and residential uses for purposes of noise attenuation is in accordance with other adopted State guidelines. The California Air Resources Board (CARB) has identified airborne pollutants generated from diesel exhaust as a potential health risk to residents next to freeways, and has also adopted recommended spacing criteria for residential uses adjacent to freeways.

For uses that are not classified as noise sensitive but which may be subject to potentially significant noise impacts, site planning and design standards can be used to reduce noise impacts. Through the design and environmental review processes, mitigation measures may be applied such as buffer zones to increase separation between uses; earthen berms, walls, and other noise attenuation devices; site planning and building orientation to shield outdoor spaces; orienting windows away from noise sources; and use of acoustical building materials and double-paned windows. Policies encouraging these measures have also been included in the Element.

For uses that are subject to single event noise levels, such as noise generated by trains, mixed uses, or entertainment uses, it is recommended that adequate disclosure of these noise sources be provided to potential renters and homebuyers. A policy has been included in the Element with suggested disclosure language.

VIII. SUMMARY OF NOISE PLANNING ISSUES

Based on the existing conditions and projected growth as described in the background sections of the Noise Element, the major noise issues for the Santa Clarita Valley are summarized below. Policies and objectives in this Element have been developed to address these issues.

1. Existing and projected noise generated by traffic on freeways, highways, and arterial streets were evaluated, and noise levels should be considered in land use planning for adjacent areas.

2. Existing and projected noise generated by Metrolink and freight rail were evaluated, and noise levels should be considered in land use planning for areas adjacent to the railroad.

3. Residential neighborhoods and other noise sensitive land uses should be protected from excessive noise.

4. Potential noise impacts from any future high-speed rail project should be evaluated and mitigated through the appropriate environmental review process.

5. Proposed new development projects should be reviewed to ensure that noise impacts are mitigated to acceptable levels.

6. Coordination with other agencies should be ongoing to ensure that noise impacts from freeway projects and other public improvements are mitigated.

7. Compatibility of land uses in mixed-use developments with respect to noise should be considered in future land use decisions.

8. Adequate disclosure should be required to residents who may be affected by possible noise sources that cannot be abated.

9. Consistency between the City of Santa Clarita and the County of Los Angeles with respect to the Noise and Land Use Compatibility Guidelines contained in Figure N-8 is intended to maintain a safe and healthy noise environment for all Santa Clarita Valley residents.

IX. GOALS, OBJECTIVES, AND POLICIES

The goals, objectives, and policies which apply to noise are:

Goal N-1

A healthy and safe noise environment for Santa Clarita Valley residents, employees, and visitors.

Objective N-1.1

Protect the health and safety of the residents of the Santa Clarita Valley by the elimination, mitigation, and prevention of significant existing and future noise levels.

- **Policy N-1.1.1:** Use the Noise and Land Use Compatibility Guidelines contained in Figure N-8, which are consistent with State guidelines, as a policy basis for decisions on land use and development proposals related to noise.

- **Policy N-1.1.2:** Continue to implement the adopted Noise Ordinance and other applicable code provisions, consistent with state and federal standards, which establish noise impact thresholds for noise abatement and attenuation, in order to reduce potential health hazards associated with high noise levels.

- **Policy N-1.1.3:** Include consideration of potential noise impacts in land use planning and development review decisions.

- **Policy N-1.1.4:** Control noise sources adjacent to residential, recreational, and community facilities, and those land uses classified as noise sensitive.

- **Policy N-1.1.5:** Monitor and update data and information regarding current and projected noise levels in the planning area.

- **Policy N-1.1.6:** Provide development review comments on projects proposed by other agencies and special districts that may generate noise impacts affecting land uses within the Santa Clarita Valley, including any freeway and high-speed rail projects.

Goal N-2

Protect residents and sensitive receptors from traffic-generated noise.

Objective N-2.1

Prevent and mitigate adverse effects of noise generated from traffic on arterial streets and highways through implementing noise reduction standards and programs.

- **Policy N-2.1.1:** Encourage owners of existing noise-sensitive uses, and require owners of proposed noise sensitive land uses, to construct sound barriers to protect users from significant noise levels, where feasible and appropriate.

- **Policy N-2.1.2:** Encourage the use of noise absorbing barriers, where appropriate.

- **Policy N-2.1.3:** Where appropriate, coordinate with the California Department of Transportation (Caltrans) to ensure that sound walls or other noise barriers are constructed along Interstate 5 and State Route 14 in the immediate vicinity of residential and other noise sensitive developments, where setbacks and other sound alleviation devices do not exist.

- **Policy N-2.1.4:** Reduce significant noise levels related to through-traffic in residential areas by promoting subdivision circulation designs to contain a hierarchy of streets thatefficiently direct traffic to highways.

- **Policy N-2.1.5:** Encourage employers to develop van pool and other travel demand management programs to reduce vehicle trip-generated noise in the planning area.

- **Policy N-2.1.6:** Work with City of Santa Clarita Transit to improve and expand current public transit services and routes to reduce vehicle trips and resulting noise levels.

- **Policy N-2.1.7:** Require vehicle owners to properly maintain their equipment to avoid generating excessive noise levels.

Goal N-3

Protect residential neighborhoods from excessive noise.

Objective N-3.1

Prevent and mitigate significant noise levels in residential neighborhoods.

- **Policy N-3.1.1:** Require that developers of new single-family and multi-family residential neighborhoods in areas where the ambient noise levels exceed 60 CNEL provide mitigation measures for the new residences to reduce interior noise levels to 45 CNEL, based on future traffic and railroad noise levels.

- **Policy N-3.1.2:** Require that developers of new single-family and multi-family residential neighborhoods in areas where the projected noise levels exceed 65 CNEL provide mitigation measures (which may include noise barriers, setbacks, and site design) for new residences to reduce outdoor noise levels to 65 CNEL, based on future traffic conditions. This requirement would apply to rear yard areas for single-family developments, and to private open space and common recreational and open space areas for multi-family developments.

- **Policy N-3.1.3:** Through enforcement of the applicable Noise Ordinance, protect residential neighborhoods from noise generated by machinery or activities that produce significant discernable noise exceeding recommended levels for residential uses.

- **Policy N-3.1.4:** Require that those responsible for construction activities develop techniques to mitigate or minimize the noise impacts on residences, and adopt standards that regulate noise from construction activities that occur in or near residential neighborhoods.

- **Policy N-3.1.5:** Require that developers of private schools, childcare centers, senior housing, and other noise sensitive uses in areas where the ambient noise level exceeds 65 dBA (day), provide mitigation measures for these uses to reduce interior noise to acceptable levels.

- **Policy N-3.1.6:** Ensure that new residential buildings shall not be located within 150 feet of the centerline for Interstate 5.

- **Policy N-3.1.7:** Ensure that design of parks, recreational facilities, and schools minimize noise impacts to residential neighborhoods.

- **Policy N-3.1.8:** As a condition of issuing permits for special events, require event promoters to mitigate noise impacts to adjacent sensitive uses through limiting hours of operation and other means as appropriate, which may include notification to affected residents.

- **Policy N-3.1.9:** Implement a buyer and renter notification program for new residential developments where appropriate, to educate and inform potential buyers and renters of the sources of noise in the area and/or new sources of noise that may occur in the future. As determined by the reviewing authority, notification may be appropriate in the following areas:

  a. Within one mile of Six Flags Magic Mountain theme park, potential buyers and renters should receive notice that noise may occasionally be generated from this facility and that the frequency and loudness of noise events may change over time.

  b. Within 1,000 feet of the railroad, potential buyers and renters should receive notice that noise may occasionally be generated from this facility and that the frequency and loudness of noise events may change over time.

  c. Within 200 feet of commercial uses in mixed-use developments, potential buyers and renters should receive notice that the commercial uses within the mixed-use developments may generate noise in excess of levels typically found in residential areas, that the commercial uses may change over time, and the associated noise levels and frequency of noise events may change along with the use.

  d. Within 1,000 feet of the Saugus Speedway, in the event speedway operations are resumed in the future.

Goal N-4

Protection of sensitive uses from commercial and industrial noise generators.

Objective N-4.1

Prevent, mitigate, and minimize noise spillover from commercial and industrial uses into adjacent residential neighborhoods and other noise sensitive uses.

- **Policy N-4.1.1:** Implement and enforce the applicable Noise Ordinance to control noise from commercial and industrial sources that may adversely impact adjacent residential neighborhoods and other sensitive uses.

- **Policy N-4.1.2:** Require appropriate noise buffering between commercial or industrial uses and residential neighborhoods and other sensitive uses.

- **Policy N-4.1.3:** Adopt and enforce standards for the control of noise from commercial and entertainment establishments when adjacent to residential neighborhoods and other sensitive uses.

X. IMPLEMENTATION OF THE NOISE ELEMENT

The County of Los Angeles will implement the goals, objectives and policies of the Noise Element of the Santa Clarita Valley Area Plan through the following actions:

- **Action 1:** On the Land Use Map, designate areas that are subject to noise for appropriate land uses, in order to reduce exposure of persons and property to hazardous conditions.

- **Action 2:** Implement the noise provisions of the County Code.

- **Action 3:** As part of the review process for new discretionary development applications, require consistency with the goals and policies of the Noise Element, including the guidelines for land use and noise compatibility, through requiring detailed noise analysis and mitigation of interior and exterior noise levels for residential and other sensitive uses, where appropriate.

- **Action 4:** Review and provide input on projects undertaken by other agencies, including Caltrans and high speed rail projects, which may affect the noise environment to ensure that acceptable noise levels are maintained to protect residents.

- **Action 5:** In the design of County facilities that have the potential to generate noise, such as parks and recreation facilities, ensure that noise impacts are mitigated to protect adjacent sensitive land uses.

- **Action 6:** During construction within public right-of-way for road widening or other improvements, control noise impacts on adjacent sensitive uses through hours of operation, noise reduction requirements on equipment, and other appropriate measures.

- **Action 7:** Through code enforcement, monitor noise conditions throughout the unincorporated portions of the Santa Clarita Valley, and enforce noise regulations, as needed, to protect public safety and welfare.

- **Action 8:** Ensure compliance with building standards for noise attenuation, such as insulation and window types, through plan review and inspection procedures on all new construction, pursuant to adopted codes and ordinances.

- **Action 9:** Review any proposed Area Plan Amendments to ensure compliance with applicable goals and policies of the Noise Element; coordinate this review with the City of Santa Clarita, as appropriate.

- **Action 10:** Monitor effectiveness of the Noise Element in achieving the goals of protecting property, public health, and safety; initiate amendments thereto as needed to meet changing conditions, needs, and policies, coordinating such amendments with the City of Santa Clarita, as appropriate.

- **Action 11:** Work with owners of commercial and industrial uses to encourage businesses to limit employee exposure to loud noise, and to reduce noise spillover onto adjacent businesses and properties.

- **Action 12:** Require the provision of disclosures to potential renters and buyers of residences in areas subject to noise events, where appropriate.

- **Action 13:** Control noise from special events through conditions of approval and enforcement.

- **Action 14:** Where feasible, assist or cooperate in the building of sound walls to mitigate noise impacts on sensitive land uses.

XI. NOISE TECHNICAL APPENDIX

Table N-A1: Proposed Traffic Noise Contours for Arterial Streets

ROAD	End 1	End 2	ADT	SPEED	CNEL 50′ from CL	Distance to CNEL Contour from CL(ft.)		
						70′	65′	60′
16TH STREET	Newhall Avenue	Orchard Village Road	9,000	40	62.3	20	36	66
AGUA DULCE CANYON ROAD	Escondido Canyon Road	Sierra Highway	8,000	45	65.0	28	50	87
AGUA DULCE CANYON ROAD	Davenport Road	Escondido Canyon Road	13,000	55	69.8	49	84	142
AGUA DULCE CANYON ROAD	Soledad Canyon Road	Davenport Road	14,000	55	70.2	51	86	147
AVE SCOTT	Avenue Tibbitts	Avenue Rockefeller	25,000	35	66.7	34	62	112
AVE SCOTT	Avenue Tibbitts	Avenue Stanford	37,000	45	71.6	60	105	183
AVE SCOTT	Avenue Stanford	Rye Canyon Road	18,000	45	64.4	26	47	83
AVE SCOTT	Avenue Rockefeller	McBean Parkway	25,000	45	67.1	35	64	116
AVE TIBBITTS	Avenue Scott	Newhall Ranch Road	34,000	35	68.1	40	72	131
AVE TIBBITTS	Avenue Scott	Avenue Hopkins	32,000	35	67.8	39	70	127
AVE TIBBITTS	Avenue Hopkins	Magic Mountain Parkway	32,000	55*	73.8	74	127	215
BOUQUET CANYON ROAD	Vasquez Canyon Road	Angeles National Forest	6,000	50	62.2	20	36	64
BOUQUET CANYON ROAD	David Way/Copper Hill Drive	Vasquez Canyon Road	19,000	50	70.1	51	87	151
BOUQUET CANYON ROAD	Soledad Canyon	Newhall Ranch Road	77,000	45	74.8	85	150	262
BOUQUET CANYON ROAD	David Way/Copper Hill Drive	Plum Canyon	23,000	45	69.5	47	83	145
BOUQUET CANYON ROAD	Urbandale Avenue	Plum Canyon	32,000	45	69.5	47	83	145
BOUQUET CANYON ROAD	Haskell Canyon Road	Urbandale Avenue	32,000	50	71.0	56	98	171
BOUQUET CANYON ROAD	Santa Clarita Parkway	Haskell Canyon Road	49,000	50	72.8	69	120	210
BOUQUET CANYON ROAD	Seco Canyon Road	Santa Clarita Parkway	54,000	45	74.7	83	143	247
BOUQUET CANYON ROAD	Newhall Ranch Road	Espuella Avenue	53,000	45	76.0	95	161	274
BOUQUET CANYON ROAD	Espuella Avenue	Seco Canyon Road	53,000	45	73.2	72	126	220
BOUQUET CANYON ROAD	Magic Mountain Park-way	Cinema Drive	54,000	45	73.2	72	126	220
BOUQUET CANYON ROAD	Cinema Drive	Soledad Canyon Road	54,000	45	73.2	72	126	220
CALGROVE BOULEVARD	Wiley Canyon	Interstate 5	19,000	45	71.5	59	100	169
CALGROVE BOULEVARD	The Old Road	Interstate 5	18,000	45	71.3	57	97	165
CASTAIC ROAD	Parker Road	Lake Hughes Road	24,000	50	71.1	57	98	168
CHIQUITO CANYON ROAD	State Route 126	North of SR 126	25,000	45	69.9	49	87	151
COMMERCE CENTER DRIVE*	State Route 126	Magic Mountain Pkwy	36,000	55*	74.2	78	133	226
COMMERCE CENTER DRIVE	State Route 126	Hasley Canyon Road	43,000	55	75.0	85	145	247
COPPER HILL DRIVE	Haskell Canyon Road	David Way/Bouquet Canyon Road	17,000	40	68.2	41	72	126
COPPER HILL DRIVE	Seco Canyon Road	Haskell Canyon Road	30,000	45	73.5	72	123	209
COPPER HILL DRIVE	Decoro Drive	McBean Parkway	50,000	50	72.5	66	116	203
COPPER HILL DRIVE	San Francisquito Canyon	Seco Canyon Road	41,000	50	68.9	44	80	144
COPPER HILL DRIVE	McBean Parkway	San Francisquito Canyon	42,000	50	73.5	73	126	217
COPPER HILL DRIVE	Decoro Drive	Smyth Drive	52,000	50	76.1	96	162	276

ROAD	End 1	End 2	ADT	SPEED	CNEL 50′ from CL	Distance to CNEL Contour from CL(ft.)		
						70′	65′	60′
COPPER HILL DRIVE	Newhall Ranch Road	Smyth Drive	54,000	50	76.0	95	161	274
DAVENPORT ROAD	Tick Canyon Road	Aqua Dulce Cyn Road	3,000	45	60.7	18	31	54
DAVENPORT ROAD	Sierra Highway	Tick Canyon Road	6,000	35	60.5	16	29	53
DECORO DRIVE	Copper Hill Drive	Dickason Drive	8,000	45	61.8	19	34	62
DECORO DRIVE	Dickason Drive	McBean Parkway	14,000	45	70.2	51	86	147
DECORO DRIVE	McBean Parkway	Grandview	19,000	45	68.7	43	76	133
DECORO DRIVE	Grandview	Bidwell Lane	17,000	45	68.2	41	72	126
DECORO DRIVE	Bidwell Lane	Seco Canyon Road	11,000	45	69.1	46	77	132
DICKASON DRIVE	Newhall Ranch Road	Decoro Drive	21,000	35	70.6	53	92	158
DOCKWEILER DRIVE	Valle de Oro	Lyons Ave *	18,000	35*	61.9	17	33	64
DOCKWEILER DRIVE	Sierra Highway	Valle de Oro	24,000	35	66.6	33	60	109
ESCONDIDO CANYON ROAD	Aqua Dulce Cyn Road	State Route 14	5,000	45	62.9	23	40	69
GOLDEN VALLEY ROAD	Sierra Highway	Via Princessa (west)	51,000	50	75.8	92	157	267
GOLDEN VALLEY ROAD	Sierra Highway	SR-14	36,000	50	72.9	69	118	204
GOLDEN VALLEY ROAD	SR-14	Via Princessa (east)	15,000	50	70.5	53	89	152
GOLDEN VALLEY ROAD*	Soledad Canyon Road	Newhall Ranch Road	44,000	50	73.8	75	130	224
GOLDEN VALLEY ROAD	Via Princessa (east)	Center Pointe Pkwy	39,000	50	73.3	71	123	212
GOLDEN VALLEY ROAD	Newhall Ranch Road	Plum Canyon Road	29,000	50	73.3	71	123	212
GOLDEN VALLEY ROAD	Center Pointe Pkwy	Soledad Canyon Road	32,000	50	73.8	74	127	215
HASKELL CANYON ROAD	Bouquet Canyon Road	Copper Hill Drive	13,000	45	67.1	36	63	110
HASLEY CANYON ROAD	Del Valle Road	Western Terminus	13,000	40	65.6	30	53	95
HASLEY CANYON ROAD	Interstate 5	Commerce Center Drive	38,000	40	70.2	51	91	162
HASLEY CANYON ROAD	Commerce Center Drive	Del Valle Road	14,000	50	68.8	44	76	130
HENRY MAYO DRIVE	The Old Road	SR 126 Off Ramp	9,000	45	65.5	30	53	92
HENRY MAYO DRIVE	SR 126 Off Ramp	Commerce Center Drive	16,000	45	68.0	40	70	122
HILLCREST PARKWAY	The Old Road	Sloan Canyon Road	17,000	45	68.2	41	72	126
JAKES WAY	Sierra Highway	Lost Canyon	12,000	40	65.2	29	51	91
CANYON PARK BL	Jakes Way	Lost Canyon	12,000	25	60.1	14	27	51
LAKE HUGHES ROAD	Ridge Route Road	Angeles National Forest	7,000	50	65.8	32	55	94
LAKE HUGHES ROAD	Castaic Road	Ridge Route Road	37,000	45	71.6	60	105	183
LAKE HUGHES ROAD	The Old Road	Castaic Road	37,000	35	68.4	42	75	137
LONG CANYON ROAD*	State Route 126	Valencia Boulevard	32,000	45	71.0	56	98	171
LOST CANYON ROAD	Sand Canyon Road	East of Sand Canyon Rd	16,000	45	68.0	40	70	122
LOST CANYON ROAD*	SR 14 Undercrossing	Jakes Way	15,000	45	67.7	39	68	118
LOST CANYON ROAD	Jakes Way	Canyon Park Blvd	16,000	45	68.0	40	70	122
LOST CANYON ROAD	Golden Valley Road	Canyon Park Blvd	21,000	45	70.6	53	92	158
LOST CANYON ROAD*	Sand Canyon Road	SR 14 Undercrossing	12,000	40*	65.2	29	51	91
LYONS AVENUE	Newhall Avenue	Valley Street	52,000	40	73.1	71	124	216
LYONS AVENUE	Interstate 5	Wiley Canyon Road	53,000	40	74.5	82	141	243
LYONS AVENUE	Wiley Canyon	Everett Drive	44,000	40	73.8	75	130	224
LYONS AVENUE	Newhall Avenue	Railroad Avenue	24,000	40	73.5	72	123	209
MAGIC MOUNTAIN PARKWAY	The Old Road	Magic Mountain Park	85,000	50	78.0	117	199	338
MAGIC MOUNTAIN PARKWAY*	Magic Mountain Park	Commerce Center Dr	53,000	50	75.1	87	151	260

ROAD	End 1	End 2	ADT	SPEED	CNEL 50′ from CL	Distance to CNEL Contour from CL(ft.)		
						70′	65′	60′
MAGIC MOUNTAIN PARKWAY	Bouquet Canyon Road	Valencia Blvd	54,000	50	74.5	82	141	243
MAGIC MOUNTAIN PARKWAY	Tourney Road	Interstate 5	66,000	50	76.5	101	175	301
MAGIC MOUNTAIN PKWY	Old Road	Interstate 5	83,000	50	75.1	89	155	272
MAGIC MOUNTAIN PARKWAY	Tourney Road	Avignon Drive	57,000	50	73.5	74	129	226
MAGIC MOUNTAIN PARKWAY	Avignon Drive	McBean Parkway	59,000	50	75.0	87	149	258
MAGIC MOUNTAIN PARKWAY	McBean Parkway	Valencia Boulevard	54,000	45	71.7	61	109	193
MAGIC MOUNTAIN PARKWAY*	Bouquet Canyon Road	Via Princessa	46,000	45	71.5	59	106	188
MAGIC MOUNTAIN PARKWAY*	Commerce Center Dr	Long Canyon Road	34,000	45	71.0	56	99	176
MCBEAN PARKWAY	Copper Hill Drive	Sunset Hills Drive	27,000	50	68.7	43	77	137
MCBEAN PARKWAY	Sunset Hills Drive	Decoro Drive	35,000	50	69.9	49	88	156
MCBEAN PARKWAY	Newhall Ranch Road	Decoro Drive	48,000	50	71.2	58	102	182
MCBEAN PARKWAY	Avenue Scott	Newhall Ranch Road	58,000	45	73.6	74	130	228
MCBEAN PARKWAY	Rockwell Canyon Road	Interstate 5 Ramp	53,000	45	73.2	71	125	218
MCBEAN PARKWAY	Magic Mountain Park-way	Creekside Road	72,000	45	74.5	83	145	253
MCBEAN PARKWAY	Creekside Road	Avenue Scott	77,000	45	74.8	85	150	262
MCBEAN PARKWAY	Valencia Blvd	Magic Mountain Parkway	63,000	45	73.9	77	136	237
MCBEAN PARKWAY	Del Monte Drive	Valencia Blvd	54,000	45	73.2	72	126	220
MCBEAN PARKWAY	Orchard Village Road	Del Monte Drive	43,000	45	72.3	64	113	197
MCBEAN PARKWAY	Rockwell Canyon Road	Orchard Village Road	44,000	45	72.4	65	114	199
NEWHALL AVENUE	Railroad Avenue	Lyons Avenue	27,000	35	70.2	51	90	157
NEWHALL AVENUE	Sierra Highway	Eastern Terminus	50,000	40	72.9	69	121	212
NEWHALL AVENUE	Sierra Highway	Valle de Oro	40,000	40	71.9	62	109	190
NEWHALL AVENUE	Valle de Oro	Railroad Avenue	33,000	40	72.5	66	114	196
NEWHALL RANCH ROAD	Avenue Tibbetts	Rye Canyon Road	49,000	50	74.2	79	137	236
NEWHALL RANCH ROAD	Bouquet Canyon Road	Santa Clarita Parkway	46,000	50	74.0	77	133	229
NEWHALL RANCH ROAD*	Golden Valley Road	Santa Clarita Parkway	49,000	50	72.8	69	120	210
NEWHALL RANCH ROAD	Rye Canyon Road	Vanderbilt Way	72,000	50	74.5	83	145	253
NEWHALL RANCH ROAD	Bouquet Canyon Road	Hillsborough Pkwy	69,000	50	74.2	80	141	246
NEWHALL RANCH ROAD	Hillsborough Pkwy	McBean Parkway	68,000	50	74.2	80	141	246
NEWHALL RANCH ROAD	Vanderbilt Way	Interstate 5	66,000	50	74.1	79	139	243
NEWHALL RANCH ROAD	McBean Parkway	Avenue Tibbetts	71,000	50	74.4	82	144	252
ORCHARD VILLAGE ROAD	Wiley Canyon Road	McBean Parkway	54,000	45	73.2	72	126	220
ORCHARD VILLAGE ROAD	Lyons Avenue	16th Street	34,000	50	72.7	67	115	199
ORCHARD VILLAGE ROAD	16th Street	Wiley Canyon Road	44,000	45	73.8	75	130	224
PARKER ROAD	Interstate 5	Castaic Road	10,000	45	65.9	32	55	97
PICO CANYON ROAD	The Old Road	Stevenson Ranch Pkwy	41,000	55	74.8	83	142	241
PICO CANYON ROAD	The Old Road	Interstate 5	44,000	55	75.1	86	147	249
PICO CANYON ROAD*	Stevenson Ranch Pkwy	Valencia Boulevard	29,000	55	73.3	71	121	206
PLACERITA CANYON ROAD	Sierra Highway	Sand Canyon Road	4,000	55	64.7	29	49	83
PLUM CANYON ROAD	Via Joyce	Skyline Ranch Rd	13,000	50	67.1	36	63	110
PLUM CANYON ROAD	Bouquet Canyon Road	Via Joyce	23,000	45	68.0	40	71	126
POTRERO CANYON RD*	Long Canyon Road	State Route 126	17,000	50	64.0	25	44	79

