D R A F T

ENVIRONMENTAL IMPACT REPORT

DESIGN, COMMUNITY & ENVIRONMENT
AUGUST 5, 2005

GENERAL PLAN 2025

CITY OF WALNUT CREEK

SCH#:2004022042

D R A F T

ENVIRONMENTAL IMPACT REPORT

G E N E R A L P L A N 2 0 2 5

AUGUST 5, 2005

Submitted to:
City of Walnut Creek
City Hall, 1666 North Main Street
Walnut Creek, CA 94596

Prepared by:
Design, Community & Environment
1600 Shattuck Avenue, Suite 222
Berkeley, CA 94709

In association with:
Environmental Collaborative
Garcia and Associates
Illingworth & Rodkin
Lowney Associates
Parikh Consultants, Inc.
WRECO
Dowling Associates, Inc.

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Table of Contents

Chapter 1 Introduction 1
Proposed Action 1
EIR Scope, Issues and Concerns 1
Report Organization 2
Environmental Review Process 2
Chapter 2 Report Summary 5
Project Under Review 5
Areas of Controversy 5
Significant Impacts 5
Mitigation Measures 6
Unavoidable Environmental Impacts 6
Alternatives to the Project 6
Summary Table 6
Chapter 3 Project Description 19
Location and Physical Setting 19
What is the General Plan? 20
The General Plan Process 20
General Plan Vision and Major Concepts 23
General Plan Chapters 23
Goals, Objectives, Policies and Actions 24
Land Use Categories 24
General Plan Buildout Projections 25
Chapter 4 Environmental Evaluation 37
Chapter 4.1 Land Use 39
Existing Setting 39
Standards of Significance 47
Impact Discussion 47
Impacts and Mitigation Measures 49
Chapter 4.2 Population, Employment & Housing 51
Existing Setting 51
Standards of Significance 60
Impact Discussion 60
Impacts and Mitigation Measures 63
Chapter 4.3 Community Services 65
Fire and Emergency Services 65
Police Services 70
Schools 75
Libraries 86
Parks & Recreation 87
Chapter 4.4 Transportation 97
Existing Setting 97
Standards of Significance 110
Impact Discussion 112
Impacts and Mitigation Measures 128

Chapter 4.5 Infrastructure 131
Solid Waste and Recycling 131
Water Supply and Services 133
Wastewater Collection and Treatment 137
Chapter 4.6 Visual Quality 143
Existing Setting 143
Standards of Significance 149
Impact Discussion 150
Impacts and Mitigation Measures 154
Chapter 4.7 Cultural Resources 159
Existing Setting 159
Standards of Significance 164
Impact Discussion 167
Impacts and Mitigation Measures 167
Chapter 4.8 Geology & Seismic Hazards 168
Existing Setting 168
Standards of Significance 174
Impact Discussion 178
Impacts and Mitigation Measures 179
Chapter 4.9 Hazardous Materials 181
Existing Setting 181
Standards of Significance 186
Impact Discussion 186
Impacts and Mitigation Measures 187
Chapter 4.10 Hydrology & Water Quality 189
Existing Setting 189
Standards of Significance 195
Impact Discussion 195
Impacts and Mitigation Measures 198
Chapter 4.11 Biological Resources 199
Existing Setting 199
Standards of Significance 216
Impact Discussion 217
Impacts and Mitigation Measures 219
Chapter 4.12 Air Quality 221
Existing Setting 221
Standards of Significance 234
Impact Discussion 234
Impacts and Mitigation Measures 243
Chapter 4.13 Noise 243
Existing Setting 243
Standards of Significance 254
Impact Discussion 256
Impacts and Mitigation Measures 263
Chapter 5 Alternatives 265
The No Project Alternative 265
Growth Management I Alternative 271
Growth Management II Alternative 274
Environmentally Superior Alternative 277

Chapter 6 CEQA Conclusions....279
Growth Inducement....279
Cumulative Impacts....280
Unavoidable Significant Effects....285
Significant Irreversible Changes....285
Chapter 7 Report Preparation....287
Chapter 8 Glossary & Acronyms....289
Glossary....289
Acronyms....294
Chapter 9 References....297

List of Figures

Figure 1. Walnut Creek Regional Location 19
Figure 2. Planning Boundaries 21
Figure 3. Potential Change Areas Within the Core Area 26
Figure 4. Potential Change Areas Outside the Core Area 27
Figure 5. Fire Stations and Fire Service Areas in Walnut Creek 66
Figure 6. Wildland-Urban Interface Fire Threat 68
Figure 7. Community Facilities in the Walnut Creek Planning Area 71
Figure 8. School Districts 76
Figure 9. Public Schools 77
Figure 10. Parks and Special Use Areas 88
Figure 11. Open Space Areas 90
Figure 12. Existing Roadway Classifications 98
Figure 13. Existing Intersection Level of Service 104
Figure 14. Existing Local Bus Service and BART Station Locations 107
Figure 15. Existing Bicycle Facilities 111
Figure 16. Landmarks and Gateways 145
Figure 17. Scenic Corridors and Views 147
Figure 18. Potentially Historic Sites in Walnut Creek 165
Figure 19. Potentially Historic Sites in the Walnut Creek Core Area 166
Figure 20. Regional Faults and Probabilities 172
Figure 21. Area Faults 173
Figure 22. Mapped Landslides and Slopes Greater Than 15 Percent 177
Figure 23. Liquefaction Susceptibility 178
Figure 24. Locations of Large Quantity Generators 185
Figure 25. Watersheds in the Walnut Creek Planning Area 190
Figure 26. Flood Prone Areas 191
Figure 27. Vegetative Cover 200
Figure 28. Known Occurrence of Special Status Species 215
Figure 29. Noise Measurement Locations 247
Figure 30. Future Noise Contour for Major Roadway Noise Sources in Walnut Creek 257
Figure 31. Future Noise Contour for Interstate 680, Ygnacio Valley Road and BART 258

List of Tables

Table 1 Summary of Impacts and Mitigation Measures 7
Table 2 Proposed General Plan Land Use Changes 28
Table 3 Maximum Theoretical Buildout Under General Plan 2025 35
Table 4 Existing General Plan Land Use Designations 39
Table 5 Land Use Change Area Descriptions 40
Table 6 Population and Household Trends 52
Table 7 Population Trends 2000-2025 53
Table 8 Employment and Industry Concentration, 2002 55
Table 9 Jobs to Employed Residents Ratio 1990-2002 58
Table 10 Enrollment, Walnut Creek School District 79
Table 11 Enrollment and Capacity, Selected Schools, Mount Diablo Unified School District 80
Table 12 Enrollment and Capacity, Acalanes Union High School District 82
Table 13 Enrollment and Capacity, San Ramon Valley Unified School District 83
Table 14 Student Generation Rates San Ramon Valley Unified School District 83
Table 15 Enrollment and Capacity, Lafayette School District 84
Table 16 City of Walnut Creek Parks and Open Space Resources 91
Table 17 Level of Service Definitions 100
Table 18 City of Walnut Creek Roadway Level of Service Standards 101
Table 19 Street Volumes, Classifications and Levels of Service 102
Table 20 Delay Index for Regional Routes of Significance 103
Table 21 Existing Peak Hour Intersection Levels of Service 105
Table 22 Existing Contra Costa County Connection Bus Service 108
Table 23 Land Use Alternatives Assumptions and Daily Trips 113
Table 24 Freeway Operations 114
Table 25 Freeway Speeds 116
Table 26 Roadway Daily Volumes and LOS Summary 117
Table 27 Delay Index 121
Table 28 AM Peak Hour Intersection LOS Summary 122
Table 29 PM Peak Hour Intersection LOS Summary 124
Table 30 Daily Transit Trips 127
Table 31 Base Wastewater Generation Rates by Land Use 139
Table 32 General Plan 2025 Visual Quality Policies That Apply to Change Areas 155
Table 33 Archaeological Periods in Central California (after Fredrickson 1973) 162
Table 34 Prehistoric Archaeological Sites in the City of Walnut Creek 162
Table 35 Walnut Creek Buildings and Sites Identified as Potentially Historic in the 1989 General Plan and Other Sources 163
Table 36 Walnut Creek City Landmarks 164
Table 37 Estimated Shaking from Earthquakes that Could Originate on Active or Potentially Active Faults in the Region 176
Table 38 City and County Agencies Responsible for Hazardous Materials Incident Response 182
Table 39 Large Quantity Generators 184
Table 40 Special-Status Plant Species With Potential for Occurrence in Walnut Creek Vicinity 205
Table 41 Special-Status Animal Species Known or Suspected to Occur in Walnut Creek Vicinity 212
Table 42 California and National Ambient Air Quality Standards 224
Table 43 Highest Measured Air Pollutant Concentrations 228
Table 44 Summary of Measured Air Quality Exceedances 229
Table 45 Summary of 1999 and 2001 Measured Toxic Air Contaminant Concentrations (PPB) 230

Table 46 Bay Area Air Pollutant Emissions Inventory in Tons Per Day (for Ozone Precursors and PM_{10}) 231
Table 47 General Plan 2025 Policies that Support TCMs in the Clean Air Plan 234
Table 48 Predicted Carbon Monoxide 8-Hour Levels in Walnut Creek 237
Table 49 Definitions of Acoustical Terms Used in this Report 244
Table 50 Typical Noise Levels in the Environment 246
Table 51 Long-Term (LT) Noise Data Summary 248
Table 52 Short-Term (ST) Noise Data Summary 250
Table 53 Existing Peak-Hour L_{eq} and L_{dn} Noise Levels at 75 feet from the Road Centerline 253
Table 54 Short-Term Noise Data Summary of BART 255
Table 55 Increases in Traffic Noise Resulting From the General Plan Alternatives 259
Table 56 Existing and Future Noise Contour Distances Along Major Roadways and BART 260
Table 57 Comparison of Project Alternatives 266
Table 58 Project Alternatives – Buildout Potential (Incorporated) 267

CHAPTER 1

Introduction

This Draft Environmental Impact Report (DEIR) has been prepared to provide an assessment of the potential environmental consequences of adopting the proposed Walnut Creek General Plan 2025. The assessment in this Draft EIR is designed to inform City of Walnut Creek decision-makers, other responsible agencies, and the public-at-large of the nature of the project and its effect on the environment. Additionally, this Draft EIR identifies mitigation measures that, if followed, would reduce or avoid potentially significant impacts. Furthermore, this Draft EIR examines alternatives to the proposed project.

This Draft EIR has been prepared in accordance with and in fulfillment of California Environmental Quality Act (CEQA) requirements, which requires that all State and local governmental agencies consider the environmental consequences of projects over which they have discretionary authority. Approval of the General Plan constitutes a "project" under CEQA. The City of Walnut Creek is the Lead Agency for the project.

PROPOSED ACTION

The proposed project, Walnut Creek General Plan 2025, is a comprehensive update of the City's General Plan, which is the principal policy document for guiding future conservation and development in the city. The proposed General Plan has a long-term horizon – until 2025 – yet it brings a deliberate, overall direction to the day-to-day decisions of the City Council, its commissions, and City staff. The project is described in detail in Chapter 3.

General Plan 2025 includes newly proposed goals, policies and actions that have been designed to implement the community's vision for the city. The policies and actions would be used by the City to guide day-to-day decision-making so there is continuing progress toward the attainment of goals of the Plan.

EIR SCOPE, ISSUES AND CONCERNS

This document is a Program EIR on the adoption of the General Plan. This EIR is not project-specific and does not evaluate the impacts of specific projects that may be proposed under General Plan 2025. Such projects will require separate environmental review when they require discretionary permits. While subsequent environmental review may be tiered off of this EIR, this EIR is not intended to address impacts of individual projects.

The City completed a Notice of Preparation (NOP) and Initial Study on February 13, 2004. The NOP and Initial Study were sent to a list of persons and agencies known to be interested in the project. The NOP comment period extended from February 13 to March 15, 2004.

Based on the scoping process, the issues addressed in this EIR are as follows:

- Land use
- Population, employment and housing
- Community services
- Transportation
- Infrastructure

- Visual quality
- Cultural resources
- Geology and seismic hazards
- Hazardous materials
- Hydrology and water quality
- Biological resources
- Air quality
- Noise

Mineral resources were excluded from this EIR through the scoping process because it was determined that the project would not have an impact on them.

REPORT ORGANIZATION

This report is organized into the following chapters:

- **Chapter 1: Introduction** provides an introduction and overview of the document.
- **Chapter 2: Report Summary** provides a synopsis of the environmental impacts from the proposed project, describes recommended mitigation measures, and indicates the level of significance of impacts before and after mitigation.
- **Chapter 3: Project Description** describes the proposed General Plan in detail, including a summary of the chapters of the General Plan and a listing of proposed land use changes.
- **Chapter 4: Environmental Evaluation** provides an analysis of the potential environmental impacts of the proposed project and presents recommended mitigation measures to reduce their significance.
- **Chapter 5: Alternatives to the Proposed Project** considers three alternatives to the proposed project, including the CEQA-required "No Project Alternative."
- **Chapter 6: CEQA-Required Assessment Conclusions** briefly explains the relationship of the project to other environmental issues included under CEQA's purview.
- **Chapter 7: Report Preparation** identifies the preparers of the Draft EIR.
- **Chapter 8: Glossary & Acronyms** provides definitions of land use planning, environmental and technical terms used in this report, and lists acronyms used in this report.
- **Chapter 9: References** lists the references for each of the preceding chapters.

ENVIRONMENTAL REVIEW PROCESS

As required by State Law, this Draft EIR will be available for review by the public and interested parties, agencies and organizations for a 45-day period. The City of Walnut Creek will hold a public hearing on the EIR during the review period. The public is invited to attend the hearing to offer oral comments on this Draft EIR.

Comments on the Draft EIR may also be submitted in writing to:

Victoria Walker
Assistant Planning Manager
City of Walnut Creek
1666 North Main Street
Walnut Creek, CA 94596
walker@ci.walnut-creek.ca.us

Following the close of the public comment period, a Final Environmental Impact Report (FEIR) will be prepared to respond to all substantive comments related to environmental issues surrounding the project. The FEIR will be available for public review prior to consid-

eration of its certification by the City of Walnut Creek City Council.

Once the City Council certifies the FEIR, the Council will also consider adoption of the proposed General Plan itself, which may be approved as drafted or modified, or denied.

CHAPTER 2

Report Summary

This summary presents an overview of the analysis contained in Chapter 4: Environmental Evaluation. CEQA requires that this chapter summarize the following: 1) areas of controversy; 2) significant impacts; 3) unavoidable significant impacts; and 4) implementation of mitigation measures. Alternatives to the project are analyzed in Chapter 5.

PROJECT UNDER REVIEW

This Draft Environmental Impact Report (EIR) provides an assessment of the potential environmental consequences of adoption of the Walnut Creek General Plan 2025. The General Plan is intended to serve as the principal policy document for guiding future conservation and development in Walnut Creek. The General Plan includes newly proposed goals, policies and actions which have been designed to implement the community's vision for the city. The policies and actions would be used by the City to guide day-to-day decision-making so there is continuing progress toward the attainment of goals of the Plan. Additionally, the General Plan includes a series of proposed land use designation changes which have been proposed to implement the overall goals and vision of the General Plan. The General Plan is further detailed in Chapter 3 of this EIR.

AREAS OF CONTROVERSY

There has been controversy related to several items with regard to the preparation of the General Plan. These issues have included:

- Traffic congestion.
- Preservation of smaller buildings in the traditional downtown area.
- Retention of small businesses.

All of these issues were addressed in the General Plan process. To the extent that these issues have environmental impacts, they are also addressed in this EIR.

SIGNIFICANT IMPACTS

Under CEQA, a significant impact on the environment is defined as a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic and aesthetic significance.

Implementation of General Plan 2025 has the potential to generate environmental impacts in a number of areas. However, the Plan has been developed to be largely self-mitigating. As shown in Table 1, all but one of the significant impacts would be reduced to a less-than-significant level if the mitigation measures recommended in this report are implemented. These impacts are discussed below in Section E: Unavoidable Significant Impacts.

MITIGATION MEASURES

This EIR suggests mitigation measures that would reduce most impacts to less-than-significant levels. These mitigation measures are summarized Table 1 at the end of this chapter. They will form the basis of a Mitigation Monitoring Program which will be published in the Final EIR and implemented in accordance with State law.

UNAVOIDABLE ENVIRONMENTAL IMPACTS

Implementation of General Plan 2025 would result in one significant and unavoidable air quality impact and several significant and unavoidable traffic impacts:

- **Air Quality:** The project is not consistent with the BAAQMD Thresholds of Significance that population not exceed ABAG projections and VMT may increase faster than population due to traffic movements through Walnut Creek.
- **Traffic:** The project would have significant and unavoidable freeway operations, roadway level of service, delay index, and intersection level of service impacts. These impacts are listed in Table 1.

ALTERNATIVES TO THE PROJECT

This Draft EIR analyzes three alternatives to the proposed General Plan, as follows:

- No Project Alternative (1989 General Plan)
- Growth Management I Alternative
- Growth Management II Alternative

Based on the comparative alternatives analysis contained in this EIR, the Growth Management I Alternative is the environmentally superior alternative. Details of this analysis are included in Chapter 5.

SUMMARY TABLE

Table 1 presents a summary of impacts and mitigation measures identified in this report. It is organized to correspond with environmental issues discussed in Chapter 4.

The table is arranged in four columns: 1) environmental impacts; 2) significance prior to mitigation; 3) mitigation measures taken from relevant General Plan policies; and 4) significance after mitigation. A series of mitigation measures is noted where more than one mitigation may be required to achieve a less-than-significant impact. For a complete description of potential impacts and suggested mitigation measures, please refer to the specific discussions in Chapter 4.

This summary does not detail the timing of mitigation measures. Timing will be further detailed in the Mitigation Monitoring Program, which will be published with the Final EIR.

Table 1

Summary of Impacts and Mitigation Measures

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
TRANSPORTATION			
Impact TRAF-1: The land use development proposed in the General Plan 2025 Buildout Alternative would contribute to freeway speeds of less than 30 miles per hour during the peak hour along I 680 through Walnut Creek.	S	Mitigation Measure TRAF-1: Regional coordination would be required to address the congestion along the freeway. The General Plan 2025 includes policies that support the goal of reducing the increase in congestion of regional facilities: • Chapter 5, Policy 1.1. Working with the Contra Costa Transportation Authority, the Metropolitan Transportation Commission, Caltrans, and other jurisdictions, develop and implement regional solutions to local traffic problems created by growth outside of the city. • Chapter 5, Policy 1.2. Support efforts to obtain funding for improvements to Highway 4 and other existing roads that provide a bypass for traffic passing through Walnut Creek.	SU
Impact TRAF-2: The land use development proposed in the General Plan 2025 Buildout Alternative would contribute to the degradation of the level of service at the following arterial segments: • Mt. Diablo Boulevard between Bonanza Street and California Boulevard • Bancroft Road south of Treat Boulevard • California Boulevard between Trinity Avenue/Civic	S	Mitigation Measure TRAF-2: Roadway widening to provide additional capacity would improve the level of service; however, the downtown Core Area is primarily built out with little opportunity to widen the roadways. Rather any improvements would consider operations and management for improve efficiency of the existing roadway system as well as opportunities to improve the pedestrian-oriented nature of the Core Area. The General Plan 2025 includes policies that support and/or enhance carpooling, transit, bicycling, and walk-	SU

LTS = Less Than Significant S = Significant SU = Significant and Unavoidable

Table 1 (continued)

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Drive and Bonanza Street • Civic Drive between Ygnacio Valley Road and Broadway • South Broadway north of Newell Avenue • South Broadway north of Rudgear Road		ing that would provide an alternative to reduce some of these auto trips.	
Impact TRAF-3: The land use development proposed in the General Plan 2025 Buildout Alternative would contribute to delay indices greater than 2.0 along these Routes of Regional Significance: • Ygnacio Valley Road Westbound • Treat Boulevard Eastbound and Westbound	S	Mitigation Measure TRAF-3: Ygnacio Valley Road and Treat Boulevard are regional transportation facilities. The City of Walnut Creek will continue working with the Contra Costa Transportation Authority, the Metropolitan Transportation Commission, Caltrans, and other jurisdictions to develop and implement regional solutions to local traffic problems created by growth outside the city (Chapter 5, Policy 1.1). The City has been responsible for the metering of the morning peak period westbound traffic entering the city at Oak Grove Road as part of the regional traffic signal system along Kirker Pass/Ygnacio Valley Road. Similar treatments should be considered for Treat Boulevard.	SU

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Table 1 (continued)

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact TRAF-4: The land use development proposed in General Plan 2025 would contribute to the degradation of the LOS at the following locations: • Broadway and Civic Dr (PM) • Broadway and Mt Diablo Blvd (PM) • California and Mt Diablo Blvds (PM) • Main St and Mt Diablo Blvd (PM) • California Blvd and Civic Drive (PM) • Oak Grove Road and Mitchell Drive/Peachwillow Lane (PM) • Olympic Boulevard and NB I-680 On/Off ramps (AM and PM)	S	Mitigation Measures TRAF-4: The opportunities to improve these intersections are limited due primarily to right-of-way constraints as well as the desire to maintain the pedestrian-oriented nature of the Core Area. The policies of the General Plan 2025 support alternative modes to the automobile that may reduce the traffic congestion. However, this would be considered a significant and unavoidable impact. At Oak Grove Rd and Mitchell Drive/Peachwillow Ln, a separate east-bound left-turn lane would improve the LOS to E (0.93), which would be below the LOS standard and considered a significant impact. At Olympic Blvd and NB I-680 On/Off ramps, the heavy northbound traffic from the off-ramp is a critical movement with significant volumes coming off the ramp then continuing through the intersection to get back onto I-680. The west-bound right-turn movement to access the on-ramp is also a critical movement. This is considered a significant and unavoidable impact.	SU
Impact TRAF-5: The land use development proposed in General Plan 2025 would contribute to the degradation of the LOS at the following locations: • Broadway and Civic Dr (PM) • Broadway and Mt Diablo Blvd (PM) • California and Mt Diablo Blvds (PM)	S	Mitigation Measure TRAF-5: The City may consider changing the peak hour intersection LOS standard for the Core Area to allow for congested traffic conditions that may encourage the use of alternative modes and support improvements to the transit, bicycle, and pedestrian facilities and services. If the LOS standard for the Core Area is modified to "LOS high E	LTS

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Table 1 (continued)

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
• Main St and Mt Diablo Blvd (PM) • California and Civic Dr (PM)		Mitigation Measure TRAF-5 (continued) (v/c: 0.90 to 1.00)" then the impacts at the intersections of Mt Diablo Blvd with California, Broadway and Main St would be considered less than significant. At California and Civic, the critical movements are the southbound right-turn and through movements. By optimizing the signal, which currently provides split phasing of the Civic and Trinity, the critical V/C ratio may be reduced to less than 1.00, which would result in LOS high E. A separate southbound right-turn lane would further reduce the critical V/C ratio to 0.92, which would meet the current LOS standard for the Core Area. With these improvements, the impacts would be reduced to less than significant.	

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Table 1 (continued)

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
AIR QUALITY			
Impact AIR-1: The project is not consistent with the BAAQMD Thresholds of Significance that population not exceed ABAG projections and VMT may increase faster than population due to traffic movements through Walnut Creek.	S	Mitigation Measure AIR-1: None available.	SU
Impact AIR-2: Land use maps associated with General Plan 2025 do not propose new sources of odors or toxic air contaminants and would not locate sensitive land uses near sources of odors. However, the plan shows new residential uses within 500 feet of Interstate 680, a source of air toxic contaminants.	S	Mitigation Measure AIR-2: The City should add the following wording to Chapter 4 Built Environment Action 30.3.4: "Interstate 680 and Highway 24 are sources of air toxic contaminants. Projects that locate new sensitive receptors (facilities or land uses such as hospitals, day care centers, schools and residences that are occupied for substantial amounts of time by members of the population particularly sensitive to the effects of air pollutants, such as children, the elderly and people with illnesses) proposed within 500 feet from the edge of the closest traffic lane of Interstate 680 or Highway 24 should include an analysis of mobile source toxic air contaminant health risks, based on appropriate air dispersion modeling. Project review should include an evaluation of the adequacy of the setback from the highway and, if necessary, identify design mitigation measures to reduce health risks to acceptable levels."	LTS

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Table 1 (continued)

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact AIR-3: Construction associated with development allowed under General Plan 2025 would result in emissions of dust and equipment exhaust, including diesel particulate matter.	S	Mitigation Measure AIR-3: The City should amend Chapter 4 Built Environment Action 30.3.1 to read as follows: "require construction emissions control measures recommended by the BAAQMD." A list of feasible control measures that the BAAQMD currently recommends for construction projects is provided below. Appropriate measures should be implemented at all construction projects in Walnut Creek. Implementation of these measures would reduce air pollutant emissions associated with construction activities to a less-than-significant level. For all construction projects: • Sprinkle water on all active construction areas at least twice daily and more often when conditions warrant. • Cover all trucks hauling soil, sand and other loose materials or require all trucks to maintain at least two feet of freeboard. • Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites. • Sweep daily all paved access roads, parking areas, and staging areas at construction sites. • Sweep streets daily if visible soil material is carried onto adjacent public streets.	LTS

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Table 1 (continued)

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
	S	Mitigation Measure AIR-3 (continued) For construction sites greater than 4 acres in size: • Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas. • Enclose, cover, water twice daily, or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.). • Limit traffic speeds on unpaved roads to 15 miles per hour. • Install sandbags or other erosion control measures to prevent silt runoff to public roadways. • Replant vegetation in disturbed areas as quickly as possible. For construction sites that are located adjacent to sensitive receptors or warrant additional controls: • Install wheel washers for all exiting trucks, or wash off all trucks and equipment leaving the site. • Suspend grading activities when winds exceed 25 miles per hour (mph) and visible dust clouds cannot be prevented from extending beyond active construction areas. • Limit the area subject to excavation, grading and other construction activity at any one time.	LTS

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Table 1 (continued)

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		Mitigation Measure AIR-3 (continued) Exhaust emissions controls for large projects (greater than 4 acres or projects located within 100 feet of sensitive receptors): • At least 50 percent of the heavy-duty, off-road equipment used for construction should be CARB-certified off-road engines or equivalent, or use alternative fuels (such as biodiesel) that result in lower particulate emissions. • Properly maintain all construction equipment. • The contractor should install temporary electrical service whenever possible to avoid the need for independently powered equipment (e.g., compressors). • Diesel equipment standing idle for more than two minutes should be turned off. This would include trucks waiting to deliver or receive soil, aggregate or other bulk materials. Rotating drum concrete trucks could keep their engines running continuously as long as they were on site. • Properly tune and maintain equipment for low emissions.	LTS

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Table 1 (continued)

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact AIR-4: Wood smoke from new residential uses allowed under General Plan 2025 could emit significant amounts of PM_{10}, which could worsen an already existing air pollution problem.	S	Mitigation Measure AIR-4: The City should amend Chapter 4 Built Environment Action 30.3.2 to adopt a wood smoke ordinance for fireplaces or woodstoves consistent with the BAAQMD model wood smoke ordinance, or alternatively, require that all new residential development include fireplaces and wood stoves that are EPA certified wood-burning appliances, pellet-fueled stoves or natural gas fireplaces.	LTS
NOISE			
Impact NOI-1: Vehicular traffic in Walnut Creek will increase on two major roadways as development and population increase within the community.	S	Mitigation Measure NOI-1: Chapter 6 Safety and Noise Policy 9.1 and Action 9.1.1 would control the impacts of new commercial and residential noise sources on the existing environment. Safety and Noise Policy 9.2, Action 9.2.1, and 9.2.2 would strive to reduce traffic noise levels through the installation of noise control measures such as quiet pavement surfaces.	LTS
Impact NOI-2: New noise sensitive development is proposed in noisy areas.	S	Mitigation Measure NOI-2: Chapter 6 Safety and Noise Policy 8.1 and Actions 8.2.1 and 8.2.2 would establish exterior noise level standards for new residences proposed in noisy areas. Chapter 6, Policy 8.2 addresses urban noise conflicts. Chapter 6, Actions 8.2.3 and 8.2.4 specify interior standards to control average and maximum noise levels.	LTS

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Table 1 (continued)

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact NOI-3: New residential development proposed adjacent to BART where it is operating at-grade could expose residents to excessive vibration.	S	Mitigation Measure NOI-3: Vibration impacts should be mitigated through site design and buffers between BART and new residential development. Residential uses proposed as a part of Change Area 13 within 150 feet of BART should include a vibration study to show that vibration levels do not exceed the FTA criteria.	LTS
Impact NOI-4: Construction of new development would temporarily elevate noise levels at adjacent noise sensitive land uses.	S	Mitigation Measure NOI-4: City's Municipal Code, Title 4, Article 2, addresses excessive, unreasonable, and prolonged noise; including building construction and repair. Standard measures to minimize construction noise impacts could include the following quiet construction methods: (a) Equip all internal combustion engine driven equipment with intake and exhaust mufflers which are in good condition and appropriate for the equipment. (b) Locate stationary noise generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project area. (c) Utilize "quiet" air compressors and other stationery noise sources where technology exists. (d) When necessary, temporary noise control blanket barriers should shroud pile drivers or be erected in a manner to shield the adjacent land uses. Such noise control blanket barriers can be rented and quickly erected.	LTS

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Table 1 (continued)

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
	S	Mitigation Measure NOI-4 (continued): (e) Foundation pile holes should be pre-drilled to minimize the number of impacts required to seat the pile. The pre-drilling of foundation pile holes is a standard construction noise control technique. Pre-drilling reduces the number of blows required to seat the pile. (f) Designate a "disturbance coordinator" who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem be implemented. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include it in the notice sent to neighbors regarding the construction schedule.	LTS

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CHAPTER 3

Project Description

The City of Walnut Creek has prepared General Plan 2025 to replace the 1989 General Plan. General Plan 2025 involves reorganization and revisions to chapters of the existing General Plan and a series of General Plan land use designation changes. The proposed General Plan contains the following chapters: Quality of Life, Natural Environment and Public Spaces, Built Environment, Transportation, Safety and Noise, and Governance. This chapter describes the proposed General Plan 2025 and the planning process that created it. This EIR provides an assessment of the Draft General Plan that was published on June 3, 2005.

LOCATION AND PHYSICAL SETTING

The City of Walnut Creek is a regional economic and cultural center located in Contra Costa County 23 miles east of San Francisco at the foot of Mount Diablo. A regional location map is provided in Figure 1. Walnut Creek's population as of 2005 was approximately 66,500.[1]

The city's vigorous and lively downtown and the Broadway Plaza shopping area to its south lie directly east of the junction of north-south Interstate Highway 680 and State Highway 24. Highway 24 leads west to the Caldecott Tunnel and the bayside cities beyond.

The General Plan defines three boundaries for Walnut Creek: the City Limits, the Sphere of Influence (SOI) and the Planning Area. The boundaries of these areas are mapped in Figure 2.

The **City Limits** encompass 19.77 square miles and include all areas under Walnut Creek's jurisdiction and control. Included in the City Limits is Rossmoor, a gated senior community, with 6,700 dwelling units, a 2000 population of 8,261, and approximately 2,700 acres of privately owned open space.

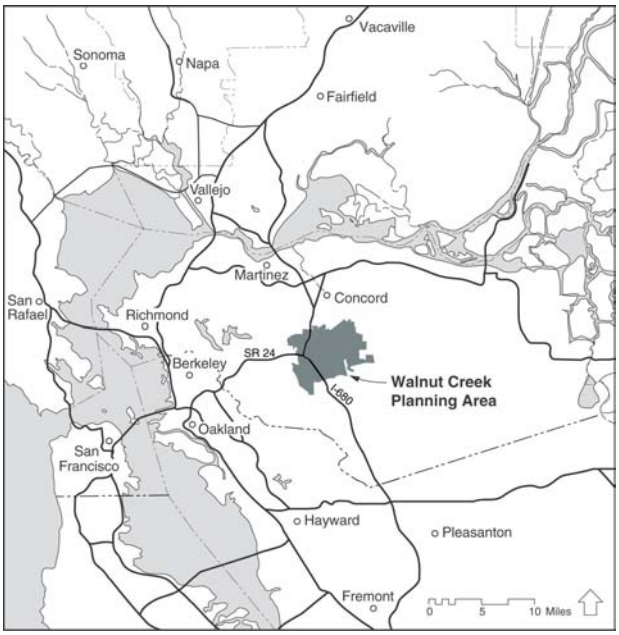

Figure 1. Walnut Creek Regional Location

The Local Area Formation Commission (LAFCO), in conjunction with the City, determined the **Sphere of Influence**. The SOI includes lands outside the city that can ultimately be serviced by the City and are thus within a probable future city limit. Lands in the SOI total 4.3 square miles.

[1] Department of Finance population estimated for January 1, 2005.

State law requires the general plan to consider any territory outside the city boundaries which, in the City's "judgment, bears relation to its planning."[2] These "lands of interest" total 4.4 square miles and form the ultimate Planning Area Boundary.

Walnut Creek's **Planning Area** totals 28.47 square miles and includes the city, all of the SOI, and the lands of interest. The City is expected to create land use plans for all property within its chosen planning area; however, no regulatory authority is conferred by the boundary.

WHAT IS THE GENERAL PLAN?

Walnut Creek's General Plan 2025 is the principal policy document for guiding future conservation and growth of the city. It provides a framework within which decisions on how to grow, provide public services and facilities, and protect and enhance the community are made. General Plan 2025 represents an agreement among the citizens of Walnut Creek on basic community values, ideals, and aspirations to govern a shared environment. The Plan has a long-term horizon, addressing a time-frame through to 2025, yet it brings a deliberate, overall direction to the day-to-day decisions of the City Council, its commissions, and City staff. The Walnut Creek General Plan 2025 covers the incorporated area of the city and the City's SOI.

General Plan 2025 fulfills the following roles:

- Expresses the desires of the Walnut Creek community about the city's future physical, social, economic, cultural, and environmental character.
- Builds on the efforts and visions of the past to define a realistic vision of what the city can be in 20 years.
- Establishes what the community wants to reinforce or change, in order to preserve and enhance the best of what the city offers.
- Serves as a comprehensive and everyday guide for making decisions about the nature and location of economic and urban development and road improvements.
- Protects natural resources and the public health and safety.
- Ensures consistency of City actions, while providing the flexibility to respond to changing needs and times.
- Serves as the City's "constitution" for conservation, land use, and community development, providing the legal foundation for all zoning, subdivision, and public facilities ordinances, decisions, and projects—all of which must be consistent with the general plan.

THE GENERAL PLAN PROCESS

The current Walnut Creek General Plan was updated in 1989 and was comprehensively revised in 1993 (when the Growth Limitation Plan was added). The 1989 General Plan—while it has been amended in small ways from time to time—has remained relatively unchanged since 1993.

In October 2002 the Housing Element was updated and will remain adopted and certified. General Plan 2025 incorporates the Housing Element by reference, and does not change it. The element will be updated in 2007 in accordance with a schedule established by the State.

General Plan 2025 was prepared over a period of several years by City staff and a consultant team under the direction of a General Plan Steering Committee. The composition of the

[2] Government Code §65301.

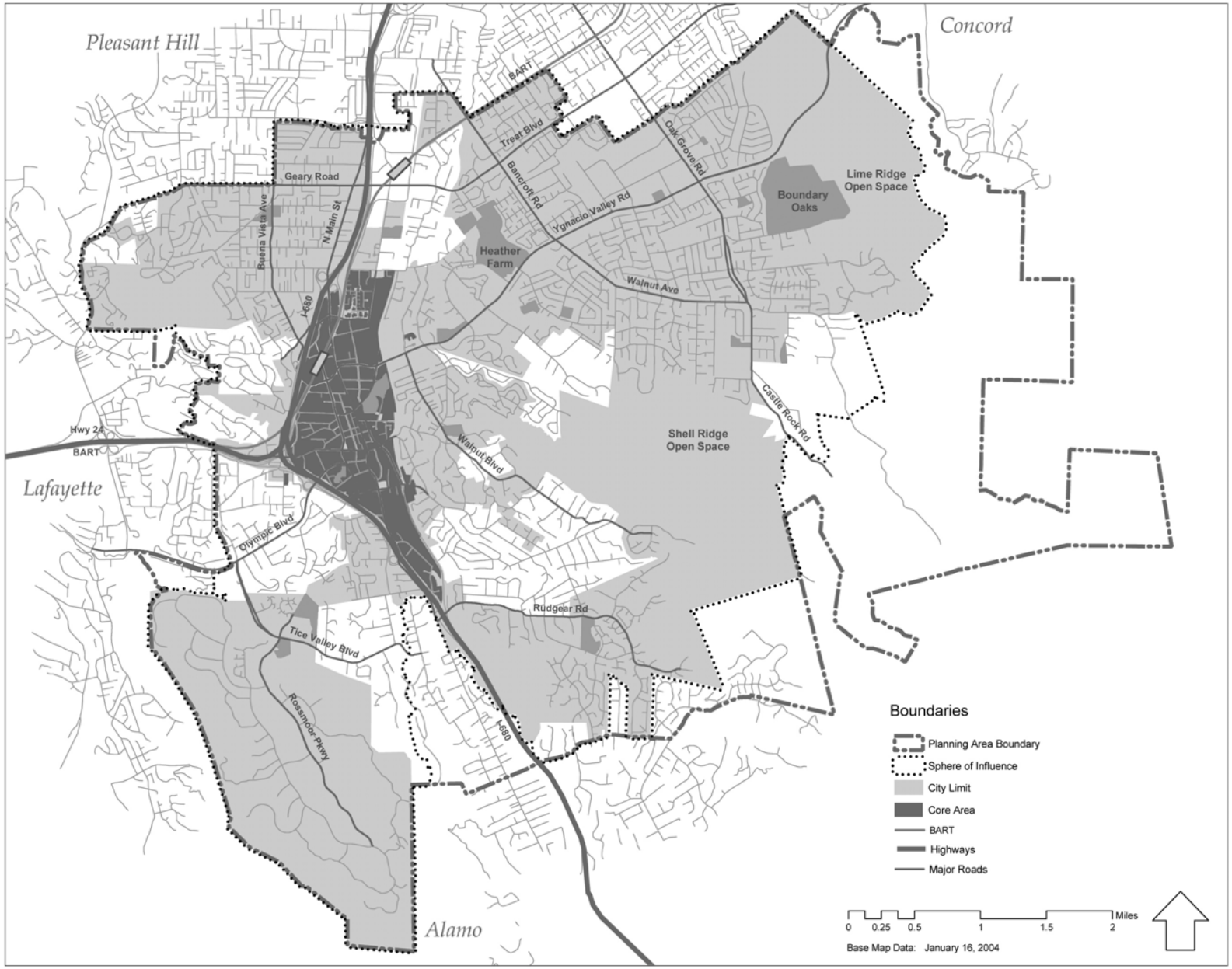

Figure 2. Planning Boundaries

committee was determined by City Council and made up of seven members—the city treasurer, two planning commissioners, and one commissioner each from the Transportation; Parks, Recreation, and Open Space; Arts; and Design Review commissions. The Committee met 29 times from June 2003 through February 2005. Meetings were open to the public, and each agenda provided a time for public comment. Information prepared for each meeting was posted in advance on the City website. Meetings were formatted to allow in-depth committee and public discussion of issues identified through various sources, beginning with developing the vision statement and key principles.

The General Plan process included preparation of a series of background reports on existing conditions in Walnut Creek. The background reports described conditions existing in 2003, trends, and community issues to be addressed. The reports were as follows:

- Land Use/Growth Management
- Community Facilities and Services
- Transportation
- Cultural Resources
- Geologic Hazards
- Hazardous Materials
- Hydrology and Water Quality
- Biological and Wetlands Resources
- Parks, Recreation and Open Space Resources
- Urban Design
- Air and Noise.

To prepare theses studies, the consultant team conducted field observations, interviews, and database and archival research. Planning documents, government laws and regulations and City codes and ordinances were also reviewed. Once drafted, the background reports were submitted to the Steering Committee for review. Based on their direct knowledge of Walnut Creek and the Planning Area, Committee members commented on the background reports and generated a list of topics that they determined were significant and merited particular attention during policy development. Concurrently with the above reports, an Economic Development Background Report was prepared by a separate consultant and advisory group, which included two members of the General Plan Steering Committee.

Community workshops were held on October 18 and 25, 2003, and March 27 and 31, 2004, to acquaint all city residents with existing conditions in Walnut Creek and to gather resident input on key issues of concern in the Walnut Creek Planning Area. Workshops held in November 2004 focused on land use alternatives for 21 "potential change areas."

The General Plan Steering Committee drafted a vision statement and key principles for General Plan 2025. After key issues were identified through the workshops and background reports, the Committee, along with City staff and consultants, worked together to draft goals, policies and actions that would address key issues. The Steering Committee met for the last time on Feb. 12, 2005, after which it forwarded its recommendations regarding General Plan policies and Land Use Change Areas to the Planning Commission for consideration.

City staff, consultants and the Planning Commission then drafted the General Plan 2025. The draft General Plan was then subjected to significant review by the Planning Commission and other commissions before it was released as a draft for public review.

In considering the General Plan, the City's Planning Commission and City Council will review the document and this accompanying EIR. Once the EIR is certified, the City Council will consider adoption of General Plan 2025 to guide development in Walnut Creek.

GENERAL PLAN VISION AND MAJOR CONCEPTS

The 2025 Walnut Creek Vision emphasizes the quality of life in the community. The vision sees Walnut Creek as a city that:

- Maintains and enhances a high quality of life for the diverse members of the community by promoting safety, public health, a rich variety of active and passive cultural, recreational, and educational opportunities, and support facilities.
- Supports a vital and diverse economy, which fosters entrepreneurship, economic opportunity, and a healthy mix of employment opportunities.
- Preserves and manages the integrity of the natural environment and vistas, including vistas of and from the hills, and protects and expands access to natural resources, including the open spaces, trails, parks, and creeks that surround and connect the community.
- Creates and sustains a highly livable, built environment that maintains its traditional downtown and combines retail, restaurants, arts, entertainment, and housing in an environment that is vibrant, active, and accessible.
- Supports a variety of neighborhoods with housing of various types, densities, and prices which accommodate all income levels and ages, and where new development blends successfully into existing neighborhoods.
- Preserves its cultural heritage.
- Provides sensitive transitions between different land uses and building types.
- Provides transportation options that allow people to move easily around the community and region.
- Ensures that City government interacts positively and consistently with the community, is fiscally responsible, provides regional leadership, and continues to forge cooperative regional relationships.

GENERAL PLAN CHAPTERS

General Plan 2025 includes an introduction and a brief overview of Walnut Creek, as well as seven chapters that set goals, policies and actions for a given subject. The chapters cover the seven topics required by Government Code Section 65302 for general plans, which are land use, circulation, housing, open space, noise, safety, and conservation (of resources). The Housing Element was certified in 2002 and was not part of this project; therefore, it is not evaluated in this EIR. The chapters that form the General Plan are briefly described below:

- **Chapter 1, Introduction**.
- **Chapter 2, Quality of Life**, covers neighborhoods, local economy, community services, culture and arts, and recreation.
- **Chapter 3, Natural Environment and Public Spaces,** covers open space, creeks and trails, parks and plazas.
- **Chapter 4, Built Environment,** covers land use, growth management, urban design and environmental integrity (including air and water quality).
- **Chapter 5, Transportation,** covers the regional network, local networks, transit, transportation demand management, and Downtown mobility.
- **Chapter 6, Safety and Noise,** covers protection of the community from risks associated with the effects of seismic hazards, other geologic hazards, flooding, hazardous materials and wildland and urban fires, as required by State law. State law also requires a noise chapter that addresses the noise environment.

- **Chapter 7, Governance,** covers regional leadership, local leadership, fiscal responsibility, and public information and education.
- **Chapter 8, Implementation,** provides information in tabular form on the timeframe and responsibility for implementation.

As stated earlier, the Housing Element is incorporated by reference into General Plan 2025. Since the Housing Element was updated in 2002 and underwent its own environmental review, it is not evaluated in this EIR.

GOALS, OBJECTIVES, POLICIES AND ACTIONS

General Plan 2025 is built around a series of goals, policies, and actions. "Goals" are end-state; they are the long-range answers to what the community wants to accomplish to resolve a particular problem (or issue). "Policies" and "actions" are medium-range or short-range. Policies and actions guide day-to-day decision-making so there is continuing progress toward the attainment of goals. Goal, policy, and action are defined below.

- A **goal** is a general, overall, and ultimate purpose, aim, or end, toward which the City will direct effort during the 20-year timeframe of the General Plan.
- A **policy** is a specific statement of principle or guidance that implies clear commitment; the direction the City elects to follow in order to meet its goals.
- An **action** is a program, activity, or strategy carried out in response to adopted policy to achieve a specific goal.

LAND USE CATEGORIES

PROPOSED LAND USE CATEGORIES

General Plan 2025 proposes to retain all of the existing General Plan land use categories, with one revision: to replace the existing Mixed Use designation with two Mixed Use designations. The Mixed Use (Commercial Emphasis) designation would allow for a FAR of 1.0 to 2.0 and would be intended to encourage a combination of commercial and residential uses. Commercial (office or retail) must be the primary use, but will be allowed only to a maximum FAR of 0.85. The Mixed Use (Housing Emphasis) designation would allow for a FAR of 1.5 to 2.5 and would be intended to encourage a combination of ground floor retail, with office and/or residential uses above the ground floor. However, residential must be the primary use, with commercial uses allowed only to a maximum FAR of 0.3.

The existing land use categories to be retained are:

- Single-Family Very Low
- Single-Family Low
- Single-Family Medium
- Single-Family High
- Multifamily Low
- Multifamily Medium
- Multifamily Medium High
- Multifamily Very High
- Multifamily Special High
- Pedestrian Retail
- General Retail
- Service Commercial
- Auto Sales & Service
- Office
- Business Park
- Public/Semi-Public
- Hospital

- Open Space/Recreation
- Open Space/Agricultural Preserve

LAND USE CHANGES

In addition to the proposed goals, policies and actions and the two new General Plan Mixed Use land use designations, General Plan 2025 identifies 21 "change areas" where a change is proposed to the land use designation or to a regulation that affects bulk, density, intensity, or height. Most of the change areas are located in Walnut Creek's Core Area. Change areas within the Core Area are shown in Figure 3. The change areas outside of the Core Area are shown in Figure 4. The precise boundaries of the change areas are provided on the "Vicinity Maps" in Appendix A. Existing General Plan regulations and the proposed General Plan regulations for each of the change areas are shown in Table 2. The changes proposed for each area are intended to be in keeping with the goals, policies and actions of General Plan 2025.

Several previously proposed land use change areas were eliminated during prior Planning Commission review. As a result, there are gaps in the otherwise sequential numbering of the vicinity maps.

Five of the land use change areas include recommendations for an increase in Measure A height limits; however, a change to Measure A must be submitted to the voters of Walnut Creek and requires majority approval.

GENERAL PLAN BUILDOUT PROJECTIONS

Table 3 shows the maximum expected housing buildout under land use designations proposed in General Plan 2025. As shown in this table, the land use designations in this General Plan would theoretically allow for a maximum of 8,524 new units in the Planning Area, bringing the total dwelling units to 47,820 in 2025. Within the City Limits, 5,342 new residential dwelling units could be expected, for a total of 37,948 units in the city. The maximum theoretical units in the Core Area would be 2,767 new units; in the incorporated area excluding the Core Area, 2,575 dwelling units could be built.

The addition of 5,342 new units in the City Limits would theoretically increase the city's population by about 10,814 people, based on an average household size of 2.10 persons per household and a vacancy rate of 0.964. Based on the Department of Finance population estimate of 66,500 for Walnut Creek in January 2005, the theoretical population in 2025 under General Plan 2025 would be about 77,314 if full residential buildout occurred.

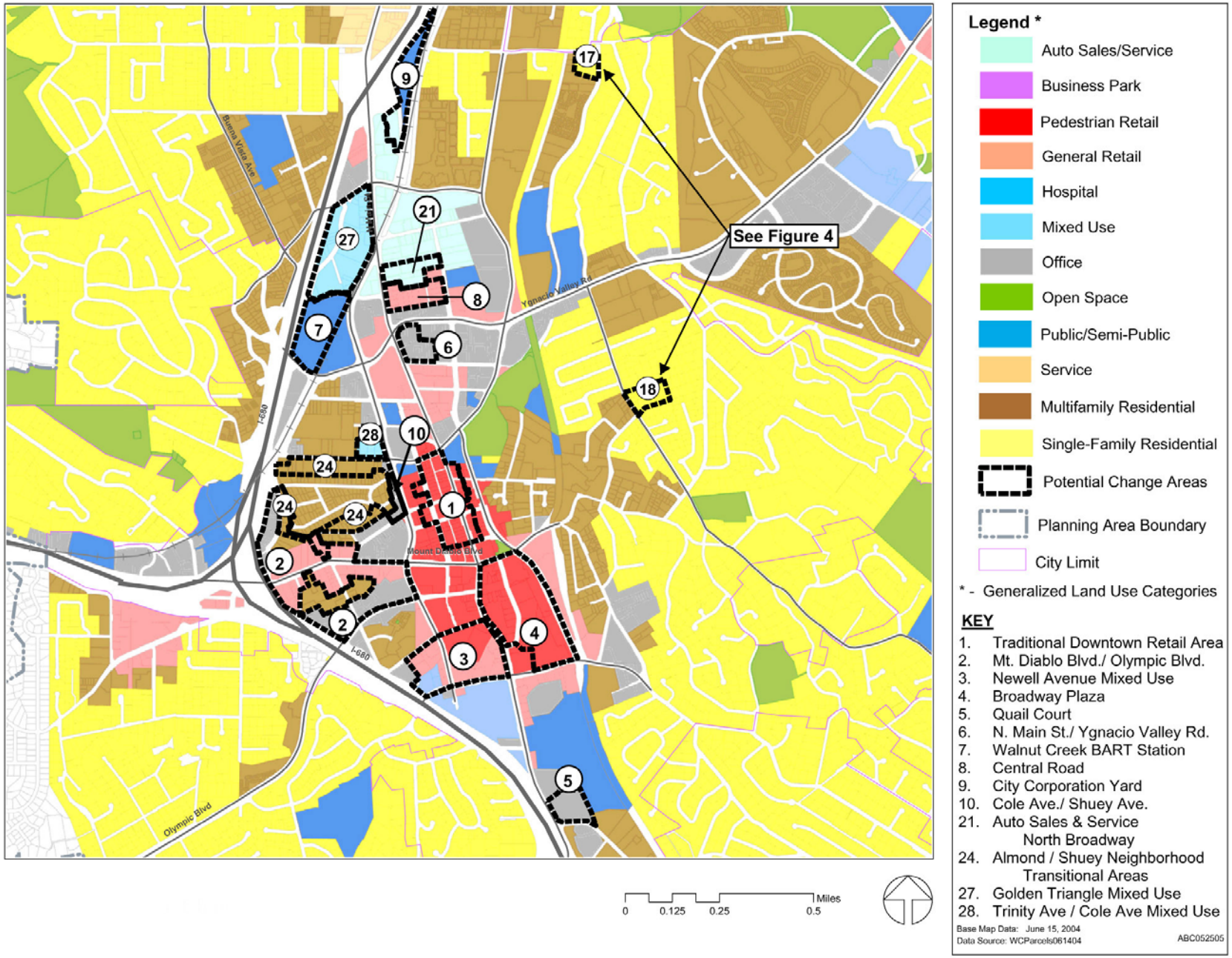

Figure 3. Potential Change Areas Within the Core Area

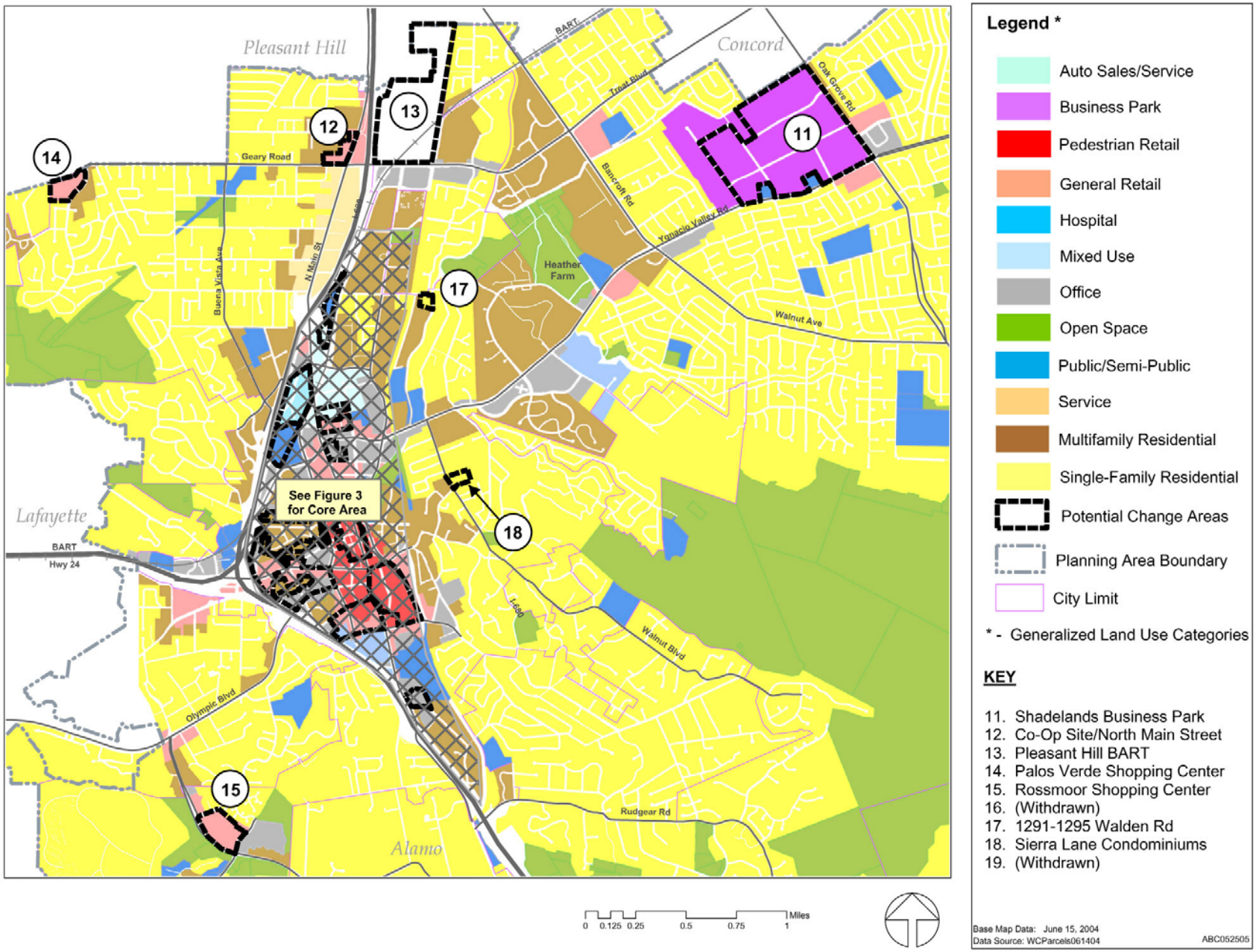

Figure 4. Potential Change Areas Outside the Core Area

Table 2

Proposed General Plan Land Use Changes

Site Number and Name	Size (Approx.)	Regulation	Existing General Plan	Proposed General Plan 2025
CORE AREA				
1. Traditional Downtown Retail Area includes the Main/Locust commercial area between Civic Drive and West Mt. Diablo.	12 acres	**LUD**	Pedestrian Retail	No Change
		FAR/ Overall FAR	2.0	No Change
		Density	N/A	N/A
		GP Height	35 feet at back of sidewalk which can step up to 50 feet on upper floor(s)	No Change
		Measure A Height	50 feet	No Change
2. West Mt. Diablo Blvd. General Retail and Office location which includes areas on both sides of West Mt Diablo Blvd., west and east sides of Oakland Blvd. and north side of Olympic Blvd.	32 acres	**LUD**	General Retail, Office, Multifamily Very High	Mixed Use - Commercial Emphasis
		FAR/ Overall FAR	0.5 on Oakland Blvd and Olympic Blvd. and 0.6 along Mt. Diablo Blvd.	Commercial: 0.85/Overall: 1.3
		Density	Multifamily Very High (30-50 du/acre)	MFM (approx. 20 du/acre or 635 units)
		GP Height	Mostly 50 feet except 35 feet at southwest corner of California Blvd. and Mt. Diablo Blvd.	No Change
		Measure A Height	50 feet along Oakland Blvd. and along Sharpe Ave and 89 feet for remainder.	No Change

Table 2 (Continued)

Proposed General Plan Land Use Changes

Site Number and Name	Size (Approx.)	Regulation	Existing General Plan	Proposed General Plan 2025
3. Area between Botelho, S. Main, Newell Avenue, and I-680	17 acres	**LUD**	Pedestrian Retail, General Retail, Office	Mixed Use - Commercial Emphasis (pedestrian-oriented development that takes advantage of the creek location)
		FAR/ Overall FAR	0.6 and 0.75	Commercial: 0.85/Overall: 1.5
		Density	N/A	MFM (approx. 20 du/acre or 275 units)
		GP Height	35 feet and 50 feet	Increase from 35 feet to 50 feet along Newell Avenue (consistent with Measure A)
		Measure A Height	50 feet, 60 feet, 89 feet	No Change
4. Broadway Plaza	21 acres; existing commercial square footage is approx. 636,000 sf	**LUD**	Pedestrian Retail	No Change
		FAR/ Overall FAR	0. 75	Increase to 1.2 (400,000 sf addition)
		Density	N/A	N/A
		GP Height	Ranges from 25 feet (sliver at northwest corner of S. Broadway and Newell Ave.) to 35 feet (eastern parking lot behind Macy's) up to 50 feet for the majority of Broadway Plaza except on the west side of Broadway Plaza street, fronting onto the horseshoe area and Mt. Diablo Blvd., where lowers to 35 feet.	Increase to Measure A height limits
		Measure A Height	Ranges from 25 feet (sliver at northwest corner of S. Broadway and Newell Ave, to 40 feet (eastern parking lot behind Macy's) to 50 feet for Nordstrom's and all stores fronting on Broadway Plaza street, up to 60 feet for the west parking garage and stores immediately to the north (facing the horseshoe area) and then a reduction back to 35 feet for area abutting Mt. Diablo Blvd.	No Change

Table 2 (Continued)

Proposed General Plan Land Use Changes

Site Number and Name	Size (Approx.)	Regulation	Existing General Plan	Proposed General Plan 2025
5. Quail Court (at North Main and Creekside)	5 acres	**LUD**	Office	Mixed Use - Commercial Emphasis
		FAR/ Overall FAR	0.5	Commercial: 0.5/Overall: 1.5
		Density	N/A	Multifamily Medium High - (approx. 30 du/acre or 150 units)
		GP Height	50 feet	No Change
		Measure A Height	50 feet	No Change
6. North Main Street/Ygnacio Valley Road	4.27 acres	**LUD**	Office	Mixed Use – Residential Emphasis
		FAR/ Overall FAR	0.5	Commercial: 0.5/Overall: 2.6
		Density	N/A	Multifamily Special High –(approx. 60 du/acre or 255 units)
		GP Height	35 feet and 50 feet (Height limit steps down from 50 feet to 35 feet at Arroyo/N Main St.)	Increase to 50 feet on Arroyo/Main St. frontage
		Measure A Height	35 feet and 50 feet	Increase to 50 feet on Arroyo/Main St. frontage
7. Walnut Creek BART Station	6.8 acre site west of BART tracks	**LUD**	Public/Semi-Public	Mixed Use – Residential Emphasis
		FAR/ Overall FAR	N/A	Commercial: 0.2 (approx. 41,000 sf)/Overall: 1.7
		Density	N/A	MFSH (approx. 85 du/acre or 575 units)
		GP Height	35 feet	Increase to 50 feet
		Measure A Height	50 feet	No Change

Table 2 (Continued)

Proposed General Plan Land Use Changes

Site Number and Name	Size (Approx.)	Regulation	Existing General Plan	Proposed General Plan 2025
8. Central Road	3.7 acre site + additional APNs	**LUD**	General Retail	Auto Sales and Service
		FAR	0.6	0.6
		Density	N/A	N/A
		GP Height	35 feet	No Change
		Measure A Height	50 feet	No Change
9. City-Owned Properties on Lawrence Way (Corporation Yard, Traffic Ops Center, etc.)	6.8 acre	**LUD**	Public/Semi-Public	Auto Sales and Service
		FAR	N/A	0.6
		Density	N/A	N/A
		GP Height	35 feet	Increase to 50 feet
		Measure A Height	35 feet	Increase to 50 feet
10. North California Blvd. at Bonanza St.	1 acre	**LUD**	Office	Mixed Use – Residential Emphasis
		FAR	0.5	Commercial: 0.3/Total: 1.5
		Density	N/A	MFM (approximately 19 du/acre or 19 units)
		GP Height	50 feet	No Change
		Measure A Height	50 feet	No Change
21. West side of N. Broadway - Toyota Dealership.	4.75 acres	**LUD**	Auto Sales and Service	No Change
		FAR	0.6	1.0
		Density	N/A	N/A
		GP Height	35 feet	Increase to 50 feet
		Measure A Height	50 feet	No Change

Table 2 (Continued)

Proposed General Plan Land Use Changes

Site Number and Name	Size (Approx.)	Regulation	Existing General Plan	Proposed General Plan 2025
24. Almond/Shuey Neighborhood Buffer	15 acres	**LUD**	Multifamily Very High, Office, General Retail	No Change /Some overlap with Change Area #2
		FAR	0.5 in Office, 0.6 in General Retail	No Change
		Density	Multifamily Very High (30.1- 50.0 du/acre) in some areas	No Change
		GP Height	50 feet	35 feet in parcels adjacent to D-3 zoning district with additional building setbacks
		Measure A Height	50 feet	No Change
27. Golden Triangle Mixed Use District	16.88 acres	**LUD**	Mixed Use	Mixed Use – Commercial Emphasis
		FAR/Overall FAR	Varies: 1.5 – 2.5	Commercial: 0.85/No change
		Density	N/A	Multifamily Medium High (22.1 – 30.0 du/acre)
		GP Height	50 feet, 70 feet, 89 feet	Revise 70 feet to 50 feet consistent with Measure A
		Measure A Height	50 feet, 89 feet	No Change
28. Trinity/Cole Ave. (Mercer Mixed Use)	2.9 acres	**LUD**	Mixed Use	Mixed Use – Residential Emphasis
		FAR/Overall FAR	0.5	Commercial: 0.3/Overall: 2.0
		Density	Multifamily Special High (50.1 – 100.0 du per acre)	No Change (Actual density is 62.4 du/acre)
		GP Height	50 feet	No Change
		Measure A Height	50 feet	No Change

Table 2 (Continued)

Proposed General Plan Land Use Changes

Site Number and Name	Size (Approx.)	Regulation	Existing General Plan	Proposed General Plan 2025
OUTSIDE OF CORE AREA				
11. Shadelands Business Park	130 acres	**LUD**	Business Park	No Change
		FAR/ Overall FAR	0.3	0.5 (changes in FAR would be limited to parcels not directly adjacent to existing residential development, approx. 130 acres)/ 0.5
		Density	N/A	N/A
		GP Height	40 feet	No Change
		Measure A Height	40 feet	No Change
12. Former Co-op Site, 1510 Geary and all commercial on west side of N. Main up to Sunnyvale	6.7 acres	**LUD**	General Retail	Mixed Use – Residential Emphasis
		FAR/ Overall FAR	0.3	Commercial 0.3/Overall: 1.5
		Density	N/A	MFMH (22 – 30 du/acre, mid-point of the General Plan density range would allow 175 units)
		GP Height	20 feet	Increase to 35 feet
		Measure A Height	20 feet	Increase to 35 feet
13. Pleasant Hill BART Station Area	10.4 acres	**LUD**	Outside the City, but within Walnut Creek's Sphere of Influence	Designate area to reflect BART Specific Plan and existing development which includes Office, Multifamily and Single-family development This would allow 549 residential units, 270,000 sf of office and 47,720 sf of retail. (These numbers are based on an actual proposal under the Specific Plan.)
		FAR/ Overall FAR		
		Density		
		GP Height		
		Measure A Height		

Table 2 (Continued)

Proposed General Plan Land Use Changes

Site Number and Name	Size (Approx.)	Regulation	Existing General Plan	Proposed General Plan 2025
14. Palos Verde Mall 15. Rossmoor Shopping Center	15.2 acres	**LUD**	General Retail	Mixed Use – Commercial Emphasis
		FAR/ Overall FAR	0.3	Commercial: 0.3/Overall: 0.9
		Density	N/A	MFM (approximately 18 du/acre or approximately 55 units on each site)
		GP Height	20 feet	Increase to 30 feet
		Measure A Height	20 feet	Increase to 30 feet
17. Walden Road	2.2 acres	**LUD**	Single-family Low	Single-family Medium
		FAR/ Overall FAR	N/A	N/A
		Density	Single-family Low (1-3 du/acre)	SFM (3-6 du/acre, mid-point of General Plan density range would allow 11 units)
		GP Height	25 feet	No change
		Measure A Height	25 feet	No change
18. Sierra Lane Condos	2.7 acres	**LUD**	Single-family Low	Multifamily Medium
		FAR/ Overall FAR	N/A	N/A
		Density	Single-family Low (1-3 du/acre)	14.1-22 du/acre (existing built density)
		GP Height	25 feet	No change
		Measure A Height	25 feet	No change

Notes: FAR = Floor Area Ratio
LUD = Land Use Designation
GP = General Plan
du = dwelling units

Measure A: an initiative limiting new building height to a maximum of six stories or to the height allowed in the applicable zoning district, whichever is less.

Table 3

Maximum Theoretical Buildout Under General Plan 2025

	Residential Dwelling Units			Commercial Square Feet		
	Existing (Including Pipeline)	**Potential**	**Total**	**Existing**	**Potential**	**Total**
Core Area	5,414	2,767	8,181	8,947,397	4,453,528	13,400,925
Incorporated Area Outside Core	27,192	2,575	29,767	6,795473	4,379,992	11,175,465
TOTAL CITY LIMITS	**32,606**	**5,342**	**37,948**	**15,742,870**	**8,833,520**	**24,576,390**
Unincorporated Area Within the Sphere of Influence	6,222	2,773	8,995	3,597,985	629,875	4,227,860
Planning Area Boundary outside Sphere of Influence	468	409	877	0	0	0
TOTAL OUTSIDE CITY LIMITS	**6,690**	**3,182**	**9,872**	**3,597,985**	**629,875**	**4,227,860**
TOTAL PLANNING AREA	***39,296***	***8,524***	***47,820***	***19,340,855***	***9,463,395***	***28,804,250***

CHAPTER 4

Environmental Evaluation

This chapter consists of 13 sections that evaluate the environmental impacts of the proposed City of Walnut Creek General Plan 2025. Each section follows the same format and consists of the following subsections:

- The **Existing Setting** section describes current conditions with regard to the environmental factor reviewed.
- The **Standards of Significance** section tells how an impact is judged to be significant in this EIR. These standards are based on the CEQA guidelines and other regulatory criteria where noted.
- The **Impact Discussion** gives an overview of potential impacts, and tells why impacts were found to be significant or less than significant.
- The **Impacts and Mitigation Measures** section numbers and lists identified impacts, and identifies measures that would mitigate each impact.

In sections 4.1 through 4.13, each numbered impact is considered significant prior to mitigation, unless it is specifically identified as less-than-significant. Mitigation measures have been suggested that would reduce significant impacts to less-than-significant levels. Impacts would be less than significant after mitigation unless they are noted as significant and unavoidable in the text.

All mitigation measures are stated with conditional language ("should") because they are recommendations, and not conditions of approval for the project, unless they are specifically adopted as conditions by the City. Under CEQA, an EIR is required to identify mitigation measures that could reduce identified impacts to less-than-significant levels. However, the City is not required to adopt these mitigation measures, even after the EIR is certified. The City could also require alternative mitigation measures that are equally effective, or it could find that the identified measures are infeasible and allow the project without mitigation under a finding of overriding consideration. If the City adopts the suggested mitigation measures as conditions of approval, then their language will be changed from the conditional "should" to the mandatory "shall."

CHAPTER 4.1

Land Use

This chapter presents information on the existing land uses in Walnut Creek and describes the effects the proposed General Plan 2025 would have on land use issues. Additional background information regarding land use is contained in the *Land Use and Growth Management Background Report*.

EXISTING SETTING

This section describes existing land uses in Walnut Creek, the existing General Plan land use designations, existing plans and policies related to land use, and the land use designations for Contra Costa County.

EXISTING GENERAL PLAN LAND USE DESIGNATIONS

The 1989 Walnut Creek General Plan has 20 land use categories, as shown in Table 4, which also lists the amount of land associated with each of these classifications.

EXISTING LAND USE

Each of the 21 change areas and their existing land uses are provided in Table 5.

Table 4

Existing General Plan Land Use Designations

Land Use Designation	Acres
Single-family Very Low	1,039
Single-family Low	3,625
Single-family Medium	5,362
Single-family High	0
Multifamily Low	699
Multifamily Medium	156
Multifamily Medium High	84
Multifamily Very High	193
Multifamily Special High	5
Pedestrian Retail	71
General Retail	209
Service Commercial	62
Auto Sales & Service	40
Office	252
Mixed Use	17
Business Park	242
Public/Semi-Public	294
Hospital	53
Open Space/Recreation	3,418
Open Space/Agricultural Preserve	2,764
TOTAL	18,585

Table 5

Land Use Change Area Descriptions

	Change Areas	Area Description	Surrounding Land Uses		Major Roadways		Prominent Features
1	Traditional Downtown Retail	Older retail area comprised of buildings that are primarily smaller in scale and of varying ages and architectural styles. In addition to retail shops, area includes many restaurants.	N	Auto sales, offices	N	Civic Drive	Highest concentration of smaller businesses and individual stores. Many alleys and pedestrian corridors.
			S	Retail uses	S	Duncan Street (not major)	
			E	Retail and offices facing South Broadway	E	South Broadway	
			W	Retail, restaurants, Lesher Center	W	California Boulevard	
2	Mt. Diablo/Olympic Boulevard	Mixture of residential, office and retail. Buildings vary in age, size and character. St. Mary's Church and School is excluded.	N	Residential (Almond Shuey) and offices on Mt. Diablo	N	N/A	Mixture of uses—small to medium-sized office buildings, apartments and duplexes, older retail area includes homes and Long's Plaza.
			S	Offices	S	Olympic Boulevard	
			E	Offices	E	I-680	
			W	I-680	W	North California Boulevard	

Table 5 (Continued)

Land Use Change Area Descriptions

	Change Areas	Area Description	Surrounding Land Uses		Major Roadways		Prominent Features
3	Newell Avenue Mixed Use	Mixture of retail, restaurants and some offices. Buildings vary in age and size. Shopping areas include large parking lots.	N	Retail/residential	N	Botelho Drive	Creek bisects area, one of the few areas where it is an open channel.
			S	Kaiser Hospital	S	Newell Avenue	
			E	Offices, retail, restaurants	E	I-680	
			W	I-680	W	South Main Street	
4	Broadway Plaza	Regional shopping area. Outdoor focus. Mixture of building sizes, large parking structures, pedestrian corridors. Under same management so all landscaping maintenance is uniform.	N	Retail	N	Mt. Diablo	Manicured, well-maintained character of area. Occupied by major retail industry.
			S	Retail, restaurants, high school	S	Newell Avenue	
			E	Offices, restaurants, retail	E	South Broadway	
			W	Retail	W	South Main Street	
5	Quail Court	Primarily offices, some in wooded setting. Office buildings of various sizes. One restaurant in the area.	N	Office complex	N	N/A	Creek runs along western edge. Heavily vegetated, prominent oak trees.
			S	Office/Residential	S	Creekside Drive	
			E	Los Lomas High School, sports fields, residential	E	N/A	
			W	South Main Street	N	N/A	

Table 5 (Continued)

Land Use Change Area Descriptions

	Change Areas	Area Description	Surrounding Land Uses		Major Roadways		Prominent Features
6	North Main/Ygnacio Valley Road	Older motel and auto dealerships, restaurants, large auto storage area.	N	Offices	N	Ygnacio Valley Road	
			S	Auto Sales/Service	S	Arroyo	
			E	Offices, limited retail	E	N/A	
			W	Retail	W	North Main Street	
7	Walnut Creek BART	Major Transit Center, BART and connection bus. 4-story parking garage and surface parking	N	Offices	N	Pringle Avenue	Prominent entrance into the City. Pedestrian entrance at North California Boulevard/Ygnacio Valley Road is an important gateway to City
			S	Offices	S	Ygnacio Valley Road	
			E	Offices	E	North California Boulevard	
			W	I-680	W	I -680	
8	Central Road	Mix of building types and uses, primarily auto service-oriented. One auto dealer. Vacant retail center along Central Road.	N	Retail/Auto Sales and Service	N	N/A	Minimum visibility, alley-like setting.
			S	Office	S	Central Road	
			E	Post Office/ Offices	E	North Broadway	
			W	Offices	W	North Main Street	
9	City-owned property	Narrow band of property with mis-	N	I-680	N	I-680	Marginal access—wedged between
			S	auto dealerships	S	Parkside Drive	

Table 5 (Continued)

Land Use Change Area Descriptions

	Change Areas	Area Description	Surrounding Land Uses		Major Roadways		Prominent Features
		cellaneous industrial uses. Corporation yard and recycling center.	E	Lawrence Way and Jones Road	E	Lawrence Way and Jones Road	Lawrence Way and I-680
			W	I-680 and auto dealership	W	I-680 and auto dealership	
10	North California Boulevard/Bonanza Street	Comprised of older residential buildings, some connected to office uses. Retail along a part of California Boulevard.	N	Office/ Residential	N	Almond Court	Grade slopes down to California Boulevard. Transit area between downtown and Almond-Shuey Neighborhood
			S	Office/ Restaurant	S	Bonanza Street	
			E	Offices/Lesher Center for Performing Arts/ Parking Garage	E	North California Boulevard	
			W	Predominantly Residential/ Office Building	W	Shuey Avenue/Almond Avenue	
11	Shadelands Business Park	Large area comprises of office buildings, light industrial facilities and community buildings. Large areas of open space and underutilized parking lots throughout area.	N	School/ Residential	N	N/A	Canal and trail run along north edge of area.
			S	Residential/ Commercial (South of Ygnacio Valley Road)		Ygnacio Valley Road	
			E	Residential/ Commercial	E	Oak Grove Road	
			W	Office/ Residential	W	N/A	

Table 5 (Continued)

Land Use Change Area Descriptions

	Change Areas	Area Description	Surrounding Land Uses		Major Roadways		Prominent Features
12	Former Co-Op Site/North Main Street	Characterized by former Co-Op market (now vacant) and various uses along North Main, including apartments and a fast food restaurant.	N	Office/ Residential	N	Sunnyvale Avenue	Gateway entrance into Walnut Creek
			S	Commercial/ Residential	S	Geary Road	
			E	Institutional/ Residential	E	North Main Street	
			W	Commercial	W	N/A	
13	Pleasant Hill BART Station	Densely developed area with offices, hotel, commercial uses and residential development surrounding station. Station contains elevated platform, a parking garage and surface parking. Transfer point for County Connection Busses.	N	Residential	N	Mayhew Way	
			S	Offices/Hotel/ Sports Club/ Residential	S	Treat Boulevard	
			E	Residential	E	Coggins Drive	
			W	Freeway	W	I-680/Buskirk Avenue	
14	Palos Verdes Shopping Mall	Neighborhood shopping center with one-story buildings providing commercial and service commercial uses. Vacant along eastern edge of site.	N	Residential	N	Pleasant Hill Road	
			S	Residential	S	N/A	
			E	Residential	E	Camino Verde	
			W	Residential	W	N/A	

Table 5 (Continued)

Land Use Change Area Descriptions

	Change Areas	Area Description	Surrounding Land Uses		Major Roadways		Prominent Features
15	Rossmoor Shopping Center	Neighborhood shopping center providing retail and service commercial uses.	N	Residential	N	N/A	Located on slight rise at a prominent intersection. Near entrance to Rossmoor Community. Homes upslope of shopping center.
			S	Retail/ Institutional	S	Tice Valley Road	
			E	Institutional (nursing home)/ Offices	E	Rossmoor Parkway	
			W	Service Commercial/ Residential	W	Rollins Drive	
17	1291-1295 Walden Road	Residential area characterized by multi-family and single family home development. Many older homes on large lots.	N	Residential	N	Cherry Lane	Canal runs along eastern edge of property.
			S	Residential	S	N/A	
			E	Residential	E	Walnut Boulevard	
			W	Residential	W	Westcliffe Lane	
18	Sierra Lane Condominium	Existing 48-unit condominium development, two-story buildings with interior access road and pool complex.	N	Residential	N	N/A	
			S	Residential	S	Sierra Lane	
			E	Residential	E	N/A	
			W	Residential	W	Walnut Boulevard	
21	Auto Sales and Service, North Broadway	Mixture of predominantly automobile serving uses and other retail commercial uses. Mixture of	N	Auto Services/ Retail Commercial	N	N/A	
			S	Auto Services/ Retail	S	Central Avenue	

Table 5 (Continued)

Land Use Change Area Descriptions

	Change Areas	Area Description	Surrounding Land Uses		Major Roadways		Prominent Features
		building types and ages, with many industrial buildings.		Commercial			
			E	Offices	E	Laurette Street, North Broadway	
			W	Offices/Auto Sales and Service	W	North Mall Street	
27	Golden Triangle Mixed Use	Mixed-use area containing office buildings, service commercial, retail commercial and residential uses.	N	Hotel/Offices	N	Parkside Drive	
			S	BART Station	S	Princes Avenue	
			E	Auto Sales and Service/Mixed Commercial Uses	E	North California Boulevard/North Main Street	
			W	Freeway	W	I-680	
28	Trinity/Cole Avenues Mixed Use	Residential (multi- and single-family) office and open space	N	Office/ Residential	N	Cole Avenue	
			S	Office/ Residential	S	Trinity Avenue	
			E	Offices	E	North California Boulevard	
			W	Residential	W	N/A	

EXISTING PLANS AND POLICIES

In addition to the Walnut Creek General Plan, City documents that affect land use planning in Walnut Creek include the Zoning Ordinance and the Growth Limitation Plan.

Zoning Ordinance
The City of Walnut Creek Zoning Ordinance was adopted in January 16, 1996. The zoning ordinance was written to implement land use goals of the community as expressed in the General Plan, and thus to provide the economic and social advantages resulting from the orderly, planned use of land resources. The City of Walnut Creek is divided into 17 districts or zones within which permitted and conditionally permitted land uses are established. Each standard zoning district contains regulations that govern the lot size, building bulk, placement, and other development standards such as building height, parking requirements, and specific land use regulations.

Growth Limitation Plan
In response to citizens' desires to limit commercial growth and to meter the rate of new growth, Walnut Creek's City Council adopted a Growth Limitation Plan (GLP) in September 1993. Regulations implementing this plan were adopted in October 1993. In April 2003, the 10-year GLP was extended through 2005.

The 1993 GLP (as extended and amended in 2003) allows 900,000 square feet of commercial development and 2,550 residential units over the 12-year period from September 1, 1993, through 2005. Commercial development is allocated in two-year cycles with 150,000 square feet allocated for each two-year period. Development applications are accepted on a first come, first served basis, and are evaluated against project-specific performance standards, citywide performance standards, Roadway Level of Service standards, and the Traffic Weighted Point System. The elements of this system are explained in the *Land Use and Growth Management Background Report*.

The GLP allowed the development of 2,550 residential units over the 10-year period — a number consistent with the Association of Bay Area Government's (ABAG's) residential projections for the City of Walnut Creek, excluding the unincorporated areas in the Sphere of Influence. Approximately 1,750 residential units remain unallocated.

STANDARDS OF SIGNIFICANCE

The Walnut Creek General Plan 2025 would create a significant land use impact if it would:

- Physically divide an established community.
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

IMPACT DISCUSSION

This section begins with a summary of the land use changes that would occur under General Plan 2025 and then evaluates how these changes would affect land use issues. The General Plan 2025 Land Use Map is included in Appendix A.

LAND USE DESIGNATION CHANGES

General Plan 2025 proposes to retain the existing General Plan land use designations listed in Table 4. General Plan 2025 proposes to expand the Mixed Use designation in the existing General Plan into two categories:

- Mixed Use (Residential Emphasis)
- Mixed Use (Commercial Emphasis)

In addition, General Plan 2025 proposes to change the land use designations that apply to several Core Area change areas as follows:

- Change Area 2 would change from General Retail, Office, and Multifamily Very High, to Mixed Use – Commercial Emphasis
- Change Area 3 would change from Pedestrian Retail, General Retail and Office, to Mixed Use – Commercial Emphasis
- Change Area 5 would change from Office to Mixed Use – Commercial Emphasis
- Change Area 6 would change from Office to Mixed Use – Residential Emphasis
- Change Area 7 would change from Public/Semi-Public to Mixed Use – Residential Emphasis
- Change Area 8 would change from General Retail to Auto Sales and Service
- Change Area 9 would change from Public/Semi-Public to Auto Sales and Service
- Change Area 10 would change from Office to Mixed Use – Residential Emphasis
- Change Area 27 would change from Mixed Use to Mixed Use – Commercial Emphasis
- Change Area 28 would change from Mixed Use to Mixed Use – Residential Emphasis

The land use designations for Change Areas 1, 4 and 21 would not change under General Plan 2025.

General Plan 2025 also proposes to change the land use designations for several Change Areas outside of the Core Area, as follows:

- Change Area 12 would change from General Retail to Mixed Use – Residential Emphasis
- Change Areas 14 and 15 would change from General Retail to Mixed Use – Commercial Emphasis
- Change Area 17 would change from Single-family Low to Single-family Medium
- Change Area 18 would change from Single-family Low to Multifamily Medium

The land use designation for Change Area 11 (Shadelands Business Park) would remain Business Park.

These land use designation changes would increase the amount of land designated for Mixed Use and Auto Sales and Service compared to the 1989 General Plan. The changes to Change Areas 17 and 18 would also result in a net decrease in the amount of land designated Single-family Low.

DIVIDING ESTABLISHED COMMUNITIES

General Plan 2025 would have a significant land use impact if it resulted in development that physically divided an established community. The division of a community could result from construction of a physical feature, such as railroad tracks or an interstate highway, or the removal of access that impairs community mobility. General Plan 2025 does not propose the construction of any large physical structures or features that would physically divide an established community, nor does it propose the large-scale removal of roads or other means of access. The General

Plan policies to integrate and support infill development (Built Environment Policies 5.1 and 12.2) would support the connection of neighborhoods. The land use designations proposed in the Plan's Land Use Map generally reflect existing land uses, with commercial, office, auto sales, hospital and multifamily residential uses located in the Core Area and along major transportation corridors. The proposed land use designation changes would not be expected to divide or disrupt established communities. Thus there would be no impact.

LAND USE COMPATIBILITY

Some land uses, including industrial and commercial, could significantly impact sensitive land uses, such as residential uses. General Plan 2025 identifies change areas that would be designated for a mix of land uses and/or land use intensification. Most of these areas are in the Core Area. The mixed use areas would support an integrated mix of residential, commercial and office uses. While mixed-use development has many benefits, it can create the potential for land use incompatibilities. For example, the juxtaposition of residential uses with other uses, such as commercial uses, could result in conflicting design requirements, noise conflicts, or pedestrian/bicycle and vehicle conflicts. Built environment, community design and noise policies, as discussed below, would address these potential issues.

Chapter 4 Built Environment, Policy 5.1 would encourage infill development that is compatible with adjacent and nearby uses. Where new development occurs, Action 5.1.1 would require the City to study surrounding properties and uses for potential conflicts, and address those conflicts within the City's review processes.

