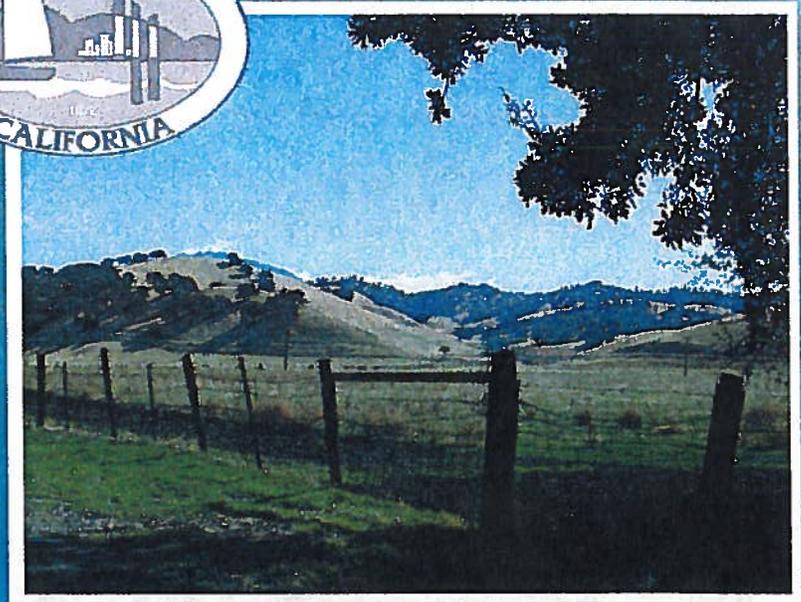
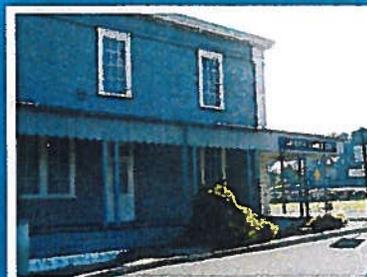
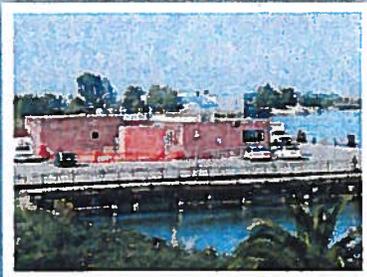


City of Antioch

General Plan



November 24, 2003
UPDATED

LSA

GENERAL PLAN

**CITY OF ANTIOCH
CONTRA COSTA COUNTY, CALIFORNIA**

LSA

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GENERAL PLAN

CITY OF ANTIOCH CONTRA COSTA COUNTY, CALIFORNIA

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1.0 Introduction

Antioch is a community preparing for change. Currently known as a bedroom community connected to distant employment centers in the Bay Area, Antioch is in the process of:

- expanding its employment base to provide a balance between local jobs and housing;
- managing residential growth to provide an appropriate range of housing opportunities, including executive housing, traditional single family neighborhoods, middle to upper end attached housing products, and affordable housing;
- resolving ongoing traffic congestion problems; and
- re-establishing the Rivertown area and waterfront as a distinctive part of the City's identity.

The Antioch General Plan represents a comprehensive effort to achieve these and other community goals, and to enhance the quality of life of existing and future residents. The General Plan defines what makes Antioch a special place, delineates a vision for its future, and sets forth action-oriented programs to achieve that future. In accomplishing these tasks, the General Plan defines "quality of life" issues, including:

- enhancing family-oriented activities by reducing commute times to work and providing a broad range of recreational lands and activities within the community;
- facilitating mobility via public transit, automobile, bicycle, and pedestrian modes of transportation; and
- working with local school districts to provide high quality educational facilities and services.

The General Plan serves as the City's lead policy document as to how Antioch will manage its future, and is the City's official policy statement identifying the manner in which Antioch expects to coordinate its

activities with those of other agencies, as they will affect the community in the future.

Antioch's growth pattern over the past 20 years has been the result of planning efforts derived from previously adopted policy documents (including the preceding 1988 General Plan), specific plans, past development approvals, and infrastructure financing mechanisms. Since 1988, considerable changes have occurred in Bay Area housing and employment patterns, as well as transportation systems. Furthermore, the passage of two voter-approved growth initiatives, Antioch's advisory Measure U¹ and the County's Measure C, has increased the need for careful management of growth.

Over the past 30 years, sustained employment growth without corresponding housing development in certain portions of the Bay Area has forced workers in those locations -- traditionally in San Francisco, San Mateo, and Santa Clara Counties, but more recently, Walnut Creek, Concord, Livermore, and Pleasanton -- to seek housing in eastern Contra Costa County. This combination of conditions produced rapid residential growth in Antioch. Between 1990 and 1999, the City added over 6,300 housing units and the population grew by nearly 20,000, an increase of more than 30 percent. The existing disparity in the location of employment growth and population growth in the Bay Area has led to the traffic congestion Antioch residents experience along State Route 4. To create a more equitable jobs/housing balance (and reduce commute times), Antioch has sought to expand and diversify its employment base and provide a greater variety of housing types than are currently offered.

¹ A discussion of these two voter-approved measures is contained in Section 5.1 of the General Plan.

1.1 WHAT IS A GENERAL PLAN?

1.1.1 Nature and Purpose of the General Plan

The Antioch General Plan encompasses a comprehensive strategy for managing the community's future. The Antioch General Plan is the community's statement of what is in its interest, and is the City's most important statement regarding its ultimate physical, economic, and cultural development over the next 25 years. The General Plan is a legally binding policy document to be used by City officials, the development community, citizens, and others to guide decisions regarding the future development and management of community resources, including land, the natural environment, and public services and facilities.

The General Plan functions as a guide to the type of community Antioch desires for its future, and provides the means by which that desired future will be obtained. The General Plan expresses, in the form of text, maps, and illustrations, the organization of physical, environmental protection, economic, and social activities sought by the community in order to create and maintain a healthful, functional, and desirable place in which to live.

1.1.2 State General Plan Requirements

State law (Government Code 65302 et. seq.) requires that every California city and county prepare and adopt a "comprehensive, long-term general plan for the physical development of the county or city, and of any land outside its boundaries which in the planning agency's judgment bears relation to its planning." According to State guidelines for the preparation of general plans, the role of the General Plan is to establish a document that will "...act as a 'constitution' for development, the foundation upon which all land use decisions are to be based. It expresses community development goals and embodies public policy relative to the distribution of future land use, both public and private."

As further mandated by the State, the General Plan must serve to:

- identify land use, circulation, environmental, economic, and social goals and policies for the City and its surrounding planning area as they relate to land use and development;

State-Mandated General Plan Elements

The **LAND USE ELEMENT** designates the general distribution uses of the land for housing, business, industry, open space, education, public buildings and grounds, waste disposal facilities, and other categories of public and private uses. The Land Use Element also sets forth standards for population density and building intensity.

The **CIRCULATION ELEMENT** is correlated with the land use element, and identifies the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other local public utilities and facilities. Overall, the objective of the Circulation Element is to promote the movement of people and goods.

The **HOUSING ELEMENT** includes a comprehensive assessment of current and projected housing needs for all economic segments of the community. It embodies policy for providing adequate housing for all economic segments of the community, and includes a five-year action program.

The **CONSERVATION ELEMENT** addresses the conservation, management, and use of natural resources, including water, soils, biological habitats, and mineral deposits. Specific requirements are set forth to ensure the coordination of water resource planning and future development.

The **OPEN-SPACE ELEMENT** details programs for preserving open space for natural resource protection, the managed production of resources, outdoor recreation, and protection of public health and safety.

The **NOISE ELEMENT** evaluates present and projected noise levels within the community as a guide for establishing a pattern of land uses in the land use element that minimizes the exposure of community residents to excessive noise.

The **SAFETY ELEMENT** establishes policies and programs to protect the community from risk associated with seismic, geologic, flood, and fire hazards, including identification of hazards, establishment of safety standards, and delineation of evacuation routes.

- provide a framework within which the City's Planning Commission and City Council can make land use decisions;
- provide citizens the opportunity to participate in the planning and decision-making process affecting the City and its surrounding planning area; and
- inform citizens, developers, decision-makers, and other agencies, as appropriate, of the City's basic rules that will guide both environmental protection and land development decisions within the City and surrounding planning area.

State law requires that the General Plan include seven mandatory elements, but allows flexibility in how each local jurisdiction structures these elements.

In addition, the Antioch General Plan includes discussion and resolution of issues related to three issues beyond those required by State law. State law does not mandate discussion of these issues; however, once adopted, "optional" issues have the same force and effect as policies related to the General Plan elements required by the State. These "optional" issues include:

- **Public Services and Facilities:** Incorporated into the Antioch General Plan are policies and programs that establish minimum level of service standards for circulation, drainage, water and sewer facilities, parks and recreation facilities, police and fire services and other services and facilities. The General Plan also identifies responsibilities to be placed on new development, and indicates what the consequences will be if such minimum standards are not achieved.
- **Growth Management:** The Growth Management Element delineates performance standards for public services and facilities, defining the responsibility of new development to "pay its own way" and provide a net benefit to the community. This Element also sets forth a program to manage the rate of residential growth within the City.
- **Economic Development:** Included throughout the General Plan are

strategies devoted to the promotion of a healthy economic base within the City of Antioch, including strategies to expand retail sales tax generation within the City, as well as expanding Antioch's local employment base.

1.1.3 Characteristics of a General Plan

A General Plan has a number of characteristics that distinguish it from other planning efforts. These characteristics are:

- **Visionary.** A major function of the General Plan is to anticipate the future, and to provide the means for the City to create the future it desires.
- **Long Range.** However imperfect the vision of the future may be, a General Plan recognizes that effective planning is based on a long-term view so that trends can be anticipated and managed, and negative effects can be reduced.
- **Comprehensive.** General Plans reflect an effort to coordinate all of a community's major components and quality of life issues. The relationship between the intensity of land use development and transportation needs is one obvious set of community components that must be coordinated. The General Plan is also comprehensive in that it addresses and resolves both short-term and long-term issues.
- **General.** Because it is long range and comprehensive, a General Plan cannot address every detail. A general framework must be established as part of the plan, based on recognized trends, best available projections, and community values regarding the future that is desired by the community. Although the General Plan is a "general," guide for decisionmaking, it is the lead legal document within a community for planning and development decisions. State law requires that zoning and development approvals be consistent with the General Plan.

The Antioch General Plan also aims at achieving the following characteristics.

- **Oriented to the Community.** The Antioch General Plan is intended to be reflective of the needs and desires of existing and future residents and aimed toward enhancing their quality of life.
- **Fiscally Responsible.** The General Plan is intended to achieve and maintain economic strength and vitality, and to provide plans and implementation programs that are within the City's means.
- **Pragmatic.** The General Plan is based on a realistic assessment of community issues, along with practical, workable programs to resolve those issues.
- **Action-oriented.** In addition to framing a vision for Antioch's future, the General Plan works to translate that vision into action, and thereby provide the means to achieve desired outcomes.
- **Usable.** The General Plan is intended to provide practical guidance for development review, environmental management programs, economic expansion, and capital improvements planning. Although the future cannot be known, the General Plan strives to be comprehensive and flexible enough to accommodate unique situations and provide practical guidance in unanticipated situations.
- **Coordinated.** In preparing the General Plan, the City of Antioch has attempted to coordinate its plans and programs with those of the County, adjacent cities, and the special districts serving Antioch.
- **Reliable.** Although the General Plan is, by definition, "general," the plan strives to provide sufficient detail and explanation of its policies and programs so as to provide clear, consistent policy direction, and to promote certainty for all participants in the development review process.