ROAD	End 1	End 2	ADT	SPEED	CNEL 50′ from CL	Distance to CNEL Contour from CL(ft.)		
						70′	65′	60′
RAILROAD AVENUE	13th Street	15th Street	34,000	45	70.0	50	89	158
RAILROAD AVENUE	Lyons Avenue	13th Street	36,000	45	71.5	59	103	181
RAILROAD AVENUE	15th Street	Drayton Street	40,000	50	73.4	72	124	214
RAILROAD AVENUE	Drayton Street	Magic Mountain Parkway	54,000	50	74.7	83	143	247
RAILROAD AVENUE	Newhall Avenue	Lyons Avenue	26,000	35	71.5	59	101	175
RIDGE ROUTE ROAD	Interstate 5	Castaic Road	35,000	50	72.8	68	117	201
RIDGE ROUTE ROAD	Castaic Road	Lake Hughes Road	8,000	50	66.4	34	58	100
RIDGE ROUTE ROAD	Lake Hughes Road	Templin Parkway	35,000	50	72.8	68	117	201
ROCKWELL CANYON ROAD	McBean Parkway	Valencia Blvd	23,000	45	71.0	55	96	165
RYE CANYON ROAD	Avenue Stanford	Avenue Scott	48,000	50	74.2	79	136	234
RYE CANYON ROAD	Newhall Ranch Road	Avenue Scott	49,000	45	72.8	69	120	210
RYE CANYON ROAD	The Old Road	Avenue Stanford	58,000	45	73.6	74	130	228
SAN FRANCISQUITO CANYON	N of Copper Hill Drive	Angeles National Forest	7,000	45	64.4	27	47	82
SAND CANYON ROAD	Lost Canyon Road	Placerita Canyon Road	14,000	45	67.4	37	65	114
SAND CANYON ROAD	State Route 14	Soledad Canyon Road	25,000	45	69.9	49	87	151
SAND CANYON ROAD	State Route 14	Lost Canyon Road	25,000	45	71.3	58	100	172
SAND CANYON ROAD	Soledad Canyon Road	Thompson Ranch Dr	14,000	45	68.8	44	76	130
SAND CANYON ROAD	Sierra Highway	Thompson Ranch Dr	8,000	45	65.0	28	50	87
SANTA CLARITA PARKWAY*	Newhall Ranch Road	Bouquet Canyon Road	36,000	50	71.7	61	106	186
SANTA CLARITA PARKWAY*	Sierra Highway	Via Princessa	39,000	50	71.8	61	107	188
SANTA CLARITA PARKWAY*	Via Princessa	Soledad Canyon Road	34,000	50	71.2	57	101	176
SANTA CLARITA PARKWAY*	Soledad Canyon Road	Newhall Ranch Road	32,000	50	70.7	54	95	166
SECO CANYON ROAD	Copper Hill Drive	Tamarack Drive	10,000	35	62.8	21	38	69
SECO CANYON ROAD	Bouquet Canyon Road	Decoro Drive	34,000	45	69.7	48	86	153
SECO CANYON ROAD	Decoro Drive	Copper Hill Drive	19,000	45	65.5	29	53	97
SHADOW PINES BOULEVARD	Soledad Canyon Road	Grandifloras Road	12,000	45	66.7	35	61	106
SHADOW PINES BOULEVARD	Grandifloras Road	Davenport Road	9,000	40	64.0	25	44	79
SIERRA HIGHWAY	Sand Canyon Road	Davenport Road	16,000	45	68.0	40	70	122
SIERRA HIGHWAY	Dockweiler Drive	Placerita Canyon Road	40,000	50	71.9	62	109	190
SIERRA HIGHWAY	Newhall Avenue	Dockweiler Drive	23,000	50	69.5	47	83	145
SIERRA HIGHWAY	Davenport Road	Aqua Dulce Canyon Rd	2,000	45	58.9	14	25	44
SIERRA HIGHWAY	The Old Road	Gate King Entrance	30,000	50	70.7	54	95	166
SIERRA HIGHWAY	Gate King Entrance	Newhall Avenue	33,000	50	71.1	57	99	173
SIERRA HIGHWAY	Golden Valley Road	Via Princessa	30,000	50	72.1	63	109	187
SIERRA HIGHWAY	Placerita Canyon Road	Golden Valley Road	25,000	50	69.9	49	87	151
SIERRA HIGHWAY	Sand Canyon Road	College Access	17,000	45	68.2	41	72	126
SIERRA HIGHWAY	College Access	Skyline Ranch Rd	38,000	45	70.2	51	91	162
SIERRA HIGHWAY	Soledad Canyon Road	Skyline Ranch Rd	52,000	45	71.6	60	107	190
SIERRA HIGHWAY	Via Princessa	Soledad Canyon Road	36,000	45	71.5	59	103	181
SKYLINE RANCH RD*	Whites Canyon	Sierra Highway	18,000	45	68.1	40	71	124
SLOAN CANYON RD	Hasley Canyon Road	Hillcrest Parkway	3,000	40	59.2	14	26	46
SLOAN CANYON RD	Hillcrest Parkway	The Old Road	2,000	40	57.4	12	21	37

ROAD	End 1	End 2	ADT	SPEED	CNEL 50′ from CL	Distance to CNEL Contour from CL(ft.)		
						70′	65′	60′
SOLEDAD CANYON ROAD	Aqua Dulce Canyon Road	National Forest	3,000	50	71.0	56	95	161
SOLEDAD CANYON ROAD	Shadow Pines Blvd	State Route 14	17,000	50	71.0	56	95	161
SOLEDAD CANYON ROAD	State Route 14	Aqua Dulce Canyon Rd	10,000	50	67.3	37	65	111
SOLEDAD CANYON ROAD	Poppy Meadow Drive	Shadow Pines Blvd	10,000	50	62.8	21	38	69
SOLEDAD CANYON ROAD	Lost Canyon Access	Sand Canyon Road	22,000	45	67.8	39	69	123
SOLEDAD CANYON ROAD	SR 14 Off Ramp (South)	Sand Canyon Road	31,000	45	72.3	64	110	190
SOLEDAD CANYON ROAD	SR 14 Off Ramp (South)	Poppy Meadow Drive	18,000	50	71.3	58	100	172
SOLEDAD CANYON ROAD	Sierra Highway	Lost Canyon Access	34,000	50	71.2	57	101	176
SOLEDAD CANYON ROAD	Whites Canyon Road	Sierra Highway	44,000	40	72.4	65	114	199
SOLEDAD CANYON ROAD	Rainbow Glen Drive	Camp Plenty Road	43,000	50	72.3	64	113	197
SOLEDAD CANYON ROAD	Camp Plenty Road	Whites Canyon	38,000	40	71.7	61	106	186
SOLEDAD CANYON ROAD	Golden Valley Road	Rainbow Glen Drive	50,000	50	72.9	69	121	212
SOLEDAD CANYON ROAD	Golden Valley Road	Santa Clarita Parkway	38,000	50	71.7	61	106	186
SOLEDAD CANYON ROAD	Santa Clarita Pkwy	Bouquet Canyon Road	45,000	50	73.9	76	131	227
STEVENSON RANCH PKWY	The Old Road	Hemingway Avenue	33,000	50	72.5	66	114	196
STEVENSON RANCH PKWY	Hemingway Avenue	Poe Parkway	13,000	50	68.5	42	73	126
STEVENSON RANCH PKWY	The Old Road	East of the Old Road	11,000	50	67.8	39	68	116
THE OLD ROAD	Parker Road	Sloan Canyon Road	3,000	50	62.1	21	36	63
THE OLD ROAD	Henry Mayo Drive	State Route 126	21,000	45	69.1	45	80	139
THE OLD ROAD	Henry Mayo Drive	I-5 On Ramp	16,000	55	70.7	54	92	156
THE OLD ROAD	Rye Canyon Road	I-5 On Ramp	48,000	50	74.2	79	136	234
THE OLD ROAD	Magic Mountain Park-way	Rye Canyon Road	52,000	50	69.9	50	90	163
THE OLD ROAD	Valencia Blvd	Magic Mountain Parkway	30,000	50	73.5	72	123	209
THE OLD ROAD	Pico Canyon Road	Stevenson Ranch Pkwy	35,000	45	69.9	49	88	156
THE OLD ROAD	Calgrove Boulevard	Pico Canyon Road	13,000	45	67.1	36	63	110
THE OLD ROAD	Sierra Highway	Calgrove Boulevard	20,000	50	68.9	44	78	136
THE OLD ROAD	Sloan Canyon Road	Northern Terminus	20,000	40	67.4	37	66	118
THE OLD ROAD	Hasley Canyon Road	Hillcrest Parkway	23,000	50	71.0	55	96	165
THE OLD ROAD	Hillcrest Parkway	Parker Road	13,000	50	68.5	42	73	126
THE OLD ROAD	State Route 126	Hasley Canyon Road	18,000	45	67.0	37	66	118
THE OLD ROAD	Stevenson Ranch Pkwy	Valencia Boulevard	41,000	45	72.0	63	110	193
TOURNAMENT ROAD	Wiley Canyon Road	McBean Parkway	7,000	40	62.9	22	39	70
TOURNEY ROAD	Valencia Boulevard	Magic Mountain Parkway	14,000	40	64.2	25	46	83
VALENCIA BOULEVARD*	School Access	Poe Parkway	30,000	45	70.7	54	95	166
VALENCIA BOULEVARD*	Magic Mountain Pkwy(w)	Pico Canyon Road	51,000	55	75.8	92	157	267
VALENCIA BOULEVARD*	Pico Canyon Road	Poe Parkway	33,000	50	72.5	66	114	196
VALENCIA BOULEVARD	The Old Road	Westridge Parkway	61,000	45	73.8	76	134	234
VALENCIA BOULEVARD	Tourney Road	Rockwell Canyon Road	59,000	50	73.6	75	131	230

ROAD	End 1	End 2	ADT	SPEED	CNEL 50′ from CL	Distance to CNEL Contour from CL(ft.)		
						70′	65′	60′
VALENCIA BOULEVARD	Interstate 5	Tourney Road	68,000	50	74.2	80	141	246
VALENCIA BOULEVARD	The Old Road	Interstate 5	61,000	45	73.8	76	134	234
VALENCIA BOULEVARD	McBean Parkway	Citrus Street	53,000	45	73.2	71	125	218
VALENCIA BOULEVARD	Magic Mountain Pkwy (e)	Citrus Street	48,000	45	73.2	71	125	218
VALENCIA BOULEVARD	McBean Parkway	Rockwell Canyon Road	61,000	50	75.2	88	152	262
VALENCIA BOULEVARD	Magic Mountain Pkwy (e)	Creekside Road	60,000	45	73.7	76	132	232
VALENCIA BOULEVARD	Cinema Drive	Creekside Road	59,000	45	74.9	85	144	248
VALENCIA BOULEVARD	Bouquet Canyon	Cinema Drive	50,000	45	74.3	80	138	238
VALLEY STREET	Lyons Avenue	Southern Terminus	11,000	25	66.3	33	58	102
VASQUEZ CANYON ROAD	Sierra Highway	Cruzan Mesa	10,000	45	65.9	32	55	97
VASQUEZ CANYON ROAD	Cruzan Mesa	Bouquet Canyon Road	6,000	45	60.5	16	29	53
VIA PRINCESSA	State Route 14	Sierra Highway	41,000	45	68.9	44	80	144
VIA PRINCESSA	Lost Canyon Road	State Route 14	24,000	45	66.6	33	60	109
VIA PRINCESSA*	Santa Clarita Parkway	Magic Mountain Pkwy	52,000	50	71.6	60	107	190
VIA PRINCESSA*	Magic Mountain Pkwy	Oak Ridge Drive	37,000	40	73.0	69	117	199
VIA PRINCESSA*	Golden Valley Road	Santa Clarita Parkway	66,000	50	76.1	96	162	276
VIA PRINCESSA*	Golden Valley Road	Rainbow Glen Drive	27,000	45	68.7	43	77	137
VIA PRINCESSA	Whites Canyon Road	Rainbow Glen Drive	29,000	45	73.0	69	117	199
VIA PRINCESSA	Whites Canyon Road	Sierra Highway	52,000	50	74.5	82	141	243
VIA PRINCESSA	Lost Canyon Road	Golden Valley Road	3,000	40	57.5	11	21	37
WHITES CANYON ROAD	Nadel Street	Skyline Ranch Road	19,000	45	71.5	59	100	169
WHITES CANYON ROAD	Via Princessa	Soledad Canyon Road	48,000	50	74.2	79	136	234
WHITES CANYON ROAD	Soledad Canyon Road	Nadel Street	42,000	45	73.6	74	127	219
WILEY CANYON ROAD	Lyons Avenue	Tournament Road	34,000	45	69.7	48	86	153
WILEY CANYON ROAD	Wabuska Street	Lyons Avenue	20,000	35	65.8	30	55	100
WILEY CANYON ROAD	Calgrove Boulevard	Wabuska Street	19,000	40	67.2	36	64	115
WILEY CANYON ROAD	Tournament Road	Orchard Village Road	32,000	45	71.0	56	98	171
WILEY CANYON ROAD	Orchard Village Road	Oak Ridge Drive	42,000	40	70.5	53	95	168

*Future link

Table N-A2: Proposed Traffic Noise Contours for Freeways

Freeway Segment	ADT	FREEWAY	CNEL @ 50'	Distance to CNEL Contour from CL (ft.)		
				70'	65'	60'
I-5 n/o Lake Hughes	193,000	I-5	88.0	394	698	1237
I-5 s/o Lake Hughes	205,000	I-5	88.3	406	719	1275
I-5 s/o Parker	239,000	I-5	89.0	438	776	1375
I-5 s/o Hasley Cyn	245,000	I-5	89.1	444	786	1393
I-5 s/o SR-126	219,000	I-5	88.6	420	743	1317
I-5 s/o Rye Cyn	239,000	I-5	89.0	438	776	1375
I-5 s/o Magic Mtn	249,000	I-5	89.2	447	792	1404
I-5 s/o Valencia	259,000	I-5	89.3	456	808	1431
I-5 s/o McBean Pkwy	264,000	I-5	89.4	460	816	1445
I-5 s/o Lyons Ave	271,000	I-5	89.5	466	826	1464
I-5 s/o Calgrove	267,000	I-5	89.5	463	820	1453
SR-14 n/o Aqua Dulce	154,000	SR-14	85.5	259	441	749
SR-14 s/o Aqua Dulce	158,000	SR-14	85.6	262	446	757
SR-14 s/o Soledad Cyn	177,000	SR-14	86.1	277	470	798
SR-14 s/o Sand Cyn	185,000	SR-14	86.3	282	479	814
SR-14 s/o Via Princessa	193,000	SR-14	86.5	288	489	830
SR-14 s/o Sierra Hwy	217,000	SR-14	87.0	304	516	877
SR-14 s/o Golden Valley Rd	202,000	SR-14	86.7	294	499	848
SR-14 s/o Placerita Cyn	216,000	SR-14	87.0	303	515	875
SR-14 n/o I-5	231,000	SR-14	87.3	313	531	902

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix I

SIGNIFICANT ECOLOGICAL AREA DESIGNATIONS

TABLE OF CONTENTS

I. SIGNIFICANT ECOLOGICAL AREA STUDIES **248**
II. CRUZAN MESA VERNAL POOLS **250**
- General **250**
- Description **250**
- Vegetation **251**
- Wildlife **252**
- Wildlife Movement **252**
- Sensitive Biological Resources **252**
- Sensitive Plant Communities/Habitats **253**
- Sensitive Species **253**
- Ecological Transition Areas (ETAs) **253**

III. PIRU CREEK **253**
- General **253**
- Description **253**
- Vegetation **253**
- Wildlife **254**
- Wildlife Movement **255**
- Sensitive Biological Resources **255**
- Sensitive Plant Communities/Habitats **255**
- Sensitive Species **255**

IV. SANTA CLARA RIVER **255**
- General **255**
- Description **255**
- Vegetation **257**
- Wildlife **259**
- Wildlife Movement **260**
- Sensitive Biological Resources **260**
- Sensitive Plant Communities/Habitats **261**
- Sensitive Species **261**
- Ecological Transition Areas (ETAs) **261**

V. SANTA SUSANA MOUNTAINS/SIMI HILLS **261**
- General **261**
- Description **261**
- Vegetation **262**
- Wildlife **263**
- Wildlife Movement **264**
- Sensitive Biological Resources **264**
- Sensitive Plant Communities/Habitats **264**
- Sensitive Species **264**
- Ecological Transition Areas (ETAs) **264**

VI. VALLEY OAKS SAVANNAH **265**

LIST OF TABLES

TABLE A1-1: Los Angeles County SEA Update Study Selection Criteria **249**

Appendix I

I. SIGNIFICANT ECOLOGICAL AREA STUDIES

Preservation of Significant Ecological Areas (SEAs) has a long standing history in Los Angeles County. Thirty-three years ago, in 1976, sixty-two (62) areas of biological significance were identified in the Los Angeles County Significant Ecological Areas Study, commonly referred to as the England and Nelson Report, and adopted as background information in the 1976 General Plan. In 1980, 61 of these biologically significant areas were adopted as part of the Conservation/Open Space Element of the General Plan. These SEAs were islands of significant habitats within larger undeveloped areas, which was thought would provide sensitive plants and animals ample open space and ensure their continued existence. Since 1980 however, many of these areas were impacted by rapid development activity within and around the SEAs. Because the "island" habitats were isolated from each other by development within the intervening areas, the opportunity for species movement and genetic dissemination was dramatically reduced.

In January 2001, the County released the Los Angeles County SEA Update Study 2000. Conservation planning was the fundamental goal of this update, which was designed to accomplish the following: evaluate existing SEAs for changes in biotic conditions and consider additional areas for SEA status; delineate SEA boundaries based upon biotic evaluation; and propose guidelines for managing and conserving biological resources within SEAs.

The SEA Update Study 2000 was based on scientifically grounded concepts regarding the size and type of linkage systems necessary to sustain the biologically diverse plant and animal species that are found within the County. The SEA Map depicts each area that has been designated as ecologically significant because it meets one or more of the following criteria:

See chart on next page.

TABLE A1-1: Los Angeles County SEA Update Study Selection Criteria

Criterion	Intent / Rationale
A) The Habitat of Core Populations of Endangered or Threatened Plant or Animal Species	These areas are important in maintaining viable plant and/or animal populations for those species recognized by state and or federal resource agencies as being extremely low in numbers or having a very limited amount of suitable habitat available. The terms "endangered" and "threatened" have precise meanings defined in both state and federal law (see below). The identification of "core population"[1] will be determined by the United States Fish & Wildlife Service (USFWS) and the California Department of Fish & Game (CDFG). This criterion is not meant to constitute a recovery program for listed species but rather one element of a more comprehensive conservation effort for the long term sustainment of listed species within the county. At the local level, recovery programs of both the CDFG and the USFWS have measures in place which can impose severe penalties for the "take " of listed species or their habitat. Federally Endangered: "any species which is in danger of extinction throughout all or a significant portion of its range ..." Federally Threatened: "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." State Endangered: "... a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." State Threatened: "... a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter [California Code of Regulations, Title 14, Sec 670.5]. Any animal determined by the commission as rare on or before January 1, 1985 is a threatened species."
B) On a Regional Basis, Biotic Communities, Vegetative Associations, and Habitat of Plant and Animal Species that are either unique, or are restricted in distribution	The purpose of this criterion is to identify biotic resources that are uncommon on a regional basis. The geographical region considered could be as small as the southern California coastal plains, the Transverse mountain ranges, the Mojave Desert, the southern California coastline, etc.; or they could be as large as southern California, the Pacific coast, all of California, the western United States, or even larger. The point being that the community, association, or habitat is either unique or restricted in distribution in an area larger than the political boundaries of Los Angeles County (i.e., coastal sage scrub, native grasslands, or vernal pools). Resources that are limited in distribution in the region being considered, but common elsewhere, are also included under this category.
C) Within Los Angeles County, Biotic Communities, Vegetative Associations, and Habitat of Plant and Animal Species that are either unique, or are restricted in distribution	The purpose of this criterion is to identify biotic resources that are uncommon within the political boundaries of Los Angeles County, regardless of their availability elsewhere. The County has a high diversity of biological components. It and San Diego County are the only counties in the United States that possess coastal, montane, and desert subregions within their boundaries. It is a rich heritage that few local governments have an opportunity to preserve. Many biotic communities that were once common in Los Angeles County have been severely reduced due to urban and agricultural development. This is especially true south of the San Gabriel Mountains, and among the agricultural fields of the North County. Other biotic features have never been common.

[1] The term "core population" as used here is a general biological term referring to a known and/or a viable population. Other locations of endangered or threatened plant or animal species may also occur in Los Angeles County which are not within a SEA. It should also be noted that the concept of core populations is consistent with current thinking of the USFWS and the CDFG.

Criterion	Intent / Rationale
D) Habitat that at some point in the life cycle of a species or group of species, serves as Concentrated Breeding, Feeding, Resting, or Migrating Grounds, and is limited in availability either regionally or in Los Angeles County	Species or groups of species, at various points in their life cycles, tend to congregate in certain areas. These areas possess resources that are essential to the maintenance of specific wildlife species. This criterion is intended to identify those areas that are limited in distribution either regionally or in Los Angeles County, and not the primary habitat of common species or groups of species.
E) Biotic resources that are of scientific interest because they are either an extreme in physical/ geographical limitations, or represent unusual variation in a population or community	Often times scientists learn the most about a biological phenomenon by studying it at an extreme in its distribution. This frequently reveals the biological and ecological parameters under which it can survive. In addition, isolated populations and communities often are relicts of what was present in an area at some previous time, and may show genetic traits not found elsewhere in the species. These biological and ecological parameters may be useful in determining taxonomic relationships.
F) Areas that would provide for the preservation of relatively undisturbed examples of the original natural biotic communities In Los Angeles County	The intent of this criterion was to identify examples of the primary biotic resources in Los Angeles County. At least one example (e.g., native grassland, valley oak savannah) of each vegetation type will be selected from the various geographical regions in the County in order to preserve basic bio-geographic diversity.

[1] The term "core population" as used here is a general biological term referring to a known and/or a viable population. Other locations of endangered or threatened plant or animal species may also occur in Los Angeles County which are not within a SEA. It should also be noted that the concept of core populations is consistent with current thinking of the USFWS and the CDFG.

II. CRUZAN MESA VERNAL POOLS

General

The Cruzan Mesa Vernal Pools Significant Ecological Area (SEA) lies in the southeastern end of the Liebre Mountains, north of the Santa Clara River, and southeast of Bouquet Canyon. The SEA boundaries encompass the watershed and drainages of the Cruzan Mesa and Plum Canyon vernal pools, considered as a single ecosystem within the SEA. The SEA is located within in an unincorporated portion of Los Angeles County and lies entirely within the United States Geological Survey (USGS) California Mint Canyon Quadrangle.

Description

The Cruzan Mesa Vernal Pools SEA includes mesas, canyons and interior slopes, with Plum Canyon creek running east-west through the southern portion of the overall SEA. The extent of the SEA encompasses the watershed supporting both of these regionally unique vernal pools, including the immediate watershed surrounding both systems and the corridor in between. Plum Canyon forms the major drainage running east-west through the southern portion of the SEA, draining west toward Bouquet Canyon. Uplands within the SEA are comprised of slopes and canyons supporting coastal sage scrub or scrub-chaparral vegetation. The Cruzan Mesa vernal pool complex lies within an elevated, topographically enclosed basin atop an eroded foothill between Mint and Bouquet canyons. The Plum Canyon vernal pool, situated in a landslide depression on a hillside terrace, is smaller than the Cruzan Mesa pools, but possesses the same essential vernal pool characteristics as the larger system, and the two areas together form an ecologically functional unit.

The seasonally wet vernal pools and surrounding open coastal sage scrub and chaparral slopes support a wide variety of migrant and resident birds and other native sage scrub vertebrate species. The steep cliffs which surround Cruzan Mesa, especially along the southeast and north margins, provide protected sites for perching, roosting and nesting by a variety of birds of prey.

The SEA supports several regional biological values. These values include: sensitive plant species unique to seasonal pools on heavy clay soils, several of which are at the northernmost point in their overall ranges; seasonal surface water, providing breeding sites for sensitive amphibians, including western spadefoot and Riverside fairy shrimp; vernal pools, found nowhere else in Los Angeles County, and their coastal sage scrub watershed serving as a hydrological filter; seasonal ponds and surrounding mesic vegetation providing essential foraging and wintering sites for migrating birds otherwise uncommon in the southern Liebre Mountains; steep cliffs surrounding the mesa tops and their crevices and cavities providing roosting and nesting sites in the otherwise brush-covered hillsides. These pools are the also the only three or four such pools in this portion of

Southern California. The sensitive resources they support are unique locally and regionally, and biologists consider these to be among most sensitive habitat types in Southern California.

Vegetation

The SEA encompasses formations of coastal sage scrub, vernal pool and non-native grassland. The vernal pool margins support limited densities of native grasses, but these do not form separate communities and are included within the vernal pool floral matrix. Sensitive plant species occurring or potentially occurring within the SEA are discussed below in the Sensitive Biological Resources section.

Plant communities within the SEA were classified using standard methodology and terminology. The communities discussed correspond directly with those listed in Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California (1986 and 1992 update). Descriptions and general locations of the each plant community present within the SEA are given below.

Vernal pool sites occur in the SEA within the southern end of the Cruzan Mesa basin and on a landslide terrace on the northern slope of upper Plum Canyon, about one and one-half aerial miles southwest of the Cruzan Mesa pool system. True vernal pools, which are rare in Southern California and extremely rare in Los Angeles County, form seasonally in shallow, closed basins, usually where a lens of heavy clay soil holds surface water following rainfall events. Agency-listed sensitive plant species occurring within both of the SEA pool systems include California Orcutt grass and spreading navarretia, along with other vernal pool endemics such as hairgrass, woolly-marbles, waterwort, Mimulus latidens and water-starwort.

Coastal sage scrub occurs throughout the slopes and ridges of most of the SEA, in places intermixed with chaparral elements. To some extent, the mosaic of coastal sage and chaparral reflects the fire history of any given portion of the site, with scrub formations generally occurring on sites which have more recently burned. However, some slopes within upper Plum and Mint canyons, where no fires have occurred for over 30 years, still support "pure" coastal sage scrub, suggesting that the formation is a climax community on those sites.

Dominant species on most slopes within the SEA are California sagebrush, woolly blue-curls, chaparral yucca, black sage, Acton encelia, white sage, and chamise. A variety of less dominant associated species are also present including lance-leaved live-forever, common tarplant, California buckwheat, beavertail cactus, turkish rugging, and Peirson's morning-glory. Disced or cleared areas have regrown with a dense cover of oats and bromes, California poppy, fiddleneck, several species of lupines, popcorn flower, comb-bur and other disturbance-favored native annuals. Less-frequently disturbed portions of the upper watershed basin support dense stands of chamise – California scrub oak chaparral, with yerba santa abundant along dirt roads and other disturbed areas. In the lower portions of canyons and along Plum Canyon creek, where ground-water levels permit, giant rye grass, Mexican elderberry, acourtia, redberry, toyon, holly-leaved cherry, Fremont cottonwood, western sycamore, and arroyo willow occur.

Non-native grassland generally consists of invasive annual grasses which are primarily of Mediterranean origin, and which have become the dominant ground cover formation on disturbed sites throughout the western states. Common species within this "community," which is a ruderal formation and not a true habitat or community, include oats, bromes, foxtail chess, and other grasses, along with wild mustards, yellow star thistle, wire lettuce, sow thistle, milk thistle, and other disturbance-favored "weedy" taxa. Non-native ruderal formations occur over most of the Mesa around the vernal pools, where coastal sage scrub has been disturbed or removed, in small strips and patches throughout the SEA primarily along disturbed dirt road edges and where grading or other substrate disturbances have not regrown to native species.

Mainland cherry forest is not well described but is typically composed of tall stands of hollyleaf cherry on rocky, dry slopes. Within the SEA, this community is not well developed and inter-mingles with chaparral. It can be found in a single narrow patch on a slope in the southwest portion of the SEA.

Wildlife

Wildlife diversity and abundance within the SEA are moderate, commensurate with the relative homogeneity of the natural open space habitat types. A number of local wildlife species are more-or-less dependent upon coastal sage scrub or scrub-chaparral formations, while other species are strictly limited to seasonal pool habitats. The two vernal pool systems in the SEA, along with the coastal sage scrub-chaparral uplands surrounding and connecting them constitutes a single, integrated functional ecosystem for wildlife species, both within the SEA boundaries and as a part of the larger regional scrub-chaparral ecosystem.

Analysis of invertebrates on any particular site usually is limited by a lack of specific data, but the fact that the SEA contains only two primary natural habitat types insures that there is sufficient acreage to support healthy populations of whatever invertebrate species are present, probably several hundred terrestrial species. The vernal pools, when ponded, form aquatic habitats for a moderately diverse fauna of freshwater arthropods and other invertebrates, including native fairy shrimp, aquatic flies, diving beetles, water scavengers, ostracods, and snails. The only insect order presently known to have a vernal pool endemic within the SEA is Coleoptera, with one vernal pool ground beetle species thus far having been found.

Amphibians generally are relatively common in coastal sage scrub habitats with persistent surface hydrology during the breeding season, and the SEA supports abundant populations of Pacific chorus frog, western toad, and western spadefoot toad. At least two species of salamander also may be present within more mesic portions of the surrounding canyons and chaparral.

Reptile populations in the SEA would include numerous lizard species, including San Diego banded gecko, yucca night lizard, side-blotched lizard, western fence lizard, western skink, San Diego alligator lizard, coastal western whiptail, San Diego horned lizard, and silvery legless lizard. A robust snake fauna also would be expected within the SEA, including western blind snake, coachwhip ("red racer"), chaparral whipsnake, coastal patch-nosed snake, California rosy boa, San Diego gopher snake, California kingsnake, California mountain kingsnake, night snake, and southern Pacific rattlesnake.