Community design incompatibilities would be addressed through Chapter 4 Built Environment, Policy 13.1 to maintain urban design and architectural standards for evaluating the scale, appearance, and compatibility of new development proposals. Through Action 13.1.1, the City would confirm that project designs are compatible with adjacent uses, during the City's review processes. Community design incompatibilities in specific areas would also be addressed through Chapter 2 Quality of Life, Actions 1.1.2 and 1.4.1, and Chapter 4 Built Environment, Policy 7.5. In the vicinity of the Pleasant Hill BART station, the City would work with the County toward ensuring that development in that area is compatible with adjacent areas (Chapter 4 Built Environment, Action 23.3.1).

Noise incompatibility issues would be adequately mitigated through the policies and actions under Goal 8 of the Safety and Noise Chapter, which seeks to provide compatible noise environments for new development, redevelopment, and condominium conversions.

Transportation Policies 5.1, 5.2, 6.1, 6.2, 6.3, 6.4, 9.1, 10.1, would reduce conflicts between pedestrians, bicyclists and vehicles by providing for and encouraging the use of safe bicycle and pedestrian routes.

Given the above policies, implementation of General Plan 2025 would result in less-than-significant impacts with regard to land use incompatibility.

CONSISTENCY WITH APPLICABLE PLANS

Since there are no habitat conservation plans or natural community conservation plans that apply to Walnut Creek or its Planning Area, there would be no impact with regard to consistency with such plans.

IMPACTS AND MITIGATION MEASURES

Since no impacts were identified, no mitigation measures are required.

CHAPTER 4.2

Population, Employment & Housing

This chapter presents information on the existing and projected population, employment and housing within the City of Walnut Creek and describes the effects of General Plan 2025 on each of these aspects.

EXISTING SETTING

POPULATION

Demographic Trends

Population and Household Growth
In contrast to the rapid city population growth of the 1960s and 1970s, in the 1990s Walnut Creek grew more slowly than the county and region. It has a smaller household size and a higher proportion of non-family households.

Table 6 shows past population and household trends for Walnut Creek, Contra Costa County, and the Bay Area region. As shown in the table, since the 1989 General Plan, the City of Walnut Creek's population has grown modestly, increasing from 61,446 in 1990 to 64,296 by 2000 and to an estimated 65,415 residents in 2002—an annual average growth rate of 0.5 percent. The current population in 2005 is estimated at 66,500. Both Contra Costa County and the Bay Area have grown more rapidly during the same period, at annual average growth rates of 1.6 and 1.2 percent respectively.

Projected population trends are summarized in Table 7. The Association of Bay Area Governments (ABAG) projects that Walnut Creek's population will continue to grow by approximately 15 percent between 2005 and 2025, adding just under 10,000 new residents by that date, for a total population of approximately 75,000. This would reflect a slower rate of growth than that projected for Contra Costa County, where the total population is projected to increase by about 19 percent between 2005 and 2025, from 368,770 to about 440,250.

As also shown in Table 6, the city (excluding Rossmoor)[1] has experienced a slight decline in average household size since 1990. Sample data from US Census 2000 shows 2.54 persons per household in single-family units and 1.59 persons per household in multifamily units, with an average household size of 2.10 persons. This decrease runs counter to the trend for the county and the region, where household size has been increasing since 1990. Countywide, household size was 2.74 persons in 2002; Bay Area household size was 2.70 persons. This difference is in large part attributable to Walnut Creek's demographic profile, which includes a larger proportion of senior households and households without children.

The city has a considerably higher proportion of non-family households (consisting of unrelated individuals) than either the county or the region. In 1990, about 39 percent of the city's households outside of Rossmoor were non-family, compared to about 29 percent for the County and about 35 percent for the region. By 2002, Walnut Creek's proportion of non-family households excluding those in Rossmoor had grown to approximately 40 percent. While the proportion of non-family households in the

[1] Demographic information for Rossmoor is separated out in many instances in this discussion, since, as a senior community, the demographic profile of this area is not typical of that of the City of Walnut Creek as a whole.

Table 6

Population and Household Trends

	1990		2000		2002[a]		Average Annual Change 1990-2002
	Number	Percent	Number	Percent	Number	Percent	Percent
CITY OF WALNUT CREEK							
Total Persons	61,446		64,296		65,415		0.5%
Total Households	28,660		30,301		30,846		0.6%
Household Size	2.12		2.09		2.09		
Household Type							
Families	16,337	57.0%	16,551	54.6%	16,740	54.3%	
Non-Families	12,323	43.0%	13,750	45.4%	14,106	45.7%	
Tenure							
Owner	19,199	67.7%	20,708	68.3%	NA	NA	
Renter	9,148	32.3%	9,593	31.7%	NA	NA	
CONTRA COSTA COUNTY							
Total Persons	803,732		948,816		971,507		1.6%
Total Households	300,288		344,129		350,878		1.3%
Household Size	2.64		2.72		2.74		
Household Type							
Families	212,649	70.8%	242,233	70.4%	245,319	69.9%	
Non-Families	87,639	29.2%	101,896	29.6%	105,559	30.1%	
Tenure							
Owner	202,894	67.6%	238,449	69.3%	NA	NA	
Renter	97,394	32.4%	105,680	30.7%	NA	NA	
BAY AREA REGION[b]							
Total Persons	6,253,256		7,039,362		7,248,869		1.2%
Total Households	2,329,791		2,557,158		2,623,763		1.0%
Household Size	2.61		2.69		2.70		
Household Type							
Families	1,511,794	64.9%	1,651,602	64.6%	1,682,824	64.1%	
Non-Families	817,997	35.1%	905,556	35.4%	940,939	35.9%	
Tenure							
Owner	1,317,460	56.5%	1,478,639	57.8%	NA	NA	
Renter	1,012,348	43.5%	1,078,519	42.2%	NA	NA	

Table 6 (Continued)
Population and Household Trends

CITY OF WALNUT CREEK WITHOUT ROSSMOOR							
Total Persons	53,568		56,035		57,187		0.5%
Total Households	23,089		24,341		24,872		0.6%
Household Size	2.32		2.30		2.30		
Household Type							
Families	14,143	61.3%	14,615	60.0%	14,816	59.6%	
Non-Families	8,946	38.7%	9,726	40.0%	10,056	40.4%	
ROSSMOOR							
Total Persons	7,878		8,261		8,228	0.4%	
Total Households	5,571		5,960		5,974	0.6%	
Household Size	1.41		1.39		1.38		
Household Type							
Families	2,194	39.4%	1,936	32.5%	1,924	32.2%	
Non-Families	3,377	60.6%	4,024	67.5%	4,050	67.8%	

[a] Estimates.

[b] The Bay Area CMSA includes the counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Santa Cruz, and Sonoma.

Sources: US Census, 2000; Claritas, 2003; BAE, 2003.

Table 7

Population Trends 2000-2025

	2000	2005	2010	2015	2020	2025
Walnut Creek	64,296	66,500	66,900	69,400	72,000	75,100
Contra Costa County	948,816	1,1016,300	1,055,600	1,102,300	1,150,900	1,200,500
Bay Area	6,783,762	7,091,700	7,419,600	7,749,100	8,094,000	8,419,100

Source: Association of Bay Area Governments, Projections 2005, and Department of Finance, Projection, January 1, 2005.

County and region respectively rose to 30 and 36 percent by 2002, the percent increase was lower than in Walnut Creek.

Age Distribution
The age distribution of Walnut Creek residents reflects the large number of elderly in the city. In 2000, one quarter (25.3 percent) of all Walnut Creek residents were 65 or older. Walnut Creek's median age in 2000 was a relatively high 45.1 years, compared to 36.4 years for the county and 35.6 years for the region. Even excluding Rossmoor, Walnut Creek's median age was 40.9 years. Just 19 percent of Walnut Creek's residents in 2000 were ages 0 to 19, compared to almost 29 percent in the county and more than 26 percent in the region.

At the other end of the spectrum, 5.0 percent of Walnut Creek's residents were age 85 or older in 2000, compared to just 1.4 percent in the county and region. *Census 2000* shows 1,732 of Walnut Creek's most senior residents (age 85 and over) living in Rossmoor, which represents 54 percent of the city's over-85 population. Citywide, those over 55 are over a third (35.7 percent) of the population, compared to a fifth elsewhere (20.2 percent in the county and 19.5 percent in the region).

Excluding Rossmoor, Walnut Creek's proportion of residents aged 85 or older (2.6 percent) still exceeds the county and the region (1.4 percent in each). In contrast, Walnut Creek has proportionately fewer young adults: 16.0 percent of the city's population was 20 to 34 years old in 2000, compared to 18.6 percent in the county and 22 percent in the region.

Walnut Creek's residents, with a median age of over 45 years, are older than the county (median age of 35.4 years) or the region (median age of 35.6 years). Excluding Rossmoor, Walnut Creek's median age is 40.9 years, still relatively high compared to other areas. Walnut Creek has proportionately fewer children (19 percent of total population) and more seniors age 85 or older (5 percent of population) compared to the County or the Bay Area, where 26 percent and 29 percent of the population respectively is under 19 years of age, and 1.4 percent is over age 85.

EMPLOYMENT

Walnut Creek serves as a major employment center for Contra Costa County and the Bay Area. Table 8 presents data on the composition of the Walnut Creek economy compared to California as of July 2002.[2] Between 1991 and 2000, Walnut Creek's economic base grew by 46.3 percent, increasing from 36,929 to 54,726 total jobs. In percentage terms, this increase represents more than double the total job growth experienced in Contra Costa County overall or the State of California for the same period. Between 2000 and 2002, Walnut Creek's economy has continued to grow, increasing to 57,171 jobs as of July 2002. Overall employment in the County and State, meanwhile, has remained relatively flat or declined.

Local Employment
As shown in Table 8, Walnut Creek's major employment sectors are, in order of number of employees, Health Care, Retail Trade, Professional and Scientific Services, and Finance and Insurance. Together, these four key sectors account for over 50 percent of all employment in the City. This compares to just under 30 percent of employment in the State as a whole for the same sectors. Major employers in the City and its sphere of influence include Kaiser Permanente and John Muir Health Systems, both major healthcare providers; The Outsource Group, a business services company; several major retailers including Macy's West, Long's Drugs, Nordstrom and Target; Contra Costa Newspapers; Commerce One, a finance-related business; and Varian Aerograph, which develops instruments for chemical analysis.

[2] This table uses the North American Industry Classification System (NAICS), which was initiated by the federal government in 2001.

Table 8

Employment and Industry Concentration, 2002

	City of Walnut Creek		California	
Industry Sector	**Jobs**	**Percent**	**Jobs**	**Percent**
Agriculture, Mining, Utilities, Construction	1,917	3.4%	788,800	5.5%
Manufacturing	1,245	2.2%	1,638,700	11.3%
Wholesale Trade	1,101	1.9%	651,500	4.5%
Retail Trade	6,643	11.6%	1,572,700	10.9%
Transportation and Warehousing	1,112	1.9%	500,000	3.5%
Information	2,593	4.5%	485,500	3.4%
Finance and Insurance	5,844	10.2%	578,700	4.0%
Real Estate and Rental and Leasing	1,861	3.3%	271,600	1.9%
Professional, Scientific, and Technical Services	6,256	10.9%	897,300	6.2%
Management of Companies and Enterprises	2,668	4.7%	274,500	1.9%
Administrative and Support/Waste Management & Remediation Services	4,105	7.2%	911,700	6.3%
Educational Services	1,622	2.8%	225,700	1.6%
Health Care and Social Assistance	11,765	20.6%	1,246,200	8.6%
Arts, Entertainment, and Recreation	807	1.4%	204,600	1.4%
Accommodation and Food Services	3,216	5.6%	1,165,600	8.1%
Public Administration	3,808	6.7%	2,101,800	14.5%
Other Services	605	1.1%	507,900	3.5%
Unclassified	4	0.0%	430,500	3.0%
Total	57,172	100.0%	14,453,300	100.0%

Sources: California Employment Development Department, 2003; Bay Area Economics, 2003.

While these major employers contribute many jobs to the local economy, the majority of businesses (75%) in Walnut Creek, as in the United States as a whole, are small firms with fewer than 10 employees. The City does have a broad array of medium and large-sized business, including over 60 businesses employing more than 125 workers.

Commercial growth in Walnut Creek since 2003 has been regulated by the Growth Limitation Plan (GLP). Non-residential growth consisted of approximately 620,000 square feet of commercial development and about 470,000 square feet of community facility development. These developments were dominated by large downtown retail projects (Target, Whole Foods, Plaza Escuela, Olympia Place, The Corners), one large office project (Ygnacio Center, 2001 North Main Street), several smaller medical office projects (Shadelands Medical Office, San Marco Medical Office and La Casa Via Medical Office Building), and mini-storage (Shadelands Mini Storage and its later expansion). Major community facilities constructed during this period were the Kaiser Hospital expansion, Sunrise Residential Care, Animal Rescue Foundation, Tice Valley Gym, Evangelical Free Church and the expansion of City Hall and the Police Building. As of 2005, the city has an estimated 15.7 million square feet of commercial development.

ABAG projects that Walnut Creek will add about 9,000 new jobs between 2005 and 2025; a growth rate of about 16 percent. This reflects a slower rate of job growth than that projected for Contra Costa County, which is projected to increase its number of jobs by about 36 percent over the same period.[3]

Labor Force

Between 1992 and 2002, Walnut Creek's labor force (i.e., residents seeking to work) grew 1.7 percent per year versus just 1.1 percent for the region. During the same period, unemployment among Walnut Creek's residents in the labor force dropped from 4.3 percent in 1992 to 3.4 percent in 2002 (seasonally unadjusted). Data from June 2003 (also seasonally unadjusted) shows a slight rise in unemployment to 3.8 percent. In contrast, County and regional unemployment rates were higher, at 5.8 percent and 6.7 percent for the County and region, respectively in June 2003.

Economists generally consider 4 to 5 percent unemployment as the "natural" unemployment rate in a thriving economy, allowing for worker turnover and career changes). By this standard, the 3.8 percent unemployment rate for June 2003 in the City falls well within the level considered a fully employed labor force. Walnut Creek's labor force is engaged in a diverse array of occupations. In 2000, residents of the City in the labor force were heavily concentrated in Professional and Technical or Management/ Business /Financial occupations (55 percent of total) compared to the County (41 percent of total) and the region (44 percent of total). Proportionately fewer of Walnut Creek's residents were engaged in Office/ Administrative Support, Service, Construction, and Production occupations than in the State as a whole.

These statistics are reflective of the relatively high level of educational attainment among Walnut Creek residents. Only 5.1 percent of Walnut Creek adults did not earn a high school diploma, and nearly 54 percent have a bachelor's degree from a four year university or higher. In Contra Costa County, 35 percent have a bachelor's degree or higher, and in the Bay Area, 37.3 percent.

Jobs to Employed Residents Ratio

Theoretically, if the ratio of jobs to the number of employed residents is one or more, it means that there is at least one job in a community for every resident who is working. Although a city could have a one-to-one ratio of jobs to employed residents, there may still be substantial in- or out-commuting if the profile of locally available jobs may not match the skills or education level of the local work-force, or if locally available housing is unaffordable to

[3] ABAG, *Projections 2005.*

workers employed in locally available jobs This more qualitative dimension is generally referred to as a jobs to employed residents match.

The analysis in this EIR focuses on the quantitative measure of the ratio of employed residents to local jobs. Although this approach does not take into account the other dimensions that affect regional commute patterns with regard to jobs and housing, an analysis of the numeric balance between the two provides a useful way to compare different geographic areas and look at change over time.

Table 9 provides a summary of the jobs to employed residents ratio in Walnut Creek, Contra Costa County and the Bay Area. As shown in the table, Walnut Creek has a relatively high number of jobs compared to employed residents. The City's jobs/employed residents ratio was 1.49 in 2002, indicating that the City is relatively "job rich." In contrast, overall in the County, the ratio of jobs to employed residents was less than one. This means that even if every employed resident worked somewhere in the County, there were not enough jobs to employ the total number, which leads to outcommuting.

Place of Work and Commuting
In 2000, 28.5 percent of Walnut Creek's employed residents (more than 8,500) also worked in Walnut Creek, compared to less than 20 percent countywide. While this reflects a strong capture of residents in local jobs, it shows that 71.5 percent of Walnut Creek's residents are commuting out to another location.

In 2000, Walnut Creek had a higher proportion of residents working at home (5.7 percent) than the County (4.3 percent) or the region (4.1 percent). Statewide, less than four percent of workers were working at home in 2000.

Household Income
Walnut Creek's household income data suggest a relatively affluent community. In 2002, the City had an estimated median household income of $78,648 excluding Rossmoor residents, compared with a County median of $74,028 and a regional median of $75,271. It should be noted, however, that since Walnut Creek has a substantially smaller average household size than either the County or the region, Walnut Creek's household income translates into a significantly higher per-capita income than elsewhere.

In the very low household income range of up to $25,000 per year, Walnut Creek had proportionately fewer households (10.7 percent) than either the County (13.1 percent) or the region (13.4 percent) even including the Rossmoor population which is disproportionately represented in the lower income brackets. Walnut Creek also had smaller proportions of very high income households; just 2.6 percent of Walnut Creek's households earned more than $250,000 in year 2002, compared to 3.6 percent of the County's and 4.2 percent of the region's households. In the middle income range of $50,000 to $74,000, Walnut Creek had a slightly higher proportion of households (21.3 percent) than the County (19.7 percent) or the region (18.6 percent).

These data suggest that while Walnut Creek is relatively affluent, the City also contains numerous middle income households. As is discussed in the following section, many of these households are struggling to afford today's housing prices. The percent of households in Walnut Creek in this middle income bracket remains constant with or without inclusion of the Rossmoor population, indicating one in five working households face the squeeze between housing costs and lower wages.

HOUSING

According to the 2000 Census there were 31,480 housing units in the City of Walnut Creek in 2000. Of these, 3.58 percent were counted as vacant units. According to ABAG's *Projections 2005*, there are an estimated 30,930 households in the city in 2005, which, assuming a similar housing vacancy rate, translates

Table 9

Jobs to Employed Residents Ratio 1990-2002

	1990	2000	Annual Average Change 1990-2000	2002[a]
City of Walnut Creek				
Jobs[a]	36,929	54,726	4.0%	57,171
Employed Residents[b]	32,060		1.5%	38,300
Jobs/Employed Residents Ratio	1.15	1.47		1.49
Contra Costa County				
Jobs[c]	314,550	361,110	1.4	370,502
Employed Residents[b]	419,600	486,800	1.5	501,200
Jobs/Employed Residents Ratio	0.75	0.74		0.74
Bay Area Region[d]				
Jobs[c]	3,206,080	3,753,670	1.6	3,824,738
Employed Residents[b]	3,276,860	3,771,860	1.4	3,613,400
Jobs/Employed Residents Ratio	0.98	1.00		1.06

[a] California EDD from ES 202 Data.
[b] Estimates from the CA EDD. Data is not seasonally adjusted.
[c] Estimates from ABAG. 2002 estimate calculated by applying the ABAG compound annual rate of growth to the ABAG 2000 jobs estimates.
[d] The Bay Area CMSA includes the Counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, and Sonoma.
Sources: ABAG Projections 2002; Claritas; California Economic Development Department; California Department of Finance.

to an estimated 32,085 housing units in the city.

Between 1990 and 2000, the number of housing units increased by approximately five percent. This reflected a relatively modest increase compared to Contra Costa County as a whole, where the total number of units increased by about 11 percent during the same period.

In 2000, just over half of all units in the city (53 percent) were single-family homes. Multifamily units comprise about 47 percent of all comprised of multifamily units; of these about 12 percent are in buildings of two to four units (12 percent), and 35 percent in buildings of five and more units. Mobile homes were less than one percent of the housing stock in 2000.

An estimated 1,323 residential units were constructed in the city between 1993 and 2003, most of which were multifamily residences. This reflects a continuation of the trend noted between 1990 and 2000, where multifamily housing, particularly buildings of five or more units showed the greatest increase. During this period, single-family homes increased by about three percent, whereas multifamily units in larger buildings increased by about ten percent.

Household Tenure
The majority of Walnut Creek's households are homeowners, a tenure pattern similar to the County and the region. Moreover, for all three geographies, the proportion of owners has continued to rise over time, despite high housing costs. Between 1990 and 2000, Walnut Creek's homeowner rate grew from 67.7 to 68.3 percent, echoing the County's rise from 67.6 to 69.3 percent. The region overall has historically had a lower ownership rate, but it also rose—to 57.8 percent by 2000.

Housing Costs
According to March 2005 home sales reports, the median home price in Walnut Creek was approximately $569,000 Like most communities in the Bay Area, Walnut Creek has seen a rapid rise in the cost of housing over the past decade, with the median house price increasing by just over 21 percent between March 2004 and March 2005, about the same rate as seen countywide over the same period.[4] The median home price in Walnut Creek is slightly higher than in Contra Costa County, where the median priced home sold for approximately $514,000 in March 2005, and about the same as for the Bay Area as a whole, where the median house price was $568,000 in March 2005. Based on 2000 data, a three person household earning the median annual income of just under $78,000 could afford a maximum home purchase price of slightly less than $240,000. Even assuming some increase in median income since 2000, it is clear that the purchase of a median priced home would be well out of the reach of the median-income earning family.

Rental housing in Walnut Creek is somewhat more affordable than for-sale housing. According to data presented in the Walnut Creek *2001-2006 Housing Element*, average rents in Walnut Creek ranged from $1,175 for a studio unit to $1,950 for a three bedroom/one plus bathroom unit; average rental cost for all units was $1,476. This would be affordable to a moderate income three person family, but unaffordable to those in lower income brackets.

Projected Housing Needs
Section 65584 of the State Government Code requires all cities and counties in California to meet their respective "fair share" of the affordable and market-rate housing needs in their region. ABAG's Housing Needs Determination projects cities' share of the regional housing need. As noted in the City's Housing Element, which was adopted in 2001 and extends through 2006, the City's housing production goal for the January 1999 through July 2006 planning period includes a total of 1,653 housing units. This total encompasses 289 Very-low Income, 195 Low-Income, 418 Moderate Income, and 751 Above-Moderate Income units.

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[4] http://www.dqnews.com/ZIPCAR.shtm. Accessed May 11, 2005.

In order to address these needs, the Housing Element, which would not be updated as part of Walnut Creek General Plan 2025 that is the subject of this Draft EIR, identifies a series of goals, policies and programs. These address a variety of aspects including new housing development, availability of residential land, housing affordability, provision of housing for persons and families with special needs, providing fair housing opportunities, promoting energy conservation in new housing development, meeting the regional housing need, and protecting and conserving the existing housing stock.

STANDARDS OF SIGNIFICANCE

The Walnut Creek General Plan 2025 would create a significant population, employment and housing impact if it would:

- Induce substantial population growth in an area either directly (for example, by proposing new homes and businesses or indirectly (for example, through extension of roads or other infrastructure).
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

IMPACT DISCUSSION

POPULATION

Development under General Plan 2025 would add an estimated 8,115 new housing units to the existing housing stock within the Walnut Creek Sphere of Influence, with an additional estimated population of 16,428, based on an average household size of 2.10 persons.[5] This would result in an estimated total population of 96,628 in the City's Sphere of Influence in 2025.[6] Considering only the area within the existing city limits, an estimated 5,342 new units are projected under General Plan 2025, with an associated population of about 10,814, which would bring the City's population to between about 76,014[7] to 77,314[8] in 2025.

Under General Plan 2025, changes in land use designations in the various Change Areas would allow residential units to be built as part of mixed use developments in nine areas (Change Areas 3, 5, 6, 7, 10, 12, 13, 14 and 15). In Change Area 2, the proposed redesignation of would reduce the allowed residential density (although it would expand the area in which residential uses would be allowed); and in Change Area 17 the allowed single-family residential density would be increased from 1 to 3 units per acre, to 3 to 6 units per acre.

A significant change from the 1989 General Plan to General Plan 2025 is that no numeric limit or cap on new residential development, like that included in the previous Growth Limitation Plan (GLP), is proposed.

Height limits designated under Measure A would be maintained in almost all areas of the city, with the exception of Change Areas 6, 9, 12 and 14. Proposed increases in Measure A height limits in would be modest, ranging from a 10- to 15-foot increase, and in no case allowing buildings over 50 feet in height. In some cases, height limits specified in the Gen-

[5] Adjusted using a vacancy rate of 0.964.

[6] Using, as a base year population for 2005, the ABAG *Projections 2005* estimate of 80,200 for 2005 for Walnut Creek's Sphere of Influence.

[7] Using, as a base year of population for 2005, the ABAG *Projections 2005* estimate of 65,200 for 2005 for Walnut Creek.

[8] Using, as a base year of population for January 2005, the Department of Finance estimates 66,500 for Walnut Creek.

eral Plan would be increased to match the maximum heights allowed under Measure A; this would be the case in Change Areas 3, 4, 7, 21, and 27.

The proposed changes in land use designations would induce new population growth in some areas of the City, above that which is permitted in the current General Plan. However, this development is not expected to result in any significant impacts with respect to population growth rates and the City's ability to provide services. These areas were carefully selected during General Plan 2025 process as being the most appropriate locations for increased population densities based on a number of factors. These factors considered the character of surrounding development, the availability of existing services and infrastructure, adjacency to transit, shopping, and employment opportunities and proximity to the City core. In addition, the increase in population within the existing city limits that would occur under the 2025 General Plan would not exceed that projected by ABAG. All impacts of this increased population are addressed in this EIR.

Quality of Life Action 1.2.1 calls for the City to plan for adjustments in neighborhood services to keep pace with demographic changes (this would include both the general increase in population numbers, as well as shift in the demographic profile of Walnut Creek residents.

EMPLOYMENT

Proposed land use designations in General Plan 2025 would allow for a maximum of 8.8 million square feet of new commercial development, which would provide additional employment opportunities in the city. The number of new jobs that would be associated with the new commercial development allowed under General Plan 2025 is difficult to accurately assess, since employment densities vary widely between different types of commercial development. However, assuming a similar average employment density as existed in 2005 (one employee per 285 square feet[9]) would apply in the future, it can be estimated that new commercial development would result in a total of about 33,095[10] new jobs.

General Plan 2025 would continue to limit the amount of new commercial growth in the City of Walnut Creek. Chapter 4 Built Environment, Policy 9.1 and accompanying Action 9.1.1 call for the amount of city-wide commercial development outside of Shadelands Business Park to be limited to 1.25 million square feet in the period between 2005 and 2015, to be metered at a rate of 250,000 square feet every two years. This would equate to about 4,386 new jobs created by 2015, based on the factors described above. The intent of this policy and action is to implement Chapter 4 Built Environment, Goal 9, which seeks to balance residential and commercial growth with provision of infrastructure and consideration of the number of jobs provided.

The proposed metering of new commercial development would serve to moderate the growth inducing impacts of new employment-generating commercial uses, relative to projected increases in population under the General Plan.

As noted in the existing conditions setting, Walnut Creek is a "jobs-rich" community with a surplus of jobs relative to the local labor force. Limitations on the amount of new, employment-generating uses would likely work to bring the ratio of jobs to employed residents into a closer balance, which would be a positive impact. In addition, General Plan 2025 contains a number of goals, policies and actions that promote economic vitality, support local businesses, and provide local employment, which would be likely to improve the overall employment climate in Walnut Creek.

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[9] Based on ABAG Projections 2005 figures of 55,280 jobs within the City Limits, and 15.74 million square feet of existing commercial development.

[10] 285 sf = 1 job, therefore, 8,833,520 sf = 33,095 jobs.

These include all of the Local Economy goals, policies and actions in Chapter 2 Quality of Life, which seek to encourage high-wage industries (Policy 2.1), support Walnut Creek's local- and regional shopping centers (Policy 2.3 and 2.4), encourage the development of small, high-quality office space (Action 2.6.1), foster cooperation with the local business community (Goal 3) encourage the development of the Shadelands Business Park as a thriving business and employment center (Goal 5), and encourage economic development along the North Main Street Corridor (Goal 6). Goals elsewhere in General Plan 2025 also support economic development, including Chapter 4 Built Environment, Goal 6, which seeks to maintain and enhance the vibrancy of the Core Area's businesses, and Goal 7, which seeks to provide adequate opportunities for local-serving and employing businesses outside of the Core Area.

These various goals, policies and actions would serve to strengthen the local economy, and provide increased opportunities for employment of Walnut Creek's residents, and thus would have a beneficial effect regarding employment.

HOUSING

General Plan 2025 would allow for Walnut Creek to meet its fair share housing goals. As the regional council of governments for the Bay Area, ABAG has determined the "fair share" of regional housing need that should be assigned to each local jurisdiction. Based on projected employment and population rates, ABAG determined that Walnut Creek's share of the Bay Area housing need through June 2006 (the period of the Housing Element) is 1,653 housing units. General Plan 2025 allows for buildout of 5,342 additional units within the existing city limits, which exceeds that allotted to the City by ABAG. Furthermore, since General Plan 2025 would not meter new residential development, as was previously the case, opportunities for new housing construction that would allow the City to meet its fair share housing allocation would be increased.

General Plan 2025 would not include any amendments to the existing Housing Element. Other policies of the proposed General Plan would be consistent with the existing Housing Element, as is outlined in the following paragraphs.

It is also a guiding principle of General Plan 2025 that opportunities for housing would be promoted, that the City would strive to meet its fair share housing allocation, and that housing located along transit corridors, that is affordable to the local workforce, and that meets the housing needs of a diverse population, would be encouraged. General Plan 2025 would also promote the development of medium and high density mixed use development in the Core Area. This is a key strategy of the Housing Element in increasing the overall housing supply.

Other policies of the proposed General Plan would support the goals, policies and actions of the Housing Element. These include Chapter 2 Quality of Life, Policy 2.9, which calls for a range of quality housing and affordable workforce housing options; and Chapter 4 Built Environment, Goal 2, to encourage housing development, and Goal 3, to encourage housing, along with commercial mixed-use and transit oriented development, and its accompanying policies which identify potential locations for such development.

Chapter 4 Built Environment, Action 6.3.1, for the Core Area, encourages the development of diverse housing options, including mixed use and high density developments.

The Housing Element identifies a number of sites as potential locations for the construction of needed affordable housing. Changes in land use designation proposed in General Plan 2025 would not affect the ability of these sites to accommodate the amount of housing identified in the Housing Element, since, in all but one of the change areas, residential densities would

be increased under the General Plan 2025. The remaining site (Change Area 2, along Mt. Diablo Boulevard) is not an identified affordable housing site.

General Plan 2025 would not result in the displacement of substantial amounts of housing or population. No substantial redevelopment projects are envisioned under the proposed General Plan, with most new development envisioned as taking place as infill development within the existing urban fabric. The General Plan's emphasis on creating new mixed use, high density residential development indicate that, in cases where residential units were proposed for removal in association with a redevelopment project, those units are likely to be replaced and supplemented with new units, in the form of more intense residential development. Furthermore, the current Housing Element contains several policies concerning the protection of Walnut Creek's existing housing stock, particularly its affordable units. For example, Housing Element Policy 27 calls for the conservation of the City's existing housing stock, including existing rental housing and single-family homes affordable to low- and moderate-income families; Policy 28 encourages the relocation of housing units that would be demolished to compatible neighborhoods where suitable land is available.

In addition, General Plan 2025 strongly emphasizes the preservation of the quality and integrity of the city's neighborhoods. Chapter 2 Quality of Life, Action 1.1.2 seeks to ensure that new infill development is compatible with existing development; Policy 1.4 would support neighborhood efforts to enhance neighborhood identity, character and infrastructure.

In consideration of all of the above aspects, there would be no significant impact with regard to housing as a result of adoption of General Plan 2025.

IMPACTS AND MITIGATION MEASURES

Since no impacts were identified, no mitigation measures are required.

CHAPTER 4.3

Community Services

This section presents information on existing community services in the City of Walnut Creek, including police, fire, schools, libraries, parks and recreation, and describes the effects of the proposed General Plan 2025 on these services. Additional background information on community services can be found in the *Community Facilities and Services Background Report*. Additional background information on parks and recreational services can be found in the *Parks, Recreation and Open Space Resources Background Report.* This section is organized according to topic, with the existing setting, impacts and mitigation measures presented together for each of the community services.

FIRE AND EMERGENCY SERVICES

EXISTING SETTING

The Contra Costa County Fire Protection District (CCCFPD) provides fire protection and first responder emergency medical services to the city of Walnut Creek and its Planning Area. The CCCFPD Fire Administration office is located at 2010 Geary Road in Pleasant Hill. Three of the District's 30 fire stations are located within Walnut Creek city limits:

- Station 1 -- 1330 Civic Drive
- Station 3 -- 1520 Rossmoor Parkway
- Station 7 -- 1050 Walnut Avenue[1]

Station 4, located at 700 Hawthorne Drive, is within the Walnut Creek Planning Area. Stations 2 and 10 are just outside the Planning Area, but serve the northern sections of the city. Station locations and their service areas are shown in Figure 5.

The Fire District automatically dispatches and responds to all emergency calls in Walnut Creek and the neighboring community. In addition to the fire stations listed above, local area fire stations 5, 15, 16, 17, and 22 respond to the Walnut Creek area from Lafayette, Pleasant Hill and Concord.[2]

Personnel and Department Organization
As of April 2004, the CCCFPD has 309 suppression personnel. No reserve fire fighters are assigned to stations that serve Walnut Creek.[3] The District has several divisions: the Operations Division is responsible for providing emergency and non-emergency services, including medical assistance, rescue, hazardous materials control, weed abatement, and fire suppression. The Support Services Division is responsible for the Fire Prevention Bureau, facility/property management, vehicle maintenance, and telecommunications services.[4]

[1] http://www.cocoreserves.org/firestalists.html, downloaded on February 4, 2004.

[2] Personal communication with Captain Tim Webb, CCCFPD, April 19, 2004.

[3] Personal communication with Captain Tim Webb, CCCFPD, April 19, 2004.

[4] http://www.co.contra-costa.ca.us/performancereport/Fire%20Protection%2003.pdf, downloaded on April 19, 2004.

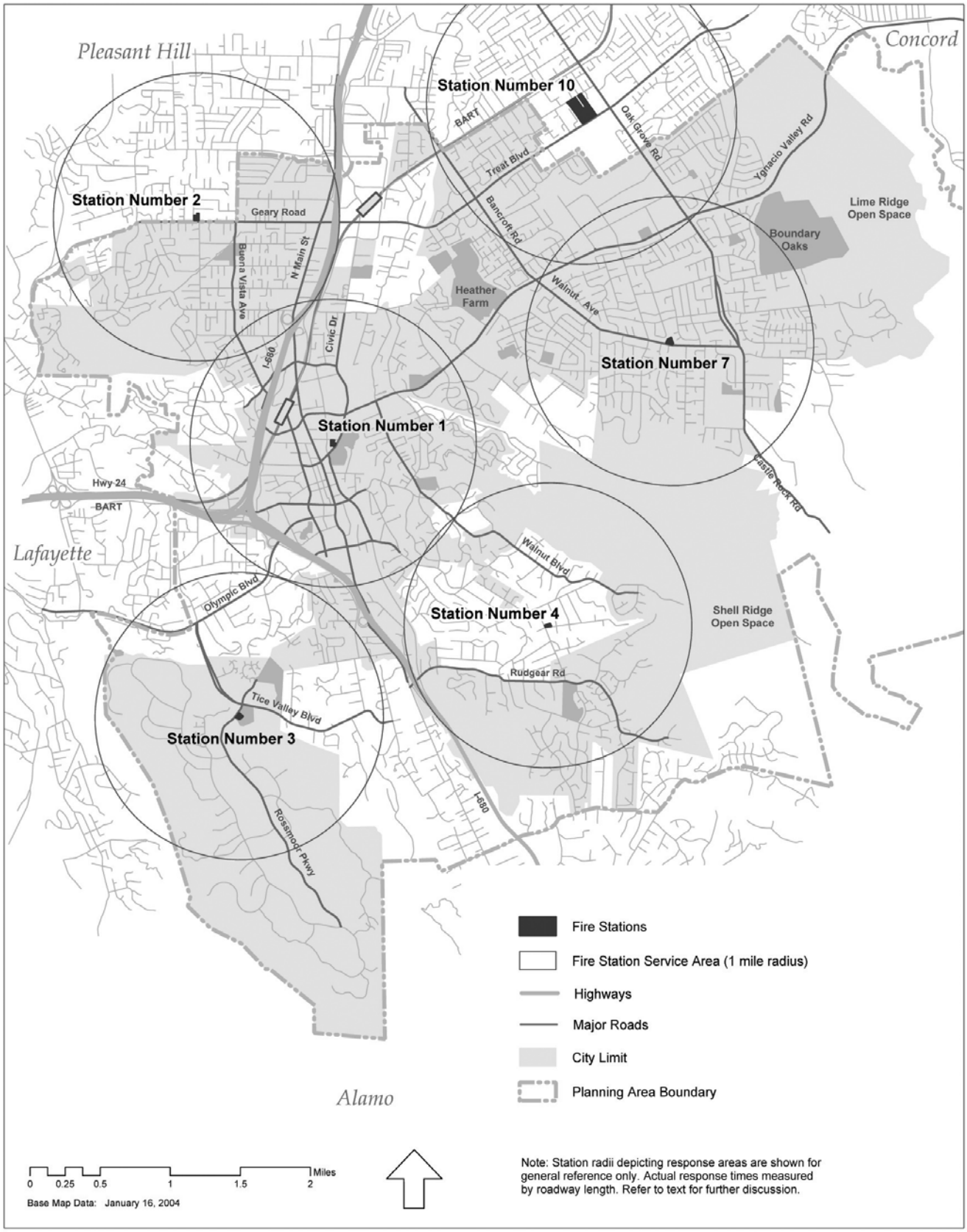

Figure 5. Fire Stations and Fire Service Areas in Walnut Creek

Calls and Response
CCCFPD responded to 4,228 emergency calls from Walnut Creek in 2003, an average of almost 12 calls per day. The most common calls were for medical emergencies. As of April 2004, the average response time within Walnut Creek was five to seven minutes. "Response time" begins when units are en route to an emergency incident and ends when units arrive at the scene. The average "run time" in Walnut Creek is three to four minutes. Typical residential or commercial fire calls involve three engine companies, 12 fire fighters, one quint (truck) and one battalion chief.[5] As of April 2004, the CCCFPD considered fire protection in Walnut Creek to be adequate in terms of both available resources and response times logged.[6]

Automatic Aid
The CCCFPD runs automatic aid with the San Ramon Valley Fire Department and the Orinda-Moraga Fire Department. During an emergency, the closest fire engine companies are dispatched to respond regardless of their respective fire jurisdiction. In addition, the CCCFPD Communication Center dispatches 911 emergency calls for Moraga-Orinda Fire.[7]

Wildland Fires
Walnut Creek is surrounded by about 2,400 acres of undeveloped hillsides designated as open space. These areas pose a potential fire hazard to adjacent development and create a need for fire prevention.

This risk of wildland fire is determined by various factors including:

- the frequency of critical fire weather
- percentage of slope
- existing fuel (vegetation, ground cover, building materials)
- adequacy of access to fire suppression services
- water supply and water pressure.

The California Department of Forestry and Fire Protection (CDF) has mapped the relative wildfire risk to areas of significant population by intersecting residential housing density with proximate fire threat to give a relative measure of potential loss of structures and threats to public safety.[8] Areas in the Walnut Creek Planning Area that are categorized by the CDF as having wildland-urban interface fire threat are shown in Figure 6. Levels of threat are indicated by the terms "Little or No Threat," "Moderate," "High," "Very High" and "Extreme," with Extreme being the highest threat. There are no areas considered Extreme within Walnut Creek's city limits or within the SOI. Most of the city is classified as having a Moderate threat. Areas classified as having a High or Very High threat are concentrated in the eastern portion of the city near the Mt. Diablo foothills.

The levels of threat identified in Figure 6 represent a combination of data from two CDF datasets, where threat of wildland fire to people is overlain on development classes that reflect the four-class definition of wildland urban interface developed by CDF. The former is derived from CDF calculations of fire threat based on the combination of fuel rank and fire rotation. The latter is derived from two data sets: US Census 2000 Housing Unit Density and USGS National Land Cover Data.

Walnut Creek is not in an area designated a "wildland area that may contain substantial forest fire risks or hazards," and it does not fall within a "very high fire hazard severity zone" under AB 337.[9]

[5] Personal communication with Captain Tim Webb, CCCFPD, April 19, 2004.
[6] Personal communication with Captain Tim Webb, CCCFPD, April 19, 2004.
[7] Personal communication with Captain Tim Webb, CCCFPD, April 19, 2004.

[8] http://frap.cdf.ca.gov/data/frapgisdata/output/wuithrt.txt
[9] CDF, 2000, *Contra Costa County Natural Hazard Disclosure (Fire) Map*, MAP NHD-07, January 6.

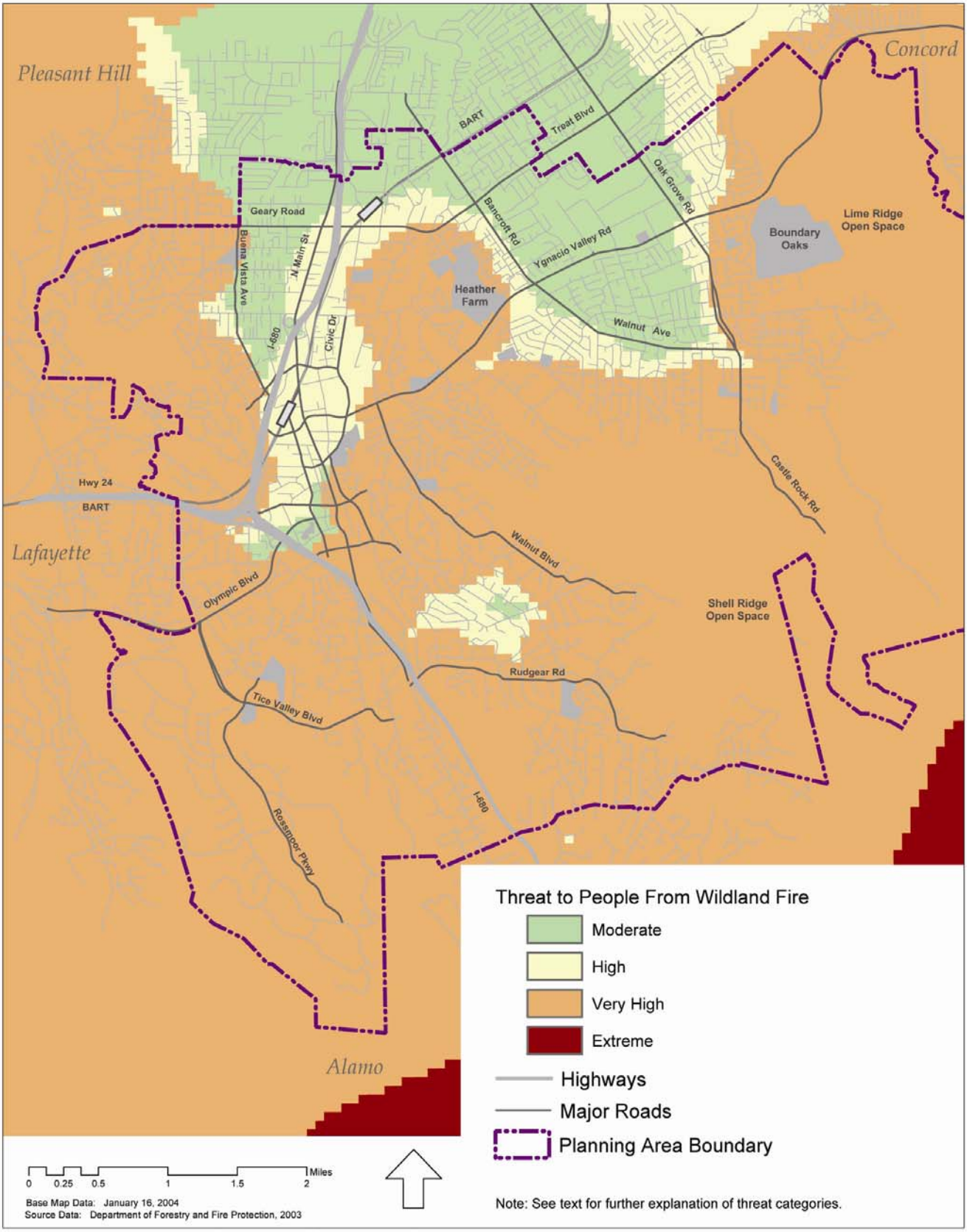

Figure 6. Wildland-Urban Interface Fire Threat

As described in the *1989 Walnut Creek General Plan*, fuel loads are classified as light, intermediate and high. Grasslands, which occupy most of the remaining undeveloped lands in the Planning Area, are considered to be "light." Oak woodland and oak savannah, which are scattered throughout the city's open space network, are in the intermediate category. The Lime Ridge open space area has chaparral vegetation, which is classified as having high fuel loading.

The *1989 Walnut Creek General Plan* notes that Shell Ridge, Lime Ridge and Las Trampas Ridge, which all have fire hazard potential, lie above the 450-foot water service level of EBMUD, and above the 215-foot service elevation of the Contra Costa County Water District. Fire hazard in these areas is amplified by the lack of adequate water pressure and supply. For these reasons, fire hazard is of particular concern in the following areas: the municipal golf course, and southeast Ygnacio Valley near the ends of Snyder Lane and Hutchinson Road and in the vicinity of Northgate Road.[10]

Urban Fires

The *1989 Walnut Creek General Plan* stated that the risk of structural fires within Walnut Creek was minimal due to adequate fire fighting resources, the relatively new condition of structures and building code requirements. Building development in the city continues to comply with applicable building codes, and the CCCFPD continues to implement its building inspection program. Fire hydrant coverage and emergency access are generally good in most areas.[11]

Fire Abatement

Following the replacement of outdated fleet vehicles with Type III wildland fire engines, the CCCFPD significantly improved its wildland fire engine fleet and now has modern equipment to address urban interface issues throughout the county.[12] The Fire District also tries to minimize fire risk through its weed abatement program, which incorporates all wildland areas within Contra Costa County's jurisdiction. The CCCFPD also works with the Mount Diablo State Park, which has a State and locally-approved Fire Management Plan that includes the California Department of Forestry, State Parks, San Ramon Valley Fire, East County and CCCFPD.[13]

STANDARDS OF SIGNIFICANCE

The Walnut Creek General Plan 2025 would create a significant fire services impact if it would:

- Result in the provision of new or physically altered fire protection facilities, need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

IMPACT DISCUSSION

Fire Service

General Plan 2025 would permit the development of 8,115 new residential units in the city and SOI. This would result in an additional 16,428 persons in the Planning Area by 2025.

[10] *1989 Walnut Creek General Plan*, revised November 2000, page 6-17.

[11] *1989 Walnut Creek General Plan*, revised November 2000, page 6-17.

[12] http://www.co.contra-costa.ca.us/performance report/Fire%20Protection%2003.pdf, downloaded on April 19, 2004.

[13] Personal communication with Captain Tim Webb, CCCFPD, April 19, 2004.

This increase in population would increase the demand for fire and emergency services.

As of April 2004, the CCCFPD considered fire protection in Walnut Creek to be adequate in terms of both available resources and response times logged.[14] To ensure that this is maintained, Chapter 6 Safety and Noise, Policy 4.2 addresses continued cooperation between the City and CCCFPD to address fire response times and other fire-related issues in the Planning Area.

The commercial development that would be permitted under General Plan 2025 would also place increased demands on fire services. Chapter 4 Built Environment, Policy 11.1 would require that commercial projects be approved only if they comply with the City's performance standards for fire. This policy would prevent commercial development from being constructed if it could not be done without impacting the City's fire service performance standards.

Fire Stations
Any increased demand for fire service could require expansion or relocation of existing stations, or construction of new stations. Since most development under the General Plan would be infill and Core Area development, it would be served by fire stations that are already in place. Through Chapter 6 Safety and Noise, Policy 4.2 (see above) the City and CCCFPD would cooperate to determine the need and location of new or expanded facilities. The construction or expansion of these facilities could have environmental impacts. Per CEQA, new or expanded fire stations would be required to undergo separate environmental review to determine environmental impacts.

Wildland Fires
The hillsides and open space that surround Walnut Creek create a need for wildland fire protection measures since they pose a potential fire hazard to adjacent development. Wildlands fires near development areas, especially on steep slopes could spread quickly to other areas and make fire fighting difficult.

To mitigate this potential impact, Chapter 6 Safety and Noise, Policy 4.1 calls for regulation of projects in higher fire risk areas. Additionally, Action 4.2.1 would require that CCCFPD continue to review all new development or redevelopment plans. To minimize fire risk in higher risk areas, Action 4.2.2 would require greenbelt zones, and fire-resistant landscaping and building materials, in developments in and on the edges of such areas. These measures would help reduce wildland fire risks.

For the above reasons, implementation of General Plan 2025 would not be expected to result in significant impacts to fire services or related to wildland fires.

IMPACTS AND MITIGATION MEASURES

Since no impacts were identified, no mitigation measures are required.

POLICE SERVICES

EXISTING SETTING

Walnut Creek Police Department
The Walnut Creek Police Department provides criminal investigation and law enforcement services in the City of Walnut Creek. The Department operates from headquarters at 1666 North Main Street at City Hall, as shown in Figure 7. The Department has satellite offices at Heather Farm Park, Larkey Park, Walnut Creek School District, and the Police Firearms facility. These offices are not staffed; rather, they are locations for officers to write reports and complete follow-up investigations. The

[14] Personal communication with Captain Tim Webb, CCCFPD, April 19, 2004.

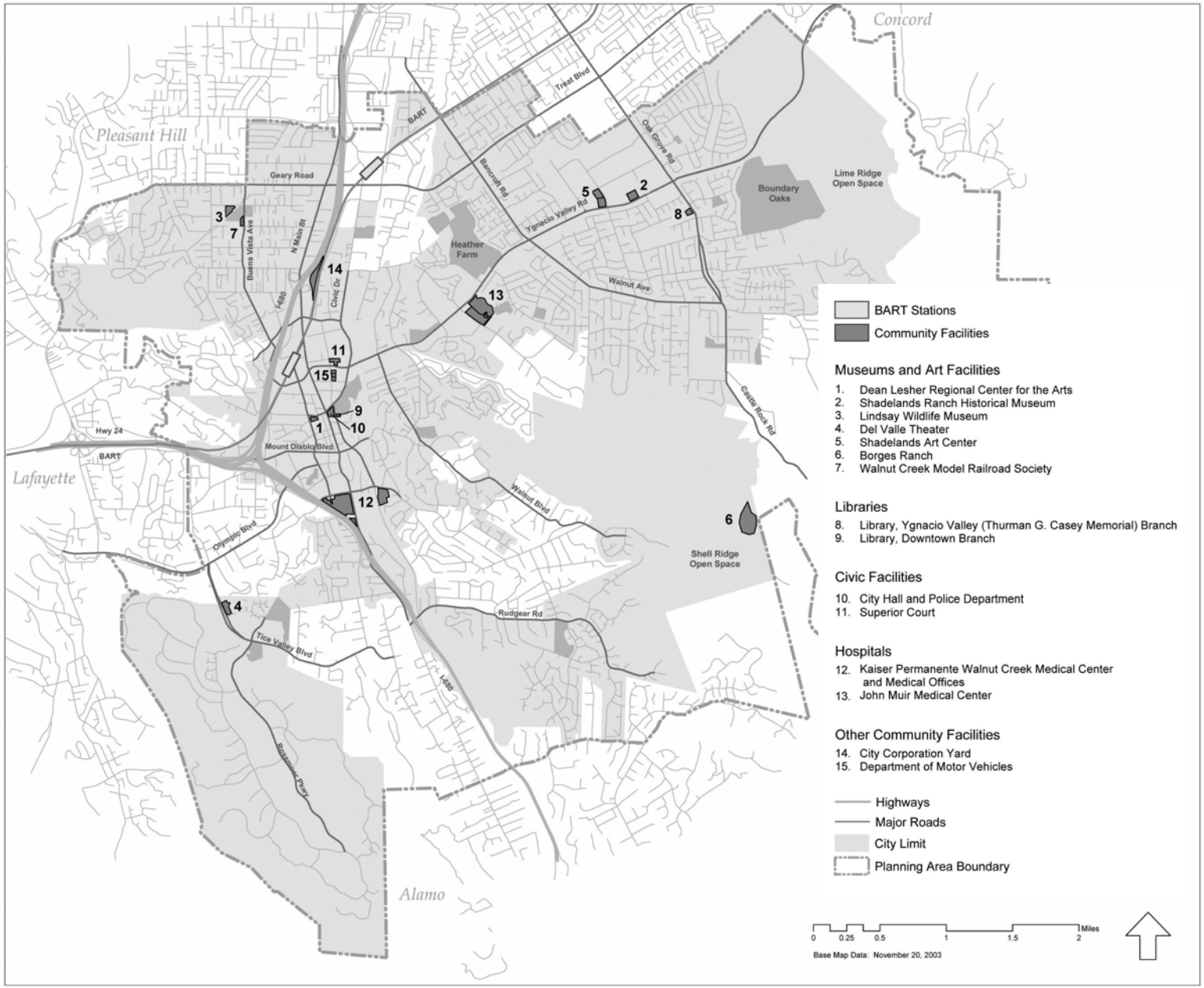

Figure 7. Community Facilities in the Walnut Creek Planning Area

Police Range is used as a secondary Emergency Operations Center and meeting place.[15]

Personnel
The Walnut Creek Police Department has 78 sworn officers including one chief, two captains, six lieutenants, 10 sergeants, 61 police officers and one civilian manager. The breakdown of police officer assignments is as follows:

- 38 Patrol Officers
- Nine Detectives
- Nine Traffic
- Two Community Policing
- One Administrative Officer[16]

The Department also has 37 civilian employees. The Police Department has stated that the current ratio of police per thousand population is 1.24.[17]

Service Areas
The Walnut Creek Police Department provides patrol services and responds to calls for service based on geographical areas called sectors. Walnut Creek is divided into three sectors: Sector 1, Sector 2 and Sector 3.

- **Sector 1** is the second largest patrol area and the busiest in terms of calls for service. This sector includes the Broadway Plaza shopping Center, Civic Park and Sugarloaf Open Space area.
- **Sector 2** includes Walnut Creek's downtown area and Walnut Creek's older residential areas in the northwest. The Regional Center for the Arts, the Lindsey Museum, Larkey Park, the Walnut Creek BART station and City Hall are all located in Sector 2.
- **Sector 3** is the largest, encompassing the entire Ygnacio Valley, extending from North Main Street east to the Concord border. Sector 3 has the highest population and consists largely of single-family homes in residential neighborhoods.[18]

Response Times
The Department divides calls into three categories. Priority 1 calls are defined as life threatening situations. Priority 2 calls are not life threatening, but require immediate response. Priority 3 covers all other calls received by the police. The standard for response time to Priority 1 calls is less than five minutes; actual response time is about seven minutes. For Priority 2 calls, the standard is less than seven minutes; the actual response time is about eight minutes. The standard for response time to Priority 3 calls is 30 minutes. With supervisory approval, the response time is 60 minutes. The actual average response time is about 17 minutes for Priority 3 calls.[19] Average response times in each of the above three sectors was unknown as of February 2004.[20]

The 1989 General Plan set a performance standard for police services to maintain a three- to five-minute response time for emergency calls and 20-minute response for other calls 95 percent of the time.[21] As of February 2004, average

[15] Personal communication with Lt. Mark Covington, Walnut Creek Police Department, February 17, 2004.
[16] Personal communication from Captain Dennis Bell to Naphtali Knox, General Plan Coordinator, forwarded to Steve Noack, Design, Community & Environment via email, March 16, 2004.
[17] Personal communication with Lt. Mark Covington, Walnut Creek Police Department, February 17, 2004. However, using the Department of Finance population estimate for Walnut Creek for 2003/04, which was 66,000, 80 sworn officers would equate to a ratio of 1.21 officers per thousand people.
[18] http://www.ci.walnut-creek.ca.us/WCPD/, downloaded on February 6, 2004.
[19] Personal communication with Lt. Mark Covington, Walnut Creek Police Department, February 17, 2004.
[20] Personal communication with Lt. Mark Covington, Walnut Creek Police Department, February 17, 2004.
[21] *1989 Walnut Creek General Plan*, revised November 2000, page 2-84.

response time for all calls within City Limits was 13.85 minutes.[22]

As of April 2004, the Walnut Creek Police Department did not respond to calls in the unincorporated areas of the county unless it receives a request from the County Sheriff's Office or the California Highway Patrol. Such requests may occur in the case of a serious motor vehicle accident, for example, to which the Police Department can respond faster than the other service provider.[23]

Building Renovations
Renovations to City Hall, including the Police Department, were recently completed. The work included the seismic retrofit of the Police Department[24] There are no plans at this time to construct other new facilities or to move existing facilities.[25]

Long-Range Planning
The 1989 General Plan stated that the Police Department would expand to 82 sworn officers by 2010. The Police Department has requested several budget options to add two additional police officers to the Department, plus one Police Services Officer and to continue to fund the grant funded positions.[26]

A strategic plan for the Police Department was being developed in 2005. The previous long-range plan extended to 1996. The revised long-range plan will be a 10-year plan that addresses future staffing needs, future equipment needs and other issues. [27] The Department expects that the revised plan will anticipate the Department's growth commensurate with changes in the city's service demand or crime rates. Since Walnut Creek is largely built out, service demand is not expected to increase significantly unless the City annexes unincorporated areas. The increase in population that could result from the annexation of unincorporated areas could affect service levels. However, service demand increases have occurred due to a variety of other reasons. Growth in commercial development could also affect the demand for police services. The Department has contingency plans in place in the event of annexation. [28]

Contra Costa Office of the Sheriff
Police service within the unincorporated areas of the Contra Costa County is provided by the Contra Costa County Office of the Sheriff, headquartered in Martinez. The Office of the Sheriff has four bureaus, each directed by a Commander: Administrative Services, Custody Services, Field Operations and Support Services. The Sheriff's Office has a total staff of 1,126, including Office of Emergency Services staff. Total staff includes 758 sworn personnel and 368 general employees. The Field Operations Bureau has three service divisions: Patrol, Investigation, and Administrative and Community Services. The Patrol Division provides patrol services for the unincorporated county.[29]

The Sheriff's Office subdivides the county into four coverage areas. The Valley Station, located in Alamo, covers unincorporated Walnut Creek and several other communities. The Valley Station's jurisdiction spans approximately 140 square miles, from the Contra Costa/ Alameda County border, north to the unincorporated areas of Concord, and from the west

[22] Personal communication with Lt. Mark Covington, Walnut Creek Police Department, February 17, 2004.
[23] Personal communication with Lt. Mark Covington, Walnut Creek Police Department, April 12, 2004.
[24] http://www.ci.walnut-creek.ca.us/current_ projects.htm, downloaded on May 4, 2004.
[25] Personal communication with Lt. Mark Covington, Walnut Creek Police Department, February 17, 2004.
[26] Personal communication with Lt. Mark Covington, Walnut Creek Police Department, April 12, 2004.
[27] Personal communication with Lt. Mark Covington, Walnut Creek Police Department, February 17, 2004.
[28] Personal communication with Lt. Mark Covington, Walnut Creek Police Department, April 12, 2004.
[29] http://www.cocosheriff.org/so_overview.htm, downloaded on February 4, 2004.

town of Canyon to the eastern areas of Morgan Territory.[30]

Office of Emergency Services
The Sheriff's Office of Emergency Services (OES) is responsible for disaster preparedness, response and recovery planning for the County. OES coordinates information, resources and priorities among County agencies, local governments and special districts. OES serves as a link between the Governor's Office of Emergency Services and the County's cities and special districts.

In the event of an emergency or disaster, OES coordinates communications and resources among responding agencies, and facilitates cost-recovery coordination with State and federal agencies.[31]

STANDARDS OF SIGNIFICANCE

The Walnut Creek General Plan 2025 would create a significant police service impact if it would:

- Result in the provision of new or physically altered police facilities, need for new or physically altered police facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.

IMPACT DISCUSSION

An increase in population under General Plan 2025 could have the potential to increase the demand for police services. Buildout of the Plan could add 10,814 within the City Limits and another 5,614 persons to Walnut Creek's SOI by 2025.

According to the Walnut Creek Police Department, the current ratio of police per thousand people is 1.24. Using this ratio, the additional 10,814 persons to the city under General Plan 2025 could require an increase in police staffing by approximately 13 officers.

The proposed General Plan includes policies and actions in Chapter 6, Safety and Noise, to ensure that adequate growth of the Police Department would occur with the expected population growth.

Increased calls resulting from population growth and increased traffic congestion under the General Plan could cause police response times to worsen. Policy 5.2 would ensure that the City maintains a response time of less than five minutes for emergency calls and less than 20 minutes for other calls 95 percent of the time.

Chapter 6, Safety and Noise, would also support maintaining adequate police services through policies and actions related to project design and review. Action 5.5.2 would require submittal of all discretionary permits to the Police Department for analysis of impacts on police services and recommendations to reduce impacts. Reduce demand for police services could also be supported through Policy 5.5, which directs the City to investigate project design enhancements that can help reduce service demands, and Action 5.5.1, which directs the City to incorporate crime reduction and public safety response features in the design and planning of development projects. Additionally, Policy 11.1 of Chapter 4 Built Environment would benefit police service standards by limiting the approval of commercial projects to those that comply with the City's performance standards for police. The General Plan's focus on infill and Core Area development also means that development would occur mainly in areas already built up, which already have police service.

[30] http://www.cocosheriff.org/patrol/station_houses/stationhouses.htm, downloaded on February 23, 2004.
[31] http://www.cocosheriff.org/support/ emergency_services/oes/oes.htm, downloaded on February 4, 2004.

City growth under the General Plan could also affect police service in the County. To address this, the Plan calls for continued City cooperation with the County on issues outside the City Limits (Chapter 4 Built Environment, Policy 5.4).

For the above reasons, implementation of General Plan 2025 would not be expected to result in significant impacts to police services.

IMPACTS AND MITIGATION MEASURES

Since no impacts were identified, no mitigation measures are required.

SCHOOLS

EXISTING SETTING

The Planning Area is served by five school districts: the Walnut Creek School District, the Mount Diablo Unified School District, Acalanes Union High School District, the San Ramon Valley Unified School District, and the Lafayette School District. Each school district is shown in Figure 8. The public schools in each district are shown in Figure 9.

Regulatory Framework

The regulatory framework for schools is determined at the school district and State level. Senate Bill 50 (funded by Proposition 1A and approved in 1998) limits the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development and provides instead for a standardized developer fee. The Bill generally provides for a 50/50 State and local school facilities funding match, with a $9.2 billion bond authorized to fund the State portion.

SB 50 provides for three levels of statutory mitigation fees. The applicable level depends on whether State funding is available, the school district is eligible for State funding, and the school district meets certain additional criteria involving bonding capacity, year round school, and the percentage of relocatable classrooms in use.

SB50 establishes the base amount of allowable developer fees. These base amounts are known as "Level 1" fees and are subject to inflation adjustment every two years. The latest fee adjustment was made in January 2004 to $2.24 per square foot of assessable space for residential construction and $0.36 per square foot of chargeable covered and enclosed space for commercial and industrial construction.

School districts may charge less than the Level 1 fees. [32] Additional information about SB50 can be found in the Community Facilities and Services Background Report.

Walnut Creek School District

The Walnut Creek School District (WCSD) serves approximately 3,300 students in grades K-8 in the western and northern areas of Walnut Creek. The WCSD operates five K-5 neighborhood Elementary schools and one 6-8 intermediate school.[33]

Additionally, the WCSD operates a home school and independent study program for grades kindergarten to eight.[34] The District's alternative education program, Parkmead Active Learning School (PALS), is housed at Parkmead Elementary School. PALS draws students from throughout the District.[35] Students within the WCSD attend Los Lomas High School in the Acalanes Union High School District when they reach Grade 9.[36]

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[32] http://www.legalelite.com/qa/(q)school needsdc.htm#2, downloaded on May 3, 2004.

[33] http://www.wcsd.k12.ca.us/about.htm, downloaded on February 4, 2004.

[34] http://www.wcsd.k12.ca.us/edopt/edopt.htm, downloaded on February 4, 2004.

[35] http://www.parkmead.wcsd.k12.ca.us/, downloaded on February 4, 2004.

[36] Personal communication with Sandy Miller, Walnut Creek School District, February 5, 2004.

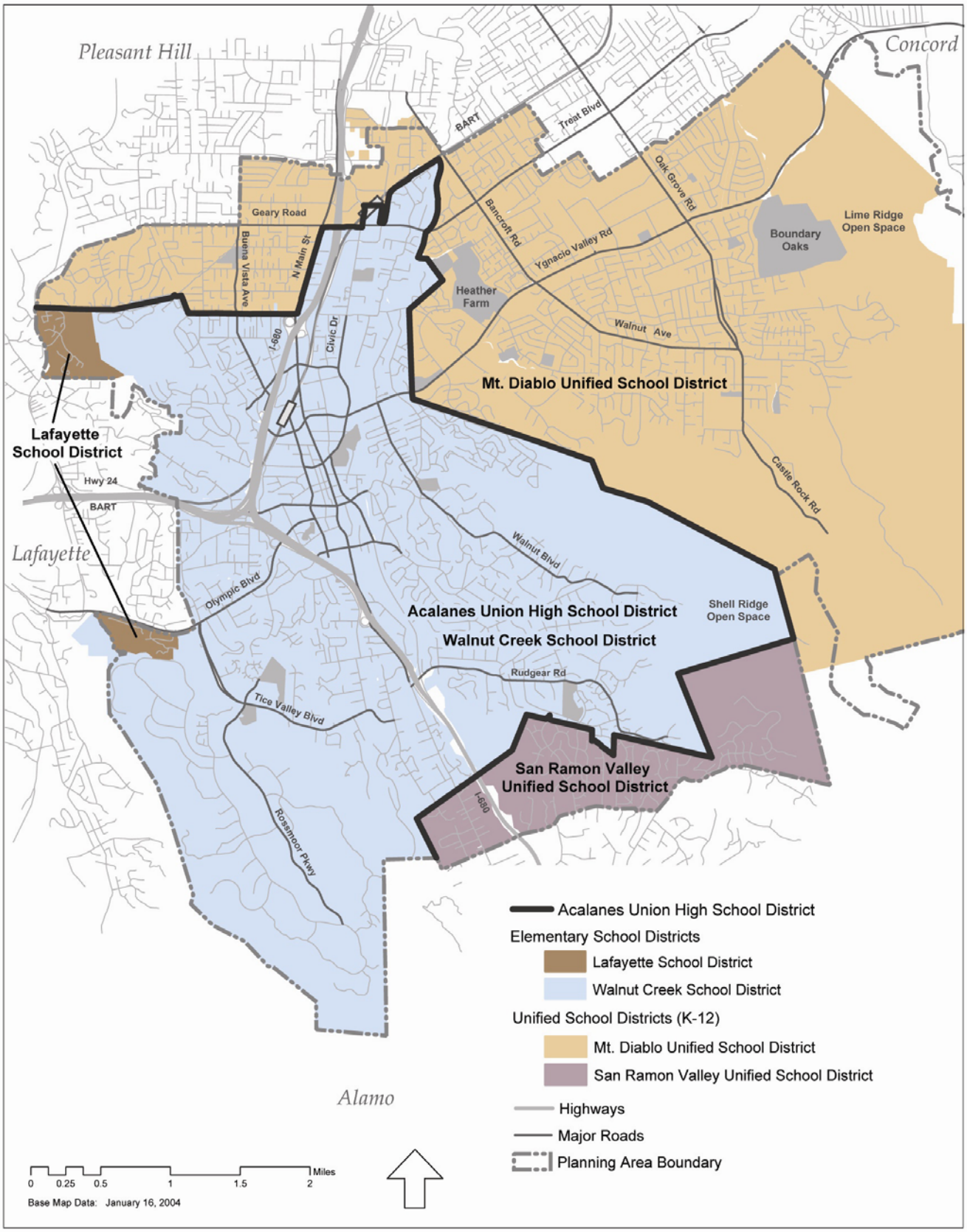

Figure 8. School Districts

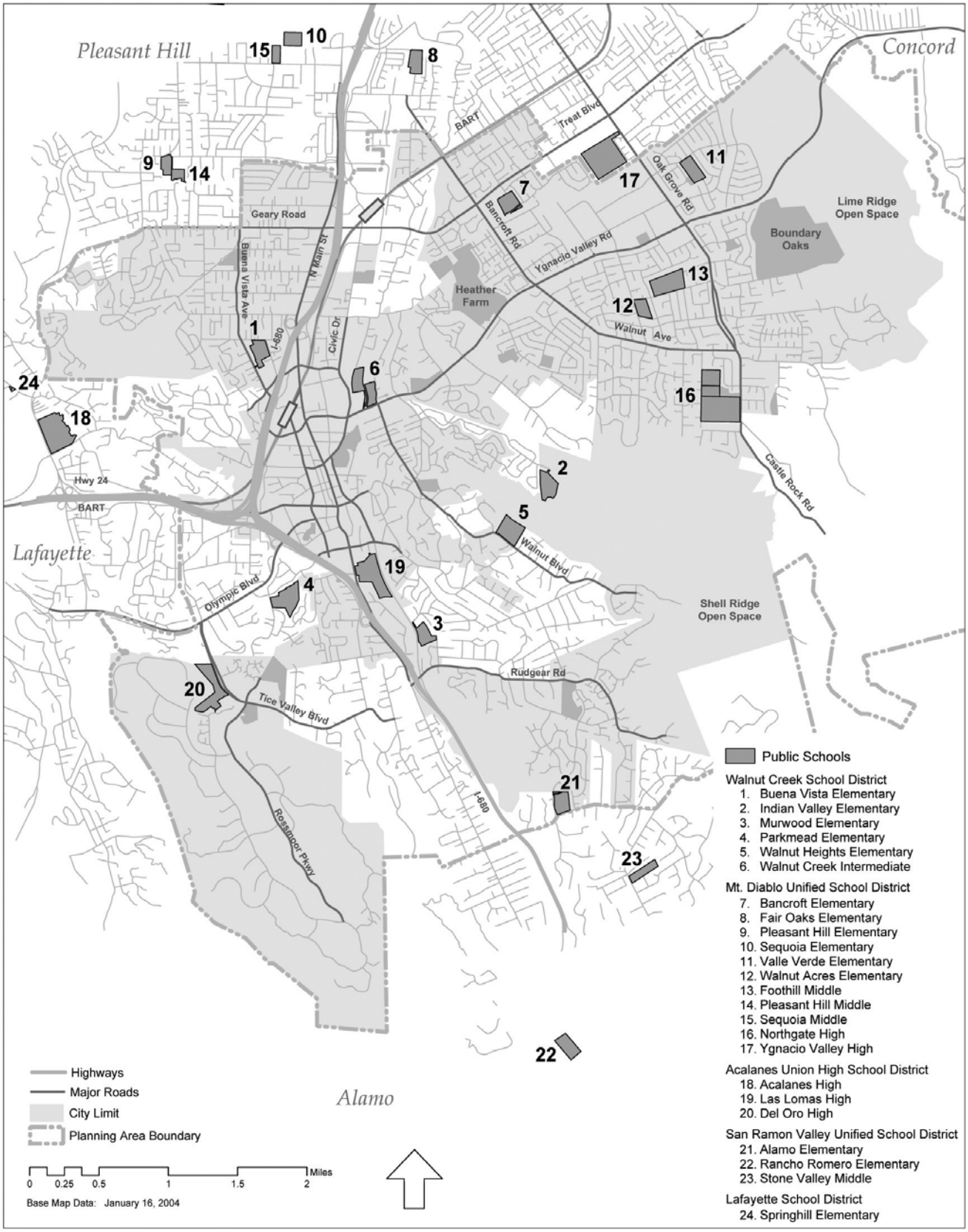

Figure 9. Public Schools

Each of schools in the WCSD and their enrollment figures are listed in Table 10. As of February 2004, WCSD enrollment was 3,327. [37] Capacity figures for the District are unavailable, so it is not known whether it is over or under capacity.

The WCSD collects $1.19 per square foot from residential development to compensate for growth impacts, and $0.10 per square foot from commercial development. The student generation rate per household used by the WCSD is 0.34.[38]

As of February 2004, there were no plans to open new schools within the WCSD.[39]

Mount Diablo Unified School District
Mount Diablo Unified (MDUSD) is a K-12 public school district with headquarters located in Concord. The MDUSD covers over 150 square miles, including the eastern half and parts of northern Walnut Creek and its Planning Area. Over 36,000 K-12 and 30,000 adult students are served by the MDUSD.

The MDUSD is one of the largest school districts in California with over 56 school sites and programs. The District has:

- Six high schools
- One continuation high school
- Five "necessary"(i.e., alternative)[40] small high schools
- One independent study school
- 10 middle schools
- 28 Elementary schools
- Two special education schools
- Two adult education centers.[41]

MDUSD allows inter-district transfers, and there is at least one student with a Walnut Creek address at each MDUSD school in the District.[42] Schools within and near Walnut Creek obviously serve more Walnut Creek students than schools farther from the city. Enrollment and capacity figures for the K-12 schools that serve the most Walnut Creek students are shown in Table 11.

As shown in Table 11, MDUSD is not at capacity, nor is it expected to reach capacity in 2005. Of the schools listed in Table 11, two Elementary schools, two middle schools and two high schools are over capacity. However, the District has overall capacity within each of these categories.

The District is planning to add classrooms to its current sites with bond monies from the General Obligation Bond (Measure C), which was passed on March 5, 2002, and to construct a new elementary school in Bay Point to accommodate 800 students.[43] However, the District has no plans to construct new schools that would serve Walnut Creek students or to close any of the schools that serve Walnut Creek students.[44]

[37] Personal communication with Sandy Miller, Walnut Creek School District, February 5, 2004.
[38] Personal communication with Sandy Miller, Walnut Creek School District, February 5, 2004.
[39] Personal communication with Sandy Miller, Walnut Creek School District, February 5, 2004.
[40] Necessary high schools are alternative programs that are offered for students who are not being successful in the regular programs. Olympic High School in Concord is a self-contained alternative high school with its own campus. The remaining four necessary high schools are small programs that are located on another campus: two are located on middle school campuses and two are on high school campuses. (Source: Personal communication with Bob Rayborn, Director of Research and Evaluation, MDUSD, April 13, 2004.
[41] http://www.mdusd.k12.ca.us/mdusd/district_description.html, downloaded on February 18, 2004.
[42] Personal communication with Bob Rayborn, Director of Research and Evaluation, MDUSD, February 27, 2004.
[43] MDUSD, *School Facility Needs Analysis for Mt. Diablo Unified School District*, February 4, 2004, page 16.
[44] Personal communication with Bob Rayborn, Director of Research and Evaluation, MDUSD, February 27, 2004.

Table 10

Enrollment, Walnut Creek School District

Map No.[a]	School or Program	Enrollment
1	Buena Vista Elementary (K-5)	480
2	Indian Valley Elementary (K-5)	355
3	Murwood Elementary (K-5)	411
4	Parkmead Elementary (K-5)	466
5	Walnut Heights Elementary (K-5)	351
6	Walnut Creek Intermediate (6-8)	1,241
	Educational Options (K-8)	Included in above totals
	District Alternative Education Program (PALS)	Included with Parkmead
	TOTAL	**3,327**

[a] As mapped on Figure 9.
Source: Personal communication with Sandy Miller, Walnut Creek School District, February 5, 2004. Capacity and projected enrollment figures are not readily available and the WCSD does not have the resources to research the information (personal communication with Donna Ackermann, WCSD, February 19, 2004).

Currently, the MDUSD collects $3.29 per square foot[45] from both single- and multifamily residential development to compensate for growth impacts, and $0.33 per square foot from commercial development. The student generation rates per household used by the MDUSD are as follows:

- single-family attached residential: 0.6637
- single-family detached residential: 0.1808
- multifamily residential: 0.2843[46]

Acalanes Union High School District
The Acalanes Union High School District (AUHSD) serves the communities of Canyon, Moraga, Lafayette, Orinda and Walnut Creek. AUHSD has four high schools, a continuation school and an adult school. Las Lomas High School is located in Walnut Creek. However, students can apply through an intra-district transfer to attend any school in the district provided there is capacity.

[45] This rate is expected to increase to $3.91 per square foot on April 7, 2004, pending Board approval.

[46] Personal communication with Bob Rayborn, Director of Research and Evaluation, MDUSD, February 27, 2004.

Table 11

Enrollment and Capacity, Selected Schools, Mount Diablo Unified School District

Map No.[a]	School	Enrollment (02/04)	Capacity	Difference	Projected Enrollment (2005)
	Elementary Schools (K-5)				
7	Bancroft	410	606	+196	469
8	Fair Oaks	385	486	+101	451
*	Gregory Gardens	418	462	+44	434
9	Pleasant Hill	574	666	+92	563
10	Sequoia	608	558	-50	617
*	Strandwood	507	582	+75	511
*	Valhalla	533	654	+121	557
11	Valle Verde	562	666	+104	615
12	Walnut Acres	678	642	-36	691
	Middle Schools				
13	Foothill	1,117	1,038	-79	1,234
14	Pleasant Hill	860	859	-1	818
15	Sequoia	868	935	+67	765
*	Valley View	839	946	+107	755
	High Schools				
*	College Park High	1,935	1,682	-253	1,940
16	Northgate High	1,541	1,513	-28	1,588
17	Ygnacio Valley	1,487	1,833	+346	1,868
	District Total	**36,911** [a]	**38,909**	**+1,998**	**37,348**

[a] As mapped on Figure 9. (* = outside of mapped area)
[b] Total enrollment includes enrollment for all K-12 schools, special centers, charter schools, and "other" schools.
Source: Personal communication with Bob Rayborn, Director of Research and Evaluation, MDUSD, February 27, 2004; MDUSD, Final Report: Mt. Diablo Unified School District Facilities Task Force, August 1, 2001, Table 5, pages 17-21.

The Acalanes Adult Center and Del Oro High School, which offers an alternative education program, are located on the same site on Tice Valley Road in Walnut Creek.[47] Students attending Las Lomas High School have generally graduated from Walnut Creek Intermediate School, which is in the Walnut Creek School District.[48]

AUHSD's projected enrollment for 2004-05 is 5,904 students, which is 456 below the District's capacity of 6,360. The enrollment and capacity figures for each school are shown in Table 12. All schools in the AUHSD are under capacity, except for Las Lomas, which is at capacity. Las Lomas is expected to be over capacity by up to about 50 students until 2008-2009.[49]

The AUHSD has projected enrollment up to the 2008-09 school year. By 2008-09, total enrollment is projected to decrease to 5,785 students. Enrollment projections are shown in Table 12. The District's capacity is not expected to change by 2008-09. No new schools or expansions of existing schools are planned.[50]

Currently, the AUHSD *does not* collect developer fees to compensate for growth impacts. The student generation rate per household used by the AUHSD is 0.25.[51]

[47] http://www.acalanes.k12.ca.us/schools.htm, downloaded on February 9, 2004.
[48] Personal communication with Chris Learned, Assistant Superintendent, Business Services, AUHSD, February 9, 2004.
[49] Personal communication with Chris Learned, Assistant Superintendent, Business Services, AUHSD, February 9, 2004.
[50] Personal communication with Chris Learned, Assistant Superintendent, Business Services, AUHSD, February 9, 2004.
[51] Personal communication with Chris Learned, Assistant Superintendent, Business Services, AUHSD, February 9, 2004.

San Ramon Valley Unified School District
The San Ramon Valley Unified School District (SRVUSD) comprises 29 school sites serving more than 21,000 students in the communities of Alamo, Danville, Diablo, Blackhawk, and San Ramon, plus small portions of the cities of Walnut Creek and Pleasanton.

SRVUSD has 18 Elementary schools (K-5), six middle schools (6-8), three high schools (9-12), one independent study school (K-12), and one continuation high school (10-12).[52] Walnut Creek students who live in the south part of the city may attend the following schools:

- Alamo Elementary
- Rancho Romero Elementary
- Stone Valley Middle School
- Los Cerros Middle School
- San Ramon Valley High School
- Monte Vista High School.

In March 2004, total District enrollment was 21,988 and the District was over capacity by 228 students. The enrollment breakdown by school and capacity figures for each school serving Walnut Creek students is shown in Table 13. The SRVUSD has projected enrollment up to April 2005. Total enrollment at that time is projected to reach 22,294 as shown in Table 13.

As of 2004, the SRVUSD did not have any plans to construct or close any schools that serve Walnut Creek students. In the event of capacity constraints at any schools, students may be transferred to other District schools.[53] The SRVUSD collects $4.62 per square foot from single-family residential development to compensate for growth impacts, and $2.20 per square foot from multifamily residential de-

[52] http://www.srvusd.k12.ca.us/srvusd/SCHOOLS/Directory/, downloaded on February 4, 2004.
[53] Personal communication with Cheryl Harton, San Ramon Valley Unified School District, February 10, 2004.

Table 12

Enrollment and Capacity, Acalanes Union High School District

Map No.[a]	School or Program	Enrollment (2004-2005)	Capacity	Difference	Projected Enrollment (2008-09)
18	Acalanes High School (Lafayette)	1,369	1,500	+131	1,274
*	Miramonte High School (Orinda)	1,405	1,500	+95	1,452
*	Campolindo High School (Moraga)	1,300	1,500	+200	1,274
19	Las Lomas High School (Walnut Creek)	1,750	1,750	0	1,706
20	Del Oro High School (Walnut Creek)	62	80	18	62
	Contract Independent Study Program	18	30	+12	18
TOTAL		**5,904**	**6,360**	**+456**	**5,786**

[a] As mapped on Figure 9. (* = outside of mapped area)
[b] The AUHSD does not estimate enrollment for the Adult Education program. Most of these programs are offered after school.
[c] Miramonte and Campolindo do not serve Walnut Creek students.

Source: Personal communication with Chris Learned, Assistant Superintendent, Business Services, AUHSD, February 9, 2004.

velopment. The District collects $0.34 per square foot from commercial development.[54]

The student generation rates per household used by the SRVUSD are presented in Table 14.

Lafayette School District

Lafayette School District (LSD) serves grades K-8 in Lafayette and portions of Walnut Creek. Springhill Elementary (K-5) and Burton Valley Elementary (K-5) admit Walnut Creek students who live in the northwest section of the city. Students go to high school within the Acalanes Union High School District upon graduation from Stanley Middle School.

As shown in Table 15, enrollment in the LSD in March 2004 was 3,403, about 200 students under capacity. Enrollment in the LSD as a whole and in the three schools serving Walnut Creek is expected to decrease by September

[54] Personal communication with Cheryl Harton, San Ramon Valley Unified School District, February 10, 2004.

Table 13

Enrollment and Capacity, San Ramon Valley Unified School District (Schools serving or potentially serving Walnut Creek only)

Map No.[a]	School	Enrollment (03/04)	Capacity	Difference	Projected Enrollment (04/05)
	Entry Elementary Schools (K-5)				
21	Alamo Elementary School	419	360	+ 59	397
22	Rancho Romero Elementary School	589	540	+ 49	585
	Middle Schools (6-8)				
*	Los Cerros Middle School	749	720	+ 29	703
23	Stone Valley Middle School	716	660	+ 56	730
	High Schools (9-12)				
*	Monte Vista High School	2,189	2,200	- 11	1,921
*	San Ramon Valley High School	2,000	1,800	+ 200	2,283
	District Totals	**21,988**	**21,760**	**- 228**	**22,294**

[a] As mapped on Figure 9. (* = outside of mapped area)
Source: personal communication from Cheryl Harton, San Ramon Valley Unified School District, February 10, 2004.

Table 14

Student Generation Rates San Ramon Valley Unified School District

Grade	Single-family Residential	Multifamily Residential
K-5	0.422	0.134
6-8	0.212	0.071
9-12	0.169	0.059

Source: Personal communication with Cheryl Harton, San Ramon Valley Unified School District, February 5, 2004.

2004. As of March 2004, the LSD did not have plans to construct any new schools or close any schools that admit Walnut Creek students.