1.1.4 The Comprehensive Nature of the General Plan

To be effective as a decision-making tool, the various elements of the Antioch General Plan integrate the management of the community's future physical, social, environmental, and economic environments.

Identification of Issues. The General Plan not only addresses the issues that the State requires be included in a General Plan, but also responds to the current and future issues that Antioch faces. Key community issues that the General Plan addresses include:

- achieving and maintaining a vibrant community in which all residents enjoy a wide range of employment, shopping, and recreational opportunities;
- achieving a balance between local jobs and housing by increasing Antioch's attractiveness for the establishment of office-based and clean industrial businesses;
- revitalizing the community's downtown and re-establishing the Rivertown area and waterfront as a distinctive part of the City's identity;
- providing regional and local mobility and reducing ongoing traffic congestion problems through a combination of regional highway, local roadway, and transit improvements (e.g., bus, rail, BART, e-BART), transit-oriented development, and enhancement of bicycle and pedestrian modes of transportation;
- establishing clear performance objectives for area infrastructure and services, thereby ensuring that the provision of public services and facilities supports the community's determination of desirable land uses, intensity, character, and rate of growth;
- improving the design quality of lands and development at key interchanges along State Route 4, and along the roadway corridors leading to the Rivertown area; and

- managing the rate of residential growth and achieving an appropriate range of housing opportunities, including executive and upper end housing, as well as housing for workers, seniors, and young adults who are first starting their careers and forming families.

Establishing A Planning Area Boundary. In order to address the issues that may affect or be affected by areas outside of Antioch's existing city limits, a comprehensive general plan study area has been established (See Figure 1.1).

This planning area, which is the result of significant deliberation on the part of the City, encompasses areas outside the current city limits, as well as areas outside of its current sphere of influence. This planning area boundary is intended to recognize the interrelationships between land use and other issues affecting the City of Antioch and surrounding lands, and is consistent with the boundary agreement Antioch maintains with the City of Brentwood¹.

Maintaining A Regional Context. It is important that the General Plan establish local policy while keeping in mind that Antioch is part of a larger region. Certain issues addressed in the General Plan, such as freeway traffic, mass transit, and air quality, have a local component, but are more readily addressed on a countywide or regional basis. In such cases, the task of the General Plan is to address the manner in which Antioch's interests, values, and concerns are congruent or conflict with existing regional and countywide policies. If conflicts between local interests and countywide or regional plans or policies are identified, the General Plan's role is to define the extent to which the City can influence such regional or countywide plans or policies, and to provide an appropriate City response. It is also the purpose of the General Plan to provide a forum for addressing issues that cannot be solved by

the City alone, but that require cooperative actions among several jurisdictions. Finally, the General Plan recognizes that actions taken by the City of Antioch may affect surrounding communities or other agencies, and that actions taken by other agencies can affect the City. As a result, the General Plan provides a forum for ongoing communications between the City and these other agencies, as well as an opportunity for cooperative efforts to capitalize on economic development activities.

1.1.5 General Plan Consistency

State law requires that the General Plan be *internally consistent*. In order to function as a useful statement of local policy, the various components of the General Plan need to "comprise an integrated, internally consistent and compatible statement of policies..."² If a General Plan does not achieve such internal consistency, the City, development community, and citizens who attempt to use the plan will face conflicting directives, and will be unable to rely on the stated policies of the General Plan, thereby defeating its purpose. The concept of internal General Plan consistency revolves around the following issues.

- Equal Status among General Plan Elements.** All elements of a General Plan have equal legal status, and no General Plan Element is permitted to take precedence over any other. As a result, the General Plan must resolve potential conflicts between or among the elements through clear language and consistent policy.

¹ A more detailed discussion of the boundary agreement between the cities of Antioch and Brentwood is provided in the Antioch General Plan Land Use Element.

² Government Code Section 65300.5.

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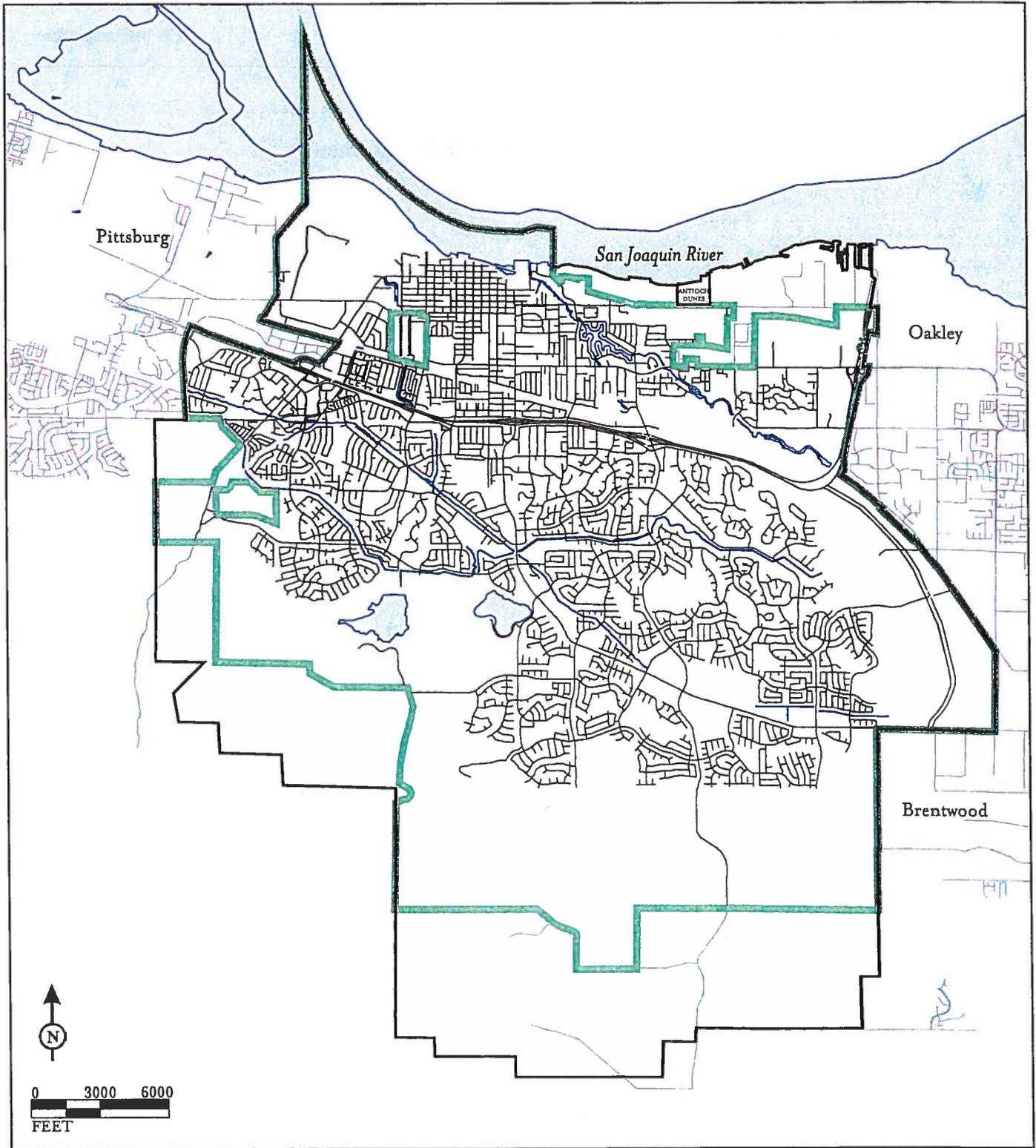


FIGURE 1.1

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-  ROADS
-  CITY BOUNDARY
-  PLANNING AREA BOUNDARY
-  WATER BODIES

*City of Antioch
General Plan
Study Area*

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- **Consistency Between Elements and Within Individual Elements.** All General Plan elements and portions of the plan must be consistent with each other. An individual provision of the General Plan must not require or encourage an action to be taken that is prohibited or discouraged by another General Plan provision. In addition, the assumptions used in the General Plan must be uniform and consistently applied throughout the document.
- **General Plan Text, Diagram, and Map Consistency.** Because General Plan text, diagrams, and maps are each integral parts of the General Plan, they must be consistent with one another. Thus, the diagrams and maps of the General Plan, including the land use and circulation maps, are a graphic reflection of the General Plan text, and must be consistent with written policies.

It is also important that all parties using the General Plan recognize that resources are not unlimited, and that not all community objectives can be achieved concurrently. In addition, there are often trade-offs between community objectives. As a result, the blind pursuit of one objective may, in some cases, inhibit the achievement of other community objectives. For example, the Antioch General Plan recognizes the need to increase local employment opportunities. However, to permit an "anything goes," unmanaged expansion of employment-generating uses could result in significant traffic and air quality impacts, and inhibit achievement of objectives related to waterfront and Rivertown revitalization. Thus, the General Plan strikes a balance between competing objectives, and provides statements of community priorities.

It is inevitable that there will arise changing conditions or other circumstances where policy direction is not 100 percent certain, and interpretation of the provisions of the General Plan is required. In such cases, the City entity charged with approval of a discretionary action must make such an interpretation. In interpreting the provisions of the General Plan, care must be taken to ensure a "best fit" for

the action to be taken, aimed toward the achievement of General Plan goals and objectives, recognizing the city's short-term *and* long-term priorities.

1.2. EXISTING AND EMERGING TRENDS AFFECTING ANTIOCH'S FUTURE

The primary purpose of planning and preparing the General Plan is to provide the means for Antioch to manage future growth and change. However, merely projecting what exists today into the future, thereby assuming that the future will resemble the present will not provide an accurate picture of what the future will be. An array of existing and emerging social, technological, and economic trends will change the way residents perceive their communities, define "quality of life," and live their lives. The following is intended to provide a descriptive evaluation of the ways in which existing and emerging social, technological, environmental, and economic trends may interact with existing and future conditions to provide a context for planning Antioch's future within a society that may be very different from today. These trends include the following:

- *A growing statewide population.* Population increases will continue within California as a result of natural increases. Areas, such as Antioch and eastern Contra Costa County will continue to grow.
- *An evolving housing market.* As lower and middle income households are continued to be priced out of the market, and the senior population grows, upper end housing, condominiums, age-restricted housing, and multi-family development will become more popular in Antioch.
- *Technological advances and a changing economy significantly altering patterns of employment.* Traditional industrial development will decrease in importance, as service jobs and off-based employment grows. As a result, there will be a need for office-based and retail service development.

- *A growing regional imbalance of jobs and housing.* ABAG's projections of a worsening imbalance between jobs and housing will result in an increased difficulty to attract workers to increasingly congested employment centers within the inner Bay Area, along with an increased willingness for businesses to locate in presently outlying areas near their workers.
- *Increases in personal travel.* Non-peak hour travel will increase in relation to peak hour traffic. The "peak hour" of traffic will lengthen over several hours.
- *Increasing acceptance of public transit and other alternatives to automobile travel.* As traffic congestion increases, public transit will gain parity in terms of commute times during peak hours, and become more popular, even if it involves changing modes of transit (e.g., rail or e-BART to BART or other rail connection). As a result, there will be a need for transit centers within Antioch. In addition, as higher density transit-oriented development gains popularity, pedestrian and bicycle travel will increase both as a form of recreation and as a form of transportation. The result will be an increasing need for safe pedestrian and bicycle routes between residential areas and schools, shopping, recreation, and places of employment.
- *Changes in freight transportation and goods movement.* Rail traffic will increase over time, increasing congestion where arterials cross rail lines at-grade. There will be an increasing need for multi-modal facilities to transfer containers from rail to truck.
- *Changes in shopping and the new consumer.* Existing shopping facilities will become obsolete, and need to be remodeled to meet changing shopping patterns in the future. There will be a growing demand and support for up-scale shopping in Antioch.