Bird diversity within the SEA is related to habitat opportunities for year-round residents, seasonal residents, migrating raptors and song birds. Open coastal sage scrub hosts a suite of birds typical of such sites at lower elevations over most of the coastal slopes of Southern California. The most productive sites for resident coastal sage scrub and chaparral birds are around riparian and freshwater systems, which also attract large numbers of migrants during Spring and Fall. The vernal pools attract moderate numbers of migrating waders and waterfowl, and provide important winter foraging areas for resident and migratory birds of prey. Coastal sage and chaparral birds resident or breeding within the SEA include ashy rufous-crowned sparrow, Bell's sparrow, black-chinned sparrow, lark sparrow, California thrasher, spotted towhee, California towhee, phainopepla, northern mockingbird, lazuli bunting, and several species of hummingbird, with additional species (western meadowlark, California horned lark, and perhaps also savannah and grasshopper sparrows) nesting and foraging in the grassland and ruderal habitats surrounding the vernal pools. Birds of prey observed around the vernal pools include red-tailed hawk, northern harrier, white-tailed kite, prairie falcon, and golden eagle. Barn owl, great horned owl, and common raven all nest in the cliffs surrounding Cruzan Mesa.

Wildlife Movement

The vernal pools situated within this SEA serve as isolated, high resource quality habitat linkage sites for migratory waterfowl. The vernal pools teem with arthropod and amphibian activity, and so provide essential feeding grounds for long-distance migrants, as well as for resident species of reptiles, birds and mammals. The ponds do not lie within any identified terrestrial movement routes for wildlife, but may serve as important seasonal watering sites for species moving through and across the Plum Canyon divide between Mint and Bouquet canyons. The Plum Canyon stream channel undoubtedly serves as a movement pathway for more mobile species of terrestrial mammals, but it no longer links any larger habitat areas directly, due to land conversion in Mint and Bouquet Canyon.

Sensitive Biological Resources

Sensitive biological resources are habitats or individual species which have been accorded special recognition by federal, state, or local conservation agencies and organizations as endangered, threatened, rare, or otherwise of concern, principally due to the species' declining or limited distribution or population sizes, usually resulting from habitat loss. Watch lists of such resources are maintained

by the California Department of Fish and Game (CDFG), the United States Fish and Wildlife Service (USFWS), and special groups such as the California Native Plant Society (CNPS). The following indicates the habitats as well as plant and animal species present, or potentially present within the SEA, that have been afforded special recognition.

Sensitive Plant Communities/Habitats

This report/description supports several habitat types considered sensitive by resource agencies, namely the CDFG [California Natural Diversity Data Base (CNDDB), 2000], because of their scarcity and support of a number of state and federally listed endangered, threatened, and rare vascular plants, as well as sensitive bird and reptile species. These communities include coastal sage scrub, mainland cherry forest, and vernal pool. These communities or closely related designations are considered highest-inventory priority communities by the CDFG, indicating that they are declining in acreage throughout their range due to land use changes.

Sensitive Species

Sensitive species include those listed, or candidates for listing by the USFWS, CDFG, and CNPS. These sensitive species include, but are not limited to, spreading navarretia, California Orcutt grass, Vernal pool fairy shrimp, San Diego fairy shrimp, Riverside fairy shrimp, golden eagle, California gnatcatcher, San Diego black-tailed jackrabbit, San Diego desert woodrat, and southern grasshopper mouse. In addition, the SEA identifies species observed, recorded in the CNDDB, or reported in previous documentation as observed within or in the immediate vicinity of the SEA.

Ecological Transition Areas (ETAs)

There are no ETAs designated within this SEA.

III. PIRU CREEK

General

The Piru Creek Significant Ecological Area (SEA) encompasses the entire Los Angeles Countyportion of the Santa Felecia watershed draining into Lake Piru. This watershed is largelyundeveloped and contains vast stands of intact coast sage scrub and chaparral communities onsouth and north facing slopes, respectively. In addition to the undisturbed upland habitats, thewatershed is dissected by excellent examples of mixed riparian (sycamore-willow), oak riparianand coast live oak forests and alluvial scrub in the bottomlands. Non-native grasslands occur inareas where grazing has taken place; however, there is little invasion of these ruderal taxa intothe native communities. A brief summary of the plant communities present within the SEA isprovided in the vegetation section below.

Description

The Piru Creek SEA includes a wide variety topographic features and habitat types. Theorientation and extent of the SEA encompasses the surface and subsurface hydrology of the Santa Felicia watershed, from its headwater, tributaries, and basin to the point at which it exits Los Angeles County jurisdiction. The northern portion of the SEA is within the Angeles NationalForest. Capturing the watershed tributaries, the eastern boundary follows a predominateridgeline, the western boundary is the county border and the southern boundary captures twoother small tributaries that feed the Santa Felicia, to encompass the entire watershed thatultimately drains into Lake Piru in Ventura County.

Vegetation

Plant communities within the SEA include: coast live oak woodland, coast live oak riparian forest, chaparral, coastal sage scrub, coastal sage scrub, chaparral, non-native and nativegrasslands, alluvial fan sage scrub, and sycamore-willow riparian woodland. Sensitive plantspecies occurring or potentially occurring within the SEA are discussed in the Sensitive Biological Resources section of this document.

Plant communities within the SEA were classified using standard methodology and terminology. Most of the communities discussed correspond directly with those listed in Holland=s Preliminary Descriptions of the Terrestrial Natural Communities of California (1986 and 1992 update); some communities are named based upon the dominant species within them and/or other commonly used terminology. Descriptions of several plant communities present within the SEA are given below.

Coast live oak (Quercus agrifolia) woodland: Coast live oak woodland consists of moderate-density overstory formations of coast live oak trees, usually on erosional plains along the margins of canyon bottoms and on lower slopes in chaparral and coastal sage scrub understory habitats.

Coast live oak (Quercus agrifolia) riparian forest: Coast live oak riparian forest is avariation of coast live oak woodland wherein the canopy is more closely grown, and the treesoccur in narrower formations along watercourses. Willow, California bay, mulefat, and otherriparian species often occur in the understory.

Sycamore-willow riparian woodland: Western sycamore (Platanus racemosa), black willow(Salix gooddingii), arroyo willow (Salix lasiolepis), skunkbush (Rhus trilobata), Californiablackberry (Rubus ursinus).

Alluvial fan scrub: Scalebroom (Lepidospartum squamatum), California buckwheat(Eriogonum fasciculatum), white sage (Salvia apiana): Alluvial fan scrub generally consists of amixture of shrubs which colonize and persist within infrequently scoured and flooded terrainsuch as floodplains, alluvial plains, or along seasonal streams.

Chaparral: Scrub oak (Quercus berberidifolia), toyon (Heteromeles arbutifolia), manzanita (Arctostaphylos glauca), white sage (Salvia apiana): Chaparral consists of broad-leafed or needle-leafed, sclerophyllous (hard-leafed), medium height to tall shrubs that form a dense cover on steep slopes, usually below 5,000 feet in Southern California.

Coastal sage scrub: California sagebrush (Artemisia californica), purple sage (Salvia leucophylla), giant wildrye (Leymus condensatus), coyotebush (Baccharis pilularis), California buckwheat (Eriogonum fasciculatum).

Non-native grassland: Short-pod mustard (Hirschfeldia incana), tocalote (Centaurea melitensis), ripgut brome (Bromus diandrus): Non-native grassland consists of invasive annual grasses that are primarily of Mediterranean origin.

Native grassland: Communities consist of low, herbaceous vegetation dominated by grasses, with native formations generally mixed with native bulbs and other herbaceous species, often intermixed with naturalized annual taxa.

Wildlife

Wildlife within the SEA is extremely diverse and abundant, commensurate with extensive acreages of natural open space and great diversity of habitat types, within the stream channels and on the surrounding uplands. While a few wildlife species may be entirely dependent upon or obligate within a single vegetative community, the mosaic of vegetation communities within the area and adjoining uplands constitutes a continuum of functional ecosystems. These ecosystems support a wide variety of wildlife species, within the SEA boundaries and as a part of the regional ecosystem.

Analysis of invertebrates on any given site generally is limited by a lack of specific data, but the size of the SEA and diversity of habitats present are considered sufficient to support healthy populations of a very large number of invertebrate species. The riparian formations and aquatic habitats within the SEA support diverse faunas of arthropods, which may include native fairy shrimp, craneflies, blackflies and other aquatic dipterans, stoneflies, caddisflies, and dobsonflies, water boatmen, giant water bugs, ground beetles, diving beetles, and tiger beetles. Terrestrial insects abound around riparian corridors and in scrub habitats, and are particularly abundant in oak-dominated habitats.

Amphibians are abundant and relatively diverse within moister woodland areas, along montane canyon bottoms, in riparian areas, and within surface water features of the SEA. The overall riparian systems of the SEA provide habitat for a number of frog and toad populations, which may include populations of Pacific and California chorus frogs, western toad, and western spadefoot toad as well as the California red-legged frog and southwestern Arroyo toad. Open scrub, chaparral and alluvial fan habitats support diverse reptile populations, and the overall herpetofauna of the SEA would encompass numerous lizard species as well as a robust snake fauna.

Bird diversity within the SEA is related to habitat opportunities for year-round residents, seasonal residents, migrating raptors, and song birds. Coastal sage scrub and chaparral host a suite of birds typical of such sites at lower elevations over most of the coastal slopes of Southern California. The most productive sites for resident coastal sage scrub and chaparral birds are around riparian and freshwater systems, which also attract large numbers of migrants during

Spring and Fall. Oak woodlands and riparian areas generally support many more species; notable species consist of the summer tanager, Bullock=s oriole, black-headed grosbeak, band-tailed pigeon, western wood pewee, several swallow species, western yellow-billed cuckoo, willow flycatcher, and least Bell's vireo.

Native mammal diversity within the SEA is considerable. These include bats, rodents, squirrel, rabbits, mole, weasel, badger, skunks, raccoon, gray fox, bobcat, coyote, and mule deer. Black bear may also occur within the SEA boundaries, at least occasionally, but the San Gabriel Mountains population was introduced for game use, and this species is not native within the SEA.

Wildlife Movement

Historically riparian corridors have served as linkages between the Pacific coastline, coast ranges, interior ranges, the high desert and southern Sierras (via the Tehachapi range). Animals move through the Piru Creek watershed along and within the riparian systems between Piru Lake in Ventura County and the San Gabriel Mountain range and beyond. The tributary drainages in this SEA remain fully intact and open.

Sensitive Biological Resources

Sensitive biological resources are habitats or individual species which have been afforded special recognition by federal, state, or local conservation agencies and organizations as endangered, threatened, rare, or otherwise of concern; this is principally due to the species' declining or limited population sizes, usually resulting from habitat loss. Watch lists of such resources are maintained by the California Department of Fish and Game (CDFG), the United States Fish and Wildlife Service (USFWS), and special groups such as the California Native Plant Society (CNPS). The following sections indicate the habitats as well as plant and animal species present, or potentially present within the SEA, that have been afforded special recognition.

Sensitive Plant Communities/Habitats

The Piru Creek SEA supports several habitat types considered sensitive by resource agencies, namely the CDFG [California Natural Diversity Database (CNDDB), 2000] because of their scarcity and support of a number of state and federally listed endangered, threatened, and rare vascular plants, as well as sensitive bird and reptile species. These communities include: coast live oak, coast live oak riparian forest, alluvial fan sage scrub, and native grassland. These communities or closely related designations are considered highest-inventory priority communities by the CDFG, indicating that they are declining in acreage throughout their range due to land use changes.

Sensitive Species

Sensitive species include those listed, or candidates for listing by the USFWS, CDFG, and CNPS. These species include, but are not limited to, the California condor, red-legged frog and Arroyo toad. The SEA identifies other species observed, recorded in the CNDDB, or reported in previous documentation as observed within or in the immediate vicinity of the SEA.

IV. SANTA CLARA RIVER

General

The Santa Clara River Significant Ecological Area (SEA) encompasses the entire Los Angeles County reach of the Santa Clara River, primarily within unincorporated areas of Los Angeles County. The Santa Clara River SEA covers the length of the river and with the watershed extensions encompasses a wide variety of topographic features and habitat types. The orientation and extent of the SEA also consists of the surface and subsurface hydrology of the Santa Clara River, from its headwater tributaries and watershed basin to the point at which it exits Los Angeles County jurisdiction.

Description

The eastern portion of the SEA surrounds the Kentucky Springs and Aliso Canyon watersheds, portions of which are within the Angeles National Forest. It follows the river channel downstream through the Acton basin, taking in Arrastre Creek, Mill Canyon and other side drainages and significant rock outcroppings, then stays within the channel to Agua Dulce Canyon, at which point the northern boundary loops around that watershed and includes Vasquez Rocks County Natural Area, while the southern boundary encompasses the lower portion of Bear Canyon and undeveloped portions of Oak Spring Canyon adjacent to the river channel. The southern boundary leaves the river channel at the confluence with Sand Canyon and extends broadly to the south, to include all of the remaining natural

areas of the Sand Canyon watershed, along with the major ridgeline, earthquake escarpment, grassland, and canyon habitat features and watersheds of Elsmere, Whitney, Placerita and Bear canyons.

From Sand Canyon west the SEA boundary remains close to the margins of the floodplain to the confluence with San Francisquito Canyon, wherein the northern boundary extends northward upstream on that drainage to the headwaters of San Francisquito Creek on the Angeles National Forest, then returns to the river channel and proceeds west to the confluence with Castaic Creek. From here, it extends north around the lower portion of Castaic Creek, embracing the riparian habitat areas around and above the confluence, with the boundaries of the SEA following the Santa Clara River channel to the Ventura County line. The biological and ecological functionality of the SEA is integrally linked to the river basin for its entire length, of course, so the biogeographic limits of the SEA would extend downstream through Los Angeles/Ventura County to its mouth at the Pacific Ocean, and encompass the significant tributary drainages (Piru Creek, Sespe Creek, Santa Paula Creek, Wheeler Creek, etc.).

The Kentucky Springs and Aliso Canyon watershed zones originate on National Forest land, in semi-arid chaparral and desert scrub habitat, but the drainages themselves support different formations of desert and interior riparian habitat, ranging from seasonal Great Basin sagebrush wash in Kentucky Springs to dense, mature, willow-cottonwood-sycamore woodlands over permanent streams in Aliso Canyon. The surrounding uplands in the basins support pinyon-juniper woodlands, chamise, mountain mahogany, and manzanita dominated chaparral formations, buckwheat scrub, and ruderal lands. Alluvial terraces within both drainages have been rather extensively cultivated for orchard crops or dryland agriculture, and in more recent years, rural and urban-type residential developments have encroached on the watersheds. Portions of the Aliso Canyon riparian woodlands have been encroached upon by rural development, but the upper portion of the drainage possesses excellent xeric cottonwood-sycamore riparian woodland. The alluvial plain formed along the southern margin of the river basin below these canyons supports intact, high diversity xeric alluvial fan sage scrub.

Downstream of the Acton basin the SEA encompasses the Arrastre Creek drainage, which is the type locality for the federally and state endangered unarmored three-spined stickleback fish, and also loops around the high, rounded rocky butte-like outcroppings on the north side of the river. These features, while only a minor part of the watershed of the river, provide important nesting, roosting, and sheltering habitat values for bats, birds of prey, and other sensitive species foraging along the river corridor. Agua Dulce Canyon has a permanent stream and supports high quality riparian habitat formations from the confluence with the river to the intersection with the Antelope Valley Freeway; from that point north the riparian areas are fragmented, improving and maturing significantly where the creeks pass through Vasquez Rocks County Natural Area.

The alluvial terraces along the river channel as it enters the eastern portion of the Santa Clarita Valley support alluvial fan sage scrub, Great Basin sagebrush scrub, coast live oak woodland, and coastal sage scrub habitats. The alluvial fans of Oak Springs Canyon and Sand Canyon are important recharge grounds for the river aquifer; surface flows from both canyons presently entering the Santa Clara River basin through natural, unconfined channels. Recognizing the importance of this drainage, the SEA boundaries have been drawn to encompass the entire Sand Canyon-Bear Canyon watershed, most of which is within the National Forest. The major habitat linkage zones and watersheds between the river basin and the National Forest, and the protected areas of the county (Placerita Canyon Natural Area) have also been included within the SEA boundary. These canyons form a natural movement zone for wildlife moving across and through the western end of the San Gabriel range to the Santa Susana range and the Santa Clara River basin, and together encompass a spectrum of significant and unique habitat, vegetation and wildlife resources.

The segment of the Santa Clara River passing through the City of Santa Clarita is a dry channel except during seasonal runoff flows. Regardless of this condition, it supports relatively intact stands of alluvial sage scrub formations, riparian woodland, and southern riparian scrub. The dry zones are essential to the continued genetic isolation of the unarmored three-spined stickleback population in the upper reaches of the river.

San Francisquito Creek supports dense and mature southern riparian scrub and riparian woodland formations, along with small areas of freshwater marsh, providing essential wintering areas and resident habitat for waterfowl, wading birds, marshland birds, and a variety of other vertebrate species. After San Francisquito Creek passes from County land into the National Forest, the channel flows become less seasonal, and riparian resources expand and diversify. Relatively vast areas of willow-cottonwood forest and southern riparian scrub occur west of San Francisquito Creek and within the junction zone of Castaic Creek and the Santa Clara River, supporting numerous sensitive species and providing multi-layered riparian habitat for a wide diversity of wildlife species, particularly birds of prey and riparian-obligate songbirds.

The Santa Clara River channel and its alluvial terraces and tributary creeks together form the single most important and natural value wildlife movement zone through Los Angeles County. Mobile species can enter the river basin anywhere along its length (outside of developed areas) and proceed in either direction without having to pass through narrow culverts or blind channels, with continuous vegetative cover and only short stretches of dry substrates. The overall drainage course provides a continuum of aquatic and terrestrial movement opportunities, shelter, forage, and resident habitat from the mouth of the river at Ventura to the Antelope Valley. The drainage course connects to both districts of the Angeles National Forest, and links together two large public resource preserves (Vasquez Rocks and Placerita County Natural Areas).

Vegetation

Plant communities within the SEA include: bigcone spruce-canyon oak forest, coast live oak woodland, coast live oak riparian forest, chaparral, coastal sage scrub, coastal sage scrub-chaparral mixed scrub, non-native and native grasslands, alluvial fan sage scrub, southern cottonwood-willow riparian woodland and forest, southern sycamore-alder woodland, southern willow scrub, vernal pool, pinyon-juniper woodland, juniper woodland, freshwater marsh, and disturbed. Transitional zones (ecotones) between these communities often contain unusual species compositions. Sensitive plant species occurring or potentially occurring within the SEA are discussed below in the Sensitive Biological Resources section.

Plant communities within the SEA were classified using standard methodology and terminology. Most of the communities discussed correspond directly with those listed in Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California (1986 and 1992 update); some communities are named based upon the dominant species within them and/or other commonly used terminology. Descriptions and general locations of each plant community present within the SEA are given below.

Bigcone spruce-canyon oak forest formations typically occur in higher elevation draws on north-facing slopes, and may have incense cedar, big-leaf maple, California bay, and other shade-loving species intermixed, depending upon slope orientation, substrates, and fire history. Understory vegetation usually is dominated by chaparral species such as scrub oak, poison oak, wild grape, and manzanita. This community occurs on watershed slopes in the eastern portion of the SEA, and in a few of the narrower, more mesic canyons along the southern side of Soledad Canyon.

Coast live oak woodland consists of moderate-density overstory formations of coast live oak trees, usually on erosional plains along the margins of canyon bottoms and on lower slopes in chaparral and coastal sage scrub understory habitats. Mexican elderberry, chaparral currant, squawbush, and California peony are frequent in the understory. Extensive stands of this formation occur in Sand, Placerita, Bear, Whitney, Elsmere, and Soledad Canyons, and in unnamed tributary canyons to these drainages.

Coast live oak riparian forest is a variation of coast live oak woodland wherein the canopy is more closely grown, and the trees occur in narrower formations along watercourses. Willow, California bay, mulefat, and other riparian species often occur in the understory.

Juniper woodland is an open formation dominated by California juniper, often with an understory of foothill yucca, buckwheat, and other scrub species. This community is found on lower slopes within the eastern portion of the SEA and is mixed with a few joshua trees and chaparral species in several places.

Pinyon-juniper woodland in the SEA typically consists of a mixture of single-needle leaf pinyon pine and California juniper, with mountain mahogany, buckwheat, squawbush, foothill yucca, penstemons, and native grasses. This formation occurs on middle elevation north-facing slopes in the Kentucky Springs watershed, and sporadically along the same orientations south of Acton.

Southern cottonwood-willow riparian woodland and forest is a broad-leafed winter- deciduous habitat dominated by Fremont cottonwood, in places mixed with black cottonwood, various species of willow, rarely an alder, and on drier sites, western sycamore. Southern cottonwood-willow riparian woodland (or forest) occurs in numerous reaches of the SEA, forming mature overstory habitat on the Santa Clara River, its main tributaries, oxbow ponds, and alluvial plains. Some of the most extensive formations occur just west of Acton, in upper Aliso Canyon, in lower San Francisquito Canyon, and from Santa Clarita to the Ventura County border. Large tracts of cottonwood-willow habitat occur in Ventura County as well.

Southern sycamore-alder woodland is a formation which most often occurs on broad plains with heavy alluvial substrates, often along narrow creeks and streams with high-energy, permanent flows within the SEA. Alders typically occur along the watercourse, while sycamores usually grow a bit further from the active flowing channel. This community is uncommon within the SEA, occurring only in the upper reaches of the watershed and in portions of Bear, Sand, and Placerita Canyons and to a lesser extent in Aliso Canyon.

Southern willow scrub is a riparian community consisting of dense, broad-leafed, winter- deciduous riparian thickets occurring within and adjacent to seasonal or permanent water courses The "scrub" formation generally is sub-mature – a state which often is maintained by frequent heavy over-flooding – and may attain woodland or forest stature if undisturbed for several decades. Dominant species of this community within the SEA are mulefat, sandbar willow, and arroyo willow. Within the SEA this community occurs throughout the tributary and primary drainages, wherever the habitat structure is maintained or repeatedly altered by frequent high water flows.

Freshwater marsh develops in areas of still or slow-moving permanent freshwater. This community is dominated by the perennial, emergent cattail or bulrush, which may reach heights of 7 feet and grow dense enough to form a closed canopy. This formation occurs in scattered ponds and slow-flow portions of the river and tributaries within the SEA.

Vernal pool systems are extremely rare in Los Angeles County and there are only two verified vernal pools currently recognized within the area; Cruzan Mesa and Plum Canyon. However, there is at least one small seasonal pond with typical vernal pool characteristics within the so-called Golden Valley Ranch portion of the upper Placerita-Sand Canyon watershed break. This small pool is surrounded by coastal sage scrub, with a band of native needlegrass and melic grass on its fringes, and supports Riverside fairy shrimp and western spadefoot toad. It is considered a vernal pool by virtue of its habitat values and species unique to this type of seasonal formation.

Chaparral consists of broad-leafed or needle-leafed, sclerophyllous (hard-leafed), medium height to tall shrubs that form a dense cover on steep slopes, usually below 5,000 feet in Southern California. Dominant species found within this community include scrub oaks (several species), chamise, manzanita, wild lilac, toyon, and western mountain-mahogany on north-facing exposures; buckwheat, foothill yucca, chamise, hoary-leaf lilac, black sage, and goldenbush on south-facing slopes. This plant community occupies most of the basin slopes along the Santa Clara River and on interior ridges and slopes within the watersheds and drainages west of Acton. Chaparral also occurs on some of the higher elevations of the eastern watershed portions of the SEA, where the shrubs frequently are interspersed as understory formations within oak and conifer woodlands.

Coastal sage scrub and **coastal sage scrub-chaparral mixed scrub** are formations which typically occur on south or west-facing slopes within the western portion of the SEA. Some sites may be artifacts of fire frequency or occurrence, while other areas appear to be stable scrub communities. Dominant species typically are California sagebrush, purple sage, black sage, white sage, goldenbush, buckwheat, foothill yucca, California encelia, brittlebush, golden yarrow, chamise, hoary-leaf lilac, and a variety of annuals and bulbs. Excellent examples of coastal sage scrub occur in upper Placerita Canyon watershed and on the ridgeline to the north, along the Santa Clara River just east of Sand Canyon, and in San Francisquito Canyon.

Alluvial fan sage scrub, sometimes also known as floodplain sage scrub, generally consists of a mixture of shrubs which colonize and persist within infrequently scoured and flooded terrain such as floodplains, alluvial plains, or along seasonal streams. The dominant shrub in most washes is scalebroom, but Great Basin sage brush, rabbitbrush, and foothill yucca also usually occur in the habitat type, and may be dominant depending upon substrates and subsurface hydrology. This vegetation type is common throughout the alluvial plains and washes in the SEA, forming particularly high diversity stands along the southern margin of the river at Acton, on uplands east of the Sand Canyon confluence, along the dry reaches of the river in Santa Clarita, and in lower San Francisquito Canyon. Extensive stands of Great Basin sagebrush-dominated alluvial scrub occur around Acton and in the Kentucky Springs portion of the SEA.

Native and non-native grassland communities consist of low, herbaceous vegetation dominated by grasses, with native formations generally mixed with native bulbs and other herbaceous species, often intermixed with naturalized annual taxa. There are representatives of native grasslands scattered within the SEA, most notably patches of different needlegrass species and melic grasses on clay soils in Placerita Canyon, on slope wetlands and around oak on the ridge north of Placerita, and on less-disturbed xeric slopes in the eastern portion of the SEA. Seeps in chaparral often support homogeneous stands of giant rye; other native grasses occur sporadically within most natural habitats along the Santa Clara basin.

Non-native grassland consists of invasive annual grasses that are primarily of Mediterranean origin. Dominant species within this "community," which is a ruderal formation and not a true habitat or community, include oats, bromes, foxtail chess, and other grasses, along with wild mustards and other disturbance-favored "weedy" taxa. Non-native grasslands and other ruderal formations are the dominant understory on most disturbed substrates, particular grazed areas.

Disturbed or barren areas either completely lack vegetation or are dominated by ruderal species. Ruderal vegetation typically found within the SEA includes non-native and native grasses and "weedy" herbaceous species, including doveweed, mustards, wire lettuce, sow thistle, telegraph weed, Russian thistle, dock, yellow star thistle, Australian saltbush, and cocklebur. Disturbed areas occur throughout the SEA on fallow agricultural sites, disked fields, abandoned pastures, residential development, paved road margins, fire breaks, dirt access roads, trails, and other similarly disturbed areas.

Wildlife

Wildlife within the SEA is extremely diverse and abundant, commensurate with extensive acreages of natural open space and great diversity of habitat types, within the river channels and on the surrounding uplands. While a few wildlife species may be entirely dependent upon or obligate within a single vegetative community, the mosaic of vegetation communities within the area and adjoining uplands constitutes a continuum of functional ecosystems. These ecosystems support a wide variety of wildlife species, within the SEA boundaries and as a part of the regional ecosystem.

Analysis of invertebrates on any given site generally is limited by a lack of specific data, but the size of the SEA and diversity of habitats present are considered sufficient to support healthy populations of a very large number of invertebrate species, probably in excess of 2,500 species. The riparian formations, wetlands, and aquatic habitats within the SEA support diverse faunas of arthropods, including native fairy shrimp, craneflies, blackflies and other aquatic dipterans, stoneflies, caddisflies, and dobsonflies, water boatmen, giant water bugs, ground beetles, diving beetles, and tiger beetles. Terrestrial insects abound around riparian corridors and in scrub habitats, and are particularly abundant in oak-dominated habitats. Insect orders very well-represented taxonomically, and with some habitat specialization within the Santa Clara River SEA include Orthoptera, Neuroptera, Coleoptera, Diptera, Hymenoptera and Lepidoptera.