The LSD uses a student generation rate of 2.4 children per household. (The rate applies to all types of household.) The LSD collects developer impact fees for both residential and commercial development. The fee for residential development is $2.05 per square foot for all types of residential development. The commercial fee is $0.33 per square foot.[55]

[55] Personal communication with Jennifer Sabroe, Administrative Assistant, Superintendent's Office, Lafayette School District, March 24, 2004.

Table 15

Enrollment and Capacity, Lafayette School District

Map No.[a]	School	Enrollment March 2004	Capacity	Difference	Project Enrollment September 2004
24	Springhill Elementary (K-5)	445	485	-40	434
*	Burton Valley Elementary (K-5)	757	810	-53	739
*	Stanley Middle (6-8)	1,312	1,350	-38	1,284
	Total District [a]	**3,403**	**3,600**	**-197**	**3,330**

[a] As mapped on Figure 9. (* = outside of mapped area)
[b] Happy Valley and Lafayette Elementary Schools are the other two schools in the District. These schools do not serve Walnut Creek students.
Source: Personal communication with Jennifer Sabroe, Administrative Assistant, Superintendent's Office, Lafayette School District, March 24, 2004.

STANDARDS OF SIGNIFICANCE

The Walnut Creek General Plan 2025 would create a significant schools impact if it would:

- Result in the provision of new or physically altered school facilities, need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.

IMPACT DISCUSSION

The construction of new housing (5,342 new residential dwelling units within the City Limits and another 2,773 in the City SOI) would result in the generation of new students. Most of these students would attend one of the five school districts serving the Walnut Creek Planning Area.

Based on each school district's student generation rates and projected number of dwelling units within the Planning Area, an estimate can be created of how many students would be generated in the Planning Area by the implementation of the General Plan. However, the total number of students would be divided among the five school districts depending on the location and type of students and schools. Implementation of General Plan 2025 would result in approximately 8,524 additional dwelling units within the Planning Area, which would generate a need for expansion of existing schools and staff within the various school districts.

The following estimates the numbers of students that will be generated in the planning area by applying the various school district student generation factors.

- **WCUSD –** According to the WCUSD's student generation rate of 0.34 students per household, approximately 2,898 new students would be generated by implementation of General Plan 2025.

- **MDUSD** - According to the MDUSD's student generation rates, approximately 2,067 new students would be generated by implementation of General Plan 2025.[56]
- **AUHSD** - According to the AUHSD's student generation rate of 0.25, approximately 2,131 new high school students would be generated by implementation of General Plan 2025.
- **SRVUSD** - According to the District's Elementary school student generation rates in Table 14, approximately 2,224 new K-5 school students would be generated by the implementation of General Plan 2025. About 1,135 new Grade 6 to 8 students would be generated, and 916 Grade 9-12 students would be generated. Thus the total students generated would be about 4,275 according to SRVUSD's generation rates.
- **LSD** – According to the LSD's student generation rate of 2.4 students per household, approximately 20,458 new students would be generated by implementation of General Plan 2025. Since that generation rate is higher than the average household size in Walnut Creek, and is substantially higher than the rate used by other districts, it is excluded in this analysis since it overestimates the number of students who would likely be generated. In addition, relative to the other school districts in the Planning Area, few of the total new students would attend schools in the LSD.

Based on these generation factors, implementation of the proposed General Plan would result in the generation of between 2,067 and 4,275 students. New facilities could be needed to accommodate this anticipated student growth. Some of this growth could be accommodated in some of the school districts since they are currently under capacity. However, other districts are over capacity and new schools would likely be needed to accommodate future student growth. The actual location of new and expanded facilities to serve additional students is not known at this time. However, school facilities would be allowed in all General Plan 2025 residential land use designations,[57] and so can be constructed at a variety of locations.

Additionally, the City would implement Quality of Life Action 1.3.1 through which it would coordinate with responsible agencies such as school districts for review and comment on City or agency plans and development projects in the city that may affect service demand. Action 9.3.1 would direct the City to maintain a working relationship and continue collaborating with each of the school districts in the planning area. The implementation of these actions would help to ensure the planning of new school facilities to accommodate increased student enrollment. The payment of developer fees would provide the funding for new facilities, to the extent allowed by SB50.

The specific environmental impacts of constructing new school and related facilities to support General Plan 2025 cannot be determined during this first-tier level of environmental analysis. However, development and operation of schools facilities, both public and private, may result in potentially significant impacts that are addressed by various plans, policies and mitigation measures identified in other sections of this EIR. Moreover, specific school expansion or improvement projects would be subjected to additional project-specific, second-tier environmental analysis when they are proposed.

For the above reasons, General Plan 2025 would not result in significant school impacts.

[56] Assumes 68 single-family attached dwellings, 3,691 single-family detached dwellings, and 4,765 multifamily units.

[57] Provided they meet the requirements of the underlying zone and applicable general plan policies.

IMPACTS AND MITIGATION MEASURES

Since no project-level significant impacts related to schools were identified as a result of General Plan 2025, no mitigation measures are required. Policies and mitigation measures that are identified in other sections of this EIR would also apply to any unforeseen impacts associated with the construction and operation of schools or school facilities.

LIBRARIES

EXISTING SETTING

As shown on Figure 7, two public libraries serve Walnut Creek and its Planning Area. Both are operated by the Contra Costa County Library: the Downtown Branch at 1644 North Broadway, and the Ygnacio Valley (Thurman G. Casey Memorial) Branch at 2661 Oak Grove Road. Both branches are open Monday through Saturday and closed on Sundays.[58] In addition, the Contra Costa County Library has branches in other communities throughout the county, including the main library in Pleasant Hill, some of whose patrons are Walnut Creek residents.[59]

The *1989 Walnut Creek General Plan* set a performance standard of maintaining a ratio 600 square feet of library space per 1,000 City resident population.[60] The Downtown Branch is 9,240 square feet[61] and when it opened, it served a population of less than 10,000. The Ygnacio Valley Branch is 13,500 square feet.[62]

Using the 1989 General Plan standards, existing library space in the city is adequate for a city of 37,900 people. With only two small libraries serving a population of more than 65,000 people, library services in the city have been inadequate for some time.

Future Plans

Since 1991, Walnut Creek has been planning for a new Downtown library. The City and Contra Costa County have proposed a new 42,000 to 50,000 square-foot replacement branch library for downtown Walnut Creek.

The *New Downtown Walnut Creek Library Plan of Service*, completed in December 2003, outlines the goals and service needs the new library is intended to meet. The Plan identifies goals for enhancing programs, collections and services, and includes program schedules that address the needs of the different populations that would use the library. In particular, the Plan addresses the unique needs of young children, their parents and caregivers and the need for more services for preschoolers and day care centers. In recognition of the library's role in providing educational resources to school children, the Plan outlines how the new library will serve as a hub for homework assistance and tutoring. The needs of seniors, business people and job seekers are also acknowledged in the Plan.[63]

In the meantime, Measure Q was passed in March 2002 in response to residents' desire for immediate improvements at both libraries. Measure Q was a parcel tax measure to provide sufficient funding to increase library hours to 56 per week for eight years beginning July 1, 2002.[64]

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[58] http://www.ci.walnut-creek.ca.us/libraries.htm, downloaded on January 29, 2004.

[59] *1989 Walnut Creek General Plan*, revised November 2000, page 5-5.

[60] *1989 Walnut Creek General Plan*, revised November 2000, page 2-84.

[61] City of Walnut Creek, *Community Library Needs Assessment: New Downtown Walnut Creek Library*, Revised December 2003, page 1.

[62] Personal communication with Ann Shelton, Senior Branch Librarian, Ygancio Valley Branch, May 4, 2004.

[63] Wick, K.C. & S. Behrman, *City of Walnut Creek Library Plan of Service: New Downtown Walnut Creek Library*, December 2003.

[64] Behrman, S., *Community Library Needs Assessment: New Downtown Walnut Creek Library*, (revised) December 2003, page 17.

STANDARDS OF SIGNIFICANCE

The Walnut Creek General Plan 2025 would create a significant library impact if it would:

- Result in the provision of new or physically altered library facilities, need for new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.

IMPACT DISCUSSION

Implementation of General Plan 2025 would result in an increase in population and new development. Walnut Creek's two libraries, the Downtown Branch and Ygnacio Valley Branch, together are capable of serving about 60 percent of Walnut Creek's population. Since there is already a considerable deficiency in library services in Walnut Creek, the additional population growth under the General Plan would place further demands on an already strained system, and increase the current deficit.

Under General Plan 2025, Walnut Creek's population would be expected to reach about 77,314, an increase of 10,814. Based on the City's adopted standard of 600 square feet of library space per thousand residents and the estimated growth in population, buildout of the City pursuant to the proposed General Plan would create a need for an additional 6,488 square feet of library space.

The needed increase in library space would be easily accommodated by constructing the proposed 41,289 square-foot library in downtown Walnut Creek. The Quality of Life Chapter includes an action to build this new downtown library (Action 10.1.1). Additionally, the City would implement Action 1.3.1 of the Quality of Life Chapter, which would require the City to coordinate with other responsible agencies such as County libraries for review and comment on City or agency plans and development projects in the city that may affect service demand.

The specific environmental impacts of constructing the new library cannot be determined at a programmatic level of analysis. The library would be required to undergo a project-level analysis under CEQA, where potentially significant impacts would be addressed.

IMPACTS AND MITIGATION MEASURES

Since no impacts were identified, no mitigation measures are required.

PARKS & RECREATION

EXISTING SETTING

Parks

The City has seven community parks and ten neighborhood parks, all maintained by the Parks Division. The Parks Division also maintains three City-owned "special-use areas." The location of each park and special-use area is shown in Figure 10. Park sizes, locations and amenities are provided in Table 16. In total, the City owns and/or maintains approximately 223 acres of designated parkland, excluding open space, the 160-acre municipal golf course and about nine "special-use" acres. Including these areas, Walnut Creek has a total park acreage of approximately 411[65] acres – about six acres of parkland per 1,000 population.[66] The parkland ratio target adopted in the *1989 Walnut Creek General Plan* was 5.4 acres per 1,000 population.[67]

[65] This number includes the 10 acres at each of the two high schools. Excluding these, the total park area is 391 acres – a ratio of 5.9 acres per 1,000 population.

[66] Based on the California Department of Finance population estimate for Walnut Creek of 66,000 for January 2003.

[67] *1989 Walnut Creek General Plan*, revised November 2000, page 2-101.

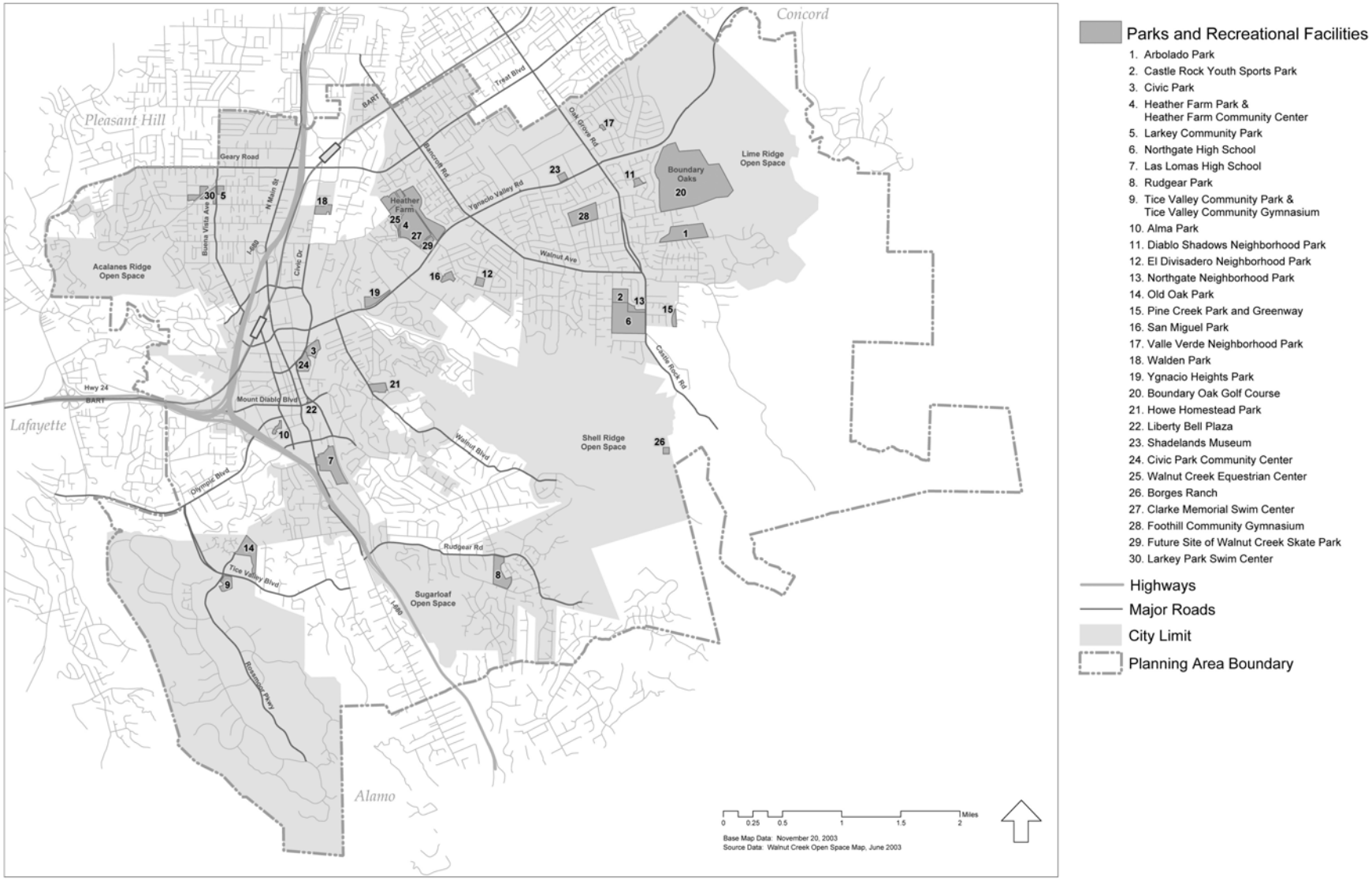

Figure 10. Parks and Special Use Areas

Section 10-1.602 of the Walnut Creek Municipal Code requires, as a condition of approval of a tentative map, the dedication of land or the payment of a fee in lieu thereof, or both, for parks and recreational purposes. The Code contains a formula for determining the amount of land to be dedicated. The general standard in the Code is slightly less than the target ratio adopted in the General Plan; the Code standard is 5 acres of property for each 1,000 City residents. The fees collected are used to provide parks and recreational facilities "reasonably related to serving the subdivision by way of the purchase of necessary land or, if the Park and Recreation Commission deems that there is sufficient land available for the subdivision, for improving of such land for parks and recreational purposes."

Open Space
Walnut Creek's open space areas serve a variety of functions, including natural resource preservation and outdoor recreation. Some open space is maintained for public health and safety reasons -- for example, on steeply sloped hillsides. Walnut Creek's open space is also an important visual and aesthetic resource.

City Open Space Areas
Walnut Creek has one of the largest aggregations of city-owned open space in the United States. Over 2,700 acres of oak woodland, savannah and chaparral now comprise Walnut Creek's open space.

Walnut Creek's open space area is divided into four units: Acalanes Ridge Open Space, Lime Ridge Open Space, Shell Ridge Open Space, and Sugarloaf Open Space. These areas are shown in Figure 11. The open space areas vary in size, and each offers different amenities, as summarized in Table 16, which is keyed to the number locations shown in Figure 10.

Recreation
The Recreation Division of the City's Arts, Recreation and Community Services Department administers recreational programming throughout the city. The Department also oversees the Civic Art Education program. City-owned facilities maintained by the Public Services Department are described below. City recreational facilities are shown in Figure 5. These facilities, as well as Walnut Creek's recreational programs, are described in the *Parks, Recreation and Open Space Resources Background Report*.

STANDARDS OF SIGNIFICANCE

Walnut Creek General Plan 2025 would create a significant parks and recreation impact if it would:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

IMPACT DISCUSSION

Population and housing growth under General Plan 2025 would increase demand for parks in Walnut Creek. Development under General Plan 2025 would result in 5,342 new units within the City Limits and another 2,773 within the SOI and would add 10,814 persons to the City by 2025. This increased population could result in the deterioration of existing facilities or in a need for additional parks.

Deterioration of Existing Facilities
Although population growth under General Plan 2025 could put added strain on existing park facilities, Policy 1.2 of Chapter 2 Quality of Life would make it the City's policy to protect and enhance neighborhood amenities such as parks. Through implementation of Policy 5.3 of Chapter 3 Natural Environment and

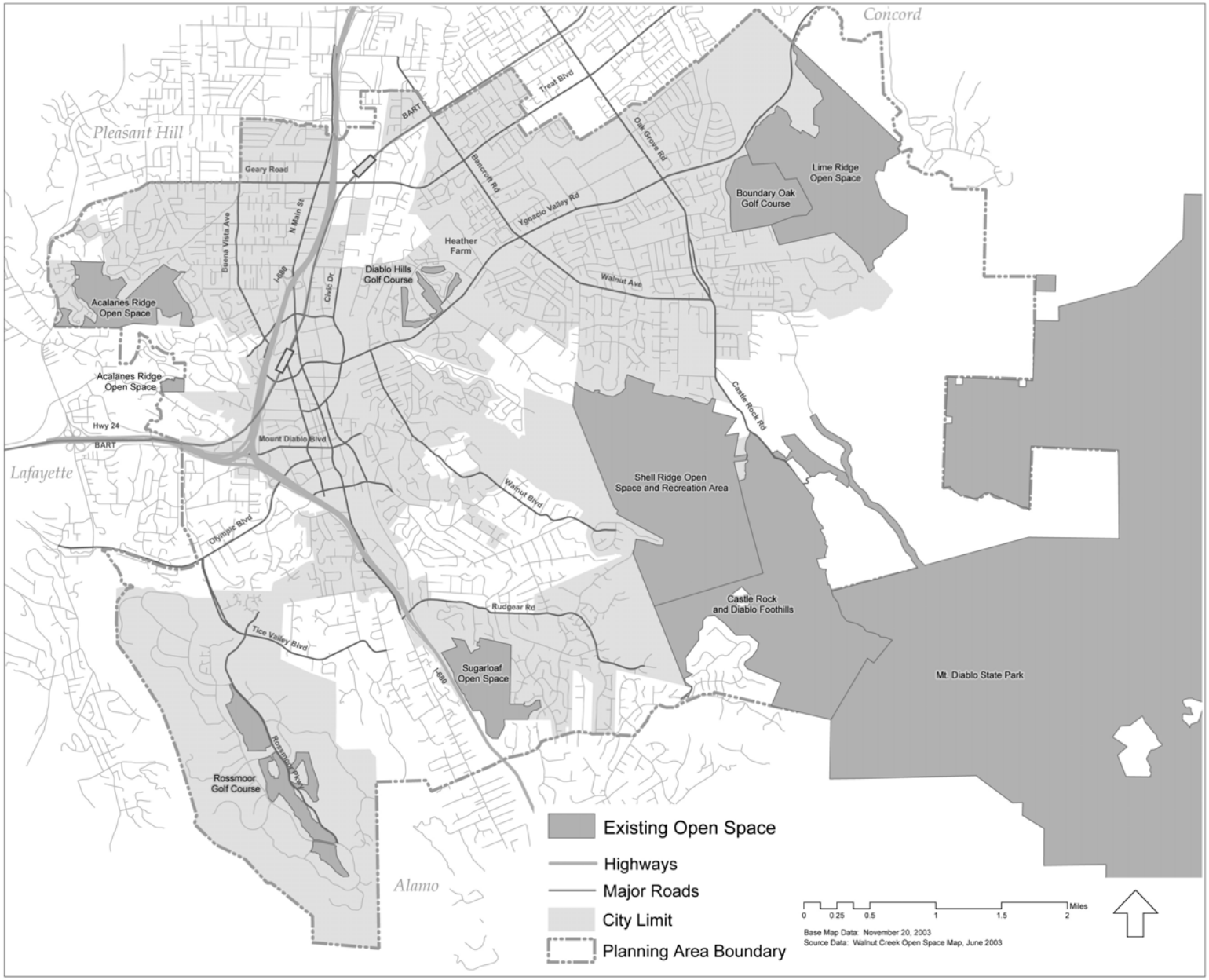

Figure 11. Open Space Areas

Table 16

City of Walnut Creek Parks and Open Space Resources

	Name[a]	Location	Size[b]	Amenities
Community Parks				
1	Arbolado Park	Arbolado Drive at Doncaster Drive	26 acres	playground, barbecue pits, picnic tables, basketball court, soccer field, tennis courts, restrooms, orchard, connection to walking trails
2	Castle Rock Youth Sports Park	Hutchinson Road	6 acres	Open turf; 2 little league fields; 2 soccer fields
3	Civic Park	Civic Drive at North Broadway	17 acres	tennis courts, children's play area, picnic area, community center, gazebo, softball/youth soccer field, native plant/butterfly habitat garden, restrooms, connection to the Iron Horse Trail, entrance to the Creek Walk
4	Heather Farm Community Park	301 N. San Carlos Drive	91 acres	Clarke Swim Center, tennis, picnic areas, community center, equestrian center, bike paths, tot lots, sand volleyball courts, fishing pond, nature pond, 6 athletic fields, restrooms, connection to Iron Horse Trail
5	Larkey Community Park	Buena Vista/First Avenue	12 acres	children's play areas, connection to walking trails, open turf area, picnic areas, restrooms, sand volleyball court, Larkey Swim Center, tennis, Lindsay Wildlife Museum and the Walnut Creek Model Railroad Society
6 & 7	Northgate and Las Lomas High Schools	425 Castle Rock Rd. (Northgate) 1460 South Main St. (Las Lomas)	10 acres at each school	ball fields, tracks, basketball, tennis courts
8	Rudgear Park	Rudgear Road	12 acres	children's playground area; picnic tables with barbecues, basketball, baseball, soccer field, restrooms, connection to walking trails, tennis
9	Tice Valley Park	2055 Tice Valley Boulevard	8 acres	soccer field, tot lot, softball backstop, picnic tables with barbecues, restrooms

Table 16 (Continued)

City of Walnut Creek Parks and Open Space Resources

	Name[a]	Location	Size[b]	Amenities
Neighborhood Parks				
10	Alma Park	South California at Olympic Boulevard	2 acres	rolling lawn, benches, decorative arbors, view of Mount Diablo
11	Diablo Shadows Neighborhood Park	Diablo Shadows Drive	3 acres	children's playground, picnic tables with barbecues, open lawn area, connection to trails
12	El Divisadero Neighborhood Park	El Divisadero	3 acres	open turf field
13	Northgate Neighborhood Park	Castle Rock Road	4 acres	open turf bordered by Northgate High School and Castle Rock Elementary School
14	Old Oak Park	Rossmoor Parkway	16 acres	land bank to be developed with trails for passive recreation, i.e. walking
15	Pine Creek Park and Greenway	east of Castle Rock Road, adjacent to Pine Creek	5 acres	land bank that provides for passive recreational uses; the greenway serves as a major trail to nearby schools, Northgate Neighborhood Park and Shell Ridge open space
16	San Miguel Park	San Jose Court	5 acres	tennis courts, playground, turf, connection to walking trails
17	Valle Verde Neighborhood Park	Banyan Circle	1 acres	landscaped space with trees
18	Walden Park	Oak Road	5 acres	basketball courts, child's playground, picnic tables, barbecues, open turf area, restrooms, connection to Iron Horse Trail
19	Ygnacio Heights Park	Ygnacio Valley Road	6 acres	open space

Table 16 (Continued)

City of Walnut Creek Parks and Open Space Resources

	Name[a]	Location	Size[b]	Amenities
Special Use Areas				
20	Boundary Oak Golf Course	3800 Valley Vista Road	160 acres	18-hole course, full pro shop, driving range, restaurant, 3 practice greens, parking
21	Howe Homestead Park	Walnut Boulevard at Homestead Avenue	7 acres	1930's era residence; community gardens; trail connections to Shell Ridge Open Space
22	Liberty Bell Plaza	Broadway at Mt. Diablo Boulevard	< 1 acre	plaza, fountain, seating
23	Shadelands Museum	2660 Ygnacio Valley Road	1 acre	museum provides educational and historical information for the community
Open Space Areas				
As shown in Figure 11	Acalanes Ridge Open Space	Above Highway 680/24 intersection	179 acres	hiking, views
	Lime Ridge Open Space	Off Valley Vista Road near Boundary Oak Golf Course	924 acres	hiking throughout, biking in marked areas, interpretive tours
	Shell Ridge Open Space/ Borges Ranch	1035 Castle Rock Road	1,421 acres	trails for biking, hiking and riding, seasonal pond, restrooms, lawn, picnic tables, amphitheater, blacksmith shop, outbuildings, farm equipment displays, barn, covered trellis, educational programs
	Sugarloaf Open Space	2161 Youngs Valley Road	177 acres	picnic and group barbecue areas, restrooms, hiking and equestrian trails
TOTAL PARKS, SPECIAL-USE AND OPEN SPACE AREAS			3,084 acres [a, c]	

[a] Lancaster and Lar Rieu are not included.
[b] Areas are rounded.
[c] With Castle Rock and the two high schools, the total area is 3,110 acres.

Sources: http://www.walnut-creek.org/parks/parksmain.htm (downloaded on February 6, 2004), http://www.ci.walnut-creek.ca.us/openspace/default.htm, downloaded on February 9, 2004, Walnut Creek Recreation Division, *Classes & Activities Catalogue*, Winter 2004, *1989 Walnut Creek General Plan*, Park sizes are from a personal communication with Dan Cather, City of Walnut Creek, April 23, 2004.

Public Spaces, the City would maintain parks and through Action 5.3.1 would establish minimum maintenance and service levels in the Parks Maser Plan. Additionally, the City would see grants and other funds for park maintenance (Action 5.3.2) and organize volunteer cleanup days for the parks to help maintain them (Action 5.3.3). With implementation of these policies, the General Plan would have a less-than-significant impact with regard to the deterioration of existing facilities.

Need for or Construction of New Parkland Facilities

At buildout, approximately 6,182 acres of the city would be designated for open space. Out of the 6,182 acres, 2,764 acres would be designated for Open Space / Agriculture and 3,418 acres would be designated for Open Space / Recreation. These designations are unchanged from the 1989 General Plan.

The current ratio of parkland to people in Walnut Creek is 6 acres per thousand residents, which is above the minimum standards specified by many California communities and above the National Park and Recreation Association's standard of 5 acres of developed parkland per thousand population. It is also above Walnut Creek's target standard of 5.4 acres per 1,000 residents. Based on the parkland target ratio of 5.4 acres per 1,000 residents, which would be re-adopted through Action 6.1.1 of the proposed Natural Environment and Public Spaces Chapter, the addition of 10,814 persons to Walnut Creek would result in the need for approximately 58 additional acres of parkland.

The City's exisiting and planned 411 acres of parkland results in an existing surplus of about 52 acres of parkland within the City when compared to the 359 acres that is needed to serve the existing estimated population (66,500 pop.)[68] at the required ratio of 5.4 acres of parkland per 1,000 residents.

The proposed General Plan would designate 3,418 acres as Open Space/Recreation. Of this, 411 acres are already existing or planned city parks, and 2,701 acres are official open space areas. Although the General Plan does not identify what, if any, portion of the remaining 306 acres might be acquired or developed as City parks or open space areas, the amount of land designated as Open Space/Recreation would provide more than adequate opportunity for new parks to be designated in the future to meet the needs of the city's projected-population, in accordance with City's parkland standard.

In support of this, Chapter 3 Natural Environment and Public Spaces of General Plan 2025 includes a goal to acquire additional parkland (Goal 6). To support this goal, the chapter includes policies to plan park acquisitions (Policy 6.1), and to acquire parklands where needed and as the opportunities arise (Action 6.1.6). In addition, the City would prepare an acquisition plan (Action 6.1.3) and establish mechanisms for funding and maintaining new park acquisitions (Action 6.1.4). Additional actions in the chapter would further support the City's goal of acquiring new parkland.

Policy 6.2 of Chapter 3 Natural Environment and Public Spaces states that the City would continue to require that new development address park needs generated by the project. These policies would be implemented by Action 6.2.1, through which the City would assess the park and recreation needs created by new Core Area housing development and changing populations, and by Action 6.2.2, through which the City would consider an impact fee on commercial developments to be used for purchase and enhancement of public open space, including parks. Additionally, through Policy 11.1 of Chapter 4 Built Environment, the City would approve only commercial projects complying with the City's performance standards for parks.

The implementation of these policies, along with Code requirements for developers to provide land or in lieu fees for parks, and the amount of land within the Planning Area des-

[68] Department of Finance estimate for January 2005.

ignated as Open Space/Recreation, would ensure that sufficient park space would be available to accommodate anticipated population growth that would occur under General Plan 2025. No parks would be removed as a result of implementation of the Plan.

The specific environmental impact of constructing new parks, recreation facilities, and trails under General Plan 2025 cannot be determined at the programmatic level of analysis. However, development and operation of public parks and recreation facilities could result in potentially significant environmental impacts that are addressed by various City policies and mitigation measures included elsewhere in this EIR, as well as subsequent CEQA analysis when specific projects are proposed.

IMPACTS AND MITIGATION MEASURES

Since no impacts were identified, no mitigation measures are required.

CHAPTER 4.4

Transportation

This chapter describes the existing transportation system in Walnut Creek, which includes the roadways and public transit services as well as the bicycle and pedestrian facilities, and presents an assessment of General Plan 2025 on each of these components.

EXISTING SETTING

This section describes the existing road, transit and pedestrian circulation network in Walnut Creek. The pedestrian-oriented downtown shopping district, located just east of I-680 / SR 24 interchange, attracts not only local, but also regional shoppers, diners, and patrons for cultural activities – the vast majority of whom come by car. County Connection buses primarily serve the Walnut Creek BART station, which provides rail service to the Bay Area.

FREEWAY AND ROAD NETWORK

Freeways
Walnut Creek is located in the central portion of Contra Costa County near the interchange of State Route 24 and Interstate 680, which both provide regional freeway access to the city.

I-680 provides north-south connections from I-80 near Cordelia to San Jose, carrying about 14,000 vehicles during the peak hour through Walnut Creek.[1] In the Walnut Creek area, congestion, defined as a condition where the average speed drops below 35 mph for 15 minutes of more on a typical weekday, occurs southbound in the morning and northbound in the evening.[2]

SR 24 connects Contra Costa County with Oakland and San Francisco via the Caldecott Tunnel. Near the I-680 interchange, SR 24 carries about 14,700 vehicles during the peak hour.[3] Generally, congestion occurs westbound in the morning and eastbound in the evening.

Both I-680 and SR 24 are identified in the Central Contra Costa Action Plan (see discussion below) as Routes of Regional Significance.

Local Roadway Network
Figure 12 shows the major streets in the Walnut Creek Planning Area shown by their functional classification. These include the following:

Routes of Regional Significance.
Routes of Regional Significance are major roadway and freeway corridors that serve regional traffic, as identified in Action Plans adopted by the Contra Costa Transportation Authority as part of the countywide Measure C program (see discussion below). Facilities within Walnut Creek designated as Routes of

[1] Caltrans web site: http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/2003all/r505980i.htm

[2] Caltrans. District 4, Office of Highway Operations, Year 2002 *Bay Area Freeway Congestion Data* (Hi-comp report).

[3] http://www.dot.ca.gov/hq/traffops/saferesr/ trafdata/2003all/r022-33i.htm

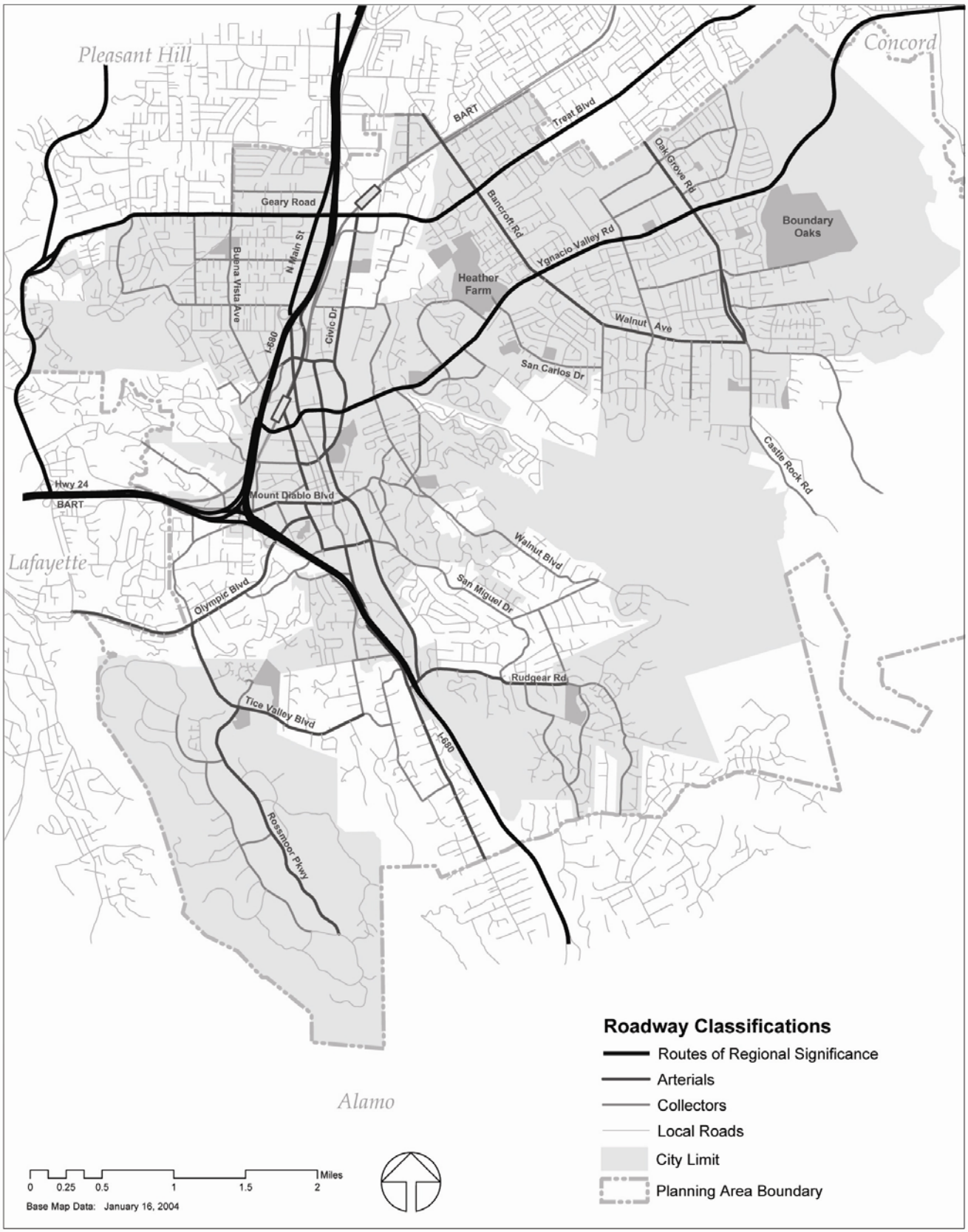

Figure 12. Existing Roadway Classifications

Regional Significance are Ygnacio Valley Road, Treat Boulevard, Geary Road, North Main Street (from I-680 to the north city limits) and Pleasant Hill Road.

Arterials. Arterial roadways provide intra-city travel and access to the regional roadway network. Arterials in Walnut Creek include California Boulevard, Broadway, Tice Valley Boulevard, Olympic Boulevard, Mount Diablo Boulevard, Bancroft Road, and Oak Grove Road, which provide connections between Walnut Creek and the surrounding communities of Concord, Pleasant Hill, Lafayette, and Alamo.

Collectors. Collector streets provide access within and between neighborhoods, and carry trips from Local Streets to Arterials. Collectors in the city include Boulevard Way, La Casa Via, San Luis Road, Buena Vista Avenue, Walnut Boulevard, and San Carlos Drive.

Local Streets. Local Streets are those streets not otherwise classified. They provide direct access to fronting properties. Travel speeds and traffic volumes are generally low.

LEVEL OF SERVICE

The Level of Service (LOS) concept is generally used to measure the amount of traffic that a roadway or intersection can accommodate, based on maneuverability, driver dissatisfaction, and delay. LOS ranges from LOS A, or free-flow conditions, to LOS F, or jammed conditions. General Level of Service definitions are summarized in Table 17. The capacity of a roadway or intersection, which is defined as the maximum number of vehicles that can be handled in a given time period (usually an hour), can be used to define the Level of Service. Roadway capacity is based on the physical characteristics of the facility including aspects such as the number of lanes, grade and lane widths, as well as operating conditions, such as the number of trucks and buses.

GROWTH MANAGEMENT PROGRAM STANDARDS

Standards for roadway operations in Walnut Creek are defined on a countywide basis. In 1989, Contra Costa County voters passed Measure C, which raised the sales tax to provide funding for regional transportation improvements. Measure C requires local jurisdictions to adopt and implement a growth control program in order to receive their share of funds for transportation projects including maintenance. Measure C also included the Growth Management Program, which established a cooperative, multi-jurisdictional planning process requiring participation of all cities and towns and the County in managing the impacts of growth in Contra Costa County.

The Contra Costa Transportation Authority (CCTA) was established to implement Measure C and its overall goals. Local jurisdictions work through their respective Regional Transportation Planning Committees (RTPCs). The City of Walnut Creek, along with other central county jurisdictions, is part of the Transportation Partnership and Cooperation Committee (TRANSPAC), which has worked to develop the Central Contra Costa Action Plan for Routes of Regional Significance.

The Measure C Growth Management Program sets standards for the regional and non-regional routes in Contra Costa County. Accordingly, TRANSPAC's Central Contra Costa Action Plan for Routes of Regional Significance establishes Traffic Service Objectives (TSOs), quantifiable measures of effectiveness, for such routes.

For Walnut Creek's Routes of Regional Significance, which include Ygnacio Valley Road, Treat Boulevard, Geary Road, and North Main Street, the TSO is a 2.0 delay index. The delay index reflects the ratio of congested peak hour travel time to an uncongested off-peak travel time on these routes.

Table 17

Level of Service Definitions

Level of Service	Description
A	**Free Flow or Insignificant Delays**: Operations with very low delay. Most vehicles do not stop at all.
B	**Stable Operation or Minimal Delays**: An occasional approach phase is fully utilized. Some drivers feel restricted.
C	**Stable Operation or Acceptable Delays**: Drivers begin having to wait through more than one red signal. Most drivers feel somewhat restricted.
D	**Approaching Unstable or Tolerable Delays**: Drivers may have to wait through more than one red signal. Queues may develop, but dissipate rapidly, without excessive delays.
E	**Unstable Operation or Significant Delays**: Vehicles may wait through several signal cycles. Long queues form upstream from intersection.
F	**Forced Flow or Excessive Delays**: Represents jammed conditions. Many cycle failures. Queues may block upstream intersections.

Source: *Highway Capacity Manual*, Transportation Research Board, Special Report No. 209, Third Edition, Washington D.C., 1994.

The Measure C legislation also established LOS standards for non-regional routes, including methodologies and procedures to provide a consistent countywide basis for traffic impact analysis. The City of Walnut Creek has adopted LOS standards for signalized intersections throughout the city, consistent with these standards. The City's current LOS standards are summarized in Table 18.

EXISTING ROADWAY DAILY TRAFFIC VOLUMES AND LEVELS OF SERVICE

Table 19 lists the existing (2003) daily traffic volumes for the major roadways in the city and the resulting levels of service. The daily traffic volumes are based on data provided by City staff from daily hose counts and detector data from the City's Signal System.

The LOS was calculated from the daily traffic volumes and other roadway characteristics, using the Florida Department of Transportation (FDOT) *Quality/Level of Service Manual*.[4]

Based on daily volumes and roadway capacities, the most congested corridors in the city include Ygnacio Valley Road, Treat Boulevard, Geary Road and North Main Street.

At several locations, the existing traffic demand exceeds the available roadway capacity during portions of the peak commute hours.

[4] Florida Department of Transportation (FDOT), *Quality/Level of Service Manual*, 2002.

Table 18

City of Walnut Creek Roadway Level of Service Standards

Roadway Classification	Standard
Residential Local: Streets and Intersections	LOS B (v/c*: 0.60 to 0.69)
Collectors: Streets and Intersections	LOS low D (v/c: 0.80 to 0.84)
Arterials: Streets and Intersections	LOS high D (v/c : 0.85 to 0.89)
Regional Corridors: Streets and Intersections on Ygnacio Valley Road, Treat Boulevard, Geary Road, Pleasant Hill Road, and North Main Street (north of I-680)	Delay Index: 2.0 Peak hour average speed: 15 mph
Core Area Roadways and Intersections (bounded by I-680, Southern Pacific Right-of-Way and Walden Road)	LOS low E (v/c: 0.90 to 0.94)

* v/c Volume to Capacity Ratio.

Source: 1989 General Plan City of Walnut Creek and Central Contra Costa Action Plan for Routes of Regional Significance, Adopted July 13, 2000.

As a result, peak hour traffic congestion occurs with significant delays that extend beyond the normal peak hour. This congestion results in increased traffic vehicle queues and delays, the impacts of which are included in the peak hour intersection analysis that follows.

DELAY INDEX

In accordance with the Measure C Growth Management Program, Level of Service on identified regional routes of significance is measured by a "delay index", which is the ratio of the congested travel time during the peak hour to the uncongested travel time during the off-peak hours. As noted above, a 2.0 delay index is the Measure C Action Plan Traffic Service Objective for Ygnacio Valley Road, Treat Boulevard, Geary Road/Pleasant Hill Road and North Main Street north of I-680. To determine the existing delay index on these roadways, directional peak hour travel times were compared to uncongested travel times. The resulting delay indices are summarized in Table 20.

These segments of the regional routes within the city operate at acceptable levels. The travel times recorded during the peak hours account for coordinated signals that allow for traffic to progress along these corridors. Observations found that the signal timing during the peak hours reduced the delays at intersections.[5]

EXISTING INTERSECTION TRAFFIC CONDITIONS

In addition to the roadway traffic volumes and resultant levels of service, the existing peak hour intersection traffic conditions were analyzed.

Analysis Methodology

The Contra Costa County Transportation Authority (CCTA) methodology, which is the method adopted for the county, was applied

[5] Travel time surveys were conducted during a single day. The delay index was calculated using a limited sample.

Table 19

Street Volumes, Classifications and Levels of Service

Street Name	Location	Daily Volume	Total Lanes (Both Directions)	Level of Service
REGIONAL ARTERIALS				
Ygnacio Valley Road	Between I-680 on-ramp & Oakland Blvd.	31,400	6	D
Ygnacio Valley Road	Between Oakland Blvd. & California	53,300	6	F
Ygnacio Valley Road	Between Homestead & Marchbanks/ Tampico	75,800	6	F
Ygnacio Valley Road	Between John Muir Medical Center & San Carlos	61,600	6	F
Ygnacio Valley Road	East of Oak Grove Road	34,700	6	C
Treat Boulevard	Between Bancroft & Candelero	55,900	6	F
Treat Boulevard	Between Carriage & Bancroft	45,500	6	D
Geary Road	West of Main Street	20,000	2	F
North Main Street	North of Geary	39,200	4	F
North Main Street	Between San Luis & Geary	23,100	4	C
ARTERIALS				
Bancroft Road	South of Treat Boulevard	29,500	4	D
Broadway	Between Ygnacio Valley Road & Civic	12,400	4	D
California Boulevard	Between Civic & Bonanza	22,400	4	D
Civic Drive	Between Ygnacio Valley Road & Broadway	27,700	4	E
Civic Drive	Between Parkside & Walden	16,500	4	C
Lawrence Way	South of Penniman (One-Way NB)	21,000	3	D
Mount Diablo Boulevard	Between Bonanza & California	23,900	4	D
N. Main Street	South of Ygnacio Valley Road	14,700	4	D
Newell Avenue	Between California & S. Main	19,400	4	D
Oak Grove Road	Between Citrus & Ygnacio Valley Road	22,300	4	C
Olympic Boulevard	West of I-680 SB Ramps	20,200	4	C
Olympic Boulevard	Between Alpine & California	26,900	4	D
Parkside Drive	Between Broadway & Civic	13,600	4	C
Rudgear Road	East of Broadway	11,600	2	C
S. Broadway	North of Newell	19,400	4	D
S. Broadway	North of Rudgear	17,100	2	D
S. Main Street	South of Mount Diablo	13,800	4	D
S. Main Street	North of Lilac	18,200	4	C
Tice Valley Road	South of Rolling Hills Drive	18,200	4	C
COLLECTORS				
Boulevard Way	South of Mount Diablo	6,500	2	C
Buena Vista Avenue	Between Third & Geary	6,700	2	C
Mount Diablo Boulevard	Between Mount Pisgah and San Miguel	11,900	2	D
Walnut Boulevard	South of Ygnacio Valley Road	8,100	2	C

Source: City of Walnut Creek, May 2005.

Table 20

Delay Index for Regional Routes of Significance

	Delay Index	
Ygnacio Valley Road	Eastbound: 1.2	Westbound: 1.6
Treat Boulevard	Eastbound: 1.8	Westbound: 1.9
Geary Road	Eastbound: 1.6	Westbound: 1.5
North Main Street	Northbound: 1.5	Southbound: 1.7

for the intersection analysis. The method provides a planning-level analysis of signalized intersections based on the volume-to-capacity ratio (V/C) of critical movements at an intersection.[6] CCTA does not have Level of Service criteria for stop-controlled intersections.

Peak Hour Intersection Operations
The list of study intersections was selected based on major traffic flows and regional reporting requirements. Figure 13 shows the study intersections and the LOS for the AM and PM peak hours.

Table 21 summarizes the existing AM and PM peak hour LOS for 29 key intersections in the city, based on the traffic counts conducted in 2005.

As shown in the table, all of the study intersections currently operate at LOS D or better, except for the following:

- Bancroft Road and Treat Boulevard
- Civic Drive and Ygnacio Valley Road
- North Main Street and Geary Road
- North Main Street and Sunnyvale Avenue/I-680 ramp
- Oak Grove Road and Ygnacio Valley Road
- Oakland Boulevard and Ygnacio Valley Road
- Olympic Boulevard and Northbound I-680 on/off-ramps
- Walnut Boulevard and Ygnacio Valley Road

At these eight intersections, the peak hour volumes are at capacity.

TRANSIT

Transit services in Walnut Creek include Bay Area Rapid Transit (BART) trains, County Connection buses, a Downtown shuttle bus system, and paratransit services for the elderly and those with disabilities.

Bay Area Rapid Transit (BART)
Walnut Creek is served by two BART stations, the Walnut Creek station located at California and Ygnacio Valley Road, and the Pleasant Hill station located at Treat and Oak Road, just outside the city limits. Direct service is available to San Francisco these two stations; stations on the Fremont and Berkeley lines require transfers at MacArthur or 12th Street-City Center stations in Oakland.

[6] Contra Costa Transportation Authority, *Technical Procedures*, September 17, 1997.

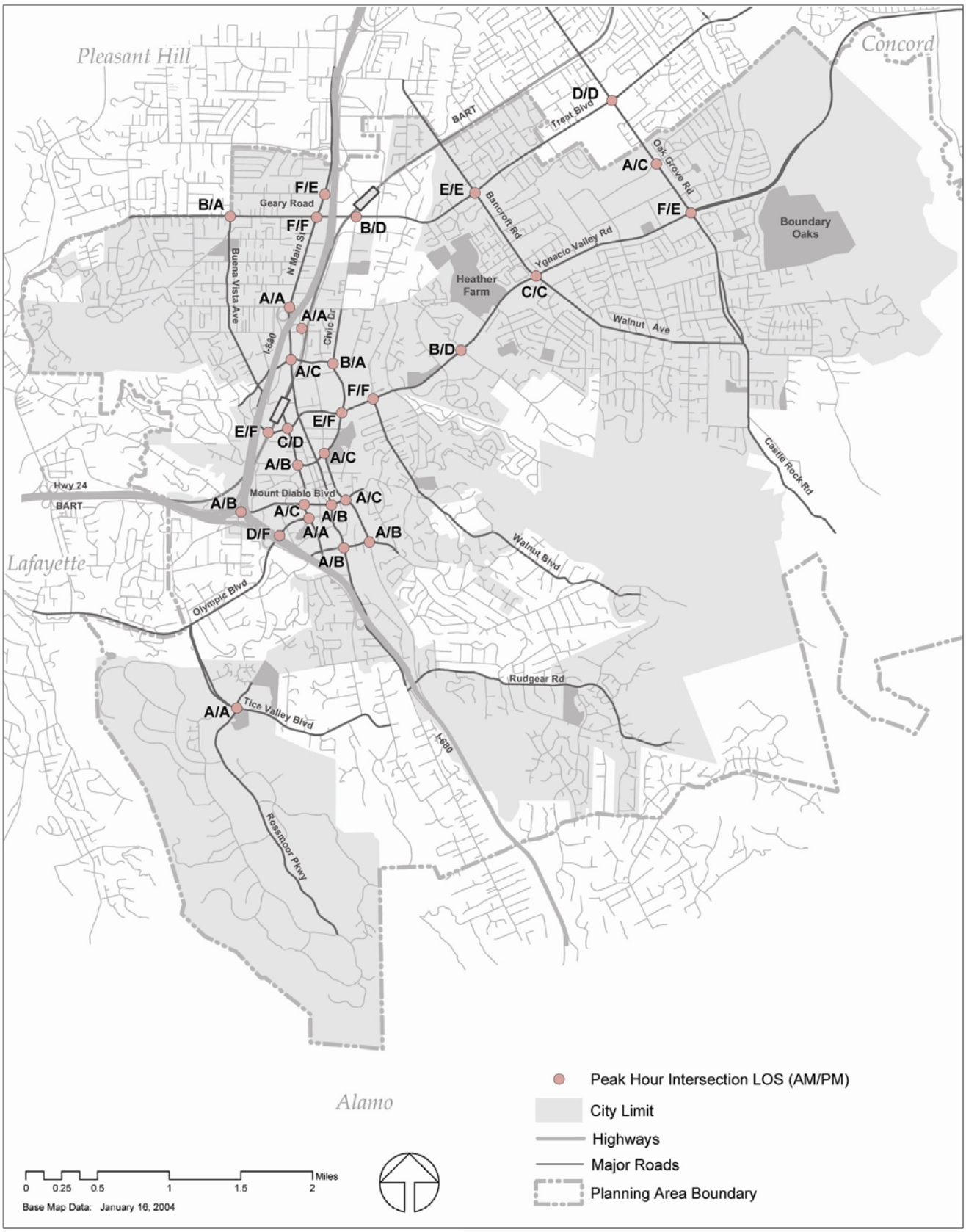

Figure 13. Existing Intersection Level of Service

Table 21

Existing Peak Hour Intersection Levels of Service

Intersection	AM Peak Hour		PM Peak Hour	
	V/C	LOS	V/C	LOS
Bancroft Rd and Treat Blvd	**0.91**	**E**	**0.99**	**E**
Bancroft Rd/Walnut Ave and Ygnacio Valley Rd	0.79	C	0.77	C
Boulevard Way/Camino Pablo and Mt. Diablo Blvd/SR 24 EB off ramp	0.47	A	0.62	B
Broadway and Civic Dr	0.45	A	0.77	C
Broadway and Mt. Diablo Blvd	0.50	A	0.74	C
Broadway and Newell Ave	0.55	A	0.66	B
Buena Vista Ave and Geary Rd/Putnam	0.63	B	0.59	A
California Blvd and Civic Dr/Trinity Ave	0.42	A	0.66	B
California Blvd and Mt. Diablo Blvd	0.46	A	0.71	C
California Blvd and Olympic Blvd	0.48	A	0.57	A
California Blvd and Ygnacio Valley Rd	0.76	C	0.84	D
Civic Dr and Ygnacio Valley Rd	**0.93**	**E**	**1.01**	**F**
Kinross/La Casa Via and Ygnacio Valley Rd	0.68	B	0.88	D
Lawrence Way and Penniman Ln/I-680 On-Ramp	0.33	A	0.57	A
Main St and Mt. Diablo Blvd	0.46	A	0.62	B
Main St and Newell Ave	0.45	A	0.67	B
Main St and Parkside Dr	0.56	A	0.72	C
N. Civic Dr and Parkside Dr	0.66	B	0.43	A
N. Main St and Geary Rd	**1.14**	**F**	**1.11**	**F**
N. Main St and San Luis Ave	0.41	A	0.50	A
N. Main St and Sunnyvale Ave/I-680	**1.03**	**F**	**0.94**	**E**
Oak Grove Rd and Mitchell Dr/Peachwillow Ln	0.57	A	0.76	C
Oak Grove Rd and Treat Blvd	0.86	D	0.86	D
Oak Grove Rd and Ygnacio Valley Rd	**1.13**	**F**	**1.00**	**E**
Oakland Blvd and Ygnacio Valley Rd	**0.99**	**E**	**1.30**	**F**
Olympic Blvd. and NB I-680 On/Off ramps	0.89	D	**1.07**	**F**
Rossmoor Pkwy and Tice Valley Blvd	0.38	A	0.59	A
Walnut Blvd and Ygnacio Valley Rd	0.83	D	**1.01**	**F**

Source: City of Walnut Creek, 2005 turning movement counts, May 9, 2005.

The Walnut Creek BART station is located closest to the Downtown and provides approximately 1,518 parking spaces, 497 of which are reserved monthly spaces. The Pleasant Hill BART station is used by residents of neighborhoods accessed from Geary Road, Treat Boulevard and eastern Ygnacio Valley Road. The parking options at the Pleasant Hill BART station include reserved monthly (fee), daily (free), extended weekend, midday, and carpool parking for a total of 2,806 spaces.

Bus feeder services are provided by County Connection to and from both BART stations. Each station also provides lockers for bicycles, wheelchair or moped storage.

County Connection

Since 1980, County Connection buses, operated by the Central Contra Costa Transit Authority (CCCTA), have served Walnut Creek, Concord, Martinez, Lafayette, Orinda, Clayton, Alamo, and San Ramon. County Connection provides 15 local and express bus routes within Walnut Creek. These routes are shown in Figure 14. Bus routes run primarily on major roadways linking residential neighborhoods of Walnut Creek and adjacent communities with Downtown Walnut Creek and the Walnut Creek and Pleasant Hill BART stations.

Service generally starts at around 6:00 AM and ends around 7:00 PM. Most buses operate at 30-minute frequencies during the peak periods. Table 22 lists the Walnut Creek County Connection routes and summarizes the operating hours, characteristics, and patronage.

County Connection routes serving Walnut Creek have higher patronage levels than routes in other County Connection service areas. While the average County Connection route attracted 566 daily boardings, the average Walnut Creek-serving route attracted 755 weekday boardings. Four of the top five County Connection routes in terms of average daily weekday ridership serve Walnut Creek (top five in descending order are routes 110, 114, 121, 115 and 116). Three of these four are notable for the high levels of "transit dependent" patrons (routes 114 and 116) or students (route 115).[7]

Downtown Shuttle Service

The Downtown shuttle (County Connection Route 104) provides service between the Walnut Creek BART station and Downtown. The route is shown in Figure 14. The shuttle makes total of 23 stops (including the BART station) and primarily travels north on North Main Street and south on California Boulevard and Locust Street. The shuttle is free to riders. The City reimburses County Connection for the fare as well as for enhanced service levels. Average weekday boardings number about 780 passengers. Weekend passenger use is high. Based on the on-board passenger survey conducted in 2000, most of those surveyed were satisfied with the service frequencies and trip times.

Paratransit Services

The Contra Costa County Transit Authority (CCCTA) operates the LINK paratransit service in the central county area. Over the past five years, total ridership on LINK has steadily increased from 112,963 to 135,213 trips per year. In 2000, LINK was expanded to provide early morning, late evening, Saturday and Sunday services to comply with the requirements of the Americans with Disabilities Act (ADA). Trips taken on LINK are primarily medical and work-related, but the largest increase over the past five years has been for school trips. CCCTA has concluded that one of the most important factors limiting their ability to increase the productivity of LINK in the future is the increase in urban sprawl.

Average revenue miles per trip have increased each year. CCCTA also expects that demographic trends in its service area that include an increase in the senior population will place

[7] Calculated from Table I-10, Page 18 in the Central Contra Costa Transit Authority's, *The County Connection Draft Short Range Transit Plan*, December 15, 2003.

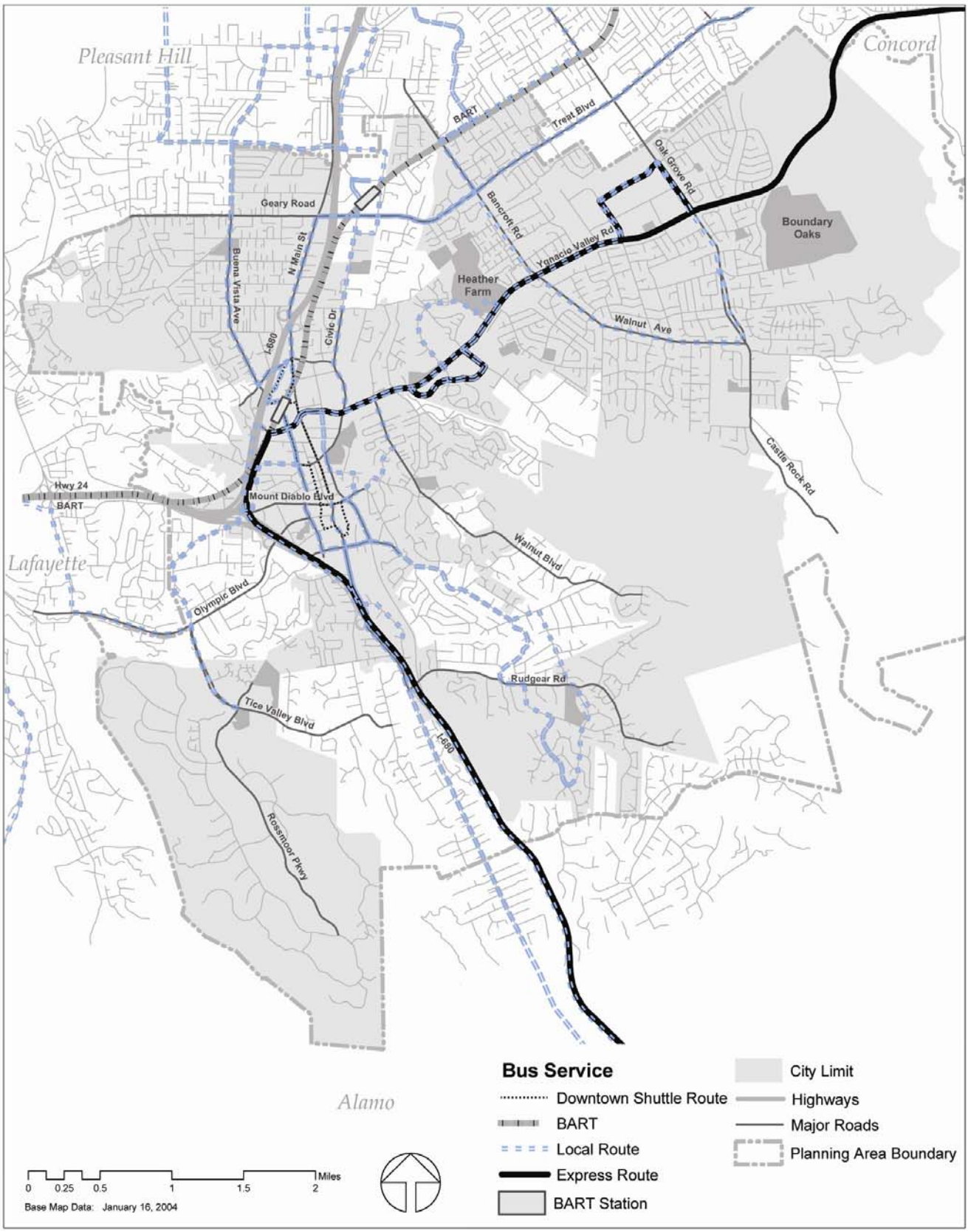

Figure 14. Existing Local Bus Service and BART Station Locations

Table 22

Existing Contra Costa County Connection Bus Service[a]

Route	Description[a]	Weekday Hours of Operation	Peak Period Frequency (Minutes)	Weekend Service	Average Weekday Board-ings[b]
101	Rossmoor, Walnut Creek BART, Ygnacio Valley Road, John Muir Medical Center, Shadelands	6:15 AM – 7:30 PM	20	Sat. Only	715
102	Trotter Way, San Miguel Drive, Kaiser Hospital, BART Walnut Creek, Buena Vista Avenue, Pleasant Hill Rd, Sun Valley Mall, Diablo Valley College	6:15 AM - 7:20 PM (except 8:26 AM – 3:17 PM south of BART Walnut Creek)	30	No	581
104	Free Shuttle BART Walnut Creek, Downtown Walnut Creek	7:30 AM - 7:30 PM	15	Yes	779
105	BART Walnut Creek, S Broadway, Creekside Dr	6:10 AM – 9:06 AM, 2:48 PM - 6:51 PM	30 - 45	No	227
107	Walnut Creek BART, Marchbanks Drive, Ygnacio Valley Road, Walnut Avenue	5:20 AM - 7:30 PM	20 - 25	No	376
109	BART Pleasant Hill, Contra Costa Blvd, Ellinwood Complex, Diablo Valley College	5:45 AM - 7:50 PM	20	Sat. Only	532
111	BART Concord, Oak Grove Rd, BART Pleasant Hill	6:00 AM - 7:20 PM	15 - 30	Sat. Only	660
114	BART Concord, Monument Blvd, BART Pleasant Hill	5:20 AM - 11:20 PM	20	Sat. Only	1,736
115	BART Concord, Treat Blvd, BART Pleasant Hill, BART Walnut Creek	5:30 AM - 8:30 PM (except 5:30 – 6:30 AM from BART Walnut Creek to BART Concord)	15 - 30	Sat. Only	1,090
116	BART Walnut Creek, BART Pleasant Hill, Alhambra Ave, AMTRAK	5:40 AM - 8:50 PM	30	Sat. Only	968
121	BART Walnut Creek, San Ramon Valley, BART Dublin/Pleasanton	5:15 AM - 11:40 PM	30	Yes	1,225
277	Pleasant Hill BART, Bancroft Road,	6:10 AM – 10:20 AM,	30	No	n.a.

Table 22 (Continued)

Existing Contra Costa County Connection Bus Service

Route	Description[a]	Weekday Hours of Operation	Peak Period Frequency (Minutes)	Weekend Service	Average Weekday Board-ings[b]
	Shadelands	3:35 PM - 5:30 PM			
920	Express Bus Service Weekday Service Only Ace Express Bus, Walnut Creek, ACE Train Station Pleasanton	4:45 AM - 8:30 AM 3:35 PM - 7:10 PM	60	No	85
930	Express Bus Service Hillcrest Park N Ride Antioch, Mitchell Dr Park N Ride, BART Walnut Creek	5:30 AM - 8:30 PM (westbound only) 3:00 PM - 7:00 PM (eastbound only)	30 - 120	No	226
960B	Express Bus Service Mitchell Dr Park N Ride, Bollinger Canyon Rd, Bishop Ranch	6:30 AM - 7:20 PM (northbound only) 5:45 AM – 2:23 PM (southbound only)	15 - 30	No	618[c]
960C	Express Bus Service Mitchell Dr Park N Ride, Crow Canyon Rd, Bishop Ranch	6:45 AM - 8:00 AM, 3:15 PM - 6:50 PM	30	No	618[c]

[a] Source: http://www.transitinfo.org/schedules/allroutes.asp?cid=CC&rpg=0 accessed on July 20, 2005. Service is based on Summer 2005 Schedule effective June 18, 2005.
[b] Source: Central Contra Costa Transit Authority, *The County Connection Draft Short Range Transit Plan*, December 15, 2003. Boardings are available for routes that were in the service when the surveys were conducted in FY 2003.
[c] Average Weekday Boardings only given for Routes 960 (A, B, and C combined).

greater demands on LINK service in the future.[8]

BICYCLE CIRCULATION

With its mild climate, relatively level terrain, and proximity of residential, commercial, and business areas, Walnut Creek is particularly suited for bicycling. The City has developed an extensive bikeways network using the California Streets and Highway Code classifications of bikeways:

- **Class 1 Bikeways** (Bike Path or Bike Trail): Separate rights-of-way from the roadways with minimal automobile cross-flows, minimum paved width of 8 feet for two-way path. Class 1 bikeways in Walnut Creek include the Contra Costa Canal Trail, Iron Horse Trail, and Ygnacio Canal Trail.
- **Class 2 Bikeways** (Bike Lane): Restricted rights-of-way for exclusive use of bicycles, normally striped within

[8] Central Contra Costa Transit Authority, *The County Connection Draft Short Range Transit Plan*, December 15, 2003, pages 22 - 24.

the paved areas of roadways, providing a minimum width of 5 feet for one direction. Class 2 bikeways in Walnut Creek include Bancroft Road, Walnut Avenue, and Oak Grove Road.

- **Class 3 Bikeways** (Bike Routes): On-street routes designated by signs or other markings. Existing Class 3 bikeways include major arterials such as Ygnacio Valley from Oakland Boulevard to Walnut Avenue as well as residential streets such as Wiget Lane, Cedro Lane, and Naranja Drive.

Figure 15 shows the existing and proposed bicycle facilities in Walnut Creek and the connections to other bicycle facilities in the surrounding area.

The Contra Costa County Countywide Bicycle Plan, which addresses existing and proposed bicycle facilities throughout the county, focusing on regional facilities, was adopted by CCTA in December 2003.

PEDESTRIAN CIRCULATION

The pedestrian circulation system includes a range of facilities ranging from Downtown sidewalks to unpaved shoulders along residential streets to separated, paved trails. Pedestrian facilities are particularly important in areas surrounding schools and accessing transit stops and stations as well as in the downtown commercial area.

The City generally requires that sidewalks be installed at the time of development. However, the burden to install as well as maintain sidewalks in most cases rests with the property owner.

There are three types of pedestrian facilities in Walnut Creek:

- Sidewalks in urban and suburban areas,
- Walkways in rural and semi-rural areas, and
- Hiking and walking paths, such as the Contra Costa Canal, Ygnacio Canal, and Iron Horse Trails.

The difference between walkways and sidewalks is primarily in their physical design. In efforts to preserve the rural character of some neighborhoods, the City developed the "walkway" concept, which entails separation of walking areas from vehicular lanes using an asphalt berm or a roadside swale instead of the standard curb, gutters, and concrete sidewalks.

The City has provided a pedestrian overcrossing for the Iron Horse Trail where it crosses Ygnacio Valley Road. As of 2005, the County is also designing a similar bridge overcrossing for the trail where in crosses Treat Boulevard near the Pleasant Hill BART station.

The City recently received a Safe Routes to School grant for a pedestrian walkway on Walnut Boulevard between Ygnacio Valley Road and Sierra Lane and a Pedestrian Safety Program grant for improvements on Buena Vista Avenue between Parkside and San Luis Road.

STANDARDS OF SIGNIFICANCE

The Walnut Creek General Plan 2025 would create a significant transportation impact if it would:

- Result in roadway or intersection levels of service that do not meet the city Level of Service standards, (as listed in Table 18, above)
- Conflict with traffic service objectives in the Central County Action Plan for Routes of Regional Significance, specifically:

  Result in a Delay Index on Routes of Regional Significance that exceeds 2.0.

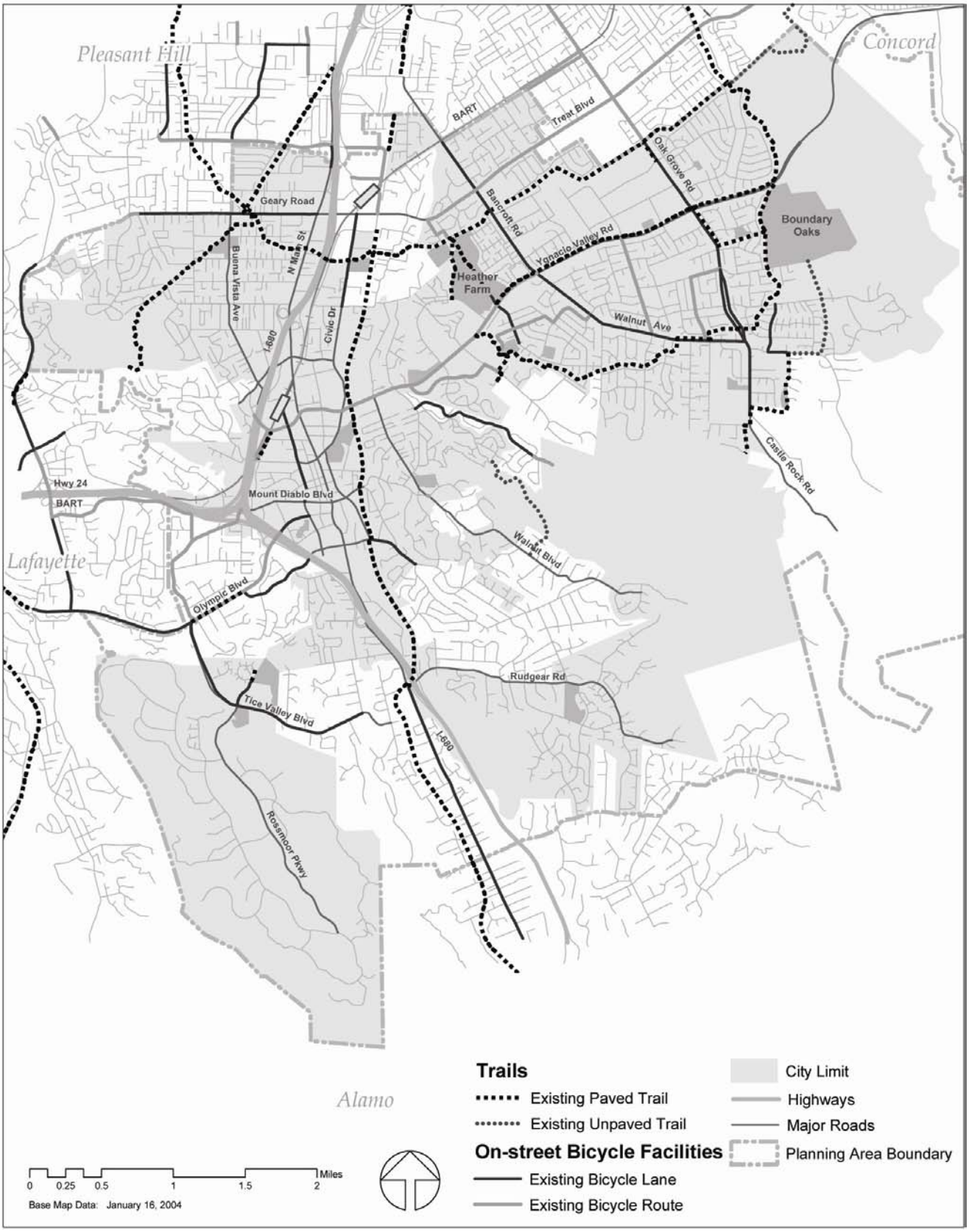

Figure 15. Existing Bicycle Facilities

Result in peak hour average speeds of 30 mph or less on freeway segments within the City limits.

- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)

IMPACT DISCUSSION

This section describes the approach and methodology used in the analysis of the transportation impacts of General Plan 2025, and presents the results of the impact analyses. Most of this discussion focuses on the approach and results of the traffic forecasts from the travel demand model.

The impact analysis covered four land use alternatives. The alternatives analyzed in this section (Growth Management I and II Alternatives) correspond to the project alternatives described in Chapter 5 as Growth Management I and Growth Management II.

General Plan 2025 below is described as the proposed project in the chapters of this EIR.

- 1989 General Plan Buildout (No Project)
- General Plan 2025 (Proposed Project): Maximum with full buildout of commercial and midpoint buildout of residential areas.
- Growth Management I Alternative: Includes 125,000 square feet annual cap on commercial and midpoint buildout of residential.
- Growth Management II Alternative: Includes 75,000 square feet annual cap on commercial and midpoint for residential.

The impact analysis also includes a discussion of the transportation policies.

APPROACH AND METHODOLOGY

The impacts of General Plan 2025 were assessed both quantitatively and qualitatively. For the quantitative assessment, the traffic volumes forecasts from the Contra Costa Transportation Authority (CCTA) Decennial Model were refined for Walnut Creek. The update included refinements to the existing land use database as well as modifications to the roadway network to provide better model validation for Walnut Creek.

City staff provided household and employment data by traffic analysis zone (TAZ) for the analysis. For the commercial development, City staff converted the square footages to employment by category, including service, retail, and other by TAZ for the change areas. Table 23 provides a summary of the land use assumptions for each alternative. The four alternative land use scenarios served as inputs to the travel demand model.

Based on the model forecasts, the total daily trips for Walnut Creek are shown in Table 23. These trips represent all trips that have either an origin and/or destination in the city. The total trips include auto, transit, bicycle and walk trips. General Plan 2025 has the highest percent increase in trips (36 percent auto and 29 percent transit). For the Growth Management I Alternative, the increase in total daily auto trips is 18 percent, while the increase in total transit trips increase is 10 percent. The percentages are similar for the Growth Management II Alternative.

The roadway level of service was based on the Florida DOT manual, which applies the Highway Capacity Manual methods at the planning level. The intersection levels of service were calculated using the CCTALOS method. These methodologies are described above under the Setting discussion.

Table 23

Land Use Alternatives Assumptions and Daily Trips

Land Use Alternative	Total Households	Total Employment	Total Daily Auto Trips	Total Daily Transit Trips
Existing (2000)	37,429	58,764	618,623	18,722
1989 General Plan Buildout (2025)	43,262	81,372	795,266	22,499
General Plan 2025	45,295	85,167	843,615	24,133
Growth Management I Alternative	45,295	71,559	727,413	20,660
Growth Management II Alternative	45,295	65,682	714,643	20,713

Source: Dowling Associates, Inc., 2005.

FREEWAY OPERATIONS

The impacts of the General Plan Update on freeway operations were assessed using the 2000 Highway Capacity Manual Freeway Operations methodology as well as comparing the congested travel speeds forecast by the model.

The 2000 Highway Capacity Manual Freeway Operations methodology compares the volumes to capacity and assigns a level of service based on the volume-to-capacity ratio (V/C). The forecasts from the model were adjusted by applying the growth between the forecast year and base year model volumes to the existing count. The analysis assumes an ideal capacity of 2,400 vehicles per lane, which is adjusted for trucks, commuters, and peak hour factor. The level of service at four freeway locations during the AM and PM peak hour are summarized in Table 24 by direction of travel.

The volumes shown in Table 24 represent the growth in peak hour volumes over the existing conditions. The overall growth at these locations represents a 13 percent increase during the AM peak hour and a 27 percent increase during the PM peak hour.

In the future, volumes along this segment of I-680 through Walnut Creek will exceed capacity during one or both peak hours time periods in at least one direction. The worst location is I-680 south of Rudgear Road, particularly in the northbound direction during the AM peak hour and southbound direction during the PM peak hour. SR 24 west of I-680 approaches capacity in the westbound direction during the AM peak hour.

Among the General Plan alternatives, there is little difference in the LOS, except for I-680 north of Ygnacio Valley Road in the southbound direction during the AM peak hour. At this location, under General Plan 2025 the LOS is D, but the volumes are just beyond the threshold for LOS C. Otherwise, future growth in volumes along the freeway do not differ significantly among the land use alternatives. This can be attributed to the fact that the land uses growth in Walnut Creek has little effect on the regional freeways through the City. The difference in the growth at these freeway locations generally represents two to

Table 24

Freeway Operations

Freeway Location	Direction	Existing		1989 General Plan (2025)			General Plan 2025			Growth Management I Alternative			Growth Management II Alternative		
		v/c	LOS	Growth	v/c	LOS	Growth	v/c	LOS	Growth	v/c	LOS	Growth	v/c	LOS
AM Peak Hour															
I-680 at Treat Boulevard	NB	0.70	C	1,940	0.88	D	1,960	0.88	D	1,960	0.88	D	1,940	0.88	D
	SB	0.89	D	2,610	0.95	E	2,740	0.96	E	1,980	0.93	E	2,300	0.92	E
I-680 north of Ygnacio Valley Road	NB	0.87	D	1,800	**1.02**	**F**	1,750	**1.02**	**F**	1,800	**1.03**	**F**	1,760	**1.02**	**F**
	SB	0.63	C	1,220	0.74	C	1,320	0.75	D	1,440	0.73	C	1,190	0.74	C
I-680 south of Rudgear Road	NB	0.88	D	5,210	**1.48**	**F**	5,220	**1.48**	**F**	5,070	**1.47**	**F**	5,030	**1.46**	**F**
	SB	0.88	D	2,020	**1.11**	**F**	2,040	**1.11**	**F**	2,060	**1.12**	**F**	2,140	**1.13**	**F**
SR 24 west of I-680	EB	0.46	B	2,130	0.62	C	2,190	0.63	C	1,860	0.60	C	1,770	0.59	C
	WB	0.88	D	1,380	0.98	E	1,430	0.99	E	1,580	0.99	E	1,530	1.00	E
PM Peak Hour															
I-680 at Treat Boulevard	NB	0.98	E	1,970	**1.16**	**F**	2,120	**1.18**	**F**	1,840	**1.14**	**F**	1,790	**1.14**	**F**
	SB	0.73	C	2,290	0.79	D	2,380	0.80	D	2,250	0.78	D	2,220	0.78	D
I-680 north of Ygnacio	NB	0.81	D	1,660	0.96	E	1,760	0.96	E	1,610	0.95	E	1,550	0.95	E

Table 24 (Continued)

Freeway Operations

		Existing		1989 General Plan (2025)			General Plan 2025			Growth Management I Alternative			Growth Management II Alternative		
Valley Road	SB	0.79	D	1,640	0.93	E	1,620	0.93	E	1,660	0.93	E	1,660	0.93	E
I-680 south of Rudgear Road	NB	0.93	E	2,180	**1.18**	**F**	2,170	**1.18**	**F**	2,290	**1.19**	**F**	2,260	**1.19**	**F**
	SB	0.93	E	4,670	**1.47**	**F**	4,690	**1.47**	**F**	4,510	**1.45**	**F**	4,550	**1.45**	**F**
SR 24 west of I-680	EB	0.53	B	1,490	0.64	C	1,550	0.65	C	1,630	0.65	C	1,680	0.66	C
	WB	0.72	C	1,640	0.85	D	1,700	0.85	D	1,480	0.84	D	1,400	0.83	D

Note: The growth represents the increase in peak hour traffic from existing conditions to Year 2025 conditions. This growth includes both the Walnut Creek growth as well as growth from the surrounding region.

Source: Dowling Associates, Inc., 2005.

three percent of the existing traffic volumes. Most of the freeway traffic can be attributed to existing development and growth outside of Walnut Creek.

As the freeway reaches capacity, the predicted speeds from the model are unstable and extremely sensitive to the volumes, particularly where the forecast volumes far exceeds capacity. This is the case for I-680 south of Rudgear Road, where the number of lanes is reduced to three with an additional HOV lane. For the General Plan 2025 Buildout Alternative, the peak hour speeds from the model forecasts for these segments are shown in Table 25.

Table 25

Freeway Speeds

Freeway Location	Direction	General Plan 2025
AM Peak Hour		
I-680 at Treat Boulevard	NB SB	29 18
I-680 north of Ygnacio Valley Road	NB SB	45 26
I-680 south of Rudgear Road	NB SB	7 7
SR 24 west of I-680	EB WB	53 33
PM Peak Hour		
I-680 at Treat Boulevard	NB SB	13 30
I-680 north of Ygnacio Valley Road	NB SB	25 36
I-680 south of Rudgear Road	NB SB	6 7
SR 24 west of I-680	EB WB	38 43

Source: Dowling Associates, Inc., 2005.

The freeway speeds on I-680 are all below 30 mph during the peak hours in the peak direction. On I-680, speeds are slower in the southbound direction during the AM peak hour and northbound during the PM peak hour.

LOCAL ROADWAY OPERATIONS

The roadway impacts were assessed in terms of levels of service for the major roadways as well as delay index for the Routes of Regional Significance.

Roadway Level of Service

The traffic volume forecasts for the major roadways in the city and the resulting levels of service are presented in Table 26. The daily traffic volumes are based on forecasts from the Walnut Creek model, which have been adjusted based on the existing counts of daily traffic. These volumes include regional growth as well as Walnut Creek growth. The growth increment from the model between 2000 and 2025 was applied to the existing count. The generalized look-up tables from the Florida DOT *Quality/Level of Service Manual* were used for this analysis.

In addition to the regional corridors that were identified as congested corridors under existing conditions, several local arterials would also become congested by the year 2025. Those arterial segments that would operate at LOS F based on ***daily*** volumes are:

Regional Routes

- Ygnacio Valley Road (all three analysis segments)
- Treat Boulevard at Bancroft (two segments)
- North Main Street north of Geary
- Geary west of Main

Table 26

Roadway Daily Volumes and LOS Summary

Location	Existing		1989 General Plan (2025)		General Plan 2025		Growth Management I Alternative		Growth Management II Alternative	
Regional Arterials										
Ygnacio Valley Road Btw Oakland Blvd. & California	53,200	**F**	56,100	**F**	58,500	**F**	51,000	**F**	51,800	**F**
Ygnacio Valley Road Btw Homestead & Marchbanks/ Tampico	75,800	**F**	90,400	**F**	94,600	**F**	89,400	**F**	86,600	**F**
Ygnacio Valley Road Btw JMMC & San Carlos Dr.	61,600	**F**	77,500	**F**	81,700	**F**	74,900	**F**	72,200	**F**
Treat Blvd. Btw Bancroft & Candelero	55,900	**F**	66,400	**F**	67,200	**F**	66,600	**F**	65,800	**F**
Treat Blvd. Btw Carriage & Bancroft	45,400	D	57,000	**F**	57,600	**F**	56,500	**F**	55,900	**F**
N. Main Street North of Geary	39,100	**F**	40,600	**F**	40,200	**F**	39,700	**F**	39,800	**F**
N. Main Street Btw Geary & San Luis	23,100	C	29,600	D	30,600	D	32,400	D	32,300	D
Geary West of Main	19,900	**F**	21,200	**F**	21,300	**F**	20,900	**F**	21,000	**F**
Arterials										
Bancroft South of Treat	29,400	D	35,700	**F**	36,100	**F**	34,600	**F**	34,000	E
Broadway Btw Ygnacio Valley Rd. and Civic	12,400	D	27,500	E	28,800	E	23,500	D	24,200	D
California Btw Trinity/Civic & Bonanza	22,400	D	34,900	**F**	37,100	**F**	34,100	**F**	33,200	**F**

Table 26 (Continued)

Roadway Daily Volumes and LOS Summary

Location	Existing		1989 General Plan (2025)		General Plan 2025		Growth Management I Alternative		Growth Management II Alternative	
Civic Drive Btw Ygnacio & Broadway	27,600	E	46,600	**F**	48,700	**F**	45,200	**F**	43,400	**F**
Civic Drive Btw Parkside & Walden	16,500	C	28,300	D	28,700	D	24,400	C	25,200	D
Lawrence Way South of Penniman NB ONLY	20,900	D	21,000	D	21,700	D	18,700	D	18,700	D
Mount Diablo Btw Bonanza & California	23,900	D	30,300	E	33,100	**F**	27,400	D	27,400	D
Main Street South of Ygnacio Vallley	14,600	D	24,300	D	26,100	D	21,100	D	21,700	D
Newell Ave. Btw California & S. Main Street	19,400	D	21,500	D	22,100	D	20,800	D	20,900	D
Oak Grove Rd. Btw Citrus & Ygnacio	22,200	C	26,700	D	29,100	D	28,100	D	26,400	D
Olympic West of SB I-680 ramps	20,200	C	25,000	C	25,800	C	22,700	C	22,700	C
Olympic Btw Alpine & California	26,900	D	29,100	E	30,800	E	25,300	D	25,400	D
Parkside Dr. Btw Broadway & Civic	13,500	C	14,100	C	14,000	C	13,200	C	12,400	C
Rudgear Rd. East of Broadway	11,600	C	15,600	D	15,800	D	15,500	D	15,800	D
S. Broadway North of Newell	19,300	D	39,200	**F**	40,100	**F**	38,000	**F**	37,400	**F**
S. Broadway North of Rudgear	17,000	D	34,600	**F**	35,500	**F**	33,300	**F**	32,900	**F**
S. Main Street South of Mount Diablo	13,800	D	23,400	D	24,600	D	22,200	D	21,200	D
S. Main St. North of Lilac Dr.	18,100	C	26,100	D	27,000	D	24,800	C	24,900	C

Table 26 (Continued)

Roadway Daily Volumes and LOS Summary

Location	Existing		1989 General Plan (2025)		General Plan 2025		Growth Management I Alternative		Growth Management II Alternative	
Tice Valley Road South of Rolling Hills Drive	18,200	C	23,300	C	23,900	C	21,200	C	21,500	C
Collectors										
Boulevard Way South of Mt. Diablo	6,400	C	8,300	C	8,500	C	8,000	C	8,000	C
Buena Vista Btw 3rd St. & Geary	6,700	C	12,700	D	12,900	D	12,400	D	12,100	D
Mt. Diablo Btw Mt. Pisgah and San Miguel	11,900	D	14,600	D	14,500	D	14,400	D	13,800	D
Walnut Blvd. South of Ygnacio	8,100	C	11,900	D	11,900	D	11,400	C	10,300	C

Source: Dowling Associates, Inc., 2005.