1.2.1 A Growing Statewide Population

A growing statewide population will result in an ongoing demand for new housing and

employment opportunities in the San Francisco Bay Area, eastern Contra Costa County, and the City of Antioch. This growth will be greatest in households without children, either seniors, older adults, or young adults without children. This translates into a need for smaller housing units.

According to state projections, the population composition of California is expected to change dramatically over the next two decades. The total population is projected to increase roughly 30 percent (11,457,352 people) to a total of 45 million. Population growth will not be distributed evenly across the state. Just eight counties, including Contra Costa, will account for more than 60 percent of the state's population growth over the next 20 years. Projections are that by 2020, Contra Costa County will increase by 227,100 people, representing 2 percent of the state's population growth. This growth will primarily occur in the eastern portion of the County.

Key demographic groups of the population are also expected to change. By 2025, the number of people under 18 is projected to grow 37 percent. The share of persons between 55 and 64 years of age will increase 58 percent, and the number of residents over 65 will increase 51 percent.

**Table 1.A
ABAG Population/Household Projections**

	2000	2025
Antioch		
Population	90,532	117,500
Households	29,338	40,410
Brentwood		
Population	23,302	52,700
Households	7,497	17,430
Oakley		
Population	25,619	40,300
Households	7,832	12,680
Pittsburg		
Population	56,769	85,100
Households	17,741	27,510
Contra Costa County		
Population	948,816	1,209,900
Households	344,129	443,510

Source: ABAG Projections 2002

In addition, the Hispanic population is expected to grow by 66 percent, reaching between 41 and 47 percent of the total state population, resulting from both domestic births and immigration. Forecasters agree on several points:

- Out-migration to other states will continue to roughly equal migration from other states to California.
- International migration will continue to contribute to the state's growth.
- The largest source of growth will be from natural increases (births exceeding deaths.)

The impacts of immigration are especially notable because two-thirds of immigration into the U.S. will be concentrated in four states: California, New York, Texas, and Florida. During the 1990s, the annual legal U.S. average of immigrants was 700,000, with another 200,000 or so undocumented people. This number of immigrants is greater than the peak of the great immigration wave at the turn of the 20th century. Immigrants bring a diverse set of skills and attitudes, the most prominent being their enthusiasm and desire to partake in the U.S. experience. In the workplace, they expand the labor pool at both the upper and lower ends. Proportionately, the greater share of immigrants will labor in either unskilled positions and have less than a high school degree, or will have graduate school training and specialized technical skills.

The composition of the typical household is changing as well. The share of households made up of married couples with children declined from 40 percent in 1970 to 25 percent in 1995. By comparison, 34.5 percent of Antioch households in 2000 were married couples with children. Although direct comparisons to 1990 Census figures are not possible, the 2000 Census indicates that in Antioch, family households, as a proportion of all households, decreased slightly from 61.0 percent in 1990 to 60.3 percent in 2000.

According to most forecasters, that share will continue to decrease over the next 20 years. Over the same time, single parent families are

projected to grow only slightly as a percentage of total households. The households with the most dynamic growth rates are projected to be married couples without children, either baby boomers whose kids have grown up or younger people without kids, and non-family households, both the very old and the very young living on their own or with friends.

1.2.2 An Evolving Housing Market

The demand for new housing to serve an expanding population will encompass an increasing need for multi-family and upper end single family dwellings as the cost of housing continues to increase faster than household incomes. The projected increase of 11.5 million new residents means about 5 million additional households by 2020 across California. However, significant constraints exist, including land availability and affordability, to provide housing for this expanded population. These constraints will have major impacts on location choices, housing type choices, and travel patterns over the next two decades. To accommodate projected population growth, California needs to have 194,000 dwelling units constructed per year over the next 20 years. In a study prepared for the California Department of Housing and Community Development (HCD) called "Raising the Roof," HCD quantified a long-suspected trend – that, even adjusting for economic upturns and downturns, housing demand is drastically outstripping supply, and a shortage of new housing production will continue well into the future.

There is also a connection between growth in specific demographic groups and its relation to housing. Different lifestyle choices of different groups will change housing demand. By 2020, the number of people under 18 years of age is expected to grow 37 percent. This, in addition to the historical trend that shows the median age of first time homebuyer is in the early 30s, has significant implications for housing growth. When this age group reaches their early 30s, there is bound to be an increase in the demand for housing. Also, the increase in the above-55 age group will mean that their children will be growing up and leaving home. Thus, an increase in senior

citizens in California communities will result in a demand for more retirement-oriented developments. Seniors will be healthier and more active in the future and, therefore, better able to maintain housing. They will, as a result, be less inclined to live in isolated group homes. These are all housing demands for individuals, and not large families. Hence, housing demand will grow faster than the actual population.

Housing affordability has become a serious problem in California, and will continue into the future. By some estimates, today only 35 percent of households can afford to own the "median" priced house in the communities in which they work. This current gap between what people want and what they can afford can be expected to increase over time. It can be expected that home builders will continue to aim at the higher end market, since it provides greater profit margins than does lower end housing. It also appears that the American dream of owning a home will require greater intervention of housing programs to make single family homeownership affordable to young, newly formed households in the future.

Households have responded to this price squeeze by trading a long commute to work, by shifting to a less costly housing type, or by choosing a smaller house or apartment than they would otherwise prefer. Low-income households will sometimes double up in units to make them affordable. Currently, compared to the national averages, California has a much larger share of overcrowded households.

Given a strong preference for single family detached housing, growth in single family housing units was 58 percent of the total statewide housing growth in 1999, compared to a 26 percent growth in apartments or condominiums with more than five dwelling units. The longer commute option seems to be the preferred response for many middle class households. Their final choice currently is a balance between cost of housing and monetary, time, and psychological cost of using the existing transportation. In the immediate and near-term future, expansion of

transportation facilities is critical to easing congestion; however, in the long term, even with massive infusion of money for transportation improvements, congestion along regional commuting corridors will increase over time. It is therefore critical that in addition to supporting expansion of transportation infrastructure, an emphasis be placed on achieving a better regional balance between the location of employment opportunities and housing. Thus, forecasters have noted that the result will be intensification of the trend of telecommuting or working flexible hours in order to live in a single-family home. In addition, suburban employment will grow, allowing people to work close to home or travel on less congested routes.

The construction of multi-family housing continued to fall from the 1990s to the present. Building permits for multi-family dwellings has averaged only 19 percent of all new construction permits in the state. Within Antioch, multi-family building permits have been virtually non-existent through the 1990s. Starting 2001, the City began receiving new requests for multi-family housing development. The declining share of multi-family housing construction has particular significance for future development patterns. Because multi-family housing is typically built to 3-4 times greater density per acre than single-family housing, the diminished share of high density housing fuels increased loss of open space, reduced land availability, and a tight supply of rental units, resulting in steeply rising rents. Current and future housing shortfalls will hit renters the hardest. As a result of dwindling land inventories, increased housing costs, a decreasing willingness to commute long distances to work, and changing demographics (increasing number of senior and young adults), multi-family housing (both for-sale and rental) will increase in popularity. Multi-family housing will be increasingly seen by many households as a long-term housing choice, and not just a temporary situation until the household can afford a single family dwelling. This long-term choice will likely be manifested in an increasing popularity in townhouse and condominium development. It can also be expected that there will be an increase in the quality of apartment

development and ongoing maintenance and management as the median income of apartment dwellers increases, and there is growing competition among apartment projects.

Much of the new multi-family development within the Bay Area and Antioch will occur in the form of "transit-oriented development," high-density clusters of mixed-use residential, commercial, and office development centered on regional transit stops and local transit hubs. Within Antioch, such transit-oriented development can be expected to occur adjacent to rail transit stops in Rivertown (Amtrak), Hillcrest Avenue at SR 4(e-BART), Contra Costa County Fairgrounds (e-BART), and Lone Tree Way at the SR 4 By-pass (e-BART).

In practice, although communities define permitted locations and maximum densities for residential development, housing construction reacts to local market demands, and not to proactive needs assessments. Developers have reacted to signals of growing demand and housing shortages in middle- and upper middle- income ranges, and local communities then react to developers' requests for project approvals. The end result is a "boom and bust" cycle as the development industry first lags behind the demand for specific housing products, and then overshoots demand for certain product types as many builders attempt to meet the same market demand. This trend is most pronounced with multi-family housing, but also occurs in the single family housing market. The City's growth management program should moderate the peaks and valleys of residential development.

In reaction to the spread of single-family suburbs, long commutes, and loss of open space, there is also a growing demand for extension of transit services. As a result, mixed-use, transit-oriented development will gain popularity in the marketplace. Higher density development is likely to gain acceptance at strategic locations where such development can support community objectives such as downtown revitalization, provision of senior housing, and congestion relief through alternative modes of

transportation. Also, mixed-use developments will become more prevalent as a strategy to address concerns about municipal costs and revenues. A well-chosen mix of commercial and residential uses creates convenience by providing accessible services, retail, and jobs.

1.2.3 Technological Advances and a Changing Economy will Significantly Alter Patterns of Employment

Changes in technology and in the economy have significantly altered patterns of employment over the last 20 years, and will continue to do so over the next 20 years. Demand for land for traditional industrial development will decrease, while demand for land for service commercial, office, and transportation-related development will grow.

Global trading, "high-tech" industrial growth, changes in military spending, and e-commerce are just a few examples of changes that have altered the scope of work in California. Changes over the next two decades will be equally significant. Among all industries, services are, and will continue to be, the fastest growing sector. By 2008, services are expected to account for one in three jobs in the State. Employment within the diverse services sector will not be uniform. Forecasters project that jobs at both the low end and at the high end of the pay scale will increase at the fastest rates. For example, lower paying jobs with projected high growth rates include retail cashiers and salespersons, janitorial or office maintenance, and landscape services. Higher paying jobs with the similar projected high growth rates are top business-to-business sales executives, computer programmers, and systems analysts or consultants.

Among various service industries, health services and business services are the two biggest employers in California. While health services increased by 50.5 percent during 1983-1999, business services employment increased 135.05 percent. It is projected that business services will continue its growth leadership through 2020, and will account for 40 percent of all job growth in the services

sector¹. This growth is followed by health services and engineering and management (10.4 percent) sectors. These three employment sectors are expected to account for over 70 percent of all job growth in California over the next two decades.

Among the top nine occupations projected to have the greatest growth over the next 20 years, five are low paying occupations with mean annual wages in 1998 below \$30,000, some even below \$20,000. These include, receptionists, watch guards, cashiers, retail salespersons, and general office clerks. The other four are higher paying occupations, including registered nurses, computer specialists, systems analysts, and top executives. The implications for future housing needs are that the fastest growth will occur in households seeking executive and "move-up" housing, and in the rental market. Unless the cost of "entry level" housing is held down in relation to increasing land and construction costs, rental housing, as a percentage of the total housing market will grow substantially.

Much of future employment growth will not only occur in central cities, but also in the outlying regional sub-centers. For example, ABAG projects Contra Costa County will experience a job growth rate well in excess of its population growth rate. Countywide, the number of jobs within the County is projected to increase by 39 percent over the next 20 years. At the same time, ABAG projects the County's total population to increase by 24 percent. Growth in Alameda County is anticipated to be similar: a 34 percent increase in jobs will occur over the next 20 years along with a 15.5 percent increase in population².