Amphibians are abundant and relatively diverse within moister woodland areas, along montane canyon bottoms, in riparian areas, and within surface water features of the SEA. The overall riparian systems of the Santa Clara River basin support abundant populations of Pacific and California chorus frogs, western toad, western spadefoot toad, bullfrog, and African clawed frog (the latter two species are non-native), and in San Francisquito Canyon, California red-legged frog and southwestern arroyo toad. Arboreal, painted, and garden slender salamanders also are present within mesic habitats in the SEA.

Open scrub, chaparral and alluvial fan habitats support diverse reptile populations, and the overall herpetofauna of the SEA would encompass numerous lizard species, along with southwestern pond turtle in Agua Dulce and Bear canyons. Yucca night lizard, side-blotched lizard, western fence lizard, western skink, San Diego alligator lizard, coastal western whiptail, San Diego horned lizard, desert horned lizard, silvery legless lizard and San Diego desert banded gecko all would be expected within the SEA.

The SEA also supports a robust snake fauna, including western blind snake, coachwhip ("red racer"), chaparral whipsnake, coastal patch-nosed snake, California rosy boa, San Diego gopher snake, glossy snake, California kingsnake, mountain kingsnake, long-nosed snake, night snake, California lyre snake, California black-headed snake, two-striped garter snake, San Bernardino ring-necked snake, southern Pacific rattlesnake.

Bird diversity within the SEA is related to habitat opportunities for year-round residents, seasonal residents, migrating raptors, and song birds. Coastal sage scrub and chaparral host a suite of birds typical of such sites at lower elevations over most of the coastal slopes of Southern California. The most productive sites for resident coastal sage scrub and chaparral birds are around riparian and freshwater systems, which also attract large numbers of migrants during Spring and Fall. Coastal sage and chaparral birds resident or breeding within the SEA includes Southern California (ashy) rufous-crowned sparrow, Bell's sparrow, black-chinned sparrow, lark sparrow, lazuli bunting, California gnatcatcher, California quail, greater roadrunner, spotted towhee, California towhee, California thrasher, phainopepla, northern mockingbird, and Anna's, Costa's, and black-chinned hummingbirds. Oak woodlands and riparian areas support many more species; notable species consist of the summer tanager, Bullock's oriole, black-headed grosbeak, band-tailed pigeon, western wood pewee, several swallow species, western yellow-billed cuckoo, willow flycatcher, and least Bell's vireo. Species associated with ruderal sites and grasslands include western meadowlark, California horned lark, and savannah and grasshopper sparrows. Birds of prey (including common migrants) observed within the SEA include red-shouldered hawk, red-tailed hawk, Cooper's hawk, sharp-shinned hawk, Swainson's hawk, merlin, American kestrel, northern harrier, white-tailed kite, prairie falcon, and golden eagle. Resident owl species within the SEA boundaries include barn owl, great horned owl, long eared owl, and California spotted owl.

Native mammal diversity within the SEA is considerable. These include bats (at least seven species), rodents (at least four species of deer mice, two species of woodrat, Beechey ground squirrel, western gray squirrel, and more), two types of rabbits and one hare, broad-handed mole, long-tailed weasel, American badger, spotted and striped skunks, raccoon, gray fox, bobcat, coyote, mountain lion, and mule deer. Black bear also occur within the SEA boundaries, at least occasionally, but the San Gabriel Mountains population was introduced for game use, and this species is not native within the SEA.

Wildlife Movement

Historically (and prehistorically) the riparian corridor along the Santa Clara River has served as the primary east-west linkage between the Pacific coastline, coast ranges, interior ranges, high desert and southern Sierra (via the Tehachapi range). Animals moving through the Santa Clara drainage had unobstructed passage along the river and within the riparian systems between the coastal lowlands of Ventura and the Mojave Desert, with tributary routes extending south into the San Gabriel range, northward via Castaic, Bouquet and San Francisquito tributaries over the Transverse range and into the San Joaquin Valley, west into the central coast ranges, or east through the Tehachapis and into the southern Sierra Nevada. The present configuration of the tributary drainages has impinged upon connectivity from the Santa Clarita Valley to the north, but the Santa Clara River remains relatively intact and open. The SEA embraces the river corridor and the linkage zones considered essential to insuring connectivity and resource values within the historic movement zones for all of the wildlife species present within the Los Angeles County portion of the Santa Clara River.

Sensitive Biological Resources

Sensitive biological resources are habitats or individual species which have been afforded special recognition by federal, state, or local conservation agencies and organizations as endangered, threatened, rare, or otherwise of concern; this is principally due to the species' declining or limited distribution or population sizes, usually resulting from

habitat loss. Watch lists of such resources are maintained by the California Department of Fish and Game (CDFG), the United States Fish and Wildlife Service (USFWS), and special groups such as the California Native Plant Society (CNPS). The following sections indicate the habitats as well as plant and animal species present, or potentially present within the SEA, that have been afforded special recognition.

Sensitive Plant Communities/Habitats

This report/description supports several habitat types considered sensitive by resource agencies, namely the CDFG [California Natural Diversity Database (CNDDB), 2000] because of their scarcity and support of a number of state and federally listed endangered, threatened, and rare vascular plants, as well as sensitive bird and reptile species. These communities include: bigcone spruce-canyon oak forest, coast live oak riparian forest, southern willow scrub, southern cottonwood-willow riparian woodland, sycamore-alder woodland, freshwater marsh, alluvial fan sage scrub, native grassland, and vernal pool. These communities or closely related designations are considered highest-inventory priority communities by the CDFG, indicating that they are declining in acreage throughout their range due to land use changes.

Sensitive Species

Sensitive species include those listed, or candidates for listing by the USFWS, CDFG, and CNPS. These species include, but are not limited to, Nevin's barberry, spreading navarretia, slender-horned spineflower, California Orcutt grass, Riverside fairy shrimp, unarmored threespine stickleback, Santa Ana sucker, arroyo southwestern toad, California red-legged frog, southwestern pond turtle, California horned lizard, San Diego mountain king snake, two-striped garter snake, California condor, Swainson's hawk, White-tailed kite, California gnatcatcher, least Bell's vireo, and ringtail cat. In addition, the SEA identifies other species observed, recorded in the CNDDB, or reported in previous documentation as observed within or in the immediate vicinity of the SEA.

Ecological Transition Areas (ETAs)

ETAs within this SEA range from small and scattered to relatively large and continuous blocks of land. Generally, smaller ETAs are represented by stands of oak trees in upland areas where the understory has been highly disturbed but tree canopy cover is fairly high. Larger ETAs are designated for active and fallow agricultural fields that characterize many of the river terraces that exist along the banks of the Santa Clara River and San Francisquito Creek. Disturbed riverbed, such as in the area of Lang Station Road is another example of an ETA within this SEA.

V. SANTA SUSANA MOUNTAINS/SIMI HILLS

General

The Santa Susana Mountains/Simi Hills Significant Ecological Area (SEA) is located northwest of the San Fernando Valley within unincorporated areas of Los Angeles County and an incorporated area of the City of Los Angeles west of Chatsworth. The area is south of State Route 126 (SR-126) and the Santa Clara River, west of the Golden State Freeway (Interstate 5), and includes much of the Santa Susana Mountains in the north, the Santa Susana Pass, Chatsworth Reservoir, and the eastern portion of the Simi Hills in the south.

Description

The Santa Susana Mountains/Simi Hills SEA includes a variety of topographic features; the northern portion of the SEA encompasses Oat Mountain and much of the Santa Susana Mountains from the Los Angeles County line east to Interstate 5. Portions of many of the canyons associated with the Santa Susana Mountains and Oat Mountain are also included such as Salt Canyon, Potrero Canyon, Pico Canyon, Towsley Canyon, El Toro Canyon, Sulphur Canyon, Devil Canyon, Ybarra Canyon, Browns Canyon, Bee Canyon, and Mormon Canyon. Several blue-line streams occur within these canyons and support many natural springs. The north slopes of the Santa Susana Mountains are within the Santa Clara River watershed which drains the Los Padres National Forest to the north, the Angeles National Forest to the northeast and east, and the Santa Susana Mountains to the south and southeast. The remainder of the SEA is within the Los Angeles River watershed. The majority of the land in the SEA is natural open space

with very sparse disturbances in the form of ranches, oil wells, and unimproved access roads. The SEA consists of east-west and northwest trending primary ridges and north-south trending secondary ridges. The peak of Oat Mountain represents the highest point in the SEA at 3,747 feet above mean sea level (MSL). The open space within the SEA supports a variety of communities but is dominated by chaparral, oak woodlands, coastal sage scrub, bigcone spruce-canyon oak woodland, and grasslands. The creeks and canyons support riparian scrub and woodland communities. At its southern end, the SEA includes the eastern portion of the Simi Hills including the east-facing slopes descending from Chatsworth Peak. Chatsworth Reservoir forms a portion of the south boundary and is currently dry except for a small detention basin north of the reservoir.

Vegetation

The plant communities within the Santa Susana Mountains/ Simi Hills SEA are composed of numerous plant species. These plant species are adapted to a Mediterranean climate with a cool, wet season followed by a hot, dry season. Due to the topographic complexity and combination of coastal and desert influences, the SEA supports a wide diversity of plant species.

Plant communities within the SEA were classified using standard methodology and terminology. Most of the communities discussed in this study correspond directly with those listed in Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California (1986 and 1992 update). Other communities are named based on dominant species within them and/or commonly used terminology. Descriptions and general locations of each plant community present within the SEA are given below. These include chaparral, coastal sage scrub, alluvial scrub, coast live oak woodlands, valley oak woodland, mainland cherry forest, non-native grassland, native grassland, southern willow scrub, southern cottonwood-willow riparian forest, and disturbed communities.

Chaparral consists of a broad mix of evergreen species and generally occurs below 5,000 feet in Southern California. Dominant species consist of broad-leaved or needle-leafed sclerophyllous (hard-leafed) shrubs, forming a dense, impenetrable cover with little or no understory growth. The understory typically consists of a considerable accumulation of leaf litter. In areas of less dense shrub cover, the understory consists of non-native grasses and other annual forbs. Dominant species include chamise, laurel sumac, hoary-leaved ceanothus, woolly-leaved ceanothus, and toyon. Chaparral is the dominant plant community within the SEA and covers many of the steep slopes and hillsides in the upper elevations.

Coastal sage scrub communities consist of drought-deciduous, low, soft-leaved shrubs and herbs on gentle to steep slopes under 3,000 feet in elevation. Several dominant species may occur within scrub communities, with some areas overwhelmingly dominated by one or two species. Dominant species include California sagebrush, California buckwheat, California bush sunflower, purple sage, and deerweed. Coastal sage scrub is found at the lower elevations within the SEA on drier south-facing slopes, but can also be found on the north-facing slopes and canyon of the Santa Susana Mountains.

Alluvial scrub consists of a mixture of shrubs that colonize sandy-gravelly flood deposited soils within intermittent creeks, arroyos, and drier terraces in large washes. This community intergrades with sage scrub communities and riparian communities and, therefore, occurs adjacent to these communities. Dominant species include Great Basin sagebrush, scalebroom, big saltbush, and squaw bush. Alluvial scrub is predominately found at the northern end of the SEA in Salt Canyon.

Coast live oak woodlands commonly occur along drainages that experience at least a seasonal flow or in other areas under mesic conditions. Soil structure and soil moisture are the most important limiting factors for the survival of oak woodlands; soils must be deep, uncompacted, fertile, well-aerated, and well-drained. This community is dominated by coast live oak. If sufficient groundwater is present, western sycamores, usually associated with riparian habitats, may also occur in the oak woodland. Oak woodlands occupy areas within the canyons and drainages of the SEA.

Valley oak woodland is an open-canopy woodland found on deep, well-drained alluvial soils below 2,000 feet. This community is almost exclusively dominated by valley oak with a grassy understory to form a savannah-like community. This community is located in small pockets in the eastern portion of the SEA.

Mainland cherry forest is not well described but is typically composed of tall stands of hollyleaf cherry on rocky, dry, north-facing slopes. Within the SEA, coast live oak is co-dominant within this community and can be found in canyons in the northern portion of the study area. This community can also be found in association with alluvial scrub in the northwestern portion of the study area as it approaches the Santa Clara River.

Grassland communities consist of low, herbaceous vegetation that are dominated by grasses but generally also harbor native forbs and bulbs as well as naturalized annual forbs. Topographic factors that contribute to grassland presence include gradual slopes or flat areas with deep, well-developed soils in areas below 3,000 above MSL. The species richness of grassland communities is dependent upon a number of land use factors, including intensity and duration of natural or anthropogenic disturbances such as grazing. Heavily grazed grasslands have a lower species richness.

Non-native grassland consists of dominant invasive annual grasses that are primarily of Mediterranean origin. Dominant species found within this community include slender wild oat, wild oat, ripgut brome, and foxtail chess.

Native grassland is often associated with coastal sage scrub and is found in pockets in close proximity to coastal sage scrub and non-native grassland. This community consists of at least ten percent cover of native purple needlegrass. The remaining vegetative cover is made up of non-native grasses found in annual grassland and a variety of annual, wild flowers such as golden stars and blue-eyed grass. Small patches of native grassland can be found scattered throughout the SEA mostly in openings in coastal sage scrub and mixed with non-native grasslands.

Southern willow scrub is a riparian community occurring within and adjacent to water courses. The vegetation within this community is adapted to seasonal flooding. Southern willow scrub is characterized by dense, broad leafed, winter-deciduous riparian thickets dominated by one or more willow species. Most stands are too dense to allow understory development. The dominant species of this community within the SEA is arroyo willow, red willow, and black willow, with less common associates including mule fat. This community occurs in segments along portions of the intermittent drainages within the SEA.

Southern cottonwood-willow riparian forest consists of an open, broad-leaved, winter-deciduous riparian forest dominated by Fremont cottonwood, black cottonwood, and several willow species including arroyo willow and red willow. This community occupies much of the Santa Clara River adjacent to the northern boundary of the SEA and also occurs within the larger, intermittent and perennial drainages within the SEA.

Disturbed or barren areas either completely lack vegetation or are dominated by ruderal species. Ruderal vegetation typically found onsite include non-native grasses and a high proportion of weedy species, including tocalote, telegraph weed, tree tobacco, doveweed, black mustard, and thistle species. Several disturbed areas occur scattered throughout the SEA and take the form of residential developments, highways, fire breaks, dirt access roads, trails, transmission poles, and other similarly disturbed areas.

Wildlife

Wildlife within the SEA is generally diverse and abundant due to the large acreage of natural open space and the diversity of habitat types. While a few wildlife species are entirely dependent on a single vegetative community, the entire mosaic of all the vegetation communities within the area and adjoining areas constitutes a functional ecosystem for a variety of wildlife species. This applies to the SEA and the regional ecosystem.

The analysis of invertebrates in this study is difficult due to the lack of data, although limited studies have been conducted. The SEA is believed to support healthy populations of a diverse assortment of countless invertebrate species. Amphibian populations are generally restricted in semi-arid and arid habitats but may be particularly abundant where riparian areas occur. The SEA is likely to support a variety of amphibians in abundance within wetland areas along the major canyon bottoms and the moister oak woodland areas. Many essential reptilian habitat characteristics such as open habitats that allow free movement and high visibility and small mammal burrows for cover and escape from predators and extreme weather are present within the SEA. These characteristics as well as the variety of habitat types present are

likely to support a wide variety of reptilian species.

The scrubland, woodland, riparian, and grassland habitats in the SEA provide foraging and cover habitat for year-round residents, seasonal residents, and migrating song birds. In addition, the SEA encompasses many year-round water sources, abundant raptor foraging, perching, and nesting habitat. The combination of these resources as well as the mosaic of many community types provides for an unusually high diversity of bird species. Several of these species may use this SEA as their only consistent occurrence in the southeastern portion of the county.

Not unlike other taxonomic groups, mammal populations within the SEA are diverse and reflective of the diversity of habitat types. Unlike many other inland hills within the Los Angeles Basin, this SEA is large enough to support relatively stabile large mammal populations despite the urban surroundings.

Wildlife Movement

The Santa Susana Mountains/Simi Hills SEA includes several important linkages for wildlife movement. The Simi Hills and Santa Susana Mountains provide a vast open space corridor to foster wildlife movement between the Santa Monica Mountains to the south, San Gabriel Mountains to the east, and Los Padres National Forest to the north. Dense, natural habitat associated with the majority of the study area provides excellent opportunities for concealment and water sources while the grasslands provide an abundance of prey.

Sensitive Biological Resources

Sensitive biological resources are habitats or individual species that have special recognition by federal, state, or local conservation agencies and organizations as endangered, threatened, rare, or otherwise sensitive; this is due to the species' declining or limited distribution or population sizes, usually resulting from habitat loss. Watch lists of such resources are maintained by the California Department of Fish and Game (CDFG), the United States Fish and Wildlife Service (USFWS), and special groups such as the California Native Plant Society (CNPS). The following sections indicate the habitats as well as plant and animal species present, or potentially present within the SEA, that have been afforded special recognition.

Sensitive Plant Communities/Habitats

This report/description supports several habitat types considered sensitive by resource agencies, namely the CDFG [California Natural Diversity Data Base (CNDDB), 2000], because of their scarcity and support of a number of state and federally listed endangered, threatened, and rare vascular plants, as well as several sensitive bird and reptile species. These communities include coastal sage scrub, alluvial scrub, valley oak woodland, mainland cherry woodland, native grassland, southern willow scrub, and cottonwood-willow riparian forest which occur throughout the area. These communities or closely related designations are considered highest-inventory priority communities by the CDFG, indicating that they are experiencing a decline throughout their range.

Sensitive Species

Sensitive species include those listed, or candidates for listing by the USFWS, CDFG, and CNPS. Species which have been recorded within the SEA as well as those reasonably expected to occur include, but are not limited to, Lyon's pentachaeta, Nevin's barberry, Braunton's milk vetch, slender-horned spineflower, arroyo southwestern toad, California red-legged frog, California condor, Swainson's hawk, white-tailed kite, and southwestern willow flycatcher. The table includes locations of sensitive species observed, recorded in the CNDDB, or reported in previous documentation as observed within Ecological Transition Areas (ETAs)

Ecological Transition Areas (ETAs)

There are no ETAs designated within this SEA.

VI. VALLEY OAKS SAVANNAH

Resource Description: This area contains one of the last remaining stands of valley oak (Quercus lobata) in the Santa Clarita Valley. The site consists of specimens of this species scattered over the southerly 75% of the site. While trees generally appear to be healthy, there is little evidence of new trees on the property, which raises questions about their sustainability.

The northerly 25% of the site consists of a mixture of plants from the coastal sage scrub and chaparral communities typical of those found in the Santa Clarita Valley. The entire area is the habitat of coyote, deer, and other animal life.

Status: At present the site is vacant but criss-crossed with a number of roads. It is expected that very low density residential development may occur on the site.

Information Source(s): CNACC; Santa Clarita Valley Areawide General Plan; Survey/Interview with Placerita Canyon Nature Center.

Nature of Information: The area was identified by the North County Citizens Planning Council as worthy of special protections. However, written documentation is limited.

Buffer Zone Requirement: The area is of sufficient size to protect the resources.

Compatible Uses: Very low density residential uses are potentially compatible with the resource provided that controls on future grading and removal of resources, particularly the Valley Oaks, are exerted. Extensive grading that blocks drainage or results in silting may negatively impact the Valley Oaks, as would extensive grazing or off-road vehicle use.

Quadrangle: Newhall

Class 3 (7)

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix II

Chapter 1: Introduction

- Figure I-1: Santa Clarita Valley Planning Area Boundaries

Chapter 2: Land Use

- Figure L-1: Communities and Specific Plans
- Figure L-2: Limited H5 Districts

Chapter 3: Circulation

- Figure C-1: Network of Existing Streets and Highways, 2007
- Figure C-2: Circulation Plan of Streets and Highways
- Figure C-3: Standard Roadway Cross Sections
- Figure C-4: Helipads in the Planning Area
- Figure C-5: Valleywide Bikeway Master Plan

Chapter 4: Conservation and Open Space

- Figure CO-1: Hillsides and Designated Ridgelines in the Santa Clarita Valley
- Figure CO 2: Mineral Resources in the Santa Clarita Valley
- Figure CO-3: Water Resources in the Santa Clarita Valley
- Figure CO-4: Biological Resources in the Santa Clarita Valley
- Figure CO-5: Significant Ecological Areas Designated by Los Angeles County
- Figure CO-7: Scenic Resources in the Santa Clarita Valley
- Figure CO-8: Park, Recreation, and Open Space Resources
- Figure CO-9: Master Plan for Trails in the Santa Clarita Valley

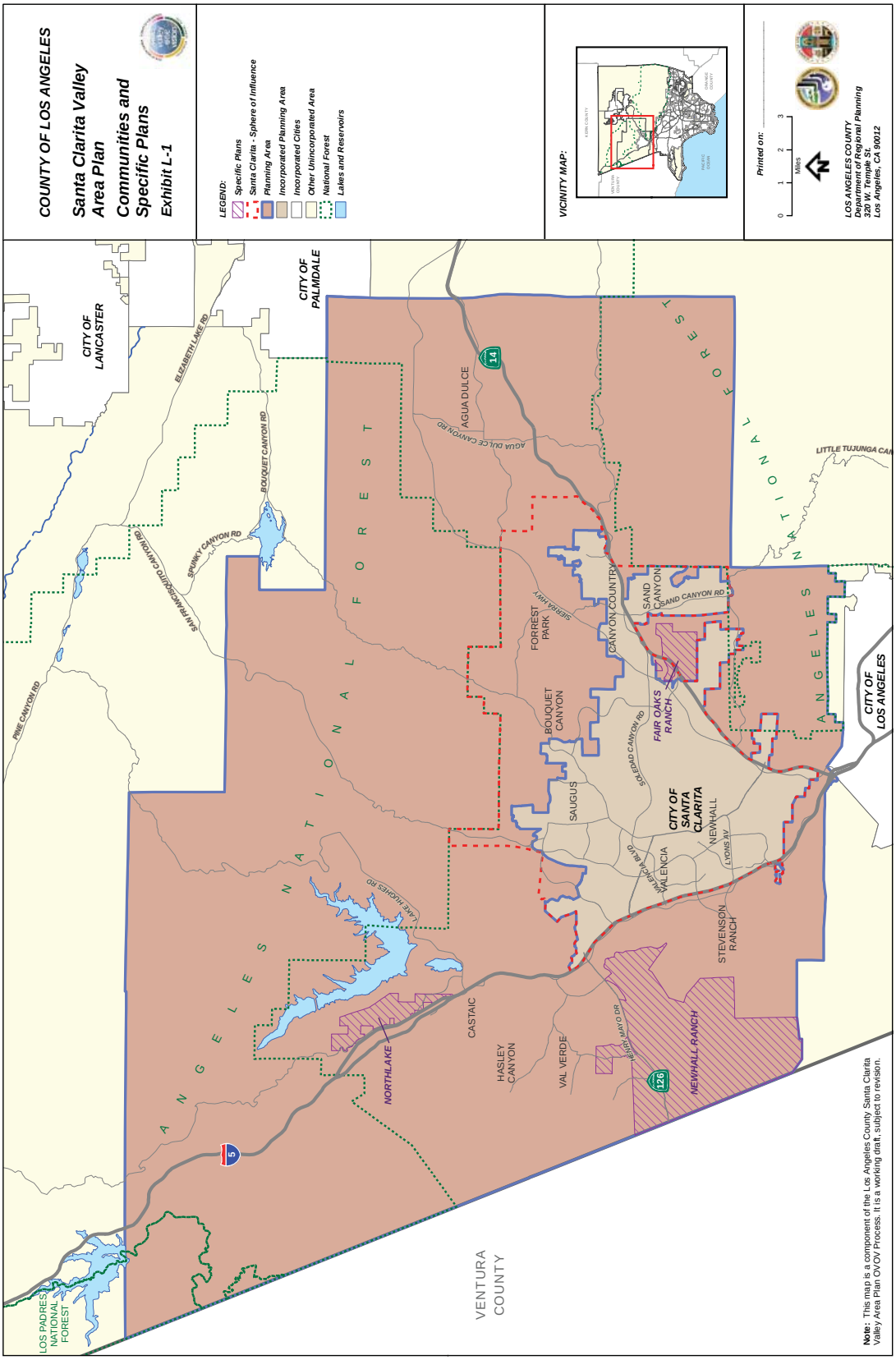
Chapter 5: Safety

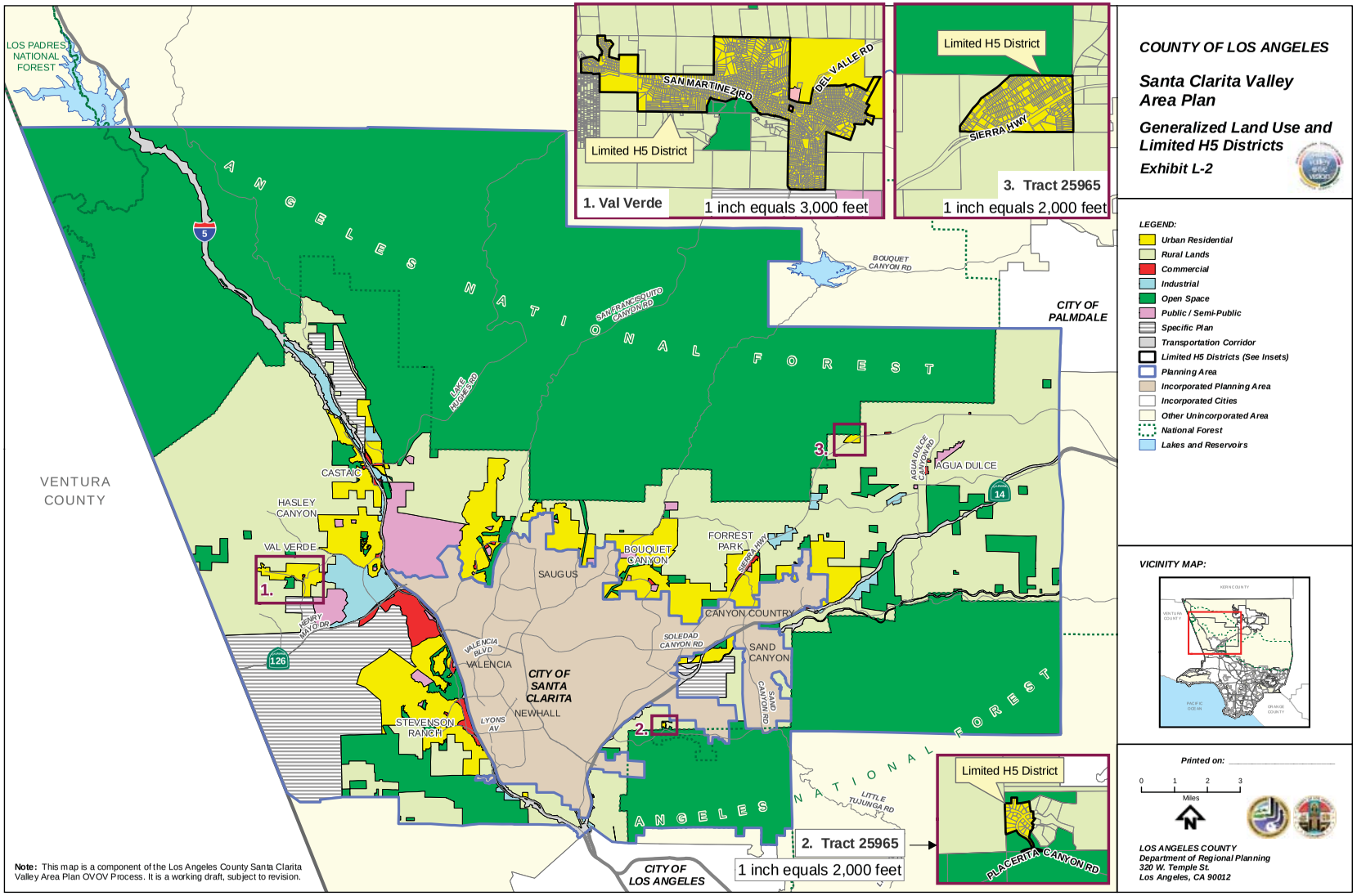
- Figure S-1: Earthquake Faults Affecting the Planning Area
- Figure S-2: Earthquake Epicenters
- Figure S-3: Seismic Hazards
- Figure S-4: Floodplains
- Figure S-5: Existing and Planned Public Safety Facilities
- Figure S-6: Fire Hazard Zones