Arterials

- Bancroft south of Treat (except Growth Management II Alternative)
- California between Trinity/Civic and Bonanza
- Civic Drive between Ygnacio Valley and Broadway
- Mount Diablo Boulevard between Bonanza and California (General Plan 2025 only)
- South Broadway north of Newell
- South Broadway north of Rudgear

At these 13 locations, the future traffic demand is forecast to exceed the available daily roadway capacity. The effect of the congestion is increased traffic vehicle queues and delays that are better reflected in the peak hour intersection analysis that follows.

When compared to existing conditions, the projected 2025 daily traffic volumes on these major roadways are generally about 20 to 30 percent higher, which is generally consistent with the land use growth within the City. On the Regional Arterials the growth is lower at between 13 and 21 percent, while on the arterials the growth is higher at between 33 and 49 percent.

In terms of LOS, when compared to existing conditions, the future growth in traffic would result in LOS conditions at the following locations that are not already at LOS F under existing conditions:

- Treat between Carriage and Bancroft
- Bancroft south of Treat
- California between Trinity/Civic and Bonanza
- Civic between Ygnacio Valley and Broadway
- Mount Diablo between Bonanza and California (General Plan 2025 only)
- S. Broadway north of Newell
- S. Broadway north of Rudgear

Treat Boulevard is a Route of Regional Significance, where the LOS standard does not apply, but the traffic service objective is based on speeds and delay index. The remaining locations are within the downtown Core Area, where the LOS E intersection standard applies.

All these roadways, except for Treat Boulevard and Mount Diablo Boulevard, are north-south arterials that provide parallel routes to I-680, which would be at or approaching capacity in the future. In particular, the future volumes on South Broadway are double that of existing volumes.

From a select link analysis of Broadway south of Civic, the number of through trips more than doubles during the AM and PM peak hours under the future conditions, while the trips that either start or end in the city only increases by 20 to 25 percent. During the AM peak hour, the through trips represent as much as 50 percent of the future traffic in 2025, which can be attributed to the regional traffic congestion on I-680 through this corridor.

Among the alternatives, the LOS F condition does not change, except at two locations:

- Bancroft south of Treat
- Mount Diablo Boulevard between Bonanza and California

Under Growth Management II Alternative, the daily volume at Bancroft south of Treat is lower than the other alternatives, such that the LOS is E rather than F. At Mount Diablo Boulevard between Bonanza and California, under General Plan 2025 the daily volumes are higher resulting in LOS F.

Delay Index

For the Routes of Regional Significance, the delay index was calculated using congested and uncongested travel times from the model. These times were calculated using congested speeds during the morning and evening peak period and the speeds during the midday period. The model results were adjusted based

Table 27

Delay Index

Roadway	Direction	Existing	1989 General Plan (2025)	General Plan 2025	Growth Management I Alternative	Growth Management II Alternative
Ygnacio Valley Road	EB	1.21	1.78	1.92	1.89	1.71
	WB	1.60	**2.36**	**2.55**	**2.27**	**2.38**
Treat Boulevard	EB	1.83	**2.31**	**2.38**	**2.20**	**2.26**
	WB	1.93	**2.14**	**2.13**	**2.17**	**2.03**
Geary Road	EB	1.64	1.64	1.64	1.64	1.64
	WB	1.51	1.50	1.50	1.50	1.50
North Main Street	NB	1.51	1.73	1.83	1.63	1.60
	SB	1.67	1.60	1.64	1.57	1.70

Source: Dowling Associates, Inc., 2005.

on the existing travel times. The results are shown in Table 27.

On Ygnacio Valley Road in the westbound direction during the AM peak hour, the delay index is expected to increase to more than 2.0 by 2025. This delay may be attributed to the increased delays east of Oak Grove experienced by regional traffic from growth to the east as westbound vehicles are metered by the signal at this location. The delay index is highest for General Plan 2025.

Treat Boulevard would also experience a delay index of more than 2.0 westbound during the AM peak hour and eastbound during the PM peak hour.

The model forecasts did not show any real difference between existing conditions and any of the future conditions for Geary Road. For North Main Street, the delay index increased in the northbound direction, particularly during the PM peak hour, while in the southbound direction, the peak fluctuated slightly among the alternatives for the AM peak hour.

INTERSECTION LEVEL OF SERVICE

The AM and PM peak hour intersection levels of service were calculated and the results are summarized in Tables 28 and 29. Several intersections would operate below the City standard in the future. Those intersections that currently operate below City standard and/or would continue to operate at LOS F in the future include the following:

Table 28

AM Peak Hour Intersection LOS Summary

Intersection	Existing		1989 General Plan (2025)		General Plan 2025		Growth Management I Alternative		Growth Management II Alternative	
	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS
Bancroft Rd and Treat Blvd*	0.91	E	**1.02**	**F**	**1.04**	**F**	**1.01**	**F**	**0.99**	**E**
Bancroft Rd/Walnut Ave and Ygnacio Valley Rd*	0.79	C	0.84	D	0.86	D	0.84	D	0.83	D
Boulevard Way/Camino Pablo and Mt. Diablo Blvd/SR 24 EB off ramp	0.47	A	0.61	B	0.63	B	0.56	A	0.54	A
Broadway and Civic Dr	0.45	A	0.86	D	0.86	D	0.82	D	0.82	D
Broadway and Mt. Diablo Blvd	0.50	A	0.84	D	0.87	D	0.81	D	0.79	C
Broadway and Newell Ave	0.55	A	0.68	B	0.69	B	0.68	B	0.66	B
Buena Vista Ave and Geary Rd/Putnam*	0.63	B	0.82	D	0.82	D	0.85	D	0.80	C
California Blvd and Civic Dr/Trinity Ave	0.42	A	0.63	B	0.66	B	0.62	B	0.62	B
California Blvd and Mt. Diablo Blvd	0.46	A	0.72	C	0.74	C	0.72	C	0.70	B
California Blvd and Olympic Blvd	0.48	A	0.54	A	0.57	A	0.51	A	0.48	A
California Blvd and Ygnacio Valley Rd*	0.76	C	**1.05**	**F**	**1.09**	**F**	0.92	E	0.93	E
Civic Dr and Ygnacio Valley Rd*	0.93	E	**0.97**	**E**	**0.99**	**E**	0.93	E	**0.97**	**E**
Kinross/La Casa Via and Ygnacio Valley Rd*	0.68	B	0.72	C	0.75	C	0.71	C	0.71	C
Lawrence Way and Penniman Ln/ I-680 On-Ramp	0.33	A	0.22	A	0.23	A	0.21	A	0.22	A
Main St and Mt. Diablo Blvd	0.46	A	0.78	C	0.81	D	0.78	C	0.76	C

Table 28 (Continued)

AM Peak Hour Intersection LOS Summary

Intersection	Existing		1989 General Plan (2025)		General Plan 2025		Growth Management I Alternative		Growth Management II Alternative	
	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS
Main St and Newell Ave	0.45	A	0.67	B	0.69	B	0.66	B	0.67	B
Main St and Parkside Dr	0.56	A	0.81	D	0.82	D	0.80	C	0.79	C
N. Civic Dr and Parkside Dr	0.66	B	0.79	C	0.79	C	0.75	C	0.74	C
N. Main St and Geary Rd*	**1.14**	**F**	**1.02**	**F**	**1.03**	**F**	0.89	D	**0.99**	**E**
N. Main St and San Luis Ave	0.41	A	0.45	A	0.43	A	0.64	B	0.50	A
N. Main St and Sunnyvale Ave/I-680*	**1.03**	**F**	**1.09**	**F**	**0.94**	**E**	0.82	D	**1.13**	**F**
Oak Grove Rd and Mitchell Dr/Peachwillow Ln	0.57	A	0.57	A	0.66	B	0.62	B	0.55	A
Oak Grove Rd and Treat Blvd*	0.86	D	**1.00**	**E**	**1.06**	**F**	**1.05**	**F**	**0.98**	**E**
Oak Grove Rd and Ygnacio Valley Rd*	**1.13**	**F**	**1.31**	**F**	**1.34**	**F**	**1.34**	**F**	**1.32**	**F**
Oak Road and Treat Blvd*	0.70	B	0.88	D	**0.96**	**E**	0.80	C	0.89	D
Oakland Blvd and Ygnacio Valley Rd	**0.99**	**E**	0.89	D	**0.96**	**E**	0.86	D	0.93	E
Olympic Blvd. and NB I-680 On/Off ramps	0.89	D	**1.52**	**F**	**1.36**	**F**	**1.29**	**F**	**1.28**	**F**
Rossmoor Pkwy and Tice Valley Blvd	0.38	A	0.42	A	0.42	A	0.42	A	0.42	A
Walnut Blvd and Ygnacio Valley Rd*	0.83	D	**1.00**	**E**	**1.02**	**F**	0.92	E	**0.98**	**E**

* Route of Regional Significance

Source: Dowling Associates, Inc., 2005

Table 29

PM Peak Hour Intersection LOS Summary

Intersection	Existing		1989 General Plan (2025)		General Plan 2025		Growth Management I Alternative		Growth Management II Alternative	
	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS
Bancroft Rd and Treat Blvd*	**0.99**	**E**	**1.20**	**F**	**1.24**	**F**	**1.18**	**F**	**1.16**	**F**
Bancroft Rd/Walnut Ave and Ygnacio Valley Rd*	0.77	C	0.84	D	0.85	D	0.86	D	0.83	D
Boulevard Way/Camino Pablo and Mt. Diablo Blvd/SR 24 EB off ramp	0.62	B	0.75	C	0.76	C	0.77	C	0.80	C
Broadway and Civic Dr	0.77	C	**1.13**	**F**	**1.16**	**F**	**1.07**	**F**	**1.05**	**F**
Broadway and Mt. Diablo Blvd	0.74	C	**0.95**	**E**	**0.95**	**E**	0.9	D	0.90	D
Broadway and Newell Ave	0.66	B	0.77	C	0.77	C	0.76	C	0.76	C
Buena Vista Ave and Geary Rd/Putnam*	0.59	A	**0.91**	**E**	**0.93**	**E**	0.89	D	0.88	D
California Blvd and Civic Dr/Trinity Ave	0.66	B	**0.99**	**E**	**1.04**	**F**	0.93	E	0.91	E
California Blvd and Mt. Diablo Blvd	0.71	C	**1.07**	**F**	**1.13**	**F**	**0.99**	**E**	**0.99**	**E**
California Blvd and Olympic Blvd	0.57	A	0.83	D	0.88	D	0.7	B	0.68	B
California Blvd and Ygnacio Valley Rd*	0.84	D	**1.14**	**F**	**1.18**	**F**	**1.09**	**F**	**1.07**	**F**
Civic Dr and Ygnacio Valley Rd*	**1.01**	**F**	**1.10**	**F**	**1.10**	**F**	**1.07**	**F**	**1.06**	**F**
Kinross/La Casa Via and Ygnacio Valley Rd*	0.88	D	**0.98**	**E**	**0.98**	**E**	**0.96**	**E**	**0.95**	**E**
Lawrence Way and Penniman Ln/I-680 On-Ramp	0.57	A	0.61	B	0.63	B	0.62	B	0.61	B
Main St and Mt. Diablo Blvd	0.62	B	**1.02**	**F**	**1.09**	**F**	**0.95**	**E**	0.93	E

Table 29 (Continued)
PM Peak Hour Intersection LOS Summary

Intersection	Existing		1989 General Plan (2025)		General Plan 2025		Growth Management I Alternative		Growth Management II Alternative	
	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS
Main St and Newell Ave	0.67	B	0.84	D	0.84	D	0.84	D	0.84	D
Main St and Parkside Dr	0.72	C	0.94	E	0.92	E	0.86	D	0.93	E
N. Civic Dr and Parkside Dr	0.43	A	0.59	A	0.60	A	0.56	A	0.56	A
N. Main St and Geary Rd*	**1.11**	**F**	**1.03**	**F**	**1.03**	**F**	**1.01**	**F**	**1.00**	**E**
N. Main St and San Luis Ave	0.50	A	0.57	A	0.58	A	0.57	A	0.57	A
N. Main St and Sunnyvale Ave/I-680*	**0.94**	**E**	0.83	D	0.82	D	0.81	D	0.81	D
Oak Grove Rd and Mitchell Dr/Peachwillow Ln	0.76	C	**0.92**	**E**	**1.07**	**F**	**1.05**	**F**	**0.92**	**E**
Oak Grove Rd and Treat Blvd*	0.86	D	**1.00**	**E**	**1.10**	**F**	**1.06**	**F**	**1.02**	**F**
Oak Grove Rd and Ygnacio Valley Rd*	**1.00**	**E**	**1.30**	**F**	**1.34**	**F**	**1.31**	**F**	**1.27**	**F**
Oak Road and Treat Blvd*	0.81	D	**0.94**	**E**	**0.97**	**E**	**0.92**	**E**	0.90	D
Oakland Blvd and Ygnacio Valley Rd*	**1.30**	**F**	**1.47**	**F**	**1.56**	**F**	**1.42**	**F**	**1.41**	**F**
Olympic Blvd. and NB I-680 On/Off ramps	**1.07**	**F**	**1.40**	**F**	**1.49**	**F**	**1.41**	**F**	**1.37**	**F**
Rossmoor Pkwy and Tice Valley Blvd	0.59	A	0.72	C	0.71	C	0.07	B	0.71	C
Walnut Blvd and Ygnacio Valley Rd*	**1.01**	**F**	**1.10**	**F**	**1.12**	**F**	**1.12**	**F**	**1.05**	**F**

* Route of Regional Significance
Source: Dowling Associates, Inc., 2005.

- Bancroft Rd and Treat Blvd (PM)
- Civic Dr and Ygnacio Valley Road (PM)
- N. Main St and Geary Rd (AM – except Growth Management I Alternative - and PM)
- N. Main St and Sunnyvale Ave/I-680 (AM - except Growth Management I Alternative)
- Oak Grove and Ygnacio Valley Rd (AM and PM)
- Oakland Blvd and Ygnacio Valley Rd (PM)
- Olympic Blvd and NB I-680 On/Off ramps (PM)
- Walnut Blvd and Ygnacio Valley Rd (PM)

Except Olympic Blvd and NB I-680 ramps, all of these locations are along Routes of Regional Significance, where the Action Plan traffic service objective would apply rather than the LOS standard. At Olympic and NB I-680 ramps, the critical movements are the northbound right-turn, eastbound left-turn, and westbound right-turn.

Along North Main Street, the intersections operations can improve slightly in the future due to the additional southbound HOV lane on the freeway that is assumed in the future.

In addition to these intersections, the following intersections would drop below the City standard and/or would operate at LOS F in the future:

- Bancroft/Walnut Ave and Ygnacio Valley Rd (AM)
- **Broadway and Civic Dr (PM)**
- **Broadway and Mt Diablo Blvd (PM – 89 General Plan Buildout and General Plan 2025)**
- Buena Vista Ave and Geary Rd/Putnam (PM – 89 General Plan Buildout and General Plan 2025)
- **California and Civic/Trinity (PM – 89 General Plan and General Plan 2025)**
- **California and Mt Diablo Blvd (PM)**
- California and Ygnacio Valley Rd (AM and PM – 89 General Plan and General Plan 2025)
- Civic Drive and Ygnacio Valley Rd (AM – except Growth Management I Alternative)
- Kinross/La Casa Via and Ygnacio Valley Rd (PM)
- **Main St and Mt Diablo Blvd (PM – except Growth Management II Alternative)**
- **Oak Grove Rd and Mitchell Dr/Peachwillow Ln (PM)**
- Oak Grove Rd and Treat Blvd (AM and PM)
- Oak Rd and Treat Blvd (AM – General Plan 2025 only - and PM – except Growth Management II Alternative)
- Oakland Blvd and Ygnacio Valley Rd (AM – General Plan 2025 only)
- **Olympic Blvd and NB I-680 On/Off ramps (AM)**
- Walnut Blvd and Ygnacio Valley Rd (AM – except Growth Management I Alternative)

Those intersections not located on Routes of Regional Significance, shown in **bold**, would not meet the City LOS standard and would be considered significant under General Plan 2025 conditions.

TRANSIT

The travel demand model was used to forecast transit trips for each of the General Plan alternatives. The model divides the daily transit trips into walk access and auto access trips as shown in Table 30. The auto access trips represent park-and-ride trips to the BART stations for all trips with origins or destinations in Walnut Creek.

Table 30

Daily Transit Trips

Alternative	Walk Access	Auto Access	Total
Existing (2000)	10,000	8,700	18,700
89 General Plan (2025)	9,300	13,200	22,500
General Plan 2025	10,300	13,800	24,100
Growth Management I Alternative	8,700	12,000	20,700
Growth Management II Alternative	8,600	12,100	20,700

The daily transit trips would increase by 5,400 daily trips (or 22 percent) under the General Plan 2025. The decrease in walk access transit trips under Growth Management II Alternative when compared to the Growth Management I Alternative can be attributed decreases in employment at locations that are served by transit, in particular in downtown and Shadelands.

General Plan 2025 policies that have the potential to increase transit ridership and service to employment, schools, shopping, and recreation are as follows:

- Chapter 5 Policy 7.1. Encourage coordination among transit agencies in facilitating connections and transfers while minimizing delay and inconvenience.
- Chapter 5 Policy 7.2. Encourage improvements to transit systems that connect Walnut Creek residents to regional locations.
- Chapter 5 Policy 7.3. Link high-density residential developments, schools, employment centers, and shopping areas via transit and free shuttles.
- Chapter 5 Policy 7.4. Offer support and funding for effective transit alternatives such as trolleys and improved shuttle services.
- Chapter 5 Policy 7.5. Develop a comprehensive plan with CCCTA to install public transit amenities such as benches, passenger shelters, and walkways as appropriate and on a regular schedule.
- Chapter 5 Policy 7.6. Encourage provisions for a variety of transportation services for seniors and members of the public unable to use conventional transit.

This would be considered a *less-than-significant* impact.

BICYCLE CIRCULATION AND ACCESS

Proposed bicycle facilities include:

- North Main Street north of Ygnacio Valley Road
- Iron Horse Trail over-crossing of Treat Boulevard
- Rudgear Road

These proposed facilities are part of the Countywide Bicycle Network and provide bicycle access to Walnut Creek as well as the surrounding areas.

The land use development proposed in the General Plan 2025 would have the following impact on bicycle circulation and access:

- Improve the bicycle network. (See Figure 15 for proposed facilities.)
- Provide bicycle parking at new commercial and community facilities, as required per the City Bicycle Parking Requirement ordinance.

The General Plan 2025 identifies a goal of providing a safe and attractive environment for

bicycle travel throughout the community, which is supported by policies as follows:

- Chapter 5 Policy 5.1. Develop an overall plan for bicycle use as an alternative way to get to work, school, shopping, recreational facilities, and transit stops.
- Chapter 5 Policy 5.2. Provide facilities that encourage and support bicycle travel.
- Chapter 5 Policy 5.3. Oppose the use of motorized transportation facilities (trains, buses, autos, motorcycles) on that portion of the Iron Horse Trail between the Pleasant Hill BART Station and Newell Avenue.

This would be considered a *less-than-significant* impact.

PEDESTRIAN CIRCULATION AND ACCESS

The General Plan 2025 sets a goal of providing a safe and attractive walking environment accessible to all. Pedestrian improvements include closing sidewalk/walkway gaps and connections to regional trails and trailheads as well as full frontage improvements in all commercial areas.

Policies and actions in General Plan 2025 are consistent with adopted policies, plans, or programs supporting alternative transportation.

General Plan 2025 policies are as follows:

- Chapter 5 Policy 6.1. Provide safe and attractive pedestrian routes along arterials and collectors leading to schools, along arterials or collectors that carry high traffic volumes, along major streets leading to downtown, and on all streets leading to transit facilities.
- Chapter 5 Policy 6.2. Require full frontage curb and sidewalk improvements in all commercial areas.
- Chapter 5 Policy 6.3. When utility rights-of-way, drainage, or other corridors are established, obtain dedications of land or easements, where appropriate, for paths that would enhance the pedestrian system.
- Chapter 5 Policy 6.4. Facilitate use of public sidewalks and walkways throughout the city.

This would be considered a *less-than-significant* impact.

IMPACTS AND MITIGATION MEASURES

The significant impacts of the General Plan 2025 buildout Alternative are summarized and compared to existing (2000) conditions. Mitigation measures are identified for those impacts that were considered to be significant.

To the extent the transportation policies from the General Plan 2025 reduce transportation impacts associated with the implementation of the General Plan Update, the policies have been included in the discussion of mitigation measures.

Freeway Operations
Impact TRAF-1: The land use development proposed in General Plan 2025 would contribute to freeway speeds of less than 30 miles per hour during the peak hour along I-680 through Walnut Creek. This would be considered a *significant* impact.

The congestion along the freeway, which results in the slow speeds, can be attributed to regional growth in Contra Costa County as well as adjacent counties to the north and east. Congestion along this segment of I-680 makes it difficult to access the freeway from interchanges in Walnut Creek.

Mitigation Measure TRAF-1: Regional coordination would be required to address the congestion along the freeway. The General Plan 2025 includes policies that support the goal of reducing the increase in congestion of regional facilities:

- Chapter 5, Policy 1.1. Working with the Contra Costa Transportation Authority, the Metropolitan Transportation Commission, Caltrans, and other jurisdictions, develop and implement regional solutions to local traffic problems created by growth outside of the city.
- Chapter 5, Policy 1.2. Support efforts to obtain funding for improvements to Highway 4 and other existing roads that provide a bypass for traffic passing through Walnut Creek.

Even with these mitigation measures, this impact would be considered *significant* and *unavoidable*.

Roadway Level of Service
Impact TRAF-2: The land use development proposed in General Plan 2025 would contribute to the degradation of the level of service at the following arterial segments:

- **Mt Diablo Boulevard between Bonanza Street and California Blvd**
- **Bancroft Avenue south of Treat Blvd**
- **California Boulevard between Trinity Avenue/Civic Drive and Bonanza St**
- **Civic Drive between Ygnacio Valley and Broadway**
- **South Broadway north of Newell Ave**
- **South Broadway north of Rudgear Rd**

This would be considered a *significant* impact.

Bancroft serves as a connection between Treat Boulevard and Ygnacio Valley Road. It also provides access to the Pleasant Hill BART station for the northeast area of the city. Based on the volumes, it carries the most vehicles of the arterial roadways, as much as the Routes of Regional Significance.

The other listed roadways are located in the downtown Core Area, which is a thriving commercial area with travel alternatives, such as the Downtown Shuttle and pedestrian amenities. As primarily north-south roadways, California, Civic Drive, and South Broadway provide an alternative to the freeway, and carry heavy volumes when it is congested.

Mitigation Measure TRAF-2: Roadway widening to provide additional capacity would improve the level of service; however, the downtown Core Area is primarily built out with little opportunity to widen the roadways. Rather any improvements would consider operations and management for improve efficiency of the existing roadway system as well as opportunities to improve the pedestrian-oriented nature of the Core Area. The General Plan 2025 includes policies that support and/or enhance carpooling, transit, bicycling, and walking that would provide an alternative to reduce some of these auto trips. However, this impact would be considered *significant* and *unavoidable*.

Delay Index
Impact TRAF-3: The land use development proposed in General Plan 2025 would contribute to delay indices greater than 2.0 along these Routes of Regional Significance:

- **Ygnacio Valley Road Westbound**
- **Treat Blvd Eastbound and Westbound**

This would be considered a *significant* impact.

Mitigation Measure TRAF-3: Ygnacio Valley Road and Treat Boulevard are regional transportation facilities. The City of Walnut Creek will continue working with the Contra Costa Transportation Authority, the Metropolitan Transportation Commission, Caltrans, and other jurisdictions to

develop and implement regional solutions to local traffic problems created by growth outside the city (Chapter 5, Policy 1.1).

The City has been responsible for the metering of morning peak period westbound traffic entering the city at Oak Grove Road as part of the regional traffic signal system along Kirker Pass/Ygnacio Valley Road. Similar treatments should be considered for Treat Boulevard. This impact would be considered *significant* and *unavoidable*.

Intersection Level of Service
Impact TRAF-4: The land use development proposed in General Plan 2025 would contribute to the degradation of the LOS at the following locations:

- **Broadway and Civic Dr (PM)**
- **Broadway and Mt Diablo Blvd (PM)**
- **California and Mt Diablo Blvds (PM)**
- **Main St and Mt Diablo Blvd (PM)**
- **California Blvd and Civic Drive (PM)**
- **Oak Grove Rd and Mitchell Dr/ Peachwillow Ln (PM)**
- **Olympic Blvd and NB I-680 On/Off ramps (AM and PM)**

This would be considered a *significant* impact.

Mitigation Measure TRAF-4: The opportunities to improve these intersections are limited due primarily to right-of-way constraints as well as the desire to maintain the pedestrian-oriented nature of the Core Area. The policies of the General Plan 2025 support alternative modes to the automobile that may reduce the traffic congestion. However, this would be considered a *significant* and *unavoidable* impact.

At Oak Grove Rd and Mitchell Drive/Peachwillow Ln, a separate eastbound left-turn lane would improve the LOS to E (0.93), which would be below the LOS standard and considered a *significant* impact.

At Olympic Blvd and NB I-680 On/Off ramps, the heavy northbound traffic from the off-ramp is a critical movement with significant volumes coming off the ramp then continuing through the intersection to get back onto I-680. The westbound right-turn movement to access the on-ramp is also a critical movement. This is considered a *significant* and *unavoidable* impact.

Impact TRAF-5: The land use development proposed in General Plan 2025 would contribute to the degradation of the LOS at the following locations:

- **Broadway and Civic Dr (PM)**
- **Broadway and Mt Diablo Blvd (PM)**
- **California and Mt Diablo Blvds (PM)**
- **Main St and Mt Diablo Blvd (PM)**
- **California and Civic Dr (PM)**

This would be considered *significant* impact.

Mitigation Measure TRAF-5: The City may consider changing the peak hour intersection LOS standard for the Core Area to allow for congested traffic conditions that may encourage the use of alternative modes and support improvements to the transit, bicycle, and pedestrian facilities and services. If the LOS standard for the Core Area is modified to "LOS high E (v/c: 0.90 to 1.00)" then the impacts at the intersections of Mt Diablo Blvd with California, Broadway and Main St would be considered *less than significant*.

At California and Civic, the critical movements are the southbound right-turn and through movements. By optimizing the signal, which currently provides split phasing of the Civic and Trinity, the critical V/C ratio may be reduced to less than 1.00, which would result in LOS high E. A separate southbound right-turn lane would further reduce the critical V/C ratio to 0.92, which would meet the current LOS standard for the Core Area. With these improvements, the impacts would be reduced to *less than significant*.

CHAPTER 4.5

Infrastructure

This chapter describes the existing solid waste and recycling, water and wastewater infrastructure in Walnut Creek. The chapter also discusses potential impacts from the General Plan 2025, and lists measures to mitigate those impacts. The stormwater system is discussed in Chapter 4.10, Hydrology and Water Quality.

SOLID WASTE AND RECYCLING

EXISTING SETTING

This section describes the existing solid waste collection, recycling and disposal services in the city and the unincorporated areas of central Contra Costa County. A summary of State and local regulations addressing solid waste and additional background information can be found in the *Community Facilities & Services Background Report*. Household hazardous waste collection and disposal is discussed in the *Hazardous Materials Background Report*.

Existing Solid Waste and Recycling Services
The Central Contra Costa Solid Waste Authority (CCCSWA), a Joint Powers Authority, oversees solid waste collection, disposal and recycling services in Walnut Creek, Danville, Moraga, Lafayette, and Orinda, and the unincorporated areas of Contra Costa County. The offices of the CCCSWA are located in Walnut Creek on Civic Drive.

The CCCSWA has agreements with Pleasant Hill Bayshore Disposal (PHBD) for the collection, transfer, and disposal of residential and commercial solid waste, and with Valley Waste Management (VWM) [1] for the curbside collection and marketing of residential recycling and used motor oil.

Commercial recycling is voluntary in Contra Costa County. CCCSWA has established a commercial recycling permitting program throughout its service area. Businesses may choose from a list of commercial recyclers, each of whom has its own list of acceptable materials. Separately, eligible small businesses that produce two yards or less of garbage per week, can receive recycling collection service at no charge from VWM.[2]

Composting
VWM also has an agreement with CCCSWA to collect residential yard clippings. [3] Residents are also encouraged to do home backyard composting or vermicomposting (composting with worms).[4]

Disposal Facilities

Contra Costa Transfer and Recovery Facility
Materials collected by PHBD are transferred to the Contra Costa Transfer and Recovery Facility in Martinez. This 60,000 square-foot facility has a daily intake capacity of 1,900 tons and

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[1] CCCSWA contracts through franchise agreements which give VWM the sole right to collect residential recyclables at the curb.
[2] http://www.wastediversion.org/commer.htm, downloaded on February 24, 2004.
[3] http://www.wastediversion.org.faqs/ grnwaste-faq.htm, downloaded on February 24, 2004.
[4] Personal communication with John Hanscom, CCCSWA, April 30, 2004.

receives, on average, 1,270 tons per day.[5] The facility accepts a wide range of materials including general residential, commercial and industrial refuse, as well as construction and yard waste, appliances and furniture, and electronic equipment.

Keller Canyon Landfill
Solid waste collected by PHBD is disposed of at the Keller Canyon Landfill. The landfill accepts municipal solid waste, non-liquid industrial waste, contaminated soils, ash, grit and sludge, and is not open to the public.

Keller Canyon Landfill covers 2,600 acres, of which 244 acres are permitted for disposal. The site currently handles 2,500 tons of waste per day, although the permit allows up to 3,500 tons of waste per day. [6]

Keller Canyon Landfill has been accepting solid waste from Walnut Creek since 1994. The landfill has a total capacity of 75 million tons and a remaining capacity of 50 million tons. The CCCSWA does not anticipate the need for a new landfill over the next 20 years.[7]

Waste Generation and Diversion Rates
In 2002, Walnut Creek generated a total of 109,129 tons of solid waste. This equates to a per capita waste generation rate of about 1.67 tons, or just over 3,300 pounds of waste annually.[8] This "per capita" rate is provided for comparative purposes only, and does not reflect the actual waste generation of a typical Walnut Creek resident, since it includes solid waste generated by businesses and other non-residential users.

Of the 109,129 tons, 69,074 tons, or 63 percent was disposed of in a landfill; 24 percent was recycled through residential recycling programs and the remaining 13 percent was recycled through commercial recycling programs. The diversion rate calculated by CCCSWA for 2002 was 45 percent.[9]

STANDARDS OF SIGNIFICANCE

The Walnut Creek General Plan 2025 would create a significant infrastructure impact if it would:

- Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.
- Not comply with federal, State and local statutes and regulations related to solid waste.

IMPACT DISCUSSION

Implementation of the General Plan would result in an increase in residential and commercial development, which would cause an increase in solid waste generation.

Under the proposed General Plan, the population of the City of Walnut Creek would increase by 10,814 by 2025. Based on the current per capita waste generation rate of 1.67 tons per year, this would result in approximately 18,060 tons of additional solid waste annually, or just under 50 tons per day. The total projected city population of approximately 77,314 would generate about 129,110 tons of waste annually.

Solid waste from Walnut Creek is sent to the Keller Canyon Landfill, which has the permitted capacity to handle 1,000 tons more per day than it is currently handling, and has a remaining capacity of 50 million tons. The buildout

[5] Personal communication with John Hanscom, CCCSWA, April 30, 2004.
[6] http://www.pleasanthillbayshoredisposal.com/, downloaded on February 24, 2004.
[7] Personal communication with Lois Cole, CCCSWA, April 28, 2004.
[8] Rate based on 2002 estimated population of 65,415 persons.
[9] Personal communication with John Hanscom, CCCSWA, April 30, 2004.

population would annually generate solid waste equivalent to less than one percent of the landfill's remaining capacity, which would be able to sufficiently serve population growth in Walnut Creek well beyond the next 20 years.

Furthermore, with implementation of the waste diversion policies and actions outlined in the General Plan, waste diversion rates would be expected to increase, thereby extending the lifespan of the landfill. The projected population growth would not cause the landfill to reach or exceed its capacity and the impact on solid waste generation would be less than significant.

Chapter 4 Built Environment, Goal 29 states that the City would meet or exceed State goals for source reduction and waste diversion. Through Action 29.2.1 the City would continue the implementation of the 1993 State Source Reduction and Recycling Element. Thus the General Plan would not interfere with compliance with the California Integrated Waste Management Act.

General Plan 2025 also supports efforts and measures to reduce solid waste generation and promote recycling within the city, as intended by Chapter 4 Built Environment Policies 29.1 through 29.3. Actions 29.1.1 and 29.1.2 would lower waste generation within the City government and operations by adopting source reduction and waste reduction programs and encouraging the use of environmentally-friendly products. Policy 26.1 and Action 26.1.1 would encourage green building practices as a way to lower resource consumption and generation of construction waste. Furthermore, waste sent to landfills would be reduced by Actions 29.2.2 through 29.2.4 through residential and commercial waste reduction and recycling programs, and by Action 29.2.7, which would require the recycling of construction waste. The institution of organic waste collection programs through Actions 29.3.1 and 29.3.2 would have a beneficial solid waste impact since such programs would have the potential to divert a substantial amount of solid waste from the landfill. Waste diversion in public areas would be improved by implementing Action 29.2.9, which provides for accessible disposal containers in the downtown and city parks.

For the above reasons, there would be no solid waste impacts associated with General Plan implementation.

IMPACTS AND MITIGATION MEASURES

Since no impacts were identified, no mitigation measures are required.

WATER SUPPLY AND SERVICES

EXISTING SETTING

This section provides background information on the existing water facilities and service in the City of Walnut Creek. It includes a brief description of water service areas and discusses existing water services, supply and demand conditions, treatment and distribution infrastructure, and storage facilities. It describes likely future water needs, existing problems and recommendations to address those needs.

Water Supply

Water is supplied to Walnut Creek by two separate water districts. The East Bay Municipal Utilities District (EBMUD) serves about two-thirds of the city, primarily the western, central and southern portions, and adjoining cities and unincorporated areas in the southern and western areas of Contra Costa County. The Contra Costa Water District (CCWD) serves approximately one-third of the city, primarily the northern and eastern portions.

East Bay Municipal Utility District
EBMUD adopted an Urban Water Management Plan in 2001. EBMUD supplies water to approximately 1.3 million people (estimated to rise to over 1.4 million by 2020) in a service area covering 325 square miles, including 20 cities and communities in Contra Costa and Alameda Counties.

The principal source of EBMUD water is the Mokelumne River which feeds the Pardee and Camanche Reservoirs. The Pardee reservoir has a holding capacity of 197,950 acre-feet while the Camanche Reservoir has a holding capacity of 417,120 acre-feet. Water travels from the Mokelumne River in the Sierra Foothills, through to the Pardee Reservoir, which then connects to the Aqueduct pipelines leading to the Walnut Creek water treatment plant located on Larkey Lane.[10] The plant processes up to 80 million gallons per day (mgd).

From the Walnut Creek water treatment plant, the supply system continues westerly to other storage plants servicing the rest of the district. EBMUD maintains five terminal reservoirs: Briones, Chabot, Lafayette, San Pablo, and Upper San Leandro.

EBMUD has water rights to 325 mgd and up to 365,000 acre-feet per year (af/y) from the Mokelumne River system, and an additional 150,000 af/y from the American River (Central Valley Project) when river flows are above minimum flow levels.

Although contractual agreements can provide a maximum of 325 mgd to the district in most years, actual water availability, because of periodic drought years, is lower. This situation will worsen due to increased diversions by other water agencies operating on the Mokelumne River and holding water rights senior to those of EBMUD, the commitment to instream flow releases to improve fishery conditions in the Lower Mokelumne River, and small increases in customer demand beyond any that can be offset by conservation and recycled water programs.[11]

The District can remove water from the American River when flows are relatively high. An agreement was reached between the U.S. Bureau of Reclamation, EBMUD and other Sacramento agencies in 2000 to develop a joint water supply from the Sacramento River. Construction is expected to be completed after 2005.

Contra Costa Water District
CCWD adopted an Urban Water Management Plan in 2000. The CCWD treats water and provides it to about 230,000 residents in Clayton, Clyde, Concord, Pacheco, Port Costa, and parts of Pleasant Hill, Martinez and Walnut Creek.

CCWD's primary water source is the surface water of the Sacramento-San Joaquin Delta. Originating from rivers within California's mountain ranges, the water flows into the Sacramento and San Joaquin rivers, eventually finding its way into the Delta. Delta water is drawn from Rock Slough near Oakley, Old River near the Town of Discovery Bay and Mallard Slough in Bay Point. The water is transported in the Contra Costa Canal, which starts at Rock Slough, then stretches west to Clyde, south to Walnut Creek and north to Martinez. CCWD can also store water in the Los Vaqueros Reservoir south of Brentwood, the Contra Loma Reservoir in Antioch, the Mallard Reservoir in Concord and the Martinez Reservoir in Martinez. Another reservoir, Los Vaqueros in southeast Contra Costa County, was constructed to improve water quality and system reliability. This reservoir stores high quality winter water for blending with lower quality summer and fall water taken at Rock Slough.

[10] Personal communication with Leo O'Brian, Water Demand and Supply Department, East Bay Municipal Utility District, May 4, 2004.

[11] East Bay Municipal Utility District, *Urban Water Management Plan 2000*, February 2001.

CCWD has contractual agreements for up to 195,000 af/y (174 mgd). CCWD's 1996 Future Water Supply Study identified a preferred alternative to offer customers a high quality, reliable water supply for the next 50 years. Study recommendations included developing future water supplies to meet projected demands of 219,000 af/y by the year 2040, through a combination of phased components.

Surface Water Supply
Surface water comprises almost 100 percent of the water supply for all EBMUD and CCWD customers.

Groundwater Supply
Groundwater is a small fraction of the source water for EBMUD and CCWD. In the 1990s, EBMUD studied groundwater storage facilities. One area, Bayside, proved promising and is being considered for construction to create 10,000 to 15,000 acre-feet of drought storage.

Existing Water System Facilities
All water distribution and treatment facilities within Walnut Creek are owned and operated by EBMUD and CCWD. The largest distribution, treatment, pumping and storage facilities are located outside of the City limits.

Water Treatment Plant
The EBMUD water treatment facility located in Walnut Creek treats water in the regional transmission main. Other treatment facilities are located in the separate EBMUD and CCWD systems throughout the county.

Pumps
Several local booster pumps located in the hilly southern areas of the city serve the residents at higher elevations. Currently, local reservoirs and pumping capacity are adequate for existing residential and demand.[12] Seismic retrofit improvements are ongoing.

Water Demand

East Bay Municipal Utility District
Water use in Walnut Creek supplied by EBMUD is over 9 mgd. Of this, single-family residences account for 43 percent, multifamily residences 32 percent; commercial users 18 percent; and industrial users 1 percent. Six percent of this amount is used for irrigation.

As of 1992, average daily residential water consumption for the Walnut Creek area within the EBMUD boundaries was 291 gallons per dwelling unit (g/du). Based on this figure, and assuming an average household size of 2.10 persons, daily residential consumption is approximately 138 gallons per person.

EBMUD's *2000 Demand Study* estimates customer demand in the service area will rise from 230 mgd per day in 2000 to 277 mgd in 2020. Adjustments for conservation and recycled water are estimated at 48 mgd, to reduce demand to 229 mgd.

Applying this demand against different supply scenarios indicates sufficient supplies to meet demands for a Normal Water Year, a Single Dry Year, and a second dry year of Multiple Dry Years through 2020. It is estimated that demand will exceed supply by over 25 percent in the third and subsequent dry years of a Multiple Dry Years scenario.[13]

Contra Costa Water District
CCWD currently provides about 2.4 mgd of water to customers in Walnut Creek, where 75 percent is consumed by residential sources, 18 percent by commercial sources and 7 percent by other sources. CCWD has over 7,000 treated water connections in Walnut Creek, in three service zones.

Residential consumption for Walnut Creek within CCWD is approximately 250 gallons per day per dwelling unit. Assuming an aver-

[12] East Bay Municipal Utility District, *Seismic Improvement Program, Progress Report 20002-2003*, 2003.

[13] East Bay Municipal Utility District, *2000 Urban Water Management Plan*.

age household size of 2.10, this equates to a total per capita consumption of approximately 120 gallons per day.

Future demand for CCWD, most recently defined in its *Urban Water Management Plan,* is estimated to rise from 120,000 af/y (107 mgd) to 211,000 af/y (188 mgd) in 2020.[14]

Applying this increased demand over different supply scenarios indicates sufficient supplies to meet demands for a Normal Water Year, a Single Dry Year, a second dry year of Multiple Dry Years, and a third dry year of Multiple Dry Years through 2020.[15]

Water Reuse and Conservation Measures

East Bay Municipal Utility District
EBMUD has a comprehensive Water Conservation Program. It includes both supply- and demand-side measures, including audits, incentives, optimal management practices, wastewater and landscape regulations, education programs, support activities, metering, and leak detection and pipe replacement program. EBMUD recommends that local cities require water conservation measures as a standard feature in the design and construction of proposed development projects.

Of the identified 2020 daily demand of 277 million gallons, EBMUD plans to provide 34 mgd from conservation and 14 mgd from recycling. In 2000, the EBMUD daily demand was 230 mgd, with 8 mgd saved through conservation and 6 mgd from recycling.

EBMUD's water recycling projects each serve specific individual users. EBMUD is currently completing the planning phase of three additional water recycling projects scheduled for implementation before 2010. These projects differ from the existing projects by serving multiple customers from a common distribution system.

Increased conservation will be addressed by a number of measures including demand-side conservation (best management practices); incentives, including audits and rebates; education and outreach; regulation and supply-side conservation measures such as leak detection, pipe replacement, and corrosion control.

Contra Costa Water District
CCWD is also active in planning future conservation and demand management measures. Water demand management measures include a similar range to those identified by EBMUD, including elements such as water survey programs, residential plumbing retrofit, water system audits, leak detection and repair; high efficiency washing machine and low-flow toilet programs, regulation, conservation pricing, and public education and outreach.

Future System Improvements
In addition to seeking increased water sources, EBMUD and CCWD large system improvement projects include increasing reservoir capacity, seismic retrofit, conservation and recycling programs.

STANDARDS OF SIGNIFICANCE

The Walnut Creek General Plan 2025 would create a significant water supply impact if it would:

- Have insufficient water supplies available to serve the project from existing entitlements and resources, therefore requiring new or expanded entitlements.
- Require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

[14] Contra Costa Water District, *Urban Water Management Plan*, December 2002; Contra Costa Water District, *Future Water Supply Study*, 1996.
[15] Contra Costa Water District, *Future Water Supply Implementation, Final EIR*, January 22, 1999; Contra Costa Water District, *Future Water Supply Study*, 1996.

IMPACT DISCUSSION

Development under General Plan 2025 would increase water demand in the City of Walnut Creek, and within the EBMUD and CCWD systems that serve the city.

EBMUD and CCWD plan to meet significant percentages of the future water demand through conservation and recycling. Also, both Districts are looking to increase the capacity of their respective reservoir systems.

EBMUD
EBMUD is eligible to withdraw 365,000 acre-feet per year (af/y) from the Mokelumne River system, and an additional 150,000 af/y from the American River, flows permitting. The Urban Water Management Plan 2000 determined that EBMUD will be able to meet customer demand through the year 2020 in the normal year. In Year 3 of Multiple Dry Years, supplemental supply would be needed.

EBMUD is implementing additional conservation and recycling strategies, as well as is investigating additional water supply alternatives, which would ensure water service after 2020 through buildout of the Walnut Creek General Plan in 2025.

CCWD
CCWD is eligible to withdraw 195,000 af/y from the Central Valley Project. CCWD's Urban Water Management Plan does not anticipate any supply deficits in normal and regulatory restricted years. The Urban Water Management Plan took into account the planned growth in the Walnut Creek area as projected by ABAG *Projections 2000*.

Long-term conservation efforts, such as flow restrictors and drought tolerant plants, will help assure adequate water supplies in the future,[16] as will the use of purchases from the East Contra Costa Irrigation District under current agreement.[17]

General Plan 2025 would encourage water conservation, and would thus reduce the potential impact of increased water demand associated with projected development. Chapter 4 Built Environment Goal 28 is to promote water conservation. Through Policy 28.1, the City would implement water conservation measures in City facilities and operations. Actions 28.1.1 and 28.2.1 through 28.2.4 encourage water conservation and recycling. These actions direct the City to explore ways to reduce the amount of wastewater generated, work with water agencies to promote water conservation efforts, encourage use of the City's water conservation guidelines, and follow existing standards and guidelines for water-conserving landscaping.

IMPACTS AND MITIGATION MEASURES

Since no impacts were identified, no mitigation measures are required.

WASTEWATER COLLECTION AND TREATMENT

EXISTING SETTING

This section describes the wastewater collection system and facilities, future wastewater flow projections and plans, and discusses water reclamation activities in Walnut Creek. CCCSD provides sanitary collection and wastewater treatment; no facilities are owned or operated by the City.

[16] Contra Costa Water District, *Urban Water Management Plan*, December 2002.

[17] Contra Costa Water District, *Urban Water Management Plan*, December 2002, page 30.

Existing Wastewater Collection and Treatment System

CCCSD provides wastewater collection and treatment for properties within the City of Walnut Creek and the surrounding area. Established in 1946, CCCSD is an independent special district that collects and treats wastewater from much of central Contra Costa County. The District serves the entire central county from Martinez to parts of San Ramon, and from Moraga to Clayton. The wastewater is sent to CCCSD's wastewater treatment plant (WWTP) northeast of the Interstate 680/State Route 4 interchange in unincorporated Martinez. Following treatment, the effluent is discharged to Suisun Bay or further treated and returned to the community as recycled water.[18]

CCCSD's wastewater collection system within the Walnut Creek consists of gravity sewer lines and pump stations. The wastewater treatment plant is located six miles north in Martinez.

Wastewater Treatment Plant Permitting and Capacity

In 2003, CCCSD processed 40.0 mgd of average dry weather flow (ADWF).[19] However, the District's treatment plant has a reliable physical capacity and permit to discharge up to 53.8 mgd ADWF, and 240 mgd of wet weather flow, effluent to Suisun Bay.

Major treatment plant improvements (unrelated to dry-weather capacity) are planned over the next 10 years and will improve wet-weather capacity, maintainability, reliability, operations efficiency, odor control, and seismic protection. Unforeseen circumstances or additional requirements imposed by regional, State, or federal regulatory agencies, however, could affect the future availability of sewer connections, which are issued on a first come, first served basis.

Compliance Record

As of April 2004, CCCSD is not in violation of and has not had problems meeting current discharge requirements. As evidence of outstanding performance, CCCSD received in 2003 the prestigious Platinum Award from the Association of Metropolitan Sewerage Agencies for achieving violation-free operations for five consecutive years (1997-2002) and the Treatment Plant of the Year and Collection System of the Year (large categories) statewide awards for 2002 from the California Water Environment Association.[20]

Emergency Storage Ponds

Holding ponds at the WWTP have a capacity of 170 million gallons.

Existing Wastewater Flows

The discharge point is located in the middle of the channel of Suisun Bay directly off the Martinez bay front.

In 2000, average dry weather flows in the district reached 40.8 mgd, approximately 76 percent of the permitted discharge. During winter months, increased flows sometimes go beyond 200 mgd due to infiltration/inflow.

As of 2004, 85 percent of the district's effluent is generated by residential sources, 12 percent by commercial and 3 percent by industrial. Average flow generated is 75 gallons per capita per day.

Table 31 presents the wastewater generation rates CCCSD uses to estimate the base wastewater flow from different land uses. For treatment plant capacity calculation purposes, an additional factor is added to account for groundwater infiltration. Other factors are

[18] Personal communication from Russ Leavitt, Management Analyst, CCCSD, to Janice Stern, Senior Planner, City of Walnut Creek, April 14, 2004.

[19] Letter communication from Russ Leavitt, Management Analyst, CCCSD, March 2004.

[20] Personal communication from Russ Leavitt, Management Analyst, CCCSD, to Janice Stern, Senior Planner, City of Walnut Creek, April 14, 2004.

Table 31

Base Wastewater Generation Rates by Land Use

Land Use Category	Units	Base Wastewater Flow Factor: Gallons Per Day (GPD) Per Unit
Residential, Single-Family	Dwelling Unit	225
Residential, Multifamily	Dwelling Unit	150
Commercial	Acre	1,000
High-density Commercial	Acre	4,400
Industrial	Acre	1,000
Schools	Acre	430
Churches	Number	1,000

Notes: These unit flow factors were calibrated to observed flows at 39 flow meters. Estimated groundwater infiltration has been excluded. School and church factors were based on adjusted water consumption data. The high-density commercial factor was based on 100 gpd/1,000 sf of office space (from water consumption records) and 44,000 sf per acre (FAR = 1.0).
Source: *CCCSD Standard Specifications*, 1993.

added when calculating wet-weather wastewater generation and/or pipeline design.[21]

System Evaluation
CCCSD completed several capacity studies for portions of the sewer system within and downstream of Walnut Creek. These studies determined that some segments of the existing sewer system will be deficient under CCCSD's current design criteria for ultimate, wet-weather conditions. One such facility is the xisting A-Line Interceptor, which transports wastewater flows to the WWTP from Lamorinda, San Ramon Valley, Walnut Creek, portions of Pleasant Hill, and the cities of Concord and Clayton. Construction of a proposed parallel relief interceptor beginning south of Ygnacio Valley Road along the Iron Horse Trail would provide wet-weather flow relief to the existing A-Line Interceptor. This project, however, is not expected to be constructed until at least 2014. Other necessary and proposed improvements center in downtown Walnut Creek, where land use densification, significant contributions of grease by area restaurants, and undersized sewer lines are factors limiting available sewer capacity.

Improvements to correct the deficiencies are in CCCSD's Capital Improvement Plan. Improvements to existing facilities that are required as a result of new development will be funded from applicable fees and charges. De-

[21] Personal communication from Russ Leavitt, Management Analyst, CCCSD, to Janice Stern, Senior Planner, City of Walnut Creek, April 14, 2004.

velopers will be required to pay the fees and charges at the time of connection to the sewer system.[22]

Wastewater Quality
In an effort to find new and improved ways of treating wastewater, CCCSD recently replaced its chlorine disinfection system with ultraviolet disinfection, making it the largest wastewater plant in the nation using this process.

Future Wastewater Collection and Treatment
Ongoing CCCSD and future improvement projects include the following:

- San Ramon pumping station renovations
- Lafayette renovation project Phase 4
- Creek crossing renovation program
- District-wide TV inspection program
- Concrete corrosion renovation program
- Lower Orinda pumping station renovation
- Walnut Creek Renovation project Phase 1*
- North Main Street sewer replacement.

The last two projects are significant to Walnut Creek, replacing aged facilities and increasing capacity at 13 different sites in the city. In the early 1990s, a new 60-inch San Ramon trunk sewer was installed in Walnut Creek along the Southern Pacific right-of-way. The trunk eliminated any significant collection capacity problems associated with main trunk lines servicing the city.

Water Recycling
CCCSD has a program of recycling water, but no current ordinance, either District or City, mandates the use of recycled water.

Of the 40.0 mgd ADWF processed in 2003, CCCSD used 2 to 3 mgd to produce high-quality recycled water for treatment plant landscaping and processes plus transmission to landscape irrigation customers adjacent to CCCSD's treatment plant and in Pleasant Hill.

STANDARDS OF SIGNIFICANCE

The Walnut Creek General Plan 2025 would create a significant wastewater impact if it would:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

IMPACT DISCUSSION

Increased residential and commercial development through General Plan 2025 would cause an increase in wastewaster generation, and could increase the amounts of pollutants discharged to the wastewater system. New development would increase the amount of paved, impermeable surfaces, which could result in increased non-point pollution discharged to local water bodies, and could result in increased flooding risk. Flooding is discussed in greater detail in Chapter 4.10, as are more general aspects related to water quality.

Under General Plan 2025, the city's population is projected to increase by 10,814 by 2025.

[22] Personal communication from Russ Leavitt, Management Analyst, CCCSD, to Janice Stern, Senior Planner, City of Walnut Creek, April 14, 2004.

Based on the current per capita wastewater generation rate of 75 gallons per day, the estimated buildout population of 77,314 would result in the generation of approximately 5.80 mgd of wastewater total in Walnut Creek. The existing wastewater system is currently permitted to accommodate up to 53.8 mgd. Thus, the existing system would be able to accommodate the population growth in Walnut Creek anticipated under the General Plan 2025.

CCCSD projects that the 53.8 mgd effluent discharge limit should be sufficient to accommodate wastewater expected to be generated from currently planned growth within CCCSD's service area to the year 2035, even with a worst-case assumption of groundwater infiltration. An effluent discharge of that volume can be accomplished without the need for additional treatment facilities.

In wet weather, although the existing system can handle up to 240 mgd, some segments of the system are currently considered insufficient for higher wet weather flow. As noted above, major treatment plant improvements are planned to be built over the next ten years to address identified deficiencies. Planned expansion would be paid for through developer fees.

As is discussed above in the discussion of water supply, the General Plan contains a number of goals, policies and actions that would reduce water consumption. These same provisions would also serve to reduce wastewater generation, since water use and wastewater generation occur in direct relation ship to each other.

Water quality issues related to wastewater are addressed in Chapter 4 Built Environment Actions 31.4.2 and 31.6.1, which are under Goal 31, which is to meet or exceed State and federal water quality standards. Action 31.4.2 is to verify, through inspection programs, that interior floor drains are connected to the sanitary sewer system. Action 31.6.1 is to apply Best Management Practices to discharges to the sanitary sewer system. The CCCSD has attained all State and federal standards, and has been awarded multiple awards for excellent maintenance and environmentally sustainable practices, such as UV treatment for sanitizing wastewater.

In summary, the existing and planned system would be able to accommodate projected growth, and the General Plan 2025 further identified policies and actions that would reduce wastewater generation. The CCCSD also currently meets all State and federal wastewater treatment requirements. Thus, the proposed General Plan's impact on the wastewater system would be less than significant.

IMPACTS AND MITIGATION MEASURES

Since no impacts were identified, no mitigation measures are required.

CHAPTER 4.6

Visual Quality

This chapter summarizes information on the visual resources of the City of Walnut Creek and provides an evaluation of the effects General Plan 2025 would have on these resources.

EXISTING SETTING

This section provides a summarized description of the existing visual resources within the Walnut Creek Planning Area. A full description of the urban design and visual elements of Walnut Creek, and how they contribute to the city's identity and character, is provided in the *Urban Design Background Report*.

URBAN FORM

The setting of a city is one of the most important determinants of its urban form. Walnut Creek takes its form and visual identity from the interplay of the built and natural environments. That combination of built form and natural features has created for the city a specific "sense of place." In general, the majority of the built areas in Walnut Creek are residential, with a central Core Area of varying types of development. The residential development consists predominantly of suburban one- and two-story single-family houses, with multifamily residences located along some arterials and dispersed in neighborhoods.

VISUAL IDENTITY

Walnut Creek's visual identity is formed by a combination of building and land use types, each with its own distinct character. The city's urban form and visible features combine and contribute to give Walnut Creek its own visual identity.

- **Core Area.** The Core Area has a unique character that includes regional- and local-serving commercial and residential development. It is both the economic and cultural center of the city and the region. It comprises multiple commercial, mixed-use and residential areas, which residents identify as Downtown.
- **Neighborhoods.** Neighborhoods are residential areas of varying size and character. A typical *suburban* neighborhood in Walnut Creek has wide tree-lined streets and one- and two-story homes with well-landscaped front yards. Walnut Creek's *urban* neighborhoods are primarily found in the Core Area. Urban neighborhoods have a higher density than typical suburban neighborhoods and comprise single-family homes on small lots and/or multifamily developments. *Rural character* neighborhoods are usually found in the hillside areas and unincorporated parts of the planning area. Parcel sizes in these areas tend to be larger than elsewhere in the planning area, and they often come with building constrains because of slopes or natural features. Roads in rural areas are narrow and frequently winding, and they often lack sidewalks and streetlights, and in some cases, lack curb and gutter. A typical result is that on-street parking is limited.

- **Neighborhood Shopping Centers.** These are relatively small retail areas located along arterials designed to serve nearby residential neighborhoods. They are typically laid out as strip commercial development set to the back of the property, with large parking areas between the stores and the arterial. Walnut Creek has seven Neighborhood Shopping Centers.
- **Commercial Corridors.** There are two key commercial corridors serving the city. Commercial Corridors typically include a mix of development along a major street and possibly some smaller side streets. The character of these areas varies from one-story retail or office to multiple-story office or residential buildings.
- **Regional Employment Districts.** Outside the Core Area, Regional Employment Districts are large employment centers that are either single- or multi-use areas that serve populations well beyond the Walnut Creek city limits. Regional Employment Districts are connected to each other and other building blocks via transportation corridors, including arterial and collector streets and pedestrian paths.
- **Regional Parks and Open Space Areas.** These areas include Walnut Creek's four municipal open space areas (Lime Ridge, Shell Ridge, Acalanes Ridge, and Sugarloaf), as well Heather Farm Park.

LANDMARKS AND NODES

Landmarks and nodes are reference points that help people orient themselves in the community. Landmarks are prominent physical objects that serve as visual focal points. Nodes are gathering places and significant points of activity. Locations for a number of city landmarks are shown in Figure 16.

The landmarks are listed here in general geographic order from north to south and west to east.

- Pleasant Hill BART station
- Lindsay Wildlife Museum in Larkey Community Park
- Golden Triangle office buildings
- Walnut Creek BART station
- Target
- Dean Lesher Regional Center for the Arts
- Civic Park (including the Library, Senior Center and Arts Center)
- Traditional downtown district at Main and Locust Streets between Civic Drive and Mt. Diablo Boulevard
- Liberty Bell Plaza
- Saint Mary's Church
- Office buildings at northwest corner of Mt. Diablo and California Boulevards (Gate-way Center and 1333 North California Boulevard, the wavy-front building)
- The Corners with the Oak Tree
- Fountains at Broadway Plaza
- Nordstrom
- Saranap Filling Station
- Kaiser Permanente Medical Center
- John Muir Medical Center
- Heather Farm Park
- Shadelands Ranch Historical Museum
- Boundary Oaks Golf Course
- Open Space Areas

GATEWAYS

Gateways are landmarks, nodes or views that define an arrival point. They promote community identity by providing unique reference points and orientation. Locations of vehicular gateways are shown in Figure 16.

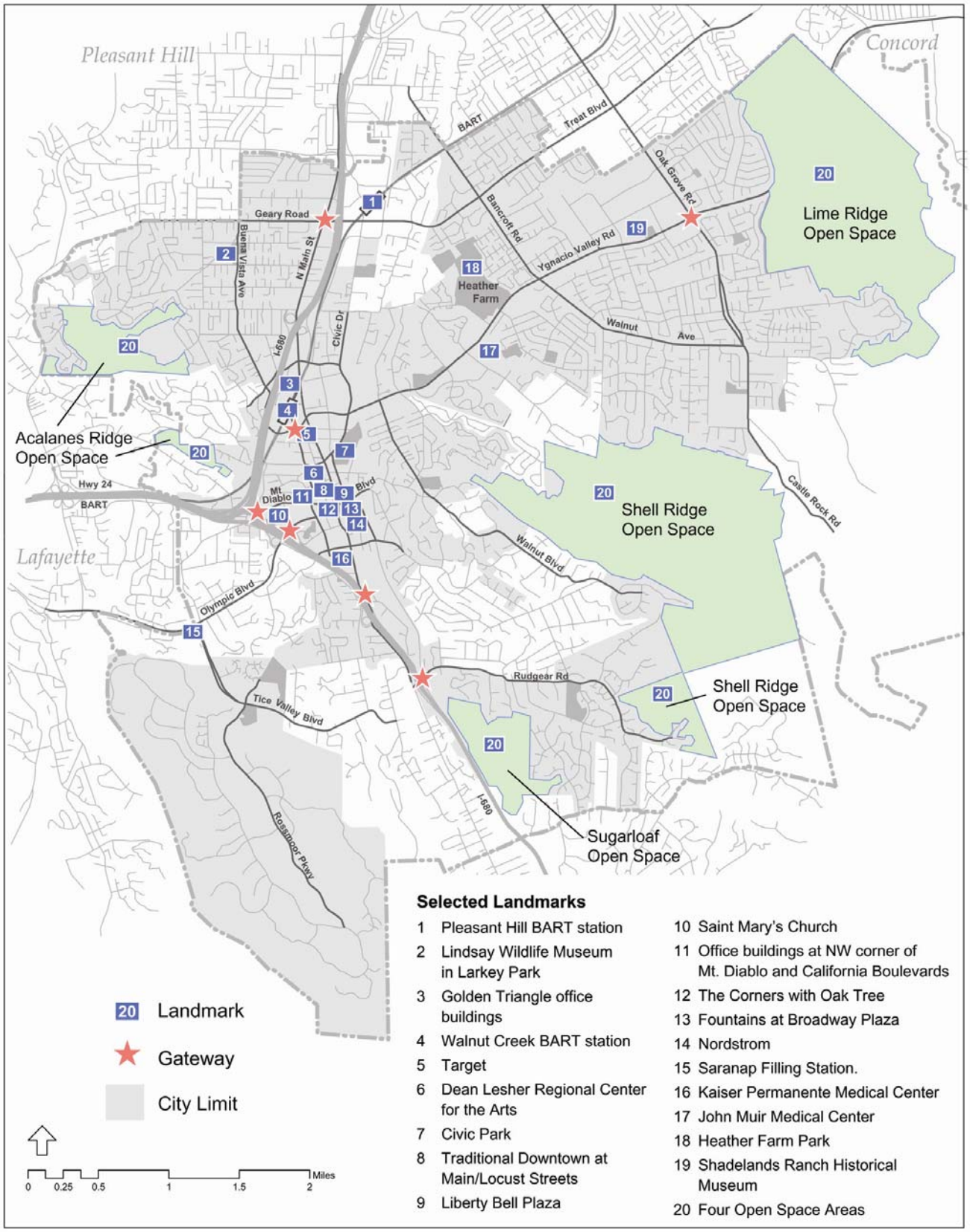

Figure 16. Landmarks and Gateways

There are seven major auto-oriented gateways into Walnut Creek, as shown in Figure 16. Six of these gateways are entrances to the city from a freeway and are located near freeway overpasses and multiple-lane arterials. These gateways are urban in character, focused on a major intersection and surrounded by built development, whether high-rise offices or one-story commercial or residential uses. In contrast, the gateway at Ygnacio Valley and Oak Grove Roads, which brings motorists along Ygnacio Valley Road through Lime Ridge Open Space and into the Ygnacio Valley Neighborhood District, is more rural and suburban in nature.

The seven gateways are listed below and described in detail in the *Urban Design Background Report*:

- North Main Street at Geary Road/Treat Boulevard
- Ygnacio Valley Road at North California Boulevard
- Mt. Diablo Boulevard at Oakland Boulevard
- Olympic Boulevard at I-680
- South Main Street at I-680
- South Broadway at Rudgear Road
- Ygnacio Valley Road at Oak Grove Road

SCENIC CORRIDORS AND VIEWS

The views from Walnut Creek to the surrounding open spaces and hills are of extreme importance to Walnut Creek residents. These views are integral to the city's identity, sense of place and character. The views, particularly those of Mount Diablo, also provide physical orientation. Mount Diablo, which is a major landmark and natural resource for Central Contra Costa County as well as for the wider San Francisco Bay Area, is visible from much of Walnut Creek. Preservation of views to the mountain is key to maintaining the quality of the city's identity. In addition, there are other types of rural and urban views that are important amenities to residents and visitors.

Scenic Corridors

A number of principal routes into and within the city are designated as Scenic Corridors in the 1989 General Plan and in the *Urban Design Background Report*. Scenic corridors are those that are traveled by many people, have a unique orientation with expansive views and/or are notable for their landscaping and streetscape. The scenic corridors mentioned in the 1989 General Plan are mapped in Figure 17. These corridors, which are described in detail in the *Urban Design Background Report*, are summarized as follows:

- **SR-24 and I-680.** Along SR-24 heading east into Walnut Creek and north and south on I-680, it is possible to see Mount Diablo and the surrounding hills above the city.
- **BART.** The open-air BART tracks run along SR-24 from the west and turn north to head to the Walnut Creek station. At the curve, views open up to the cityscape, Mount Diablo and the hills, and remain visible along the route to the Pleasant Hill BART station.
- **Broadway.** Broadway, between Parkside Drive and Newell Avenue, offers intermittent views to Mount Diablo and the hills.
- **South California Boulevard.** Mount Diablo is visible from the California Boulevard corridor when multi-story buildings do not block the view. Views to Acalanes Ridge are also visible.
- **Main and Locust Streets.** The historic, pedestrian-oriented downtown area of Main and Locust Streets between Civic Drive and Mt. Diablo Boulevard is an important visual resource to both pedestrians and motorists.
- **Mt. Diablo Boulevard.** Views from Mt. Diablo Boulevard driving east from I-680 provide a "classic" Walnut Creek view, with downtown urban develop-

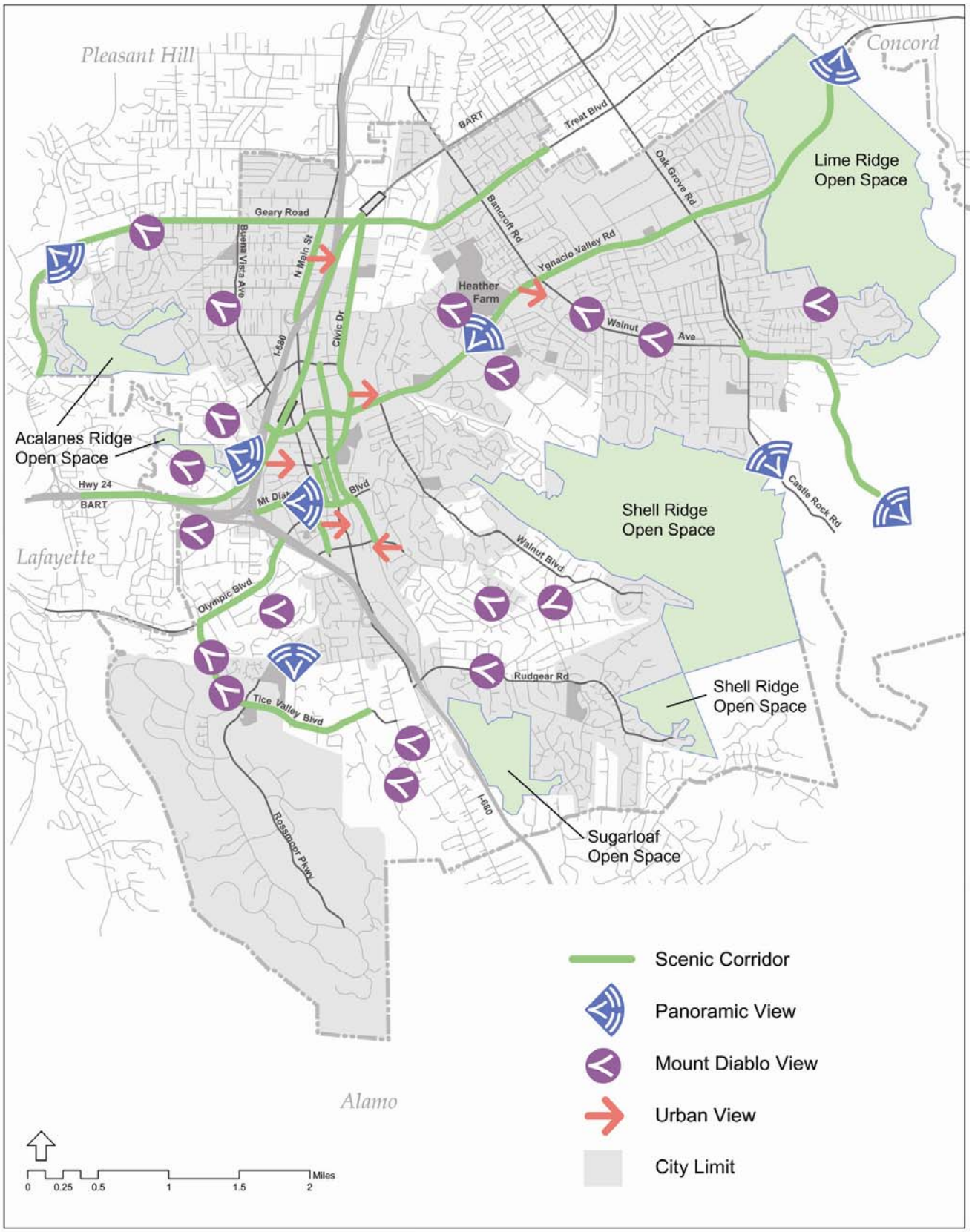

Figure 17. Scenic Corridors and Views

- ment in the foreground and Mount Diablo rising above, a prominent feature of the view.
- **North Gate Road.** This road runs from the eastern edge of Walnut Creek towards Mount Diablo. The character of the corridor slowly transitions from smaller-scale suburban to larger-lot suburban to rural until it reaches Mount Diablo State Park. At the gate into the park, there are views of the hills in all directions, including a view of the city's skyline to the west.
- **North Main Street.** There are views to Mount Diablo and the hills in places where development does not block the vista.
- **Oak Road/Civic Drive.** This corridor starts out as Oak Road (south from Treat Boulevard) and continues as Civic Drive starting at Parkside Drive to California Boulevard. The character of the corridor varies along its route and there are intermittent views to Mount Diablo.
- **Olympic Boulevard.** In the unincorporated area west of I-680, Olympic Boulevard is a five-lane corridor with a consistent red brick median and gray street lamps. One-story single-family residential areas are on both sides of the corridor. Although wooden fences separate some homes from the road, trees in the backyards contribute to the boulevard feel of the corridor.
- **Pleasant Hill Road/Geary Road/Treat Boulevard.** There are views of Mount Diablo and views of the minor hills on both sides of Pleasant Hill Road.
- **Tice Valley Boulevard.** This boulevard has four lanes and open views at its northern end, with Mount Diablo visible around the Rossmoor Center and at the Tice Valley Community Center.
- **Ygnacio Valley Road.** Ygnacio Valley Road offers views of Mount Diablo at various points along the corridor eastbound, especially at North Broadway, before the road descends into Ygnacio Valley near the John Muir Medical Center, and above the Ygnacio Plaza Shopping Center.

Scenic Views

In addition to views from the scenic corridors, other vantage points within the city offer impressive vistas, as mapped in Figure 17. These views vary from panoramas that include urban and rural components, to views of Mount Diablo and the minor hills that surround the city, to specifically urban views. Additionally, some views are wide and expansive, while others are framed by significant trees or buildings.

Panoramic Views

There are particularly impressive panoramic views throughout the city that include urban development below, with undeveloped hills and Mount Diablo above. Some of these vistas are seen from smaller residential streets in the Northwest, Terrace and Alamo neighborhoods, such as Quail View Circle, at the top of Monticello Drive, and at the top of the Trinity Avenue Bridge over I-680. These expansive urban and rural views are common where there is a slight rise in elevation accompanied with breaks in trees or development.

The Walnut Creek Open Space Areas also provide panoramic views over the city and valley. Entering the city from Concord on Ygnacio Valley Road in the Lime Ridge Open Space, the view opens up and it is possible to see Walnut Creek spread out below. There are similar views from the other Open Space Areas at lower elevations. Along Castle Rock and North Gate Roads, looking west towards the city, it is possible to see congregations of urban buildings with hills in the background.

Mount Diablo Views

Primary views of Mount Diablo can be had throughout the city, particularly along the Scenic Corridors. There are additional outstanding views of Mount Diablo from Alma Park and points along the following streets, listed alphabetically:

- Arbolado Drive, Arbolado
- Boulevard Way, Saranap
- Magnolia Way, Parkmead
- Mallard Drive, Northwest
- Marchbanks Drive, Marchbanks
- Mountain View Boulevard, Walnut Knolls/Murwood
- San Luis Road, Northwest
- Rudgear Road, Rudgear
- San Miguel Drive, Walnut Heights

Urban Views
Besides the panoramic views, with urban foregrounds, there are closer views of urban areas. One of the most impressive is seen driving west along Newell Avenue, just past the intersection with San Miguel Drive before descending into Downtown. From this Newell Hill area, the south end of Downtown, including the parking lot near Macy's and commercial buildings up to nine stories, are prominent in the foreground below, with the BART tracks and Acalanes Ridge in the background.

DESIGN REVIEW PRINCIPLES AND PROCESSES

The 1973 ordinance creating the Design Review process for the City of Walnut Creek described the link between the appearance of buildings and open spaces and property value. It also discussed the desire to avoid the neighborhood deterioration found in other urban communities as a result of poor planning and neglect of proper design standards. The focus of the Design Review process is to enhance community character and create an individual identity for Walnut Creek. The Design Review process is intended to promote high quality architectural design, site planning and landscape development. The process is aimed at improving and augmenting other development regulations included in the City's planning and building ordinances, and seeks to promote diversity and creativity in the development of building structures, site relationships and other aesthetic considerations.

Most new development, other than additions to single-family homes under a certain size, is subject to design review by the Design Review Commission or at a staff level, depending on the type of project and whether or not the drawings are prepared by a licensed architect. Development projects are reviewed against Design Review Guidelines adopted in July 1996. The Design Review Guidelines cover site design, architecture and signage, as well as oak tree preservation, creek restoration and the Downtown Enhancement Plan. The Guidelines for development in the pedestrian retail area and for new residential development were largely based on policies included in the 1989 General Plan.

Where applicable, development projects are also reviewed for conformance with design considerations included in adopted Specific Plans. Specific Plans for Alma Avenue, North Gate, East Mt. Diablo Boulevard and North Main Street/Ygnacio Valley Road all included design guidelines or regulations which have shaped development in these areas. In addition, the Locust Street Extension Block Plan/Special Study included Planning and Design Guidelines for the Olympic/California Boulevards/Botelho Drive parcel that became Andronico's Market and associated retail. A future Precise Plan for the Locust Street/Mt. Diablo Boulevard area will provide specific guidance for development of a 5.4-acre area in the traditional downtown area at the south end of Locust and North Main Streets.

STANDARDS OF SIGNIFICANCE

The Walnut Creek General Plan 2025 would create a significant aesthetic or visual resource impact if it would:

- Have a substantial adverse effect on a scenic vista.

- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway.
- Substantially degrade the existing visual character or quality of the site and its surroundings.
- Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

IMPACT DISCUSSION

Implementation of General Plan 2025 would allow development to occur in both vacant and underutilized portions of the city. The introduction or expansion of urban uses into these areas has the potential to interrupt views of natural features, open space, the hillsides, Mt. Diablo, and other visual resources, reducing the aesthetic value of these resources. Additionally, new development under the General Plan could increase the amount of light and glare in the community.

Policies affecting aesthetics and visual quality exist in several of the proposed General Plan chapters. Most of the policies related to aesthetics and visual quality are contained in the Urban Design section of the Built Environment Chapter. Additionally, the Quality of Life Chapter contains policies that speak directly to the visual character of the City. Chapter 3 Natural Environment and Public Spaces addresses parks, plazas and natural areas, all of which play a role in the overall aesthetic character of Walnut Creek.

The following discussion describes how the implementation of General Plan 2025 would affect the visual quality of Walnut Creek.

Scenic Vistas and Views

The scenic quality of Walnut Creek is characterized by panoramic views of surrounding undeveloped hillsides, views of Mount Diablo, and urban views. These views are available at various points throughout the city and along the scenic corridors.

General Impacts to Views

Development under General Plan 2025 could result in new structures, building heights and setbacks, or changes that degrade or impair the scenic quality of existing scenic vistas and views. Chapter 4 Built Environment Policy 18.1 and Actions 18.1.1, 18.1.2, and 18.1.3 would ensure that development would preserve the integrity of views from public view corridors and of open space land. The actions would impose protective measures, including development of guidelines to preserve and enhance notable public view corridors, and retention and expansion of the public visual buffers between developed areas.

Additional measures that would protect views and vistas would be imposed through Built Environment Policies 18.4 and 18.5, and Actions 18.4.1, 18.4.2, and 18.5.1 through 18.5.5. These measures would eliminate billboards in the city and underground utility lines, electrical transformers and similar utility structures along identified corridors and other strategic areas. These measures would reduce the visual clutter that could result from billboards and utility lines, and eliminate elements of the urban environment that could potentially disrupt important views. Furthermore, Policy 18.3 would direct the City to mitigate the visual impacts of walls and fences, including impacts to scenic views. Actions 18.3.1 through 18.3.3 would implement this policy by regulating the use, scale and appearance of walls and fences, limiting the use of sound walls. Policy 25.1(3) would require that permitted development on Open Space/Agricultural lands be located and constructed so as to prevent visual impacts on scenic vistas and existing neighborhoods.

Under General Plan 2025, the regulation of both building height limits and building setbacks would be used in sensitive areas to preserve views of surrounding natural areas. The City's requirement to step back building mass above 35 feet would help to minimize view loss that could occur at the street edge when

excessive building height is permitted at or near the street frontage.

Views of Open Space
General Plan 2025 could result in development that degrades or impairs the scenic quality of open space views throughout the city. Implementation of Built Environment Policy 26.1 would preserve Open Space/Agricultural Lands by prohibiting development on steep slopes or near ridgelines. Chapter 3 Natural Environment and Public Spaces Action 1.3.2 would also help protect views of open space by prohibiting facilities or structures that are incompatible with open space conservation and preservation.

For the reasons outlined above, development occurring under General Plan 2025 would not result in a substantial adverse impact on views or on the visual appearance of the open space lands that define the scenic quality of those views.

Scenic Corridors
The City has identified 13 scenic corridors (including SR 24/I 680) that have expansive views and/or are notable for their landscaping and streetscape. Changes to views from these corridors could result from future development under General Plan 2025. Built Environment Policy 18.2 would direct the City to improve the appearance and prominence of designated City Scenic Corridors. Through Built Environment Action 18.2.1 the City would review and update, if necessary, the designations of the Scenic Corridors. Action 18.2.2 would require a setback along Ygnacio Valley Road between Walnut Avenue and Oak Grove Road. These measures, and the measures discussed in the previous section, would help to maintain views within scenic corridors and impacts would be less than significant.

Scenic Resources
Scenic resources in Walnut Creek include the surrounding open spaces, hillsides, natural areas, creeks, historic resources, and trees. Development under General Plan 2025 could impair these resources.

Open Spaces and Natural Areas
In addition to the policies and actions protecting open space views discussed above, General Plan 2025 includes policies and actions promoting the protection and enhancement of open spaces and natural areas. Natural Environment and Public Spaces Policy 1.2 would direct the City to protect and enhance the natural environment, while Policy 5.3 directs the City to maintain and enhance parks. Additionally, Policy 1.3 would help to foster appropriate uses on open space lands. The City would support the retention of specific open space areas, such as the private open space ranch lands adjoining Mt. Diablo State Park and existing private open space lands within development projects under private ownership, through Policies 2.3 and 2.4, respectively.

Creeks and Riparian Corridors
With regard to creeks and riparian corridors, Chapter 3 Natural Environment and Public Spaces includes several protective policies and actions (Policy 3.1, Actions 3.1.2 and 3.1.3), and policies and actions to incorporate them into project designs (Policy 3.2, Actions 3.2.2 and 3.2.3). Implementation of these policies would not only help to protect creeks as scenic resources, but would also contribute to the overall aesthetic character of the areas in which the creeks exist.

Scenic Architectural and Historical Resources
The policies contained in Chapter 4 Built Environment promote the preservation, restoration, and compatible reuse of architecturally and historically significant structures and sites (Policy 16.1) and the protection of city landmarks, some of which have scenic resource qualities (e.g., Shadelands Ranch Historical Museum) (Policy 16.2, Action 16.2.1). Policies and actions to protect architectural and historical resources are discussed in greater detail in Chapter 4.7.

Other Scenic Resources
General Plan 2025 also includes policies addressing the protection of other scenic resources. Built Environment Policy 25.2 specifies that natural features, such as trees, hillsides and rock outcroppings, would be incorporated into new development. Several policies in the Chapter 4 Built Environment address protecting tree resources (Policies 25.1 through 25.5). Specific measures would include prohibiting the removal of native trees (Policy 25.1), assessing the effectiveness of the City's Tree Ordinance (Action 25.5.1), and setting tree canopy standards for new development (Action 25.5.3).

Given the above policies and actions, General Plan 2025 would not adversely affect scenic resources in Walnut Creek.

Overall Visual Character
The introduction and expansion of urban uses that would occur under General Plan 2025 has the potential to affect Walnut Creek's visual character. The visual character of Walnut Creek is defined by various elements of the natural and built environment, including open spaces, creeks, neighborhoods, circulation systems, streetscapes, architecture, landmarks and gateways.

Impacts to the visual character of an area can be caused by gradual or dramatic shifts from one land use to another, by changes to land use intensity, and by changes to architectural form and massing. The introduction of new uses, roadways, structures and other elements of the built environment can all affect visual character.

General Plan 2025 includes an extensive set of urban design policies and actions in the Urban Design section of Chapter 4 Built Environment. Several of these policies and actions seek to encourage development that benefits the visual character of Walnut Creek by encouraging development that is visually cohesive and compatible with its surroundings.

Implementation of General Plan 2025 would result in the adoption of several urban design policies and actions that would apply citywide. Through Built Environment Policy 13.1, the City would maintain its urban design and architectural standards and continue to use its Design Review Guidelines. New and existing commercial development would be encouraged to incorporate various public amenities that would contribute to visual character (Actions 13.2.2 and 13.2.4). Built Environment Action 13.1.1 would ensure that project design would be compatible with adjacent uses.

Building Heights
Several policies and actions regarding building heights would also apply citywide (Built Environment Policy 13.3 and Actions 13.3.1 through 13.3.4). Although exceptions or changes to building heights could occur as a result of these policies and actions, continued adherence to the City's Design Review Guidelines and design standards would ensure that these changes would not result in any significant impacts. Furthermore, such changes would be made with consideration of Goal 13, which advocates high quality building and urban design in Walnut Creek.

Neighborhoods
The neighborhood development policies under General Plan 2025 would generally have a beneficial effect on the existing visual character of neighborhoods. Chapter 2 Quality of Life Policies 1.1, 1.2, and 1.4, and the actions associated with these policies, would encourage development that strengthens the visual character and identity of neighborhoods. Built Environment Policy 5.1 would ensure that neighborhood infill development is compatible with the architectural design and scale of neighboring uses.