¹ "Business services" entails any service needed to help maintain or run a business. This includes but is not limited to, computer services, copier/fax machine services, furniture or office supply services, personnel services, and accounting services.

² The differential in countywide employment and population growth rates projected by ABAG are not, however, projected to result in a balance of jobs and housing within any particular portion of the Bay Area.

Within this portion of California, the services sector will account for over 50 percent of total new jobs. At the same time, the manufacturing and wholesale sector will comprise 19 percent of employment growth, retail will account for 11 percent, and the remaining 19 percent of employment growth will include a variety of professional and other jobs.

It is not anticipated that full-time telecommuting will become a significant part of a company's future permanent work force; however, telecommuting will grow as an answer to long commutes forced by the regional imbalance between jobs and housing. As part of the trade-off for these long commutes, workers will increasingly seek to be able work at home one or two days a week. Technological advances will also likely result in a growing "free-lance" work force (independent contractors who will work from their homes). Together, this type of telecommuting will work to reduce peak traffic congestion, and to spread traffic more evenly over the day. The increasing globalization of business, and the freedom afforded by future technologies will likely also mean that office-based employment will not be limited to 8 am to 5 p.m. It can be anticipated that a growing number of businesses and workers will maintain non-traditional hours, further reducing peak congestion and spreading out traffic over an entire day.

1.2.4 A Growing Regional Imbalance of Jobs and Housing

Contra Costa County is projected to see its employment sector grow at a faster rate than its residential sector through 2020. However, despite regional projections that Antioch and adjacent cities to the east will enjoy the highest rates of employment growth in the County over the next 20 years³, ABAG projects that an imbalance of jobs and housing will continue to plague the Antioch-Brentwood-

³ Local employment in Antioch, Brentwood, and Oakley is projected by ABAG to grow by 12,730 (70 percent), 9,900 (179 percent), and 10,380 (260 percent), respectively, through 2020.

Oakley area. ABAG projections are based on the assumption that workers will be willing to undertake increasingly long commutes to work, and that businesses will continue to locate within the inner Bay Area, and still be able to attract labor. The City of Antioch believes that a worsening imbalance between the location of jobs and housing in the Bay Area will require the importation of more workers from the Central Valley, including workers from even more distant locations than at present. As a result, businesses will be forced to begin locating in what are now outlying areas, such as Antioch and eastern Contra Costa County. Ultimately, Antioch and eastern Contra Costa County will achieve a local balance between jobs and housing.

ABAG projections indicate that employment growth in the Bay Area will outstrip growth in the region's employed resident population by about 99,000 over the next 20 years. Thus, by 2020, 99,000 additional workers will be commuting into the San Francisco Bay area from outlying regions, such as the Central Valley. Within the Bay Area, ABAG projects that growth in all but two areas will exacerbate existing labor shortages in the region. While Bay Area employment and population growth in the next 20 years is expected to result in a net shortage of 99,000 workers, growth within the SR-4 corridor is projected to result in a surplus of 18,540 workers. Growth in the I-80 North corridor is projected to result in a surplus of 6,820 workers¹. In comparison, the I-680 corridor is projected to grow by 9,610 more jobs than employed workers over the next 20 years². Thus, if ABAG projections hold true, the existing jobs/workers imbalance between the SR-4 and I-680 corridors will

increase by 25,320 workers over the next 20 years³.

These projections run counter to the visions held by Antioch and adjacent cities, which each envision achieving a balance between their residential and employment sectors. As a result, eastern Contra Costa County cities are pursuing aggressive economic development programs aimed at expanding local employment opportunities. Despite ABAG projections, Antioch and adjacent communities have adopted policies and programs to achieve a balance between jobs and population by 2025. Several factors will assist in this effort, including an abundance of relatively inexpensive land, highly trained local labor force, and quality housing in the Antioch-Brentwood-Oakley area. Increasing congestion, rising land costs and lease rates, and an increasing desire on the part of workers to live within an easy commute of their employment will also assist Antioch and surrounding communities to achieve a balance between the area's local employment base and its housing stock⁴.

The Antioch General Plan specifically rejects the notion implicit in ABAG projections that imbalance between the location of housing and employment in the Bay area will continue to grow, and that Antioch and eastern Contra Costa County will become even more of a bedroom community than it is today. Ultimately, the difficulties involved in attracting workers to congested, closer-in employment centers will have a negative effect on the ability of these centers to continue expanding their employment base without commensurate

¹ The "SR-4" corridor consists of the cities of Antioch, Brentwood, Martinez, Oakley, Pittsburg, surrounding unincorporated areas, and unincorporated eastern Contra Costa County. The "I-80 North" corridor consists of Napa and Solano counties.

² The "I-680" corridor consists of the Alamo-Blackhawk, Clayton, Concord, Danville, Dublin, Livermore, Pleasant Hill, Pleasanton, San Ramon, Walnut Creek, and surrounding unincorporated areas.

³ As noted by ABAG, a "primary reason for this trend in regional growth has been local development and land use policies that seek to maximize job production without commensurate emphasis on housing production. This has been particularly true in the past for the Peninsula, Silicon Valley North, and I-80 South/SR-4 corridors. However, the I-680 corridor has increasingly experienced this imbalance, particularly in the Tri-city area."

⁴ A rapidly growing employment sector in the Antioch area will, itself drive up local housing demand.

housing. As stated by ABAG, the "consequences of imbalanced job and labor supply growth are longer commute times and distances. Longer commutes in turn increase demand for new highway construction, increase worker fatigue, and negatively impact the environment." The long commutes now suffered by Bay Area residents can not continue worsening.

Although Antioch and surrounding communities can be expected to achieve a balance between jobs and housing in the future, this will not, in itself necessarily solve the problem of regional jobs-housing imbalance, long commutes, and resulting congestion. ABAG's projections of a growing imbalance of jobs and working population within the Bay Area's existing and emerging major employment centers (e.g., San Francisco, Silicon Valley, Concord-Walnut Creek area, Livermore-Pleasanton area) are based on an assumption that these areas can continue to attract labor from outlying areas, such as the Central Valley. If (1) areas such as Antioch and surrounding communities achieve a balance between jobs and housing over the next 20 years, and (2) employment centers such as the Concord-Walnut Creek and Livermore-Pleasanton areas continue to expand their employment sector faster than their residential sectors, exacerbating existing local labor shortages in those areas, the logical result is an expansion of residential communities in eastern Contra Costa County and the Central Valley (San Joaquin and Stanislaus Counties).

Thus, land use policies to expand the employment base in existing jobs-rich communities, effectively increasing existing labor shortages, may compound existing traffic congestion problems along major commute routes by increasing the number of commuters along these routes. While major improvements in highway capacities and transit opportunities benefit residents of existing bedroom suburbs, such as Antioch, they also benefit major employment centers, such as the Concord-Walnut Creek area by facilitating planned economic development within those employment centers. It is Antioch's vision that, as existing major

employment centers find it increasingly difficult to attract labor, a more equitable formula for funding major regional transportation improvements will be implemented. Such a formula would recognize that regional transportation improvements benefit both end of the home-to-work trip, not just the geographical area where the improvements are actually constructed.

1.2.5 Increasing Personal and Household Travel

There have been profound changes in personal travel over the past two decades, and, notwithstanding the effects of the attack on the World Trade Center on September 11, 2001, personal and household travel will continue to grow and change over the next 20 years. The result will be increased traffic throughout the day, even though the percentage of total traffic occurring during peak travel hours may decrease as a proportion of overall daily traffic.

From 1969 to 1995, work-related travel fell from 36 to 18 percent of all trips nationally. Thus, non-work travel increased from 64 to 82 percent of all trips nationally. Increasingly, consumer shopping and entertainment-oriented lifestyles are important factors in this change. Consumer trips grew from 29 to 44 percent of all vehicle trips nationally between 1969 and 1995. These trends are not solely the result of growth in disposable income. Entertainment activities grew for nearly all income groups, with the largest growth found in the second lowest income quintile (equivalent of the lower middle class). This trend indicates a fundamental shift in choice priorities for lower income households, implying a change in lifestyle choice as well. This trend is unlikely to change in the future, especially because of the tremendous amount and variety of entertainment activities in California. Overall, it is anticipated that the ratio of home-to-work trips to total trips will continue to decrease over the next two decades.

During the 1969 to 1995 period, auto use also grew dramatically. This growth reflects increasing levels of driver licenses for both

genders, a willingness on the part of seniors to continue to drive well into old age, the ease of auto availability, and the location of activities in suburbs in places that depend on a car for access. With the demographic growth of people over the age of 55, who have spent most of their lives in auto-oriented communities, it is likely that seniors will continue to travel by car more than earlier generations. Among people 85 and over, the percentage of men with drivers' licenses has increased from 47.5 to 71.7 percent, and the percentage of women of that age with drivers' licenses increased from 11.7 to 28.5. These percentages are anticipated to continue to increase. In addition, the average annual vehicle miles driven by males over the age of 65 is projected to increase by 53 percent, while the annual vehicle miles driven by females over the age of 65 is projected to increase by 130 percent during that same period. These trends indicate an increasing amount of non-work travel during off-peak hours.

Changes in employment characteristics in the future will also affect transportation patterns. With jobs increasingly being located in the service sector, work hours will become more flexible. Thus, the percentage of total traffic that occurs during the peak morning and afternoon "rush hour" will decrease as a percentage of total daily traffic. Increasing automobile travel by seniors and non-work related travel will also increase non-peak hour traffic volumes.

Employment within traditional metropolitan areas is expanding into suburban areas. As this trend continues, and existing bedroom communities work toward achieving a balance between jobs and housing, more people will be commuting from suburb to suburb. "Reverse commutes" – home-to-work travel in the direction opposite the typical direction of peak hour flow will thus increase, expanding the capacity of existing highway systems. Also, telecommuting has the potential to reduce highway usage and resulting traffic congestion. Although much talked about, less than 5 percent of the state's workforce regularly telecommutes, and only 15 percent telecommute several times a month, according

to the Bureau of Labor Statistics. As a generation of workers emerges who were raised in a computer-oriented environment, and wireless technologies become more prevalent and reliable, it is likely that telecommuting will increase in popularity. While the percentage of the workforce who telecommute on a regular basis is not likely to grow to a significant portion of the workforce, a substantial increase in the number of office-based employees who telecommute several times each month is reasonable to anticipate.

All of these trends equate to a less concentrated pattern of home-to-work trips, both in terms of directional flow and times of day. The fundamental patterns of traffic congestion and free flow on highways systems that residents and workers are now accustomed to will likely moderate in favor of a more irregular intra-regional travel pattern. Peak travel hours will spread out over longer periods of time, as will the geographical extent of heavily traveled corridors. While a less concentrated pattern of home-to-work trips will increase the efficiency of existing roadways and highways, a dispersed pattern of home-to-work trips may make expanding large, fixed route transit systems into emerging employment centers and residential communities more difficult to support.

New technologies also need to be taken into account. Advanced traffic management systems will increase road capacity while improving safety and pedestrian and bicycle traffic through the implementation of automatic sensors, heads-up displays, night vision devices, and other devices to reduce the possibility of drivers losing control of their vehicles. Over the long run, automation will make order of magnitude improvements in highway and roadway safety, capacity, and convenience. It is anticipated that "Intelligent Transportation Systems" will begin to be implemented over the next 20 years, including automated highway systems, high-speed rail, anti-congestion systems (real time traffic control), expanded traffic signal timing coordination, and on-board diagnostics and logistics systems in automobiles. In addition, "smart card" technologies, such as those used by "Fastrack" and BART will continue to

improve the convenience of paying fares for road use, parking, and transit. Also, monitoring and information systems will increasingly enable travelers to time trips and select routes to avoid congestion, reducing the extent of congestion in the process. These technologies will allow more people to travel through urban areas, where adding new roads or rail lines is not possible, without increasing delays.