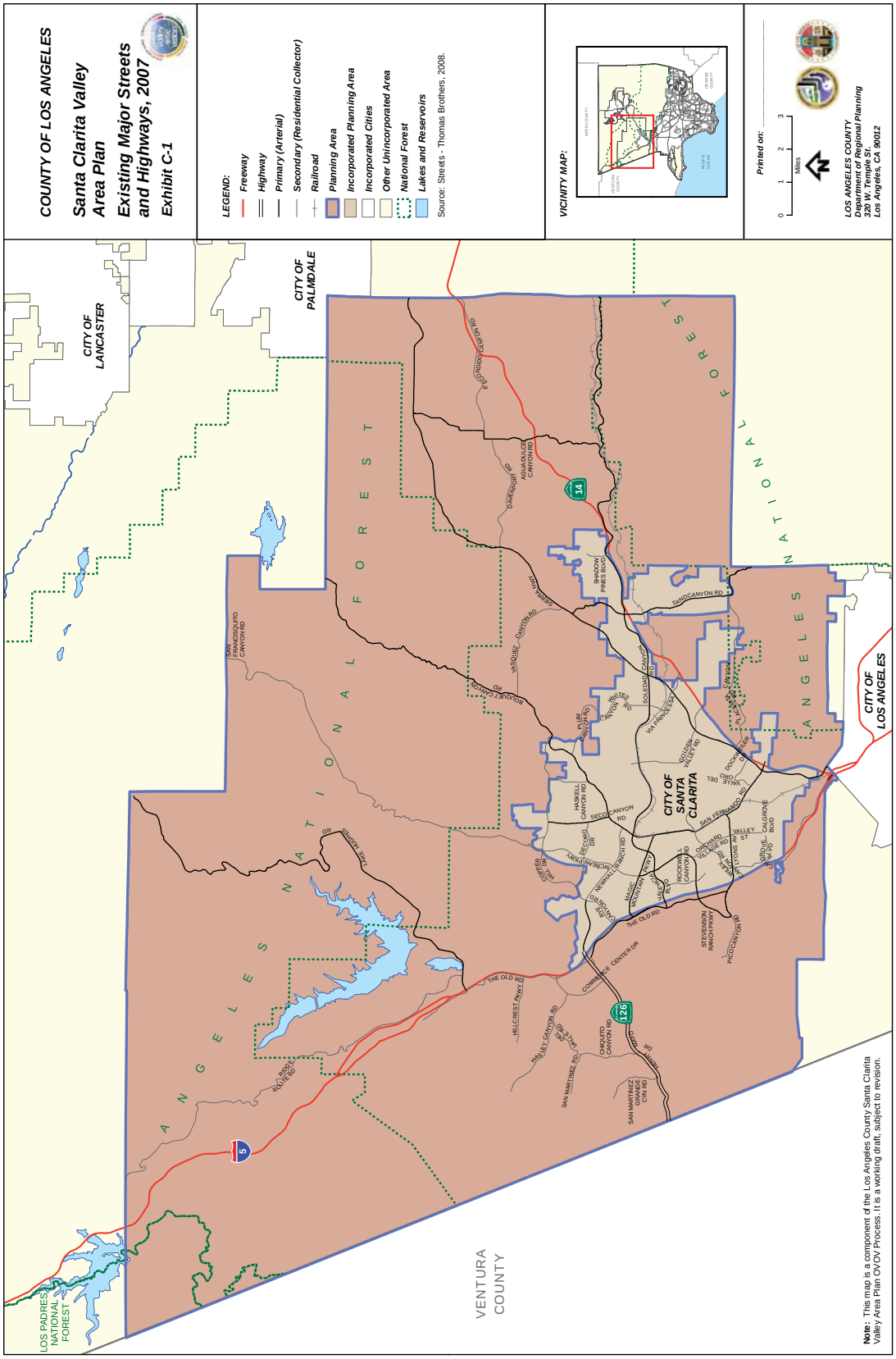
Chapter 6: Noise

- Figure N-6: Existing Roadway Noise Contours
- Figure N-7: Future Projected Noise Contours

COUNTY OF LOS ANGELES
Santa Clarita Valley Area Plan
Area Boundary
Exhibit I-1
LEGEND:
Planning Area
Incorporated Planning Area
Other Incorporated Cities
Other Unincorporated Area
National Forest
Lakes and Reservoirs
Community Standards Districts
VICINITY MAP:
Printed on:
0 1 2 3
Miles
LOS ANGELES COUNTY
Department of Regional Planning
320 W. Temple St.
Los Angeles, CA 90012
LOS PADRES NATIONAL FOREST
VENTURA COUNTY
CITY OF LANCASTER
CITY OF PALMDALE
CITY OF LOS ANGELES
CITY OF SANTA CLARITA
ACTON
ACTON CSD
AGUA DULCE
AGUA DULCE CSD
CANYON COUNTRY
SAND CANYON
SAUGUS
BOUQUET CANYON
SAN FRANCISQUITO CANYON
NORTH LAKE
CASTAIC AREA CSD
CASTAIC
HASLEY CANYON
VAL VERDE
NEWHALL RANCH
STEVENSON RANCH
VALENCIA
NEWHALL
PLACERITA CANYON
ANGELES NATIONAL FOREST
5
126
14
Note: This map is a component of the Los Angeles County Santa Clarita Valley Area Plan OVOV Process. It is a working draft, subject to revision.
OVOV_I1_Planning_Area_11x17.mxd


COUNTY OF LOS ANGELES
Santa Clarita Valley Area Plan
Communities and Specific Plans
Exhibit L-1
LEGEND:
Specific Plans
Santa Clarita - Sphere of Influence
Planning Area
Incorporated Planning Area
Incorporated Cities
Other Unincorporated Area
National Forest
Lakes and Reservoirs
VICINITY MAP:
KERN COUNTY
VENTURA COUNTY
ORANGE COUNTY
PACIFIC OCEAN
Printed on:
0 1 2 3
Miles
LOS ANGELES COUNTY
Department of Regional Planning
320 W. Temple St.
Los Angeles, CA 90012
OVOV_L1_Communities_Specific_Plans_11x17.mxd
CITY OF LANCASTER
CITY OF PALMDALE
CITY OF LOS ANGELES
CITY OF SANTA CLARITA
ANGELES NATIONAL FOREST
LOS PADRES NATIONAL FOREST
VENTURA COUNTY
ELIZABETH LAKE RD
BOUQUET CANYON RD
SPUNKY CANYON RD
SAN FRANCISQUITO CANYON RD
PINE CANYON RD
LITTLE TUJUNGA CAN
AGUA DULCE
AGUA DULCE CANYON RD
SIERRA HWY
FORREST PARK
CANYON COUNTRY
SAND CANYON
SAND CANYON RD
BOUQUET CANYON
SAUGUS
SOUTHEAST CANYON RD
FAIR OAKS RANCH
NEWHALL
LYONS AV
VALENCIA
WALERGA AV
STEVENSON RANCH
NEWHALL RANCH
CASTAIC
HASLEY CANYON
VAL VERDE
NORTHLAKE
LAKE HUGHES RD
5
14
126
Note: This map is a component of the Los Angeles County Santa Clarita Valley Area Plan OVOV Process. It is a working draft, subject to revision.


COUNTY OF LOS ANGELES
Santa Clarita Valley Area Plan
Generalized Land Use and Limited H5 Districts
Exhibit L-2
LEGEND:
Urban Residential
Rural Lands
Commercial
Industrial
Open Space
Public / Semi-Public
Specific Plan
Transportation Corridor
Limited H5 Districts (See Insets)
Planning Area
Incorporated Planning Area
Incorporated Cities
Other Unincorporated Area
National Forest
Lakes and Reservoirs
VICINITY MAP:
Printed on:
0 1 2 3
Miles
LOS ANGELES COUNTY
Department of Regional Planning
320 W. Temple St.
Los Angeles, CA 90012
1. Val Verde
1 inch equals 3,000 feet
Limited H5 District
SAN MARTINEZ RD
DEL VALLE RD
2. Tract 25965
1 inch equals 2,000 feet
Limited H5 District
PLACERITA CANYON RD
3. Tract 25965
1 inch equals 2,000 feet
Limited H5 District
SIERRA HWY
LOS PADRES NATIONAL FOREST
ANGELES NATIONAL FOREST
VENTURA COUNTY
CITY OF PALMDALE
CITY OF SANTA CLARITA
CITY OF LOS ANGELES
CASTAIC
HASLEY CANYON
VAL VERDE
SAUGUS
BOUQUET CANYON
FORREST PARK
AGUA DULCE
CANYON COUNTRY
SAND CANYON
VALENCIA
NEWHALL
STEVENSON RANCH
BOUQUET CANYON RD
SAN FRANCISQUITO CANYON RD
LAKE HUGHES RD
AGUA DULCE CANYON RD
SOLEDAD CANYON RD
VALENCIA BLVD
LYONS AV
HENRY MAYO DR
LITTLE TUJUNGA RD
Note: This map is a component of the Los Angeles County Santa Clarita Valley Area Plan OVOV Process. It is a working draft, subject to revision.
OVOV_L2_general_plan_H52_districts_11x17.mxd


COUNTY OF LOS ANGELES
Santa Clarita Valley Area Plan
Existing Major Streets and Highways, 2007
Exhibit C-1
LEGEND:
Freeway
Highway
Primary (Arterial)
Secondary (Residential Collector)
Railroad
Planning Area
Incorporated Planning Area
Incorporated Cities
Other Unincorporated Area
National Forest
Lakes and Reservoirs
Source: Streets - Thomas Brothers, 2008.
VICINITY MAP:
Printed on:
Miles
LOS ANGELES COUNTY
Department of Regional Planning
320 W. Temple St.
Los Angeles, CA 90012
OVOV_C1_Existing_Roadways_11x17.mxd
CITY OF LANCASTER
CITY OF PALMDALE
CITY OF SANTA CLARITA
CITY OF LOS ANGELES
VENTURA COUNTY
LOS PADRES NATIONAL FOREST
ANGELES NATIONAL FOREST
Note: This map is a component of the Los Angeles County Santa Clarita Valley Area Plan OVOV Process. It is a working draft, subject to revision.

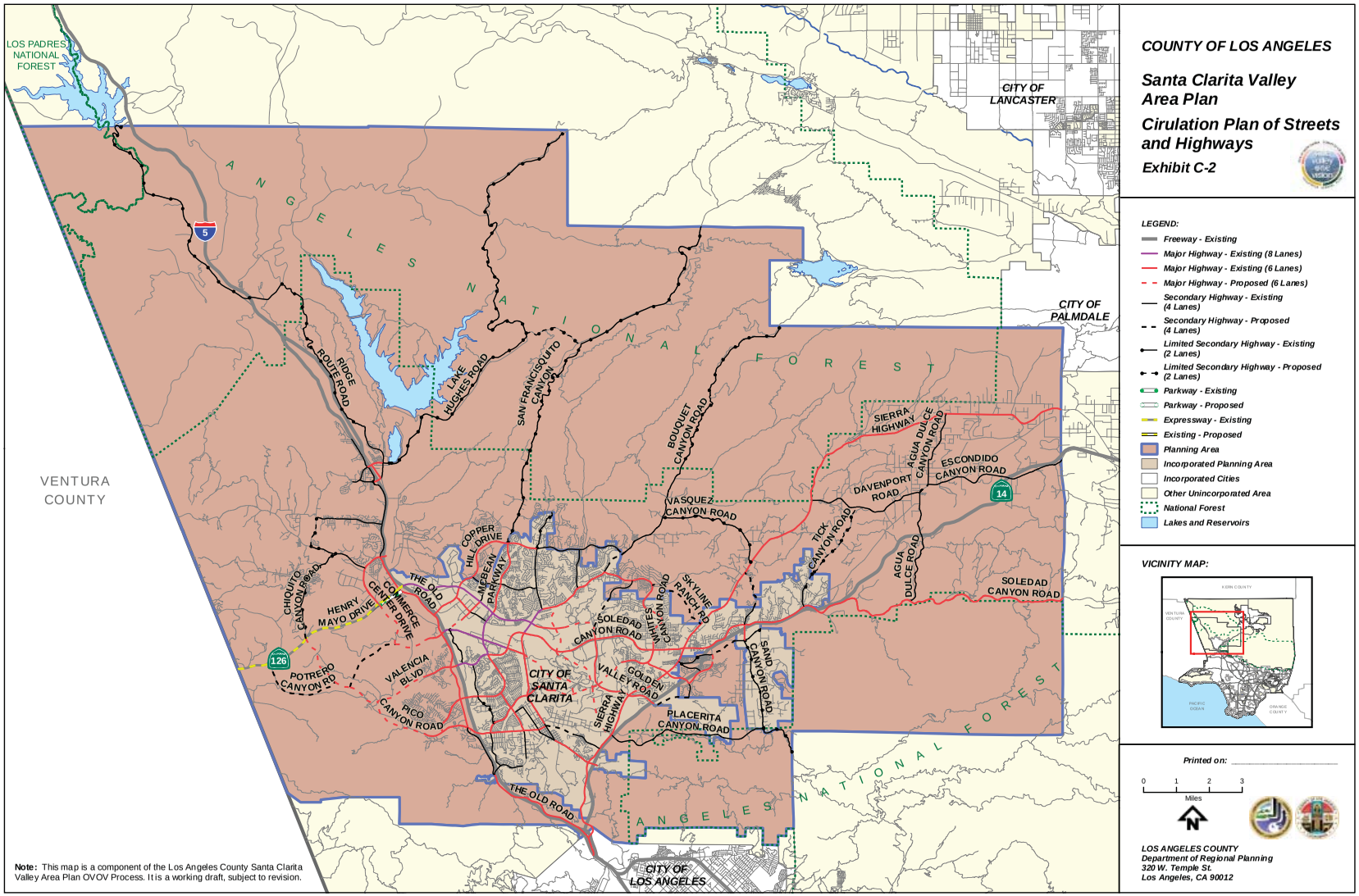

COUNTY OF LOS ANGELES
Santa Clarita Valley Area Plan
Cirulation Plan of Streets and Highways
Exhibit C-2
LEGEND:
Freeway - Existing
Major Highway - Existing (8 Lanes)
Major Highway - Existing (6 Lanes)
Major Highway - Proposed (6 Lanes)
Secondary Highway - Existing (4 Lanes)
Secondary Highway - Proposed (4 Lanes)
Limited Secondary Highway - Existing (2 Lanes)
Limited Secondary Highway - Proposed (2 Lanes)
Parkway - Existing
Parkway - Proposed
Expressway - Existing
Existing - Proposed
Planning Area
Incorporated Planning Area
Incorporated Cities
Other Unincorporated Area
National Forest
Lakes and Reservoirs
VICINITY MAP:
Printed on:
0 1 2 3
Miles
LOS ANGELES COUNTY
Department of Regional Planning
320 W. Temple St.
Los Angeles, CA 90012
LOS PADRES NATIONAL FOREST
VENTURA COUNTY
CITY OF LANCASTER
CITY OF PALMDALE
CITY OF SANTA CLARITA
CITY OF LOS ANGELES
ANGELES NATIONAL FOREST
5
14
126
RIDGE ROUTE ROAD
LAKE HUGHES ROAD
SAN FRANCISQUITO CANYON
BOUQUET CANYON ROAD
SIERRA HIGHWAY
AGUA DULCE CANYON ROAD
ESCONDIDO CANYON ROAD
DAVENPORT ROAD
VASQUEZ CANYON ROAD
TICK CANYON ROAD
AGUA DULCE ROAD
SOLEDAD CANYON ROAD
COPPER HILL DRIVE
MCBEAN PARKWAY
THE OLD ROAD
COMMERCE CENTER DRIVE
CHIQUITO CANYON ROAD
HENRY MAYO DRIVE
POTRERO CANYON RD
VALENCIA BLVD
PICO CANYON ROAD
SOLEDAD CANYON ROAD
WHITES CANYON ROAD
SKYLINE RANCH RD
GOLDEN VALLEY ROAD
SAND CANYON ROAD
PLACERITA CANYON ROAD
SIERRA HIGHWAY
THE OLD ROAD
Note: This map is a component of the Los Angeles County Santa Clarita Valley Area Plan OVOV Process. It is a working draft, subject to revision.
OVOV_C2_Circulation_Plan_11x17.mxd

FIGURE C-3: STANDARD ROADWAY CROSS SECTIONS

SEE PAGES 89-95

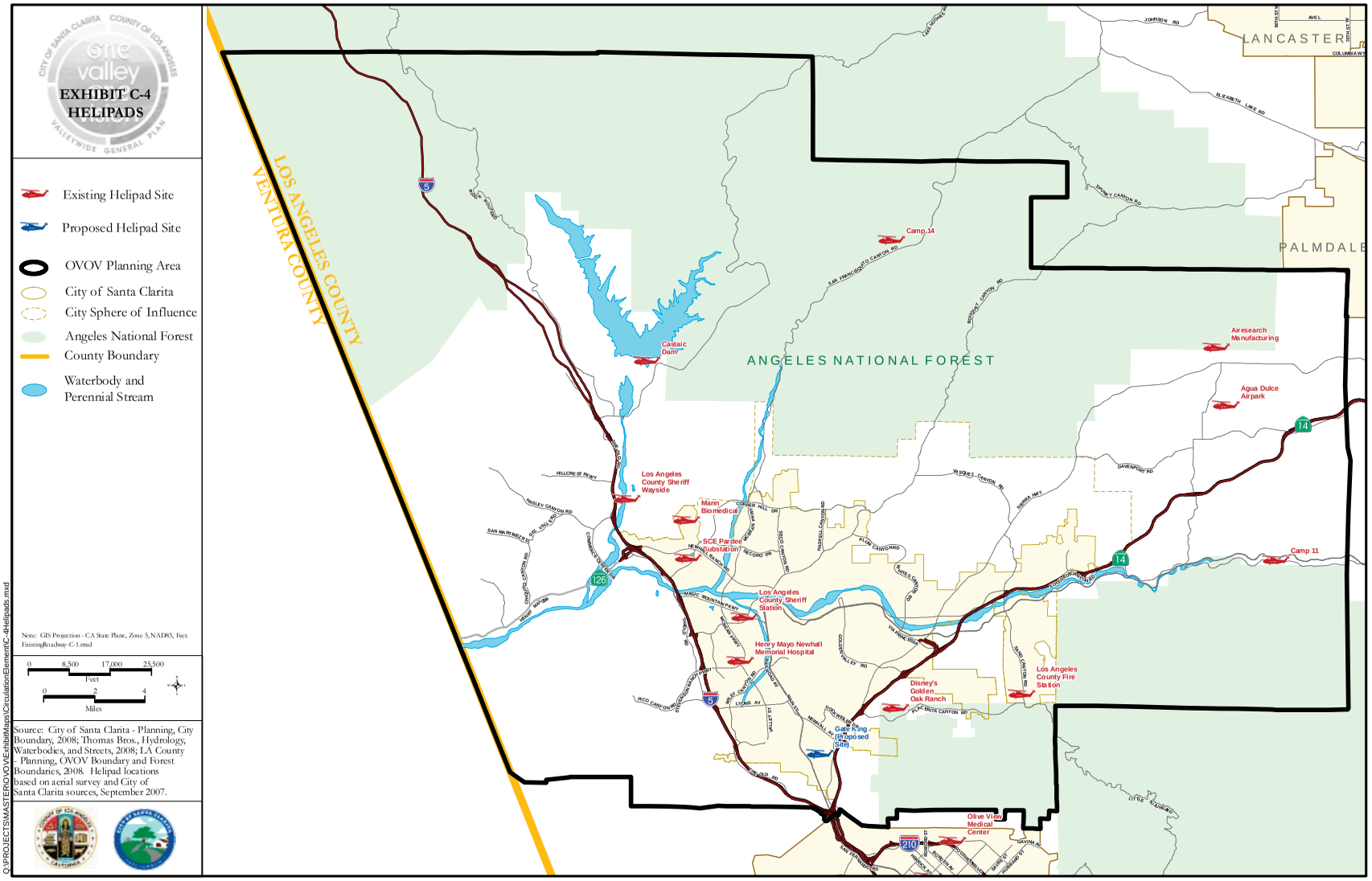


EXHIBIT C-4
HELIPADS
Existing Helipad Site
Proposed Helipad Site
OVOV Planning Area
City of Santa Clarita
City Sphere of Influence
Angeles National Forest
County Boundary
Waterbody and Perennial Stream
Note: GIS Projection - CA State Plane, Zone 5, NAD83, Feet. ExistingRoadway-C-1.mxd
0 8,500 17,000 25,500
Feet
0 2 4
Miles
Source: City of Santa Clarita - Planning, City Boundary, 2008; Thomas Bros., Hydrology, Waterbodies, and Streets, 2008; LA County - Planning, OVOV Boundary and Forest Boundaries, 2008. Helipad locations based on aerial survey and City of Santa Clarita sources, September 2007.
Q:\PROJECTS\MASTER\OVOV\ExhibitMaps\Circulation\Element\C-4Helipads.mxd
LOS ANGELES COUNTY
VENTURA COUNTY
ANGELES NATIONAL FOREST
LANCASTER
PALMDALE
Camp 14
Castaic Dam
Airesearch Manufacturing
Agua Dulce Airpark
Los Angeles County Sheriff Wayside
Mann Biomedical
SCE Pardee Substation
Los Angeles County Sheriff Station
Henry Mayo Newhall Memorial Hospital
Disney's Golden Oak Ranch
Los Angeles County Fire Station
Camp 11
Gate King (Proposed Site)
Olive View Medical Center