Gateways
Gateways promote greater community identity and contribute to the visual character of a place by providing people with unique reference points and orientation. General Plan 2025 recognizes the contribution that gateway de-

sign makes to the visual character of these entryways. Built Environment Policy 17.1 would encourage gateway designs that are welcoming and that emphasize Walnut Creek's unique qualities. Appropriate gateway design would be encouraged through Action 17.1.2 to prepare design guidelines for areas and properties adjacent to the seven key entryways to the city.

Other Visual Elements

Other elements of the built environment can contribute to a place's visual character. General Plan 2025 includes policies and actions that would provide beneficial aesthetic effects with regard to these elements. For example, Built Environment Policy 16.3 would encourage installation of public art as a means to beautify the public realm. Built Environment policies and actions regulating the use, scale, appearance and/or location of billboards, sound walls, walls, fences, utility lines and other structures would also have beneficial visual character impacts because they would help to minimize visual clutter, land use incompatibilities, and inappropriate or poor design of these features. The enhancement of pedestrian environments is the focus of several policies and actions in Chapter 4 Built Environment, including, but not limited to, Actions 20.1.1, 20.1.4, 21.1.1, and 23.2.1. Each of these policies and actions would enhance the visual quality of Walnut Creek.

Visual Character of Change Areas

The 21 change areas proposed under General Plan 2025 generally consist of developed but underutilized parcels. General Plan 2025 proposes to change the land use designations for several of the change areas. The Floor Area Ratio (FAR) for selected change areas is proposed to be increased. Revisions to height limits and density changes are also proposed for several change areas.

These changes have the potential to alter the visual character of each change area. Land use designation changes could alter the type of existing land use in a change area or add new land uses to an area. FAR increases could increase the size of buildings in an area. Revisions to height limits and densities could change the visual character of streetscapes and overall visual impressions of an area.

The intensification of development within the change areas would generally have a beneficial aesthetic impact by creating areas that are more visually cohesive. General Plan 2025 includes urban design and visual character policies that apply specifically to several of the change areas or to the Core Area as a whole, where eleven of the change areas are located. In addition, policies and actions that apply to the Pedestrian Retail District would apply to Change Areas 1, 3 and 4. These policies and actions are listed in Table 32. The change area(s) to which the policy or action applies is provided in parentheses.

Generally, the policies and actions in Table 32 would improve the visual character of each area by directing the City to prepare design guidelines, conduct design studies, and encourage beautification of these areas. The policies and actions generally focus on establishing well-designed, pedestrian-oriented development in each change area.

Light and Glare

Development under General Plan 2025 would introduce new sources of light and glare, particularly in areas with parcels that are currently vacant or underutilized. This development could have an adverse effect on the visual quality of these areas. Policy 25.7 of the Chapter 4 Environment would direct the City to study light pollution and develop actions to reduce its effects. Through Built Environment Action 25.7.1, the City would also consider adopting a "dark sky ordinance" aimed at reducing light spillage both upward and onto adjoining properties. Thus, implementation of the General Plan would not result in the creation of substantial sources of light or glare that would adversely affect day or nighttime views.

Although individual buildings constructed according to General Plan regulations could be

made with reflective surfaces that could have glare, such projects would be subject to individual environmental review under CEQA and would be evaluated for consistency with the Policy 24.5 and with the City's Design Review Guidelines for exterior lighting design, which require that light is not directed off site.

IMPACTS AND MITIGATION MEASURES

Since no impacts were identified, no mitigation measures are required.

Table 32

General Plan 2025 Visual Quality Policies That Apply to Change Areas

Policies and Actions	Change Areas to Which Policies and Actions Apply
Chapter 2 Quality of Life	
Quality of Life Action 6.1.1. Along North Main Street, work collaboratively with auto dealers, business owners, and property owners to facilitate improvements on their properties in line with City planning goals.	Change Area 8, 12, 21, 27
Chapter 3 Natural Environment and Public Spaces	
Natural Environment and Public Spaces Action 3.2.2. Encourage new development and redevelopment in the Core Area to take advantage of creeks and incorporate them in project designs.	all Core Area Change Areas
Natural Environment and Public Spaces Action 7.2.1. Define, design, and complete a network of public walkways and small open spaces in the Core Area.	all Core Area Change Areas
Natural Environment and Public Spaces Policy 7.1. Consider creating a large public plaza in the Traditional Downtown.	Change Area 1
Natural Environment and Public Spaces Policy 7.3. In conjunction with Core Area commercial and residential development and redevelopment, offer incentives for creating and maintaining public spaces, including pocket parks and plazas.	all Core Area Change Areas
Chapter 4 Built Environment	
Built Environment Action 3.1.1. Encourage mixed-use development at and near the Walnut Creek and Pleasant Hill BART Stations.	Change Areas 7, 13
Built Environment Policy 4.1. Develop specific plans, precise plans, concept plans, or area plans for underdeveloped and underutilized areas of the city that are changing or have the potential to change significantly.	Change Areas 1, 2, 3
Built Environment Policy 6.1. Retain and encourage a balance of local- and regional-serving retail businesses in the Core Area.	all Core Area Change Areas
Built Environment Policy 6.2. Retain and encourage a variety of different kinds of small stores and businesses in the traditional downtown.	all Core Area Change Areas
Built Environment Policy 6.3. Enhance the overall vitality of the Core Area south of Mount Diablo Boulevard.	all Core Area Change Areas
Built Environment Policy 6.4. Focus development in the Pedestrian Retail District toward retail and restaurants, and expand the area's potential to host arts and cultural events.	Change Areas 1, 3, 4
Built Environment Policy 6.5. Maintain the traditional downtown retail area primarily as a location for smaller scale stores and services.	all Core Area Change Areas

Table 32 (Continued)

General Plan 2025 Visual Quality Policies That Apply to Change Areas

Policies and Actions	Change Areas to Which Policies and Actions Apply
Built Environment Policy 7.2. Protect and enhance the service commercial and auto sales and service uses along upper North Main Street.	Change Area 12
Built Environment Policy 7.3. Maintain the Shadelands Business Park primarily as an employment center, while allowing some retail and restaurant use serving the Shadelands business community.	Change Area 11
Built Environment Action 7.3.1. Review and revise development regulations—such as minimum lot sizes and setbacks—for the Shadelands Business Park.	Change Area 11
Built Environment Policy 10.1. Support the development of medium- and high-density office, residential, and local-serving retail near and around the Walnut Creek BART station.	Change Area 7
Built Environment Action 10.1.1. Apply land use designations that encourage transit-oriented development around the BART stations and in the Core Area.	Change Area 7 and Core Area
Built Environment Action 10.1.2. Initiate the process to change Measure A height limits for sites that offer substantial transit-oriented development options.	Change Area 7
Built Environment Action 13.1.3. Review and keep up to date the building setback map for the Core Area, and amend the zoning ordinance as necessary.	all Core Area Change Areas
Built Environment Policy 13.2. Regulate building placement and upper-floor setbacks along important streets in the Core Area.	all Core Area Change Areas
Built Environment Action 13.2.3. Develop a comprehensive plan for siting and developing public spaces and publicly accessible spaces and plazas in the Core Area.	all Core Area Change Areas
Built Environment Action 13.3.3. Explore community interest in increasing Measure A heights to accommodate housing in mixed-use projects at appropriate locations—such as 1510 Geary Road (the former Co-op site), Rossmoor Shopping Center, and Palos Verde Mall.	Change Areas 12, 14, 15
Built Environment Action 17.1.1. At the [seven] key entry points, implement the installation of gateway designs that incorporate signage, landscaping, lighting, and other design elements.	Change Area 2, 5, 6, 8, 12
Built Environment Action 17.1.2. Prepare design guidelines for areas and properties adjacent to the seven key gateways to the city.	Change Area 2, 5, 6, 8, 12
Built Environment Policy 19.1. Use specific plans and precise plans for subareas within the Core Area.	all Core Area Change Areas

Table 32 (Continued)

General Plan 2025 Visual Quality Policies That Apply to Change Areas

Policies and Actions	Change Areas to Which Policies and Actions Apply
Built Environment Action 19.1.1. Prepare and implement a de-sign plan for a stronger visual and pedestrian connection between City Hall, Civic Park and the library, including streetscape improvements, a safe crossing of Broadway, orientation of Civic Park to City Hall, and the integration of an expanded or new community center with a new library.	all Core Area Change Areas
Built Environment Policy 19.2. Improve directional signage for pedestrians and vehicles within the Core Area.	all Core Area Change Areas
Built Environment Action 19.2.1. Design and implement a comprehensive Core Area directional sign program that shows parking garage locations, capacities, and availability; orients residents and visitors; and shows optimal routes for getting to key cultural, shopping and civic destinations in the city.	all Core Area Change Areas
Built Environment Action 19.2.2. Improve and add "wayfinding" signage.	all Core Area Change Areas
Built Environment Policy 19.3. Establish design guidelines for retaining and enhancing the identity of the auto sales and service district.	all Core Area Change Areas
Built Environment Action 20.1.1. Develop specific design guidelines for the Pedestrian Retail District aimed at maintaining and enhancing the pedestrian-oriented urban design character of the area.	Change Areas 1, 3, 4
Built Environment Policy 20.2. Maintain the special "small town" character, fine grain development (narrow lots, slender buildings, many different uses in proximity), and pedestrian orientation of the traditional downtown.	Change Area 1
Built Environment Policy 22.1. Protect and enhance the streetscape and service commercial uses along upper North Main Street (north of I-680).	Change Area 12
Built Environment Action 22.1.1. Implement the Geary Road/North Main Street Area Plan.	Change Area 12
Built Environment Policy 22.2. Encourage beautification and intensification of development along West Mt. Diablo Boulevard and Boulevard Way.	Change Area 2
Built Environment Action 22.2.1. Working with the County, study narrowing Boulevard Way toward improving the pedestrian character and providing land for intensification of development and pedestrian amenities.	Change Area 2
Built Environment Action 22.2.2. Develop design guidelines for the West Mt. Diablo Boulevard area.	Change Area 2
Built Environment Policy 23.2. Improve the image and functionality of the Shadelands Business Park.	Change Area 11

Table 32 (Continued)

General Plan 2025 Visual Quality Policies That Apply to Change Areas

Policies and Actions	Change Areas to Which Policies and Actions Apply
Built Environment Action 23.2.1. Develop a comprehensive walkways plan for, and require streetlights and sidewalks in, new development and redevelopment in the Shadelands Business Park.	Change Area 11
Built Environment Policy 23.3. Encourage development around the Pleasant Hill BART station that supports the County's Specific Plan goals for well-designed, transit- and pedestrian-oriented development.	Change Area 13
Built Environment Action 23.3.1. Work with the County toward ensuring that development of the Pleasant Hill BART station area is compatible with and accessible to adjacent areas within the incorporated City.	Change Area 13

CHAPTER 4.7

Cultural Resources

This section summarizes information on cultural resources in Walnut Creek and provides an evaluation of the effects the General Plan 2025 would have on these sensitive resources. A detailed summary of cultural resources can be found in the *Cultural Resources Background Report.*

EXISTING SETTING

WALNUT CREEK PREHISTORY

Prehistoric Overview
The San Francisco Bay region has been inhabited for more than 10,000 years by diverse peoples. During the prehistoric period, this area emerged as a distinctive cultural center, with influences extending to and from the Central Valley and Coast Ranges.

The first inhabitants of central California, the Paleo-Indians, left little evidence of occupation in the San Francisco Bay area.

At about 6,000 B.C., archaeological evidence points to a shift in central California from the nomadic hunting of the Paleo-Indians to a somewhat more sedentary culture with a primary dependence on plant foods.[1] Evidence of this "Millingstone complex" has been identified in the North Coast Ranges, but is not well documented in the Bay Area.[2]

Around 3,000 B.C., specialized and selective exploitation of particular environments began to appear.[3] In the Central Valley, the Windmiller Pattern developed at this time. An archaeological "pattern" is conceived as a configuration of basic traits representing a cultural adaptation. The Windmiller Pattern is evidenced by non-obsidian, stemmed projectile points, small mortars, and internment in intra-village grave plots and in off-village cemeteries.[4]

Slightly later, in the San Francisco Bay region, the Early Bay or Berkeley Pattern developed. Traits of this pattern include ground stone mortars and pestles, dart projectile points, and ceremonial burials of birds and animals.[5]

A new culture, termed the Meganos Aspect, developed in Central California between 1,000 and 500 B.C. This culture, representing a fusion of the Windmiller and Berkeley traits, spread for a period of about 200 years through Alameda and Contra Costa counties, taking over some sites and causing the abandonment of others.[6,7] The

[1] Stewart, S. Prehistoric Overview Northwest Region: California Archaeological Inventory. Volume 4: Alameda, Contra Costa and Marin (Sonoma State University, Rohnert Park: Anthropological Studies Center, 1982), 1.

[2] Stewart, S., 1.

[3] Stewart, S., 1.

[4] Bennyhoff, J.A. and D.A. Fredrickson. A Proposed Integrative Taxonomic System for Central California Archaeology. Unpublished 1969 paper reprinted (and rewritten) in 1994, in: Toward a new Taxonomic Framework for Central California Archaeology: Essays by James A. Bennyhoff and David A. Fredrickson, assembled and edited by R.E. Hughes, p. 22. (Contributions of the University of California Archaeological Research Facility, No. 52, Berkeley, 1969).

[5] Bennyhoff and Fredrickson 1969, 22-23.

[6] Bennyhoff, J.A. *A Delta Intrusion to the Bay in the Late*

Meganos Aspect people apparently retreated by A.D. 500. At the same time, there was a disruption in Miwok continuity from Marin through the Central Valley. At about A.D. 700, an abrupt change, signaled by the arrival of the ancestral Bay Miwok, appears in the archaeological record.[8]

Ethnographic Overview

During the late prehistoric and early historic periods, the San Francisco Bay area was occupied by scores of small independent tribal territories known as 'tribelets.' Each tribal territory, ranging from eight to 12 miles wide, contained a number of intermarried families that comprised a small, autonomous political organization of 200 to 400 people.[9] Members of the local groups hosted dances, pooled their labor during harvest periods, defended their territory, and resolved disputes. [10]

The tribes around San Francisco Bay spoke dialects of five mutually-unintelligible languages: Bay Miwok, Costanoan, Plains Miwok, Patwin, and Wappo.[11] Of these, the Bay Miwok occupied the eastern portions of Contra Costa County from Walnut Creek east to the Sacramento-San Joaquin Delta, and south to the northern slopes of Mount Diablo. [12,13]

Their area of dominance was limited to the interior valleys of the East Bay and may have included the bayshore area in the present East Oakland area. [14]

The rich and diverse ecosystem of the San Francisco Bay sustained a very small population by today's standards, but the population was actually dense for a nonagricultural society.[15] Direct estimates of Bay Miwok settlement populations are limited to one account from April 3, 1776, in which members of the Anza expedition visited a village near Antioch and estimated the population to be 400 persons.[16] Based on this figure, the total Bay Miwok population, circa 1776, has been estimated at about 1,700 persons.[17]

The Bay Miwok were the first of the Eastern Miwok to undergo missionization, with the first recorded Bay Miwok converts coming from the *Saclan* tribelet to Mission San Francisco in 1794.[18] The first baptisms of Bay Miwok occurred between 1805 and 1812.[19] Many Bay Miwok tribelets later disappeared due to the combined effects of missionization and epidemics, which killed thousands in the first half of the nineteenth century.[20]

Archaeological Research in the City of Walnut Creek

In the early 1960s, several archaeological sites in the Walnut Creek and Alamo areas of Contra Costa County were investigated. Excavations at four sites-La Serena (CA-CCO-30), Stone Valley (CA-CCO-308), Rossmoor (CA-CCO-309), and Alamo (CA-CCO-311)-identified seven different prehistoric components assignable to the Central California cultural sequence.[21,22,23]

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*Middle Period in Central California (*Paper presented at the Annual Meetings of the Southwestern Anthropological Association and the Society for California Archaeology, San Diego, California, 1968).

[7] Stewart, S., 3

[8] Stewart, S., 3

[9] Milliken, R. A Time of Little Choice: The Disintegration of Tribal Culture in the San Francisco Bay Area 1769-1810 (Menlo Park, California: Ballena Press, 1995), 21.

[10] Milliken, R., 21.

[11] Milliken, R., 13.

[12] Levy, R. Eastern Miwok. Pp. 398-413 in Handbook of North American Indians, Volume 8 (Washington, D.C.: Smithsonian Institution, 1978).

[13] Bennyhoff, J.A. Ethnogeography of the Plains Miwok. (Davis, California: Center for Archaeological Research at Davis Publication No. 5, 1977), 164.

[14] Milliken, R., 24.

[15] Milliken, R.,19.

[16] Levy, R., 401.

[17] Ibid.

[18] Levy, R., 400.

[19] Levy, R., 401.

[20] Levy, R., 400.

[21] Fredrickson, D.A. Recent Excavations in the Interior of Contra Costa County, California. Reprint from Symposium on Central California Archeology: Problems, Programs, and Interdisciplinary Approaches. On file, California Historical Resources Information System, Northwest Informa-

Together, these sites represent an almost continuous chronological sequence extending from possibly 2000 B.C. to A.D. 1700, a period of almost 4000 years.[24] The various archaeological periods in central California history are summarized in Table 33. Based on his assessment of the sites, Fredrickson suggests that cultural influences on Middle Horizon components in the Walnut Creek-Danville vicinity appear to have come from the lower Sacramento Valley, with some influence also from the Napa Valley.[25] One of the striking characteristics of both Middle Horizon components at CA-CCO-308 was the vast area encompassed - estimated to cover approximately 200,000 square feet.[26]

During the Middle Horizon-Late Horizon Transition Phase, the cultural affiliation of the Walnut Creek-Danville vicinity appears to have been with the San Francisco Bay region rather than with the Sacramento Valley.[27] Transition Phase people may have entered the Walnut

Creek-Danville vicinity with technological innovations, such as the bow and arrow.[28] Territorial boundaries may have been fairly well established by this time, and the archaeological remains in the vicinity from this time on probably represent the ancestral Bay Miwok.[29] A period of cultural continuity followed this phase, which persisted until European contact.[30]

Research Methods and General Results

As background for this analysis, a records and literature search was performed at the Northwest Information Center of the California Historical Resources Information System. This search included a review of maps, records, National Register of Historic Places (NRHP) listings, the State of California Historic Landmarks register and county and city registers for historic sites.

The records and literature search revealed that 15 prehistoric cultural resource sites, which are listed in Table 34, have been recorded (with another two sites identified, but not officially recorded) within present day Walnut Creek city limits. Prehistoric archaeological resources in the Walnut Creek area include habitation sites, burial sites and burial mounds, lithic scatters, shell middens, shell and earth middens, bedrock mortars, and cupule boulders. Typically, these sites are located in stream valleys, including those of Walnut Creek, Las Trampas Creek, Tice Creek, and San Ramon Creek.

The locations of these archaeological sites are recorded by the California Historical Resources Information System, but are kept confidential to prevent looting or vandalism of the sites.

HISTORY OF WALNUT CREEK

The City of Walnut Creek has a number of historic buildings and structures within its confines. The City's historic built environment has been partially inventoried. These buildings and sites are listed in Tables 35 and 36. The Cultural Resources Background Report discusses these resources in more detail.

Background research indicated there are two properties listed on the National Register of Historic Places (NRHP) and one State Point of

tion Center, Rohnert Park, under S-2321, 1965.

[22] Fredrickson, D.A. Social Change in Prehistory: A Central California Example. In: Antap: California Indian Political and Economic Organization, edited by L. Bean and T.F. King, pp. 55-74 (Ramona, California: Ballena Press, Ballena Press Anthropological Papers 2, 1974b).

[23] Moratto, M.J., 261.

[24] Fredrickson, D.A., Changes in Prehistoric Exchange Systems in the Alamo Locality, Contra Costa County, California. In Toward a new Taxonomic Framework for Central California Archaeology: Essays by James A. Bennyhoff and David A. Fredrickson, assembled and edited by R.E. Hughes, pp. 57-63. Contributions of the University of California Archaeological Research Facility, No. 52, Berkeley.

[25] Frederickson, 1974b, 64.

[26] Fredrickson 1974b, 61.

[27] Fredrickson 1974b, 66.

[28] Fredrickson 1974b, 66.

[29] Fredrickson 1977, 62.

[30] Fredrickson 1974b, 59.

Table 33

Archaeological Periods in Central California (after Fredrickson 1973)

Period	Date	Archaeological Site/Unit	Comment
Upper Emergent	A.D. 1500	Phase 2, Late Horizon	
Lower Emergent	A.D. 300	Phase 1, Late Horizon	
Upper Archaic	2000 B.C.	Middle Horizon	Intermediate Cultures
Lower Archaic	6000 B.C.	Early Horizon	Early San Francisco Bay; Early Millingstone Cultures
Paleo-Indian	10,000 B.C.?		San Dieguito; Western Clovis
Early Lithic?			Farmington?; Santa Rosa Island?

Table 34

Prehistoric Archaeological Sites in the City of Walnut Creek

Site Number	Primary number or Other State Site Designation	Description	Period of Occupation
CA-CCO-15		Burial site	N/A
CA-CCO-23	P-07-000042	Habitation/burial site	Late Horizon, Phase 1
CA-CCO-234	P-07-000116	Mound—habitation/burial site	N/A
CA-CCO-236	P-07-000118	Buchan Mound—habitation/burial site	
CA-CCO-238	P-07-000120	Mound at Walnut Creek on Pierson Place—habitation/burial site	
CA-CCO-242		Walnut Creek Mound—habitation/burial site	
CA-CCO-305		Sparse bone and shell scatter	
CA-CCO-309	State Historical Point of Interest (SHPI-CCO-007)	Rossmoor Site/Saclan Village	Late Horizon, Phase 2
CA-CCO-311	P-07-000674	Burial site	
CA-CCO-393	P-07-000728	Bedrock milling station	
CA-CCO-394	P-07-000729	Bedrock milling station	
CA-CCO-431	P-07-000217	Habitation/burial site with midden	
CA-CCO-442	P-07-000742	Habitation site with surface lithic scatter	
CA-CCO-473	P-07-000251	Lithic scatter	
CA-CCO-756	P-07-002594	Bedrock mortars	
C-674		Bedrock mortars, cupules	
C-1142		Shell and possible midden	

Table 35

Walnut Creek Buildings and Sites Identified as Potentially Historic in the 1989 General Plan and Other Sources

Parcel Number	Street Number	Street Name	Current Occupant
134121027	3093	Oak Grove Rd.	Citrus Circle Office
139180003	1035	Castle Rock Rd.	Shell Ridge O/S
142222032	2651	Oak Grove Rd	Dental Office & Lab
143030027	1500	Bancroft Rd.	Bancroft Gardens - Home
143040069	2680	Ygnacio Valley Rd.	Shadelands Ranch Historical Museum
173161002	2373	Walnut Blvd.	
174150044	2211	Main St.	Le Virage Restaurant
178071001	1924	Trinity Ave.	St. Paul's Parish
178160001	1387	Locust St.	Crogan's
178160005	1343-1347	Locust St.	Karate, Paint Pallette
178160008	1604	Mt. Diablo Blvd.	Home Chef
178160030	1614	Mt. Diablo Blvd.	Real Estate Agency
178160031	1628	Mt. Diablo Blvd.	Z Gallerie
178172003	1403	Main St.	Dress Barn
178172005	1410	Locust St.	Pyramid Brewery
178220007	1533-1535	Main St.	Restaurant/ Ofcs
178220011	1514-1518	Bonanza St.	Havana
178230012	1315	Main St.	La Fogata
178240019	1350	Main St.	Mechanics Bank
178250029	1432	Main St.	Crepes A Gogo
178250039	1410	Main St.	Schroder Insurance
178250044	1412-1414	Main St.	Mai Thai + other retail
178250045	1401	Broadway	Performance Bike/Ofc.
178261039	1330	Broadway	Misc. Retail Shops
178262020	1200	Mt. Pisgah Rd.	Office Building
178290001	1224	Lincoln Ave.	Business Offices.
179091009	2950-2960	Walnut Blvd	Howe Homestead Park
179131020	1056	Hacienda Dr.	The Mansion
180030019	2030	San Miguel Dr.	
180060036	44	Brubaker Ct.	
180080001	196	El Camino Corto	Land Bank La Rieu Estate
183050021	33-45	Quail Ct.	Multi-tenant Office
184060013	1250	Locust St.	American Legion Hall
138210011	1200	North Gate Rd.	
184311018	2291	Olympic Blvd.	Il Pavone Restaurant

Table 36

Walnut Creek City Landmarks

Address	Region	Name	National Register Status Code
30 Brubaker Drive		Brubaker Residence Heritage Valley Oak Tree	5S-Eligible for Local Listing Only
1224 Lincoln Ave.		Walnut Creek Women's Club	5S-Eligible for Local Listing Only
1035 Castle Rock Road		Borges Ranch	1S, 3-National Register GP
Civic Park		Civic Park Bridge	2S2-Determined eligible for separate listing by a consensus determination
2651 Oak Grove Road		Casey Residence	(Contra Costa County Planning Department Survey) Property was determined NRHP ineligible but eligible at local level via City Council Resolution #3955 passed May 20, 1980
Tice Valley	Tice Valley	Saklan Indian Village	7L-California State Point of Historical Interest
2660, 2680 Ygnacio Valley Road	Ygnacio Valley	Shadelands Ranch Historical Museum	7L, 1S AC, 7K, 3S-National Register/California State Point of Historical Interest CCo-5 GP

Historical Interest in Walnut Creek. An inventory sponsored by the Contra Costa County Planning Department in 1975 helped establish a better historic resources baseline for the City, and has been incorporated into the attached tables. Various consultants have produced historic site inventory forms for development projects that are on file with the Sonoma State Anthropological Center. City of Walnut Creek Public Information Officer Brad Rovanpera developed an historic buildings list that is now on file at the Walnut Creek Historical Society Shadelands Ranch Historical Museum. Figures 18 and 19 present the location of some of these resources.

STANDARDS OF SIGNIFICANCE

The Walnut Creek General Plan 2025 would create a significant impact with regard to cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in Sec. 15064.5.
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Sec. 15064.5.

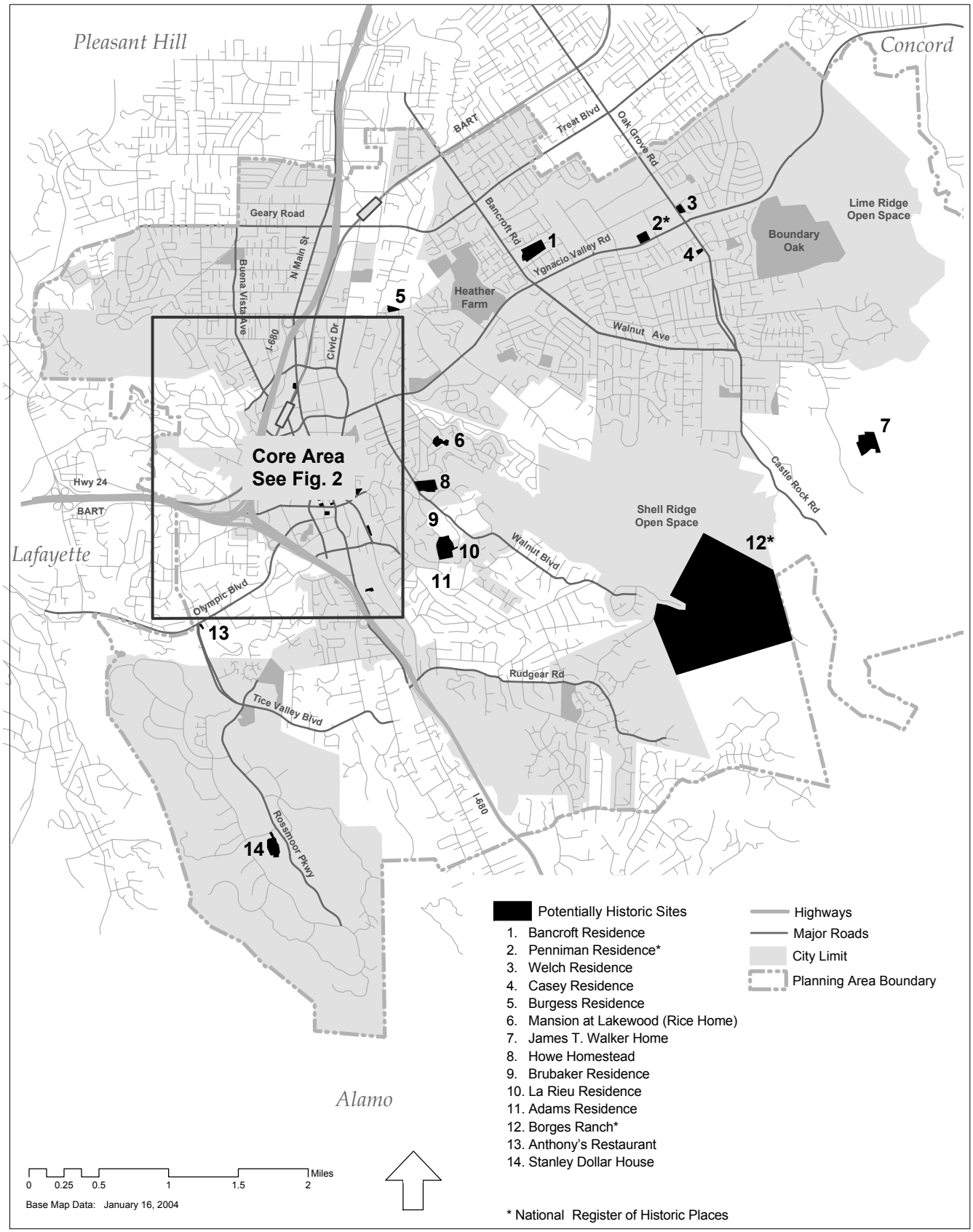

Figure 18. Potentially Historic Sites in Walnut Creek

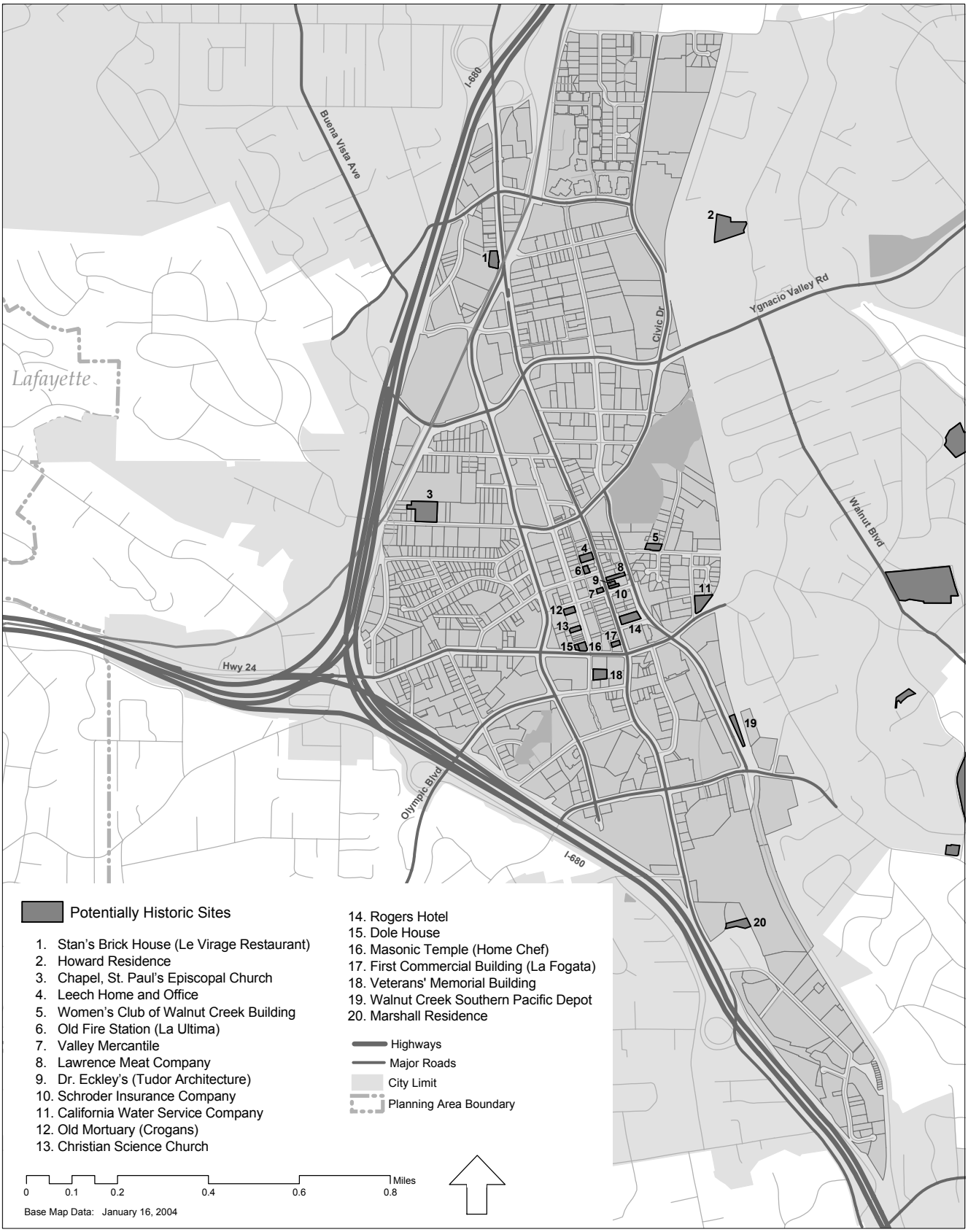

Figure 19. Potentially Historic Sites in the Walnut Creek Core Area

- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
- Disturb any human remains, including those interred outside of formal cemeteries.

IMPACT DISCUSSION

General Plan 2025 includes goals, policies and actions that focus on preserving and protecting significant archaeological and historic resources, as well as protecting neighborhoods with unique characteristics and protecting designated landmarks.

ARCHAEOLOGICAL AND PALEONTOLOGICAL RESOURCES

The Planning Area likely contains still undiscovered archaeological and paleontological sites that could be impacted from ground activities involving ground removal or disturbance. In order to protect archaeological and paleontological sites and resources, Built Environment, Chapter 4 of General Plan 2025, contains Goal 24, Policy 24.1 and Actions 24.1.1 and 24.1.2 to protect and conserve archaeological and paleontological resources. Under the General Plan 2025, the City would require review for the presence of archaeological and paleontological resources in or near identified sites on the City's Archaeological sensitivity map, and for major new projects, the City would require consultation with the repository at Sonoma State University. The City would also continue requiring developers to halt work if cultural resources are encountered at a construction site. General Plan 2025 also requires that mitigation measures be recommended by the California Archaeological Inventory, or a qualified archaeological consultant.

HISTORIC RESOURCES

The Quality of Life and Built Environment Chapters of the proposed General Plan contain policies and actions directed at protecting Walnut Creek's historic resources. Any development under the General Plan 2025, particularly demolition or changes to building exteriors has the potential to affect historic resources. The plan envisions that the Traditional Downtown would retain its smaller scale buildings and character and that infill development would be done in a manner that is sensitive to existing development.

Existing Resources and New Development
As shown in Tables 35 and 36, Walnut Creek has numerous buildings, sites and landmarks that are considered potentially historic. Policies and actions in the General Plan 2025 include direction to the City to foster the preservation, restoration, and compatible reuse of architecturally and historically significant structures and sites (Built Environment Policy 16.1). Actions require the city to develop an inventory of historically significant properties (Built Environment Action 16.1.1) and develop a Historic Preservation Plan and supporting ordinances (Built Environment Action 16.1.2). In addition, historic landmarks would be protected through Built Environment Action 16.2.1 which calls for the City to develop an inventory of city landmarks and focal points. With implementation of these actions, the City would have a means for intervening when a historic property or landmark becomes seriously deteriorated or threatened with demolition. These policies and actions would result in beneficial effects of the proposed General Plan.

IMPACTS AND MITIGATION MEASURES

Since no impacts were identified, no mitigation measures are required.

CHAPTER 4.8

Geology & Seismic Hazards

This chapter summarizes information on geologic and seismic hazards in the City of Walnut Creek and provides an evaluation of the effects of the proposed General Plan with regard to these potential hazards.

EXISTING SETTING

This section describes general geologic conditions and related hazards in the Walnut Creek Planning Area (Planning Area). Specific topics addressed include a description of the active fault zones located within and near the Planning Area, and the potential for earthquake-induced surface rupture, ground shaking, landslides, and liquefaction. This existing setting discussion begins with a summary of State regulations applicable to geologic hazards.

Information on the geologic, seismic, and soil conditions was gathered from publications and on-line resources of the California Geological Survey (CGS), the US Geologic Survey (USGS), the US Natural Resources Conservation Service, and the Association of Bay Area Governments (ABAG).

REGULATORY FRAMEWORK

Two primary state laws apply to geologic hazards in California. A brief explanation of each law follows.

Alquist-Priolo Earthquake Fault Zones Act
The Alquist-Priolo Earthquake Fault Zones Act[1] delegates various responsibilities and functions to the State Mining and Geology Board, the State Geologist, and local municipalities with the intent of mitigating the hazard of surface fault rupture by prohibiting construction of habitable structures on the traces of active faults. The Act requires that the State Geologist delineate Earthquake Fault Zones (EFZs) that encompass surface traces of "sufficiently active and well-defined faults" in California. The Act also requires the State Geologist to prepare maps that show the boundaries of Official EFZs and distribute the maps to municipalities affected by the fault zones.

The Act requires municipalities to withhold approval of land development projects and permits for structures intended for human occupancy on land located within the EFZs until a geologic investigation is conducted and a geologic report is submitted to the jurisdiction for review and approval. The CGS[2] has produced a series of formal notes that outline the appropriate scope of such investigations and reports. The Act also requires sellers of such parcels to disclose to prospective buyers that the land is located within an EFZ. (Note: The EFZ for the Planning Area is shown on Figure 21.)

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[1] California Public Resources Code, Chapter 7.5, Division 2. Originally entitled the Alquist-Priolo Special Studies Zones Act until its 1993 renaming.
[2] Formerly the California Division of Mines and Geology, the name was changed to "California Geological Survey" in 2003.

Seismic Hazard Zones Act
Ground shaking, liquefaction, landslides, and other types of ground failures account for approximately 95 percent of the economic losses caused by earthquakes. The Seismic Hazard Zones Act of 1990 (California Public Resources Code Chapter 7.8, Division 2) mandates that the State Geologist identify and map the state's most prominent earthquake hazards, or "Seismic Hazard Zones", in order to protect public health and minimize damage resulting from these hazards.

The maps identify areas prone to earthquake-induced landslides and liquefaction based on recent surface and subsurface geology, historic groundwater levels, and reports documenting damage associated with geologic effects resulting from past California earthquakes. Municipalities affected by the seismic hazard zones must regulate development within the zones and must require submission of a geotechnical report defining and delineating all seismic hazards present at the property. Projects can be approved only after all seismic hazards are adequately evaluated and appropriate mitigation measures are recommended. The CGS has prepared specific guidelines (SP 117) for such reports. The Southern California Earthquake Consortium has prepared recommended procedures for complying with the State's guidelines.

Several years ago, pursuant to the requirements of the 1990 California Seismic Hazards Zones Act (Public Resources Code, Chapter 7.8, Division 2), the CGS began producing maps showing both liquefaction-prone areas and earthquake-induced landslide-prone areas in urbanized portions of the state. However, as of March 2004, no such maps had been produced that cover the Planning Area. At this time, the Las Trampas Ridge Quad is identified as one of the quadrangles scheduled to have a Seismic Hazard Zone Map produced in the future. As of March 2004, the Walnut Creek and Clayton Quads were not scheduled to have Seismic Hazard Zone maps produced.

GEOLOGIC SETTING

Local Geology
The Planning Area is underlain by Tertiary-age marine and non-marine sedimentary bedrock units that have been folded and faulted. Interlayered units range from erosion-resistant, ridge-forming sandstones and conglomerates to relatively weak, soil-like, valley-forming siltstones and claystones. Erosion of the less-resistant units has produced a number of parallel valleys and linear ridges in which streams have deposited alluvium (gravel, sand, silt, and clay). In addition, some igneous and metamorphic rocks (diabase and serpentine) underlie the easternmost portion of the Planning Area.[3]

The urban core is situated on the broad alluvial plain deposited by Walnut Creek and its tributary streams. Residential development has extended eastward into Ygnacio Valley and southwestward into Tice Valley. The ridges that bound these valleys on the east and west have relatively steep slopes that are mantled locally by colluvium and landslide deposits.[4]

Faults
A fault is a fracture in the ground surface or fracture zone along which there has been displacement of one side with respect to the other. Earthquakes are usually caused by the sudden release of accumulated elastic strain energy stored in the rock adjacent to an active fault. An active fault (one that has moved in the last 11,000 years) is a fault that is likely to have another earthquake sometime in the future.[5]

The Planning Area is situated in a seismically active region that contains several historically active faults that have produced strong earth-

[3] Crane, 1998; Dibblee, 1980a, 1980b, 1980c, 1980d; Gaymer, et al. 1994.
[4] Haydon, 1995; Majmundar, 1995; Nilsen, 1975a, 1975b, 1975c, 1975d.
[5] http://earthquake.usgs.gov, downloaded on March 16, 2004.

quakes in the recent past. Figure 20 shows the locations of active faults in the region.[6] These faults are:

- The **San Andreas Fault** was the source of the 8.2 magnitude San Francisco Earthquake in 1906 and the 6.9 magnitude Loma Prieta Earthquake in 1989. It passes within 26 miles of the southwestern edge of the Planning Area.
- The **Hayward Fault** was the source of the 7.0 magnitude Hayward Earthquake in 1868. It passes within 8 miles of the southwestern edge of the Planning Area.
- The **Concord Fault** is actively creeping and passes through the eastern portion of the Planning Area.
- The **Greenville Fault** was the source of two 5.9 Livermore Earthquakes in 1980. It is located 3 miles east of the Planning Area.

In addition, several potentially active faults cross the Planning Area:

- The **Mt. Diablo Thrust Fault** is believed to be active and is mapped as extending into the southeastern portion of the Planning Area.
- The northern extension of the **Calaveras Fault** has been mapped across the western portion of the Planning Area. Although the Calaveras Fault is known to be active southeast of Danville, 4.5 miles to the southeast of the Planning Area, as of March 2004, there was no certain evidence of recent activity along the mapped trace of the northern extension of the Calaveras Fault where it passes through the Planning Area.[7]
- The **South Hampton and Franklin Faults** have been mapped as branching off of the northern end of the Calaveras Fault in the northwestern portion of the Planning Area.

[6] Working Group on California Earthquake Probabilities, 2002.

[7] Schwartz, 2004, personal communication, USGS.

Several geologists[8] have mapped surface traces of these faults in slightly different locations. The generally-accepted locations are shown in Figure 21. The potential for these faults to release earthquake energy is uncertain. However, the California Department of Transportation (Caltrans) included them as potential earthquake sources on the 1996 Seismic Hazard Map of California used in highway designs.

SOILS

Hillside areas of Walnut Creek are especially prone to landslides when combined with steep slopes. Soils within these areas are typically clayey and usually contain a moderate to high shrink-swell potential. The erosion potential of hillside soils range from high to low. Runoff also varies from high to low.

Flatland areas generally contain loamy soil or silty clay loam derived from alluvial fans and terraces. Much of this ground is level, so the possibility of landslides or mudslides is minimal.[9]

Soils in the hillside areas of Walnut Creek have moderate to high shrink-swell potential. Expansive soils, with shrink-swell potential, exist in much of the flatland areas of the Planning Area.[10]

Landsliding

Landslides tend to occur on steep slopes underlain by weak bedrock and thick soil. Some landslides are caused by a rise in ground water levels following periods of heavy rainfall. Strong earthquake shaking can reactivate dormant landslide deposits and cause new landslides. A number of factors need to be considered to determine whether or not a

[8] Saul, 1973; Dibblee, 1980a, 1980b, 1980c, 1980d; Gaymer, et al., 1994; Haydon, 1995.

[9] City of Walnut Creek, *1989 Walnut Creek General Plan*, page 6-8.

[10] City of Walnut Creek, *1989 Walnut Creek General Plan*, page 6-8.

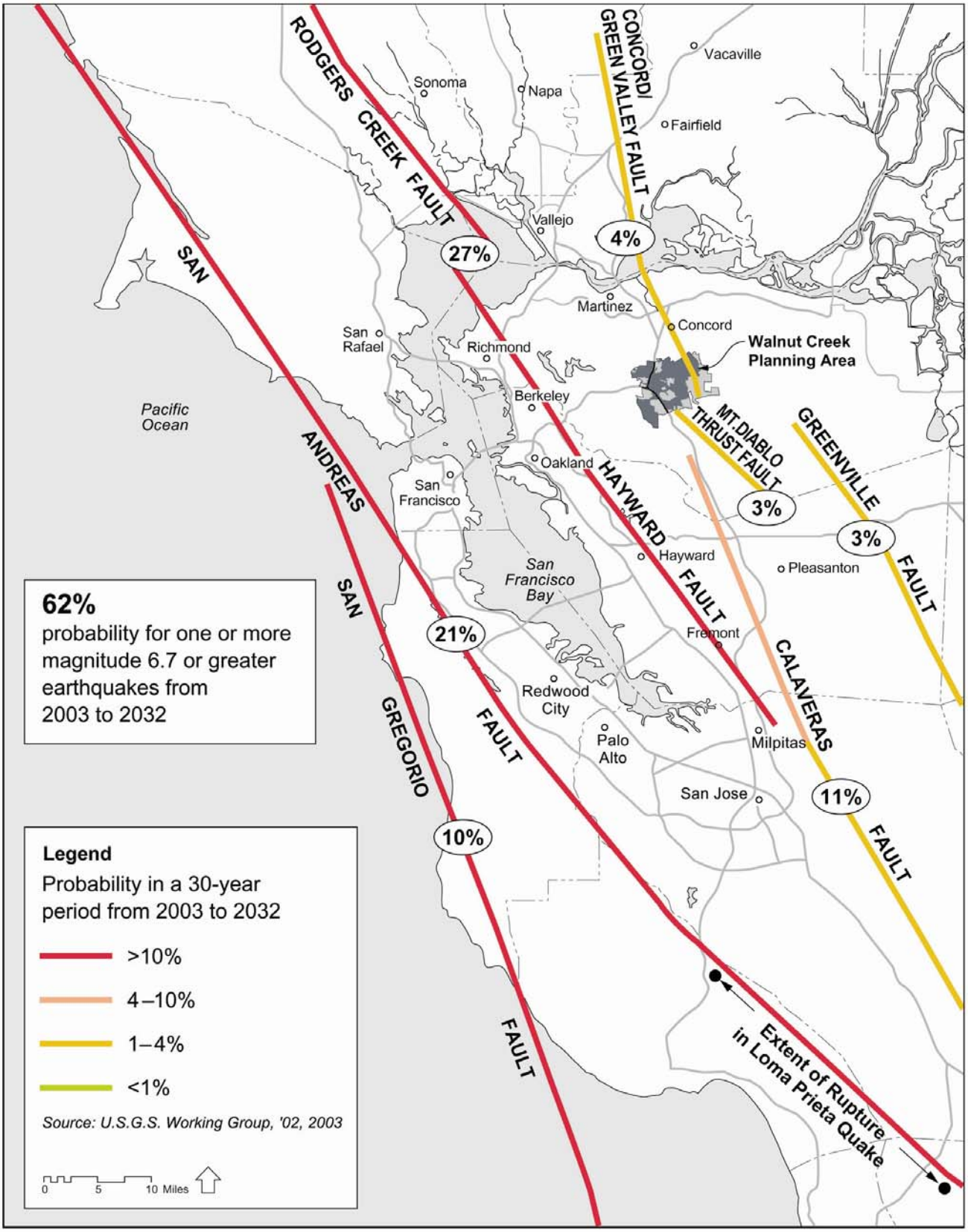

Figure 20. Regional Faults and Probabilities

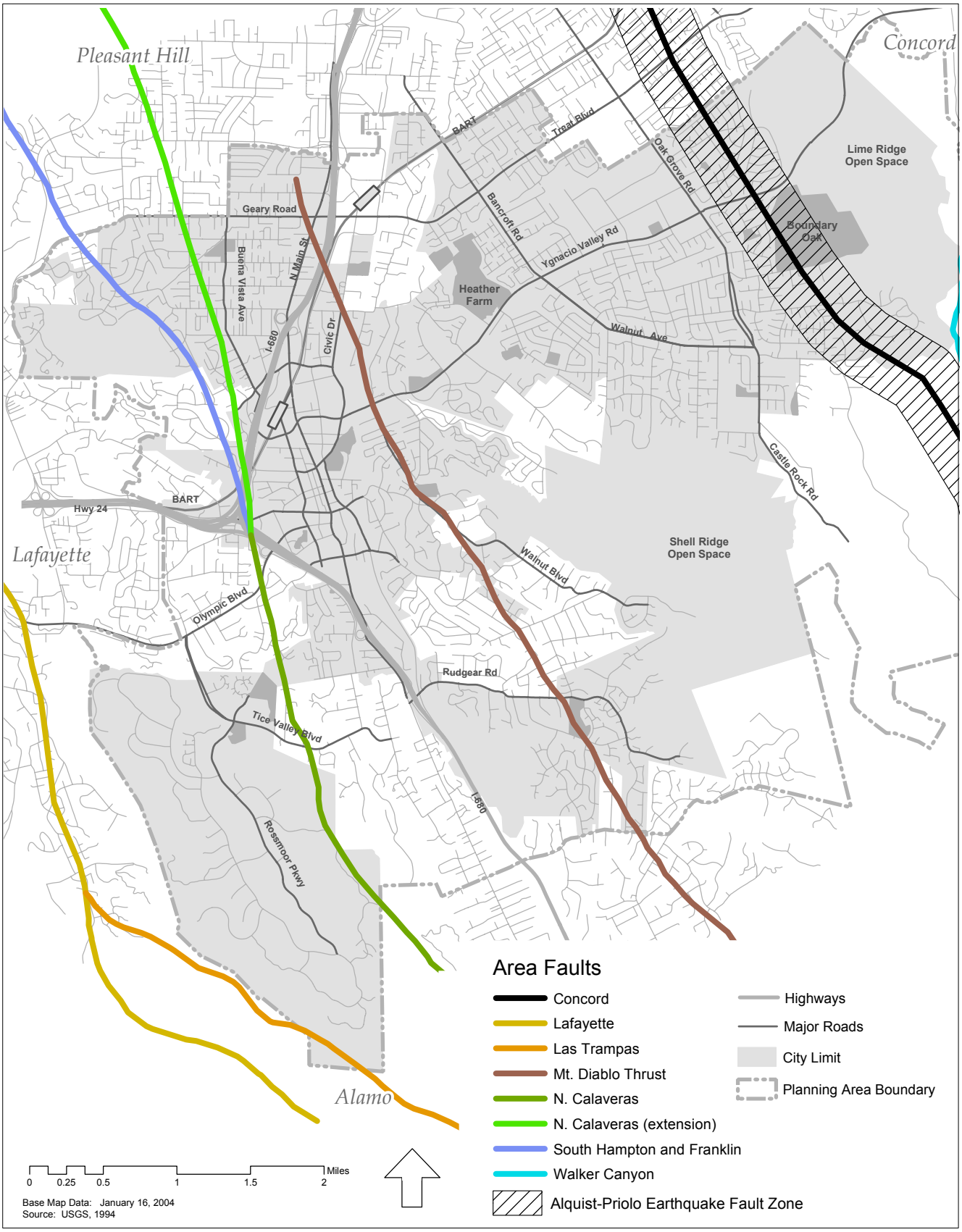

Figure 21. Area Faults

slope is prone to landslide. The steepness of the slope, the strength of the underlying soil and/or bedrock, ground water levels, intensity of earthquake shaking, and grading activity can all contribute in some way to instability. However, areas of past landslides are more likely to be reactivated than are other areas. Steep slopes are more prone to sliding.

In the Planning Area, the potential for landslides is greatest on slopes steeper than 15 percent and past landslide deposits. Photointerpretive mapping has identified a number of areas where past landslides have probably occurred.[11] Based on maps of past landslides and slope, the hillsides in the northwestern, southwestern, south-central, and eastern portions of the Planning Area should be considered prone to landslides.[12] Proposals to develop on hillsides with slopes greater than 15 percent or where past landsliding has occurred should include requirements for thorough, site-specific, engineering geologic and geotechnical investigations.

Mapped landslides have not been verified in the field. Some of the mapped landslides may have been caused or reactivated by the strong ground shaking of large earthquakes that originated on faults near the Planning Area. Such landslides have a high potential for renewed movement during future earthquakes.

The Regional Slope Stability Map published by the USGS[13] covers the entire Planning Area. Most of the mapped landslides are located within the "unstable" category on the regional map and on slopes steeper than 15 percent. Figure 22 shows these areas.

[11] Crane, 1988; Dibblee, 1980a, 1980b, 1980c, 1980d; Haydon, 1995; Majmundar, 1995; Nilsen, 1975a, 1975b, 1975c, 1975d; Saul, 1973.

[12] Nilsen, et. al., 1979.

[13] Nilsen, et al. 1979.

GEOLOGIC HAZARDS

Potential Earthquakes

The USGS Working Group on California Earthquake Probabilities (2003) used existing knowledge about the behavior of active faults in the San Francisco Bay Region to estimate the probabilities of each fault to release significant earthquakes (6.7 magnitude or greater) during the 30-year period between the 2002 and 2032. For the faults located in close proximity to the Planning Area, the Working Group estimated that probabilities for the Hayward/Rodgers Creek Fault are 27 percent. Probabilities for the northern segment of the Calaveras Fault are 11 percent; the Concord Fault is 4 percent; the Mount Diablo Thrust fault is 3 percent; and the Greenville Fault is 3 percent.

The Working Group estimated that the cumulative probability of a large earthquake to originate on one of the faults in the region is 62 percent. Figure 20 shows the locations of the faults and their estimated probabilities.[14]

Surface Fault Rupture

Surface fault rupture is caused by sudden displacement along an active fault where the fault plane intersects the ground surface. Fault creep can also occur as almost continuous, small displacements along active fault traces. Secondary or "sympathetic" rupture can occur along an otherwise uninvolved fault when a strong earthquake occurs on a nearby active fault. Such movement can cause severe deformation and damage to human-made structures. Therefore, it is important to identify areas where such ruptures are most likely to occur in the future. Generally, the deformation caused by surface fault rupture, fault creep, or sympathetic displacement is usually concentrated within the relatively narrow zone where ruptures occurred in the past.

Of all the faults mapped within the Planning Area, only the Concord Fault has been identified as "active" and has an Alquist-Priolo Zone

[14] Working Group on California Earthquake Probabilities, 2002.

delineated by the State Geologist on both sides of its mapped fault traces. The Concord Fault is shown in Figures 20 and 21.[15]

The potential for surface rupture to occur along other mapped fault traces within the city's Planning Area is uncertain. It is possible that some of the faults that are not currently identified as active by the State Geologist do, in fact, have some potential for surface rupture. Sympathetic movement is also a possibility along some of the faults not known to be active.

Ground Shaking
The Planning Area has experienced, and will continue to experience, strong ground shaking as a result of earthquakes along any of the active faults located in the San Francisco Bay Region. However, the intensity of shaking tends to diminish as the distance between a site and the source fault increases (referred to as distance attenuation). Several agencies have produced maps that show estimates of the strength of ground shaking that should be anticipated.

Table 37 summarizes current knowledge regarding the maximum magnitude of earthquakes that each fault in the region may release, the distance between the fault and the Planning Area, and the estimated relative intensity of ground shaking that may be produced within the Planning Area.

Liquefaction
Liquefaction is a process by which water-saturated soils and sediments lose strength and are transformed to a fluid-like state during strong earthquake ground shaking. Liquefaction of deep layers may cause the ground surface to deform through differential settlement or lateral spreading. Liquefaction most commonly occurs within water saturated, non-cohesive sandy soils and sediments located within 50 feet of the ground surface. As shown in Figure 23, mapped liquefaction susceptibility in the Planning Area varies from low to very high on the gently sloping valleys that cross the Planning Area.

According to the USGS, a zone of "high" liquefaction susceptibility extends several thousand feet to the east and west of Walnut Creek where it flows northward (east of Highway 680) in the central portion of the Planning Area. A narrow zone of "very high" susceptibility is mapped along the Walnut Creek channel north of the Contra Costa Canal. There are several somewhat narrower zones (less than 500 feet wide) of "high" susceptibility mapped along Tice Creek and San Ramon Creek in the south-central portion of the Plan ning Area. A much narrower zone (less than 150 feet) of "very high" potential follows San Ramon Creek west of Highway 680 in the southern portion of the Planning Area.

Several zones of "moderate" liquefaction susceptibility are mapped where Tice Creek and San Ramon Creek flow parallel from Rudgear Road to Mt. Diablo Boulevard. "Moderate" zones up to 1000 feet wide extend eastward along the north side of Rudgear Road and westward and southward along Tice Creek. In addition, a narrow zone (less than 250 feet wide) of high liquefaction susceptibility is mapped along the unnamed creek north of Livorna Road at the southern edge of the Planning Area. A narrow zone (about 200 feet wide) is mapped along the Pine Creek channel in the eastern portion of the Planning Area.

STANDARDS OF SIGNIFICANCE

The Walnut Creek General Plan 2025 would create a significant geologic or seismic hazard impact if it would:

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

[15] CDMG, 1993a, 1993b.

Table 37

Estimated Shaking from Earthquakes that Could Originate on Active or Potentially Active Faults in the Region

Source Fault (Segment)	Distance From Planning Area (miles)	Maximum Magnitude of Earthquakes	Estimated Relative Intensity of Shaking[a]
Concord Fault – Green Valley Fault	0	6.7	strong to very violent
Northern extension of Calaveras Fault	0	7.5[b]	not determined
Mount Diablo Thrust Fault	0	6.0	moderate to violent
South Hampton Fault	0	6.2[b]	not determined
Franklin Fault	0	6.5 [b]	not determined
San Andreas Fault	25.8	7.9	moderate to strong
Hayward Fault	7.4	7.5	moderate to very strong
Rogers Creek Fault	22.0	7.0	moderate to strong
Calaveras Fault (south of Danville)	4.2	7.1	strong to very strong
Greenville-Marsh Creek Fault	2.7	7.2	moderate to very strong

[a] ABAG, 2003.
[b] Caltrans, 1996.

- Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.
- Strong seismic ground shaking.
- Seismic-related ground failure, including liquefaction.
- Landslides.
- Result in substantial soil erosion or loss of topsoil.
- Result in the potential for water erosion based on slopes, soil types and soil stability.
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, (excavation, grading, clearing, grubbing or fill) and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

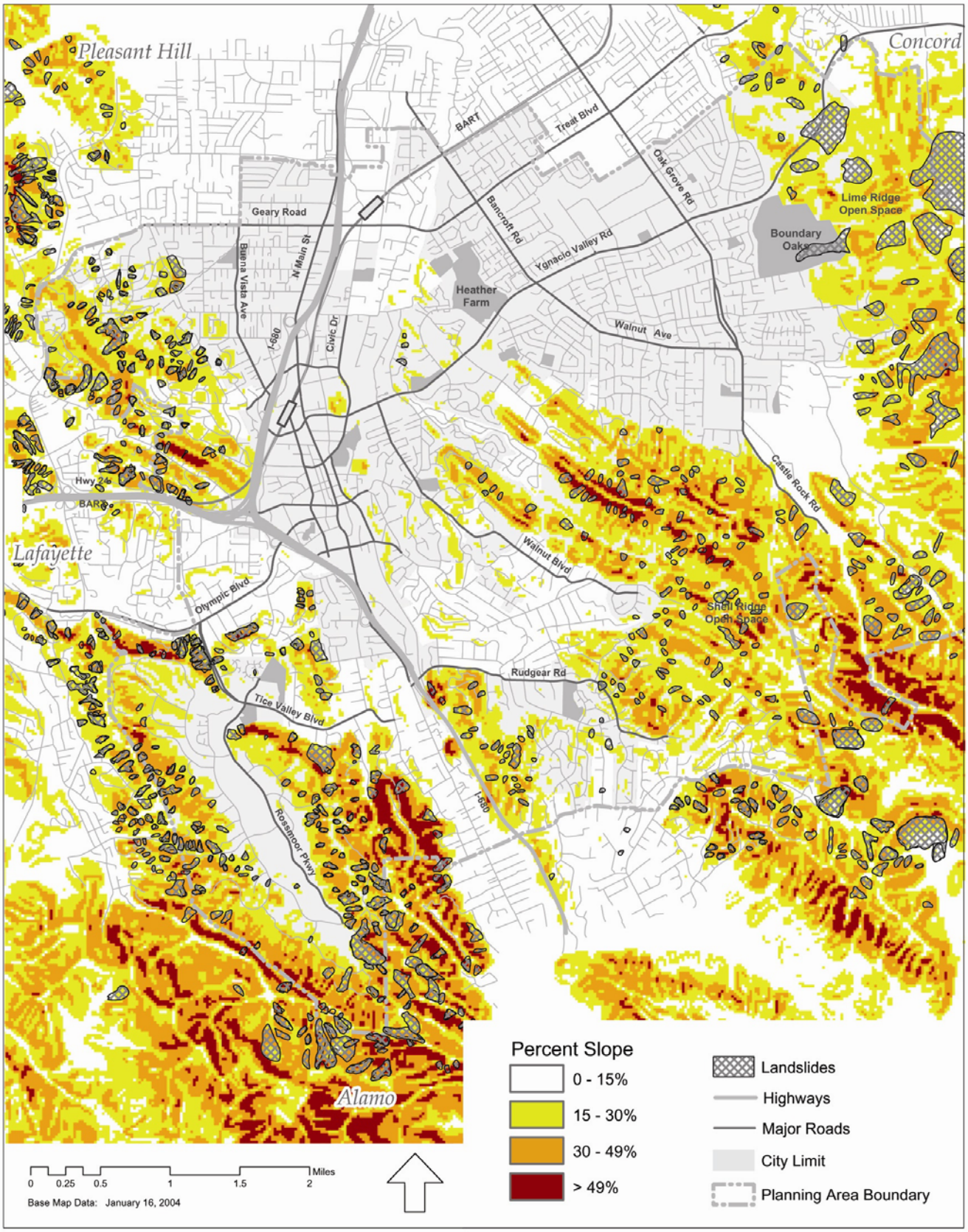

Figure 22. Mapped Landslides and Slopes Greater Than 15 Percent

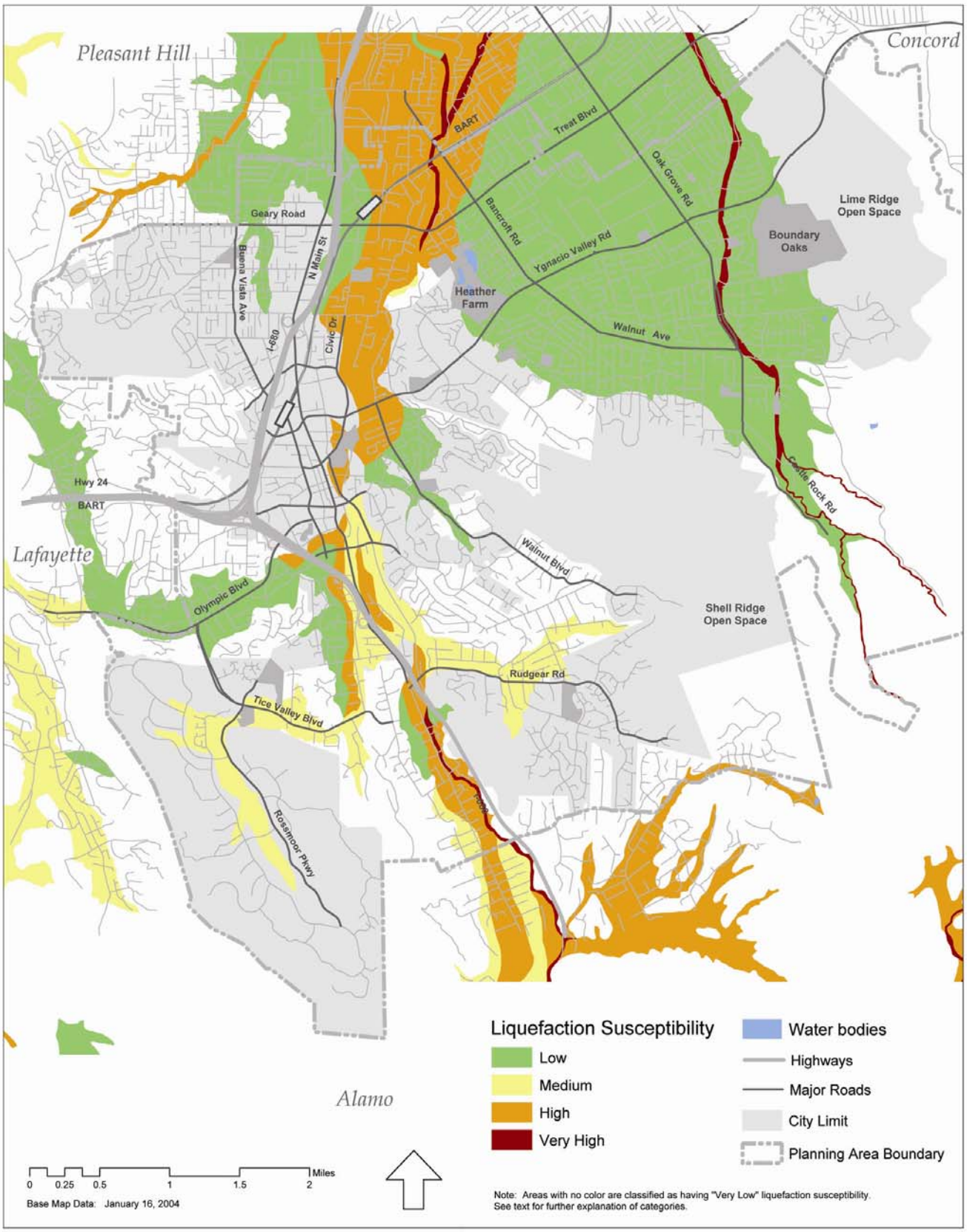

Figure 23. Liquefaction Susceptibility

- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

IMPACT DISCUSSION

General Plan 2025 includes a series of policies and actions to minimize harm from geologic hazards. Policies and actions address safety from seismic hazards, ongoing information gathering, and the regulation of new land development.

GROUND SHAKING

Implementation of the Walnut Creek General Plan 2025 may draw additional people to an area that ABAG estimates has strong to very violent ground shaking intensity risk. This ground shaking poses risk to the city's people and property, particularly if buildings are not designed for seismic safety. The Uniform Building Code (UBC) requires that geotechnical engineering studies be undertaken for all major new buildings or earth works. Compliance with the UBC is already required under Title 9: Building Regulations of the Walnut Creek Municipal Code. Chapter 6, Safety and Noise, of the proposed General Plan includes policies and actions designed to reduce the risk to the community from seismic hazards. Policy 1.1 is to reduce the potential affects of geologic hazards. Actions under Policy 1.2 would ensure that new development is limited in areas with high seismic risks and subject to geotechnical evaluations if near an Alquist-Priolo zone or high or very high liquefaction susceptibility area.

LIQUEFACTION

As shown on Figure 23, risks associated with liquefaction vary across the Planning Area. Areas with the highest liquefaction susceptibility are along creeks, parts of Walnut Creek in particular. The UBC, which the City has adopted through its Municipal Code, specifies investigative measures to address liquefaction be incorporated into site preparation and construction. The City would maintain this compliance per the Code, thereby minimizing public exposure to liquefaction risks. Safety and Noise Policy 1.1 directs the City to reduce the potential affects of geologic hazards and Action 1.1.3 would require appropriate mitigations for new development or redevelopment in hazard-prone areas, which would include liquefaction risk areas. The City would also incorporate updated Seismic Hazards Zone maps into the General Plan as they become available (Action 1.2.2). These maps would identify areas prone to earthquake-induced liquefaction. This mapping would assist with the implementation of Action 1.2.5 that would require geotechnical evaluations for development proposed in areas near high or very high liquefaction susceptibility areas. Mitigations needed to reduce the risk to life and property from liquefaction induced hazards would be required. These policies would reduce public exposure to liquefaction hazards.

GROUND RUPTURE

The potential for ground rupture to occur in the Walnut Creek Planning Area exists primarily along the Concord Fault since it is the only fault in the area considered active and to have an EFZ associated with it; elsewhere, although there are other faults, the potential for ground rupture is uncertain. The Alquist-Priolo Earthquake Fault Zones Act adequately restricts new development from building within an EFZ and across an active fault. Two policies in the proposed General Plan address surface rupture risk. Action 1.2.3 calls for the identification of areas where surface ruptures are most likely to occur and cause damage. Action 1.2.4 requires that development proposals

submitted in areas near EFZs listed under the Act be subject to geotechnical evaluation, including mitigation. These policies would reduce potential surface rupture hazard impacts to less-than-significant levels.

LANDSLIDES AND GROUND FAILURE

Most development in the Walnut Creek Planning Area is located in areas that have low landslide potential. However, hillside areas of the city and Planning Area are at some risk to landslides and ground failure. Policies in Chapter 4 Built Environment and Chapter 6 Safety and Noise address this issue. Safety and Noise Policy 1.2 would limit development in high risk areas. High risk areas would be identified by looking at various land characteristics, including soil stability, history of soil slippage and slope grade (Action 1.2.1). Areas prone to natural hazards such as slope instability would also be identified (Action 1.1.1). New development and redevelopment in hazard-prone areas would be required to implement appropriate mitigations to reduce potential risks (Action 1.1.3). Built Environment Policy 25.1 would prohibit development on slopes with grades of 20 percent or greater that are zoned for agriculture or open space. These policies would reduce public exposure to landslide and ground failure risks.

TOPSOIL LOSS

Development under the proposed General Plan could have the potential to result in topsoil loss particularly if it occurred in steeply-sloped hillsides. The removal of vegetation and grading activities needed for development would increase the potential for soil erosion. The General Plan addresses this potential risk through several policies and actions. Built Environment Action 28.1.4 directs the City to continue to prohibit development in areas particularly susceptible to erosion and sediment loss. This action corresponds to Policy 26.1 of Chapter 4 Built Environment, which would prohibit development on slopes with grades of 20 percent or greater. Both of these policies would help to minimize topsoil losses resulting from development activities under the General Plan. In addition, the Municipal Code requires that all construction conform to the requirements of the CASQA Stormwater Best Management Practices Handbooks for Construction Activities and New Development and Redevelopment, the ABAG Manual of Standards for Erosion & Sediment Control Measures, the City's grading and erosion control ordinance and other generally accepted engineering practices for erosion control.

EXPANSIVE SOILS

Although the proposed General Plan does not include any policies that specifically address development on expansive soils, expansive soils are considered a “geologic hazard” and are thus addressed in Policy 1.1 of Chapter 6 Safety and Noise, which directs the City to reduce the potential affects of geologic hazards. Actions 1.1.1 and 1.1.3 support this policy by directing the City to identify areas prone to natural hazards, and to require appropriate mitigation for development and redevelopment in those areas. These actions would adequately address the potential hazards associated with development in areas with expansive soils.

IMPACTS AND MITIGATION MEASURES

Since no impacts were identified, no mitigation measures are required.

CHAPTER 4.9

Hazardous Materials

EXISTING SETTING

The storage, handling, production, and disposal of hazardous materials and waste are regulated by federal, State, and local laws and regulations, which strive to protect the health and safety of the community. Hazardous materials are defined in the Contra Costa County Hazardous Materials Area Plan as "a material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment." Hazardous materials include, but are not limited to, industrial wastes, pesticides, herbicides, radioactive wastes, asbestos, and combustible fuels. Transportation and storage of hazardous materials pose potential public safety hazards in Walnut Creek.

TRANSPORTATION OF HAZARDOUS MATERIALS

Hazardous materials are primarily transported through the major corridors running through the City including along Interstate 680, Highway 24, and Ygnacio Valley Road. Since the transportation of hazardous materials on roads in Walnut Creek is currently unrestricted, the risk to public health and the environment is present in the case of an accident involving hazardous materials.

HAZARDOUS MATERIAL RELEASES

In accordance with the California Health and Safety Code (HSC) (Division 20, Chapter 6.95, §25500 et seq) and California Code of Regulations (CCR) (Title 19, Article 3, §2270 et seq.), Contra Costa County has prepared a Hazardous Materials Area Plan (CCCHMAP), revised on April 17, 2002. The CCCHMAP is designed to protect human health and the environment through hazardous materials emergency planning, response, and agency coordination; and community right-to-know programs. The CCCHMAP outlines the roles and responsibilities of federal, State and local agencies in responding to hazardous material releases and incidents. Local agency responsibilities are summarized in Table 38.

In the event of an incident, the first law enforcement officer to arrive at the scene of a hazardous materials incident will be the Incident Commander (IC). If a fire protection officer is the first to arrive, he/she will be the initial IC, until relieved by a law enforcement officer. The IC notifies other agencies (and the public, if necessary), establishes safety boundaries, and coordinates cleanup measures. The Contra Costa Fire Protection District staff coordinates rescue, minor containment, fire control, and preliminary product identification activities. The responsible party incurs site cleanup cost. In the event that the responsible party is unknown, unable to pay, unwilling to accept responsibility, or not conducting an adequate cleanup, Contra Costa Health Services Hazardous Materials Programs (CCHS-Hazmat) will assume mitigation and cleanup responsibilities

Table 38

City and County Agencies Responsible for Hazardous Materials Incident Response

Agency	Primary Responsibilities	Support Responsibilities
Walnut Creek Police Department (WCPD)	Incident Command Scene Isolation Evacuation/Shelter-in-Place Communications Public Information Access to Remote Areas Investigation/Prosecution Safety Officer Departmental Training Response/Coordination Plans	Rescue Hazard Recognition Health & Env Hazard Assessment Emergency Product Removal Notification Interagency Training Disaster Resource Coordination Critique/HazMat Committee Medical Care Management
Contra Costa County Fire Protection District (CCCFPD)	Rescue Containment Fire Control Hazard Recognition Safety Officer Departmental Training Response/Coordination Plans	All primary responsibilities undertaken by WCPD, CCHS-Hazmat, OES, and EMS
Contra Costa Health Services – Hazardous Materials Programs (CCHS-Hazmat)	Health & Env. Hazard Assessment Decontamination Product Id/Monitoring Emergency Product Removal Notification Interagency Training Safety Officer Departmental Training Response/Coordination Plans	Evacuation/Shelter-in-Place Communications Public Information Investigation/Prosecution Rescue Hazard Recognition Critique/HazMat Committee
Contra Costa County Office of Emergency Services (OES)	Disaster Resource Coordination Critique/HazMat Committee Departmental Training Response/Coordination Plans	Evacuation/Shelter-in-Place Communications Interagency Training
Local Emergency Medical Services (EMS)	Medical Care Management Departmental Training Response/Coordination Plans	Containment Decontamination Interagency Training
Public Works Department	Departmental Training Response/Coordination Plans	Scene Isolation Containment Interagency Training

Source: Contra Costa County Fire Protection District, *Hazardous Material Release Response Matrix,* date unknown.

Based on review of database information provided by Environmental Data Resources, Inc. (EDR), several facilities within city and Planning Area limits are listed as leaking underground storage tank (LUST) sites, typically existing or former service stations. Generally, the Regional Water Quality Control Board oversees investigation and remedial action at LUST sites.

STORAGE AND HANDLING OF HAZARDOUS MATERIALS

Both State and federal government have hazardous material inventory reporting requirements for businesses that store or handle hazardous materials. CCHS-Hazmat serves as the State Certified Unified Program Agency (CUPA) for Contra Costa County and the City. Submittal of State hazardous materials inventory forms to CCHS-Hazmat meets State and federal hazardous material inventory reporting requirements. CCHS-Hazmat also requires businesses storing quantities of hazardous materials greater than 55 gallons of liquid, 500 pounds of solid, or 200 cubic-feet of some compressed gases, to file a hazardous materials business plan annually that establishes incident prevention measures, hazardous materials handling protocols, and emergency response and evacuation procedures. Contra Costa County Fire Protection District (CCCFPD) also enforces the business plans.

DRINKING WATER QUALITY

A primary source of water for residents in Walnut Creek is the surface water of the Sacramento-San Joaquin Delta. In May 1997, a Watershed Sanitary Survey was completed by Contra Costa Water District (CCWD) and the City of Antioch; the survey was updated in May 2002. The survey assessed the vulnerability of the Sacramento-San Joaquin Delta to potential forms of contamination, including industrial and municipal wastewater discharges, urban runoff, highway runoff, agricultural runoff, pesticides (insecticides/herbicides/fungicides), grazing animals, concentrated animal facilities, wild animals, mine runoff, recreational activities, traffic accidents/spills, seawater intrusion, geologic hazards, and solid and hazardous waste disposal facilities. The survey concluded that these potential sources of contamination are regularly mitigated by the natural flushing of the Delta, controls at the contamination sources, or existing water treatment practices. Historic monitoring of the water source has not identified any chronic condition of concern to public health. CCWD plans to continue the water quality monitoring program.

HAZARDOUS WASTE

The California Health and Safety Code states that "the criteria and guidelines adopted by the [Department of Toxic Substance Control]… shall identify waste or combinations of waste, that may do either of the following, as hazardous waste because of its quantity, concentration, or physical, chemical, or infectious characteristics:

"1. Cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness."

"2. Pose a substantial present or potential hazard to human health or the environment, due to factors including, but not limited to, carcinogenicity, acute toxicity, chronic toxicity, bioaccumulative properties, or persistence in the environment, when improperly treated, stored, transported, or disposed of, or otherwise managed."

In accordance with State law, the City has adopted the Contra Costa County Hazardous Waste Management Plan (CCCHWMP), approved by the State on June 15, 1990. The CCCHWMP establishes siting criteria for toxic waste treatment, storage, recycling, and dis-

posal facilities (TSD). Currently, no TSD facilities exist within the City or Planning Area.

Household Hazardous Waste
Household hazardous wastes include, but are not limited to, pesticides, waste oil, paint supplies, car batteries, and pool chemicals. To ensure the proper handling and disposal of hazardous material and to help prevent the potential contamination of solid waste landfills, CCHS-Hazmat currently provides three household hazardous waste collection centers within Contra Costa County (not within city or Planning Area limits that serve the City). Hazardous waste from these centers is then appropriately recycled or disposed of at a TSD facility. Conditionally exempt small quantity generators (see below) may also dispose of hazardous waste at these collection centers.

Small Quantity Generators
A business that generates between 100 and 1,000 kilograms of hazardous waste per month is defined as a small quantity generator (SQG). SQGs are found in a variety of businesses, including laundromats and dry cleaners, vehicle maintenance facilities, printing companies, photographic studios, and construction industries. SQGs generally use the services of route haulers to dispose of hazardous materials. Route haulers collect small quantities of waste and transport it to appropriate TSD facilities.

Large Quantity Generators
A business that generates over 1,000 kilograms of hazardous waste or over 1 kilogram of acutely hazardous waste per month is defined as a large quantity generator (LQG). Four LQGs are registered within the City and Planning Area limits, as shown in Table 39. Locations of the LQG facilities are presented on Figure 24. Hazardous wastes generated at these facilities reportedly are transported offsite to appropriate TSD facilities (Environmental Data Resources, 2004). As noted in Table 38, one automobile dealership within the Planning Area limits is listed as a LQG. Several other automobile dealerships are located within the Planning Area that were listed as SQGs instead of LQGs, possibly because of a lower volume of hazardous wastes generated.

Table 39

Large Quantity Generators

Facility Name	Address
Mike Rose Auto Body	2140 North Broadway
Contra Costa Newspapers, Inc.	2640 Shadelands Drive
JGI Production Genomics Facility	2800 Mitchell Drive
Walnut Creek Honda	2555 North Main Street

Source: Environmental Data Resources, Inc., February 2004.

Hazardous Building Materials
Asbestos, lead, and PCB-containing ballasts are hazardous building materials. These materials are likely present in older buildings within the City and Planning Area limits. If demolition, renovation, or re-roofing of buildings is under consideration, an asbestos survey must be conducted under National Emissions Standards for Hazardous Air Pollutants (NESHAP) guidelines. In addition, NESHAP guidelines require that all potentially friable asbestos-containing materials (ACM) be removed prior to building demolition or renovation that may disturb the ACM. For asbestos, local enforcement is provided through the Bay Area Air Quality Management District (BAAQMD). Lead contamination is enforced through the Contra Costa County Health Department.

Lead was banned from paint in 1978. It is necessary to follow the requirements outlined by Cal/OSHA Lead in Construction Standard, Title 8, CCR §1532.1 during demolition activities; these requirements include employing training, employee air monitoring, and dust control. Currently, the US EPA and US Department of Housing and Urban Development are proposing additional lead-based paint regulations.

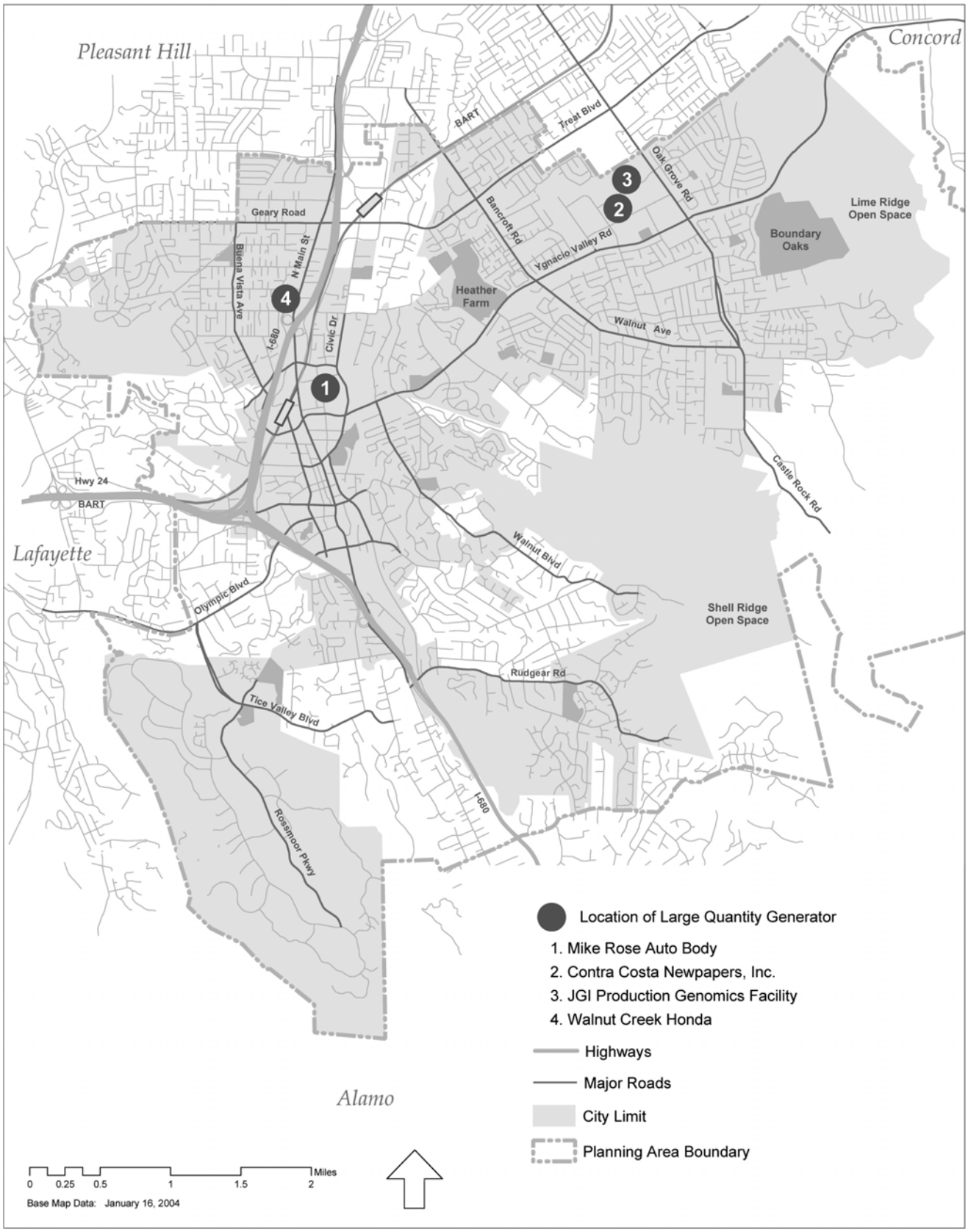

Figure 24. Locations of Large Quantity Generators

Light ballasts manufactured since 1978 do not contain PCBs and should be labeled accordingly. California EPA regulates the disposal of PCB-containing light ballasts.