1.2.6 Increasing Acceptance of Public Transit

The continued growth of automobile congestion has induced suburban commuters to look for alternatives. This creates the potential for the growth of a transit-oriented suburban lifestyle in California. Expanded use of transit by those who are not forced to use transit is dependent upon the convenience and comfort of the transit service. Over the next 20 years, there will be an increasing willingness to use public transit as the convenience of transit reaches parity with automobile travel during peak commute hours. Expanded use of transit will also rely on and facilitate the development of "transit-oriented" development nodes, including housing, retail, and employment opportunities in a high-density, mixed use arrangement. By providing a compact, mixed-use form of development, facilitating pedestrian and bicycle travel internally within the node, and providing ready access to commuter transit centers, vehicular travel within the transit-oriented development area can be minimized, while the number and distance of long vehicular commutes can be reduced.

Closer investigation of the following statistics reveals an increased willingness on the part of suburban commuters to use transit.

- The total number of trips taken by transit in California has been growing at an annual rate ranging from 2.7 to 3.9 percent, faster than the growth of vehicle miles traveled by automobiles.
- In the San Francisco Bay area, heavy rail and commuter rail services grew the most in 1999 and 2000. The fastest growth

rates were 15.6 percent for the Bay Area Rapid Transit system and 50 percent for the Altamont Commuter Rail service.

- Growth in ridership on suburban bus systems was rapid as well in 1999 and 2000. Bus ridership in the Golden Gate Highway and Transit District grew 4.7 percent and Ridership in the Eastern Contra Costa County Transit District grew 6.3 percent.

California transit agencies experiencing the highest rates of growth include suburban transit (mostly buses) agencies that serve outlying portions of metropolitan areas, and heavy rail and commuter rail agencies serving primarily suburban residents that commute to central city locations. In recent years, local transit ridership has seen a decrease. This partly results from local roadway and freeway improvements, which has made automobile travel more attractive in relation to transit. The growth in transit ridership, combined with the high cost of expanding roadways, will ultimately lead to extension of full BART service to Antioch, and may make transit service by ferry a realistic possibility for Antioch and other waterfront communities in the future. However, extension of full BART service to Antioch might not occur until the 2020-2030 time frame. Thus, interim transit solutions will likely be needed.

1.2.7 Changes in Freight Transportation and Goods Movement

Another very important aspect of the California's transportation system and the state's economy is the movement of freight. Because of the growth of industry, employment, and population, California freight volumes are projected to double by the year 2020. The result will be increased use of rail and use of trucks for local deliveries. Thus, within Antioch, congestion at local at-grade rail crossings can be expected to increase due to increased rail and automobile traffic. In addition, although the demand for traditional industrial land will diminish compared to present needs, demand for rail-served

industrial land for warehousing and distribution should remain strong.

Trucking currently dominates shipments in California to a greater extent than it does nationwide. Trucking captures 63 percent of the ton-miles of California's shipments, compared to only 38.5 percent for the nation as a whole. In terms of value of the shipments, the importance of trucking increases even more, as it accounts for 67 percent of the value of all shipments in the state. Rail shipments accounted for only 16 percent of California's total ton-miles of goods shipments in 1997.

Seaports are major freight centers in California. Container traffic has been increasing in double-digit rates at these ports for the past several years, and had been projected to triple in the next 20 years. To help facilitate the movement of this freight without overwhelming already congested highway systems near the ports, rail and trucking companies will work with individual businesses to construct Inter-modal Freight Transfer Facilities. These facilities will increase the importance of rail use for freight movement, and will increase the desirability for industrial uses to have rail access.

Currently, in the San Francisco Bay area, planning is underway for the Port of Oakland Joint Inter-modal Container Transfer Facility (JIT). The project will create a centralized inter-modal rail yard that will be available to all three railroads serving the Port of Oakland. The facility will enable the important consolidation of port functions, and will result in a major reduction in the handling time for containers moving through the region and encourage a modal shift from trucks to more energy-efficient rail freight. In addition, the inter-modal facility will reduce capital costs, truck traffic on Interstate 80, and reduce land use impacts compared to individual rail yards.

The concept is to have the trains move all the freight from the ports to another rail-to-truck transfer facility near a highway or on the perimeter of an urban center. This will facilitate a seamless transportation system for the movement of goods and services. These

facilities will expand the regional economic base through the improvement of freight connections, and improve access to industrial areas adjacent to the ports. This model also improves and lessens traffic congestion around ports.

There are many economic benefits that will result from the development of these inter-modal freight transfer facilities. With the conversion of freight from long haul trucking to rail, a multitude of short haul trucking companies will move to the area surrounding these facilities to provide local delivery of goods arriving by rail from port facilities and other locations in the nation. Increased inter-modal activity will lead to increased competition for local warehouse space. Proximity to inter-modal facilities and the rail lines serving them may also attract goods producers that can take advantage of rail freight capacity.

A new manufacturing and freight movement trend, "Just In Time" delivery is based on suppliers delivering the right materials in the right amounts to the right place at the right time, eliminating the need for manufacturers to stockpile large amount amounts of raw materials or manufactured components. This system has been and will continue to be adopted by many companies in order to maximize the efficiency of both producer's and end-user's operations. Deliveries of products and materials to manufacturing and retail operations when they are needed allow firms to reduce on-site stock. This strategy requires precise integration of suppliers, producers, and distribution networks to ensure that the end products are in demand, that the materials to produce the products are available, and that the freight system is in place and ready to make the connections. Traditional infrastructure will be augmented with information technologies to improve inter-modal coordination. As the capabilities of freight handlers are improved to track individual packages in real-time through electronic tagging systems, the capabilities to manage terminal operations will be enhanced, further increasing the flexibility and cost-competitiveness of multi-modal freight systems.

The "Just In Time" system will increase the importance and use of rail freight shipments as shippers expand their business models to become logistics companies that are essentially mobile warehouses. These firms, called logistics providers and their business grew in the U.S. from \$10 billion in 1992 to \$40 billion in 1998. This tremendous growth will continue far into the future, and hence, increase reliance on the transportation system as a form of a rolling warehouse to allow companies to reallocate resources away from warehouse cost and maintenance in favor of equipment or product development, worker training, and retraining. The facilities operating by these logistics providers will be similar to traditional warehouses, with the exception that they will typically be large in scale (500,000 to 1 million square feet or more), rail served, and at the outskirts of major metropolitan areas. These logistics providers will also differ from traditional warehousing operations in that they will have higher employment densities and a larger proportion of office-based employees. The use of the "Just In Time" system is anticipated to grow tremendously in the next several decades, and will become increasingly important as technology continues to drive efficiency and speeds up the pace of business. The existence of rail connected to the Port of Stockton and Port of Oakland provides an opportunity for Antioch to establish a freight hub in the eastern portion of the General Plan study area.

Another important change in local transportation will occur with development of the Byron Airport. Establishment of an airport facility within eastern Contra Costa County will create a local demand for warehousing and industrial development, if the airport facility includes air cargo services.

1.2.8 Changes in Shopping and the New Consumer

Socio-economic and technological changes have created a new consumer, who will continue to evolve and grow in the future. This new consumer has a relatively advanced level of education, substantial discretion in spending decisions, and experience with

information technologies. The result will be an increasing demand for upscale retail and commercial services within Antioch and eastern Contra Costa County. This demand will be met through the development of new commercial centers, as well as the redesign and redevelopment of existing facilities.

By 2005, 55 percent of U.S. adults will have at least one year of a college education and 50 percent of all households will earn over \$50,000. Within the Bay Area, these percentages will be substantially higher. These households tend to make spending decisions across budgetary categories, weighing one type of expenditure against another. This will involve information gathering of several alternatives, as well as the consequences. New consumers will use information technology to a far greater degree in the future help with this process of making spending decisions. Currently, 46 percent of all households have a personal computer at home. This number rises to 70 percent for college graduates and 74 percent for households with incomes over \$50,000. These percentages are anticipated to increase dramatically in the future as more people earn college and advanced degrees, and earn higher incomes. Hence, consumers will gain more control in purchasing wanted products and services. More control in the future includes customization of products and services, more ability to choose the low-cost provider, more shopping efficiency, and being more informed about options in general. Overall, it means that shopping for non-convenience goods will not necessarily be done in proximity to place of residence or place of employment.

Given the trends of dual income or single-parent families, some shoppers will have less time to shop, but will have more money to spend (Richer-Faster shoppers). Others – including the growing number of retired and lower- to middle-income families – will have more time, but probably less money to spend on shopping (Frugal-Entertainment shoppers). The former group will tend to seek speed and convenience in the form of "drive-through everything," and total service with a reduced focus on product price. This group will tend

research their options from home, or will go to specific stores or centers they know will meet their needs. The latter group will tend to seek the traditional best buy and an entertaining and comfortable shopping experience to pass the time. They will tend to spend more time comparison-shopping between stores and centers.

The design of shopping centers can be expected to evolve to meet the needs of these groups. The Richer-Faster shopper will tend to look for smaller, unique, and specialized stores designed to service the shopper on the go. This will constitute the evolution of the mom-and-pop store, meeting the customization, customer service, and priorities of the Richer-Faster shopper. Also, department stores offering excellent service and quality will be in greater demand. The goal of the Richer-Faster shopper will be to save time while purchasing quality products. Services may include time saving benefits such as product selection, gift-wrapping, and delivery. Customer service will become the most expensive value option of the future. Retailers will also aim to a greater degree to create an entertainment or leisure experience for shoppers. Thus, stores, such as Barnes and Noble and Borders, which combine a small café within the retail store, are likely to become more common.

The Richer-Faster shoppers may also create a greater demand for display-only stores, which are now starting to appear (e.g., Gateway computers). These types of stores provide an alternative to Internet shopping by allowing the customer to rapidly evaluate and test products, and to select customized features, but will rely on electronic ordering and product delivery systems similar to ordering online. Considering that, at this time, online sales are tax-free, the growth of online and electronic ordering has the potential to diminish local sales tax revenues. However, the inability of consumers to test and evaluate products first hand will likely limit the extent to which online sales will expand in the future. Display-only stores provide an alternative, but will be taxable as point-of-sale.

The Frugal-Entertainment shopper, whose primary goal is to save money, will likely continue to seek bargains in large warehouse structures and value-oriented shopping malls. "Big box" retail stores in excess of 125,000 square feet will likely become even more common over the next 20 years, and will continue to eat into sales of general merchandise by smaller, independent stores. A growing trend will be "Category Big Boxes" that provide everything related to that category including all product use information. In addition to the low prices permitted by their massive buying power, these stores will also offer do-it-yourself courses, knowledgeable salespeople, and computer provided product information. This type of facility shopping facility has been made popular by such home improvement centers as Lowe's and Home Depot, as well as by electronic stores such as Best Buy. In response, smaller stores will tend to focus on specialty market niches, and cater to Richer-Faster shoppers by providing specialized merchandise and better service than can be provided by the large chains.