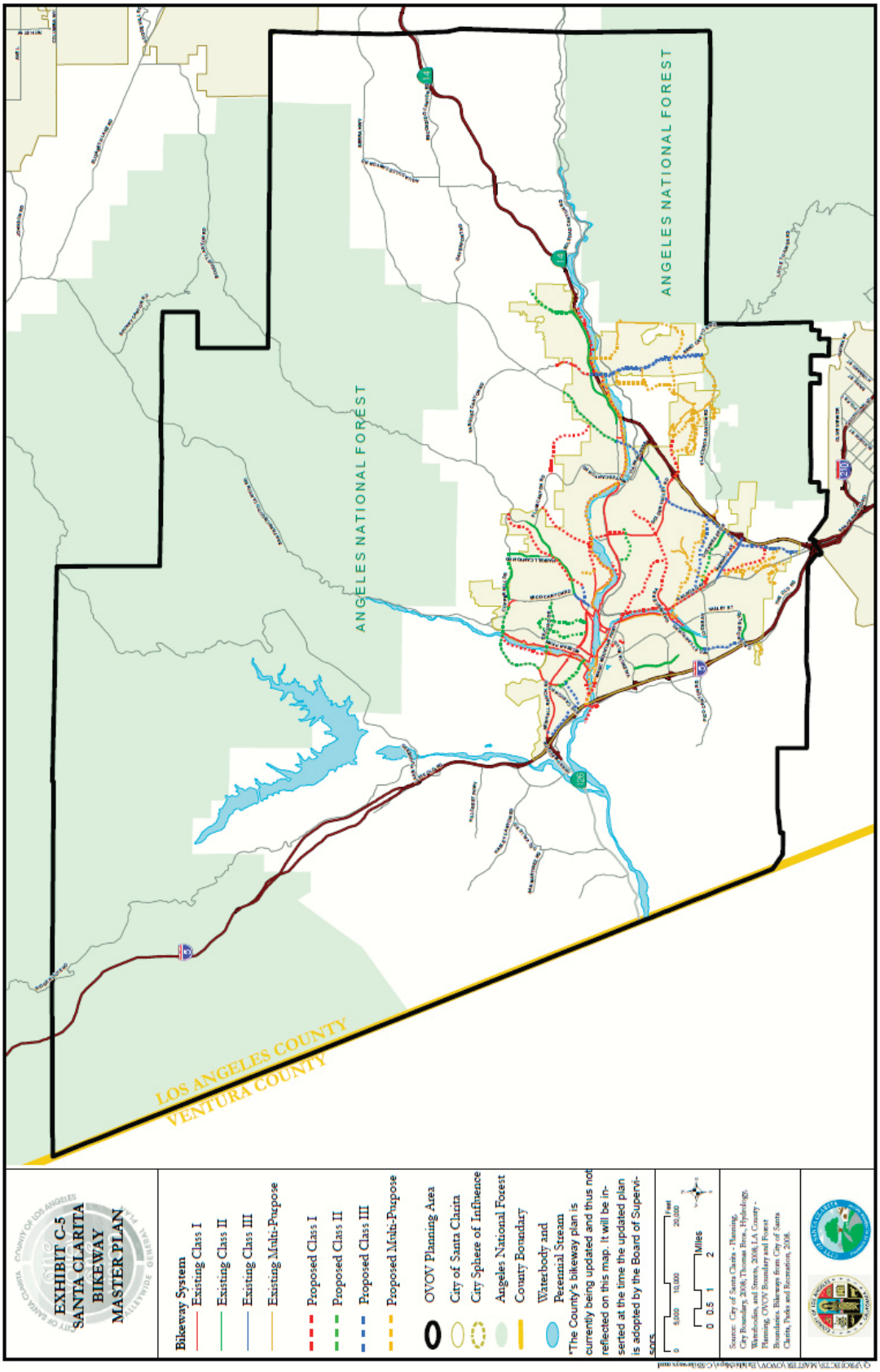
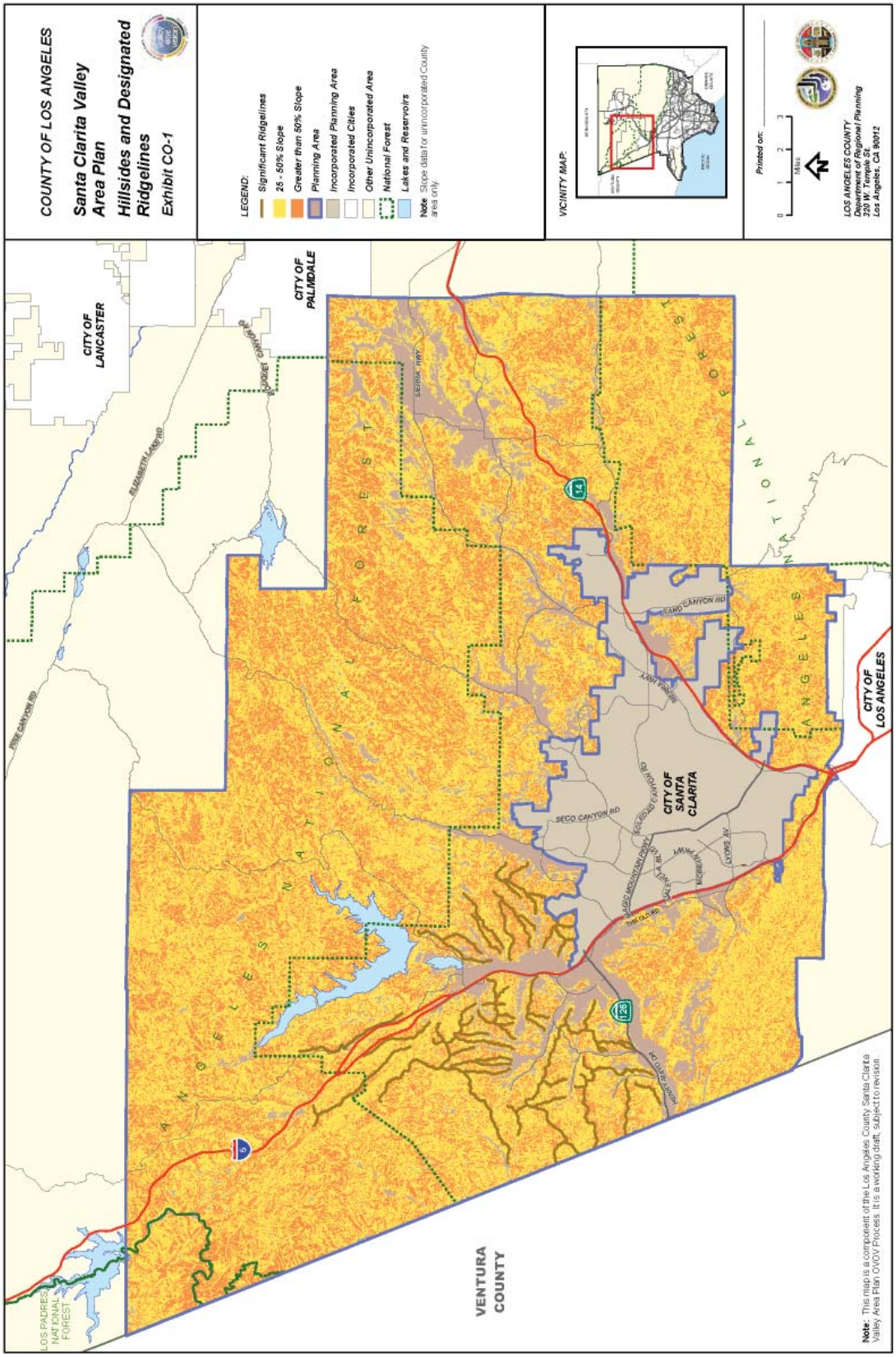
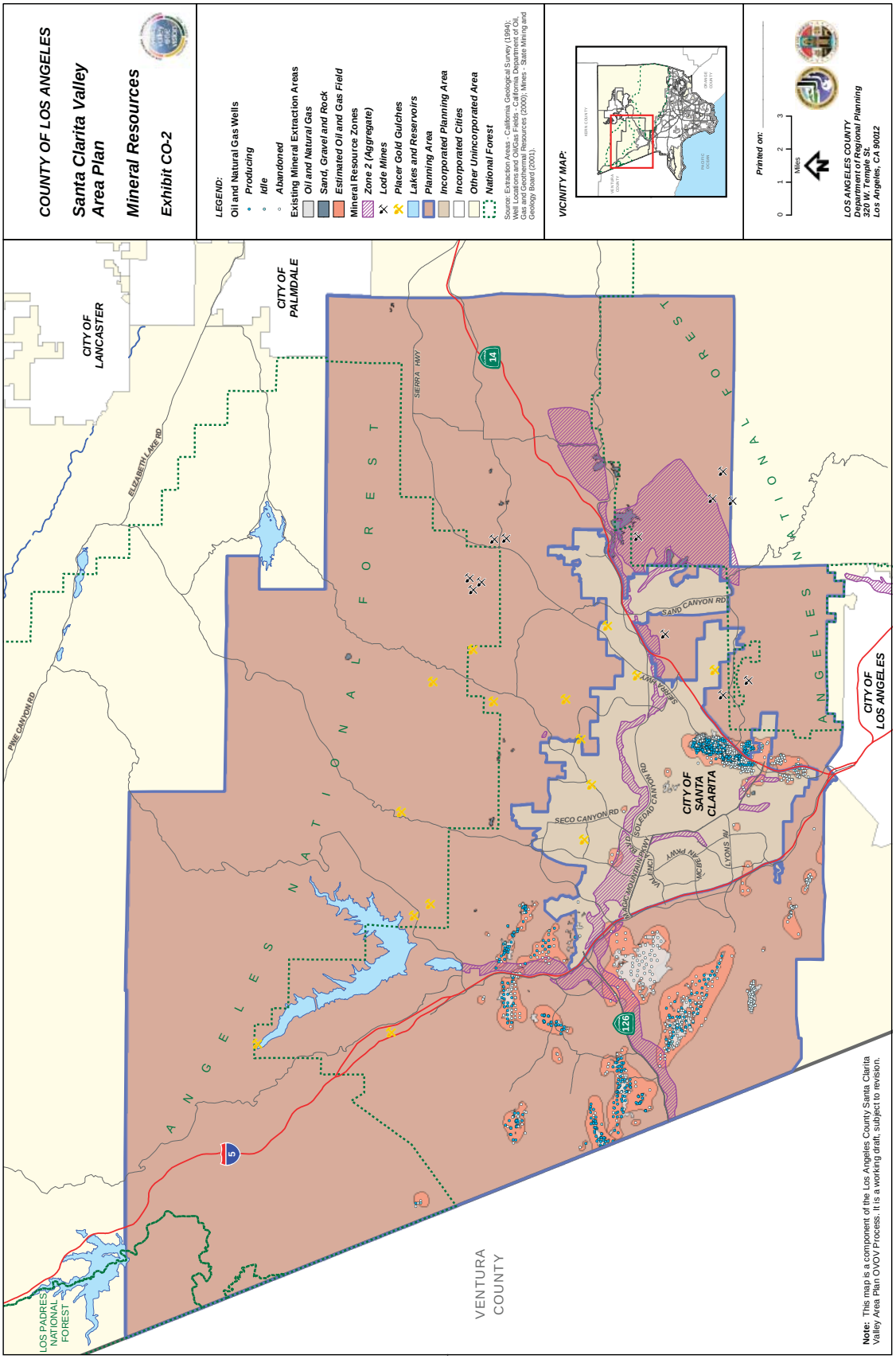
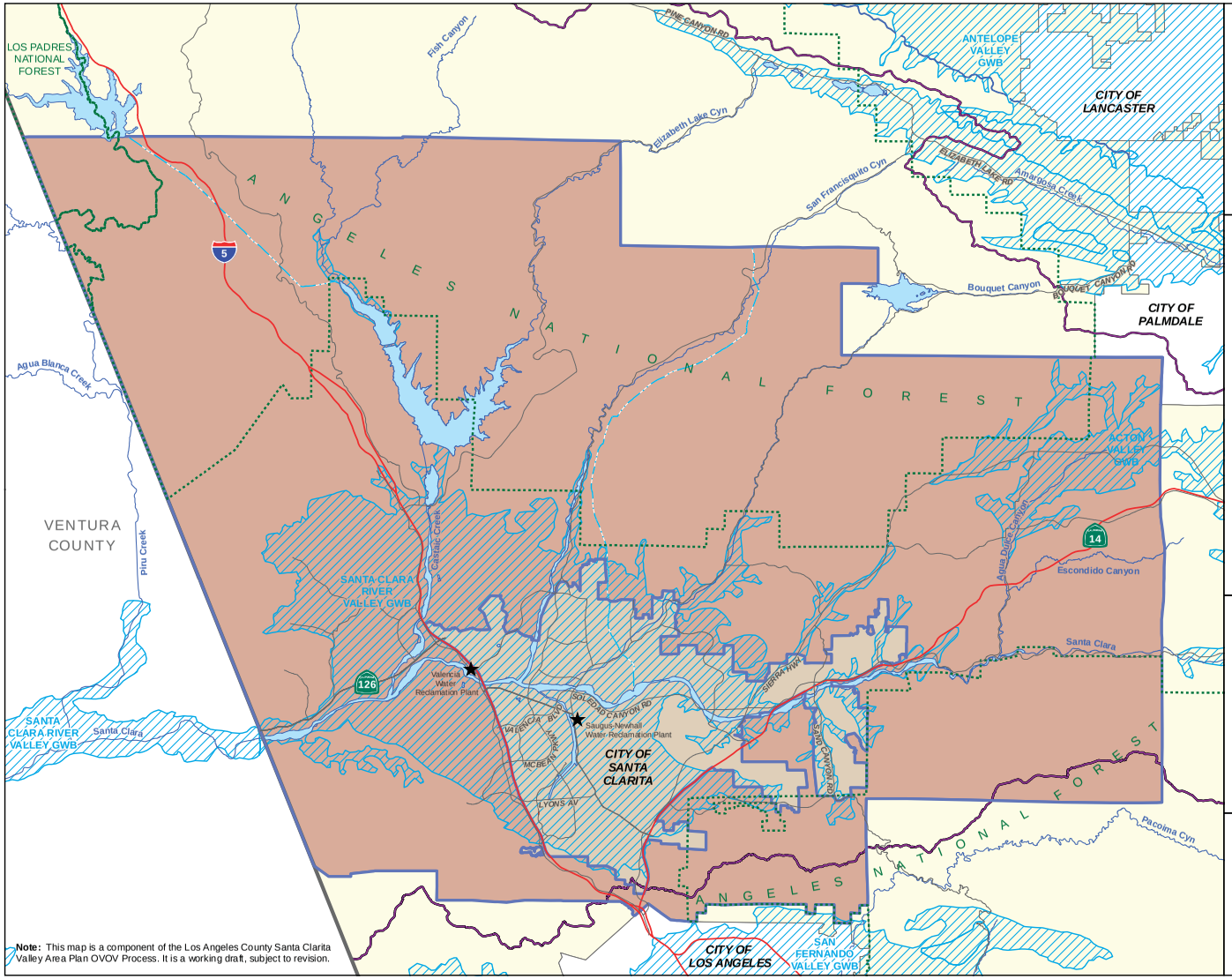


EXHIBIT C-5
SANTA CLARITA
BIKEWAY
MASTER PLAN
Bikeway System
Existing Class I
Existing Class II
Existing Class III
Existing Multi-Purpose
Proposed Class I
Proposed Class II
Proposed Class III
Proposed Multi-Purpose
OVOV Planning Area
City of Santa Clarita
City Sphere of Influence
Angeles National Forest
County Boundary
Waterbody and
Perennial Stream
*The County's bikeway plan is currently being updated and thus not reflected on this map. It will be inserted at the time the updated plan is adopted by the Board of Supervisors.
Feet
0 5,000 10,000 20,000
Miles
0 0.5 1 2
Source: City of Santa Clarita - Planning, City Boundary, 2008; Thomas Bros., Hydrology, Waterbodies, and Streets, 2008; LA County - Planning, OVOV Boundary and Forest Boundaries, Bikeway from City of Santa Clarita, Parks and Recreation, 2008.
ANGELES NATIONAL FOREST
ANGELES NATIONAL FOREST
LOS ANGELES COUNTY
VENTURA COUNTY


COUNTY OF LOS ANGELES
Santa Clarita Valley Area Plan
Hillsides and Designated Ridgelines
Exhibit CO-1
LEGEND:
Significant Ridgelines
25 - 50% Slope
Greater than 50% Slope
Planning Area
Incorporated Planning Area
Incorporated Cities
Other Unincorporated Area
National Forest
Lakes and Reservoirs
Note: Slope data for unincorporated County area only.
VICINITY MAP:
Printed on:
Miles
LOS ANGELES COUNTY
Department of Regional Planning
320 W. Temple St.
Los Angeles, CA 90012
CITY OF LANCASTER
CITY OF PALMDALE
CITY OF SANTA CLARITA
CITY OF LOS ANGELES
VENTURA COUNTY
LOS PADRES NATIONAL FOREST
ANGELES NATIONAL FOREST
SAND CANYON RD
SECO CANYON RD
PINE CANYON RD
RUSSELL RANCH RD
SIERRA HWY
Note: This map is a component of the Los Angeles County Santa Clarita Valley Area Plan OVOV Process. It is a working draft, subject to revision.



Note: This map is a component of the Los Angeles County Santa Clarita Valley Area Plan OVOV Process. It is a working draft, subject to revision.



Note: This map is a component of the Los Angeles County Santa Clarita Valley Area Plan OVOV Process. It is a working draft, subject to revision.

COUNTY OF LOS ANGELES

Santa Clarita Valley Area Plan

Water Resources

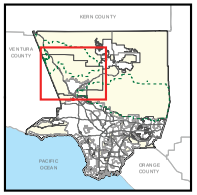
Exhibit CO-3

LEGEND:

- Reclamation Plant
- Perennial Stream
- Aqueduct
- Ground Water Basin
- Watershed Boundary
- Lakes and Reservoirs
- Planning Area
- Incorporated Planning Area
- Incorporated Cities
- Other Unincorporated Area
- National Forest

Source: Watersheds - California Interagency Watershed Mapping Committee (1999); Hydrology - Thomas Brothers (2008); Ground Water Basins - California Department of Water Resources (2003); Aqueduct derived from USGS DRGs, (1990); Reclamation plants from City of Santa Clarita, 2008.

VICINITY MAP:

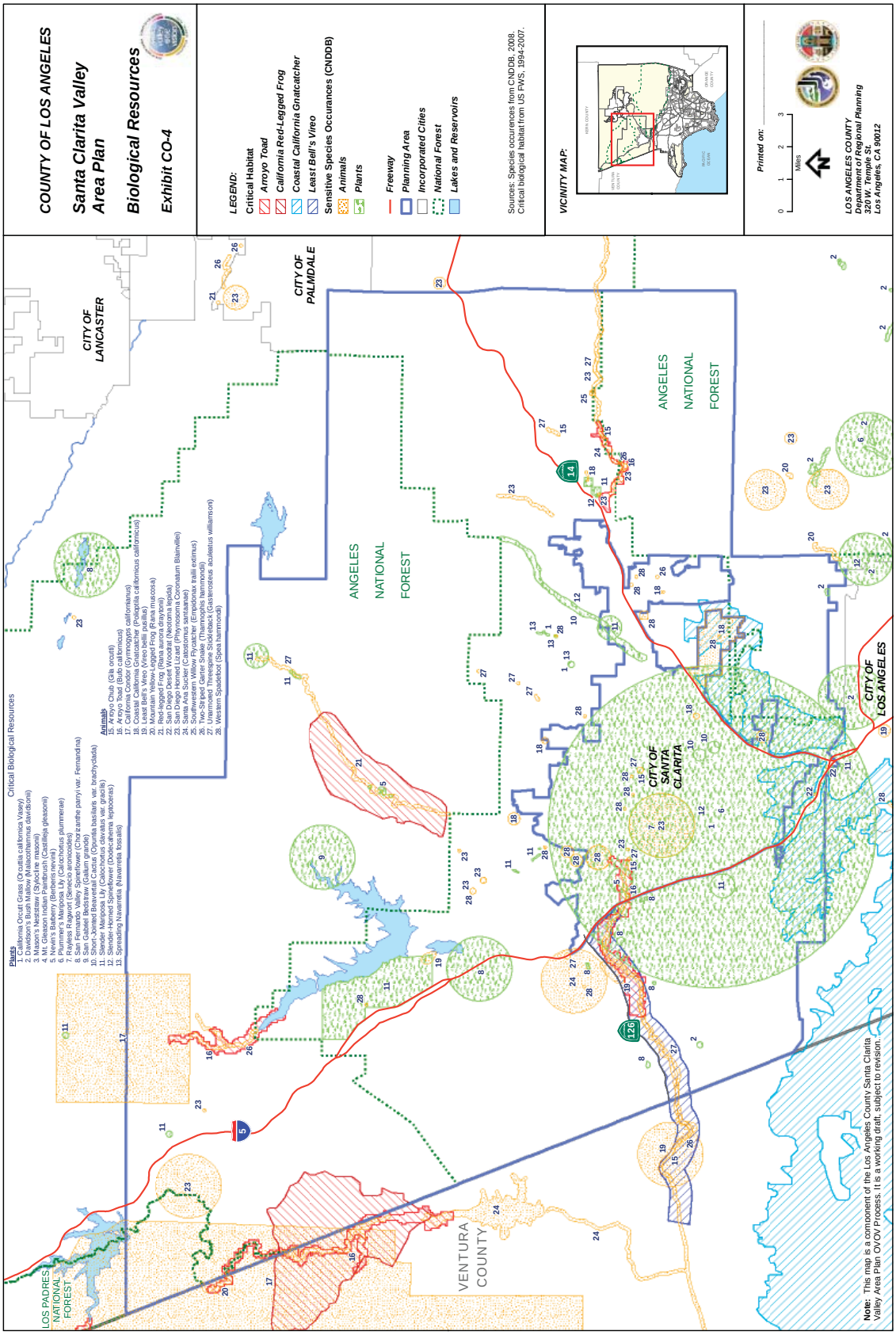


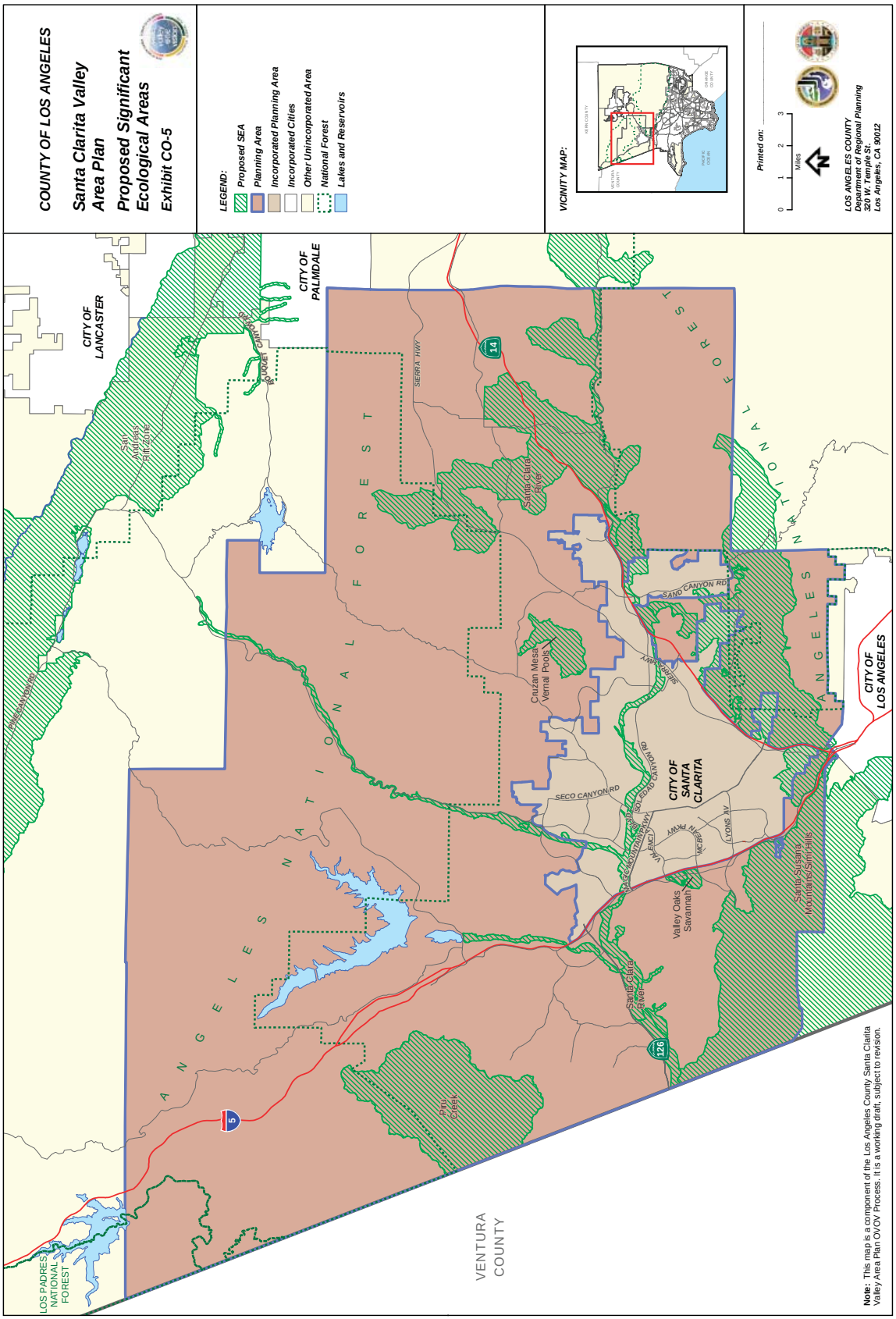
Printed on: _____

0 1 2 3
Miles

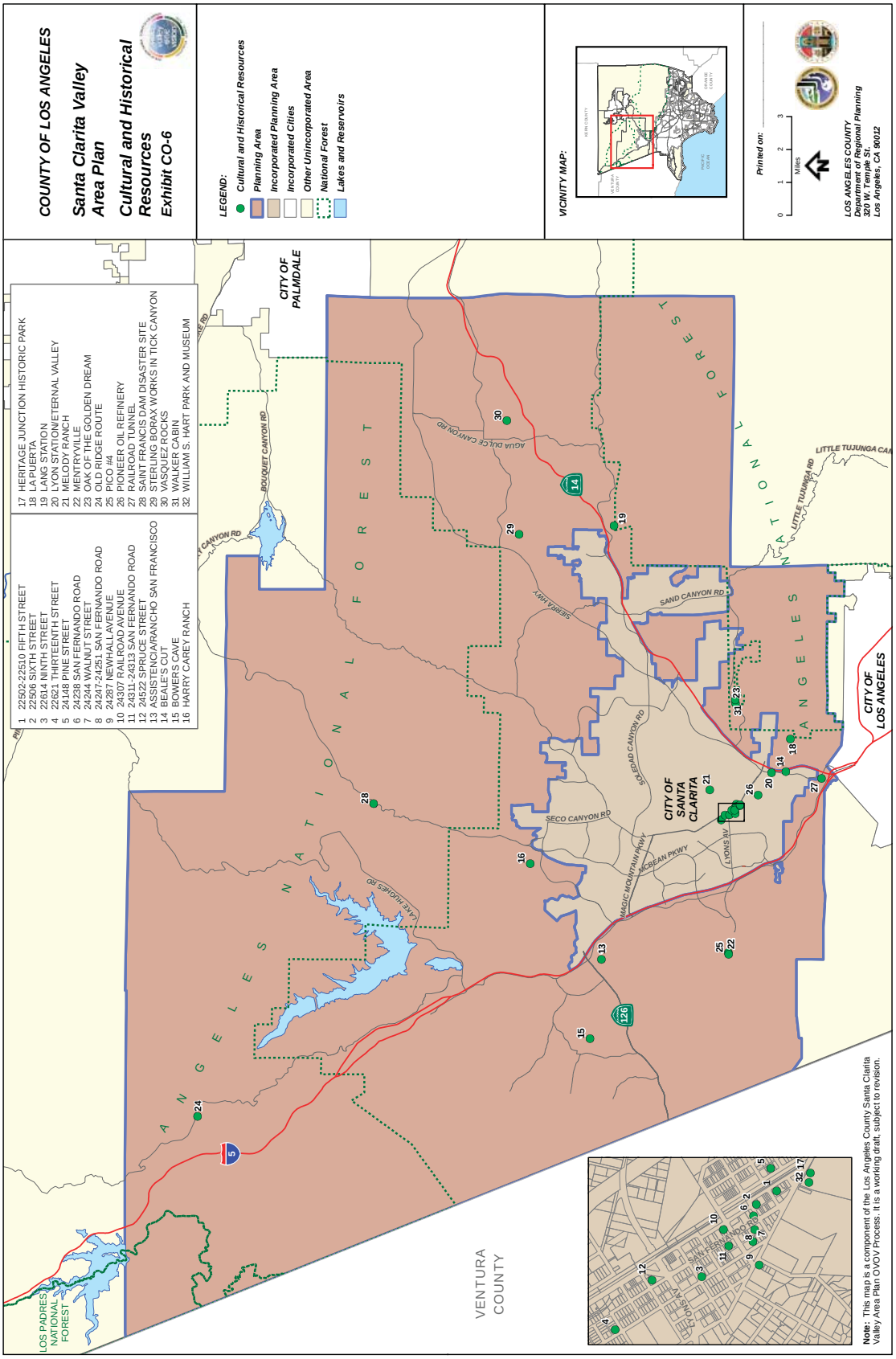
LOS ANGELES COUNTY
Department of Regional Planning
320 W. Temple St.
Los Angeles, CA 90012

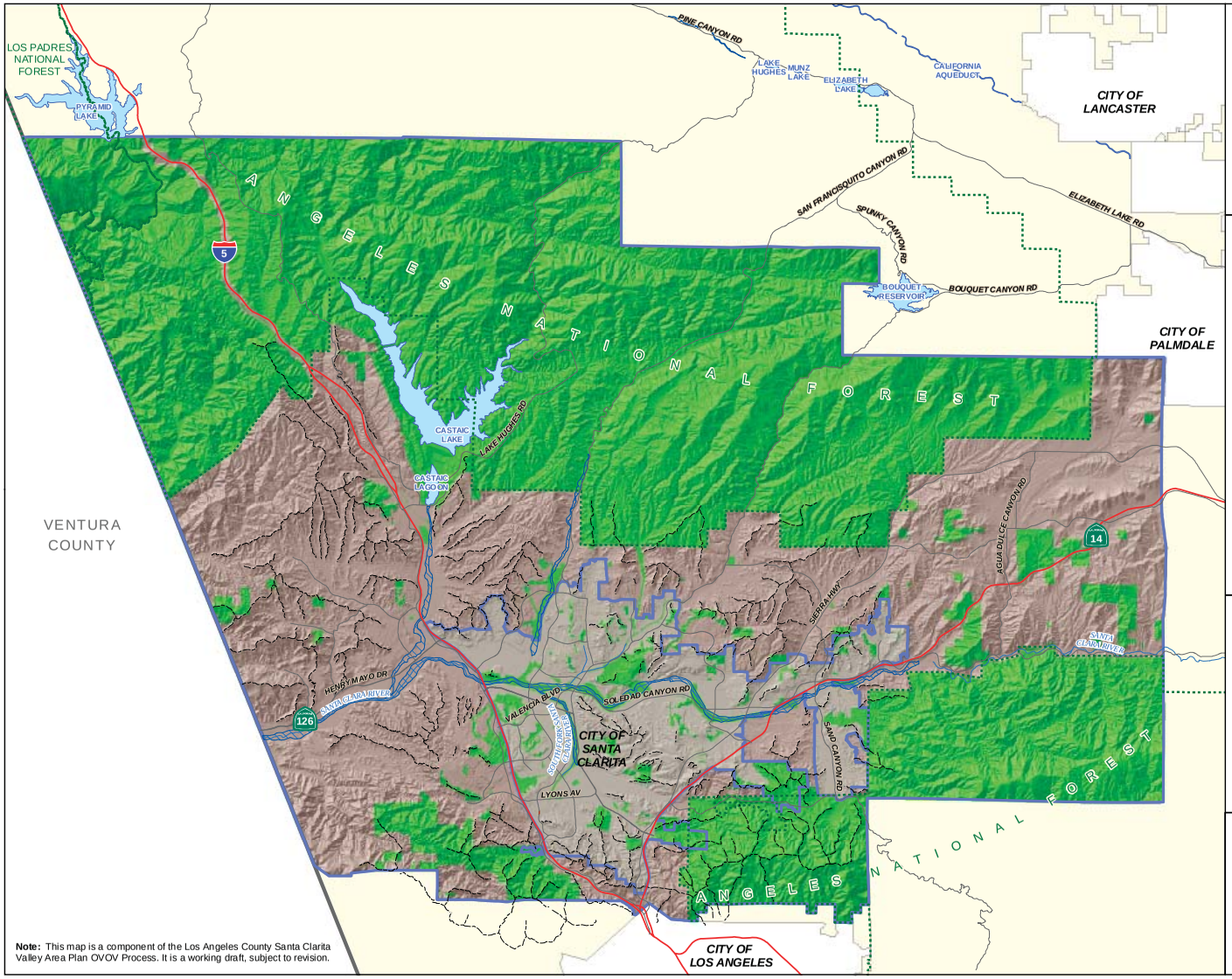
OVOV_CO3_Water_Resources_11x17.mxd


COUNTY OF LOS ANGELES
Santa Clarita Valley Area Plan
Biological Resources
Exhibit CO-4
LEGEND:
Critical Habitat
Arroyo Toad
California Red-Legged Frog
Coastal California Gnatcatcher
Least Bell's Vireo
Sensitive Species Occurances (CNDDB)
Animals
Plants
Freeway
Planning Area
Incorporated Cities
National Forest
Lakes and Reservoirs
Sources: Species occurences from CNDDB, 2008. Critical biological habitat from US FWS, 1994-2007.
VICINITY MAP:
Printed on:
0 1 2 3
Miles
LOS ANGELES COUNTY
Department of Regional Planning
320 W. Temple St.
Los Angeles, CA 90012
OVOV_CO4_Biological_Resources_11x17.mxd
Critical Biological Resources
Plants
1. California Orcutt Grass (Orcuttia californica Vasey)
2. Davidson's Bush Mallow (Malacothamnus davidsonii)
3. Mason's Neostapia (Stylocline masonii)
4. Mt. Gleason Indian Paintbrush (Castilleja gleasonii)
5. Nevin's Barberry (Berberis nevinii)
6. Plummer's Mariposa Lily (Calochortus plummerae)
7. Robinson's Pepper-Grass (Lepidium virginicum var. robinsonii)
8. San Fernando Valley Spineflower (Chorizanthe parryi var. Fernandina)
9. San Gabriel Bedstraw (Galium grande)
10. Short-Jointed Beavertail Cactus (Opuntia basilaris var. brachyclada)
11. Slender Mariposa Lily (Calochortus clavatus var. gracilis)
12. Slender-Horned Spineflower (Dodecahema leptoceras)
13. Spreading Navarretia (Navarretia fossalis)
Animals
14. Arroyo Chub (Gila orcutti)
15. Arroyo Toad (Bufo californicus)
16. Arroyo Toad (Bufo californicus)
17. California Condor (Gymnogyps californianus)
18. Coastal California Gnatcatcher (Polioptila californicus californicus)
19. Least Bell's Vireo (Vireo bellii pusillus)
20. Mountain Yellow-Legged Frog (Rana muscosa)
21. Red-legged Frog (Rana aurora draytoni)
22. San Diego Desert Woodrat (Neotoma lepida intermedia)
23. San Diego Horned Lizard (Phrynosoma Coronatum Blainville)
24. Santa Ana Sucker (Catostomus santaanae)
25. Southwestern Willow Flycatcher (Empidonax traillii extimus)
26. Stephens' Kangaroo Rat (Dipodomys stephensi)
27. Unarmored Threespine Stickleback (Gasterosteus aculeatus williamsoni)
28. Western Spadefoot (Spea hammondii)
CITY OF LANCASTER
CITY OF PALMDALE
CITY OF SANTA CLARITA
CITY OF LOS ANGELES
ANGELES NATIONAL FOREST
LOS PADRES NATIONAL FOREST
VENTURA COUNTY
Note: This map is a component of the Los Angeles County Santa Clarita Valley Area Plan OVOV Process. It is a working draft, subject to revision.