STANDARDS OF SIGNIFICANCE

The Walnut Creek General Plan 2025 would create a significant hazardous materials impact if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- Create a significant hazard to the public or the environment as a result of being located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.
- Result in a safety hazard for people residing or working in the project area by being located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport.
- Result in a safety hazard for people residing or working in a project area located within the vicinity of a private airstrip.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

IMPACT DISCUSSION

Implementation of the General Plan would result in development of new residential and commercial uses. As a result of increased development, more hazardous materials could be used and disposed of within the planning area. Policy 3.1 of Chapter 6 of the General Plan, Safety and Noise, is intended to reduce dangers from hazardous materials by improving household and commercial handling and disposal of hazardous materials. CCHS Hazmat also requires that all businesses handling more than 55 gallons of liquid, 500 pounds of solid, or 200 cubic-feet of some compressed gases, file a hazardous materials business plan annually that establishes incident prevention measures, hazardous materials handling protocols, and emergency response and evacuation procedures, which helps minimize the impact of new commercial development regarding hazardous materials.

Safety and Noise Policies 3.2, 3.3, 3.5 and 3.6, and their associated actions, direct the City to consider hazardous materials risks or conditions in land use planning decisions. Policy 3.3 directs the City to incorporate hazard abatement provisions in zoning and subdivision decisions and entitlement permits, while Policy 3.2 directs the City to emphasize non-industrial land uses. Actions 3.5.1 and 3.6.1 would protect future site users of sites historically used for commercial or industrial purposes by requiring environmental investigation of the sites for hazardous materials and for lead and asbestos in building materials.

Transportation of Hazardous Materials
The expected increase in residential and commercial development could result in more hazardous materials being transported through the city on major arterials and on regional highways. Due to the increased generation and transportation of hazardous materials, the potentials for accidents and environmental contamination may increase.

The Safety and Noise chapter includes Policy 3.4 to promote the safe transport of hazardous materials through the city. This policy is supported by Actions 3.4.1 through 3.4.3. These actions direct the City to designate hazardous material carrier routes that would direct carriers away from populated and sensitive populations; to prohibit the parking of hazardous materials transport vehicles on city streets; and to direct new pipelines and other channels carrying hazardous materials away from residential areas. These policies and actions would adequately mitigate any hazardous materials transportation impacts from Plan implementation.

Schools and Sensitive Receptors
The General Plan does not include plans to build any facilities that would emit or create hazardous materials, or the redesignation of a land use which would allow for additional hazardous materials near any sensitive receptors. Therefore, there would be no hazardous materials impacts on any school or sensitive receptor in the area.

Hazardous Materials Sites
No industrial sites previously listed in Government Code Section 65962.5 as being contaminated with hazardous materials would be redesignated for reuse/public use. Therefore the General Plan does not pose a significant hazard to the public or the environment.

Airports
There are no public or private airports currently in or planned for Walnut Creek, so there is no impact regarding airports or airstrips.

Emergency Response and Evacuation Plans
Increased commercial and residential development could result in interference with an adopted emergency response or emergency evacuation plan. However, Action 6.1.2 requires that the City regularly review and update the adopted Emergency Operations Plan, so changes would be made when necessary. Action 6.1.1 directs the City to prepare and adopt a list and map of evacuation routes. Therefore, there is no impact on the City's emergency response or evacuation plans.

IMPACTS AND MITIGATION MEASURES

Since no impacts were identified, no mitigation measures are required.

CHAPTER 4.10

Hydrology & Water Quality

This chapter describes the natural and human-made drainage systems within the Walnut Creek Planning Area, including the four major watershed areas that drain the area. The chapter also describes water quality in general terms and provides an overview of stormwater quality regulations. Finally, the chapter provides an evaluation of the effects General Plan 2025 would have on hydrologic resources, water quality and flooding.

EXISTING SETTING

HYDROLOGY AND FLOODING

As shown in Figure 25, the Walnut Creek Planning Area occupies the southern part of the broad Walnut Creek Valley. Two major waterways, San Ramon Creek and Las Trampas Creek, join near the intersection of Mt. Diablo Boulevard and Broadway to form Walnut Creek. The upper reaches of these two tributaries are located in numerous steep, narrow valleys, feeding into Tice Creek and San Crainte Creek. Within the Planning Area, watershed elevations vary from 1,600 feet in the southwest portion to 100 feet along the northern edge.[1] The Walnut Creek watershed drains the central region of Contra Costa County northward to Suisun Bay.

On average, the city receives 21 inches of rain per year, with the majority of the rainfall occurring from October through April.[1]

Flooding

Over the years, within the Walnut Creek Planning Area, most of the creeks and major flood control facilities have been improved to adequately handle the 100-year floods (defined as a runoff event with a 1 percent annual chance of occurring in any particular year, or an anticipated frequency of once every 100 years). However, flooding problems remain within the Planning Area, as described below.

The Federal Emergency Management Agency (FEMA) published revised Flood Insurance Maps for the city in October 2002.[2] As shown in Figure 26, the latest flood maps depict the 100-year flood plain.

Flooding in the city is primarily caused by the combination of heavy winter rains and drainage facilities with limited conveyance capacity. As stated in the current FEMA Flood Insurance Study for the city, the greatest flood damage was caused by the flood of March and April 1958, when 42.8 inches of rainfall was recorded during an eight-day period. Areas of the City subject to historic flooding include areas along Walnut Creek, Las Trampas and Grayson-Murderers creeks, and San Ramon creek, primarily at the confluence of these waterways in the downtown area.

Flood Control Facilities and Improvements

The City has a variety of flood control facilities ranging from natural creeks to large box culverts. Along most reaches of the natural waterways the capacity has been improved and de

[1] *General Hydrologic Analysis Procedures*, Contra Costa County Flood Control and Water Conservation District, 1986.

[2] Flood Insurance Rate Maps, City of Walnut Creek, Federal Emergency Management Agency, October 4, 2002.

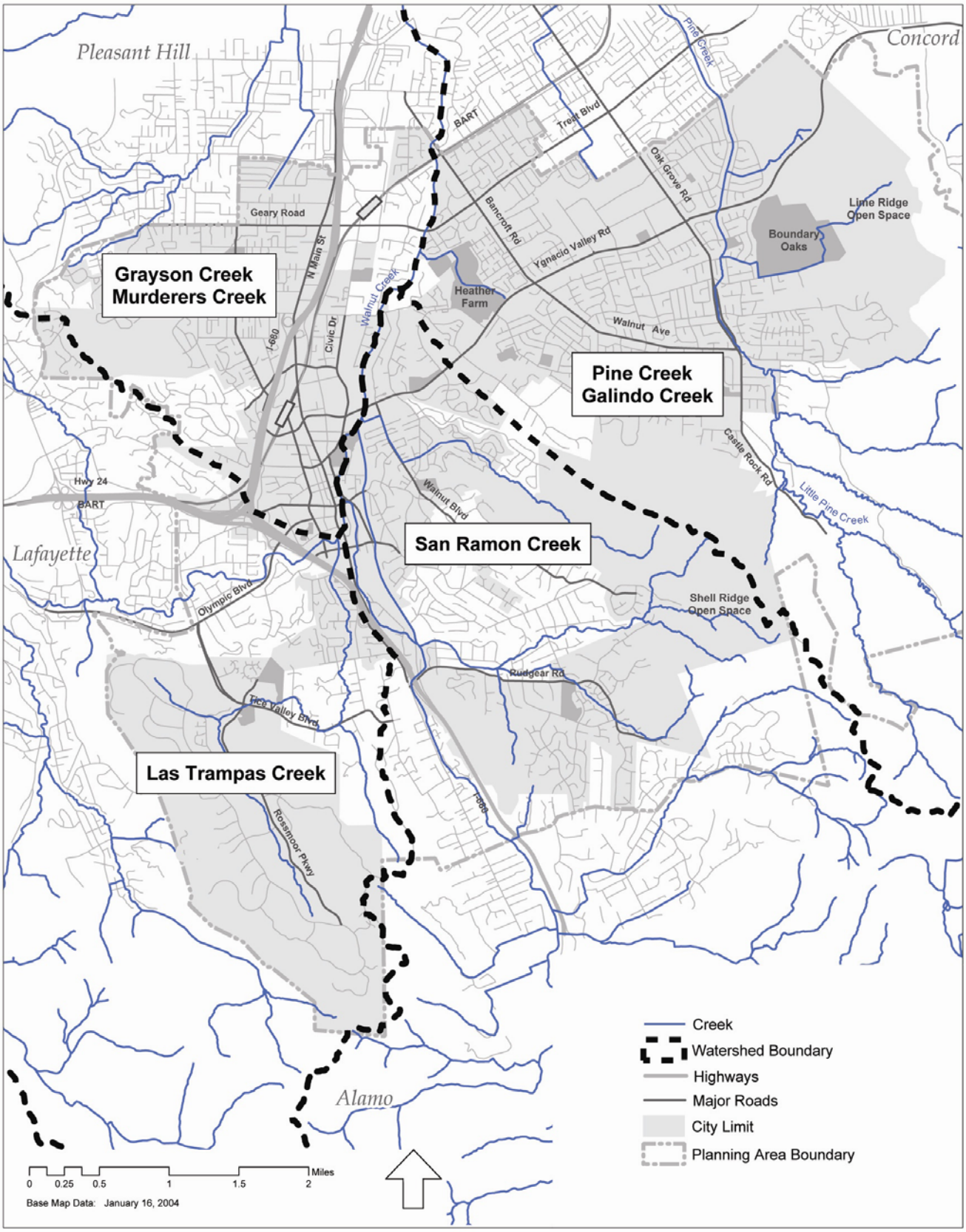

Figure 25. Watersheds in the Walnut Creek Planning Area

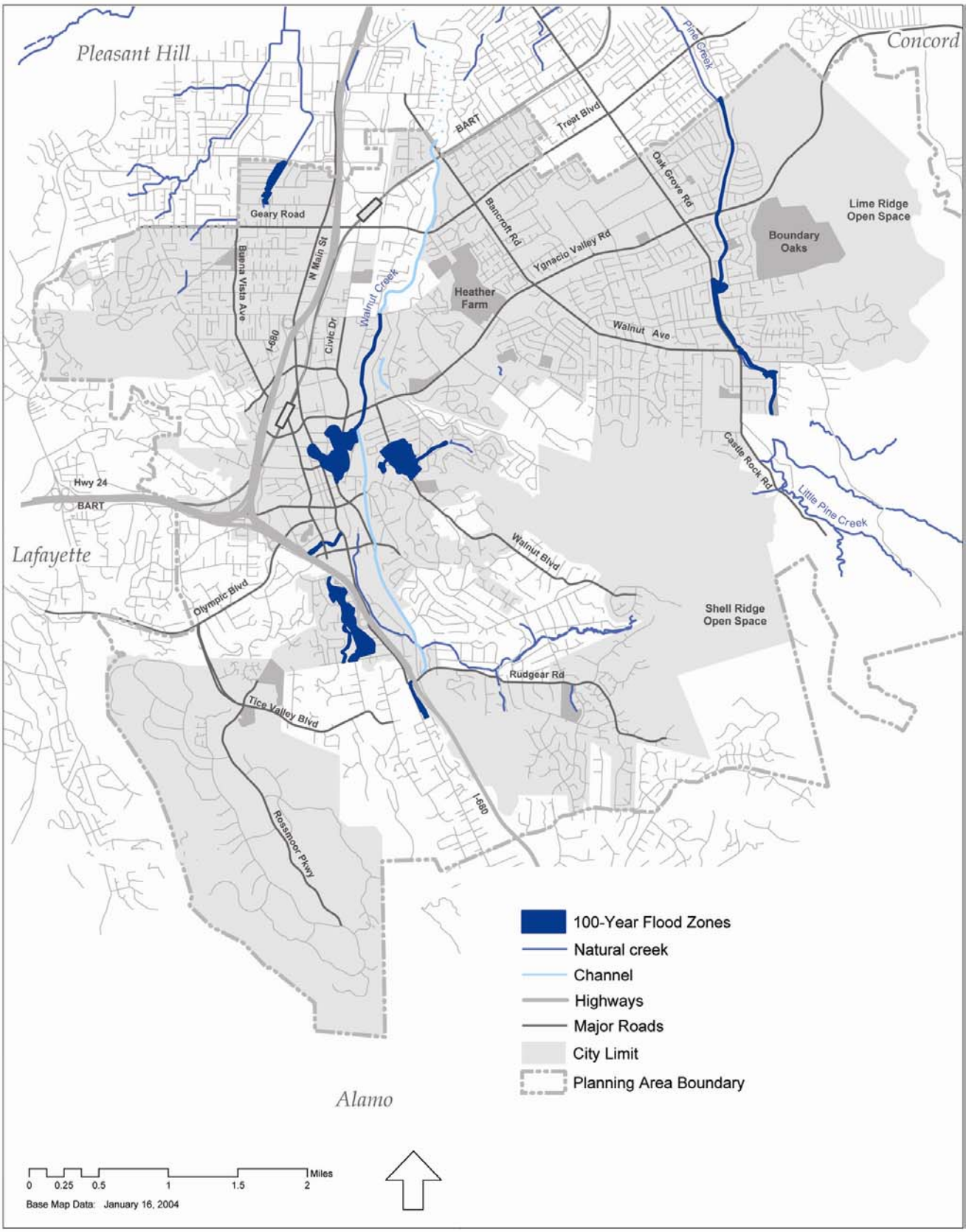

Figure 26. Flood Prone Areas

fined to provide stable 100-year flood protection.

Several flood improvement projects were constructed along the three major creeks in the city by the US Army Corps of Engineers (Corps), the State of California, and the Contra Costa County Flood Control and Water Conservation District (Flood Control District). The two major flood control improvements in the city include the San Ramon Bypass and the Walnut Creek Project, shown in Figure 26, both of which were constructed by the Corps in phases from 1986 to 1992. The San Ramon Bypass diverts flood flows from San Ramon Creek at the southern limits of the city into a concrete channel and concrete box culvert, routes runoff to the east of Downtown, and joins with Walnut Creek near Ygnacio Valley Road. The Walnut Creek Project improved the flow capacity of Walnut Creek from Ygnacio Valley Road north to beyond the City Limits. Similar improvements were constructed by CalTrans on San Ramon Creek in the vicinity of Creekside Drive and Rudgear Road. With these channel improvements, the creeks are now able to handle 100-year flood conditions. Improvements to Las Trampas Creek between its confluence with Walnut Creek and the City Limits have resulted in containment of 100-year flood conditions as well. One of the significant flood control improvements along Tice Creek is the Rossmoor Basin, which is an in-stream detention facility.

Current Flood-Prone Areas

As shown in Figure 26, areas along smaller streams subject to flooding include Tice Creek particularly in the Castle Hill area; the Walnut Boulevard Channel (known as Homestead Creek on the Flood Insurance Map) between Homestead Boulevard and Sierra; and Grayson-Murderers creeks particularly in the Eccleston area.

The Corps and the Flood Control District prepared a *Feasibility Report for Flood Control*[3] in November 1992, which indicates that significant 100-year flooding still occurs in the Tice Creek/Castle Hill area downstream from the Rossmoor Basin. The Feasibility Report considered four alternatives for flood improvements, ranging from modifying an existing detention basin to various creek channel, embankment, and alignment improvements. None of the alternatives exceeded a Cost/Benefit ratio of 0.1; therefore improvements in this area were not considered economically justifiable. The Flood Control District is currently re-studying the Basin for expansion.

Along the Walnut Boulevard Channel, two culverts were constructed in 1982 near Sierra Drive that divert flood flows to Walnut Creek. This has improved the flooding condition downstream of Sierra Drive, but 100-year flooding limits are still identified between Sierra Drive and Homestead Avenue on FEMA flood maps. Almost annually, the area experiences minor flooding along the south side of Walnut Boulevard. Beginning in 1965 and again in 1973, the Corps studied several flood-prone creeks in the Walnut Creek watershed including the Walnut Boulevard Channel.[4] For the Walnut Boulevard Drain, the most desirable flood improvement plan consisted of a 3500-foot long underground, closed concrete, rectangular channel along Walnut Boulevard that would divert flows out of the existing channel and into Walnut Creek. Initial cost-benefit analysis indicated a C/B ratio of 1.1, with later economic analysis (1976) finding the improvements not economically justifiable.

One area subject to flooding is the section of Walnut Creek where it exits the underground culvert at North Broadway and flows northerly in a natural channel about 2,200 feet to the confluence with the channelized San Ramon Creek. Most of this area consists of a park and greenway; however, a small portion of the floodplain crosses to the west side of North

[3] *Feasibility Report for Flood Control*, Walnut Creek California, US Army Corps of Engineers and the Contra Costa County Flood Control and Water Conservation District, November 1992.

[4] *Draft Interim Feasibility Report*, Walnut Creek Watershed, US Army Corps of Engineers, September 1973.

Broadway and to the west of Civic Drive. Land within this defined area will be subject to 100-year flood flows until such time as the capacity of the natural waterway is increased.

The Eccleston area in the northwestern part of the City is also subject to historical flooding. Most of this area consists of residential homes and a few commercial facilities. The City of Walnut Creek has been participating in a multi-agency task force, led by the City of Pleasant Hill and the Flood Control District, to assess the situation and formulate an approach to resolve the flooding problem. The Corps has completed the Reconnaissance Study and is in the process of conducting a Feasibility Study for constructing a multi-purpose detention basin. When constructed, the Basin will provide protection to the property owners of the 100-year flood protection.

Future System Improvements
As previously noted, both the Tice Creek and Walnut Boulevard Channel areas were evaluated by the Corps for economical and beneficial flood control improvements.[5] Flood control improvements for both of these areas were determined to be not economically justified.

The City of Walnut Creek continues to pursue improvements in both of those areas in order to reduce flood potential. In the Tice Creek watershed, engineering studies (as recently as 2003) on the potential to enlarge the Rossmoor Basin have identified some beneficial but expensive improvements for less than the 100-year protection. Costs for various improvements range up to several million dollars.

In the Walnut Boulevard area, an on-going engineering study to identify the potential to incorporate flood control improvements (less than the 100-year protection) with street and pedestrian improvements has been hindered by FEMA restrictions that prohibit construction within the regulated floodway. As a result, no schedule has been established for improvements and only a percentage of the necessary construction funds are currently available.

In the Eccleston area and adjacent Pleasant Hill areas, the multi-agency task force unanimously agreed to recommend a detention basin option with multi-recreational purposes to the City of Pleasant Hill's governing body for approval. This option provides a 100-year flood protection to almost 1,100 homes within the Cities of Pleasant Hill and Walnut Creek boundaries. The proposed project relies heavily on Federal funds, drainage fees collected from project developments and other funds.

WATER QUALITY

The quality of surface and groundwater in the Walnut Creek Planning Area is affected by land uses and activities within the watersheds, as well as the composition of underlying geologic materials.

Regulatory Framework
Federal and State laws regulating water quality affect the water requirements and infrastructure needs of Walnut Creek. Local development regulations also affect water quality. The most important are summarized in this section and described in greater detail in the *Hydrology and Water Quality Background Report*.

Federal Water Pollution Control Act (commonly referred to as the Clean Water Act)
Though always a local concern, water quality improvements gained regulatory authority beginning with the US Clean Water Act (CWA) of 1972. Since then, water quality has improved and continues to do so. The CWA regulates the discharge of pollutants into watersheds. Section 402(p) of the Act establishes a framework for regulating municipal and industrial stormwater discharges under the National Pollutant Discharge Elimination System

[5] *Feasibility Report for Flood Control,* Walnut Creek California, US Army Corps of Engineers and the Contra Costa County Flood Control and Water Conservation District, November 1992; *Draft Interim Feasibility Report*, Walnut Creek Watershed, US Army Corps of Engineers, September 1973.

(NPDES) Program. Section 402(p) requires that stormwater associated with industrial activity that discharges either directly to surface waters or indirectly through separate municipal storm sewers must be regulated by an NPDES permit. On December 8, 1999, US EPA circulated regulations requiring permits for stormwater discharges from Small Municipal Separate Storm Sewer System operators (MS4s). Permits for MS4s generally fall under the "Phase II" permits program, which regulate non-point source pollutants. The NPDES Program is administered by the State.

State Regulations
The State Water Resources Control Board (SWRCB) is responsible for implementing the Clean Water Act and does so through nine Regional Water Quality Control Boards (RWQCBs), which issue NPDES permits to municipalities. The SWRCB adopted Order No. 99-058 to reissue the Joint Municipal NPDES Permit for the City of Walnut Creek along with 18 other jurisdictions in Contra Costa County. The Order requires the implementation of a Stormwater Management Plan (SWMP), including performance standards and the implementation of controls to reduce pollutants in stormwater discharges.

The Plan consists of a series of activities designed to identify and implement control measures to reduce pollutants in runoff to the maximum extent practicable and to demonstrate compliance with water quality objectives in receiving waters.

The RWQCBs are responsible for implementing State policy by preparing regional basin water plans, which are master policy documents that manage water quality issues and activities in the basin. Walnut Creek is under the authority of the San Francisco Bay RWQCB. The Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin[6] lists the beneficial uses of the surface waters in Walnut Creek as fish spawning, fish migration, wildlife habitat, cold and warm water biology, and contact and non-contact water recreation.

Local Regulations
As of February 2005, new development and significant redevelopment projects in Walnut Creek that create new or replace one acre or more of impervious surface has had to incorporate site-specific measures to provide water quality improvements. Projects are evaluated for several factors, including:

- the quality of the receiving waters
- the quality of the storm runoff
- the increase in impervious areas
- the ability of the site to incorporate the available treatment technologies.

For example, if a development increases peak runoff from the site so that downstream areas are subject to increased sediment erosion, the development has to mitigate the increased erosion potential through provision of on-site retention and treatment facilities.

While larger developments are currently subject to water quality impact mitigation, the new guidelines apply to smaller development projects. Typical on-site practices to control peak runoff and water quality pollutants typically require the use of vegetated swales or small basins. Both of these management practices require a dedicated piece of land, proper design, and continued maintenance of the treatment feature.

Beginning on August 15, 2006, projects with 10,000 square feet or more of impervious surface must implement appropriate source controls and site design measures, and implement appropriate stormwater treatment measures to reduce stormwater pollution to the maximum extent practicable. Projects consisting of one single-family home, not part of a larger common plan of development, are excluded from this project definition. Also, projects classified as redevelopment (defined as a previously de-

[6] *Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin*, San Francisco Bay Regional Water Quality Control Board, 1995.

veloped site) are subject to alternative requirements that provide greater flexibility in meeting the requirements.

STANDARDS OF SIGNIFICANCE

The Walnut Creek General Plan 2025 would create a significant hydrologic or water impact if it would:

- Violate any water quality standards or waste discharge requirements.
- Substantially degrade water quality.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows.
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.
- Result in inundation by seiche, tsunami or mudflow.
- Result in alterations of wetlands in any way.

IMPACT DISCUSSION

WATER QUALITY

Implementation of General Plan 2025 would result in development and redevelopment in the city, and in increased population growth. The use of pollutants associated with urban uses, such as oil, grease, pesticides, fertilizers, and detergents would be expected to increase over time with an increasing population and new development. Grading and construction activity could also cause erosion, increasing the sediment load of runoff. These non-point source pollutants in the runoff could flow into local streams and deteriorate water quality. This is considered a potentially significant impact.

Implementation of policies and actions under Chapter 6 Built Environment Goal 31 would reduce potential to less-than-significant levels. Through Goal 31, the City would seek to meet or exceed State and federal water quality standards. Policy 31.1 would direct the City to support regional, State, and federal clean water efforts. The City would demonstrate this support through implementing the regulations in the Stormwater Management Plan (Action 31.1.1), and enforcing the NPDES permit regulations (Action 31.1.2).

The Built Environment Chapter includes several actions that would apply to development

projects, which would help to minimize water quality deterioration by minimizing sediment and pollutant loading from urban runoff. Sediment loading of local waterways would be minimized by prohibiting development in areas particularly susceptible to erosion and sediment loss (Action 31.1.4). In redevelopment projects in the Core Area, the City would evaluate the desirability of specific, off-site, source control measures (Built Environment Policy 31.2). Additionally, Action 31.1.5 would direct the City to prepare and provide information and action handouts on water quality best management practices with project application packets.

The Built Environment Chapter also includes a policy to maximize infiltration of rainwater into the soil where appropriate (Policy 31.3). Action 31.3.1 would require that new development or redevelopment reduce the amount of impervious surfaces and Action 31.3.2 would require that impervious surfaces not drain directly into storm drains. These actions, along with existing local regulations regarding impervious surfaces under Section 9-16.105 of the Municipal Code, would help to minimize the amount and velocity of urban runoff.

New construction under General Plan 2025 would also be required to reduce the transport of urban runoff and pollutants offsite (Built Environment Policy 31.4). The transport of stormwater and wastewater would be monitored through Actions 31.4.1 and 31.4.2. Built Environment Policy 31.6 would also seek to reduce pollutant loading in the wastewater system. The application of "best management practices" to discharges to the sanitary sewer system would be required through Action 31.6.1. The City would also seek to reduce water quality impacts from pesticide use by establishing a pesticide-reducing protocol for City parks (Action 31.6.2).

GROUNDWATER

Groundwater is a small fraction of the source water for the agencies that supply water to Walnut Creek. Thus, development under General Plan 2025 would not be expected to substantially deplete groundwater supplies. Development under the Plan would not be expected to interfere substantially with groundwater recharge with the implementation of policies and actions addressing impervious surfaces and water infiltration discussed in the above Water Quality section.

DRAINAGE PATTERNS AND STREAM ALIGNMENTS

Substantial alteration of existing drainage patterns or stream alignments would be considered a significant impact. Development proposed under General Plan 2025 is not anticipated to significantly alter existing drainage patterns or stream alignments since the city is largely built out. Nevertheless, policies and actions in General Plan 2025 would adequately mitigate potential impacts by calling for the development of policies that would restrict development in riparian areas (Natural Environment and Public Spaces Action 3.1.3), and by requiring participation in offsite or regional programs, such as stream restoration programs, wherever developments and/or redevelopment projects disturb natural water bodies or drainage systems (Built Environment Action 31.5.3). The City's policy, however, would be to preserve natural water bodies and drainage systems (Built Environment Policy 31.5) and development would generally be required to retain natural water bodies and leave drainage systems undisturbed (Built Environment Action 31.5.1).

Chapter 3 Natural Environment and Public Spaces also includes several policies and actions that would benefit riparian areas. These include measures to restore riparian corridors and waterways (Policy 3.1), create or improve riparian corridors (Action 3.1.2), expand creek restoration planning efforts and programs (Action 3.1.4 and 3.1.5)

STORMWATER DRAINAGE

Development under General Plan 2025 has the potential to increase impervious surfaces which could increase the amount of runoff entering the City's storm drainage system. Built Environment Action 31.1.1 would require implementation of regulations in the Stormwater Management Plan. These regulations include site storm water runoff control and post-construction storm water management in new development, which would help to reduce stormwater volumes. The policies and actions regarding the minimization of impervious surfaces, which are discussed above, would also help to minimize the amount of surface runoff being conveyed to the storm drainage system. Particularly, Built Environment Action 31.3.2 would require that impervious surfaces not drain directly into storm drains. This would allow for more ground infiltration of surface water.

Although development under General Plan 2025 could result in increased polluted surface runoff, implementation of the water quality policies and actions discussed in the Water Quality section above would adequately mitigate potential impacts to less-than-significant levels. Additionally, the Built Environment Chapter includes an action to direct the City to verify the effectiveness of stormwater treatment facilities (Action 31.4.1).

FLOODING

Several General Plan Update policies and actions address the potential for new development to increase storm water runoff, which could increase the risk of flooding. Goal 2 of the Safety and Noise Chapter is to prevent increased flood hazards in flood prone areas.

Chapter 6 Safety and Noise Policy 2.1 is to reduce the risk of property damage and personal injury due to flooding. To support this policy, the City would limit impervious surfaces and runoff in flood prone areas (Safety and Noise Actions 2.1.1 and 2.1.2) and approve only commercial projects complying with the City's performance standards for flood control (Built Environment Policy 11.1). Safety and Noise Action 1.2.3 would direct the City to identify areas where surface ruptures could occur and cause damage to human-made structures, such as dams. These policies and actions and existing programs would mitigate potential flooding impacts.

SEICHE, TSUNAMI OR MUDFLOW

Walnut Creek is at a low risk to seiche, tsunami or mudflow and the implementation of the General Plan 2025 would not be expected to increase these risks. Furthermore, policies prohibiting development on steep slopes (Built Environment Policy 25.1), and to identify unstable slopes (Safety and Noise Action 1.1.1) and High Risk Areas (Safety and Noise Action 1.2.1) would help to minimize landslide risk, which would in turn minimize mudflow risks. Thus, no impact is expected.

WETLANDS

Development under General Plan 2025 could substantially alter wetlands if it removed or impeded water flows to the wetland or if it lead to the pollution or sedimentation of the wetland. The water quality policies and actions discussed above would adequately mitigate any pollution or sedimentation impacts. With regard to wetland removal or impeding water flows, Natural Environment and Public Spaces Action 1.2.1 would adequately protect wetland resources. Action 3.1.2 would offer additional protection to wetland by calling for the use of land acquisition and/or conservation easements to create or improve wetlands.

IMPACTS AND MITIGATION MEASURES

Since no impacts were identified, no mitigation measures are required.

CHAPTER 4.11

Biological Resources

This chapter summarizes information on biological resources in Walnut Creek and provides an evaluation of the effects of the proposed General Plan on sensitive resources. More detailed information on existing biological resources in the Walnut Creek area is provided in the *Biological Resources Background Report*.

EXISTING SETTING

This section provides a general description of biological and wetland resources in the Walnut Creek Planning Area (WCPA). A summary of the regulatory framework which provides for the protection and conservation of important resources is provided in the Biological & Wetland Resources Background Report.

VEGETATION AND WILDLIFE HABITAT

The City of Walnut Creek occupies a valley nestled between the Las Trampas and Diablo Foothill Ranges, at the foot of Mount Diablo. Upland areas surround the City on three sides, including Mount Diablo and the surrounding hills of Acalanes Ridge to the west, Shell Ridge to the southeast, Lime Ridge to the east and Las Trampas and Sugarloaf Ridges to the south.

Vegetation in the Walnut Creek planning area is dominated by a cover of suburban landscape, bordered by the remaining undeveloped grasslands and woodlands of the surrounding hillsides, and traversed by the bands of riparian forest and scrub along the numerous creeks and drainages. Most of the valley floors and lower hillsides have been developed with urban and suburban uses, supporting a cover of primarily ornamental landscaping. Remnant native valley oaks and coast live oaks occur in scattered locations throughout the developed valley floor. Figure 27 shows the extent of urbanization and various vegetative cover types in the planning area, based on the CalVeg mapping by the USDA Forest Service.

Although native vegetation within the planning area has been substantially altered, the presence of large areas of undeveloped lands to the east, northwest, and southwest and the remaining riparian corridors along creeks contributes to a diverse assemblage of resident and migrant wildlife species. In general, each habitat differs in its relative value to specific species and can be characterized by both vegetation and dependent animal species, although some wildlife species may utilize more than one habitat type. The relative value and wildlife species typically associated with each of these habitat types is summarized below.

Developed Areas/Ornamental Landscaping
Ornamental landscaping has been planted throughout developed areas and in the vicinity of residences around the fringe of the valley floor. Most species used in landscaping are non-native ornamentals, consisting of a wide variety of tree, shrub, groundcover, and turf species. Native trees are scattered throughout the established residential neighborhoods and urbanized downtown area, including specimen valley oaks (*Quercus lobata*), coast live oaks (*Q. agrifolia*), California bay laurel (*Umbellularia californica*), and California buckeye (*Aesculus californica*).

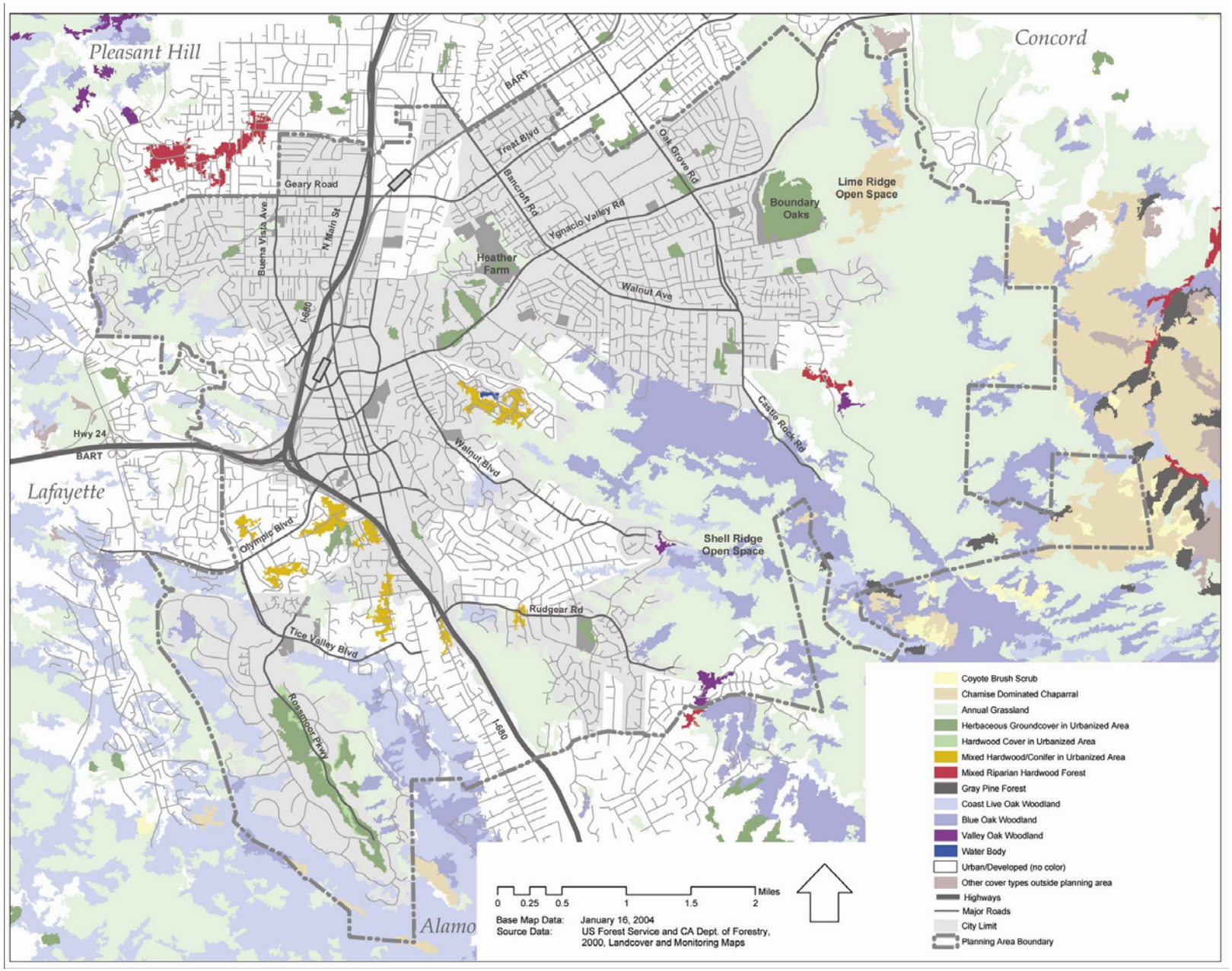

Figure 27. Vegetative Cover

Chapter 8 of the Walnut Creek Municipal Code, Preservation of Trees on Private Property, serves to regulate the removal of trees within Walnut Creek.[1] The ordinance affords special protections to "Highly Protected Trees" which include several species of oak, madrone (*Arbutus menziesii*), buckeye, California black walnut (*Juglans hindsii*), and grey pine (*Pinus sabiniana*).

In general, urbanized areas have low to poor wildlife habitat value due to replacement of natural communities, fragmentation of remaining open space areas, and intensive human disturbance. The diversity of urban wildlife depends on the extent and type of landscaping and remaining open space, as well as the proximity to natural habitat. Nonetheless, trees and shrubs used for landscaping provide nest sites and cover for wildlife adapted to developed areas. Typical native bird species include: mourning dove, scrub jay, northern mockingbird, American robin, northern flicker, brown towhee, and American kestrel. Introduced species include: rock dove, European starling, house finch, and house sparrow. Urban areas also provide habitat for several species of native mammals such as California ground squirrel, raccoon, and striped skunk, as well as the introduced eastern fox squirrel and eastern red fox. Introduced pest species such as Norway rat, house mouse, and opossum are also abundant in developed areas. As discussed above, urbanization now generally separates the remaining undeveloped lands at the east, northwest, and southwest edges of the planning area.

Non-Native Grasslands

Non-native grasslands occupy most of the remaining undeveloped lands in the planning area, composed of introduced grasses and broadleaf weedy species which quickly recolonize disturbed areas. Intensive grazing, dryland farming, and other disturbance have eliminated most of the native grasslands throughout California over the past 100 years, including the historic rangelands of the Walnut Creek vicinity. Common species in the grasslands today include: wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus mollis*), foxtail barley (*Hordeum leporinum*), field mustard (*Brassica campestris*), wild radish (*Rhaphanus sativus*), bindweed (*Convolvulus arvensis*), cheeseweed (*Malva parviflora*), bur clover (*Medicago polymorpha*), and yellow-star thistle (*Centaurea solstitialis*). The remaining native species tend to be common perennials, such as California poppy (*Eschscholzia californica*), Douglas' lupine (*Lupinus nanus*), and wild hyacinth (*Dichelostemma pulchellum*).

Remnant native grasslands still occur in some locations in the planning area such as Shell Ridge Open Space. The loss has led the California Natural Diversity Database (CNDDB) to now recognize native grasslands as a sensitive resource with a high inventory priority. The CNDDB generally considers grasslands containing ten percent or greater cover by native grass species to represent a natural grassland community. [2] Because most of the remaining native grassland communities have been highly modified by past and on-going disturbance, remaining native grassland communities generally form a mosaic of different cover classes, sometimes interspersed with areas dominated by non-native species.

Native and nonnative grasslands support a variety of mammals, birds, and reptiles, and provide foraging habitat for raptors. Many species use the grassland for only part of their habitat requirements, foraging in the grassland and seeking cover in the limited tree and scrub cover. Grassland cover also provides foraging, nesting, and denning opportunities for resident species such as western fence lizard, northern alligator lizard, gopher snake, west-

[1] Trees protected under the ordinance are generally defines as having a circumference of twenty-eight inches or more measured four and a half feet above grade. or being a tree of any size within a grove of trees.

[2] This ten percent threshold is a loosely applied standard that has been used by the state for many years, and generally refers to "relative" rather than "absolute" cover of native species.

ern meadowlark, goldfinch, ring-necked pheasant, red-winged blackbird, California ground squirrel, California vole, Bottae pocket gopher, black-tailed jackrabbit, and black-tailed deer. In turn, rodent, bird, and reptile populations offer foraging opportunities for avian and mammalian predators such as white-tailed kite, northern harrier, American kestrel, red-tailed hawk, golden eagle, barn owl, and great horned owl, coyote, red fox, gray fox, long-tailed weasel, bobcat, and occasionally mountain lion.

Remnant Oak Woodlands

Oak woodland occurs in scattered locations at the fringe of the planning area, and as remnant stands and scattered trees through the valley floor in developed areas. Trees in the woodland are dominated by valley oak and coast live oak. Other tree and shrub species found in the remaining woodlands include: California bay laurel, California buckeye, toyon (*Heteromeles arbutifolia*), and poison oak (*Toxicodendron diversilobum*). Understory in the woodlands varies, from non-native grassland to existing development in urbanized areas. Valley oak woodlands are recognized as a sensitive natural community by the CNDDB due to their rarity and threats from encroaching agricultural and urban development.

Mature oaks provide nesting and foraging opportunities for birds, including raptors. They also provide essential food resources for eastern fox squirrels, native grey squirrels, acorn woodpeckers, scrub jay, and other birds. Wildlife use of the understory in the remaining woodland and savanna varies depending on cover type. Wildlife commonly associated with well-developed, native woodland habitat include: dusky-footed woodrat, deer mouse, western flycatcher, chestnut-backed chickadee, plain titmouse, Hutton vireo, orange-crowned kinglet, rufous-sided towhee, fox sparrow, bushtit, ringneck snake, California newt, and California slender salamander. In developed areas, the understory has typically been replaced by parking lots, structures, and ornamental landscaping, and supports wildlife common in urbanized habitats.

Riparian Woodland and Scrub

Riparian vegetation occurs along creeks and tributary drainages, with trees and shrubs often forming stands characteristic of riparian forest and willow scrub natural communities. Particularly well-developed corridors of riparian cover occur along Walnut Creek, Pine Creek, Indian Creek, Las Trampas Creek, and Sycamore Creek. Additional habitat occurs in scattered locations along tributary drainages throughout the planning area, including intermittent streams and some ephemeral drainages. Dominant cover includes valley oak, coast live oak, California bay laurel, California buckeye and willows (*Salix* spp.), with several other tree, shrub, and vine species contributing to the typically dense cover formed by riparian vegetation. Highly invasive, non-native giant reed (*Arundo donax*) and Himalayan blackberry (*Rubus discolor*) often form impenetrable thickets along riparian corridors, replacing native vegetation and reducing habitat values.

Riparian corridors serve as critical linkages for aquatic and terrestrial wildlife movement. Surface water is available for aquatic-dependent organisms, and as a source of drinking water for terrestrial mammals and birds. The channels serve as movement corridors for aquatic and terrestrial species which use the protective cover found along the creeks. Chinook salmon, steelhead, and other native fish species are known to use Pine Creek and other tributaries of Walnut Creek where drop structures and other channel modifications haven't created impenetrable barriers to upstream movement. Wildlife dependent on the cover provided by the riparian woodland and scrub include: black-tailed deer, black-tailed jackrabbit, brushrabbit, red and grey fox, rufous-sided towhee, scrub jay, flycathers, and warblers. Dense riparian growth provides essential cover in the open grasslands and suburban areas for larger mammals, such as striped skunk, raccoon, opossum, black-tailed deer and for predatory species as they forage throughout their range.

Freshwater Marsh
Freshwater marsh is also associated with the creek and smaller drainages, and with the fringe of waterbodies. It is typically dominated by emergent monocots such as narrow-leaf cattail (*Typha angustifolia*). Wetland indicator species characteristic of poorly developed freshwater marsh habitat include: curly dock (*Rumex crispus*), bristly ox-tongue (*Picris echioides*), and wild celery (*Apium graveolens*). The larger creeks in the planning area which do not support woody riparian vegetation most likely support some type of freshwater marsh cover. Freshwater marsh species also dominate the ground cover at freshwater seeps and springs in the planning area, as well as the remaining seasonal wetlands on the valley floors and sometimes along ephemeral drainages.

Freshwater aquatic habitats and the associated riparian and marsh vegetation are of high value to wildlife, providing a source of drinking water, protective cover, and serving as movement corridors. The Planning Area's creeks, streams and ponds provide aquatic habitat for amphibians, such as Pacific tree frog, California newt, western toad, and California slender salamander, and large populations of invertebrates.

Other Cover Types and Wildlife Habitat Features
A number of native and non-native vegetative cover types occur within or just outside the planning area, such as mixed chaparral, coastal sage scrub, and northern coastal scrub. These cover types are dominated by woody shrubs such as coyote brush (*Baccharis pilularis*), yerba santa (*Eriodictyon californicum*), toyon, chamise (*Adonostoma fasciculatum*), poison oak, buckbrush (*Ceanothus cuneatus*), chaparral pea (*Pickeringia montana*), California sagebrush (*Artemisia californica*), and black sage (*Salvia mellifera*). The highly localized endemic species, Mt. Diablo manzanita (*Arctostaphylos auriculata*), is found in stands of chaparral on Lime Ridge and the slopes of Mt. Diablo. A number of other special-status plant species are typically associated with chaparral and scrub vegetation, including: Contra Costa manzanita (*A. manzanita* ssp. *laevigata*), pallid manzanita (*A. pallida*), Diablo helianthella (*Helianthella castanea*), and Hall's bush mallow (*Malacothamnus hallii*). Chaparral and coastal scrub also provide important habitat for wildlife, including the State and federally-threatened Alameda whipsnake.

Several other landforms and cover types provide habitat for wildlife, such as rock outcrops and groves of non-native blue gum eucalyptus. Rock outcrops occur in the remaining grassland and oak woodlands at the fringe of the planning area, and provide a unique habitat for wildlife. Outcrops occur along Shell Ridge, Las Trampas Ridge, and Acalanes Ridge, and as large abandoned quarry faces on Lime Ridge. These landforms provide perches for raptors, and ledges may also serve as nests in more isolated locations. Crevices provide abundant hiding places for numerous lizards and snakes, and larger cavities may be used as shelter locations by mammalian predators such as bobcat, coyote, and mountain lion. Although eucalyptus is native to Australia, this naturalized species provides important nesting habitat for raptors and other bird species, and cover for larger mammals. The presence of eucalyptus in the open grasslands where protective cover and perching habitat is scarce emphasizes the importance of the dense tree stands to birds and larger mammals.

SPECIAL-STATUS SPECIES

A record search conducted by the CNDDB, together with other relevant information, indicate that occurrences of numerous plant and animal species with special status have been recorded from or are suspected to occur in central Contra Costa County and the Walnut Creek vicinity. Several occurrences have been reported from the planning area; most are associated with the remaining undeveloped lands to the east, northwest, and southwest. Some historic occurrences, such as those for California tiger salamander on the valley floor,

are from collections made over 50 years ago and are no longer believed to occur within the planning area due to urbanization.

Plant Species

A number of plant species with special-status have been reported in the planning area, and based on recorded geographic range and preferred habitat, numerous other species may potentially occur in the Walnut Creek vicinity. These have varied status, and many are considered rare (list 1B) by the California Native Plant Society (CNPS). Table 40 provides information on the name, status, habitat characteristics, distribution, and flowering period of the 44 plant species reported in or having the highest probability of occurrence in the planning area. Of these, nine, which are indicated with an asterisk in Table 40, have actually been reported within or at the edge of the planning area. The locations of known or historic populations are shown in Figure 28.

Existing urbanization greatly limits the likelihood of continued occurrence of any populations of special-status plant species on the valley floor. Historic occurrences of big tarplant, Contra Costa goldfield, and bent-flowered fiddleneck, which were once known from the valley floor, are presumed to have been extirpated as a result of urbanization. Many of the special-status plant occurrences in the protected open space lands at the fringe of the planning area remain, but are vulnerable to overgrazing, fire, invasive weeds, and other threats. There remains a possibility that additional populations of one or more species occurs on the remaining undeveloped lands in the planning area, particularly at the east, southwest and northwest fringe. Detailed surveys would be required to provide confirmation on presence or absence from undeveloped land where thorough studies have not been conducted.

Animal Species

A number of bird, mammal, reptile, fish, and invertebrate species with special-status are known or suspected to possibly occur in the Walnut Creek vicinity. Table 41 provides information on the name, status and preferred habitat for each of these species. Of these species, four, which are indicated with an asterisk in Table 41, have actually been reported by the CNDDB from the planning area. They include California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana aurora draytonii*), burrowing owl (*Athene cunicularia*), and Berkeley kangaroo rat (*Dipodemys hermanni berkeleyenis*). Many non-listed special-status species are not monitored by the CNDDB and occurrence data is therefore not available.

Most of the special-status animal species known or suspected from the planning area are bird species which forage in the remaining undeveloped habitats. These include: burrowing owl, Cooper's hawk, loggerhead shrike, northern harrier, sharp-shinned hawk, tricolored blackbird, and white-tailed kite. A pair of golden eagles is known to nest on Lime Ridge at the eastern edge of the planning area, but this species typically prefers open grasslands with limited human access and disturbance.

Historic occurrences of California tiger salamander have been reported by the CNDDB from the valley floor in the 1920's through 1950's, but suitable breeding habitat for this species is no longer present and this species is presumed to be extirpated from the planning area. California red-legged frog is known from Hazard Creek in the Diablo Foothills Regional Park, and Alameda whipsnake is known from the scrub and chaparral covered slopes of Las Trampas Ridge and Mount Diablo. Both Chinook salmon and steelhead are returning to Walnut Creek and tributary drainages such as Pine Creek, providing an indication of the importance of these streams and their potential for habitat restoration.

It should be noted that there remains a potential for occasional use of the planning area vicinity by other special-status animal species, such as ferruginous hawk (*Buteo regalis*), Aleutian Canada goose (*Branta canadensis leucopareia*), American peregrine falcon, prairie falcon,

Table 40

Special-Status Plant Species With Potential for Occurrence in Walnut Creek Vicinity

Species	Status USFWS/CDFG/CNPS	Habitat Affinities and Reported Locations in the Project Area	Bloom Period/Life Form
Apiaceae			
Rock sanicle *Sanicula saxatilis*	SOC/CR/1B:3-2-3	Broadleaf upland forests, chaparral, valley/foothill grassland, on bedrock outcrops and talus slopes. Restricted to Contra Costa and Santa Clara counties. Occurs on Mt. Diablo and Eagle Peak.	April-May Perennial herb
Asteracea			
Big tarplant* *Blepharizonia plumosa* ssp. *plumosa*	--/CEQA/1B:3-3-3	Valley/foothill grasslands, on dry sites. Extant in Alameda and possibly Contra Costa counties. Believed extirpated in San Joaquin, Stanislaus and Solano counties.	July-October Annual herb
Jepson's woolly sunflower *Eriophylum jepsonii*	--/CEQA?/4:1-1-3	Chaparral, cismontane woodland, coastal scrub, sometimes on serpentine. Known from Alameda, Contra Costa, San Benito, Santa Clara, Kern, Stanislaus, and Ventura counties.	April-June Perennial herb
Diablo helianthella* *Helianthella castanea*	SOC/CEQA/1B:2-2-3	Broadleaf upland forest, chaparral, cismontane woodland coastal scrub, riparian woodland, and valley/foothill grassland. Occurs in Alameda, Contra Costa and San Mateo counties; presumed extirpated in Marin and San Francisco counties. Occurs on Mt. Diablo, Las Trampas Ridge, and Shell Ridge.	April-June Perennial herb
Congdon's tarplant *Centromadia* ssp. *congdonii*	SOC/CEQ/1B:3-3-3	Valley/foothill grasslands in alkaline soils. Restricted to San Luis Obispo, Monterey, and possibly Santa Clara counties; presumed extirpated in Alameda, Contra Costa, Santa Cruz and Solano counties.	June-November Annual herb
Santa Cruz tarplant *Holocarpha macradenia*	FT/CE/1B:2-3-3	Coastal prairie, valley/foothill grassland, often clay soils. Known from Contra Costa, Santa Cruz counties; presumed extirpated in Marin and Alameda counties. Last remaining natural population in Bay Area believed extirpated in 1993.	June-October Annual herb
Contra Costa goldfields* *Lasthenia conjugens*	FE/CEQA/1B:3-3-3	Mesic sites in valley/foothill grassland, vernal pools. Restricted to Alameda, Contra Costa, Napa and Solano counties.	March-June Annual herb
Showy madia *Madia radiata*	--/CEQA/1B:2-3-3	Valley/foothill grasslands below 250 feet, and cismontane woodland. Once occurred throughout the Central Coast and Central Valley.	March-May Annual herb

Table 40 (Continued)

Special-Status Plant Species With Potential for Occurrence in Walnut Creek Vicinity

Species	Status USFWS/CDFG/CNPS	Habitat Affinities and Reported Locations in the Project Area	Bloom Period/Life Form
Mt. Diablo cottonweed *Micropus amphibolus*	--/CEQA?/3:?-2-3	Broadleaf upland forest, cismontane woodland, valley/foothill grassland. Known from Lake to Santa Cruz counties, San Francisco Bay Area.	April-May Annual herb
Rayless ragwort *Senecio aphanactis*	--/CEQA?/2:3-2-1	Chaparral, cismontane woodland and coastal scrub (alkaline).	January-April Annual herb
Boraginaceae			
Large-flowered fiddleneck *Amsinckia grandiflora*	FE/SE/1B:3-3-3	Cismontane woodland, valley/foothill grassland. Known from only three natural occurrences in Alameda, Contra Costa and San Joaquin counties. Occurs at Black Diamond Mines Regional Preserve.	April-May Annual herb
Bent-flowered fiddleneck* *Amsinckia lunaris*	--/CEQA?/1B:-2-2-3	Open woods, valley/foothill grasslands. Reported from the vicinity of San Francisco Bay to Lake, Shasta and Siskiyou counties.	March-June Annual herb
Hoover's cryptantha *Cryptantha hooveri*	--/CEQA?/1B:2-2-3	Valley/foothill grassland, on sandy soils. Known from Alameda, Contra Costa, Madera, Merced, Stanislaus and San Joaquin counties.	April-May Annual herb
Brassicaceae			
Most beautiful jewel-flower *Streptanthus albidus* ssp. *peramoenus*	SOC/CEQA/1B:2-2-3	Chaparral, cismontane woodland and valley/foothill grasslands on serpentinite. Known from Alameda, Santa Clara and Contra Costa counties. Occurs on Mt. Diablo.	April-June Annual herb
Mt. Diablo jewel-flower *Streptanthus hispidus*	SOC/CEQA/1B:3-1-3	Chaparral and valley/foothill grassland on serpentinite rock outcrops. Restricted to Contra Costa County. Occurs on Mt. Diablo and Eagle Peak.	March-June Annual herb
Caper-fruited tropidocarpum *Tropidocarprum capparideum*	SOC/CEQA/1A	Valley/foothill grasslands (alkaline hills). Known historically from Alameda, Contra Costa, Glenn, Monterey, Santa Clara and San Joaquin counties; presumed extinct, until recently rediscovered in Sonoma County. Known to have occurred in Clayton.	March-April Annual herb
Chenopodiacaea			
San Joaquin spearscale *Atriplex joaquiniana*	SOC/CEQA/1B:2-2-3	Chenopod scrub, meadows/playas, valley/foothill grasslands (alkaline).	April-October Annual herb

Table 40 (Continued)

Special-Status Plant Species With Potential for Occurrence in Walnut Creek Vicinity

Species	Status USFWS/CDFG/CNPS	Habitat Affinities and Reported Locations in the Project Area	Bloom Period/Life Form
Convolulaceae			
Small-flowered morning-glory *Convolvulus simulans*	--/CEQA?/4:1-2-2-	Chaparral (openings), coastal scrub, valley/foothill grassland, in clay and serpentine seeps. Known from the San Francisco Bay Area and San Joaquin Valley, Central Coast and Channel Islands to San Diego County.	March-June Annual herb
Cyperaceae			
Bristly sedge *Carex comosa*	--/CEQA/2:3-3-1	Marshes and swamps, lake margins. Extant populations in several counties in California as well as Oregon, Idaho and Washington.	May-September Perennial herb (rhizomatous)
Ericaceae			
Mt. Diablo manzanita* *Arctostaphylos auriculata*	FT/CT/1B:3-3-3	Chaparral on sandstone. Known from fewer than twenty occurrences on Mt. Diablo, including Lime Ridge.	January-March Evergreen shrub
Contra Costa manzanita* *Arctostaphylos marnzanita* ssp. *laevigata*	--/CEQA/1B:3-2-3	Chaparral (rocky). Endemic to Contra Costa County.	January-February Evergreen Shrub
Pallid manzanita *Arctostaphylos pallida*	FT/CT/1B:3-3-3	Broadleaf upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub. Known from thirteen occurrences in Contra Costa Hills of Diablo Range.	December-March Evergreen shrub
Fabaceae			
Alkali milk vetch *Astragalus tener* var. *tener*	--/CEQA/1B:3-2-3	Playas, valley/foothill grasslands on adobe clay, and alkaline vernal pools. Extant in Merced, Solano and Yolo counties. Believed extirpated throughout the Bay Area and San Joaquin Valley.	March-June Annual herb
Geraniaceae			
Round-leaved filaree *Erodium macrophyllum*	--/CEQA/2:2-3-1	Cismontane woodland, valley/foothill grassland. Known throughout coastal and Central Valley counties.	March-May Annual herb
Hydrophyllaceae			
Mt. Diablo phacelia *Phacelia phacelioides*	SOC/CEQA/1B:2-2-3	Chaparral and cismontane woodland (rocky). Known only from the Diablo Range in Contra Costa, Santa Clara, Stanislaus and San Benito counties; possibly from Alameda County.	April-May Annual herb

Table 40 (Continued)

Special-Status Plant Species With Potential for Occurrence in Walnut Creek Vicinity

Species	Status USFWS/CDFG/CNPS	Habitat Affinities and Reported Locations in the Project Area	Bloom Period/Life Form
Juglandaceae			
Northern California black walnut *Juglans hindsii*	SOC/CEQA/1B:3-3-3	Riparian forests and riparian woodlands. Known from only two extant populations in Napa and Contra Costa counties. Presumed extirpated in Sacramento, Solano and Yolo counties. Widely naturalized in cismontane California, and used as a root stock for *J. regia*.	April-May Deciduous tree
Liliaceae			
Mt. Diablo fairy lantern* *Calochortus pulchellus*	--/CEQA/1B:2-2-3	Chaparral, cismontane woodland, valley/foothill grassland. Recorded from Contra Costa County in the vicinity of Mt. Diablo.	April-June Perennial herb (bulbiferous)
Oakland star-tulip *Calochortus umbellatus*	--/CEQA?/4:1-2-3	Broadleafed and upland forest, chaparral, lower montane coniferous forest, valley/foothill grassland, often in serpentinite. Known from Alameda, Contra Costa, Marin, Santa Clara and San Mateo counties. Presumed extirpated in Santa Cruz County.	March-May Perennial herb (bulbiferous)
Stinkbells *Fritillaria agrestis*	--/CEQA?/4:1-2-3	Chaparral, cismontane woodland, valley/foothill grassland on clay or sometimes serpentinite. Fairly widespread from Santa Barbara to Mendocino counties and east to the Sierra foothill counties.	February-April Perennial herb
Fragrant fritillary *Fritillaria liliaceae*	SOC/CEQA/1B:1-2-3	Coastal prairie, coastal scrub, valley/foothill grassland near coast, on clay soil often serpentinite. Known from San Francisco Bay Area, Monterey. San Benito, Sonoma and Solano counties.	February-April Perennial herb (bulbiverous)
Laminaceae			
Robust monardella *Monardella villosa* ssp. *globosa*	Soc/CEQA/1B:3-2-3	Broadleafed upland forest, chaparral cismontane woodland, valley/foothill grassland. Known from Alameda, Contra Costa, Humboldt, Lake, Mendocino, Napa, San Mateo and Sonoma counties.	June-July Perennial herb
Linacaea			
Brewer's dwarf flax *Hesperolinon breweri*	SOC/CEQA/1B:2-2-3	Chaparral, cismontane woodlands, valley/foothill grassland, mostly on serpentinite. Found in Napa, Solano and Contra Costa counties. Occurs on Mt. Diablo.	May-July Annual herb

Table 40 (Continued)

Special-Status Plant Species With Potential for Occurrence in Walnut Creek Vicinity

Species	Status USFWS/CDFG/CNPS	Habitat Affinities and Reported Locations in the Project Area	Bloom Period/Life Form
Malvaceae			
Hall's bush mallow* *Malacothamnus hallii*	--/CEQA/1B:3-2-3	Chaparral. Known from Contra Costa, Merced, Santa Clara and possibly Alameda counties	May-September Shrub (evergreen)
Onagraceae			
Persidio clarkia *Clarkia franciscana*	FE/CE/1B:3-3-3	Coastal scrub, valley/foothill grassland on serpentinite. Known from fewer than five occurrences in Alameda and San Francisco counties.	May-July Annual herb
Papaveraceae			
Diamond-petaled California poppy *Eschscholzia rhombipetala*	SOC/CEQA/1A	Valley/foothill grassland on clay soils. Presumed extinct. Known historically from Alameda, Contra Costa, Colusa, San Luis Obispo and Stanislaus counties. Last seen in 1950.	March-April Annual herb
Polemoniaceae			
Serpentine linanthus *Linanthus ambiguus*	--/CEQA?/4:1-2-3	Cismontane woodland, coastal scrub, valley/foothill grassland, usually on serpentinite. Known from the San Francisco Bay Area and San Joaquin Valley.	March-June Annual herb
Polygonaceae			
Robust spineflower *Chorizanthe robusta* var.*robusta*	FE/CEQA/1B:3-3-3	Openings in cismontane woodland, coastal dunes and scrub in sandy/gravelly substrate. Most populations extirpated, known from only four occurrences in Santa Cruz county.	April-September Annual herb
Mt. Diablo buckwheat *Eriogomum truncatum*	--/CEQA/1A	Chaparral, coastal scrub, valley/foothill grassland on sandy soils. Presumed extinct; known historically from Alameda, Contra Costa and Solano counties. Last seen in 1936 on Mt. Diablo.	April-September Annual herb
Portulacaea			
Brewer's calandrinia *Calandrinia breweri*	--/CEQA?/4:1-2-2	Chaparral and coastal scrub on sandy or loamy, disturbed and burned sites. Known from Napa and Mendocino counties, throughout the Central Coast to San Diego.	March-June Annual herb
Potamogetonaceae			
Eel-grass pondweed *Potamogeton zosteriformis*	--/CEQA/2:2-2-1	Assorted freshwater marshes and swamps. Known from Contra Costa, Lake counties, Modoc, Lassen and Shasta counties, and Washington and Oregon.	June-July Annual herb (aquatic)

Table 40 (Continued)

Special-Status Plant Species With Potential for Occurrence in Walnut Creek Vicinity

Species	Status USFWS/CDFG/CNPS	Habitat Affinities and Reported Locations in the Project Area	Bloom Period/Life Form
Primulaceae			
California androsace *Androsace elongata* ssp. *acuta*	--/CEQA?/4:1-2-2	Chaparral, cismontane woodland and coastal scrub. Known from the Bay Area and Central Coast to Siskyou and San Diego counties.	March-June Annual herb
Ranunculaceae			
Recurved larkspur *Delphinium recurvatum*	SOC/CEQA/1B:1-2-3	Chenopod scrub, cismontane woodland, coastal scrub, valley/foothill grassland (alkaline). Known from the interior of the Coast Ranges from Colusa and Solano counties south to San Luis Obispo and Kern counties.	March-May Perennial herb
Lobb's aquatic buttercup *Ramuculus lobbil*	--/CEQA?/4:1-2-3	Mesic sites in cismontane woodland, valley/foothill grassland, northern coniferous forest and vernal pools. Known in the San Francisco Bay Area to Mendocino and Napa counties.	March-May Annual herb (aquatic)
Scrophulariaceae			
Mt. Diablo bird's beak *Cordylanthus nidularlus*	SOC/CR/1B:3-3-3	Chaparral (serpentine). Known only from a single occurrence in Mt. Diablo.	July-August Annual herb (hemiparasitic)

Status Explanations:

Agencies

USFWS = U.S. Fish and Wildlife Service
CDFG = California Department of Fish and Game
CNPS = California Native Plant Society

California Native Plant Society Designations

List 1: Plants of highest priority.
List 1A: Plants presumed extinct in California.
List 1B: Plants rare and endangered in California and elsewhere.
List 2: Plants rare and endangered in California but more common elsewhere.
List 3: Plants about which additional data are needed.
List 4: Plants of limited distribution.

CNPS R-E-D Codes

R (Rarity)

1 = Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction or extirpation is low at this time.
2 = Occurrence confined to several populations or to one extended population.
3 = Occurrence limited to one or a few highly restricted populations, or present in such low numbers that it is seldom reported.
? = More data are needed.

* Reported within Walnut Creek Planning Area.

Table 40 (Continued)

Special-Status Plant Species With Potential for Occurrence in Walnut Creek Vicinity

E (Endangerment)

1 = Not endangered.
2 = Endangered in a portion of its range.
3 = Endangered throughout its range.
? = More data are needed.

D (Distribution)

1 = More or less widespread outside California.
2 = Rate outside California.
3 = Endemic to California.
? = More data are needed.

Federal Designations

FE = Listed as endangered by the Federal Government.
FT = Listed as threatened by the Federal Government.
FPE = Proposed as endangered by the Federal Government.
FTE = Proposed as threatened by the Federal Government.
FSS = Federal sensitive species, as listed by BLM and USFS.
C = Candidate; taxa for which USFWS has sufficient biological information to support a proposal to list as endangered or threatened.
SOC = Species of concern.

California Designations

CE = Listed as endangered by the State of California.
CR = Listed as rare by the State of California.
CT = Listed as threatened by the State of California.
CPE = Proposed for listing as endangered.
CEQA = Taxa which are considered to meet the criteria for listing as endangered, threatened or rare by the CDFG; impacts to such taxa must be addressed in CEQA documents.
CEQA? = Taxa that might be locally significant; should be evaluated for consideration during preparation of CEQA documents, as recommended by the CDFG.

Table 41

Special-Status Animal Species Known or Suspected to Occur in Walnut Creek Vicinity

Species	Status State/Federal/CNPS	Preferred Habitat
Mammals		
Pallid bat *Antrozous pallidus*	--/CSC	Roosts in caves, crevices, abandoned buildings, and forages in a variety of habitats.
Ringtail *Bassariscus astutus*	--/SP	Chaparral and foothill canyons, preferring riparian areas.
Berkeley kangaroo rat* *Dipodemys hermanni berke-leyenis*	FSC/--	Open grassy hilltops and open areas in chaparral and woodland, with fine, deep soil for burrowing.
Mountain lion *Felis concolor*	--/SP	Forested and brush habitat, tends to avoid open areas.
San Francisco dusky-footed woodrat *Neotoma fuscipes annectens*	FSC/CSC	Dense woodlands, mixed forests, chaparral, and scrub.
Townsend western big-eared bat *Placates townsendi tonwsendi*	FSC/CSC	Roosts in caves, mines, and abandoned buildings, and forages in a variety of habitats.
Birds		
White-tailed kite *Elanus leucurus*	--/SP	Open grasslands with trees and shrubs used for nesting.
Sharp-shinned hawk *Accipiter striatus*	--/CSC	Open deciduous woodlands, mixed or coniferous forests, and thickets.
Cooper's hawk *Accipiter cooperii*	--/CSC	Forests or woodlands; prefers broadleafed trees in riparian areas for nesting.
Tricolored blackbird *Agelaius tricolor*	FSC/CSC	Forms large colonies for nesting in freshwater marsh and forages in surrounding fields and grasslands.
Ferruginous hawk *Buteo regalis*	--/CSC	Western plains and prairies.
Golden eagle *Aquila chrysaetos*	--/CSC, SP	Forages in open grasslands, nests on cliff ledges and trees in hilly areas.

Table 41 (Continued)

Special-Status Animal Species Known or Suspected to Occur in Walnut Creek Vicinity

Species	Status State/Federal/CNPS	Preferred Habitat
Northern harrier *Circus cyaneus*	--/CSC	Marshes, fields, and grasslands.
Merlin *Falco columbrius*	--/CSC	Frequents coastlines, open grasslands, savannas, woodlands, lakes, and wetlands.
American peregrine falcon *Falco peregrinus anatum*	Delisted/SE, SP	Riparian areas, open woodlands, coastal and inland wetlands.
Prairie falcon *Falco mexicanus*	--/CSC	Grasslands, savannas, rangeland, agricultural fields, and desert scrub areas.
California horned lark *Eremophila alpestris actia*	--/CSC	Fields and open grasslands.
Loggerhead shrike *Lanius ludovicianus*	FSC/CSC	Open brushy areas in grasslands with lookout perches.
Yellow warbler *Dendroica petechia*	--/CSC	Frequents riparian zones, woodlands, and forests with a brushy understory during breeding season. Found in a variety of sparse to dense woodland and forest habitats during migration.
Reptiles		
California horned lizard *Phrynosoma caronatum frontale*	--/CSC	Variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Requires open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of r insects.
Northwestern pond turtle *Clemmys marmorata*	-/CSC	Ponds, marshes, rivers, and streams with retreat pools.
Alameda whipsnake *Masticophis lateralis euryxanthus*	FT/ST	Restricted to valley-foothill hardwood habitat of the Coast Range. Prefers south-facing slopes and ravines where shrubs form a vegetative mosaic of woodland and grassland with available prey.
Amphibians		
California tiger salamander * *Ambystoma californiense*	FC/CSC	Breeds in vernal pools and stock ponds, and aestivates in ground squirrel burrows and other humid, protected locations.
California red-legged frog * *Rana aurora draytonii*	FT/CSC	Marshes, ponds, streams, lakes and reservoirs, prefers emergent vegetation for cover. Known to disperse and forage in adjacent uplands.
Foothill yellow-legged frog *Rana boylii*	FSC/CSC	Perennial and intermittent streams with cobble substrate and retreat pools.

Table 41 (Continued)

Special-Status Animal Species Known or Suspected to Occur in Walnut Creek Vicinity

Species	Status State/Federal/CNPS	Preferred Habitat
Fish		
Steelhead *Oncorhynchus mykiss*	FT/CSC	Open water of Pacific Ocean, Bay, and Delta, migrates to spawn in tributary rivers and streams.
Chinook salmon *Oncorhynchus tshawytsha*	FT/CSC	Open water of Pacific Ocean, Bay, and Delta, migrates to spawn in tributary rivers and streams.
Invertebrates		
Bridge's coast range shoulder-band *Helminthoglypta nickliniana bridgesi*	FSC/--	Prefers rock piles, sometimes in grassland on open hillsides.

Status Explanations:

Federal

FE = Listed as endangered under the federal Endangered Species Act.
FT = Listed as threatened under the federal Endangered Species Act.
FSC = Federal Species of Concern.

State

SE = Listed as endangered under the California Endangered Species Act.
ST = Listed as threatened under the California Endangered Species Act.
SP = Fully protected under CDFG Code.
CSC = Considered a California Special Concern species by CDFG.

* Reported within Walnut Creek Planning Area.

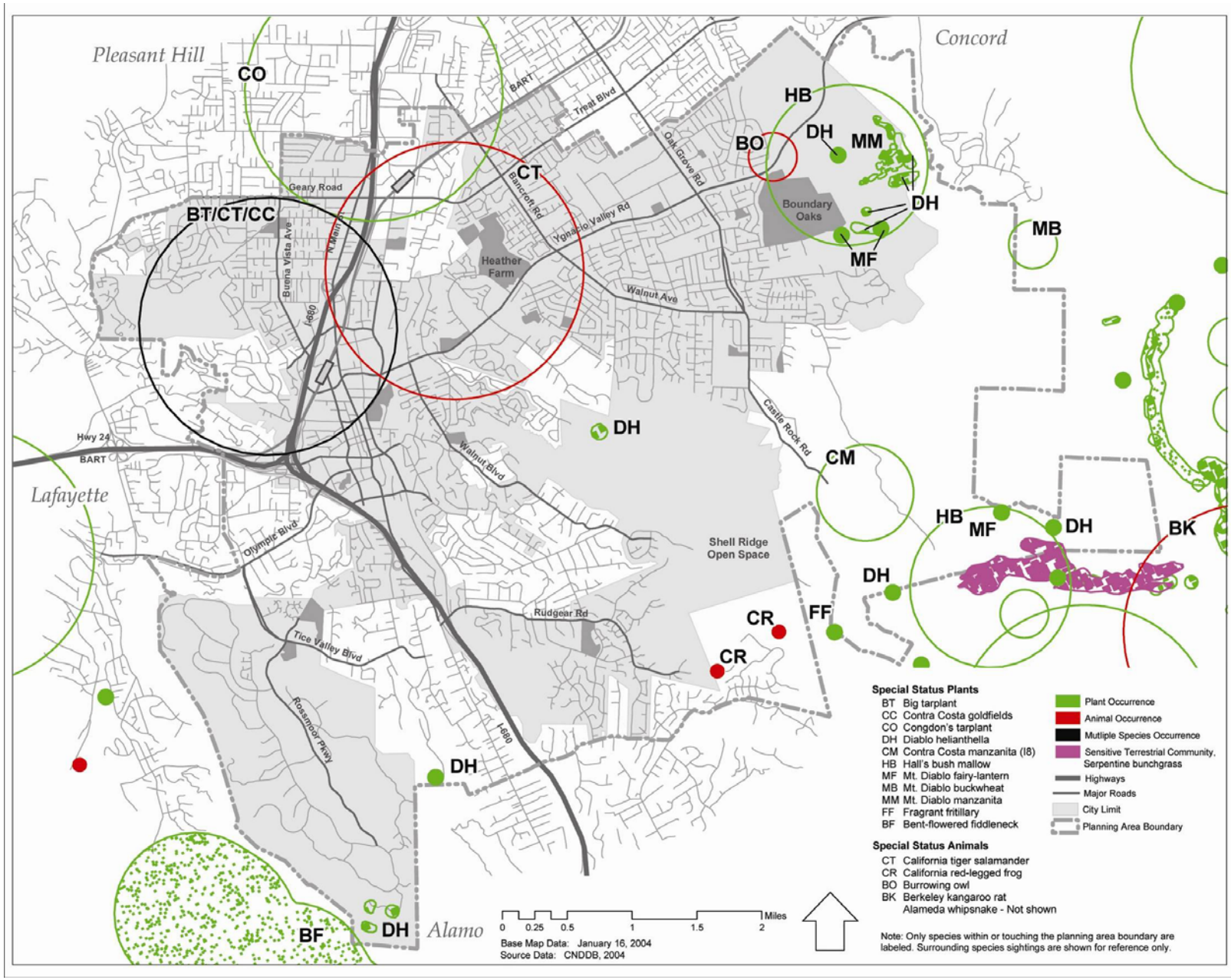

Figure 28. Known Occurrence of Special Status Species

and merlin (*Falco columbarius*). This, however, would be limited to occasional wintering activity by migratory bird species or possible occasional foraging activity by species for which essential breeding habitat is absent from the planning area.

SENSITIVE NATURAL COMMUNITIES

Several of the natural communities within the planning area are considered to have a high inventory priority with the CNDDB. These communities have been designated as sensitive due to rarity and continuing loss as a result of development, flood control improvements, and other factors. Sensitive natural communities in the planning area include: freshwater marsh, freshwater seeps and springs, riparian forest and woodland, willow riparian scrub, valley oak woodland, and valley needlegrass grassland. While coast live oak woodland is not considered as having a high inventory priority with the CNDDB, it should be recognized as an important habitat type in the planning area due to its relatively high wildlife value and presence of mature native trees. With the exception of the valley needlegrass grasslands, which integrates with non-native grasslands, all of the other community types are easily distinguished and mapped. Detailed field surveys would be required to determine the extent of natural communities in the remaining undeveloped portions and designated open space lands of the planning area.

WETLANDS

Wetlands in the planning area include areas of freshwater marsh around stockponds, seeps, springs, and other waterbodies, seasonal wetlands in ephemeral drainages and possibly depressions on undeveloped parcels on the valley floor, and emergent marsh and willow scrub along creeks. Wetlands mapped in the Planning Area as part of the National Wetland Inventory, consisting of emergent, scrub-scrub, and forested palustrine along the creeks and larger drainages, and unconsolidated bottom palustrine at scattered stock ponds.

The US Army Corps of Engineers (Corps) and California Department of Fish and Game (CDFG) generally exercise authority over these various wetland habitat types. A detailed wetland delineation and verification by the Corps would be required to determine the extent of jurisdictional wetlands on sites where modifications are proposed.

HABITAT CONNECTIVITY

Protecting habitat on an ecosystem-level is essential to sustaining native plant and animal populations. The extent of urbanization on the valley floor limits opportunities for movement and dispersal of native wildlife and plant species across the planning area. The remaining undeveloped lands at the eastern, northwestern and southwestern fringe of the planning area complement the adjacent protected parklands and watershed lands. The network of creeks and streams continue to provide opportunities for wildlife movement and dispersal through parts of the planning area, and are frequently used by a number of larger species such as black-tailed deer, raccoon, and numerous species of birds.

STANDARDS OF SIGNIFICANCE

The Walnut Creek General Plan 2025 would create a significant impact with regard to biological resources if it would:

- Effect substantially and adversely, either directly or through habitat modifications, any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by the CDFG or U.S. Fish and Wildlife Service (USFWS).

- Effect substantially and adversely any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFG or USFWS.
- Effect substantially and adversely federally-protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or State habitat conservation plan.

IMPACT DISCUSSION

Depending on its location, future urban development in Walnut Creek has the potential to affect important biological resources by disturbing or eliminating special-status species and wetlands, and by contributing to the disruption of wildlife habitat or movement corridors. Impacts could occur as a result of grading, excavation, and construction activities associated with building projects, street improvements, and utility improvements.

Potential impacts associated with a loss of riparian habitat, seasonal wetlands and/or loss of habitat for special-status species are considered significant. The removal of large-sized native trees is also considered a significant impact, due to the value of these mature trees as habitat and their botanical significance.

SPECIAL-STATUS SPECIES

Several special-status plant and animal species are known or suspected to occur in the Walnut Creek Planning Area, primarily in the open space areas surrounding the city. The potential also exists for occasional use of the planning area vicinity by other special-status animal species. Development that results in a loss of these species or their habitat would be a significant impact.

The open space land use designations provided in General Plan 2025 would protect the vast majority of the biotic habitats that support special-status species. General Plan 2025 includes policies that would help to reduce impacts on special-status species since they address overall protection of biological resources and open space. Several policies in Chapter 3 Natural Environment and Public Spaces would provide the City's overall intent with regard to maintaining open space (Policy 1.1) and protecting and enhancing the natural environment (Policy 1.2). Policies 2.3 and 2.4 would direct the City to work to retain open space adjacent Mount Diablo State Park and within private development projects.

Several actions would also indirectly support the protection of special-status species. Action 1.2.1 would protect and enhance sensitive biological resources and areas. Action 1.2.3 would seek to reduce the impacts from non-native species and expand areas with native plants. Action 1.2.4 would support resource conservation opportunities on private land. Open space management actions would prohibit any facilities, structures or activities that would be incompatible with retention of the lands as open space (Action 1.3.2), and would establish rules for open space use (Action 1.3.3). The user demand and impact assessments that would be implemented under Action 1.3.1 could also have an indirect benefit on

special-status species protection. Chapter 4 Built Environment Actions 25.6.1 through 25.6.3 could also indirectly benefit special-status species by supporting wildlife protection.

As shown in Figure 28, some special-status species have been known to historically occur in developed areas of the valley floor. Since existing urbanization greatly limits the likelihood of continued occurrence of any populations of special-status plant or animal species on the valley floor, there would be a less-than-significant impact with regard to special-status species in urbanized Walnut Creek.

Implementation of the policies and actions listed above, in addition to compliance with State and federal laws, would provide protections to special-status species in the Planning Area.

RIPARIAN HABITAT AND WETLANDS

Several fish, amphibian, bird, mammal and reptile species with special status, and whose preferred habitats include riparian areas or wetlands, are known or suspected to occur in the Walnut Creek vicinity. Development under General Plan 2025 could result in significant direct or indirect impacts to riparian and wetland resources from habitat removal, noise or lighting. Water pollution from increased human uses and urban runoff could also pose a significant threat to the water quality of creeks in the area.

Chapter 3 Natural Environment and Public Spaces contains specific policies and actions directed at the protection of riparian corridors and creeks. Policy 3.1 directs the City to restore riparian corridors and waterways throughout the city. This policy would be implemented through actions to evaluate existing creek conditions and restoration opportunities (Action 3.1.1); create or improve riparian corridors, wetlands and buffer zones through land acquisition and conservation easements (Action 3.1.2); develop creek policies covering setbacks, damage prevention and other creek issues (Action 3.1.3); expand creek restoration planning efforts and programs (Action 3.1.4); and seek funds for creek studies and improvement efforts (Action 3.1.5). Through Action 3.2.3, the City would also daylight and incorporate creeks in new development and redevelopment whenever possible.

Wetland impacts would be reduced through implementation of Action 1.2.1, which would require the identification, protection, restoration, and enhancement of sensitive biological and wetland resources.

Implementation of policies and actions in Chapter 3 of General Plan 2025, Natural Environment and Public Spaces, would reduce potential impacts to riparian habitats and wetland to less-than-significant levels.

MOVEMENT CORRIDORS

New development under General Plan 2025 could have the potential to fragment the landscape, thereby disrupting or altering the movement corridors of wildlife. Fragmentation can occur as a result of land subdivision or because of the placement of uses or structures on previously undeveloped sites.

The General Plan Update addresses this potential impact through Natural Environment and Public Spaces Action 2.1.2, where the City would give priority to acquiring lands that provide connections for animals between open spaces and/or important habitat. Furthermore, Action 1.2.1 would require the identification, protection, restoration, and enhancement of areas critical for habitat connectivity. Natural Environment and Public Spaces Policy 3.1 directs the City to restore riparian corridors, which would benefit the movement of various species. Additionally, Built Environment Action 25.6.3 directs the City to identify and encourage the preservation of wildlife corridors. Implementation of these policies and actions would ensure that the movement of any native

resident or migratory fish or wildlife species would not be substantially impeded.

TREES AND OAK WOODLANDS

General Plan 2025 may allow development to occur in areas with mature and/or native trees or oak woodlands. The mature oaks provide nesting and foraging opportunities for birds, including raptors, and essential food resources for other species. Other trees could also provide nesting habitat, shelter or food for other species. Implementation of tree protection policies in Chapter 4 Built Environment would reduce impacts to less-than-significant levels. These policies direct the City to prohibit the cutting of and damage to any Native Tree (Policy 25.1), incorporate natural features, such as trees, into new development (Policy 25.2); protect tree resources on public and private property (Policy 25.4); and protect groves of trees (especially oaks) and their understories (Policy 25.5). The City would also assess and modify, if necessary, the City's Tree Preservation Ordinance (Action 25.5.1) and plan for the replacement of trees that have been removed (Action 25.5.2). These policies and actions would help support the City's existing Tree Preservation Ordinance and would reduce potential impacts to less-than-significant levels.

Since most of the oak woodland in Walnut Creek currently exists in designated open space areas and since, in addition to the above policies and actions, the General Plan proposes to maintain and enhance these areas (Natural Environment and Public Spaces Policies 1.1, 1.2, Actions 1.1.1, 1.2.2), the potential impacts to oak woodlands would be less-than-significant.

IMPACTS AND MITIGATION MEASURES

Since no impacts were identified, no mitigation measures are required.

CHAPTER 4.12

Air Quality

This chapter summarizes information on air quality in the Walnut Creek Planning Area and provides an evaluation of the effects the proposed General Plan 2025 would have on air quality.

The ambient air quality in a given area depends on the quantities of pollutants emitted within the area, transport of pollutants to and from surrounding areas, local and regional meteorological conditions, and the topography of the surrounding air basin. Air quality is described by the concentration of various pollutants in the atmosphere. Units of concentration are generally expressed in parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$). The significance of a pollutant concentration is determined by comparing the concentration to an appropriate ambient air quality standard. The standards represent the allowable pollutant concentrations designed to ensure that the public health and welfare are protected, while including a reasonable margin of safety to protect the more sensitive individuals in the population.