The goal of the typical mall in the future is anticipated to be geared towards attracting all types of customers, and provide a combination of retail stores, entertainment uses (e.g., theaters, skate parks, arcades, etc), and commercial services. Many market forecasters indicate that traditional suburban indoor malls, such as the Somersville Towne Center, may become outdated and ineffective in marketplace. The trend for malls in the future will be to have large and small freestanding commercial buildings and in-line stores and restaurant pads located outside of the main building for convenient access. Some of these exterior commercial areas within mall parking lots could be of substantial size, approaching 200,000 to 300,000 square feet, or more in size. Interior design of malls will utilize the tools of the computer age to constantly provide a changing interior environment. The mall's common space will have the unlimited flexibility to regularly alter its appearance, amenities, and merchandising to satisfy the ever-changing shopping needs.

1.2.9 Parks and Recreation

Parks and recreational venues are very important aspects of community life. They not only provide opportunities for leisure activities, but also assist in creating a sense of community identity and well-being for the following reasons.

- Recreation programs have been determined to reduce stress and increase self-esteem in individuals.
- Parks and open space increase property values for adjacent lands and communities in general.
- Recreation programs reduce juvenile crime by providing positive activity alternatives.
- Parks and recreation amenities increase tourism and assist in business retention, contributing to the overall economic health of a community.

Along with the traditional concept of parks for picnicking, passive relaxation, and informal play is a growing demand for a more active, regimented, and costly vision of outdoor leisure. In addition to parks with large expanses of lawn area with informal plantings of trees, the future of park development will also include developed facilities, such as ball fields and courts for active team sports, and delineated trails for people to inline skate, bicycle, hike, and jog. Formal children's and adult organized sports activities will remain strong, and place a great demand on daytime and nighttime use of indoor and outdoor park facilities. In addition, in the future, there will likely be an increase demand for recreation facilities that offer various activities such as mountain biking, kayaking, and guided nature walks. The net effect of this changing nature of recreation will be a greater demand for parkland as municipalities attempt to provide for both passive and active recreation needs.

Public demand for park facilities in the future will likely include larger facilities with areas for active, organized sports, and specialized recreational facilities, as well as traditional parks. In 2000, only 6 of Antioch's 28 parks were larger than 10 acres, and only 10

provided parks active ball fields and sports courts; 5 other parks without ball fields provided basketball courts. By comparison, 24 of Antioch's 28 parks provided picnic facilities.

Social changes are behind this shift in recreational activities, including the rise of the time-pressed two-income family and one-parent households, the fitness boom and social contacts offered by gyms and organized sports, the growth of women's sports, more ethnic diversity and population increases. But the biggest influence of all may be the growing prominence of a generation accustomed to the fast action and instant gratification of television, video, and Internet games. Another clear trend that will continue into the future is the increasingly private, commercial nature of recreation. Instead of being subsidized and managed solely by local governmental agencies, those highly organized forms of recreation -- everything from golf courses and marinas to inline skating parks, rock climbing, and tennis -- will increasingly be run by private enterprise, as the population becomes more willing to pay for their leisure activities. Other types of private recreational facilities will include tennis, softball, and horseback riding. Demand for recreational trails will also increase over time, as activities such as mountain biking, rollerblading, and jogging continue to expand in popularity. This will require trail connections to destinations within the community such as schools, parks, and shopping and entertainment areas.

To address increasing costs for the provision of recreational facilities, joint development of facilities will become even more desirable. Opportunities for joint development of recreation facilities including joint school/park sites and use of utility rights-of-way (such as those maintained by PG&E, EBMUD, the Contra Costa County Flood Control District, CCWD, and others) for recreational trails. Development of passive parks as a temporary use on public and private lands may also be a possibility.

2.0 Community Vision

2.1 INTRODUCTION

As noted in Chapter 1.0, the General Plan represents Antioch's comprehensive strategy for managing its future. To successfully formulate such a strategy involves the City defining a vision of its future, and then devising the means to achieve that vision. This vision is set forth in Section 2.2, "Antioch's Future" and in Section 2.3 "General Plan Themes."

2.2 ANTIOCH'S VISION

Antioch's vision has moved from bedroom suburb to full-service city, providing a broad range of community services and amenities. Antioch is a great city – a diverse and beautiful community. It is a City known for its scenic riverfront, economic vitality, vibrant historic Rivertown area, high quality schools, well-kept neighborhoods, cultural and recreational amenities, and for its high quality public services and facilities. Antioch is a city in which families want to raise their children; children choose to stay and, as they become adults, raise their own families. It is also a city that the elderly find desirable for their retirement years. Antioch is an inclusive community, providing housing and employment opportunities for executives, managers, and professionals; highly skilled, semi-skilled, and unskilled workers; and retail and service workers. Antioch's vision is a community in which residents can live, work, shop, and spend their leisure time.

Antioch's vision aims at providing commercial and industrial lands for a wide variety of office-based and industrial employment, including heavier industrial and rail-served industries in the northern portion of the City, along with light industry, commercial service, and retail businesses, along with mixed-use business and office parks, such as is being envisioned in the regional "Shaping our Future" project. To complement these employment-generating lands, a broad range of housing is envisioned, including the following:

- Executive housing.
- Traditional single family subdivisions.
- Planned communities with common open spaces and high levels of community amenities.
- Middle to upper end attached housing products.
- Affordable housing to provide housing opportunities for the various income ranges represented in the City's employment base.

The focus for the Rivertown area will be to serve as a community gathering place, providing specialty retail, restaurant, and entertainment uses, as well as passive recreational activities along the riverfront. Rivertown will be a vibrant, active downtown area, with both daytime and nighttime activities. Ground floor uses would be devoted to retail, restaurant, commercial services, and entertainment, with residential and office uses on upper floors. The river will become the visual centerpiece of the Rivertown area, featuring a river walk, public art, and activity areas, such as bocce ball courts and gazebos for community concerts. This river walk will be part of a pedestrian/bicycle trail running along the river from the westerly limits of Rivertown to the existing marina west of Rivertown to Rodgers Point. In addition, an anchor use will be developed along the trail at the east end adjacent to Rodgers Point. Such an anchor could include an active recreation area, amphitheater, or other use that would encourage community activities. North-south streets within the Rivertown area will have views of the river, and buildings along the waterfront will "face" the river.

The existing rail line adjacent to Rivertown will become a community asset, rather than a dividing line, providing transit opportunities for Antioch residents and workers. Land uses surrounding the existing train stop will be

designed to take advantage of the market created by the rail line's transportation and visitor-serving functions. In addition, a transit-oriented land use pattern will be established adjacent to the Hillcrest Avenue freeway interchange. Land uses adjacent to the transportation node would include a high-density cluster of office and commercial uses. These high-density uses would be integrated into the surrounding community through pedestrian and bicycle amenities, as well as through consistent urban design themes. Ferry service, linking the Bay Area's waterfront communities, is available at Rodgers Point anchoring the east end of a waterfront trail.

Retail uses would be clustered at the SR-4/Hillcrest Avenue and SR-160/18th Street interchanges, along Lone Tree Way, Somersville Road, A Street, East 18th Street, and the SR-4 bypass, as well as at the proposed transportation node. Individual commercial uses at the transportation node would typically be small scale in nature, primarily consisting of restaurants, commercial services, and convenience retail uses oriented toward commuters and workers in adjacent office and industrial areas.

Economic development activities will focus on a combination of expanding local employment opportunities and retail sales tax income. The General Plan envisions expanding local employment opportunities through delineation of commercial and industrial lands for a wide variety of office-based and industrial employment, and implementation of an aggressive economic development program. Because commercial/industrial development will most likely occur both as freestanding uses and larger scale commercial centers and business/industrial parks, the City envisions aiming economic development activities at attracting both commercial/industrial developers and end users. Expansion of the City's sales tax revenues is envisioned to occur through:

- Revitalization and expansion of Somersville Towne Center into a mixed-use center;
- Retention of auto dealerships along Somersville Road;

- Development of new specialty retail opportunities within Rivertown;
- Addition of retail uses at the Hillcrest Avenue transportation hub;
- A new mall featuring department stores and up-scale retailing; and
- New retail uses within developing areas of the City.

Because existing traffic congestion largely results from regional traffic patterns connecting housing to distant major job centers, existing regional traffic problems will be addressed through a combination of public transit, roadway expansion, and provision of new employment opportunities throughout the City. Transit improvements are envisioned to include extension of BART to Antioch in the long-term with interim use of existing rail lines (eBART) to provide a transit connection to BART, along with commuter rail connections to the Tracy and Stockton areas. Roadway expansion will include completion of a local arterial roadway system within the East County area and major improvements to the regional highway system. These improvements would be aimed at enhancing linkages among communities within the East County area, as well as between the East County area and employment centers to the south and west. A more equitable allocation for financing major highway improvements will be sought, spreading costs onto both ends of the commute pattern: East County residential areas *and* the employment centers to which residents now commute. In addition, by expanding the area's employment base and achieving a better match between housing and local jobs, commute lengths can be reduced, and peak hour congestion can be relieved.

2.3 GENERAL PLAN THEMES

The General Plan represents a detailed statement for achieving community vision and managing growth and change in the years ahead. This vision, and the means that will be employed to achieve it are embodied in the following themes that are reflected throughout the General Plan.

1. *New growth and development can and will be directed toward meeting community objectives and needs.*

Antioch can grow and still remain a healthy and vibrant community, *if* this growth is managed, and occurs in the areas that can best accommodate it. Targeting of the type, intensity, and location of new growth, along with managing the rate of new residential development, will facilitate achievement of community objectives, such as:

- a. Balancing the provision of diverse housing options with local employment opportunities;
- b. Creating an exciting urban core within the Rivertown area with diverse economic, housing, cultural, and entertainment opportunities;
- c. Promoting a diverse economic base that serves Antioch residents through an expanded local employment base and entrepreneurial opportunities; maintaining sufficient municipal revenues to cover the cost of high quality municipal services and facilities; enhancing opportunities for cultural, scientific, corporate, entertainment, and educational institutions; and meeting the challenges of economic competition;
- d. Enhancing mobility for the movement of people and goods within the community and region through well-designed, balanced transportation systems that provides feasible alternatives to personal automobile travel (pedestrian, bicycle, and transit), and by maintaining a pattern of land uses that supports use of these alternatives modes of transportation;
- e. Maintaining a match between the expansion of the City and its service and infrastructure systems, including transportation systems; parks, fire, police, sanitary sewer, water, and

flood control facilities; and other essential municipal services;

- f. Facilitating the provision of high quality education within the community by providing for the construction of new school facilities;
- g. Providing adequate support for businesses and institutions that serve the needs of the community, including schools; quality medical care facilities, including a full service hospital with acute/emergency care and local medical clinics and services; child and adult day care centers; libraries, shelters; public auditoriums; social clubs and recreation centers; and places of worship; and
- h. Protecting the character of established residential neighborhoods.

2. *Economic vitality will be promoted to provide local employment and entrepreneurial opportunities, diverse shopping and commercial services, and adequate municipal revenues.*

Many residents commute to distant employment destinations because their job skills do not match existing local employment opportunities. These long commutes have resulted in congested highways, and are a significant constraint on residents' quality of life. To reduce congestion and enhance residents' quality of life, Antioch will expand its employment base, and work toward a balance between local jobs and housing. Although it is recognized that not all residents will choose to work within Antioch, and not all workers will live locally, Antioch's vision is that the majority of its working population will be employed locally. Such a choice will be made possible by providing as close a match between the range of local employment-generating uses and housing types as can be achieved.