Note: This map is a component of the Los Angeles County Santa Clarita Valley Area Plan OVOV Process. It is a working draft, subject to revision.


COUNTY OF LOS ANGELES
Santa Clarita Valley Area Plan
Cultural and Historical Resources
Exhibit CO-6
LEGEND:
Cultural and Historical Resources
Planning Area
Incorporated Planning Area
Incorporated Cities
Other Unincorporated Area
National Forest
Lakes and Reservoirs
VICINITY MAP:
Printed on:
Miles
LOS ANGELES COUNTY
Department of Regional Planning
320 W. Temple St.
Los Angeles, CA 90012
OVOV_CO6_Cultural_Historical_11x17.mxd
1 22502-22510 FIFTH STREET
2 22506 SIXTH STREET
3 22614 NINTH STREET
4 22621 THIRTEENTH STREET
5 24148 PINE STREET
6 24238 SAN FERNANDO ROAD
7 24244 WALNUT STREET
8 24247-24251 SAN FERNANDO ROAD
9 24287 NEWHALL AVENUE
10 24307 RAILROAD AVENUE
11 24311-24313 SAN FERNANDO ROAD
12 24522 SPRUCE STREET
13 ASSISTENCIA/RANCHO SAN FRANCISCO
14 BEALE'S CUT
15 BOWER'S CAVE
16 HARRY CAREY RANCH
17 HERITAGE JUNCTION HISTORIC PARK
18 LA PUERTA
19 LANG STATION
20 LYON STATION/ETERNAL VALLEY
21 MELODY RANCH
22 MENTRYVILLE
23 OAK OF THE GOLDEN DREAM
24 OLD RIDGE ROUTE
25 PICO #4
26 PIONEER OIL REFINERY
27 RAILROAD TUNNEL
28 SAINT FRANCIS DAM DISASTER SITE
29 STERLING BORAX WORKS IN TICK CANYON
30 VASQUEZ ROCKS
31 WALKER CABIN
32 WILLIAM S. HART PARK AND MUSEUM
CITY OF PALMDALE
CITY OF SANTA CLARITA
CITY OF LOS ANGELES
VENTURA COUNTY
LOS PADRES NATIONAL FOREST
ANGELES NATIONAL FOREST
SAND CANYON RD
SECO CANYON RD
SOLEDAD CANYON RD
MAGIC MOUNTAIN PKWY
MCBEAN PKWY
LYON AVE
SIERRA HWY
AGUA DULCE CANYON RD
BOUQUET CANYON RD
LITTLE TUJUNGA RD
LAKE HUGHES RD
Note: This map is a component of the Los Angeles County Santa Clarita Valley Area Plan OVOV Process. It is a working draft, subject to revision.



Note: This map is a component of the Los Angeles County Santa Clarita Valley Area Plan OVOV Process. It is a working draft, subject to revision.

COUNTY OF LOS ANGELES

Santa Clarita Valley Area Plan

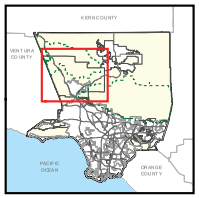
Scenic Resources

Exhibit CO-7

LEGEND:

- *Ridgelines*
- *Open Space*
- *Lakes and Reservoirs*
- *River Floodplain*
- *National Forest*
- *Los Angeles County*
- *Planning Area*
- *Incorporated Planning Area*
- *Incorporated Cities*
- *Other Unincorporated Area*

VICINITY MAP:

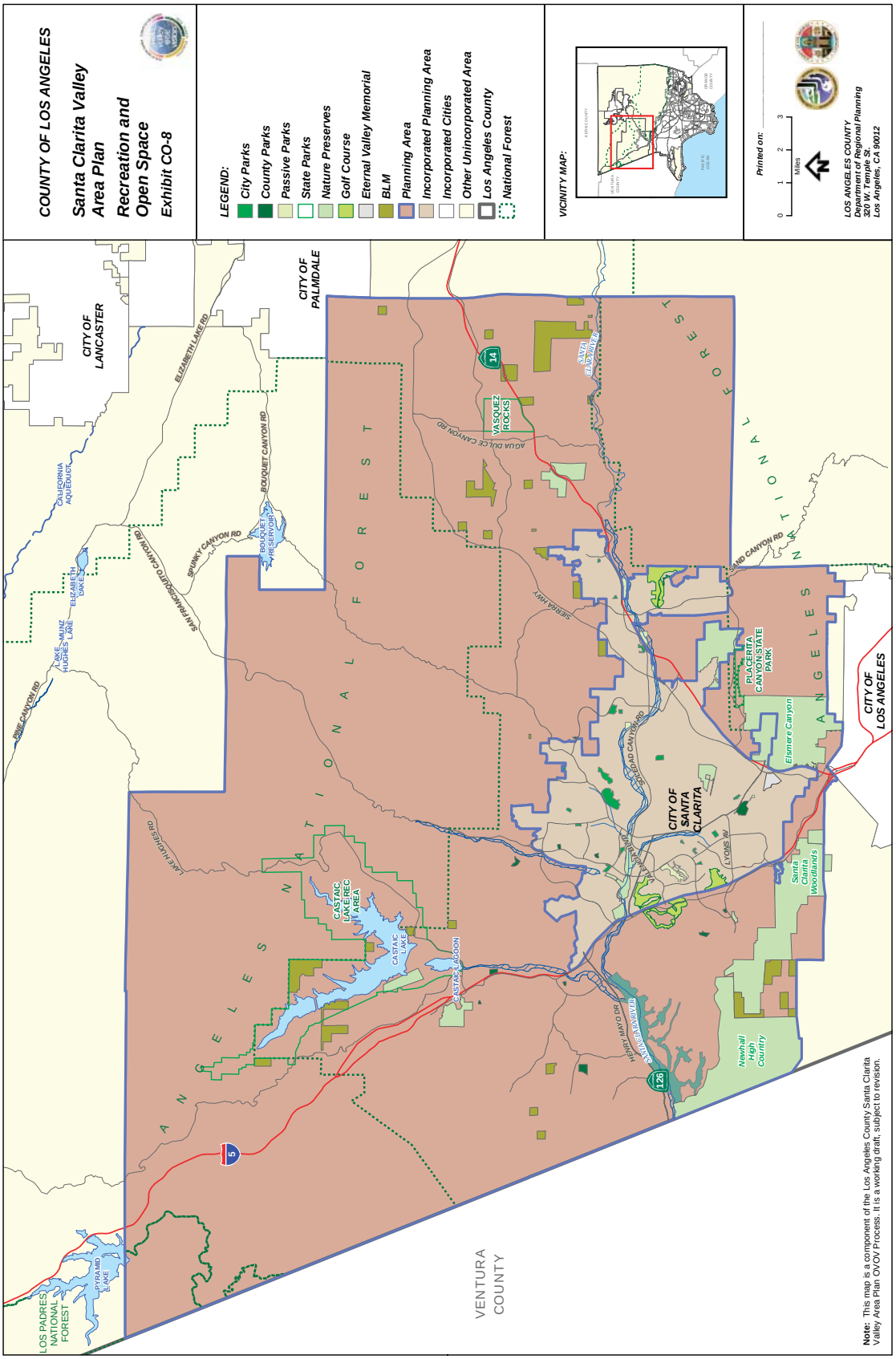


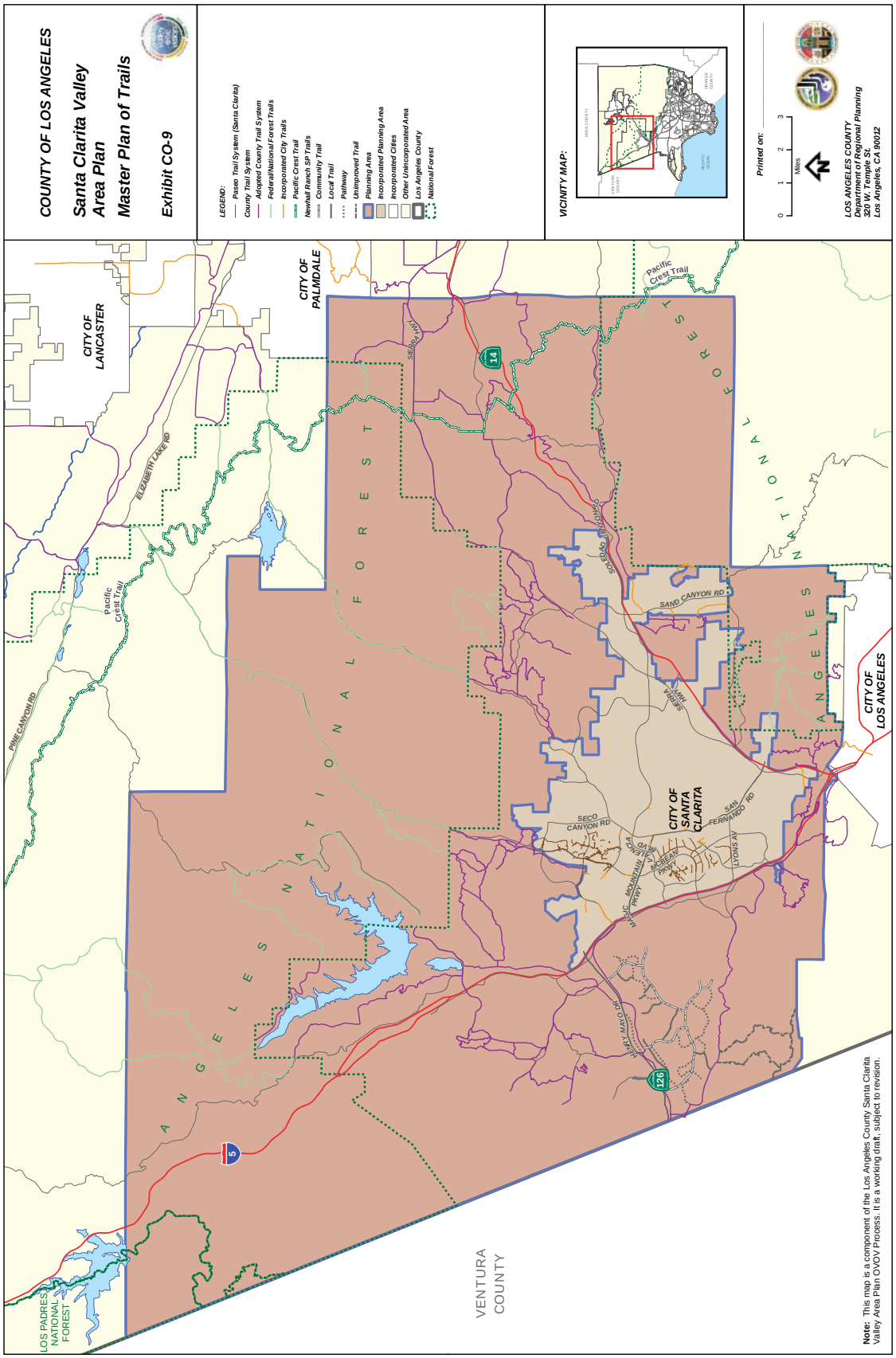
Printed on: _____

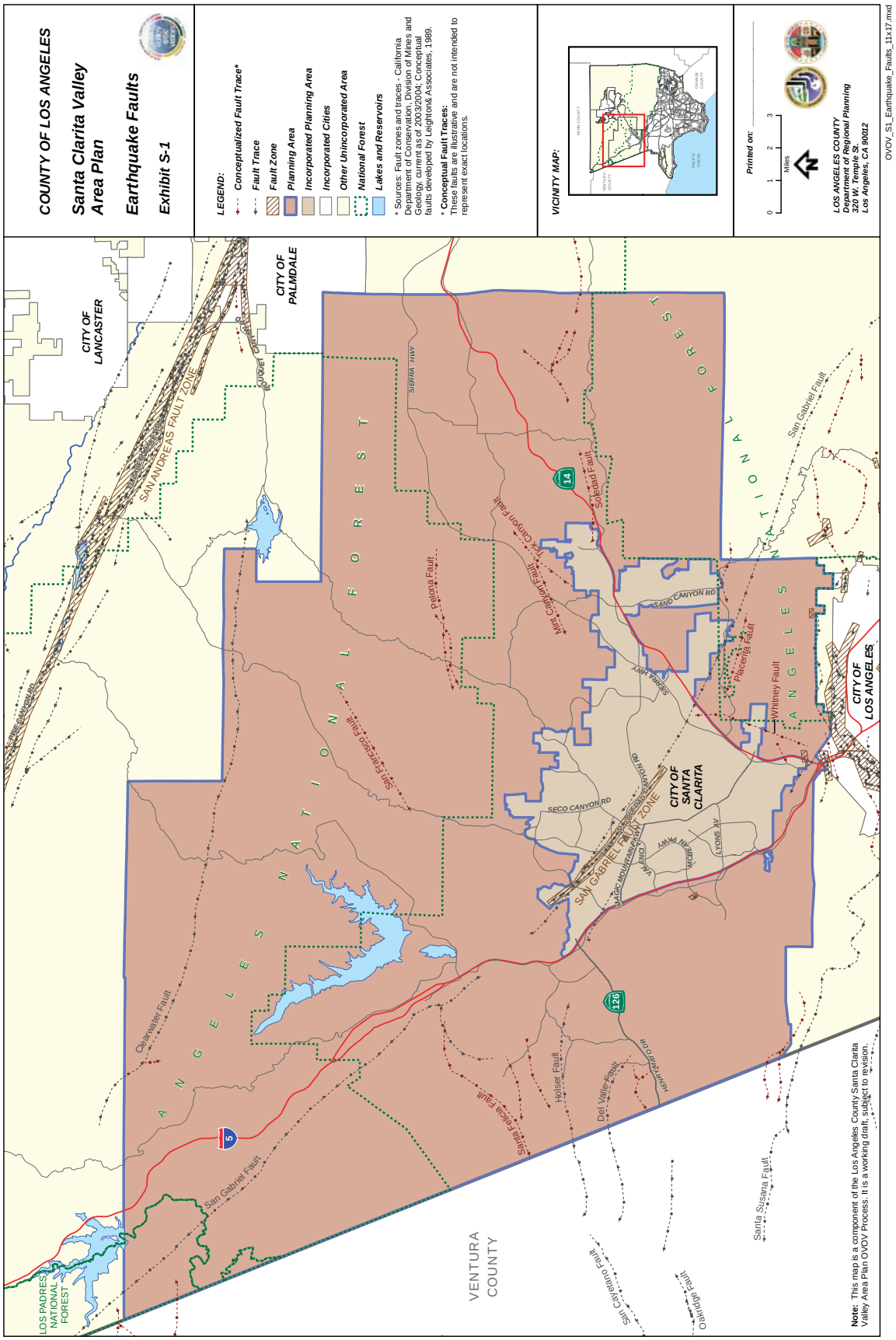
0 1 2 3
Miles

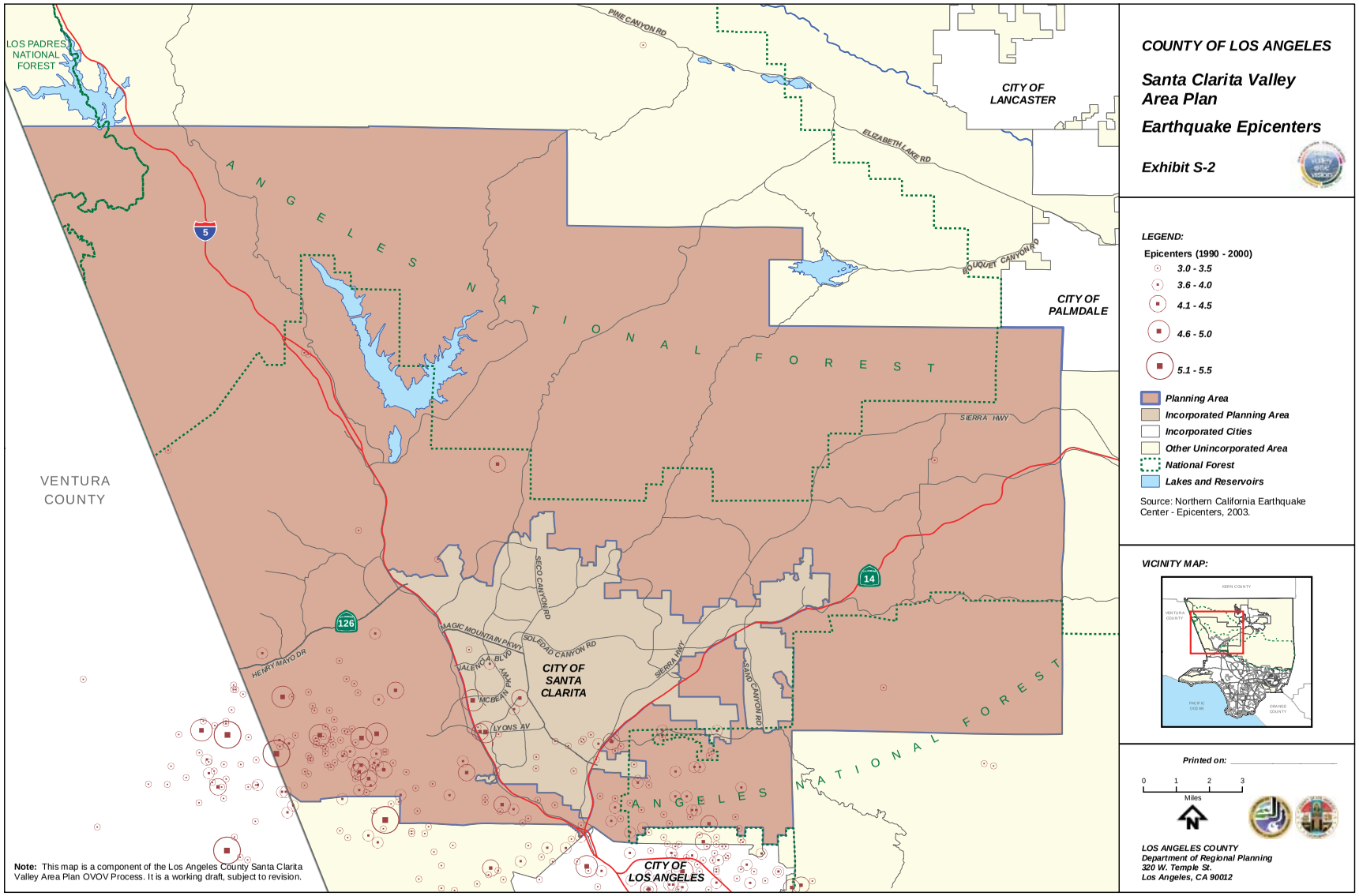
LOS ANGELES COUNTY
Department of Regional Planning
320 W. Temple St.
Los Angeles, CA 90012

OVOV_CO7_Scenic_Resources_11x17_92.mxd

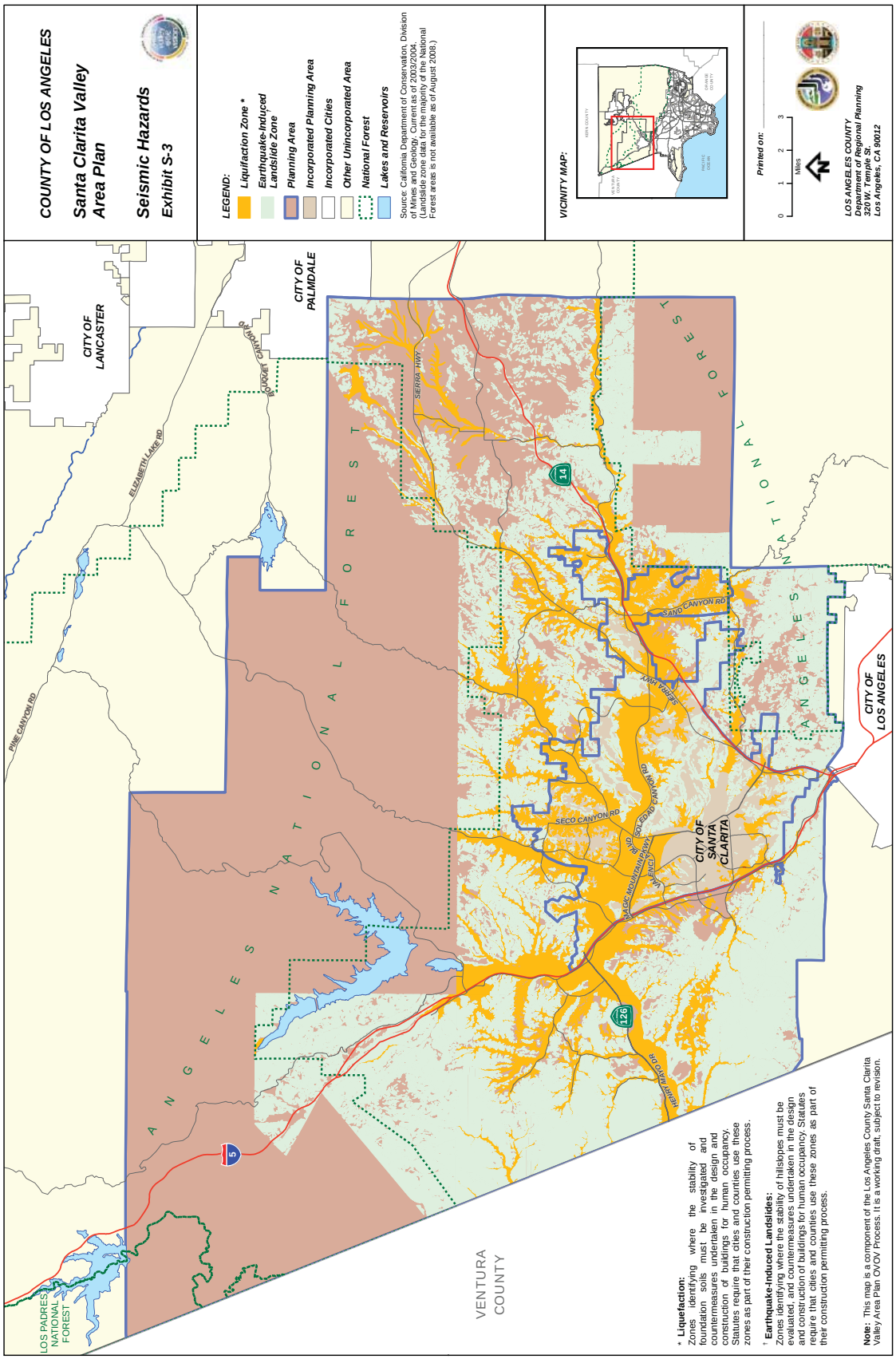

COUNTY OF LOS ANGELES
Santa Clarita Valley Area Plan
Recreation and Open Space
Exhibit CO-8
LEGEND:
City Parks
County Parks
Passive Parks
State Parks
Nature Preserves
Golf Course
Eternal Valley Memorial
BLM
Planning Area
Incorporated Planning Area
Incorporated Cities
Other Unincorporated Area
Los Angeles County
National Forest
VICINITY MAP:
Printed on:
Miles
LOS ANGELES COUNTY
Department of Regional Planning
320 W. Temple St.
Los Angeles, CA 90012
CV/OV_CO8_Recreation_&_Open_Space_11x17_92.mxd
CITY OF LANCASTER
CITY OF PALMDALE
CITY OF LOS ANGELES
CITY OF SANTA CLARITA
VENTURA COUNTY
LOS PADRES NATIONAL FOREST
ANGELES NATIONAL FOREST
CALIFORNIA AQUEDUCT
ELIZABETH LAKE RD
BOUQUET CANYON RD
SPUNKY CANYON RD
SAN FRANCISQUITO CANYON RD
PINE CANYON RD
LAKE HUGHES RD
AGUA DULCE CANYON RD
SIERRA HWY
SAND CANYON RD
SOLEDAD CANYON RD
LAKE ELIZABETH RD
SOLEMINT RD
HENRY MAYO DR
SAN FRANCISQUITO CANYON RD
ELIZABETH LAKE
LAKE HUGHES-MUNZ LAKE
BOUQUET RESERVOIR
VASQUEZ ROCKS
PLACERITA CANYON STATE PARK
CASTAIC LAKE RECREATION AREA
CASTAIC LAKE
CASTAIC LAGOON
PYRAMID LAKE
Elsmere Canyon
Santa Clarita Woodlands
Newhall High Country
Note: This map is a component of the Los Angeles County Santa Clarita Valley Area Plan OV/OV Process. It is a working draft, subject to revision.