EXISTING SETTING

Walnut Creek is located in the eastern portion of the San Francisco Bay Area Air Basin. The basin includes the counties of San Francisco, Santa Clara, San Mateo, Marin, Napa, Contra Costa, Alameda, along with the southeast portion of Sonoma County and the southwest potion of Solano County. The local air quality regulatory agency responsible for this basin is the Bay Area Air Quality Management District (BAAQMD).

CLIMATE AND METEOROLOGICAL CONDITIONS

Walnut Creek's climate is mainly characterized by warm dry summers with abundant sunshine and cool moist winters. The proximity of the San Francisco Bay and Pacific Ocean has a moderating influence on the climate.

The major large-scale weather feature controlling the area's climate is a large high pressure system located in the eastern Pacific Ocean, known as the Pacific High. The strength and position of the Pacific High varies seasonally. It is strongest and located off the west coast of the United States during summer. Large-scale atmospheric subsidence associated with the Pacific High, produces an elevated temperature inversion along the West Coast. The base of this inversion is usually 1,000 to 3,000 feet above mean sea level, depending on the intensity of subsidence and the prevailing weather condition. Vertical mixing is often limited to the base of the inversion, trapping air pollutants in the lower atmosphere. Marine air trapped below the base of the inversion is often condensed into fog or stratus clouds by the cool Pacific Ocean.

This condition is typical of the warmer months of the year from roughly May through October. Stratus clouds usually form offshore and move into the Bay Area during the evening hours when onshore winds are strongest and solar heating begins to wane. As the land warms the following morning when onshore winds are weakest, the clouds often dissipate, except along the immediate coast. The stratus then redevelops and moves inland late in the day. Otherwise, clear skies and dry conditions prevail

during summer. Walnut Creek does not lie in the typical fog or stratus belt —which is generally an area west of the Berkeley Hills—because of the topography of the Coast Range.

As winter approaches, the Pacific High becomes weaker and shifts south, allowing pressure systems associated with the polar jet stream to affect the region. Low pressure systems produce periods of cloudiness, strong shifting winds, and precipitation. The number of days with precipitation can vary greatly from year to year, resulting in a wide range of annual precipitation totals. High pressure systems are also common in winter and can produce cool stagnant conditions. Radiation fog and haze are common during extended winter periods where high pressure systems influence the weather.

The San Francisco Bay Area has a unique marine climate influenced by the size and location of the Bay and the proximity of the Pacific Ocean. Specifically, the Bay and the local geographical features surrounding it permit the cooling influence of the Pacific Ocean to reach farther into the interior of California in the Bay Area than elsewhere along the California coast.

The proximity of the eastern Pacific High and relatively lower pressure inland produces a prevailing west to northwest sea breeze along the central and northern California coast for most of the year. As this wind is channeled through the Golden Gate and other topographical gaps, it branches off to the northeast and southeast, following the general orientation of the San Francisco Bay system. Although wind conditions vary across much of the Bay Area, the prevailing wind is primarily from the northwest. These prevailing winds provide good air quality conditions on most days. Nocturnal winds and land breezes during the colder months of the year prevail with variable drainage out of the hilly areas. Wind speeds are highest near gaps in the coastal hills.

AIR POLLUTION POTENTIAL

Air pollution potential in the Walnut Creek area is relatively high due to the summer meteorology conditions and proximity to a large urban area. In summer, ozone and ozone precursor pollutants are often transported into the area from the more-urbanized portions of the central Bay Area. The clear skies with relatively warm conditions that are typical in summer combined with air pollutant emissions in the city and surrounding areas combine to elevate ozone levels. Air quality standards for ozone traditionally are exceeded when relatively stagnant conditions occur for periods of several days during the warmer months of the year. Weak wind flow patterns combined with strong inversions substantially reduce normal atmospheric mixing. Key components of ground-level ozone formation are sunlight and heat; therefore, significant ozone formation only occurs during the months from late spring through early fall. Since Walnut Creek is inland, it experiences elevated ozone levels on summer days.

Light winds that are common in winter combine with strong surface-based inversions, caused by cold air trapped near the surface, to trap pollutants such as particulates (e.g., wood smoke) and carbon monoxide. This can lead to localized high concentrations of these pollutants.

AIR QUALITY STANDARDS

The federal and California Clean Air Acts establish ambient air quality standards for different pollutants. National Ambient Air Quality Standards (NAAQS) were established by the federal Clean Air Act (CAA) of 1970 (amended in 1977 and 1990) for six *criteria pollutants.* These criteria pollutants now include carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), particulate matter with a diameter less than 10 microns (PM_{10}), sulfur dioxide (SO_2), and lead (Pb). Recently, the United States Environmental Protection Agency (US EPA) added fine particulate matter or $PM_{2.5}$ as a criteria pollutant. These air

pollutants are considered the most prevalent air pollutants that are known to be hazardous to human health. Descriptions of those air pollutants are contained in Appendix B.

California established ambient air quality standards as early as 1969 through the Mulford-Carrol Act. Pollutants regulated under the California Clean Air Act (CCAA) are similar to those regulated under the federal Clean Air Act (CAA). In many cases, California standards are more stringent than the NAAQS. Federal and State air quality standards are shown in Table 42. Both the national and California Ambient Air Quality Standards (CAAQS) have been adopted by the BAAQMD.

AIR QUALITY REGULATIONS

The federal CAA governs air quality in the United States. In addition to being subject to federal requirements, air quality in California is also governed by more stringent regulations under the CCAA. At the federal level, the US EPA administers the CAA. The CCAA is administered by the California Air Resources Board (CARB) at the State level and by the Air Quality Management Districts at the regional and local levels. The BAAQMD regulates air quality at the regional level, which includes the nine-county Bay Area. Specific air quality regulations are described in Appendix B.

AIR QUALITY PLANNING

The BAAQMD along with the other regional agencies (i.e., Association of Bay Area Governments [ABAG)] and the Metropolitan Transportation Commission [MTC]) has prepared an Ozone Attainment Plan to address the federal standard for O_3. A Carbon Monoxide Maintenance Plan was also prepared in 1994[1] to demonstrate how the federal CO standard will be maintained. The Bay Area Clean Air Plan was prepared to address the more stringent requirements of the CCAA with respect to O_3. This plan includes a comprehensive strategy to reduce emissions from stationary, area, and mobile sources. The plan objective is to indicate how the region would make progress toward attaining the stricter state air quality standards, as mandated by the CCAA. The plan is designed to achieve a region-wide reduction of O_3 precursor pollutants through the expeditious implementation of all feasible measures. Air quality plans addressing the CCAA are developed every three years. The latest plan (Bay Area 2000 Clean Air Plan)[2] was prepared in 2000. The plan proposes implementation of transportation control measures (TCMs) and programs such as *Spare the Air*. *Spare the Air* is a public outreach program designed to educate the public about air pollution in the Bay Area and promote individual behavior changes that improve air quality. Some of these measures or programs rely on local governments for implementation.

A key element in air quality planning is to make reasonably accurate projections of future human activities that are related to air pollutant emissions. Most important is vehicle activity. The BAAQMD uses population projections made by ABAG and vehicle use trends made by MTC to formulate future air pollutant emission inventories. The basis for these projections comes from cities and counties. In order to provide the best plan to reduce air pollution in the Bay Area, accurate projections from local governments are necessary. When General Plans are not consistent with these projections, they cumulatively reduce the effectiveness of air quality planning in the region.

[1] *San Francisco Bay Area Redesignation Request and Maintenance Plan for the National Carbon Monoxide Standard*. Prepared by BAAQMD, ABAG, and MTC. Approved in 1993, adopted 1994 by EPA.

[2] BAAQMD. *Bay Area 2000 Clean Air Plan*. Adopted by Board of Directors December 20, 2000.

Table 42

California and National Ambient Air Quality Standards

Pollutant	Averaging Time	California Standard	National Standards[a]	
			Primary[b,c,]	Secondary[b,d,]
Ozone (O_3)	8-hour	0.07 ppm (137 ug/m^3)	0.08 ppm (176 ug/m^3)	--
	1-hour	0.09 ppm (180 ug/m^3)	0.12 ppm (235 ug/m^3)	Same as primary
Carbon Monoxide (CO)	8-hour	9 ppm (10 ug/m^3)	9 ppm (10 ug/m^3)	--
	1-hour	20 ppm (23 ug/m^3)	35 ppm (40 ug/m^3)	--
Nitrogen Dioxide (NO_2)	Annual	--	0.053 ppm (100 ug/m^3)	Same as primary
	1-hour	0.25 ppm (470 ug/m^3)	--	--
Sulfur Dioxide (SO_2)	24-hour	0.04 ppm	0.14 ppm	--
	3-hour	--	--	0.5 ppm (1,300 ug/m^3)
	1-hour	0.25 ppm (655 ug/m^3)	--	--
PM_{10}	Annual	30 ug/m^3 (geometric mean)	50 ug/m^3 (geometric mean)	Same as primary
	24-hour	50 ug/m^3	150 ug/m^3	
$PM_{2.5}$	Annual	12 ug/m^3	15 ug/m^3	
	24-hour	--	65 ug/m^3	
Lead (Pb)	Calendar quarter	--	1.5 ug/m^3	Same as primary
	30-day average	1.5 ug/m^3	--	--

[a] Standards, other than for ozone and those based on annual averages, are not to be exceeded more than once a year. The ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one.

[b] Concentrations are expressed first in units in which they were promulgated. Equivalent units are given in parenthesis.

[c] Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health. Each state must attain the primary standards no later than three years after that state's implementation plan is approved by the EPA.

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

ATTAINMENT STATUS FOR STATE AND FEDERAL AMBIENT AIR QUALITY STANDARDS

The Bay Area as a whole does not meet State or federal ambient air quality standards for ground level O_3 and State standards for fine particulate matter. For O_3, the entire Bay Area is designated *non-attainment* at both the federal and State levels.

Under the federal CAA, the US EPA has designated the region as *moderate non-attainment* for ground level O_3. However, the US EPA has recognized that the region has not violated the 1-hour national O_3 standard over the last three years (2000-2003). This is the first step towards designating the Bay Area as *attainment* of that standard. However, the region does not attain the 8-hour O_3 standard and will have to develop plans to meet this standard in 2006. The Bay Area has met the CO standards for over a decade and is classified *attainment maintenance* by the US EPA. The US EPA grades the region *unclassified* for all other air pollutants, which include PM_{10} and $PM_{2.5}$, which means that the area probably does not violate the standardAt the State level, the region is considered *serious non-attainment* for ground level O_3 and non-attainment for PM_{10}. The area is considered attainment or unclassified for all other pollutants.

EXISTING AIR QUALITY CONDITIONS

Air quality is affected by the rate of pollutant emissions and by meteorological conditions such as wind speed, atmospheric stability, and mixing height, all of which affect the atmosphere's ability to mix and disperse pollutants. Long-term variations in air quality typically result from changes in air pollutant emissions, while short-term variations result from changes in atmospheric conditions. Air pollutant concentrations are measured by the BAAQMD and reported by CARB.[3,4]

Criteria Air Pollutants in the Bay Area

In general, the San Francisco Bay Area is considered one of the cleanest major metropolitan areas in the country with respect to air quality. The air pollutants of greatest concern to the Bay Area and Walnut Creek are ground-level ozone and PM_{10}. The San Francisco Bay region as a whole does not comply with air quality standards for either pollutant.

The San Francisco Bay Area annually exceeds the CAAQS for one-hour O_3 and 24-hour average PM_{10} levels. Throughout the Bay Area, the national one-hour O_3 standard was exceeded at one or more stations from one to three days annually over the last five years and the new eight-hour O_3 standard was exceeded from four to nine days annually. The number of days that, on an annual basis, exceeded the more stringent one-hour State O_3 standard at one or more stations in the Bay Area ranged from 12 to 20 days over the last five years.

The NAAQS for PM_{10} is not exceeded anywhere in the Bay Area, but the more stringent State standard is routinely exceeded in the Bay Area, as well as most other parts of the State. No other air quality standards are exceeded in the Bay Area. As a result, the San Francisco Bay region is considered nonattainment for ground-level O_3 at both the State and federal level, and non-attainment for PM_{10} at the State level only. As of March 2004, the San Francisco Bay region complied with State and federal standards for all other air pollutants (e.g., CO, NO_2, SO_2, and Pb).

Exceedances of the State and federal O_3 standard are the greatest ambient air quality problem. Progress has been made in reducing this problem. Over the last 20 years, the peak one-hour concentrations throughout the Bay Area have declined more than 20 percent. The num-

[3] CARB. *Air Quality Data 1995-2003.* http://www.arb.ca.gov/aqd/aqd.htm

[4] BAAQMD. Air Quality Data: http://gate1.baaqmd.gov/aqmet/aq.aspx

ber of days that standards were exceeded shows a similar trend. The trend has not been consistently downward. Concentrations and number of exceedances generally declined from 1980 to 1994, but increased sharply in 1995-98. Levels in 1999 through 2000 again have declined. Additional data is needed to assess this recent trend.

PM_{10} is another pollutant of concern since the Bay Area exceeds the CAAQS. Since PM_{10} sampling in the Bay Area began in 1988, mean annual levels have decreased by about 25 percent. The number of annual exceedances of the 24-hour standard has decreased from a high of 90 days in 1991 to about 36 days in 2002. The national 24-hour standard was last exceeded in 1991.

CO concentrations have declined substantially over the last 20 years. Peak levels in the Bay Area, as of March 2004, were less than half of 1980 levels and neither State nor national standards have been exceeded since 1991. As a result, the area has attained the standard. Much of the decline is attributed to cleaner motor vehicles and use of cleaner burning fuels.

Criteria Air Pollutants in Walnut Creek
The BAAQMD monitors air pollutant levels continuously throughout the nine-county Bay Area Air Basin. The Concord monitoring station is the closest monitoring station to Walnut Creek. A summary of air quality monitoring data is shown in Table 43. The values in the table are the highest air pollutant levels measured at these stations over the past five years (1999-2003). The number of days that measured concentrations exceeded the NAAQS or CAAQS are given in Table 44. Air quality conditions in Walnut Creek are described for each criteria air pollutant below:

- **Ozone** - State O_3 levels were exceeded in Walnut Creek on 26 separate days over the last five years with a maximum of eight days in 1999. The national standards for one-hour concentrations were exceeded on four separate days over the same period with a maximum of two days in 1999. The national standard for eight-hour concentrations was exceeded on 12 days with a maximum of six days in 1999.
- **Carbon Monoxide** - Highest CO concentrations have been well below the national and State ambient standards. Since the primary source of CO in Walnut Creek is automobiles, highest concentrations would be found near congested roadways, in particular near local congested roadways that carry large volumes of traffic such as intersections near Interstate 680 and the BART station. CO emitted from a vehicle is highest near the origin of a trip and considerably lower when vehicles are operating in a hot-stabilized mode (usually five to ten minutes into a trip). Vehicles near the origin of a trip are considered to be in cold-start mode. Vehicle operation on freeways or major arterial roadways is usually in a hot-stabilized mode, so the individual emission rates are much lower than those encountered on collector roadways.
- **PM_{10}** - Measured exceedances of the PM_{10} standards occurred on ten separate days over the four-year period 1999-2002 (data for 2003 is incomplete). However, PM_{10} is only measured once every sixth day at Concord (most monitoring stations measure PM_{10} every sixth day according to a national schedule). It is estimated that there were more than 60 days over the past five years that the State PM_{10} standard was exceeded. Many stations in the Bay Area reported exceedances of the State standard on the same fall/winter days as reported in Concord. This indicates a regional air quality problem, created by the build-up of emissions from motor vehicles, industrial sources and wood smoke. Although not measured, elevated PM_{10} and CO levels in late fall and winter are a concern in sheltered valleys throughout the Bay Area. The primary sources of these pollutants are wood

smoke and local traffic. Meteorological conditions that are common during this time of the year result in calm winds and strong surface-based inversions that trap pollutants in these valleys. The build-up of these pollutants is greatest during the evenings and early mornings. The high levels of PM_{10} result not only in health effects, but in reduced visibility and odors as well.

- **Other Pollutants** - Other criteria pollutants, such as NO_2, SO_2, and lead have always been measured at relatively low levels. These pollutants should not pose a major air pollution concern in Walnut Creek.

Toxic Air Contaminants

The BAAQMD and CARB measure concentrations of air toxics throughout the Bay Area.[5,6] Compounds measured by the BAAQMD include benzene, 1,3-butadiene, carbon tetrachloride, chloroform, ethylene dibromide, ethylene dichloride, methyl tert buytl ether, methylene chloride, acetaldehyde, perchloroethylene, toluene, and formaldehyde. Since the ambient concentrations of these toxic air contaminants are very small, they are measured and reported as parts per billion (ppb) on a volume basis.

Table 45 contains a summary of the measured concentrations for each of the compounds at the Concord monitoring station in 1999. Also included in Table 45 are the overall Bay Area monitoring results along with the calculated cancer risk. The information used to develop this table was obtained from CARB 2003 Almanac of Emissions and Air Quality[7] and the BAAQMD's 1999 status report for the Toxic Air Contaminant Control Program.[8]

Table 45 reports concentrations of air toxic contaminants that pose the greatest health risk. Not all contaminants shown in Table 45 are measured at Concord. As can be seen from Table 45, the maximum measured toxic air contaminant concentrations are similar or slightly higher than overall Bay Area values. Since the station is located in the most urbanized portion of central Contra Costa County, the levels measured are likely representative of the highest levels in Walnut Creek.

In 1998, the CARB identified diesel particulate matter as a toxic contaminant based on its potential to cause cancer and other adverse health effects.[9] Typical sources of diesel exhaust in the Bay Area include trucks, buses, ships, trains, construction equipment and backup power generators. Diesel engines emit a complex mixture of air pollutants. The visible emissions are particulate matter. Some of the gaseous emissions become particulate matter after they cool or undergo chemical reactions in the atmosphere. Particulate matter from diesel is not measured. However, the CARB has conducted receptor modeling to assess the health risk potential. The health risk associated with diesel in the Bay Area is estimated to be close to 500 excess cancer cases per one million people. This risk is down from an estimated 750 excess cancer cases per million people in 1990. Compared to the combined health risk value of almost 200 for all of the other most prevalent toxic air contaminants, diesel particulate matter poses the greatest health risk in the Bay Area. The ARB has approved a comprehensive Diesel Risk Reduction Plan to reduce diesel particulate matter emissions from new and existing diesel engines. The goal of the plan is to reduce diesel particulate emissions by 75 percent in 2010 and 85 percent or more by 2020.

Bay Area cancer risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration in the Bay Area. The cancer risk reported in Table 45 is based on those annual averages reported and changes from year-to-year based on monitoring results current as of March 2004. It is important to note the health

[5] CARB. *ARB Almanac 2003.* June 2003.

[6] BAAQMD. *Toxic Contaminant Control Program – Annual Report 1999. Volumes I and II.* 2000.

[7] Available at http://www.arb.ca.gov/)

[8] Available at http://www.baaqmd.gov/

[9] CARB. *Fact Sheet – California's Plan to Reduce Diesel Particulate Matter Emissions.* October 2000.

Table 43

Highest Measured Air Pollutant Concentrations

Pollutant	Average Time	Measured Air Pollutant Levels 1999	2000	2001	2002	2003
Walnut Creek (Measured at Concord)						
Ozone (O_3)	1-Hour	**0.16** ppm	**0.14** ppm	**0.13** ppm	**0.10** ppm	**0.10** ppm
	8-Hour	**0.12** ppm	**0.09** ppm	**0.09** ppm	**0.09** ppm	**0.09** ppm
Carbon Monoxide (CO)	8-Hour	3.1 ppm	2.7 ppm	2.7 ppm	2.3 ppm	2.0 ppm
Nitrogen Dioxide (NO_2)	1-Hour	0.08 ppm	0.07 ppm	0.07 ppm	0.06 ppm	0.06 ppm
	Annual	0.018ppm	0.016 ppm	0.015 ppm	0.015 ppm	0.013 ppm
Fine Particulate Matter ($PM_{2.5}$)	1-Hour	57 ug/m^3	53 ug/m^3	**68** ug/m^3	**77** ug/m^3	35 ug/m^3
	Annual	NA	11 ug/m^3	10 ug/m^3	13 ug/m^3	NA
Respirable Particulate Matter (PM_{10})	24-Hour	**67** ug/m^3	**56** ug/m^3	**111** ug/m^3	**66** ug/m^3	34 ug/m^3
	Annual	**21** ug/m^3	18 ug/m^3	20 ug/m^3	**21** ug/m^3	16 ug/m^3
Bay Area (Basin Summary)						
Ozone (O_3)	1-Hour	**0.16** ppm	**0.15** ppm	**0.13** ppm	**0.16** ppm	**0.13** ppm
	8-Hour	**0.12** ppm	**0.11** ppm	**0.10** ppm	**0.11** ppm	**0.10** ppm
Carbon Monoxide (CO)	8-Hour	5.9 ppm	6.3 ppm	5.1 ppm	4.5 ppm	5.5 ppm
Nitrogen Dioxide (NO_2)	1-Hour	0.13 ppm	0.11 ppm	0.11 ppm	0.08 ppm	0.09 ppm
	Annual	0.026 ppm	0.025 ppm	0.024 ppm	0.019 ppm	0.021 ppm
Fine Particulate Matter ($PM_{2.5}$)	24-Hour	NA	NA	NA	**77** ug/m^3	**56** ug/m^3
	Annual	NA	NA	NA	13 ug/m^3	NA
Respirable Particulate Matter (PM_{10})	24-Hour	**114** ug/m^3	**76** ug/m^3	**109** ug/m^3	**80** ug/m^3	**60** ug/m^3
	Annual	**25** ug/m^3	**24** ug/m^3	**26** ug/m^3	**25** ug/m^3	**25** ug/m^3

Note: ppm = parts per million
Values reported in bold exceed ambient air quality standard
NA = data not available.

Table 44

Summary of Measured Air Quality Exceedances

Pollutant	Standard	Monitoring Station	Days Exceeding Standard 1999	2000	2001	2002	2003
Ozone (O^3)	NAAQS 1-hr	Concord	2	1	1	0	0
		BAY AREA	3	3	1	2	1
	NAAQS 8-hr	Concord	6	1	1	3	1
		BAY AREA	9	4	7	7	7
	CAAQS 1-hr	Concord	8	2	6	5	5
		BAY AREA	20	12	15	16	19
Fine Particulate Matter (PM_{10})	NAAQS 24-hr	Concord	0	0	0	0	0
		BAY AREA	0	0	0	0	0
	CAAQS 24-hr	Concord	3	1	3	3	0
		BAY AREA	12	7	10	6	6
Fine Particulate Matter (PM_{10})	NAAQS 24-hr	Concord	0	0	1	1	0
		BAY AREA	NA	1	5	5	0
All Other (CO, NO_2, Lead, SO_2)	All Other	Concord	0	0	0	0	0
		BAY AREA	0	0	0	0	0

Source: BAAQMD.

risks are based on the average concentration for the entire region, and the health risk at individual locations will vary considerably. Since 1990, average concentrations of toxic air contaminants and the associated health risks have been reduced by 50 percent or more for many compounds.

Existing Sources of Air Pollution

Sources of air pollution in the Bay Area and Walnut Creek are primarily vehicular traffic. Table 46 summarizes emissions for the Bay Area. For O_3, traffic accounts for 60 to 80 percent of the emissions of ozone precursor pollutants (oxides of nitrogen [NOx] and reactive organic gases [ROG]). Area-wide sources, which include construction activities, residential wood smoke, off-road travel, and agriculture, account for the greatest portion of PM_{10} emissions (about 75 percent).

Sensitive Receptors

Sensitive receptors (facilities containing people particularly susceptible to the adverse effects of air pollution) are generally hospitals, schools, playgrounds, childcare facilities, and convalescent facilities. But BAAQMD considers residences to also be sensitive receptors. Many people who are susceptible to air pollution (e.g., asthmatics) reside in residences. Both State and national ambient air quality standards were developed with the intent to protect sensitive receptors from the adverse impacts of air pollution.

AIR QUALITY TRENDS

Levels of air pollution are related to emissions and weather conditions. Short-term variations in air pollutant levels are generally related to changes in weather, while long-term variations are related to changes in emissions.

Table 45

Summary of 1999 and 2001 Measured Toxic Air Contaminant Concentrations (PPB)

Compound	Concord	Bay Area			Incremental Bay Area Cancer Risk (Chances in 1 million)
	Mean	Max	Min	Mean	
Acetaldehyde	0.87	NA	NA	0.73	4
Benzene	0.57	3.0	0.10	0.43	39
1,3-Butadiene	0.16	NA	NA	0.13	50
Carbon Tetrachloride	NA	0.15	0.08	0.09	23
Perchloroethylene	0.10	3.51	0.01	0.06	2
Formaldehye	2.64			2.32	17
Methylene Chloride	0.50	19.6	<0.50	0.27	1
Diesel Particular	NA	NA	NA	NA	~480

Notes: NA = data not available based on 1999-2000 data
PPB = parts per billion
ng/m3 = nanograms of contaminant per cubic meter of air
ug/m3 = micrograms of contaminant per cubic meter of air

Source: Air Resources Board Almanac 2003 – Chapter 6.

Efforts to reduce air pollutant levels are aimed primarily at reducing emissions from various sources. Other efforts, such as programs like *Spare the Air* are aimed at temporarily reducing emissions when weather forecasts indicate the potential for elevated air pollutant levels. The BAAQMD along with the CARB conducts detailed computer modeling of O_3 levels both in the Bay Area and levels transported to other areas. The modeling is a large effort that is used to identify types of sources of air pollution to further reduce. The modeling is also conducted to predict attainment of air quality standards. Results of these studies are the basis of current air quality regulations and plans.

Table 46 shows the past (1995), year 2000 and projected (2010) emission inventory for the Bay Area.[10] The emissions inventory shown was prepared for O_3 precursor pollutants (ROG and NOx) and PM_{10}. Although population and vehicle activity has increased in the Bay Area, emissions of O_3 precursor air pollutants have decreased. This trend is expected to continue through 2010. The majority of the decrease is anticipated from vehicle activity. Although PM_{10} emissions are expected to stay relatively flat, some reductions in PM_{10} concentrations are expected. Many of the sources that contribute to O_3 formation also lead to PM_{10} formation through chemical reactions in the atmosphere. These secondary particulates contribute to overall PM_{10} concentrations, especially on days of elevated PM_{10} levels in the fall and winter.

[10] CARB. ARB *Almanac 2003*. June 2003.

Table 46

Bay Area Air Pollutant Emissions Inventory in Tons Per Day (for Ozone Precursors and PM_{10})

Source	Reactive Organic Gases (ROG)			Oxides of Nitrogen (NOx)			Particulate Matter (PM_{10})		
	1995	**2000**	**2010**	**1995**	**2000**	**2010**	**1995**	**2000**	**2010**
Stationary Source	138	125	126	110	89	90	21	17	19
Area-Wide Sources	94	90	86	18	17	17	125	130	135
Mobile Sources	353	319	186	531	452	303	21	21	20
TOTAL (rounded)	**656**	**534**	**399**	**659**	**558**	**411**	**167**	**169**	**174**

Source: California Air Resources Board (http://www.arb.ca.gov/app/emsinv/fcemssumcat.html)

STANDARDS OF SIGNIFICANCE

The Walnut Creek General Plan 2025 would create a significant air quality impact if it would:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Expose existing and future sensitive receptors to unhealthy levels of air pollution or toxic air contaminants.
- Create conflicting land uses that result in frequent odor complaints.

The BAAQMD has developed guidelines and thresholds of significance for General Plans. Inconsistency with the most recently adopted Clean Air Plan (CAP) is considered a significant impact. According to the BAAQMD, the following criteria must be satisfied for a local plan to be determined to be consistent with the CAP and not have a significant air quality impact: [11]

- The local plan should be consistent with the CAP population and Vehicle Miles Traveled (VMT) assumptions. This is demonstrated if the population growth over the planning period will not exceed the values included in the current CAP, and
- The local plan demonstrates reasonable efforts to implement the TCMs included in the CAP that identify cities as implementing agencies.
- For local plans to have a less than significant impact with respect to potential odors and/or toxic air contaminants, buffer zones should be established around existing and proposed land uses that would emit these air pollutants.

In addition, the plans should not lead to development that would lead to violations of ambient air quality standards.

IMPACT DISCUSSION

GENERAL PLAN CONSISTENCY WITH CLEAN AIR PLANNING

Population and Traffic Projections
The population of the Walnut Creek planning area would grow with development consistent with General Plan 2025. Population projections under the plan would be higher than the latest ABAG projections that are used in the regional Clean Air Plan. ABAG's *Projections 2005* forecast the population of the Walnut Creek Planning Area to be 75,100 in 2025, which is less than the General Plan 2025 projected build out population of 77,314. Therefore, the rate of population growth would exceed projections used for clean air plans.

The vehicle miles traveled (VMT) projections available for Walnut Creek indicate that vehicle travel would increase at a greater rate than population projections. This is due to a number of factors. The primary cause is the high rate of VMT increase from through traffic using freeways and the major arterials that run through Walnut Creek (e.g., Ygnacio Valley Road). Modeled VMT throughout Walnut Creek (including freeways) is anticipated to increase 32 percent over baseline (year 2000) by 2025 under the preferred General Plan alternative, while population increases by about 20 percent. The modeled VMT increases at a slightly higher rate (34 percent) under the no project scenario (i.e., 1989 General Plan).

[11] BAAQMD, *BAAQMD CEQA Guidelines*, April 1996. (Revised December 1999)

General Plan 2025 focuses on mixed use land uses that would promote alternative modes of transportation. The plan contains numerous policies and programs that, if adopted and implemented, would act to help reduce motor vehicle use within, which would reduce the rate of VMT from trips generated in Walnut Creek. These policies are listed below under "Consistency with TCMs." General Plan 2025 contains other policies that would reduce air pollution associated with energy usage. In addition, General Plan 2025 includes specific Policies and Actions in Chapter 4 Built Environment that focus on reducing air quality impacts:

- **Policy 30.1** - Work with the BAAQMD and the County in promoting better air quality.
- **Policy 30.2** - Consider additional land use and development criteria, standards, and decisions that have positive impacts on air quality and the quality of life in general.
- **Policy 30.3** - Address localized air quality issues.

While General Plan 2025 includes numerous policies that would reduce air pollutant emissions that affect both Walnut Creek and the region, the impact from the plan would be significant, because population growth and vehicle use is projected increase at a greater rate than projected for clean air planning efforts. The increased rate of population and VMT would occur under all General Plan build out alternatives. While there are policies that would reduce the impact, it would still remain *significant and unavoidable*.

Consistency with TCMs

Table 47 lists the General Plan 2025 policies that are supportive of the Clean Air Plan TCMs. A description of each TCM is provided along with a listing of relevant General Plan 2025 policies that would implement each measure. The proposed policies support and reasonably implement the applicable Clean Air Plan TCMs. In addition to the specific policies listed below, General Plan 2025 includes Built Environment Policies 30.1 and 30.2 that specifically support TCM efforts in the Bay Area. This would be a *less-than-significant* impact.

BUFFER ZONES FOR POTENTIAL SOURCE OF ODOR/TOXICS

According to BAAQMD CEQA guidance, for a general plan to have a less-than-significant impact with respect to odors and/or toxic air contaminants, buffer zones should be established around existing and proposed land uses that would emit these air pollutants. Buffer zones to avoid odors and toxics impacts should be reflected in local plan policies, land use maps, and implementing ordinances.

Walnut Creek does not include sources of odors that are known to affect sensitive land uses proposed under General Plan 2025. Avoidance of odor-related land use conflicts and protection of existing buffer zones are addressed in Built Environment Policy 30.3, which addresses localized air quality issues. Built Environment Action 30.3.3 would require buffers between identified stationary sources of odors and sensitive land uses.

Walnut Creek contains mostly very small sources of toxic air contaminants, such as paint shops and dry cleaners. The largest source of air pollutant emissions in Walnut Creek is Kaiser Sand and Gravel, which primarily emits PM_{10} from fugitive dust. The 2025 General Plan does not allow for development of sensitive receptors, such as residences, near this facility.

Interstate 680 and Highway 24 are the largest sources of air pollution in Walnut Creek. While the criteria air pollutants do not cause local air pollutant problems, emissions of diesel particulate matter create a significant level of health risk along the corridors. Screening modeling of diesel particulate matter emissions from Interstate 680 indicates that a sig

Table 47

General Plan 2025 Policies that Support TCMs in the Clean Air Plan

Transportation Control Measures	General Description	Relevant Draft General Plan 2025 Programs and Policies
1. Support Voluntary Employer-Based Trip Reduction Programs	Make more efficient use of the regional and subregional transportation system	**Chapter 4, Built Environment Policy 12.1 –** Promote carpools and vanpools. **Chapter 4, Built Environment Policy 12.2 –** Support infill and redevelopment in existing urban areas.
3. Improve Local and Area-wide Bus Service	Increase transit ridership and services to employment, schools, shopping, and recreation.	**Chapter 5, Transportation Policy 7.1 –** Encourage coordination among transit agencies in facilitating connections and transfers while minimizing delay and inconvenience. **Chapter 5, Transportation Policy 7.2 –** Encourage improvements to transit systems that connect Walnut Creek residents to regional locations. **Chapter 5, Transportation Policy 7.3 –** Link high-density residential developments, schools, employment centers, and shopping areas via transit. **Chapter 5, Transportation Policy 7.4 –** Offer support and funding for effective transit alternatives such as trolleys and improved shuttle services. **Chapter 5, Transportation Policy 7.5** - Develop a comprehensive plan with CCCTA to install public transit amenities such as benches, passenger shelters, and walkways as appropriate and on a regular schedule. **Chapter 5, Transportation Policy 7.6 –** Encourage provision of a variety of transportation services for seniors and members of the public unable to use conventional transit.
4. Improve Access to Rail	Coordinate the location, intensity, and mix of land uses with transportation resources. Encourage well-designed development and redevelopment	**Chapter 4, Built Environment Policy 10.1 –** Support the development of medium and high-density office, residential, and local serving retail near and around the Walnut Creek BART station. **Chapter 4, Built Environment Policy 23.1 –** Encourage development of region-serving employment districts that promote transit, pedes-

Table 47 (Continued)

General Plan 2025 Policies that Support TCMs in the Clean Air Plan

Transportation Control Measures	General Description	Relevant Draft General Plan 2025 Programs and Policies
	of employment districts such as the Shadelands Business Park and at Pleasant Hill BART.	trian and bicycle travel, and reduce the use of auto trips for daily errands. **Chapter 4, Built Environment Policy 23.3** - Encourage development around the Pleasant Hill BART station that supports the County's specific plan goals for well designed, transit and pedestrian oriented development
9. Improve Bicycle Access and Facilities	Improve and expand regional trail facilities. Provide a safe and attractive environment for bicycle travel throughout the community. Promote safe bicycling to and through downtown.	**Chapter 5, Transportation Policy 2.1 –** In cooperation with surrounding jurisdictions and regional agencies, implement the countywide Bicycle Plan throughout Central Contra Costa County. **Chapter 5, Transportation Policy 2.3 –** Promote the safety of bicycles, pedestrians, and equestrians. **Chapter 5, Transportation Policy 5.1 –** Develop an overall plan for bicycle use as an alternative way to get to work, school, shopping, recreational facilities, and transit stops. **Chapter 5, Transportation Policy 5.2 –** Provide facilities that encourage and support bicycle travel. **Chapter 5, Transportation Policy 5.3 –** Oppose the use of motorized transportation (trains, buses, autos, motorcycles) on that portion of the Iron Horse Trail right-of-way between the Pleasant Hill BART Station and Newell Avenue. **Chapter 5, Transportation Policy 10.1 –** Link existing and planned bikeways, in and through downtown
12. Arterial Management Measures	Reduce the increase in congestion on regional transportation facilities. Maintain a transportation network that provides mobility for all ages and abilities and for all	**Chapter 5, Transportation Policy 1.1 –** Working with the CCCTA, the MTA, Caltrans, and other jurisdictions, develop and implement regional solutions to local traffic problems created by growth outside the city. **Chapter 5, Transportation Policy 1.2 –** Support efforts to obtain funding for improvements to Highway 4 and other existing roads that pro-

Table 47 (Continued)

General Plan 2025 Policies that Support TCMs in the Clean Air Plan

Transportation Control Measures	General Description	Relevant Draft General Plan 2025 Programs and Policies
	areas of the community.	vide a bypass for traffic passing through Walnut Creek. **Chapter 5, Transportation Policy 1.3 –** Promote off-peak start times for Concord Pavilion and other special events. **Chapter 5, Transportation Policy 3.1 –** Maintain the Level of Service standards for roadways, as shown in Figure 4 for the City's transportation network.
12. Arterial Management Measures (continued)		**Chapter 5, Transportation Policy 3.3 –** Promote maximum operational capacity and efficiency on arterials and collectors.
15. Local Clean Air Plans, Policies and Programs	Strive to meet state and federal air quality standards for the region. Encourage housing and mixed commercial mixed-use development in selected locations.	**Chapter 4, Built Environment Policy 30.1 –** Work with the BAAQMD and the County in promoting better air quality. **Chapter 4, Built Environment Policy 30.2 –** Consider additional land use and development criteria, standards, and decisions that have positive impacts on air quality and the quality of life in general. **Chapter 4, Built Environment Policy 30.3 –** Address localized air quality issues. **Chapter 4, Built Environment Policy 3.1 –** Create opportunities for mixed-use developments.
19. Improve Pedestrian Access and Facilities	Provide a safe and attractive walking environment to all. Reinforce the character of the Pedestrian Retail District as a regional retail destination and gathering place for local residents.	**Chapter 5, Transportation Policy 6.1 –** Provide safe and attractive pedestrian routes along arterials and collectors leading to schools, along arterials or collectors that carry high traffic volumes, on all downtown streets, along major streets leading to the downtown, and on all streets leading to transit facilities. **Chapter 5, Transportation Policy 6.2 –** Require full frontage curb and sidewalk improvements in all commercial areas. **Chapter 5, Transportation Policy 6.3 –** When utility rights-of-way, drainage, or other corridors are established, obtain dedications of land or easements, where appropriate, for paths that would enhance the pedestrian system.

Table 47 (Continued)

General Plan 2025 Policies that Support TCMs in the Clean Air Plan

Transportation Control Measures	General Description	Relevant Draft General Plan 2025 Programs and Policies
		Chapter 5, Transportation Policy 6.4 – Facilitate use of public sidewalks and walkways throughout the city. **Chapter 4, Built Environment Policy 20.1 –** Strengthen the identity of the Pedestrian Retail District as a pedestrian zone and a shopping destination.
20. Promote Traffic Calming	The City of Walnut Creek and the County have implemented a number of traffic calming measures.	Peak period turn restrictions on Walnut Boulevard, and on Homestead Avenue at Ygnacio Valley Road. Street narrowing on Peachwillow Lane Turn prohibitions on Newell Avenue at Olympic Boulevard (County) Turn prohibitions on Treat Boulevard at Jones Road (County) Installation of a roundabout on Oak Grove Road at Walnut Avenue Street narrowing on Castle Rock Road. Stop signs and turn restrictions in the Carriage Square neighborhood

Source: Illingworth & Rodkin, Inc.

nificant increased risk of exposure could occur along the freeway. For freeways with moderate volumes of trucks (e.g., I-680 through Walnut Creek), a buffer zone of about 500 feet is necessary to reduce future exposures to less-than-significant levels. For sensitive receptors, such as residential uses, a significant impact is considered an incremental increase of a 10 in one million chance of contracting cancer where the receptor is exposed to the source 24 hours per day for 70 years. A more detailed analysis that utilizes site-specific conditions and meteorological data could be conducted to more accurately determine the potential risks on a project-by-project basis. Residential development is allowed under General Plan 2025 within 500 feet from Interstate 680. Other roadways in Walnut Creek do not have high enough truck volumes to cause a significant health risk.

Avoidance of odor- and toxic air contaminant-related land use conflicts are addressed in the following Chapter 4 Built Environment policy and action of General Plan 2025:

- **Policy 29.3.** Address localized air quality issues.
- **Action 29.3.4** Review impacts on nearby land uses when evaluating development projects near known sources of toxic air contaminants and odors.

The above general plan policy and action do not specifically address the siting of sensitive receptors near mobile sources of toxic air contaminants. This would be a *significant* impact of the project.

CARBON MONOXIDE CONCENTRATIONS

CO emissions from traffic would be the pollutant of greatest concern at the local level. Congested intersections with a large volume of traffic have the greatest potential to cause high-localized concentrations of CO. Since the early 1990s, carbon monoxide levels have been at healthy levels (i.e., below State and federal standards) in the Bay Area. As a result, the region has been designated as attainment for the standard. There are no ambient air quality stations in Walnut Creek that measure carbon monoxide. The nearest station is in Concord, where the highest measured levels are about one-third the standard.

CO concentrations adjacent to major roadway sections in Walnut Creek were modeled to assess the impact of traffic to local air quality. The Caline4 model along with the CARB's EMFAC2002 emission factor model was used to predict impacts from traffic. The modeled concentrations were added to background levels, which were those levels measured in Concord. CO concentrations were predicted for current conditions, and future conditions under the 89 General Plan and General Plan 2025 conditions. As shown in Table 48, CO concentrations are predicted to be below ambient air quality standards. Furthermore, concentrations are anticipated to decrease substantially in the future, while traffic levels increase. This is due to the substantial reductions in tailpipe emissions that are anticipated with turnover of the fleet to newer and cleaner vehicles. As a result, the impact on local air quality resulting from the project is considered to be *less-than-significant*.

CONSTRUCTION DUST EMISSIONS

Construction of individual projects would involve activities that result in air pollutant emissions. Construction activities such as demolition, grading, construction worker travel to and from project sites, delivery and hauling of construction supplies and debris to and from the project site, and fuel combustion by on-site construction equipment would generate pollutant emissions. These construction activities would temporarily create emissions of dust, fumes, equipment exhaust, and other air contaminants. Dust emissions can lead to both nuisance and health impacts.

Table 48

Predicted Carbon Monoxide 8-Hour Levels in Walnut Creek

Condition	Current 2004/05	89 General Plan 2025	2025 General Plan 2025
California Blvd. and Ygnacio Valley Rd.	5.5 ppm	3.5 ppm	3.6 ppm
North Main St. and Geary Rd.	5.7 ppm	3.4 ppm	3.4 ppm
Oak Grove Rd. and Treat Blvd.	5.4 ppm	3.4 ppm	3.5 ppm
Bancroft R. and Treat Blvd.	5.6 ppm	3.5 ppm	3.5 ppm
Oak Grove Rd. and Ygnacio Valley Rd.	5.5 ppm	3.5 ppm	3.5 ppm

Note: California ambient air quality standard for 8-hour carbon monoxide levels is 9.0 ppm. Modeled levels are added to background concentrations of 3.0 ppm.

Source: Illingworth & Rodkin, June 2005.

PM_{10} is the pollutant of greatest concern that is emitted from construction, particularly during site preparation and grading. PM_{10} emissions from construction can vary daily, depending on various factors, such as the level of activity, type of construction activity taking place, the equipment being operated, weather conditions, and soil conditions. The BAAQMD has identified a set of feasible PM_{10} control measures for construction activities. In addition, the BAAQMD is concerned about exhaust emissions of construction equipment affecting both regional ozone levels and local air quality. As a result, the BAAQMD has recommended measures to reduce these emissions. According to the *BAAQMD CEQA Guidelines*, if all of these control measures are implemented, a less than significant impact is expected for PM_{10} emissions.

In addition, the BAAQMD and CARB have regulations that address the handling of hazardous air pollutants such as asbestos. These emissions could occur during demolition activities. BAAQMD rules and regulations address both the handling and transport of these contaminants. An air toxic control measure adopted by CARB requires measures to minimize asbestos emissions in areas known to have naturally occurring asbestos. Construction work performed in accordance with BAAQMD and CARB rules and regulations and that implements construction air pollutant control measures recommended by the BAAQMD would not be expected to result in significant air quality impacts.

WOOD SMOKE

Wood smoke from new residential fireplaces or wood stoves could emit significant amounts of PM_{10}. Such devices in existing residential units in Walnut Creek contribute to significant levels of PM_{10}. Each year, the area exceeds health-based PM_{10} standards on about 6 to 18 days per year. Chapter 4 Built Environment Action 30.3.2 of General Plan 2025 (Under Policy 30.3, *Address localized air quality issues*), would require the City to consider adopting a wood smoke ordinance. A wood smoke ordinance, which at a minimum, would require all new residential units to include only clean-burning EPA-certified wood burning devices, pellet-fueled stoves, or natural gas fireplaces

would reduce this impact to a less-than-significant level.

IMPACTS AND MITIGATION MEASURES

CONSISTENCY WITH CLEAN AIR PLANNING EFFORTS

Impact AIR-1: The project is not consistent with the BAAQMD Thresholds of Significance that population not exceed ABAG projections and VMT may increase faster than population due to traffic movements through Walnut Creek. This would be a *significant and unavoidable* impact.

Mitigation Measure AIR-1: None available.

Population growth under the 2025 General Plan could exceed ABAG forecasts and the rate of VMT growth is expected to exceed the rate of population growth. Much of the VMT increase would originate from trips outside of Walnut Creek that pass through the area. The 2025 General Plan focuses on intensification of lands near transit and the downtown areas that would encourage walking, bicycling, and transit uses. The plan also includes policies to reduce single-occupant vehicle trips. There are no mitigation measures available beyond these measures that could reduce the level of the impact.

ODOR/TOXICS

Impact AIR-2: Land use maps associated with General Plan 2025 do not propose new sources of odors or toxic air contaminants and would not locate sensitive land uses near sources of odors. However, the plan shows new residential uses within 500 feet of Interstate 680, a source of air toxic contaminants. This would be a *significant* impact.

Mitigation Measure AIR-2: The City should add the following wording to Chapter 4 Built Environment Action 30.3.4: "Interstate 680 and Highway 24 are sources of air toxic contaminants. Projects that locate new sensitive receptors (facilities or land uses such as hospitals, day care centers, schools and residences that are occupied for substantial amounts of time by members of the population particularly sensitive to the effects of air pollutants, such as children, the elderly and people with illnesses) proposed within 500 feet from the edge of the closest traffic lane of Interstate 680 or Highway 24 should include an analysis of mobile source toxic air contaminant health risks, based on appropriate air dispersion modeling. Project review should include an evaluation of the adequacy of the setback from the highway and, if necessary, identify design mitigation measures to reduce health risks to acceptable levels."

FUGITIVE DUST ASSOCIATED WITH CONSTRUCTION PROJECTS

Impact AIR-3: Construction associated with development allowed under General Plan 2025 would result in emissions of dust and equipment exhaust, including diesel particulate matter. This would be a *significant* impact.

Mitigation Measure AIR-3: The City should amend Chapter 4 Built Environment Action 30.3.1 to read as follows: "require construction emissions control measures recommended by the BAAQMD."

A list of feasible control measures that the BAAQMD currently recommends for construction projects is provided below. Appropriate measures should be implemented at all construction projects in Walnut Creek. Implementation of these measures would reduce air pollutant emissions

associated with construction activities to a less-than-significant level.

For all construction projects:

- Sprinkle water on all active construction areas at least twice daily and more often when conditions warrant.
- Cover all trucks hauling soil, sand and other loose materials or require all trucks to maintain at least two feet of freeboard.
- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
- Sweep daily all paved access roads, parking areas, and staging areas at construction sites.
- Sweep streets daily if visible soil material is carried onto adjacent public streets.

For construction sites greater than 4 acres in size:

- Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas.
- Enclose, cover, water twice daily, or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.).
- Limit traffic speeds on unpaved roads to 15 miles per hour.
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- Replant vegetation in disturbed areas as quickly as possible.

For construction sites that are located adjacent to sensitive receptors or warrant additional controls:

- Install wheel washers for all exiting trucks, or wash off all trucks and equipment leaving the site.
- Suspend grading activities when winds exceed 25 miles per hour (mph) and visible dust clouds cannot be prevented from extending beyond active construction areas.
- Limit the area subject to excavation, grading and other construction activity at any one time.

Exhaust emissions controls for large projects (greater than 4 acres or projects located within 100 feet of sensitive receptors):

- At least 50 percent of the heavy-duty, off-road equipment used for construction should be CARB-certified off-road engines or equivalent, or use alternative fuels (such as biodiesel) that result in lower particulate emissions.
- Properly maintain all construction equipment.
- The contractor should install temporary electrical service whenever possible to avoid the need for independently powered equipment (e.g., compressors).
- Diesel equipment standing idle for more than two minutes should be turned off. This would include trucks waiting to deliver or receive soil, aggregate or other bulk materials. Rotating drum concrete trucks could keep their engines running continuously as long as they were on site.
- Properly tune and maintain equipment for low emissions.

WOOD SMOKE FROM NEW RESIDENTIAL USES

Impact AIR-4: Wood smoke from new residential uses allowed under General Plan 2025 could emit significant amounts of PM_{10}, which could worsen an already existing air

pollution problem. This would be a *significant* impact.

Mitigation Measure AIR-4: The City should amend Chapter 4 Built Environment Action 30.3.2 to adopt a wood smoke ordinance for fireplaces or woodstoves consistent with the BAAQMD model wood smoke ordinance, or alternatively, require that all new residential development include fireplaces and wood stoves that are EPA certified wood-burning appliances, pellet-fueled stoves or natural gas fireplaces.

CHAPTER 4.13

Noise

This chapter summarizes information on the noise environment in the Walnut Creek Planning Area and provides an evaluation of the effects of the proposed General Plan 2025 on noise.

EXISTING SETTING

Noise is defined as unwanted sound. Noise can cause hearing loss and interfere with human activities. Noise annoys, awakens, angers, and frustrates people. It can disrupt communication and individual thoughts and affect a person's performance. According to the US Environmental Protection Agency, noise is one of the biological stressors associated with everyday life[1]. Freedom from excessive noise is one measure of the quality of life.

Noise is a significant and ubiquitous part of Walnut Creek's environment. The noise environment is a result of land use decisions, competing regional and community goals and limited local controls. The city's residents and businesses must tolerate *some* noise.

NOISE FUNDAMENTALS

Sound is caused by a vibrating surface that causes the air pressure to fluctuate sympathetically. A sound is usually considered objectionable because it is disturbing or annoying. The objectionable nature of sound could be caused by its pitch or its loudness. *Loudness* is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave. Higher *pitched* signals sound louder to humans than sounds with a lower pitch.

To account for the concepts of pitch and loudness, several noise measurement scales are used to describe noise in a particular location. A *decibel* (dB) is a unit of measurement that indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a ten-fold increase in acoustic energy, while 20 dB is 100 times more intense, 30 dB is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10-dB increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Technical terms are defined in Table 49.

The level of noise depends upon the distance from the source to the receiver. If a noise source is at a single point (e.g., a swimming pool pump), the noise level is reduced 6 dB with each doubling of the distance. Along a roadway, where the noise results from a line of traffic, the level drops 3 dB with each doubling of the distance from the road.

There are several methods of characterizing sound. The most common in California is the A-weighted sound level, abbreviated dBA. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Representative outdoor and indoor noise levels

[1] *Protective Noise Levels*, Condensed Version of EPA Levels Document, EPA 550/9-79-100, November 1978.

Table 49

Definitions of Acoustical Terms Used in this Report

Term	Definitions
Decibel, dB	A logarithmic unit describing the amplitude of sound based on a comparison of the sound pressure to the lowest pressure a human ear can detect.
Sound Pressure Level	Sound pressure level is the quantity, in decibels, that is directly measured by a sound level meter.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sounds are below 20 Hz and Ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the measurement period. The hourly L_{eq} used for this report is denoted as dBA L_{eq} [h].
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 pm to 10:00 pm and after addition of 10 decibels to sound levels in the night between 10:00 pm and 7:00 am.
Day/Night Noise Level, L_{dn}	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am.
L_{01}, L_{05}, L_{10}, L_{90}	The A-weighted noise levels that are exceeded 1%, 5%, 10%, and 90% of the time during the measurement period.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

in units of dBA are shown in Table 50. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent descriptor is called L_{eq}. The most common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about plus or minus 1 dBA. Various computer models are used to predict environmental noise levels from sources such as roadways and airports. The accuracy of the predictive models depends on the distance of the receptor from the noise source. Close to the noise source, the models are accurate to within plus or minus 1 to 2 dBA. Since the sensitivity to noise increases during the evening and at night—because excessive noise interferes with the ability to sleep—24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The Community Noise Equivalent Level, CNEL, is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 PM - 10:00 PM) and a 10 dB penalty added to nocturnal (10:00 PM - 7:00 AM) noise levels. The Day/Night Average Sound Level, L_{dn}, is essentially the same as CNEL, with the exception that the evening penalty is dropped and all occurrences during this three-hour period are grouped into the daytime period. State law requires that the Noise Element utilize L_{dn} or CNEL to describe the noise environment and its effects.[2]

The City's 1989 Noise Element contains guidelines to evaluate the compatibility of various land uses with the noise environment.[3] The maximum acceptable outdoor noise level in new residential areas is 60 L_{dn}. This criterion is applied where outdoor use is a major consideration (e.g., backyards in single-family housing developments and recreation areas in multifamily housing projects). The outdoor criterion should not normally be applied to the small decks associated with apartments and condominiums. Inside new housing, the noise level should not exceed 45 L_{dn}. Other buildings similarly sensitive to noise include hotels and motels, schools, libraries, churches, hospitals, and nursing homes. Retail and commercial land uses, which are primarily indoor spaces, are less sensitive to environmental noise.

NOISE MEASUREMENTS IN WALNUT CREEK

Noise measurements have been conducted in Walnut Creek as part of *General Plan 2025.* The sites for measurements were selected:

- to provide information on the 24-hour distribution of noise levels along the streets and highways,
- to determine the level of baseline ambient noise levels in the quiet residential areas of the city away from identifiable noise sources,
- to measure noise levels generated by BART, and
- to determine noise generated by a concrete plant, the only identified significant stationary noise source in Walnut Creek.

Standard measuring practices were followed: precision sound level meters were calibrated before and after each survey; microphones were fitted with windscreens; and data were gathered during good weather.

The measurements included a combination of 17 long-term (hourly) measurements conducted during the daytime, evening, and nighttime and 15 short-term (10-minute spot) measurements throughout the city. Additional noise measurements conducted in Walnut Creek within the last several years have also been included in the

[2] California Government Code Section 65302(f).

[3] City of Walnut Creek, 1989 General Plan Noise Element.

Table 50

Typical Noise Levels in the Environment

Common Outdoor Noise Source	Noise Level (dBA)	Common Indoor Noise Source
	120 dBA	
Jet fly-over at 300 meters		Rock concert
	110 dBA	
Pile driver at 20 meters	100 dBA	
		Night club with live music
	90 dBA	
Large truck pass by at 15 meters		
	80 dBA	Noisy restaurant
		Garbage disposal at 1 meter
Gas lawn mower at 30 meters	70 dBA	Vacuum cleaner at 3 meters
Commercial/Urban area daytime		Normal speech at 1 meter
Suburban expressway at 90 meters	60 dBA	
Suburban daytime		Active office environment
	50 dBA	
Urban area nighttime		Quiet office environment
	40 dBA	
Suburban nighttime		
Quiet rural areas	30 dBA	Library
		Quiet bedroom at night
Wilderness area	20 dBA	
Most quiet remote areas	10 dBA	Quiet recording studio
Threshold of human hearing	0 dBA	Threshold of human hearing

data summary. Figure 29 shows the noise measurement locations.

The locations of the long-term (LT) and short-term (ST) noise measurements and the results of the measurements are summarized in Tables 50 and 51. The range of noise levels are presented during the daytime hours (7:00 AM to 10:00 PM) and the nighttime hours (10:00 PM to 7:00 AM), as well as the 24-hour day/night of hourly average noise levels (L_{dn}). The detailed results of each long-term measurement are shown in Figures C-1 through C-24 in Appendix C.

The noise measurement results reflect the variety of noise environments encountered throughout the city. The loudest source of noise in Walnut Creek is Interstate 680 reflected in measurements at Location LT-12, where the L_{dn} 250 feet from the center of the highway was 75 dBA. The noise exposure at or near the right-of-way of the freeway is 78 to 80 L_{dn}.

The next category of transportation noise sources in Walnut Creek is the local Routes of Regional Significance such as Treat Boulevard and Ygnacio Valley Road, and arterials such as Mt. Diablo Boulevard, where roadside noise levels ranged from 72 to 75 L_{dn}. Noise levels along arterial streets such as Broadway and Walnut Avenue illustrate the noise exposure along most of the minor and major city streets, ranging from 60 to 70 L_{dn}. BART generated 66 L_{dn} at a distance of 80 feet along Minert Street.

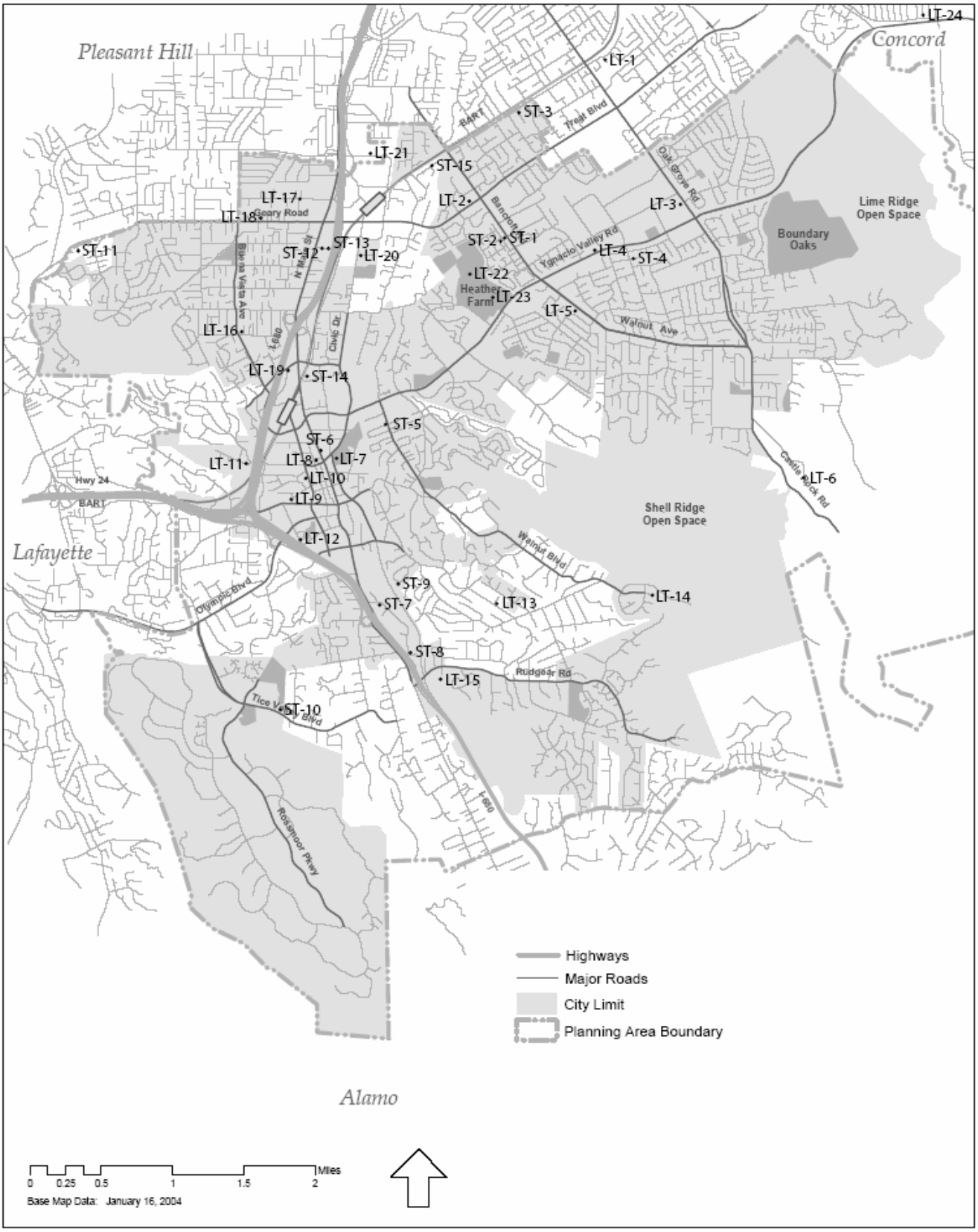

Figure 29. Noise Measurement Locations

Table 51

Long-Term (LT) Noise Data Summary

Noise Measurement Location	Date	Time	Noise Level (dBA) L_{eq} (hr) Range Daytime Nighttime	L_{dn}
LT-1 ~ Rear yard of 2565 Minert Road approximately 80 feet from BART. Predominant noise source is BART.	2/13/04 to 2/14/04	14:00 to 14:00	60-67 42-63	66
LT -2 ~ 75 feet from the centerline of Treat Boulevard. Predominant noise source is vehicular traffic along Treat Boulevard.	2/13/04 to 2/14/04	15:00 to 15:00	70-75 62-73	75
LT -3 ~ 115 feet from the centerline of Oak Grove Road. Predominant noise source is vehicular traffic along Oak Grove Road.	2/13/04 to 2/14/04	15:00 to 15:00	60-66 48-62	65
LT -4 ~ 110 feet from the centerline of Ygnacio Valley Road. Predominant noise source is vehicular traffic along Ygnacio Valley Road.	2/13/04 to 2/14/04	16:00 to 16:00	68-73 58-70	73
LT -5 ~ 55 feet from the centerline of Walnut Avenue. Predominant noise source is vehicular traffic along Walnut Avenue.	2/13/04 to 2/14/04	16:00 to 16:00	65-69 48-62	70
LT -6 ~ Diablo Foothills Regional Park near parking lot. No local identifiable noise sources.	2/13/04 to 2/14/04	16:00 to 16:00	39-52 28-39	47
LT -7 ~ 75 feet from the centerline of South Broadway. Predominant noise source is vehicular traffic along South Broadway.	2/18/04 to 2/19/04	12:00 to 12:00	66-69 55-66	70
LT -8 ~ 30 feet from the centerline of Locust Street. Predominant noise source is vehicular traffic along Locust Street.	2/18/04 to 2/19/04	13:00 to 13:00	60-68 55-66	67
LT -9 ~ 65 feet from the centerline of Mt. Diablo Boulevard. Predominant noise source is vehicular traffic along Mt. Diablo Boulevard.	2/18/04 to 2/19/04	13:00 to 13:00	68-72 58-69	72
LT -10 ~ 90 feet from the centerline of California Boulevard. Predominant noise source is vehicular traffic along California Boulevard.	2/18/04 to 2/19/04	14:00 to 14:00	62-67 53-64	68
LT -11 ~ 550 feet from the center of Interstate 680 at Oakvale Circle. Predominant noise source is vehicular traffic along I-680 and intermittent BART noise.	2/18/04 to 2/19/04	15:00 to 15:00	62-65 52-64	68
LT -12 ~ 250 feet from the center of Interstate 680 at Alpine Road. Predominant noise source is vehicular traffic along I-680.	2/18/04 to 2/19/04	15:00 to 15:00	68-75 62-74	75
LT -13 ~ 50 feet from the centerline of San Miguel Avenue. Predominant noise source is vehicular traffic along San Miguel Avenue. Measurement ended early due to rain.	2/19/04 to 2/20/04	15:00 to 12:00	60-65 31-59	64

Table 51 (Continued)

Long-Term (LT) Noise Data Summary

Noise Measurement Location	Date	Time	Noise Level (dBA) L_{eq} (hr) Range Daytime Nighttime	L_{dn}
LT -14 ~ End of Oro Valley Court. No local identifiable noise sources. Measurement ended early due to rain.	2/19/04 to 2/20/04	15:00 to 12:00	39-51 35-47	48
LT -15 ~ End of Vanderslice near I-680. Shielded from I-680 by topography. Measurement ended early due to rain.	2/19/04 to 2/20/04	16:00 to 12:00	48-55 39-52	54
LT -16 ~ 65 feet from the centerline of Buena Vista Avenue. Predominant noise source is vehicular traffic along Buena Vista Avenue. Measurement ended early due to rain.	2/19/04 to 2/20/04	17:00 to 13:00	57-64 46-62	63
LT -17 ~ 45 feet from the centerline of Sunnyvale Avenue. Predominant noise source is vehicular traffic along Sunnyvale Avenue. Measurement ended early due to rain.	2/19/04 to 2/20/04	18:00 to 14:00	57-63 48-59	63
LT -18 ~ Corner of Geary Road and Andrew Lane, approximately 60 feet from the centerline of Geary Road. Predominant noise source is vehicular traffic along Geary Road.	7/25/00 to 7/26/00	14:00 to 14:00	62-68 53-64	67
LT -19 ~ Corner of Parkside Drive and Riviera Avenue. Predominant noise source is vehicular traffic along Parkside Drive.	7/24/00 to 7/25/00	12:00 to 12:00	63-69 58-68	70
LT -20 ~ 30 feet from the curb of Oak Road north of Parnell Court. Predominant noise source is vehicular traffic along Oak Road.	1/6/01 to 1/7/01	12:00 to 12:00	59-65 52-61	65
LT -21 ~ Courtyard of Lincoln Green Apartment Complex. Predominant noise source is distant vehicular traffic (I-680).	1/22/04 to 1/23/04	11:00 to 11:00	46-52 42-51	55
LT -22 ~ Behind Heather Farms Park, at the end of Matterhorn Drive.	8/13/03 to 8/14/03	13:00 to 13:00	45-60 44-52	55
LT -23 ~ Heather Farms Park on Heather Drive.	8/13/03 to 8/14/03	12:00 to 12:00	56-60 51-58	61
LT -24 ~ Rear yard of 4499 Stone Canyon Court. Approximately 110 feet from the edge of Ygnacio Valley Road behind 6-foot wood fence. Predominant noise source is vehicular traffic along Ygnacio Valley Road.	11/7/01 to 11/8/01	12:00 to 12:00	60-66 49-64	65

Table 52

Short-Term (ST) Noise Data Summary

Noise Measurement Location (Date – Time of Noise Measurement)	Noise Level (dBA)					
	L_{eq}	$L_{(1)}$	$L_{(10)}$	$L_{(50)}$	$L_{(90)}$	Est. L_{dn}
ST-1 ~ 60 ft. from the centerline of Bancroft Road. Predominant noise source is vehicular traffic along Bancroft Road. (2/13/04 – 11:05 to 11:15)	71	78	76	70	62	71
ST-2 ~ 25 ft. from the centerline of La Corso Drive at Cabot Court. Predominant noise source is vehicular traffic along Bancroft Road with intermittent local traffic noise. (2/13/04 – 11:22 to 11:32)	56	67	59	50	46	56
ST-3 ~ 105 ft. from BART and ~ 80 ft. from the centerline of Minert Road along Chateau Court. Predominant noise source is vehicular traffic along Minert Road with intermittent BART noise. (2/13/04 – 11:30 to 11:40)	63	76	65	53	46	66
ST-4 ~ 50 ft. from the centerline of Widget Lane at Belford Drive. Predominant noise source is vehicular traffic along Widget Lane. (2/13/04 – 13:06 to 13:11)	60	69	65	54	46	60
ST-5 ~ 35 ft. from the centerline of Walnut Boulevard at Greenway Drive. Predominant noise source is vehicular traffic along Walnut Boulevard. (2/13/04 – 13:35 to 13:45)	64	72	68	60	53	64
ST-6 ~ 50 ft. from the centerline of North Main Street. Predominant noise source is vehicular traffic along North Main Street. (2/20/04 – 11:00 to 11:10)	65	74	69	62	57	68
ST-7 ~ 375 ft. from the center of I-680 at Elks Lodge parking lot. Predominant noise source is vehicular traffic along I-680. (2/20/04 – 11:25 to 11:35)	59	65	61	59	57	62
ST-8 ~ 100 ft. from the I-680 right-of-way near the end of Creekside Drive behind a sound wall. Predominant noise source is vehicular traffic along I-680. (2/20/04 – 11:45 to 11:55)	58	68	59	57	56	61

Table 52 (Continued)

Short-Term (ST) Noise Data Summary

Noise Measurement Location (Date – Time of Noise Measurement)	Noise Level (dBA)					
	L_{eq}	$L_{(1)}$	$L_{(10)}$	$L_{(50)}$	$L_{(90)}$	Est. L_{dn}
ST-9 ~ Santa Rita Circle. Predominant noise source is vehicular traffic along I-680. (2/20/04 – 12:10 to 12:20)	47	57	49	45	42	50
ST-10 ~ 80 ft. from the center of Tice Valley Road. Predominant noise source is vehicular traffic along Tice Valley Road. (2/23/04 – 15:00 to 15:10)	57	66	61	52	41	59
ST-11 ~ 50 ft. from the center of Pleasant Hill Road. Predominant noise source is vehicular traffic along Pleasant Hill Road. (2/23/04 – 15:00 to 15:10)	67	75	72	64	53	67
ST-12 ~ South property line of Concrete/Asphalt Plant along Lesnick Lane with plant OFF. Predominant noise source is vehicular traffic along North Main Street and I-680. (2/23/04 – 15:55 to 16:05)	59	63	61	59	56	--
ST-12 ~ South property line of Concrete/Asphalt Plant along Lesnick Lane with plant ON. Predominant noise source is Concrete/Asphalt Plant. (2/24/04 – 11:25 to 11:35)	65	69	66	64	63	--
ST-12 ~ South property line of Concrete/Asphalt Plant along Lesnick Lane with plant ON. Predominant noise source is Concrete/Asphalt Plant. (2/24/04 – 11:37 to 11:47)	66	72	68	65	63	--
ST-13 ~ 100 ft. from the center of I-680 at the end of Lesnick Lane. Predominant noise source is vehicular traffic along I-680. (2/24/04 – 11:52 to 12:02)	72	75	74	72	70	75

Away from streets carrying substantial through traffic, Walnut Creek remains quiet. For example, at measurement Location LT-6, in Diablo Foothills Regional Park, the measured noise level was 47 L_{dn}. Residential neighborhoods shielded from local sources of traffic noise still enjoy these quiet conditions.

STREET TRAFFIC

Noise levels along the city streets were calculated using a computer model developed by the Federal Highway Administration and traffic data taken from the *Transportation Background Report, January 30, 2004,* supplemented by additional information provided by the City's Transportation Consultant, Dowling Associates, Inc. The traffic noise model predicts hourly average noise levels. Ten percent of the average annual daily traffic (AADT) was assumed to represent the peak hour. The day/night average noise levels (L_{dn}) were estimated using the relationships of the peak hour noise level to the levels actually measured in Walnut Creek along comparable roadways. Noise levels were calculated at a standard distance of 75 feet from roadways. By selecting a standard distance, the relative noise levels along the various streets can be readily ascertained. Noise levels calculated using the traffic noise model correlated well with actual noise measurements. Existing noise levels along selected city streets are shown in Table 53.

INTERSTATE 680

Interstate 680, including the I-680/Route 24 interchange, is the loudest source of noise in Walnut Creek. The average noise level along the edge of the corridor is about 78 to 80 L_{dn}. Sound walls have effectively reduced noise adjacent to the freeway, but have little effect at greater distances. Since the freeway runs along the entire north-south length of the city, it affects the noise environment at distances of up to several thousand feet at receivers located away from busy streets. At the distant receiver locations, the freeway noise is most noticeable during the early morning hours, particularly when the wind is blowing toward the receivers from the freeway or during strong temperature inversions (normally during the winter). At such times, the freeway noise can be characterized as a low roar. Conversely, at locations near heavily-traveled local streets, the freeway is not a significant contributor to the noise environment.

BART

Noise resulting from the passage of BART trains is intermittent and has a unique character which is easily distinguishable from ambient traffic noise. Noise generated by an individual BART train depends on the length of the train, the speed of the train, and whether the train is at-grade on an elevated fill section or on an elevated structure. On weekdays, the first BART train bound for San Francisco arrives at the Walnut Creek BART Station at 4:20 AM.[4] The trains operate 5- to 15-minute headways until about 9:00 PM when the service goes to 20-minute headways. The last train leaves Walnut Creek just after 1:00 AM. There are 180 scheduled BART train movements through Walnut Creek on each weekday. Weekend trains operate on a 20-minute headway throughout the day. On Saturday, the first train arrives in Walnut Creek at 6:15 AM and the last train leaves just after 1:00 AM. On Sundays, train service begins at about 8:00 AM in Walnut Creek and ends about 1:00 AM.

The noise of BART trains is most significant at locations close to the BART tracks, which includes residential areas. Noise measurements along Minert Street (Location LT-1) show that the noise level resulting from BART train traffic is 66 L_{dn} 80 feet from BART tracks, and the maximum noise levels generated by individual BART trains are 83 to 84 dBA. Noise levels from individual BART trains were also meas-

[4] BART Schedule, www.bart.gov/stations/map/systemmap.asp

Table 53

Existing Peak-Hour L_{eq} and L_{dn} Noise Levels at 75 feet from the Road Centerline

Roadway Segment	Number of Lanes	Speed Limit	AADT	Truck %	Noise Level (dBA) Peak Hour L_{eq}	L_{dn}
Ygnacio Valley Road Btw Oakland Blvd. & California	6	30 mph	53,202	1.5	71	71
Ygnacio Valley Road Btw Homestead & Marchbanks/Tampico	6	40 mph	75,779	2.0	75	75
Ygnacio Valley Road Btw John Muir Medical Center & San Carlos Dr.	6	40 mph	61,556	2.0	74	74
Treat Blvd. Btw Bancroft & Candelero	6	40 mph	55,871	2.0	73	73
Treat Blvd. Btw Carriage & Bancroft	6	40 mph	45,421	2.0	72	72
N. Main Street South of Ygnacio	4	35 mph	14,610	1.5	65	66
Geary Road West of Main Street	2	35 mph	19,901	2.0	67	67
Bancroft South of Treat	4	40 mph	29,436	2.0	70	70
Broadway Btw Ygnacio Valley Rd. and Civic	4	25 mph	12,390	1.5	62	63
California Btw Trinity/Civic & Bonanza	4	30 mph	22,378	1.5	66	67
Civic Drive Btw Ygnacio & Broadway	4	35 mph	27,630	1.5	69	69
Civic Drive Btw Parkside & Walden	4	35 mph	16,486	2.0	66	66
Lawrence Way South of Penniman (One-Way NB)	2	35 mph	20,947	1.5	67	67
Mount Diablo Blvd. Btw Bonanza & California	4	35 mph	23,876	1.5	71	71
N. Main Street North of Geary	4	35 mph	39,138	2.0	69	70
N. Main Street Btw Geary & San Luis	4	35 mph	23,084	2.0	67	68
Newell Ave. Btw California & S. Main Street	4	35 mph	19,389	1.5	67	67
Oak Grove Rd. Btw Citrus & Ygnacio	4	40 mph	22,227	2.0	69	69
Olympic West of I-680 SB ramps	4	30 mph	20,200	2.0	66	66
Olympic Btw Alpine & California	4	30 mph	26,878	1.5	67	67
Parkside Dr. Btw Broadway & Civic	4	25 mph	13,543	2.0	63	63
Rudgear Road East of Broadway	2	25 mph	11,563	2.0	62	62
S. Broadway North of Newell	4	25 mph	19,340	1.5	67	68
S. Broadway North of Rudgear	2	35 mph	17,010	2.0	66	67
Main Street South of Mount Diablo	4	25 mph	13,775	1.5	63	64
S. Main St. North of Lilac Dr.	4	35 mph	18,110	2.0	66	67
Tice Valley Road South of Rolling Hills Drive	4	35 mph	18,150	2.0	67	67
Boulevard Way South of Mount Diablo	2	25 mph	6,430	2.0	59	59
Buena Vista Btw 3rd St. & Geary	2	30 mph	6,676	2.0	61	61
Mount Diablo Btw Mt. Pisgah and San Miguel	2	25 mph	11,876	2.0	61	61
Walnut Blvd. South of Ygnacio	2	25 mph	8,093	2.0	60	61

ured at Locations ST-14 and ST-15. The data are summarized in Table 54. Because the sound of the BART trains is different than the sound of traffic, it can also be heard at significant distances from BART where ambient noise levels from local traffic are lower. Given the amplitude and character of the noise, and the regular passage of BART trains, BART is a significant contributor to noise in Walnut Creek.

STATIONARY NOISE SOURCES

A concrete plant located on North Main Street was the only stationary noise source identified in the City. Noise measurements were conducted at the south property line of the plant on Lesnick Lane. When the plant was operating, the average noise level was 65 dBA L_{eq}. Given the plant's location between I-680 and North Main Street, two major sources of traffic noise, the noise from the facility has a minimal effect on surrounding land uses.

JOHN MUIR MEDICAL CENTER HELIPAD

The main campus of the John Muir Medical Center (JMMC) is located on Ygnacio Valley Road at La Casa Via. The hospital operates an emergency helipad at the northeast corner of the main campus site. The primary helicopter operator is CalStar, which uses Messerschmidt MK 117 helicopters. Other emergency helicopter operators also bring patients to the hospital. The flight path is in and out of the medical center from the southwest over the main parking lot at Ygnacio Valley Road; however, adverse weather conditions can change the flight path.

Noise from helicopter operations was studied during the preparation of the John Muir Medical Center Master Plan in 1996.[5] At the time the EIR was prepared, the most recent trip data available had been tabulated in September 1995. At that time, an average of 31 helicopter flights per month had occurred over the previous four years. During September 1995, there were 40 helicopter operations of which seven flights occurred during late night or early morning hours (10:00 PM to 7:00 AM). Noise levels produced by helicopter flights were measured on December 7, 1995. At the nearest residence to the helipad, maximum noise levels due to the approach or departure of a helicopter ranged from 78 to 95 dBA. Because of the infrequency of helicopter events, the 24-hour average noise level was less than 55 L_{dn} at the nearest residences. According to JMMC records, during 2003 there was an average of 37.5 flights per month, equating to an increase in the average annual L_{dn} of less than 1 dB since 1995. Note: Anecdotal information indicates that current helicopter flights average a minimum of two per day, which would result in increased noise levels.

STANDARDS OF SIGNIFICANCE

The Walnut Creek General Plan 2025 would create a significant noise impact if it would:

- Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Expose persons to or generate excessive ground-borne vibration or ground-borne noise levels.
- Cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- Cause a substantial temporary or periodic increase in ambient noise levels in the project* vicinity above levels existing without the project.

[5] *John Muir Medical Center Master Plan Draft EIR,* Noise Analysis, Illingworth & Rodkin, Inc., April 1996.

Table 54

Short-Term Noise Data Summary of BART

Noise Measurement Location	Noise Level (dBA)					
	Time	L_{eq}	SEL	Duration (sec)	L_{max}	Comments
ST-14 ~ 150 ft. from BART and 500 ft. north of Parkside Bridge along Jones Street. (2/24/04)	12:17:09	74	83	8	76	5 Car Train NB
	12:18:40	61	70	8	62	5 Car Train SB
	12:33:53	67	73	4	69	5 Car Train SB
	12:34:02	78	86	6	80	7 Car Train NB
	12:47:14	79	86	5	81	4 Car Train NB
ST-15 ~ 230 ft. from BART at end of Briarwood Way. (2/24/04)	14:01:24	67	74	6	67	5 Car Train SB
	14:04:57	69	83	21	73	10 Car Train NB
	14:15:52	66	79	15	69	10 Car Train SB
	14:19:58	69	82	21	72	9 Car Train NB
	14:30:36	67	79	16	69	7 Car Train SB

- Expose people residing or working in the project area to excessive aircraft noise levels.

Table 6-2 in the existing Noise Sub-Element of the Walnut Creek General Plan is used to evaluate noise and land use compatibility questions raised by Item (a) above. Ground-borne noise does not occur in Walnut Creek. Ground-borne vibration can occur if vibration sensitive development, such as residences, are proposed very close to BART where it is operating at-grade. Guidelines established by the Federal Transit Agency are used to evaluate ground-borne vibration effects. Program 2.1 in the 1989 General Plan establishes the following significance thresholds to evaluate a permanent increase in ambient noise:

> "Require the evaluation of mitigation measures for projects that would cause the following criteria to be exceeded or would generate noise which cause significant adverse community response:
>
> - cause the L_{dn} in existing residential areas to increase by 3 dB or more and exceed an L_{dn} of 60 dB;
> - cause the L_{dn} in existing residential areas to increase by 3 dB or more if the L_{dn} currently exceeds 60 dB."

A substantial temporary or periodic increase in ambient noise can occur as a result of short-term construction activities. Construction activities that cause noise levels to exceed an hourly average of 60 dBA L_{eq} and exceed existing ambient noise levels by 5 dBA or more at a sensitive receiver, and last more than one construction season, would be considered to cause a substantial temporary or periodic increase in ambient noise. Walnut Creek is not within an airport land use plan or in the vicinity of a private airstrip. While high altitude jet aircraft do contribute to the noise environment in Walnut Creek, they are not a significant source of noise and no further assessment of aircraft noise is necessary.

IMPACT DISCUSSION

The following discussion provides an overview of changes in the noise environment and community noise exposure that could result from implementation of the General Plan. The most significant noise-related issues are how implementation of the plan will change traffic noise levels along the street network and how proposed changes to the land use patterns in the community may expose new residents to excessive noise levels. Implementation of the plan would also require construction activities. Short-term effects of construction are also discussed.

TRAFFIC NOISE INCREASES

Vehicular traffic in Walnut Creek will increase on major roadways as development and population increase within the community. Traffic noise levels throughout Walnut Creek were modeled to determine how changes in vehicular traffic volumes would affect traffic noise levels. Increases in traffic noise resulting from the general plan alternatives are shown in Table 55. Throughout most of Walnut Creek, noise levels are anticipated to increase by 0 to 2 dBA by the year 2025. Exceptions are along Broadway between Ygnacio Valley Road and Civic Drive, and South Broadway where noise levels will increase about 3 dBA, and Buena Vista between Third Street and Geary where noise levels will increase about 3 dBA. The data in Table 55 clearly demonstrate that traffic noise levels in Walnut Creek would not be measurably different regardless of the general plan alternative that is selected.

NOISE EXPOSURE IN NEW DEVELOPMENT

New noise sensitive (residential) development is proposed in noisy areas of the City, along major arterials and in the Downtown Core. Distances to existing and future traffic noise contours along major Walnut Creek roadways are shown in Table 56.

Figure 30 specifies the noise levels along major roadways in Walnut Creek at a distance of 75 feet from the roadway centerline. Contours indicated as "estimated" could not be calculated due to insufficient traffic volume data and are estimated based on nearby roadways links.

Figure 31 indicates the future noise levels generated by major transportation noise sources in Walnut Creek. Interstate 680 would generate a noise level of about 80 dBA L_{dn} at the interstate right-of-way. BART generates noise that is distinctive from traffic noise and is therefore indicated separately from roadway contours. Areas adjacent to both BART and roadway noise sources would experience noise levels greater than those indicated in the figure.

Predicted L_{dn} values in Figures 30 and 31 are worst-case estimates and do not take acoustical shielding from buildings or terrain into account. In areas well shielded from the noise source, noise levels would be considerably lower. Due to shielding, the 60 and 65 dBA L_{dn} contours for Interstate 680 would typically be closer to the roadway than those indicated in Figure 31. However, in areas that have direct line-of-sight to the interstate, noise levels indicated by the figure could be experienced.

Single-family land uses proposed as a part of Change Area 13 and multi-family land uses proposed as part of Change Areas 2, 3, 5, 6, 7, 10, 12, 13, 15, 18, 24, 27, and 28 could be located adjacent to excessive traffic noise levels under all of the general plan alternatives.