Antioch's quality of life also depends, in part, on the services provided by the City. Antioch's vision encompasses high quality public safety services, along with a wide

array of other community amenities and public recreational activities. To afford the provision of such services, the City will support a vigorous business community and an economic climate wherein existing businesses desire to remain and expand, and new businesses want to locate. Such a business community will meet the needs of residents and other businesses by providing desired commercial and professional services and a broad array of convenience, specialty, and "big ticket," retail goods, as well as leisure-oriented and entertainment uses. Providing such an array of retail and commercial service uses represents much more than just municipal income for the City; providing the full range of retail and commercial services desired by Antioch residents will also be an important factor in enhancing community identity and pride.

3. *Antioch will be a healthy, family-oriented community.*

The well being of Antioch's children, families, and seniors is critical to the community's own well-being. Antioch is, and will continue to be largely comprised of single-family dwellings and neighborhoods designed for families. Although not directly provided by the City, high quality educational services are critical to community success. Thus, Antioch will maintain a close partnership with the Antioch Unified School District to facilitate the provision of superior school facilities, including shared school/park facilities, and to maintain a focus on what is best for the community's youth. As Antioch's population grows, the City will work with Los Medanos College to expand its programs, and will work CSU Hayward to establish a satellite campus within the City.

An array of high quality neighborhood-oriented and community-wide parks and recreational facilities will be maintained, along with community gathering places along the riverfront, as a means of enhancing Antioch's desirability for families. Antioch also recognizes existing demographic trends, and the desirability of

retaining local residents in the community for their retirement years. Thus, housing, facilities, and services for seniors will be provided within the community. Antioch will thus assist in meeting the needs of public, private, and voluntary organizations and institutions that provide important community support services by maintaining an adequate inventory of lands for such uses.

The City recognizes that land use patterns directly affect the quality of lives of families. Long commutes between Antioch and distant employment centers create stress for residents, and detracts from family life. The availability of services in nearby locations, including health care, education, recreation, day care, and shopping is not just a convenience, but is a key component of people's quality of life.

The City also recognizes the changing nature of the family, including single parent households and a growing number of singles who may band together to form households within the community. As a result, programs for children, undertaken in conjunction with local school districts, will become more important over time as a means of providing a full range of services, and maintaining a high quality of life for local residents.

4. *Antioch will be a mobile community, providing options in addition to the single-occupant automobile.*

The freedom provided by the private automobile has dominated the form of modern urban America over the past several decades. Although the automobile and modern highway systems have given workers the freedom to move into distant suburban locations in search of newer and higher quality housing than they could otherwise afford closer to their places of employment, the resulting long commutes have also been a source of growing frustration. As a result, there is an increasing demand for extending mass transit systems further into suburban locations, and for enhancing alternative

modes of transportation (e.g., bicycle and pedestrian) for local travel.

Antioch and other communities are also rethinking how energy conservation, air quality management, and transportation planning goals should be met, along with how future land use patterns need to be modified to support achievement of these goals. Thus, principles of transit-oriented development and pedestrian-oriented development¹ will be implemented to provide residents and workers alternatives to travel by automobile, by facilitating transit, pedestrian, and bicycle travel. The General Plan seeks to maximize residents' and visitors' freedom of movement within Antioch, providing them with viable choices as to the mode of transportation they use (e.g. automobile, transit, pedestrian, bicycle). The design, configuration, and mix of uses in strategic locations such as Rivertown, the Hillcrest interchange, Sand Creek and East Lone Tree Focused Planning Areas, and the "A" Street interchange will provide an alternative to traditional suburban development by emphasizing a pedestrian-oriented environment, and reinforcing residents' ability to use bicycles and public transportation.

5. *The resolution of community and regional issues needs to be equitable.*

In pursuing solutions to expansion and financing of infrastructure, including transportation facilities, and in managing future growth, the City of Antioch will emphasize the concept of equity. It is Antioch's vision that the financing of regional transportation improvements will recognize that the existing *regional* imbalance of jobs and housing is the

principal cause of the congestion faced by eastern Contra Costa County residents in their work commutes. Thus, the employment growth in existing employment centers is as much the cause of regional traffic congestion problems as it is the result of housing growth in existing suburban locations. An equitable solution to regional traffic congestion would place equal responsibility for financing new transportation facilities on jobs-rich communities that expand their employment bases and on housing-rich communities that expand their residential sectors. Equity will also be maintained in the financing of new public services and facilities and their long-term maintenance between existing and developing portions of the City. Thus, the costs associated with providing expanded infrastructure to newly developing areas will be internalized within those areas. Affordable housing will be provided within Antioch in a manner that integrates such housing into the fabric of the community, and does not isolate lower-income households from community amenities and activities. Finally, the notion of equity will be extended to the City's growth management system, which will provide opportunities for both large-scale and smaller housing developers to build and market their products within the community.

¹ "Transit-oriented" developments are typically mixed use neighborhoods or projects, within a quarter mile of a transit stop, predominantly light rail or bus transfer stations. Pedestrian-oriented developments give priority to and respond to the needs of the pedestrian as a higher priority than automobile travel. By providing a compact form of development, both transit-oriented and pedestrian-oriented development also facilitate bicycle travel.

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3.0 Growth Management

3.1 INTRODUCTION AND PURPOSE

The premise of growth management in the City of Antioch has long been to ensure that development paid its own way, and that sufficient public services and facilities were available to support new development. The City defined the desired pattern of land uses, and proactively assisted in setting up funding mechanisms for expansion of infrastructure designed to ensure that the costs of capital facilities needed to support growth were paid for by new development. As individual development came forward, the emphasis was on mitigating the impacts of proposed growth. Today, one of the key themes of the Antioch General Plan is that new growth and development be directed toward the achievement of the community vision set forth in the General Plan. New development needs to make a positive contribution to the community, and not just avoid or mitigate its impacts.

Antioch will face a number of difficult growth management challenges over the next 20 years as it moves from a bedroom suburb to a full service city. Key among these challenges is the need to effectively address nagging traffic congestion problems in the East County region in the face of rapid residential growth forecasts. In response, Antioch has committed to expand local employment opportunities and reduce the need for Antioch residents to commute long distances to work. The desire to revitalize Antioch's Rivertown area, its riverfront, and its older areas; to enhance municipal income streams through expanded retail opportunities, and the need to expand both upper end and affordable housing opportunities also need to be factored into the community's growth management strategy.

New growth and development within Antioch will increase the demand for infrastructure and services provided by the City and other agencies. In addition, future land use and

development decisions will have an effect on municipal costs and revenues. As long as Antioch continues to grow in population and expand its economic base, the City's operating and capital budgets will have to respond to increased demands for services and facilities. Since the fiscal burden of providing expanded infrastructure is beyond the normal capacity of municipal revenues, it is imperative that the expansion of the City's residential and non-residential sectors occur such that a burden is not placed on the community's resources.

As discussed in Section 3.1.2, Antioch voters passed an advisory growth control measure. Measure U calls for the City to not only enforce public services and facilities performance standards during the review of individual development proposals, but also to phase the rate of new development to ensure the continuing adequacy of those services and facilities. Managing the *rate* of growth adds a new challenge. To implement annual growth limits in addition to the public services and facilities performance standards that the City has been implementing, along with large-scale assessment districts to provide up-front financing of infrastructure, requires that care be taken to ensure the viability of such infrastructure financing mechanisms.

It is the purpose of this Element of the General Plan to bring together those portions of the General Plan that address various aspects of growth management, and thereby set forth a comprehensive strategy to manage the location and rate of future growth and development. It is also the purpose of the Growth Management Element to implement the provisions of countywide Measure J and the City's Measure U (see Sections 3.1.1 and 3.1.2, below). The Growth Management Element thus sets forth performance standards for key community services and facilities, thereby establishing a clear linkage between future growth and the adequacy of community services and facilities.

3.1.1 Contra Costa County Measure J Requirements

- One purpose of the Growth Management Element is to comply with the requirements of the Measure J Growth Management Program (GMP), adopted by the voters of Contra Costa County in November 2004. The GMP requires each local jurisdiction to meet the six following requirements: Adopt a development mitigation program;
- Address housing options;
- Participate in an ongoing cooperative, multi-jurisdictional planning process;
- Adopt an Urban Limit Line (ULL);
- Develop a five-year capital improvement program; and,
- Adopt a transportation systems management (TSM) ordinance or resolution.

Measure J (2004) is a 25-year extension of the previous Measure C Contra Costa Transportation Improvement and Growth Management Program approved by the voters in 1988.

Both programs include a ½ percent transportation and retail transactions and use tax intended to address existing major regional transportation problems. The Growth Management component is intended to assure that future residential business and commercial growth pays for the facilities required to meet the demands resulting from that growth.

Compliance with the GMP is linked to receipt of Local Street Maintenance and Improvement Funds and Transportation for Livable Community funds from the Transportation Authority. The Growth Management Program defined by the original Ordinance 88-01 continues in effect along with its linkage to Local Street maintenance and improvement funds through March 31, 2009. Beginning on April 1, 2009, the Measure J CMP requirements take effect.

Measure J eliminates the previous Measure C requirements for local performance standards

and level-of-service standards for non-regional routes. Measure J also adds the requirement for adoption of a voter-approved ULL.

3.1.2 Antioch's Advisory Measure U

In November 1998, Measure U was approved by a large majority of Antioch voters (69 percent). Measure U was an advisory measure calling for the City to phase the rate of new development to:

"Provide adequate schools, street improvements, and Highway 4 improvements for a sustained high quality of life, by making new growth pay its own way through maximizing fees, assessment districts, matching fund programs, and any other means effective to expedite the construction of needed infrastructure."

A series of community workshops were conducted during early 1999, leading to an interim ordinance.

The interim ordinance was subsequently replaced by a permanent ordinance that is consistent with the provisions of the General Plan Element.

3.2 GOALS OF THE GROWTH MANAGEMENT ELEMENT

To provide for a sustained high quality of life and ensure that new development occurs in a logical, orderly, and efficient manner, it is the goal of the Growth Management Element to accomplish the following:

- *Maintain a clear linkage between growth and development within the City and expansion of its service and infrastructure systems, including transportation systems; parks, fire, police, sanitary sewer, water, and flood control facilities; schools; and other essential municipal services, so as to ensure the continuing adequacy of these service facilities.*

This goal is cornerstone of the Growth Management Element. The quantified

public services and facilities performance standards delineated in this Element set a benchmark for quantifying the impacts of new development, and also represent the measuring tool by which mitigation of those impacts will be required by the City. Implementation of these performance standards is thus designed to mitigate the impacts of growth, and ensure that new development pays its own way in terms of the capital costs associated with needed expansion of public services and facilities. The provisions of the Growth Management Element are also intended to address efficiency in the provision of public services and facilities. By moderating the rate of new residential growth, consistent with the ability of the City and service agencies to keep pace, the cost of providing public services can be maintained at reasonable rates.

"Efficiency" in the provision of public services and facilities often also means constructing large-scale capital facilities at the initial phase of new development to avoid interim periods of inadequate service. The City of Antioch recognizes that that it is sometimes necessary to construct large-scale infrastructure ahead of development, possibly making financing difficult for individual developments. Where financing required large-scale capital facilities is needed, but beyond the ability of individual developments, many communities permit the construction of interim facilities. However, maintenance of such interim facilities is often costly, and in the end more expensive than constructing the ultimate facilities up front. As a result, Antioch strives to avoid the use of interim facilities, and supports the establishment of land-based financing mechanisms in the form of assessment districts to facilitate the financing of large-scale capital facilities. Policies related to interim facilities and financing of capital facilities is contained in the Public Services and Facilities Element.