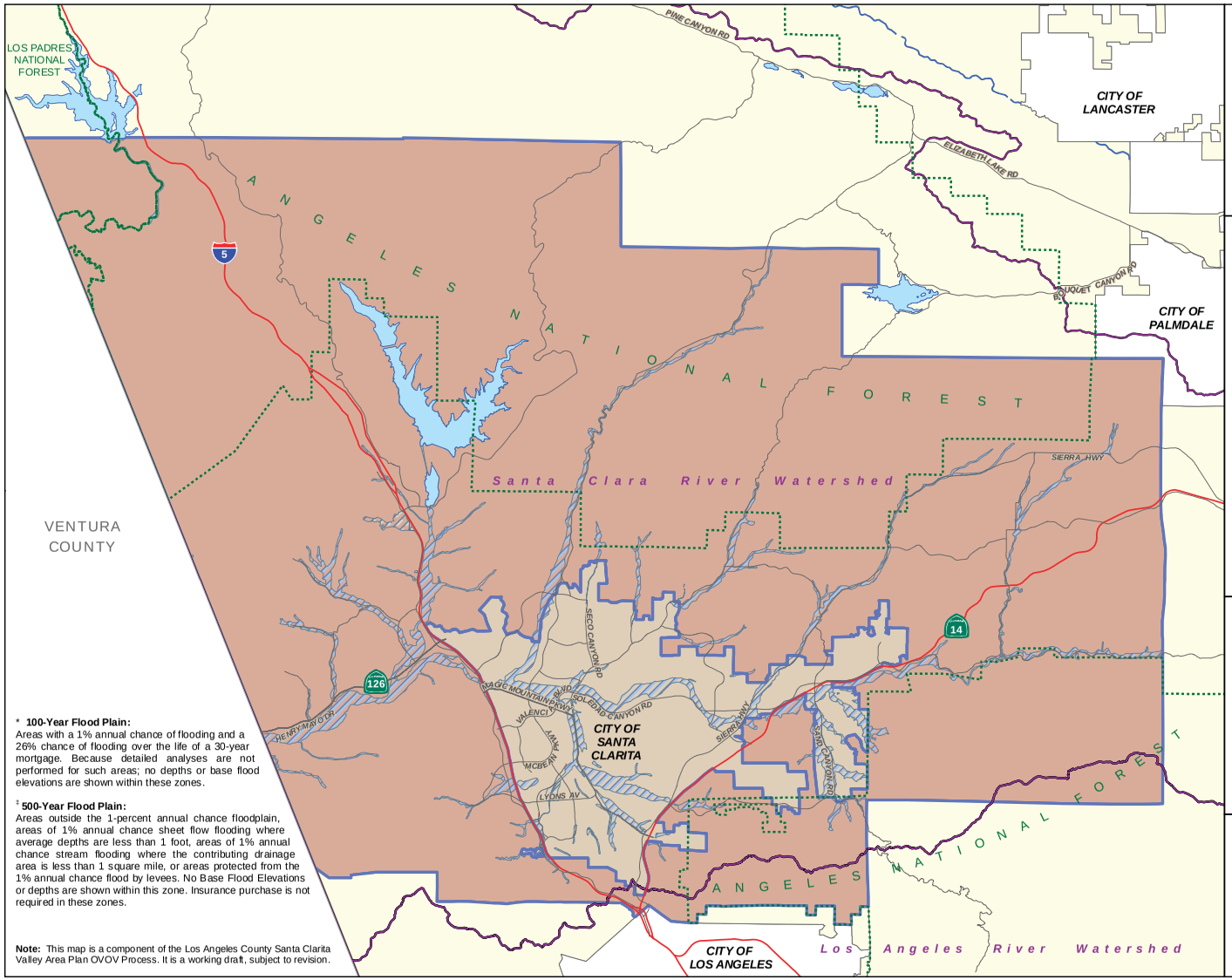

COUNTY OF LOS ANGELES
Santa Clarita Valley
Area Plan
Master Plan of Trails
Exhibit CO-9
LEGEND:
Paseo Trail System (Santa Clarita)
County Trail System
Adopted County Trail System
Federal/National Forest Trails
Incorporated City Trails
Pacific Crest Trail
Newhall Ranch SP Trails
Community Trail
Local Trail
Pathway
Unimproved Trail
Planning Area
Incorporated Planning Area
Incorporated Cities
Other Unincorporated Area
Los Angeles County
National Forest
VICINITY MAP:
Printed on:
0 1 2 3
Miles
LOS ANGELES COUNTY
Department of Regional Planning
320 W. Temple St.
Los Angeles, CA 90012
OVOV_CO9_Master_Plan_of_Trails_11x17_92.mxd
CITY OF LANCASTER
CITY OF PALMDALE
CITY OF SANTA CLARITA
CITY OF LOS ANGELES
ANGELES NATIONAL FOREST
LOS PADRES NATIONAL FOREST
VENTURA COUNTY
Pacific Crest Trail
PINE CANYON RD
ELIZABETH LAKE RD
SIERRA HWY
SOLEDAD CANYON RD
SAND CANYON RD
SECO CANYON RD
SAN FERNANDO RD
LYONS AV
MCBEAN PKWY
SOLEDAD MOUNTAIN PKWY
SANTA CLARITA PKWY
5
14
126
Note: This map is a component of the Los Angeles County Santa Clarita Valley Area Plan OVOV Process. It is a working draft, subject to revision.


COUNTY OF LOS ANGELES
Santa Clarita Valley Area Plan
Earthquake Faults
Exhibit S-1
LEGEND:
Conceptualized Fault Trace*
Fault Trace
Fault Zone
Planning Area
Incorporated Planning Area
Incorporated Cities
Other Unincorporated Area
National Forest
Lakes and Reservoirs
* Sources: Fault zones and traces - California Department of Conservation, Division of Mines and Geology, current as of 2003/2004; Conceptual faults developed by Leighton& Associates, 1989.
* Conceptual Fault Traces: These faults are illustrative and are not intended to represent exact locations.
VICINITY MAP:
Printed on:
0 1 2 3
Miles
LOS ANGELES COUNTY
Department of Regional Planning
320 W. Temple St.
Los Angeles, CA 90012
OVOV_S1_Earthquake_Faults_11x17.mxd
CITY OF LANCASTER
CITY OF PALMDALE
CITY OF SANTA CLARITA
CITY OF LOS ANGELES
SAN ANDREAS FAULT ZONE
SAN GABRIEL FAULT ZONE
ANGELES NATIONAL FOREST
LOS PADRES NATIONAL FOREST
VENTURA COUNTY
San Gabriel Fault
Clearwater Fault
San Francisco Fault
Palona Fault
Mint Canyon Fault
Soledad Fault
Placerita Fault
Whitney Fault
Santa Felice Fault
Holser Fault
Del Valle Fault
San Cayetano Fault
Santa Susana Fault
Oakridge Fault
SIERRA HWY
SAND CANYON RD
SECO CANYON RD
LYONS AV
HERRYMON DR
MAGIC MOUNTAIN PKWY
5
14
126
Note: This map is a component of the Los Angeles County Santa Clarita Valley Area Plan OVOV Process. It is a working draft, subject to revision.



OVOV_S2_Earthquake Epicenters_11x17.mxd


COUNTY OF LOS ANGELES
Santa Clarita Valley Area Plan
Seismic Hazards
Exhibit S-3
LEGEND:
Liquifaction Zone *
Earthquake-Induced Landslide Zone †
Planning Area
Incorporated Planning Area
Incorporated Cities
Other Unincorporated Area
National Forest
Lakes and Reservoirs
Source: California Department of Conservation, Division of Mines and Geology, Current as of 2003/2004. (Landslide zone data for the majority of the National Forest areas is not available as of August 2008.)
VICINITY MAP:
Printed on:
Miles
LOS ANGELES COUNTY
Department of Regional Planning
320 W. Temple St.
Los Angeles, CA 90012
OVOV_S3_Seismic_Hazards_11x17.mxd
CITY OF LANCASTER
CITY OF PALMDALE
CITY OF SANTA CLARITA
CITY OF LOS ANGELES
VENTURA COUNTY
LOS PADRES NATIONAL FOREST
ANGELES NATIONAL FOREST
ELIZABETH LAKE RD
PINE CANYON RD
SIERRA HWY
SAND CANYON RD
SECO CANYON RD
SOLEDAD CANYON RD
NORTH HAVEN DR
5
14
126
* Liquefaction:
Zones identifying where the stability of foundation soils must be investigated and countermeasures undertaken in the design and construction of buildings for human occupancy. Statutes require that cities and counties use these zones as part of their construction permitting process.
† Earthquake-Induced Landslides:
Zones identifying where the stability of hillslopes must be evaluated, and countermeasures undertaken in the design and construction of buildings for human occupancy. Statutes require that cities and counties use these zones as part of their construction permitting process.
Note: This map is a component of the Los Angeles County Santa Clarita Valley Area Plan OVOV Process. It is a working draft, subject to revision.



* **100-Year Flood Plain:**
Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.

‡ **500-Year Flood Plain:**
Areas outside the 1-percent annual chance floodplain, areas of 1% annual chance sheet flow flooding where average depths are less than 1 foot, areas of 1% annual chance stream flooding where the contributing drainage area is less than 1 square mile, or areas protected from the 1% annual chance flood by levees. No Base Flood Elevations or depths are shown within this zone. Insurance purchase is not required in these zones.

Note: This map is a component of the Los Angeles County Santa Clarita Valley Area Plan OVOV Process. It is a working draft, subject to revision.

COUNTY OF LOS ANGELES

Santa Clarita Valley Area Plan

Flood Plains

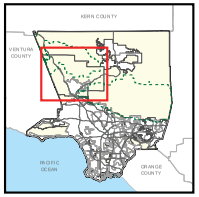
Exhibit S-4

LEGEND:

- *Watershed Boundary*
- *100-Year Flood Plain **
- *500-Year Flood Plain ‡*
- *Planning Area*
- *Incorporated Planning Area*
- *Incorporated Cities*
- *Other Unincorporated Area*
- *National Forest*
- *Lakes and Reservoirs*

Source: Federal Emergency Management Agency (FEMA), 1996.

VICINITY MAP:

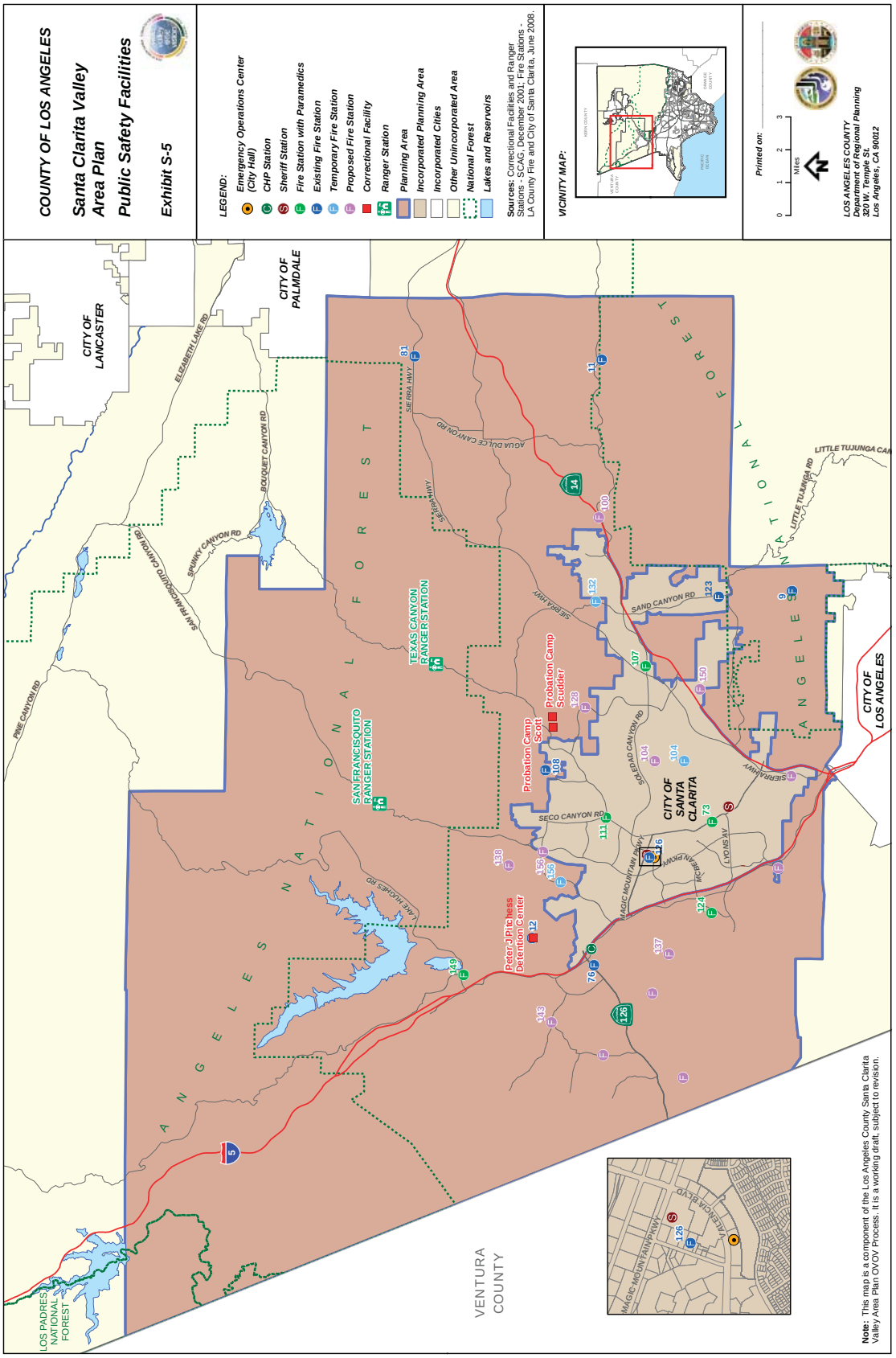


Printed on: _____

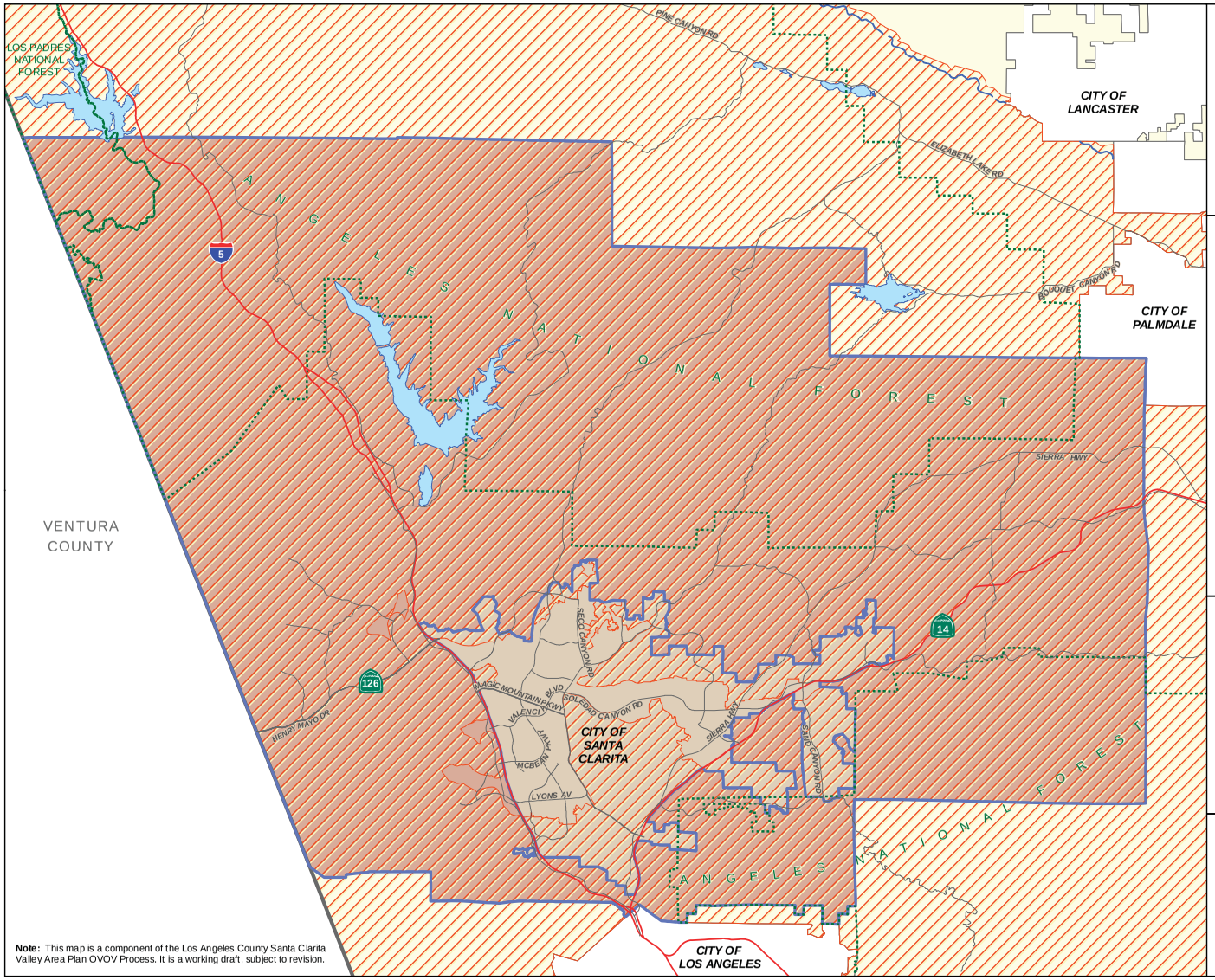
0 1 2 3
Miles

LOS ANGELES COUNTY
Department of Regional Planning
320 W. Temple St.
Los Angeles, CA 90012

OVOV_S4_Floodplains_11x17.mxd



Note: This map is a component of the Los Angeles County Santa Clarita Valley Area Plan OVOV Process. It is a working draft, subject to revision.



Note: This map is a component of the Los Angeles County Santa Clarita Valley Area Plan OVOV Process. It is a working draft, subject to revision.

COUNTY OF LOS ANGELES

Santa Clarita Valley Area Plan

Very High Fire Hazard Severity Zone

Exhibit S-6

LEGEND:

- *Very High Fire Hazard Severity Zone **
- *Planning Area*
- *Incorporated Planning Area*
- *Incorporated Cities*
- *Other Unincorporated Area*
- *National Forest*
- *Lakes and Reservoirs*

Sources: Fire Hazard Zones - City of Santa Clarita, Los Angeles County Fire and California Department of Forestry and Protection, 2005-2008.

Note: Data for other incorporated cities not included.

* **Very High Fire Hazard Severity Zone:** From Title 32 of the County Code (Fire Code): shall mean areas that are highly vulnerable to wildfire. The designation of such zones shall be made by the Board of Supervisors and shall be based on fuel loading, slope, fire weather and other relevant factors in accordance with Chapter 6.8 of Title 5 of the California Government Code commencing with Section 51175.

VICINITY MAP:

Printed on: _____

0 1 2 3
Miles

LOS ANGELES COUNTY
Department of Regional Planning
320 W. Temple St.
Los Angeles, CA 90012

OVOV_S6_Fire_Hazard_Zones_11x17.mxd

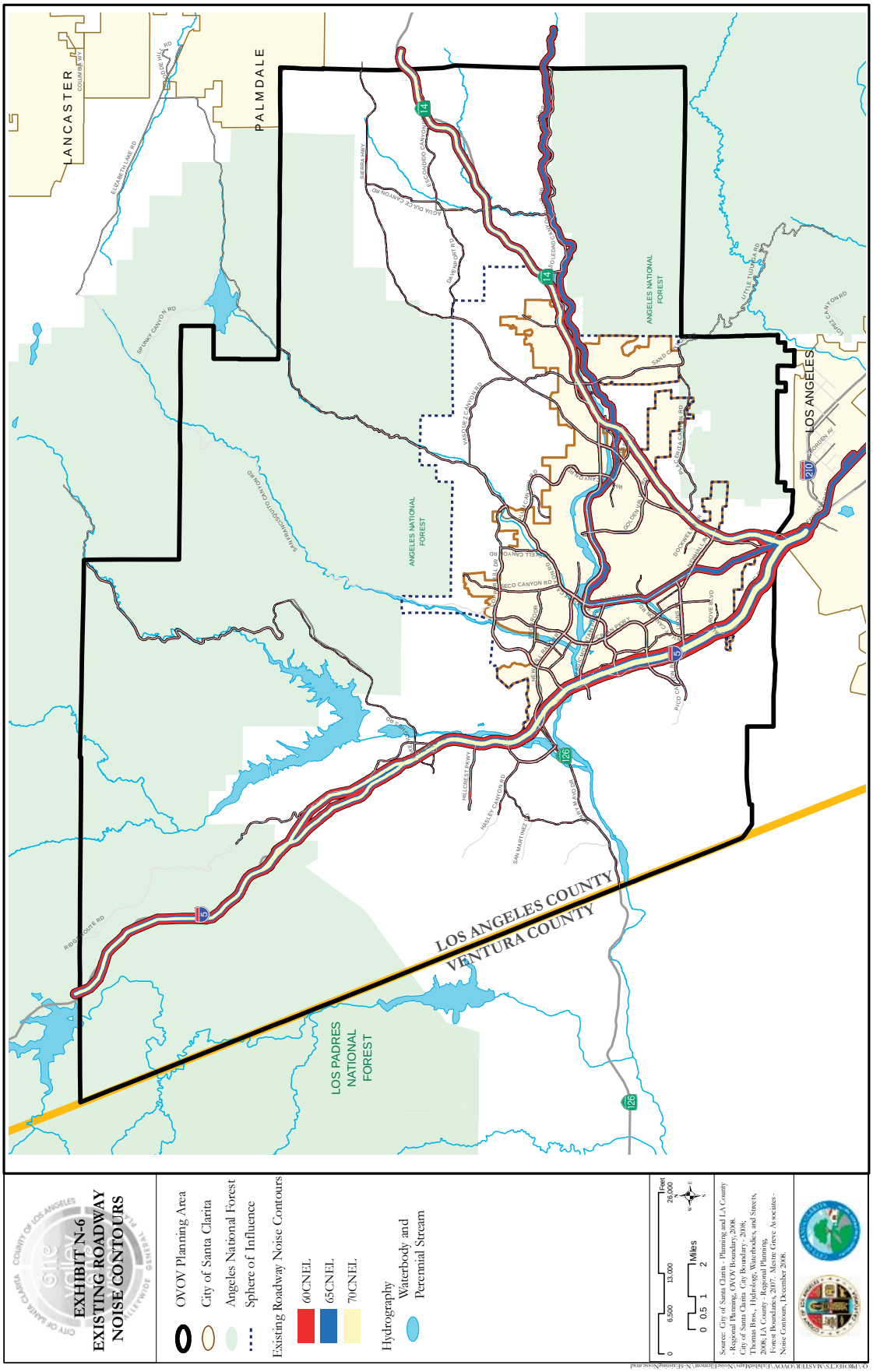


EXHIBIT N-6
EXISTING ROADWAY NOISE CONTOURS
OVOV Planning Area
City of Santa Clarita
Angeles National Forest
Sphere of Influence
Existing Roadway Noise Contours
60CNEL
65CNEL
70CNEL
Hydrography
Waterbody and Perennial Stream
0 6,500 13,000 26,000 Feet
0 0.5 1 2 Miles
Source: City of Santa Clarita - Planning and LA County - Regional Planning, OVOV Boundary,2008; City of Santa Clarita City Boundary - 2008; Thomas Bros., Hydrology, Waterbodies, and Streets, 2008; LA County - Regional Planning, Forest Boundaries, 2007. Mestre Greve Associates - Noise Contours, December 2008.
LANCASTER
PALMDALE
LOS ANGELES
ANGELES NATIONAL FOREST
LOS PADRES NATIONAL FOREST
LOS ANGELES COUNTY
VENTURA COUNTY
5
14
126
210

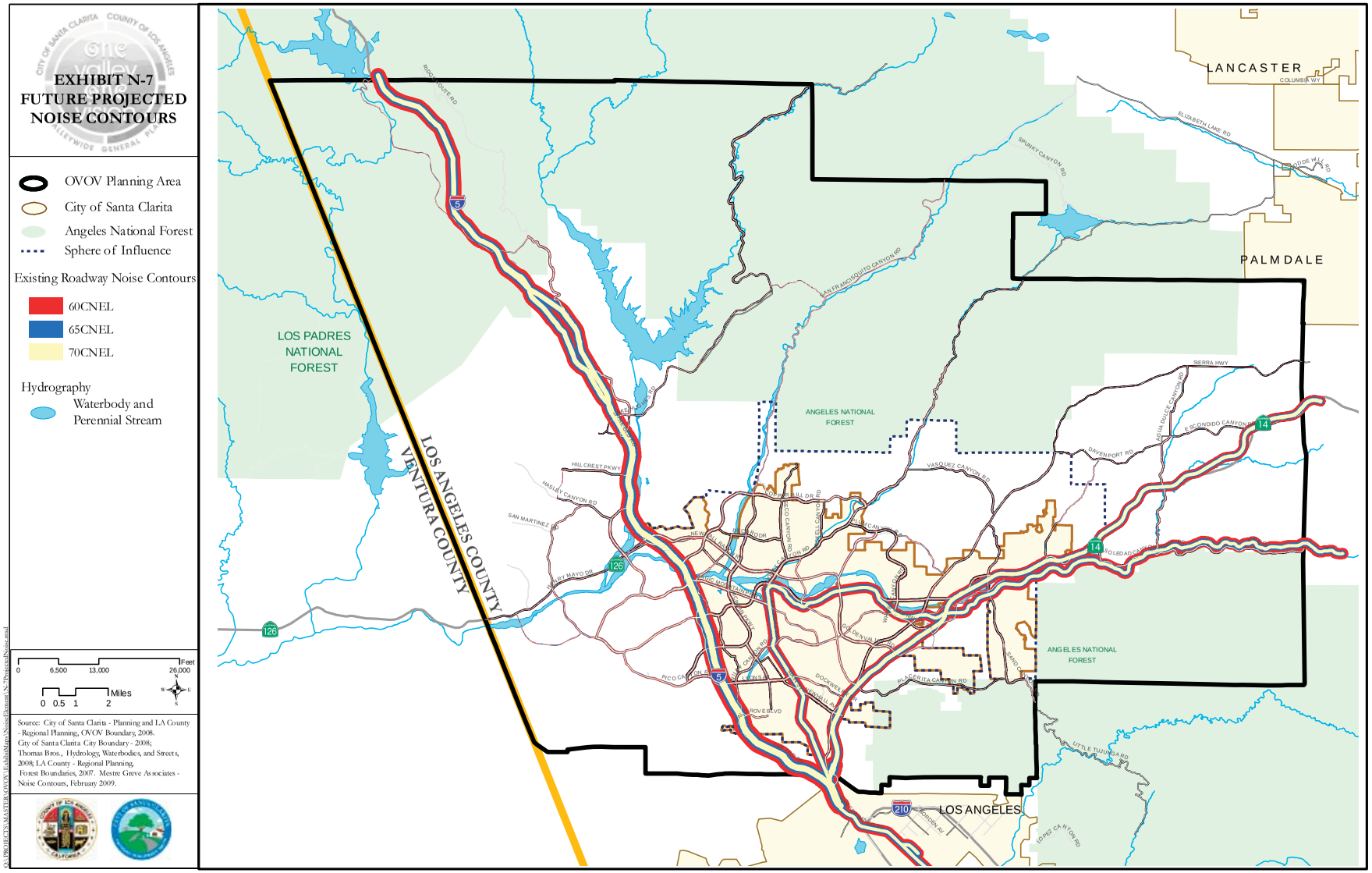


EXHIBIT N-7
FUTURE PROJECTED
NOISE CONTOURS
OVOV Planning Area
City of Santa Clarita
Angeles National Forest
Sphere of Influence
Existing Roadway Noise Contours
60CNEL
65CNEL
70CNEL
Hydrography
Waterbody and
Perennial Stream
0
6,500
13,000
26,000
Feet
0 0.5 1 2
Miles
Source: City of Santa Clarita - Planning and LA County - Regional Planning, OVOV Boundary, 2008.
City of Santa Clarita City Boundary - 2008;
Thomas Bros., Hydrology, Waterbodies, and Streets, 2008; LA County - Regional Planning, Forest Boundaries, 2007. Mestre Greve Associates - Noise Contours, February 2009.
LANCASTER
PALMDALE
LOS ANGELES
LOS PADRES NATIONAL FOREST
ANGELES NATIONAL FOREST
ANGELES NATIONAL FOREST
LOS ANGELES COUNTY
VENTURA COUNTY
5
14
126
210