BART train traffic generates a 24-hour average noise level of 66 L_{dn} in Walnut Creek at a distance of 80 feet from the BART tracks. Noise sensitive land uses proposed along BART would include portions of Change Area 7, 24, and 27. Individual BART trains generate maximum noise levels of 83 to 84 dBA. Because the sound of the BART trains is different from the sound of traffic, it can also be heard at signifi

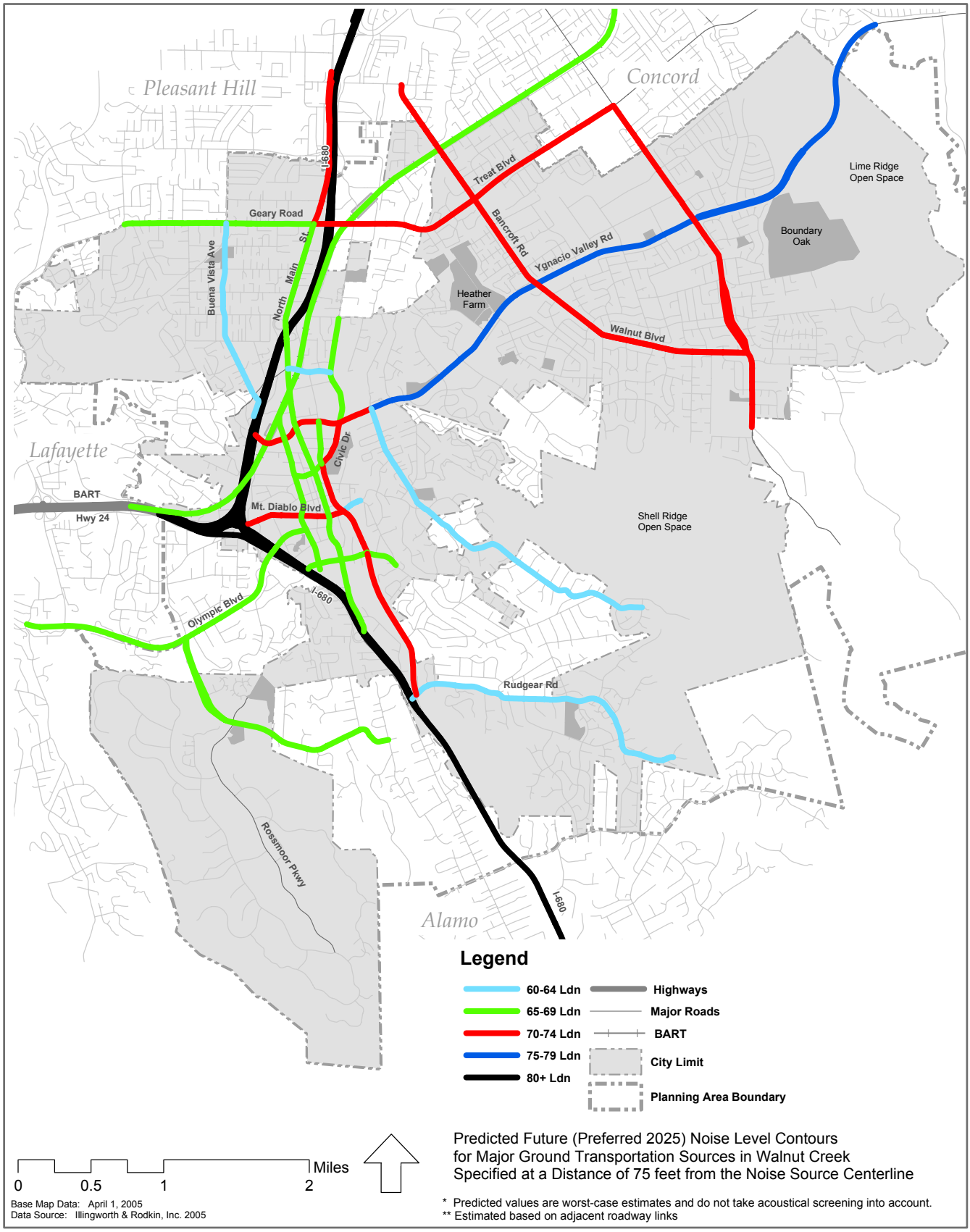

Figure 30. Future Noise Contour for Major Roadway Noise Sources in Walnut Creek (Preferred 2025 Alternative)

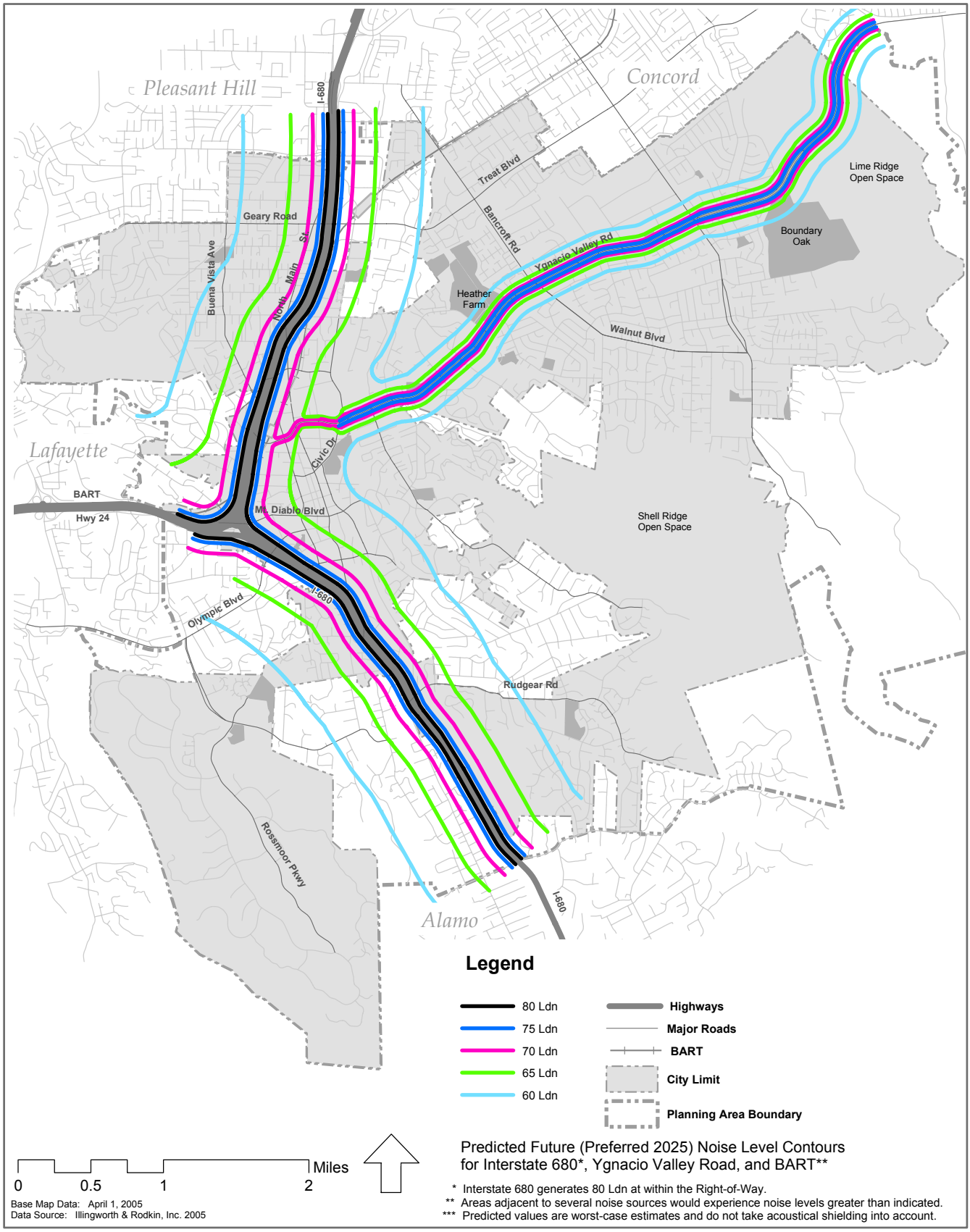

Figure 31. Future Noise Contour for Interstate 680, Ygnacio Valley Road, and BART (Preferred 2025 Alternative)

Table 55

Increases in Traffic Noise Resulting From the General Plan Alternatives

Roadway Segment	Existing Year 2000		No Project 2025 Existing GP		Maximum 2025 GP Alt 1		Preferred 2025 GP Alt 2		Environmental 2025 GP Alt 3	
	L_{dn}	Increase	L_{dn}	Increase	L_{dn}	Increase	L_{dn}	Increase	L_{dn}	Increase
Ygnacio Valley Road Btw Oakland Blvd. & California	71	0	71	0	71	0	71	0	71	0
Ygnacio Valley Road Btw Homestead & Marchbanks/ Tampico	75	0	76	1	76	1	76	1	76	1
Ygnacio Valley Rd Btw John Muir Med. Center & San Carlos Dr.	74	0	75	1	75	1	75	1	75	1
Treat Blvd. Btw Bancroft & Candelero	73	0	74	1	74	1	74	1	74	1
Treat Blvd. Btw Carriage & Bancroft	72	0	73	1	73	1	73	1	73	1
N. Main Street South of Ygnacio	66	0	68	2	69	3	68	2	68	2
Geary Road West of Main Street	67	0	67	0	67	0	67	0	67	0
Bancroft South of Treat	70	0	71	1	71	1	71	1	71	1
Broadway Btw Ygnacio Valley Rd. and Civic	63	0	66	3	67	4	66	3	66	3
California Btw Trinity/Civic & Bonanza	67	0	69	2	69	2	69	2	69	2
Civic Drive Btw Ygnacio & Broadway	69	0	71	2	71	2	71	2	71	2
Civic Drive Btw Parkside & Walden	66	0	68	2	68	2	68	2	68	2
Lawrence Way South of Penniman (One-Way NB)	67	0	67	0	67	0	67	0	67	0
Mount Diablo Blvd. Btw Bonanza & California	71	0	72	1	72	1	72	1	72	1
N. Main Steet North of Geary	70	0	70	0	70	0	70	0	70	0
N. Main Street Btw Geary & San Luis	68	0	69	1	69	1	69	1	69	1
Newell Ave. Btw California & S. Main Street	67	0	67	0	68	1	67	0	67	0
Oak Grove Rd. Btw Citrus & Ygnacio	69	0	70	1	70	1	70	1	70	1
Olympic West of I-680 SB ramps	66	0	67	1	67	1	67	1	67	1
Olympic Btw Alpine & California	67	0	67	0	68	1	67	0	67	0
Parkside Dr. Btw Broadway & Civic	63	0	63	0	63	0	63	0	63	0
Rudgear Road East of Broadway	62	0	63	1	63	1	63	1	63	1
S. Broadway North of Newell	68	0	71	3	71	3	71	3	71	3
S. Broadway North of Rudgear	67	0	70	3	70	3	70	3	70	3
Main Street South of Mount Diablo	64	0	66	2	67	3	66	2	66	2
S. Main St. North of Lilac Dr.	67	0	69	2	69	2	68	1	68	1
Tice Valley Road South of Rolling Hills Drive	67	0	68	1	68	1	68	1	68	1
Boulevard Way South of Mount Diablo	59	0	60	1	60	1	60	1	60	1
Buena Vista Btw 3rd St. & Geary	61	0	64	3	64	3	64	3	64	3
Mount Diablo Btw Mt. Pisgah and San Miguel	61	0	62	1	62	1	62	1	62	1
Walnut Blvd. South of Ygnacio	61	0	63	2	63	2	62	1	62	1

Note: L_{dn} noise levels and traffic noise increases are specified in dBA at a distance of 75 feet from the roadway centerline.

Table 56

Existing and Future Noise Contour Distances (in Feet from Centerline) Along Major Roadways and BART

Roadway Segment	Existing			No Project			Maximum			Preferred			Environmental		
	Year 2000			2025 Existing GP			2025 GP Alt 1			2025 GP Alt 2			2025 GP Alt 3		
	70 L_{dn}	65 L_{dn}	60 L_{dn}	70 L_{dn}	65 L_{dn}	60 L_{dn}	70 L_{dn}	65 L_{dn}	60 L_{dn}	70 L_{dn}	65 L_{dn}	60 L_{dn}	70 L_{dn}	65 L_{dn}	60 L_{dn}
Interstate 680	700	1,500	3,230	700	1,500	3,230	700	1,500	3,230	700	1,500	3,230	700	1,500	3,230
Ygnacio Valley Road Btw Oakland Blvd. & California	90	190	410	90	200	420	90	200	430	90	180	390	90	190	400
Ygnacio Valley Road Btw Homestead & Marchbanks/ Tampico	160	350	750	180	390	840	190	400	870	180	390	840	180	380	820
Ygnacio Valley Road Btw John Muir Medical Center & San Carlos Dr.	140	300	640	160	350	750	170	360	780	160	340	730	150	330	720
Treat Blvd. Btw Bancroft & Candelero	120	260	550	130	290	620	130	290	620	130	290	620	130	290	620
Treat Blvd. Btw Carriage & Bancroft	100	220	470	120	260	550	120	260	550	120	250	550	120	250	540
N. Main Street South of Ygnacio	*	90	190	60	120	260	60	130	280	50	110	240	50	110	250
Geary Road West of Main Street	50	100	220	50	110	230	50	110	230	50	110	230	50	110	230
Bancroft South of Treat	70	160	350	90	180	400	90	190	400	80	180	390	80	180	380
Broadway Btw Ygnacio Valley Rd. and Civic	*	60	120	*	90	200	*	100	210	40	80	180	*	90	190
California Btw Trinity/Civic & Bonanza	50	100	220	60	140	300	70	140	310	60	140	290	60	130	290
Civic Drive Btw Ygnacio & Broadway	60	140	300	90	200	420	90	200	440	90	190	410	90	190	400
Civic Drive Btw Parkside & Walden	*	90	190	60	130	270	60	130	270	50	110	240	50	120	250
Lawrence Way South of Penniman (One-Way NB)	50	100	220	50	100	220	50	100	220	*	90	200	*	90	200
Mount Diablo Blvd. Btw Bonanza & California	90	190	410	100	220	480	110	230	500	100	210	440	100	210	440

Table 56 (Continued)

Existing and Future Noise Contour Distances (in Feet from Centerline) Along Major Roadways and BART

Roadway Segment	Existing			No Project			Maximum			Preferred			Environmental		
	Year 2000			2025 Existing GP			2025 GP Alt 1			2025 GP Alt 2			2025 GP Alt 3		
	70 L_{dn}	65 L_{dn}	60 L_{dn}	70 L_{dn}	65 L_{dn}	60 L_{dn}	70 L_{dn}	65 L_{dn}	60 L_{dn}	70 L_{dn}	65 L_{dn}	60 L_{dn}	70 L_{dn}	65 L_{dn}	60 L_{dn}
N. Main Steet North of Geary	70	160	350	80	170	360	80	160	350	80	160	350	80	160	350
N. Main Street Btw Geary & San Luis	60	120	260	70	140	300	70	140	310	70	150	320	70	150	320
Newell Ave. Btw California & S. Main Street	50	100	220	50	110	240	50	110	240	50	110	230	50	110	230
Oak Grove Rd. Btw Citrus & Yg-nacio	60	140	300	70	160	340	80	170	360	80	160	350	70	160	330
Olympic West of I-680 SB ramps	*	90	190	50	100	220	50	100	220	*	90	200	**	90	200
Olympic Btw Alpine & California	50	100	220	50	110	230	50	110	240	50	100	210	50	100	210
Parkside Dr. Btw Broadway & Civic	*	60	120	*	60	120	*	60	120	*	50	120	*	50	110
Rudgear Road East of Broadway	*	50	100	*	60	120	*	60	130	*	60	120	*	60	130
S. Broadway North of Newell	60	120	260	90	190	410	90	190	420	90	190	400	90	180	400
S. Broadway North of Rudgear	50	100	220	80	160	350	80	170	360	70	160	340	70	160	340
Main Street South of Mount Diablo	*	60	140	*	90	200	*	90	200	*	90	190	*	90	180
S. Main St. North of Lilac Dr.	50	100	220	60	130	280	60	130	290	60	130	270	60	130	270
Tice Valley Road South of Rolling Hills Drive	50	100	220	60	120	260	60	120	260	50	110	240	50	110	250
Boulevard Way South of Mount Diablo	*	*	60	*	*	80	*	*	80	*	*	70	*	*	70
Buena Vista Btw 3rd St. & Geary	*	*	90	*	60	130	*	60	140	*	60	130	30	60	130
Mount Diablo Btw Mt. Pisgah and San Miguel	*	*	90	*	50	100	*	50	100	*	50	100	*	*	100
Walnut Blvd. South of Ygnacio	*	*	90	*	50	110	*	50	110	*	50	110	*	50	100
BART	*	100	230	*	100	230	*	100	230	*	100	230	*	100	230

* Distances of less than 50 feet would typically be located within the right-of-way and are not included in this table.

cant distances from BART where ambient noise levels from local traffic are lower.

Changes in Land Use Designations would introduce residential development adjacent to commercial, retail, and office development. Of the 21 change areas proposed in General Plan 2025, 13 Change Areas would include mixed uses or residential uses adjacent to commercial and retail uses (Change Areas 2, 3, 4, 5, 6, 7, 10, 12, 13, 14, 15, 24, 27, and 28). Depending on the actual use and the design of the site plan, placing residents in proximity to nonresidential land uses can result in localized noise conflicts, including noise sources such as outdoor music played at outdoor dining areas or bars, mechanical equipment, outdoor maintenance activities, truck loading docks and deliveries, and parking lot activities.

GROUND-BORNE VIBRATION OR NOISE

BART would introduce potential ground-borne vibration issues if vibration sensitive development, such as residences, were proposed very close to where it is operating at-grade. New residential development is proposed in the vicinity of BART in Core Area Change Areas 7, 24, and 27. However, the BART track are on elevated structure at all of these locations so vibration is not anticipated to adversely affect new proposed development in these areas.

Change Area 13 proposes mixed use development adjacent to BART where the tracks are at-grade. Ground vibration is site dependant. Vibration levels were not measured as a part of the General Plan 2025. Based on data measured for the City of Freemont in 2003[6], ground-borne vibration levels generated by BART are typically less than the FTA criteria for frequent events (72 VdB) at a distance of about 150 feet from the centerline of the tracks assuming a worst-case train speed of 75 mph.

[6] *Supplemental Environmental Impact Report BART Warm Springs Extension*, Jones and Stokes, March 2003.

AIRPORT NOISE

Walnut Creek is not within an airport land use plan or in the vicinity of a private airstrip.

New development is not proposed adjacent to the John Muir Medical Center, and noise associated with helicopter operations is not anticipated to adversely affect new noise sensitive land uses.

CONSTRUCTION NOISE

Residences and businesses located adjacent to proposed development would be affected by construction noise during build-out of the General Plan. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (early morning, evening, or nighttime hours), the construction occurs in areas immediately adjoining noise sensitive land uses, such as when construction durations last over extended periods of time. Major noise generating construction activities would include removal of existing pavement and structures, site grading and excavation, building construction, paving and landscaping. Due to the urban environment of most of Walnut Creek, the distance from most of these activities to noise-sensitive receptors would be less than 100 feet. In some cases, residences may be directly adjacent or in close proximity to construction activities.

The highest construction noise levels would be generated during grading and excavation, with lower noise levels occurring during building construction. Large pieces of earth-moving equipment, such as graders, scrapers, and bulldozers, generate maximum noise levels of 85 to 90 dBA at a distance of 50 feet. Typical hourly average construction-generated noise levels are about 80 to 85 dBA measured at a distance of 50 feet from the site during busy construction periods. In addition, pile driving may occur at some of the proposed development sites. This type of construction activity can produce very high noise levels of approximately 105 dBA at 50 feet, which are

difficult to control. These noise levels drop off at a rate of about 6 dBA per doubling of distance between the noise source and receptor. Intervening structures or terrain would result in lower noise levels.

IMPACTS AND MITIGATION MEASURES

Impact NOI-1: Vehicular traffic in Walnut Creek will increase on two major roadways as development and population increase within the community. This would be a *significant* impact.

Significant increases (3 dBA L_{dn} or greater) would occur along Broadway between Ignacio Valley Road and Civic Drive, along South Broadway, and along Buena Vista between Third Street and Geary. In addition, new development could introduce noise generating land uses adjacent to existing residences.

> Mitigation Measure NOI-1: Chapter 6 Safety and Noise Policy 9.1 and Action 9.1.1 would control the impacts of new commercial and residential noise sources on the existing environment.
>
> Safety and Noise Policy 9.2, Action 9.2.1, and 9.2.2 would strive to reduce traffic noise levels through the installation of noise control measures such as quiet pavement surfaces.

Impact NOI-2: New noise sensitive development is proposed in noisy areas. This would be a *significant* impact.

New residential development proposed along BART, I-680, and major Walnut Creek roadways could be exposed to excessive noise levels. In addition, the General Plan 2025 proposes placing residents in proximity to non-residential land, which could introduce localized noise conflicts.

> Mitigation Measure NOI-2: Chapter 6 Safety and Noise Policy 8.1 and Actions 8.2.1 and 8.2.2 would establish exterior noise level standards for new residences proposed in noisy areas. Policy 8.2 addresses urban noise conflicts. Actions 8.2.3 and 8.2.4 specify interior standards to control average and maximum noise levels.

Impact NOI-3: New residential development proposed adjacent to BART where it is operating at-grade could expose residents to excessive vibration. This would be a *significant* impact.

BART would be considered a ground-borne vibration source where it is operating at-grade. New Core Area residential development proposed in the vicinity of BART would be located in areas where the track is raised. However, residential development proposed within 150 feet of the BART tracks as part of change area 13 could be exposed to vibration levels which could exceed the FTA criteria for frequent events (72 VdB).

> Mitigation Measure NOI-3: Vibration impacts should be mitigated through site design and buffers between BART and new residential development. Residential uses proposed as a part of Change Area 13 within 150 feet of BART should include a vibration study to show that vibration levels do not exceed the FTA criteria.

Impact NOI-4: Construction of new development would temporarily elevate noise levels at adjacent noise sensitive land uses. This would be a *significant* impact.

Changes in land use designations in the 2025 General Plan is mostly limited to the 21 Change Areas described in Chapter 3. Construction of these areas would elevate noise levels at adjacent businesses and residences by 15 to 20 dBA or higher.

> Mitigation Measure NOI-4: City's Municipal Code, Title 4, Article 2, addresses excessive, unreasonable, and prolonged noise; including building construction and repair. Standard measures to minimize

construction noise impacts could include the following quiet construction methods:

(a) Equip all internal combustion engine driven equipment with intake and exhaust mufflers which are in good condition and appropriate for the equipment.

(b) Locate stationary noise generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project area.

(c) Utilize "quiet" air compressors and other stationery noise sources where technology exists.

(d) When necessary, temporary noise control blanket barriers should shroud pile drivers or be erected in a manner to shield the adjacent land uses. Such noise control blanket barriers can be rented and quickly erected.

(e) Foundation pile holes should be pre-drilled to minimize the number of impacts required to seat the pile. The pre-drilling of foundation pile holes is a standard construction noise control technique. Pre-drilling reduces the number of blows required to seat the pile.

(f) Designate a "disturbance coordinator" who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem be implemented. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include it in the notice sent to neighbors regarding the construction schedule.

CHAPTER 5

Alternatives

Walnut Creek General Plan 2025 has been described and analyzed in the previous sections with an emphasis on potentially significant impacts and recommended mitigation measures to avoid those impacts. The State CEQA Guidelines also require the description and comparative analysis of a range of reasonable alternatives to the proposed project that could feasibly attain the objectives of the project.

The following discussion is intended to inform the public and decision makers of project alternatives that have been developed and the positive and negative aspects of those alternatives. In accordance with CEQA Guidelines and procedures, three project alternatives, including the No Project Alternative, are discussed below. CEQA Guidelines also require that the environmentally superior alternative be identified. This information is included at the conclusion of this chapter.

The three alternatives are as follows:

- No Project Alternative (General Plan 1989)
- Growth Management I Alternative
- Growth Management II Alternative

Each alternative is analyzed against the impact factors considered for the proposed General Plan 2025, according to whether it would have a mitigating or adverse effect. Table 57 summarizes the results of the analysis. Table 58 includes the number of new residential units and commercial square feet that could occur under each alternative.

THE NO PROJECT ALTERNATIVE

This section analyzes the No Project Alternative against General Plan 2025.

PRINCIPAL CHARACTERISTICS

Under this alternative, General Plan 2025 would not be adopted and the existing General Plan would remain in effect. The No Project Alternative would not prevent development in the city. Rather, development would occur according to the existing 1989 General Plan land use designations, buildout projections and policy guidance. The No Project Alternative assumes full commercial buildout and midpoint buildout of residential development. Under this alternative, 3,282 new residential units would be constructed and 6.4 million square feet of commercial space would be permitted. Assuming an average household size of 2.10 persons per household and a vacancy rate of 0.964, the 3,282 new units under this alternative would result in an increase in population of about 6,644 persons.

The future conditions resulting from the No Project Alternative are different from the analyses contained in Chapters 4.1 through 4.13, which compares the proposed project to existing conditions as they were at the time that the Notice of Preparation for this EIR was posted.

Table 57

Comparison of Project Alternatives

Impact Factors	No Project	Growth Management I Alternative	Growth Management II Alternative
Land Use and Agriculture	-	-	---
Population, Employment & Housing	=	++	++
Community Services	-	+	+
Transportation	++	++	++
Infrastructure	+	+	+
Visual Quality	---	=	=
Cultural Resources	-	=	=
Geology & Seismic Hazards	=	=	=
Hazardous Materials	=	=	=
Hydrology & Flooding	---	=	=
Biological Resources	-	=	=
Air Quality	---	=	=
Noise	=	=	=

++ Substantial improvement compared to the proposed project.

+ Insubstantial improvement compared to the proposed project.

= Same impact as proposed project.

- Insubstantial deterioration compared to the proposed project.

--- Substantial deterioration compared to the proposed project.

Note: Competing aspects within some factors would create both improvement and deterioration simultaneously for a single alternative. These trade-offs are discussed in the text.

Table 58

Project Alternatives – Buildout Potential (Incorporated)

Alternative	Planned Residential Dwelling Units (new units)	Commercial Square Feet (additional sf)	Additional Population / Total Population [a]
No Project Alternative (1989 General Plan)	3,282 units	6.4 million sf	6,644/73,144
Growth Management I Alternative	5,342 units	2.5 million sf (125,000 sf/year cap)	10,814/77,314
Growth Management II Alternative	5,342 units	1.5 million sf (75,000 sf/year cap)	10,814/77,314
General Plan 2025 (City Limits)	*5,342 units*	*8.8 million sf*	10,814/77,314
General Plan 2025 (City limits and Sphere of Influence)	*8,115 units*	*9.5 million sf*	*16,428/96,628* [b]

[a] Based on the 2005 Department of Finance population estimate of 66,500 residents in Walnut Creek, 2.10 persons per household and a vacancy rate of 0.964.

[b] Using, as a base year population for 2005, the ABAG Projections 2005 estimate of 80,200 for 2005 for Walnut Creek's Sphere of Influence.

IMPACT ANALYSIS

The No Project Alternative would have the following impacts relative to adoption of General Plan 2025.

Land Use

The most significant land use difference between the 1989 General Plan and General Plan 2025 is that General Plan 2025 proposes 21 change areas in which development would generally be intensified and more mixed relative to the 1989 General Plan. Although the potential for land use conflicts would be less likely under the current General Plan, the benefits of mixed use development and intensification would outweigh the potential conflicts that could be associated with it, particularly since General Plan 2025 contains policies to mitigate such impacts. Since the benefits associated with mixed use development would not be realized with the land use designations under the 1989 General Plan, the No Project Alternative would be considered slightly worse than General Plan 2025 with regard to land use.

Population, Employment and Housing

Development that could occur under the No Project Alternative would result in lower population, employment and housing growth at buildout than General Plan 2025. The No Project Alternative would allow for about 2,000 fewer new residential units than the proposed General Plan and about 2.4 million fewer square feet of commercial development. Based on the average employment density factor used in the analysis in Chapter 4.2 of this EIR (one employee per 285 square feet of commercial development), the No Project Alternative would result in about 22,460 jobs, about 10,600 fewer than General Plan 2025. The No Project Alternative would result in a city population of about 73,144 (about 4,170 fewer residents than General Plan 2025).

Like General Plan 2025, the No Project Alternative would not induce substantial population growth in an area either directly or indirectly, displace substantial numbers of existing housing, or displace substantial numbers of people. Furthermore, the No Project Alternative would not result in a jobs-housing balance that is substantially different from the jobs-housing balance that would occur under General Plan 2025 since both would propose jobs and housing. Thus the No Project Alternative is considered to be the same compared to General Plan 2025 with regard to population, housing and employment.

Community Services

Buildout under the current General Plan would result in fewer residential units and a lower population than buildout under the General Plan 2025. As a result, the No Project Alternative would create a lower demand for community fire, emergency and police services, as well as for library, parks and recreation services. In this regard, the No Project Alternative is considered to be an improvement compared to General Plan 2025. However, the 1989 General Plan does not contain the policies and actions regarding police and fire services that exist in the Safety and Noise Chapter of General Plan 2025. Additionally, the 1989 General Plan does not include the General Plan 2025 action directing the City to build a new library. Since these policies and actions would have beneficial impacts, the No Project Alternative would be considered a substantial deterioration compared to General Plan 2025 when considering the policy guidance of both plans.

The beneficial policy language of General Plan 2025 is considered to outweigh the lower demand for services that would result from implementing the No Project Alternative. Such policies would help to mitigate any demand impacts from implementation of General Plan 2025. Thus the No Project Alternative is considered to be an insubstantial deterioration compared to General Plan 2025.

Transportation

Under the No Project Alternative, there would be a lower buildout population, and fewer jobs and households than under General Plan 2025.

Thus there would be fewer daily auto trips. Additionally, for several city roadways, the LOS would be better under the No Project Alternative than under General Plan 2025. For these reasons, the No Project Alternative would be a substantial improvement over General Plan 2025.

However, the No Project Alternative would not have the benefit of the additional policy guidance provided by General Plan 2025 to improve transportation alternatives and thus would be considered slightly worse than the proposed Plan. Given the allowance for less population and commercial growth under the No Project Alternative, however, transportation impacts would be expected to be less than under the proposed General Plan. In spite of the policy guidance that would be afforded under General Plan 2025, the No Project Alternative is considered a substantial improvement compared to General Plan 2025 because of the differences in daily trips and LOS.

Infrastructure

For the reasons discussed below, the No Project Alternative is considered an insubstantial improvement compared to General Plan 2025.

Water

The lower population and new commercial development under the No Project Alternative would create a lower demand for water supplies than General Plan 2025. While this would be a benefit of the No Project Alternative compared to General Plan 2025, the 1989 General Plan does not include the breadth of water conservation policies contained in General Plan 2025. Considering both of these issues, the No Project Alternative would be only an insubstantial improvement over General Plan 2025.

Wastewater

The lower population and new commercial development under the No Project Alternative would, in theory, generate less wastewater than General Plan 2025 and would therefore have less impact on the sanitary sewer system. The No Project Alternative would thus be a substantial improvement over General Plan 2025.

Solid Waste

The Keller Canyon Landfill would have the capacity to accommodate the solid waste generated under the No Project Alternative. Since neither the No Project Alternative nor General Plan 2025 would result in waste that exceeds the landfill's capacity, neither alternative is substantially better or worse than the other in that regard. However, the recycling policies and actions in the 1989 General Plan do not have the potential to result in as much waste reduction or diversion as the policies and actions in General Plan 2025. The existing General Plan addresses recycling, but it does not address organic waste diversion, green procurement, multifamily recycling, or source reduction, all of which are addressed in General Plan 2025. Policies and actions addressing these issues have the potential to result in greater waste reduction and diversion achievements than policies addressing recycling alone. General Plan 2025 policies would translate to a longer landfill lifespan than current General Plan policies. Thus, although the population under the No Project Alternative would be lower than under General Plan 2025, the No Project Alternative is considered substantially worse than General Plan 2025 with regard to solid waste because it lacks the waste reduction policies and actions of General Plan 2025.

Visual Quality

The 1989 General Plan includes several policies related to scenic corridors, trees, lighting and other urban design elements. While these policies would mitigate potential visual quality impacts, they are not as comprehensive as the urban design policies in General Plan 2025. For example, General Plan 2025 includes a more comprehensive set of actions addressing the visual character of gateways and focuses more on the visual importance of scenic views of open space. As such, the No Project Alternative would not have the beneficial effect of

providing additional policy guidance on the protection of visual quality resources within the City of Walnut Creek. For this reason, the No Project Alternative is considered a substantial deterioration compared to the proposed General Plan.

Cultural Resources
The 1989 General Plan policies and actions regarding archaeological and historic resource protection are not substantially different from the policies and actions in the proposed General Plan. However, since General Plan 2025 includes a policy to protect paleontological resources and the 1989 General Plan does not, the No Project Alternative is considered an insubstantial deterioration with regard to cultural resources, relative to the proposed General Plan.

Geology and Seismic Hazards
The land use changes proposed by the No Project Alternative would not present any substantially greater or less danger from geologic or seismic hazards than the General Plan 2025. Since the horizon year for the current General Plan is 2010, the buildout population for General Plan 2025 is greater than for the current Plan. Thus implementation of the current Plan would theoretically expose fewer people to seismic hazards than the proposed plan. However, since both plans include policies and actions that would mitigate impacts to less-than-significant levels, there is no substantial difference between the two plans with regard to geologic or seismic hazards.

Hazardous Materials
Since the No Project Alternative would theoretically allow for a smaller population than General Plan 2025, it would have the potential to expose fewer people to risks associated with hazardous materials use, storage and transport. However, the implementation of existing federal, State and local regulations pertaining to safe use, storage, disposal and transportation of hazardous materials would ensure that impacts resulting from hazardous materials handling would be less than significant. Furthermore, since both the 1989 General Plan and General Plan 2025 include policies that would mitigate potential hazardous materials impacts, the No Project Alternative is considered neither better nor worse than General Plan 2025.

Hydrology and Water Quality
The land use designations proposed by the No Project Alternative would not present any substantially greater or less danger from hydrologic or flooding hazards than General Plan 2025. New development under the No Project Alternative or General Plan 2025 would be required to comply with City's Flood Damage Prevention Ordinance (Chapter 12 of the Municipal Code). New development under either the No Project Alternative or the proposed General Plan would be required to comply with NPDES stormwater and Regional Water Quality Control Board requirements. Compliance with these regulations would ensure that the No Project Alternative would not result in stormwater that would substantially pollute water bodies or create substantial flood risks. The No Project Alternative does not include several policies addressing flooding that are included in General Plan 2025. These policies include policies limiting impervious surfaces and runoff in flood prone areas. Furthermore, the No Project Alternative does not have the breadth of policies addressing water quality that General Plan 2025 has (see Policies and Actions under Goal 30). Thus, the No Project Alternative would be considered a substantial deterioration compared to proposed General Plan with regard to flooding and in particular, water quality.

Biological Resources
The 1989 General Plan contains policies and actions regarding the protection of open spaces, which is where most of Walnut Creek's biological resources are located. These protective policies would provide some measure of protection for biological resources. However, the policies and actions in General Plan 2025 more directly address the protection of biological resources, wetlands and wildlife

movement corridors. For this reason, the No Project Alternative is considered an insubstantial deterioration compared to the proposed General Plan.

Air Quality
Although the 1989 General Plan includes policies and actions that had positive, indirect impacts with regard to air quality,[1] the Plan does not include any policies or actions directly addressing air quality. Air quality impacts would occur under both the 1989 General Plan and General Plan 2025 because increased construction, population and traffic would occur under both plans. Both plans support auto trip reduction and encourage downtown housing. However, the policies and actions in General Plan 2025 includes specific actions to address air quality impacts, such as controlling dust emissions from construction sites (Built Environment Action 30.3.1) and participating in the Spare the Air Program (Built Environment Action 30.1.3), which are absent from the 1989 General Plan. Therefore, the No Project Alternative is considered a substantial deterioration compared to the General Plan 2025 with regard to air quality.

Noise
Due to regional increases in traffic, noise levels would increase over the course of 20 years. These regional increases would occur under both the No Project Alternative and General Plan 2025. Noise policies in the proposed Safety and Noise Element would help to mitigate noise impacts, but would not eliminate them completely.

As discussed in Chapter 4.13, traffic noise levels in Walnut Creek would not be measurably different regardless of the general plan alternative that is selected. Therefore the No Project Alternative is considered the same as General Plan 2025 with regard to noise.

[1] These policies are listed in Table 5-3 of the 1989 General Plan.

GROWTH MANAGEMENT I ALTERNATIVE

This section analyzes the Growth Management I Alternative against General Plan 2025.

PRINCIPAL CHARACTERISTICS

Like General Plan 2025, the Growth Management I Alternative would allow for the construction of 5,342 new residential units. Commercial development would not exceed 2.5 million square feet by 2025. There would be a cap of 125,000 square feet per year on commercial development. Like General Plan 2025, the new housing units under Growth Management I Alternative would result in an increase in population of about 10,814 persons in the city by 2025. The policies and actions contained in General Plan 2025 would apply under this alternative as well.

IMPACT ANALYSIS

The Growth Management I Alternative would have the following impacts relative to adoption of General Plan 2025.

Land Use
The key land use difference between the Growth Management I Alternative and General Plan 2025 is that the Growth Management I Alternative would allow for less commercial development. The land use designations under both scenarios would be the same.

Like General Plan 2025, implementation of the Growth Management I Alternative would not physically divide established communities or result in any land use conflicts that would not be mitigated by land use policies in the proposed General Plan, since these policies would also apply under the Growth Management I Alternative. These factors would make this

alternative equivalent to General Plan 2025 from a land use perspective. However, since this alternative would allow for less commercial growth, it could have the effect of forcing commercial development to areas outside of the city. This would be considered a disadvantage of this alternative from a land use perspective. For these reasons, the Growth Management I Alternative is considered an insubstantial deterioration compared to General Plan 2025.

Population, Employment and Housing
Since the Growth Management I Alternative would allow for the same number of new residential units as General Plan 2025, the population and housing impacts associated with this alternative would be the same as those of General Plan 2025. Growth Management I Alternative proposes less commercial development, however, and would thus generate fewer jobs. The 2.5 million square feet of commercial growth allowed under this alternative would generate about 8,770 jobs by 2025.[2] The 125,000 square feet per year cap on commercial growth under this alternative would equate to about 440 jobs per year. Since the city is currently considered "jobs-rich" (see Chapter 4.2 for discussion), an alternative that results in fewer jobs than the proposed General Plan could be considered a substantial improvement over the proposed plan because it would help to create a better balance between housing and jobs in the city.

Community Services
Population growth associated with the Growth Management I Alternative would increase the demand for fire and police services, libraries, schools, and parks and recreational services. This demand would be less than the demand generated by General Plan 2025 since the population increase resulting from this alternative would be less than that resulting from General Plan 2025. However, since General Plan 2025 policies that would mitigate potential impacts associated with demand increases would apply under both the Growth Management I Alternative and General Plan 2025, this alternative is considered to be only an insubstantial improvement compared to the proposed General Plan.

Transportation
The traffic analysis presented in Chapter 4.4 of this EIR indicates that the Growth Management I Alternative would result in fewer daily auto and transit trips than General Plan 2025. Although roadway traffic volumes would be less under this alternative, with six exceptions, the LOS of the roadways included in the analysis would be the same under the Growth Management I Alternative and General Plan 2025.

Among the General Plan alternatives, there is little difference in the LOS, except for I-680 north of Ygnacio Valley Road in the southbound direction during the AM peak hour. At this location, under General Plan 2025 the LOS is D and under the Growth Management I Alternative the LOS would be C.

The delay index on the Routes of Regional Significance would be less under this alternative than under General Plan 2025. For these reasons, the Growth Management I Alternative would be considered a substantial improvement compared to General Plan 2025.

Infrastructure

Water
Since the residential population projected for Growth Management I Alternative would be the same as for General Plan 2025, the residential water demand would be same under both scenarios. However, given that new commercial development under the Growth Management I Alternative would be less under General Plan 2025, the commercial water demand would theoretically be lower under that alternative. The water conservation policies in General Plan 2025 would apply under both scenarios. For these reasons, the Growth Management I Alternative would be considered an

[2] Based on 1 employee to 285 square feet as per ABAG estimates as discussed in Chapter 4.2.

insubstantial improvement over General Plan 2025.

Wastewater
Since the residential population projected for Growth Management I Alternative would be the same as for General Plan 2025, the demands on the City's wastewater system would be the same under both scenarios. However, given that new commercial development under the Growth Management I Alternative would be less under General Plan 2025, the Growth Management I Alternative would, in theory, generate less wastewater than General Plan 2025 and would therefore have less impact on the sanitary sewer system. The Growth Management I Alternative would thus be an insubstantial improvement over General Plan 2025.

Solid Waste
The Growth Management I Alternative would be considered an insubstantial improvement compared to General Plan 2025 because of its potential to generate less commercial waste than General Plan 2025.

Visual Quality
The policy guidance regarding urban design and visual resources contained in General Plan 2025 would also be implemented under the Growth Management I Alternative. For this reason, the Growth Management I Alternative is considered equivalent to General Plan 2025 with regard to visual quality.

Cultural Resources
The policy guidance regarding cultural resources contained in General Plan 2025 would also be implemented under the Growth Management I Alternative. For this reason, the Growth Management I Alternative is considered equivalent to General Plan 2025 with regard to cultural resources.

Geology and Seismic Hazards
The policy guidance regarding geologic and seismic hazards contained in General Plan 2025 would also be implemented under the Growth Management I Alternative. Additionally, development under the Growth Management I Alternative, like development under General Plan 2025, would be required to adhere to the Uniform Building Code. For these reasons, the Growth Management I Alternative is considered equivalent to General Plan 2025 with regard to geologic and seismic hazards.

Hazardous Materials
Since the Growth Management I Alternative would theoretically allow for a smaller employee population than General Plan 2025, it would have the potential to expose fewer people to risks associated with hazardous materials use, storage and transport. However, the implementation of existing federal, State and local regulations pertaining to safe use, storage, disposal and transportation of hazardous materials would ensure that impacts resulting from hazardous materials handling would be less than significant. Furthermore, since General Plan 2025 policies that would mitigate potential hazardous materials impacts would also apply under the Growth Management I Alternative, this alternative is considered neither better nor worse than General Plan 2025.

Hydrology and Water Quality
Since the changes in land use designations proposed by the Growth Management I Alternative would be the same as under General Plan 2025, this alternative would not present any substantially greater or less danger from hydrologic or flooding hazards than General Plan 2025. General Plan 2025 policy guidance protecting against flooding and hydrologic impacts, and compliance with the City's Flood Damage Prevention Ordinance, would apply under the Growth Management I Alternative as well. Thus, the Growth Management I Alternative would be considered equivalent to the proposed General Plan with regard to hydrology or flooding.

Biological Resources
The Growth Management I Alternative would not result in development that would affect biological resources any more or less than development proposed under General Plan 2025, since the land use designation changes would be the same under both scenarios. Additionally, the policy guidance regarding biological resources contained in General Plan 2025 would also be implemented under the Growth Management I Alternative. For this reason, the Growth Management I Alternative is considered equivalent to General Plan 2025 with regard to biological resources.

Air Quality

As discussed in Chapter 4.12, the increased rate of VMT would occur under all General Plan buildout alternatives. While there are policies that would reduce the impact, it would still remain *significant and unavoidable*. For this reason, the Growth Management I Alternative is neither better nor worse than the proposed plan with respect to air quality impacts.

Noise
As discussed in Chapter 4.13, traffic noise levels in Walnut Creek would not be measurably different regardless of the general plan alternative that is selected. Therefore the Growth Management I Alternative is considered the same as General Plan 2025 with regard to noise.

GROWTH MANAGEMENT II ALTERNATIVE

This section analyzes the Growth Management II Alternative against General Plan 2025.

PRINCIPAL CHARACTERISTICS

Growth Management II Alternative would allow for the construction of 1.5 million square feet of commercial space in the City Limits by 2025. There would be a cap of 75,000 square feet per year on commercial development. Like the Growth Management I Alternative and General Plan 2025, the Growth Management II Alternative would allow for up to 5,342 new residential units, resulting in a population increase of about 10,800 by 2025. The policies and actions contained in General Plan 2025 would apply under this alternative as well.

IMPACT ANALYSIS

The Growth Management II Alternative would have the following impacts relative to adoption of General Plan 2025.

Land Use
The key land use difference between the Growth Management II Alternative and General Plan 2025 is that the Growth Management II Alternative would allow for less commercial development. The land use designations under both scenarios would be the same. Like General Plan 2025, implementation of the Growth Management II Alternative would not physically divide established communities or result in any land use conflicts that would not be mitigated by land use policies in the proposed General Plan, since these policies would also apply under the Growth Management II Alternative.

Implementation of the Growth Management II Alternative would not result in development that allows for the most efficient use of the change areas. Intensifying development in certain change areas, as proposed in General Plan 2025, would have several benefits, such as maximizing the use of existing infrastructure and creating more cohesive development, that may not be realized under the Growth Management II Alternative. Additionally, commercial development under this alternative could

be forced to locate outside the city. These factors would make this alternative less desirable than General Plan 2025 from a land use perspective. For these reasons, the Growth Management I Alternative is considered a substantial deterioration compared to General Plan 2025.

Population, Employment and Housing
Since the Growth Management II Alternative would allow for the same number of new residential units as General Plan 2025, the population and housing impacts associated with this alternative would be the same as those of General Plan 2025. Growth Management II Alternative proposes less commercial development, however, and would thus generate fewer jobs. The 1.5 million square feet of commercial growth allowed under this alternative would generate about 5,260 jobs by 2025.[3] The 75,000 square feet per year cap on commercial growth under this alternative would equate to about 260 jobs per year. Since the city is currently considered "jobs-rich" (see Chapter 4.2 for discussion), an alternative that results in fewer jobs than the proposed General Plan could be considered a substantial improvement over the proposed plan because it would help to create a better balance between housing and jobs in the city.

Community Services
Population growth associated with the Growth Management II Alternative would increase the demand for fire and police services, libraries, schools, and parks and recreational services. This demand resulting from residential development would be the same as the demand generated by General Plan 2025 since the population increase resulting from this alternative would be the same as under General Plan 2025. However, since the Growth Management II Alternative would result in less commercial development than General Plan 2025, the demand for services related to commercial development would be less. Thus this alternative is considered to be an insubstantial improvement compared to the proposed General Plan.

Transportation
The traffic analysis presented in Chapter 4.4 of this EIR indicates that the Growth Management II Alternative would result in fewer daily auto and transit trips than General Plan 2025. Although roadway traffic volumes would be less under this alternative, with five exceptions, the LOS of the roadways included in the analysis would be the same under the Growth Management II Alternative and General Plan 2025.

Among the General Plan alternatives, there is little difference in the LOS, except for I-680 north of Ygnacio Valley Road in the southbound direction during the AM peak hour. At this location, under General Plan 2025 the LOS is D and under the Growth Management II Alternative the LOS would be C.

The delay index on the Routes of Regional Significance would generally be less under this alternative than under General Plan 2025. However, the delay index for North Main Street (southbound) would be greater under the Growth Management II Alternative. For these reasons, the Growth Management II Alternative would be considered a substantial improvement compared to General Plan 2025.

Infrastructure

Water
Since the residential population projected for Growth Management II Alternative would be the same as for General Plan 2025, the residential water demand would be same under both scenarios. However, given that new commercial development under the Growth Management I Alternative would be less under General Plan 2025, the commercial water demand would theoretically be lower under that alternative. The water conservation policies in General Plan 2025 would apply under both scenarios. For these reasons, the Growth Management II Alternative would be considered

[3] Based on 1 employee to 285 square feet as per ABAG estimates as discussed in Chapter 4.2.

an insubstantial improvement over General Plan 2025.

Wastewater
Since the residential population projected for Growth Management II Alternative would be the same as for General Plan 2025, the demands on the City's wastewater system would be the same under both scenarios. However, given that new commercial development under the Growth Management II Alternative would be less under General Plan 2025, the Growth Management II Alternative would, in theory, generate less wastewater than General Plan 2025 and would therefore have less impact on the sanitary sewer system. The Growth Management II Alternative would thus be an insubstantial improvement over General Plan 2025.

Solid Waste
Like the above alternatives, the Growth Management II Alternative would be considered an insubstantial improvement compared to General Plan 2025 because of its potential to generate less commercial solid waste.

Visual Quality
The policy guidance regarding urban design and visual resources contained in General Plan 2025 would also be implemented under the Growth Management II Alternative. For this reason, the Growth Management II Alternative is considered equivalent to General Plan 2025 with regard to visual quality.

Cultural Resources
The policy guidance regarding cultural resources contained in General Plan 2025 would also be implemented under the Growth Management II Alternative. For this reason, the Growth Management II Alternative is considered equivalent to General Plan 2025 with regard to cultural resources.

Geology and Seismic Hazards
The policy guidance regarding geologic and seismic hazards contained in General Plan 2025 would also be implemented under the Growth Management II Alternative. Additionally, development under the Growth Management II Alternative, like development under General Plan 2025, would be required to adhere to the Uniform Building Code. For these reasons, the Growth Management II Alternative is considered equivalent to General Plan 2025 with regard to geologic and seismic hazards.

Hazardous Materials
Since the Growth Management II Alternative would theoretically allow for a smaller population of employees than General Plan 2025, it would have the potential to expose fewer people to risks associated with hazardous materials use, storage and transport. However, the implementation of existing federal, State and local regulations pertaining to safe use, storage, disposal and transportation of hazardous materials would ensure that impacts resulting from hazardous materials handling would be less than significant. Furthermore, since the General Plan 2025 policies that would mitigate potential hazardous materials impacts would apply under the Growth Management II Alternative well, this alternative is considered neither better nor worse than General Plan 2025.

Hydrology and Water Quality
Since the changes in land use designations proposed by the Growth Management II Alternative would be the same as under General Plan 2025, this alternative would not present any substantially greater or less danger from hydrologic or flooding hazards than General Plan 2025. General Plan 2025 policy guidance protecting against flooding and hydrologic impacts, and compliance with the City's Flood Damage Prevention Ordinance, would apply under the Growth Management II Alternative as well. Thus, the Growth Management II Alternative would be considered equivalent to the proposed General Plan with regard to hydrology or flooding.

Biological Resources
The Growth Management II Alternative would not result in development that would affect biological resources any more or less than development proposed under General Plan 2025, since the land use designation changes would be the same under both scenarios. Additionally, the policy guidance regarding biological resources contained in General Plan 2025 would also be implemented under the Growth Management II Alternative. For this reason, the Growth Management II Alternative is considered equivalent to General Plan 2025 with regard to biological resources.

Air Quality

As discussed in Chapter 4.12, the increased rate of VMT would occur under all General Plan buildout alternatives. While there are policies that would reduce the impact, it would still remain *significant and unavoidable*. For this reason, the Growth Management II Alternative is neither better nor worse than the proposed plan with respect to air quality impacts.

Noise
As discussed in Chapter 4.13, traffic noise levels in Walnut Creek would not be measurably different regardless of the general plan alternative that is selected. Therefore the Growth Management II Alternative is considered the same as General Plan 2025 with regard to noise.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires the identification of the environmentally superior alternative in an EIR. Based on the above analysis, which is summarized in Table 57, the Growth Management I Alternative is the Environmentally Superior Alternative.

CHAPTER 6

CEQA Conclusions

As required by CEQA, this chapter provides an overview of the impacts of the proposed General Plan 2025 based on the technical analyses presented in this EIR. The topics covered in this chapter include growth inducement; cumulative impacts; unavoidable significant effects; and expected significant irreversible changes. A more detailed analysis of the effects General Plan 2025 would have on the environment is provided in Chapter 4: Environmental Evaluation.

GROWTH INDUCEMENT

A project is typically considered to be growth-inducing if it fosters economic or population growth. Typical growth inducements might be the extension of urban services or transportation infrastructure to a previously unserved or under-served area or the removal of major barriers to development. Not all growth inducement is necessarily negative. Negative impacts associated with growth inducement occur only where the projected growth would cause adverse environmental impacts.

Growth-inducing impacts fall into two general categories: direct and indirect. Direct growth-inducing impacts are generally associated with the provision of urban services to an undeveloped area. The provision of these services to a site, and the subsequent development, can serve to induce other landowners in the vicinity to convert their property to urban uses. Indirect, or secondary growth-inducing impacts consist of growth induced in the region by the additional demands for housing, goods, and services associated with the population increase caused by, or attracted to, a new project.

DIRECT IMPACTS

General Plan 2025 would directly induce population, employment and economic growth by allowing for development in the change areas that is more intense than allowed in current designations. General Plan 2025 would result in the following growth patterns based on the expected growth assumptions for the city and its SOI:

- Under buildout conditions in 2025, the General Plan 2025 would add 10,814 new residents to the existing 2005 population within the City Limits.[1] This would result in a city population of 77,314 in 2025, which would be about 2,200 more people than projected for 2025 by ABAG *Projections 2005* (pop. 75,100).
- Under buildout conditions in 2025, General Plan 2025 would add 5,342 new residential units to Walnut Creek to the 30,930 households estimated by ABAG to exist in 2005.
- Under buildout conditions in 2025, General Plan 2025 would add 33,095 new jobs to the 55,280 jobs estimated by ABAG to exist in 2005.
- Under buildout conditions in 2025, General Plan 2025 would add 8.8 million square feet of commercial development to the approximately 15.7 million square feet existing in 2005.

[1] Using as a base year population the Department of Finance estimate for January 2005 of 66,500.

State law requires the City to promote the production of housing to meet its fair share of the regional housing needs distribution made by ABAG. The housing and employment growth in Walnut Creek would generally have beneficial effects by allowing the City to address its regional fair-share housing obligations.

General Plan 2025 includes policies to control how growth occurs within the city in order to ensure that it is orderly (see Built Environment Goal 9). General Plan 2025 limits new commercial development, outside of the Shadelands Business Park, to 125,000 square feet per year—a maximum of 1.25 million square feet of new commercial development over a 10-year period (Chapter 4 Built Environment Action 9.1.1.).

In addition, the type of growth envisioned by General Plan 2025 would be concentrated in specific, designated areas and new development would be pedestrian-friendly, use land efficiently and promote transportation alternatives. Housing along transit corridors and near BART stations would be encouraged, as would mixed use development. The growth envisioned under General Plan 2025 would result in regional benefits by promoting growth that encourages less automobile dependence and supports regional transit systems, which could have associated air quality and noise effects. Encouraging infill growth in the Core Area and other designated areas and maintaining the City's open space designations would help to preserve open space at the urban fringe and reduce development pressures on lands outside the City limits.

For these reasons, the growth-inducing effects of implementation of General Plan 2025 would be beneficial to the City and surrounding areas.

INDIRECT IMPACTS

General Plan 2025 encourages new growth mainly in the Core Area and in other areas of the city that are served by transit and urban services. Development in these areas would consist of infill development on the remaining vacant sites or redevelopment of already built-out or underutilized sites. Since the infrastructure is largely in place, and since commercial growth would be required to comply with the City's performance standards for public services and utilities, secondary growth-inducing effects do not represent a significant environmental impact.

CUMULATIVE IMPACTS

CEQA Guidelines require consideration of the potential cumulative impacts that could result from a proposed project in conjunction with other projects in the vicinity. Such impacts can occur when two or more individual effects create a considerable environmental impact or compound other environmental consequences. In the case of a city-wide planning document such as a General Plan, cumulative effects are effects that combine impacts from the project's development in the city with effects of development in other portions of the region. By definition, no development within the city would be considered part of the cumulative impacts; instead, development inside the city part of the project itself.

The cumulative impacts of a General Plan take into account growth projected by the Plan, in combination with impacts from projected growth in other cities in the region. This analysis examines cumulative effects of the policies of General Plan 2020, in combination with ABAG projected growth for the other cities in Contra Costa County.

ABAG is responsible for estimating regional growth for nine-county Bay Area, which includes Contra Costa County. The last regional population and employment forecast for the region was completed for ABAG's *Projections 2005*. The 2025 population for Contra Costa County as projected by ABAG is 1,200,500. The

projection for Walnut Creek's Sphere of Influence for 2025 is 92,000.

For the purposes of this cumulative analysis, a county-level cumulative analysis is used for the impact analyses. The potential cumulative effects of General Plan 2025 are summarized below.

LAND USE

The overall changes in land use that would occur with implementation of General Plan 2025 would be minimal since the only land use designation changes that would change, relative to the existing General Plan, would occur in some of the change areas. As the primary planning document for Walnut Creek, General Plan 2025 would have a less-than-significant impact in relation to potential conflicts with other applicable plans, policies and regulations. Since the General Plan would not have a significant impact on such plans and policies, it would not result in a significant cumulative effect. To the extent that other Contra Costa County communities encourage infill development and development along transit corridors, the aggregate environmental effects would be beneficial. No mitigation would be required.

POPULATION, EMPLOYMENT AND HOUSING

Development in Walnut Creek under General Plan 2025 would result in regional increases in population, jobs and housing. According to ABAG, Contra Costa County is expected to grow to 507,790 people by 2025 (ABAG *Projections 2005*). This would be an increase in county population of 136,480 over the 2000 population. Future development according to the land uses identified in General Plan 2025 will result in population growth of approximately 10,814 people in the City by 2025. This would amount to only about eight percent of the total growth expected for the county as a whole. Although growth in Walnut Creek would contribute to cumulative regional growth, its contribution would not be cumulatively considerable.

Implementation of the proposed metering of new commercial development in the General Plan would serve to moderate the growth inducing impacts of new employment-generating commercial uses, relative to projected increases in population under the General Plan. This would help to improve the regional jobs/housing balance.

Growth will occur in other Contra Costa County communities over the next 20 years. The County and other jurisdictions are required to use the General Plan process and other planning processes, such as utility master plans, to plan for and control future growth. As a result, there would not be a cumulative impact associated with unplanned growth.

COMMUNITY SERVICES

Future regional growth will result in increased demand for community services such as fire and police services, schools, libraries, and parks and recreational services. Service providers must continue to evaluate the levels of service desired and the funding sources available to meet increases in demand.

Although the ability of local service providers to provide specific levels of service varies throughout the region, each jurisdiction within the region must coordinate with service providers. General Plan 2025 policies for Walnut Creek direct the City to meet the public service and park needs of future residents in a measured manner to pace commercial development with the availability of services. Through implementation of policies identified in Chapter 4.3, such as the policies to develop a new library, acquire new parkland and require compliance of commercial projects with City performance standards for public services, Walnut Creek would do its part to reduce poten-

tial cumulative impacts to a less-than-significant level.

Parks
Future regional growth would result in increased demand for park and recreational facilities throughout the County. As a result, the County and other jurisdictions would need to expand and construct additional parks and other recreational facilities to meet the increased demand. State law allows jurisdictions to require additional development to fund park improvements, which would ensure the provision of adequate parklands. It is unknown exactly where these parks and recreational facilities would occur to support the cumulative increase in population. As specific parkland expansion or improvement projects are identified, additional project-specific, second-tier environmental analysis would be completed. As a result, a significant cumulative impact associated with parks and recreational facilities would not occur.

Police
Future regional growth would result in increased demand for police services throughout the County. This cumulative increase in demand for police services could require the construction of additional facilities in the region, which could result in additional environmental impacts. This increased demand for police services would not require the construction of police facilities in Walnut Creek since the Walnut Creek Police Department does not service the County or other cities in the region.

The future location of new facilities to serve other communities is unknown. As specific police facilities projects are identified, additional project-specific, second-tier environmental analysis would be completed. Therefore, there would not be a significant cumulative impact associated with police services.

Fire
Future regional growth would result in increased demand for fire services throughout the County. Growth within Walnut Creek combined with growth in other parts of the County could result in the need to construct additional facilities, resulting in additional environmental impacts. The future location of new facilities to serve other communities is unknown. As specific fire facilities projects are identified, additional project-specific, second-tier environmental analysis would be completed. Therefore, there would not be a significant cumulative impact associated with police services.

Schools
Future regional growth would result in increased demand for schools throughout the County. Growth within other Contra Costa communities could result in the need for the various school districts that serve the Walnut Creek planning area to construct additional facilities, resulting in additional environmental impacts. The future location of new facilities to serve other communities is unknown. As specific police facilities projects are identified, additional project-specific, second-tier environmental analysis would be completed. Therefore, there would not be a significant cumulative impact associated with schools.

Libraries
Future regional growth would result in increased demand for library facilities throughout the County. The new library proposed under General Plan 2025 would satisfy some of the regional demand for libraries. However, additional libraries could be needed in other communities as well. It is unknown exactly where these library facility expansions would occur to support the cumulative increase in population, though they would likely occur within urbanized areas where there is a concentration of population. As specific library expansion or improvement projects are identified, additional project-specific, second-tier environmental analysis would be completed. As a result, a significant cumulative impact associated with libraries would not occur.

TRAFFIC AND CIRCULATION

Refer to Chapter 4.4 for a discussion of cumulative traffic impacts.

INFRASTRUCTURE

Water
Development throughout the County is increasing overall countywide demand for water. The implementation of water conservation measures would result in a less substantial increase in water demand than would occur without such measures. The cumulative increase in water demand would be significant in terms of the finite water supply that is available in Northern California. Development under the Plan and cumulative projects elsewhere in the county would require large amounts of water to serve household, commercial and industrial uses. Because the water supply is limited, this increase in demand would be accommodated through the reallocation of water from other land uses that require water, such as agriculture or fisheries. The reallocation of water from such uses to development in the Bay Area would result in indirect environmental effects and would be considered significant.

Wastewater
Implementation of General Plan 2025 and cumulative projects would increase the demand for regional wastewater treatment. Wastewater services could be expanded incrementally to accommodate planned and approved development. Utility improvements funded by project applicants and routine expansions of wastewater treatment plants and infrastructure would ensure that the proposed plan would have a less-than-significant cumulative impact on wastewater treatment. Furthermore, the CCCSD prepares its own plans to address projected growth and projects that the effluent discharge limit should be sufficient to accommodate wastewater expected to be generated from currently planned growth within CCCSD's service area to the year 2035, even with a worst-case assumption of groundwater infiltration.

Solid Waste
Future development in the region will add substantial volumes of solid waste to the waste stream. The California Waste Management Act of 1989 (AB 939) requires all cities to reduce waste within their boundaries through source reduction and recycling. All jurisdictions within the region will be required to continue to reduce waste generation and divert materials from regional landfills. Compliance with existing local, county, and State regulations ensures a less-than-significant cumulative impact.

VISUAL QUALITY

Potential visual impacts resulting from implementation of proposed General Plan 2025 would be mitigated by policies contained in Chapter 2 Quality of Life and Chapter 4 Built Environment. Thus, they could not cumulate with other development in neighboring jurisdictions.

CULTURAL RESOURCES

Cultural resources in Contra Costa County would be cumulatively impacted by future development. However, with the protective General Plan 2025 policies and actions in place, and with compliance with federal and State regulations, impacts to cultural resources from the General Plan projects would be less-than-significant. Regional development throughout the county could also affect cultural resources located in other areas of the county. However, development in these areas would also be subject to local policies and federal and State laws protecting cultural resources. As a result, no significant cumulative impact would occur.

GEOLOGY AND SEISMIC HAZARDS

By their nature, geological and seismic impacts do not cumulate with other projects since they would be site-specific. The increase in population that would result from implementation of General Plan 2025 and cumulative projects would increase the number of people and structures that could be exposed to the region's known seismic hazards. However, conformance with the Uniform Building Code and other measures to protect people and structures from geologic hazards would reduce this impact to a less-than-significant level.

HAZARDOUS MATERIALS

The increase in local population and employment under General Plan 2025 would result in the increased use of hazardous household and commercial materials. Potential project-level impacts associated with hazards and hazardous materials would be reduced to a less-than-significant level due to local, regional, State and federal regulations, such as those that control the production, use and transportation of hazardous materials and waste. Similarly, as growth occurs in the county, additional people would be exposed to the risk of hazardous materials and wastes. However, as would occur within Walnut Creek, regional, State and federal regulations would apply to countywide development, thereby reducing the potential for cumulative impacts associated with hazardous materials to a less-than-significant level.

HYDROLOGY

As development proceeds within the Walnut Creek Planning Area and the county, impervious surfaces will increase - as will the amount of pollutants in runoff - thereby impacting surface and groundwater quality. Although all jurisdictions that discharge into the Bay must obtain a NPDES permit, which is overseen by the RWQCB, a cumulative decrease in water quality still occurs over time.

Water quality impacts to water resources in the Planning Area would be reduced by implementing Best Management Practices in accordance with the NDPES and other regulations, as well as implementation of the water quality policies contained in General Plan 2025. New development within the county would also result in an increase in runoff and may locate additional population and structures within areas subject to flooding. Regional development would also be required to comply with regional, State and federal regulations addressing stormwater runoff, water quality and flooding. These regulations would reduce the potential for a cumulative hydrology and water quality impact to a less-than-significant level.

BIOLOGICAL RESOURCES

As discussed in Section 4.11, potential impacts in biologically significant areas in Walnut Creek would be mitigated through General Plan 2025 policies and actions, and through compliance with federal and State regulations. Furthermore, no open space lands with significant biological resources would be developed as part of General Plan 2025. Development outside of Walnut Creek would also be subject to the same federal and State regulations addressing sensitive species. As a result, with compliance with applicable regulations, the overall cumulative impact to biological resources or loss of habitat would be mitigated to a less-than-significant level.

AIR QUALITY

General Plan 2025 and cumulative projects in Contra Costa County would result in significant cumulative air quality effects from construction activities and increased vehicle trips. Presently, the Bay Area as a whole does not meet State or federal ambient air quality standards for ground level O_3 and State standards for fine particulate matter. Even with the implementation of mitigation measures, and the development of low-emission technologies, it

is anticipated that regional air quality will worsen due to increased development in the Bay Area. This impact would be considered significant.

NOISE

General Plan 2025 would result in traffic noise increases on area roadways. Future cumulative projects would also result in increased traffic levels and associated noise increases. General Plan 2025 would thus cumulatively contribute to substantial noise level increases along regional roadways. This impact would be significant and could result in adverse human health effects. Although temporary construction noise would occur from cumulative projects, construction activities would be subject to standard noise-reduction measures and would not have cumulative adverse impacts.

UNAVOIDABLE SIGNIFICANT EFFECTS

Implementation of General Plan 2025 would result in one significant and unavoidable air quality impact and several significant and unavoidable traffic impacts:

- **Air Quality:** The project is not consistent with the BAAQMD Thresholds of Significance that population not exceed ABAG projections and VMT may increase faster than population due to traffic movements through Walnut Creek.
- **Traffic:** The project would have significant and unavoidable freeway operations, roadway level of service, delay index, and intersection level of service impacts. These impacts are listed in Table 1.

SIGNIFICANT IRREVERSIBLE CHANGES

Section 15126.2(c) of the CEQA Guidelines requires a discussion of the extent to which a proposed project would commit nonrenewable resources to uses that future generations would probably be unable to reverse. An example of such an irreversible commitment is the construction of highway improvements that would provide public access to previously inaccessible areas.

A project would generally result in a significant irreversible impact if:

- Primary and secondary impacts would commit future generations to similar uses.
- The project would involve a large commitment of nonrenewable resources.
- The project would involve uses in which irreversible damage could result from any potential environmental accidents associated with the project.

CHANGES IN LAND USE WHICH COMMIT FUTURE GENERATIONS

Development under General Plan 2025 would result in the conversion of vacant land to commercial and residential uses, and the intensification of underutilized areas. This development would constitute a long-term commitment to residential, commercial, parking and other urban uses. There are no changes in land use designations proposed in General Plan 2025 that would result in commitments of land that are not already designated for development in the 1989 General Plan.

COMMITMENT OF RESOURCES

Development allowed under General Plan 2025 would irretrievably commit nonrenewable resources to the construction and maintenance of buildings, infrastructure and roadways. These non-renewable resources include mining resources such as sand, gravel, steel, lead, copper and other metals. Buildout of the General Plan also represents a long-term commitment to the consumption of fossil fuels, natural gas, and gasoline. Increased energy demands would be used for construction, lighting, heating, and cooling of residences, and transportation of people within, to, and from the planning area. General Plan 2025 policies and actions promoting energy conservation (Built Environment Policies 27.1 and 27.2; Actions 27.1.1, 27.1.2, 27.2.1 through 27.2.4) would result in some savings in nonrenewable energy supplies. However, use of these types of energy for new development would result in the overall increased use of nonrenewable resources. This represents a significant irreversible environmental change.

Implementation of General Plan 2025 would also result in an irreversible commitment of limited, renewable resources, such as water and lumber. New development under the plan would require the commitment of additional water services to serve new development, which would result in a permanent increase of water consumption. New development would also require the commitment of building materials, some of which would be made of renewable resources. These changes would represent significant irreversible environmental changes. General Plan 2025 policies and actions promoting resource and water conservation (Built Environment Policies 29.1, 28.1 and 28.2, and Actions 29.1.1, 29.1.2, 28.1.1, 28.2.1 through 28.4) and green building (Built Environment Policy 26.1 and Action 26.1.1) would result in some savings of renewable resources. Individual construction projects under the General Plan would need to be assessed through a detailed project-level environmental review under CEQA. Such review could result in mitigation measures that help to reduce the commitment of resources. However, construction activities under the plan would result in the overall increased use of some renewable resources. This represents a significant irreversible environmental change.

IRREVERSIBLE DAMAGE FROM ENVIRONMENTAL ACCIDENTS

Irreversible changes to the physical environment could occur from accidental release of hazardous materials associated with development activities. However, compliance with State and federal hazardous materials regulations and General Plan policies, as outlined in Chapter 4.9, is expected to maintain this potential impact at a less-than-significant level. No other irreversible changes are expected to result from the adoption and implementation of General Plan 2025, since the Plan does not propose any changes to land use compared to the 1989 General Plan that would result in the potential for significant increases in hazardous waste generation.

CHAPTER 7

Report Preparation

This report was prepared by:

Design, Community & Environment (DC&E)

1600 Shattuck Avenue, Suite 222
Berkeley, CA 94709
Tel: (510) 848-3815

David Early, AICP, Principal-in-Charge
Steve Noack, AICP, Senior Associate and Project Manager
Sue Beazley, Associate
Ellen Clark, AICP, Associate
Diana Lee Sonne, Graphic Designer
Jennifer Phelps, Planner

Subconsultants on the team were:

Biology

Environmental Collaborative

Jim Martin

Cultural Resources

Garcia and Associates

Stephen Bryne

Air Quality & Noise

Illingworth & Rodkin

Rich Rodkin
James Reyff

Hazardous Materials

Lowney Associates

Peter Langtry, R.G., C.E.G.

Geology

Parikh Consultants, Inc.

Gary Parikh, P.E., G.E.
Jim Baker

Hydrology & Infrastructure

WRECO

John Mountin, P.E.

Transportation

Dowling Associates, Inc.

Alice Chen

CHAPTER 8

Glossary & Acronyms

GLOSSARY

Ambient Noise Level
The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.

Attainment Area
A geographic area in which levels of a criteria air pollutant meet the health-based primary standard (national ambient air quality standard, or NAAQS) for the pollutant. An area may have on acceptable level for one criteria air pollutant, but may have unacceptable levels for others. Thus, an area could be both attainment and nonattainment at the same time. Attainment areas are defined using federal pollutant limits set by EPA.

A-Weighted Sound Level, dBA
The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted, unless reported otherwise.

Baseline Emissions
The emissions that would occur without policy intervention (in a business-as-usual scenario). Baseline estimates are needed to determine the effectiveness of emissions reduction programs (often called mitigation strategies).

Bicycle Lane (Class II facility)
A corridor expressly reserved for bicycles, existing on a street or roadway in addition to any lanes for use by motorized vehicles.

Bicycle Path (Class I facility)
A paved route not on a street or roadway and expressly reserved for bicycles traversing an otherwise unpaved area. Bicycle paths may parallel roads but typically are separated from them by landscaping.

Bicycle Route (Class III facility)
A facility shared with motorists and identified only by signs, a bicycle route has no pavement markings or lane stripes.

California Environmental Quality Act (CEQA)
A State law requiring State and local agencies to regulate activities with consideration for environmental protection. If a proposed activity has the potential for a significant adverse environmental impact, an Environmental Impact Report (EIR) must be prepared and certified as to its adequacy before taking action on the pro-posed project. General Plans require the preparation of a "program EIR."

Carbon Dioxide (CO2)
Colorless, odorless, non-poisonous gas that is a normal part of the ambient air. Carbon dioxide is a product of fossil fuel combustion. Although carbon dioxide does not directly impair human health, it is a greenhouse gas that traps terrestrial (i.e., infrared) radiation and contributes to the potential for global warming.

Carbon Monoxide
A colorless, odorless, highly poisonous gas produced by automobiles and other machines with internal combustion engines that imperfectly burn fossil fuels such as oil and gas.

Clean Air Act (CAA)
The principle national legislation passed by Congress for air quality management. Originally passed in 1963, it was greatly changed and strengthened in 1970 and 1977. In 1990, the Clean Air Act Amendments (CAAA) introduced significant changes in the federal approach to air quality management.

Criteria Air Pollutants
A group of very common air pollutants regulated by EPA on the basis of criteria (information on health and/or environmental effects of pollution). Criteria air pollutants are widely distributed all over the country.

Day/Night Noise Level, Ldn
The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am.

dBA
The "A weighted" scale for measuring sound in decibels; weighs or reduces the effects of low and high frequencies in order to simulate human hearing. Every increase of 10 dBA doubles the perceived loudness though the noise is actually ten times more intense.

Decibel, dB
A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pres-sure, which is 20 micropascals (20 micronewtons per square meter).

Drainage
(1) Surface water runoff; and (2) the removal of surface water or groundwater from land by drains, grading, or other means that include runoff controls to minimize erosion and sedimentation during and after construction or development, the means for preserving the water supply, and the prevention or alleviation of flooding.

Earthquake Fault Zone
The State of California, Alquist-Priolo Earthquake Fault Zoning Act identifies sites within 1,000 foot wide zone with the fault at the center as Earth-quake Fault Zones. The Alquist-Priolo Act requires that these sites undergo specialized geo-logic investigations prior to approval of certain new development. State law re-quires that these zones be incorporated into local general plans.

Emission
Discharges into the atmosphere from such sources as smokestacks, residential chimneys, motor vehicles, locomotives, and aircraft.

Endangered Species
A species of animal or plant is considered to be endangered when its prospects for survival and reproduction are in immediate jeopardy from one or more causes.

Environmental Impact Report (EIR)
A report required of general plans by the California Environmental Quality Act and which assesses all the environmental characteristics of an area and determines what effects or impacts will result if the area is altered or disturbed by a proposed action. (See "California Environmental Quality Act.")

Equivalent Noise Level, Leq
The average A-weighted noise level during the measurement period.

Erosion
(1) The loosening and transportation of rock and soil debris by wind, rain, or running water. (2) The gradual wearing away of the upper layers of earth.

Expansive Soils
Soils that swell when they absorb water and shrink as they dry.

Fault
A fracture in the earth's crust forming a boundary between rock masses that have shifted.

Flood Insurance Rate Map (FIRM)
For each community, the official map on which the Federal Insurance Administration has delineated areas of special flood hazard and the risk premium zones applicable to that community.

Flood, 100-Year
The magnitude of a flood expected to occur on the average every 100 years, based on historical data. The 100-year flood has a 1/100, or one percent, chance of occurring in any given year.

Frequency, Hz
The number of complete pressure fluctuations per second above and below atmospheric pressure.

General Plan
A city's basic planning document, which provides the blueprint for development throughout the community and is the vehicle through which competing interests and needs of the citizenry are balanced and meshed.

Groundwater
Water under the earth's surface, often confined to aquifers capable of supplying wells and springs.

Habitat
The particular living place which provides an environment suitable for survival of an organism, a species or a community.

Hazardous Waste
Any refuse or discarded material or combinations of refuse or discarded materials in solid, semisolid, liquid, or gaseous form which cannot be handled by routine waste management techniques because they pose a substantial present or potential hazard to human health or other living organisms because of their chemical, biological, or physical properties.

Lmax, Lmin
The maximum and minimum A-weighted noise level during the measurement period.

L01, L10, L50, L90
The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.

Level of Service (LOS) Standard, Traffic
A scale that measures the amount of traffic that a roadway or intersection can accommodate, based on such factors as maneuverability, driver dissatisfaction, and delay.

LOS A
Indicates a relatively free flow of traffic, with little or no limitation on vehicle movement or speed.

LOS B
A steady flow of traffic, with only slight delays in vehicle movement and speed

LOS C
A reasonably steady, high-volume flow of traffic, with some limitations on vehicle movement and speed, and occasional backups on critical approaches.

LOS D
Designates where the level of traffic nears an unstable flow. Intersections still function but short queues develop and cars may have to wait through one cycle during short peaks.

LOS E
Traffic characterized by slow movement and frequent (although momentary) stoppages. This type of congestion is considered severe, but is not uncommon at peak hours, with frequent stopping, longstanding queues, and blocked intersections.

LOS F
Represents unsatisfactory stop-and-go traffic characterized by "traffic jams" and stoppages of long duration. Vehicles at signalized intersections usually have to wait through one or more signal changes, and "upstream" intersections may be blocked by the long queues.

Liquefaction
The transformation of loose water saturated granular materials (such as sand or silt) from a solid into a liquid state. A type of ground failure that can occur during an earthquake.

Maximum Credible Earthquake
The maximum credible earthquake is defined as the earthquake which produces the greatest levels of ground motion at the site as a result of the largest magnitude earthquake that could reasonably occur along the recognized faults or within a particular seismic source.

Mercalli Intensity Scale
A subjective measure of the observed effects (human reactions, structural damage, geologic effects) of an earthquake. Expressed in Roman numerals from I to XII.

Mitigation
Measures taken to eliminate or minimize damages from development activities by replacement of the resource or other means of compensation.

Moment Magnitude (Mw)
Moment magnitude is based on the seismic moment at the source, or hypo-center, of the earthquake. The moment magnitude scale is a way of rating the seismic moment of an earthquake with a simple, logarithmic numerical scale similar to the original Richter magnitude scale. Because it does not "saturate" the way local magnitude does, it is used for large earthquakes -- those that would have a local magnitude of about 6 or larger.

National Pollutant Discharge Elimination System (NPDES)
The national program for controlling discharges of pollutants from point sources (e.g., municipal sewage treatment plants, industrial facilities) into the waters of the United States.

Nitrogen Oxide(s)
A reddish brown gas that is a byproduct of combustion and ozone formation processes. Often referred to as NOX, this gas gives smog its “dirty air” appearance.

Noise
Any sound that is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying. Noise, simply, is “unwanted sound.”

Noise Attenuation
Reduction of the level of a noise source using a substance, material, or surface, such as earth berms and/or solid concrete walls.

Noise Contour
A line connecting points of equal noise level as measured on the same scale. Noise levels greater than the 60 Ldn contour (measured in dBA) require noise attenuation in residential development.

Open Space
Land and water areas retained for use as active or passive recreation areas or for resource protection in an essentially undeveloped state.

Particulate Matter (PM)
Solid particles or liquid droplets suspended or carried in the air (e.g., soot, dust, fumes, mist).

Particulates Particulate Matter (PM10)
A criteria air pollutant. Particulate matter includes dust, soot and other tiny bits of solid materials that are released into and move around in the air. Particulates are produced by many sources, including burning of diesel fuels by trucks and buses, incineration of garbage, mixing and application of fertilizers and pesticides, road construction, industrial processes such as steel making, mining operations, agricultural burning (field and slash burning), and operation of fireplaces and woodstoves. Particulate pollution can cause eye, nose and throat irritation and other health problems.

Richter Scale
A measure of the size or energy release of an earthquake at its source. The scale is logarithmic; the wave amplitude of each number on the scale is 10 times greater than that of the previous whole number.

Riparian Lands
Riparian lands are comprised of the vegetative and wildlife areas adjacent to perennial and intermittent streams. Riparian areas are delineated by the existence of plant species normally found near freshwater.

Runoff
That portion of rain or snow that does not percolate into the ground and is discharged into streams instead.

Seiche
An earthquake generated wave in an enclosed body of water such as a lake, reservoir, or bay.

Seismic
Caused by or subject to earthquakes or earth vibrations.

Seismic Hazard Zone
The State of California, Seismic Hazards Mapping Act identifies areas within the state where landslides and liquefaction are most likely to occur. The Act requires special investigation of these sites before some types of buildings may be constructed. Property owners must disclose that property lies within such a zone at the time of sale.

Slope
Land gradient described as the vertical rise divided by the horizontal run, and expressed in percent.

Solid Waste
Any unwanted or discarded material that is not a liquid or gas. Includes organic wastes, paper products, metals, glass, plastics, cloth, brick, rock, soil, leather, rubber, yard wastes, and wood, but does not include sewage and hazardous materials. Organic wastes and paper products comprise about 75 per-cent of typical urban solid waste.

Transportation Demand Management (TDM)
The implementation of programs, plans or policies designed to encourage changes in individual travel behavior. TDM can include alternatives to the single occupant vehicle such as carpools, vanpools, bicycles, transit, reduction or elimination of the number of vehicle trips, or shifts in the time of vehicle commutes to other than the peak period.

Trip Generation
The dynamics that account for people making trips in automobiles or by means of public transportation. Trip generation is the basis for estimating the level of use for a transportation system and the impact of additional development or transportation facilities on an existing, local transportation system.

Tsunami
A large ocean wave generated by an earthquake in or near the ocean.

Wastewater
The spent or used water from individual homes, a community, a farm, or an industry that often contains dissolved or suspended matter.

Wetlands
Habitats where the influence of surface or groundwater has resulted in development of plant or animal communities adapted to aquatic or intermittently wet conditions. Wetlands include tidal flats, shallow subtidal areas, swamps, marshes, wet meadows, bogs, and similar areas.

Zoning
The division of a city or county by legislative regulations into areas, or zones, which specify allowable uses for real property and size restrictions for buildings within these areas; a program that implements policies of the General Plan.

ACRONYMS

AB	Assembly Bill
ACM	Asbestos Containing Materials
ADWF	Average Dry Weather Flow
af/y	acre-feet per year
AUHSD	Acalanes Unified High School District
BART	Bay Area Rapid Transit
BMPs	Best Management Practices
CCCFPD	Contra Costa County Fire Protection District
CCCFPD	Contra Costa County Fire Protection District
CCCHMAP	Contra Costa County Hazardous Materials Area Plan
CCCHWMP	Contra Costa County Hazardous Waste Management Plan
CCCSD	Central Contra Costa Sanitary District
CCCSWA	Central Costa County Waste Authority
CCEH	Contra Costa Environmental Health
CCHS-Hazmat	Contra Costa Health Services Hazardous Materials Programs
CCWD	Contra Costa Water District
CDF	California Department of Forestry and Fire Protection
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CSC	California Special Concern
CUPA	State Certified Unified Program Agency
CWA	Clean Water Act
DARE	Drug Abuse Resistance Education
EBMUD	East Bay Municipal Utility District
EBRPD	East Bay Regional Parks District
EDR	Environmental Data Resources, Inc.
EMS	Emergency Medical Services
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
HSC	Health and Safety Code
JCC	Jewish Community Center
kV	kilovolt
LEA	Local Enforcement Agency
LQG	Large Quanity Generator
LSD	Lafayette School District
LUST	Leaking Underground Storage Tank
MBTA	Migratory Bird Treaty Act
MDUSD	Mt. Diablo Unified School District
mgd	million gallons per day
NEPA	National Environmental Policy Act
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NPDES	National Pollutant Discharge Elimination System
NPDES	National Pollutant Discharge Elimination System
OES	Office of Emergency Services

PALS	Parkmead Active Learning School
PHBD	Pleasant Hill Bayshore Disposal
PK	Pre-Kindergarten
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SRVUSD	San Ramon Valley Unified School District
SWANCC	Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers
SWMP	Storm Water Management Plan
SWRCB	State Water Resources Control Board
TSD	Toxic waste treatment, storage, recycling, and disposal facilities
US EPA	United States Environmental Protection Agency
USDA	US Department of Agriculture
USFWS	US Fish and Wildlife Service
USFS	US Forest Service
VWM	Valley Waste Management
WCSD	Walnut Creek School District
WMP	Waste Management Plan
WPCD	Water Pollution Control District
WWTP	Wastewater Treatment Plant

CHAPTER 9

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