- *Maintain a moderate rate of residential growth to ensure that the expansion of public services and facilities keeps pace.*

This goal recognizes that there is a limit to the rate at which public services and facilities can reasonably be expanded. Because of long lead times for the construction of regional highway improvements, schools, and large-scale flood control facilities, the provision of some critical facilities can fall behind rapid residential growth, even if new development does ultimately pay its own way. By moderating residential growth rates, potential lag times between project approvals and housing occupancy can be minimized or eliminated.

- *Recognize the ultimate buildout of future development within the City of Antioch and its Planning Area that is established in the General Plan Land Use Element.*

The land use map and policies contained in the Land Use Element define the City's future land use pattern, along with maximum appropriate development intensities throughout the Antioch Planning Area. As a result, the General Plan Land Use Element establishes an ultimate buildout for the General Plan. The policies of the Growth Management Element are intended to recognize that build out of the General Plan will occur as the result of numerous individual development decisions and numerous incremental improvements to the public services and facilities serving Antioch. In setting forth public services and facilities and defining the responsibility of individual developments to mitigate impacts and pay their own way, the Growth Management Element is intended to provide a system for the expansion of infrastructure that will support build out of the General Plan as expressed by the ultimate buildout established in the Land Use Element.

- *Manage the City's growth in a way that balances the provision of diverse housing options with local employment opportunities and provides sufficient municipal revenues to cover the cost of high quality municipal services and facilities.*

Achievement of a balance between local jobs and housing was a key factor in the implementation of the City's advisory Measure U, and a key component of Antioch's vision as expressed in Chapter 2, Community Vision, of the General Plan. The General Plan recognizes sustaining a high quality of life for Antioch residents necessarily involves reducing the need for long commutes to work, and that "balancing" jobs and housing means much more than just having an appropriate number of employment and housing opportunities within the community. "Balancing" jobs and housing means providing a range of housing types appropriate for the types of employment opportunities found in Antioch. Conversely, "balancing" jobs and housing means providing the employment –generating lands that will provide the employment opportunities appropriate to Antioch residents. This Element is intended to assist in the financing of infrastructure needed to develop job-producing uses. It accomplishes this purpose by establishing achievable performance standards and considering the feasibility financing infrastructure expansion.

- *Improve regional cooperation in relation to mitigating the regional impacts of new development.* Some of the services and facilities (e.g., fire protection, schools, and sewage treatment) provided to Antioch residents and businesses are provided by special districts, and not by the City. Effective management of growth, including mitigation of impacts and expansion of services and facilities to support future growth requires the cooperation of the City and outside agencies providing local services. The provisions of the Growth Management Element, along with the provisions of the Public Services and Facilities Element, are intended to provide for such coordination.

For many issues (e.g., transportation, air quality, and economic development), a cooperative regional approach to problem solving is the only effective means. Traffic

congestion resulting from home-to-work trips is primarily a regional problem resulting from regional imbalances of employment and housing, and can only be solved by concerted efforts at both ends of existing problematic commutes.

The impacts of new development are not always restricted to the municipal boundaries of the jurisdiction approving the development. Often, developments approved by one community impact other communities. In the case of development projects that will exacerbate regional jobs-housing imbalances, the traffic, noise, and air quality impacts of such developments can manifest themselves at some distance away from the development itself. "Equitable" mitigation involves not only that projects pay their own way within the jurisdiction where they are approved, but may also mean mitigating impacts in other jurisdictions.

The Growth Management Element seeks to establish a basis for communities to jointly provide mitigation for impacts occurring in other jurisdictions, as well as a basis for regional cooperation to address regional issues. Antioch recognizes that the effectiveness of its Growth Management Element ultimately relies on the extent to which active partnerships with other jurisdictions can be formed and maintained to address the regional aspects of mitigating development impacts.

3.3 GENERAL PLAN APPROACH

3.3.1 Growth Management Provisions in the General Plan

Antioch's growth strategy is to undertake a comprehensive program to accommodate planned economic and population growth in a manner consistent with community values and the lifestyles of existing and future residents. Thus, growth management is central to the General Plan, and "growth management" provisions appear throughout the General

Plan. In effect, the various elements of the General Plan each address specific aspects of managing growth within Antioch, and are intended to work together to function as a comprehensive growth management program. The specific growth management roles of individual General Plan elements are described below.

- The *Growth Management Element* implements the provisions of countywide Measure C, and provides supporting policies for implementation of Antioch's advisory Measure U. This Element establishes a quantified annual cap on residential growth, and sets forth roadway and highway level of service standards, as well as public services and facilities performance standards. This Element also implements the provisions of Measure J by providing general policy direction for achieving a balance between local jobs and housing, as well as for City participation in regional transportation planning efforts.
- The *Land Use Element* defines acceptable locations and the appropriate intensity for new development, and sets forth policies regarding development design and land use compatibility. By defining acceptable locations and appropriate intensities for new development, the Land Use Element establishes the maximum allowable development intensity for the City at "build out" of the Antioch Planning Area. Incorporated into the Land Use Element are the provisions of a boundary agreement Antioch maintains with the City of Brentwood. The agreement is intended to establish an agreed upon boundary between the two cities, and provide for compatible land uses along the cities' mutual boundary¹.

This element also addresses the effect of the urban limit line established by the Voter-Approved Urban Limit Line (Figure 4.12) and directs new development to

occur within the Voter-Approved Urban Limit Line, thereby achieving a compact form of community.

The Land Use Element specifically delineates lands set aside for the development of employment-generating uses, and defines the types of employment-generating uses appropriate for each area so designated. Overall, the land use pattern defined in this element, along with the aggressive economic development program called for in the General Plan, is designed to achieve a balance between local housing and employment. Overall, the Land Use Element sets forth smart growth concepts, including providing for a close relationship between land use and transportation facilities (e.g., public transit, bicycle and pedestrian transportation, higher density development nodes at transportation centers).

- The *Circulation and Transportation Element* directly addresses the provision of the new and expanded transportation facilities that are needed to support development of the land uses delineated in the Land Use Element, consistent with the level of service standards set forth in the Growth Management Element. This Element defines the specific improvements that will be made over time to the City's roadway and highway systems in order to maintain the level of service standards set forth in the Growth Management Element.
- The *Public Services and Facilities Element* directly addresses the provision of the new and expanded public services and facilities that are needed to maintain the performance standards set forth in the Growth Management Element. This Element defines the responsibilities of new development projects for the provision of expanded services and facilities, and provides policy direction for the manner in which expansion of public services and facilities will be financed. This element also addresses avoidance of interim facilities and the financing of large-scale

¹ The provisions of the boundary agreement permit either city to terminate the agreement upon notice to the other city.

facilities needed to maintain the performance standards set forth in the Growth Management Element.

- The *Resource Management Element* provides policy direction for the management of open space, hillside development, biological resources, water resources and quality, cultural and historical resources, and energy resources in relation to new growth and development.
- The *Environmental Hazards Element* addresses the constraints on growth presented by natural and man-made hazards.
- A *Development Review Program* is included as part of General Plan implementation programs. The Development Review Program is a compilation of General Plan policies affecting the review of individual development projects. This portion of the General Plan presents a comprehensive definition of the General Plan performance standards that will be used to review new development proposals in order to implement the policies of the General Plan. Thus, the Development Review Program sets forth the specific criteria that will be used to determine the consistency of proposed new developments with the General Plan.

In addition to the Development Review Program, General Plan implementation programs include Follow-up Studies, Intergovernmental Coordination, and General Plan Maintenance. These sections set forth requirements for monitoring and coordination of the City's Growth Management Element, including monitoring of compliance with stated performance standards and coordination with the City's Capital Improvement Program.

- The *Housing Element* delineates the specific programs that the City of Antioch will implement to ensure housing opportunities for all economic segments of

the economy. The Housing Element, unlike the balance of the General Plan, is intended by state law to be short-term, setting forth a five-year program. As a result, the Housing Element is required to be updated every five years. This Element sets forth specific policies and programs designed to ensure opportunities for the development of upper end housing, and for housing for service workers who could not otherwise afford for-sale housing within Antioch. State law requires that the California Department of Housing and Community Development review local Housing Elements to determine whether they meet the applicable legal requirements.

The Measure J Growth Management Program requires jurisdictions to report on their progress towards Housing Element compliance. The City must prepare a biennial report of the implementation of actions outlined in the City's Housing Element, for submittal to CCTA as part of the biennial GMP Compliance Checklist. The report will demonstrate reasonable progress using one of the following three options:

- a. Comparing the number of housing units approved, constructed or occupied within the City over the preceding five years with the number of units needed on average every year to meet the housing objectives established in the City's Housing Element; or,
- b. Illustrating how the City has adequately planned to meet the existing and projected housing needs through the adoption of land use plans and regulatory systems which provide opportunities for, and do not unduly constrain, housing development; or,
- c. Illustrating how the City's General Plan and zoning regulations facilitate the improvement and development of sufficient housing to meet those objectives.

3.3.2 Growth Management Provisions Outside of the General Plan

3.3.2.1 Capital Improvements Program.

The City of Antioch maintains a five-year capital improvements program (CIP) that lists projects, along with their costs and funding sources. The CIP identifies proposed capital improvements for parks and trails, roadway improvements, traffic signal projects, water and wastewater system improvements, and community facilities projects (e.g., community center, art in public places, Antioch Marina, police facility, city hall, fishing pier, library). This program defines priorities for public improvements throughout the community.

3.3.2.2 Transportation Systems Management Ordinance. The City of Antioch has adopted, and is implementing a Transportation Systems Management Ordinance to promote maximum efficiency in the existing transportation system, and to further the transportation goals of Measure J and the provisions of Contra Costa County's Congestion Management Program. The ordinance achieves these goals by:

- Promoting and encouraging the use of transit, ridesharing, bicycling, walking, flexible work hours, and telecommuting.
- Incorporating these features into the land use review process.
- Developing transportation systems management and demand management proactive programs and projects.
- Where feasible, incorporating technology in the transportation system to facilitate traffic flow, provide transit and highway information, and provide trip generation alternatives.

3.3.2.3 Participation in Regional Transportation Planning. Antioch is an active participant in regional transportation planning efforts, including the TRANSPLAN Committee. The TRANSPLAN Committee was formed in 1991 to serve as a transporta-

tion planning and coordinating group for the eastern portion of Contra Costa County. TRANSPLAN, whose members include the cities of Antioch, Brentwood, Oakley, and Pittsburg, as well as Contra Costa County, coordinates and represents East County's interests in the Measure J transportation planning and growth management process. TRANSPLAN projects include regional bikeway plans, East County Traffic Management Study, State Route 4 East Rail Transit Study, and the State Route 239 Interregional Corridor Study.

Members of the City Council also serve in active roles on the boards of the Contra Costa Transportation Authority and Tri-Delta Transit.

Participation In Other Regional Programs.

The City of Antioch participates in a number of other regional planning programs. These include the following:

- ABAG (regional land use and transportation planning for the San Francisco Bay Area);
- Community Advisory Board – San Francisco Bay Water Transit Authority (water-based transit);
- East Bay Division, League of California Cities (coordination regarding issues of mutual interest in relation to statewide issues and state legislation);
- East Contra Costa Regional Fee and Financing Authority (areawide financing of major transportation improvements);
- Mayor's Conference (forum for discussion of issues of mutual interest for cities within Contra Costa County); and
- State Route 4 By-Pass Authority (financing and construction of the State Route 4 by-pass east of State Route 160).

3.4 SERVICE STANDARDS FOR TRANSPORTATION FACILITIES

This portion of the Growth Management Element sets level of service¹ standards for roadways within the City of Antioch Planning Area, along with policies to ensure that these standards are maintained. These standards form the basis for the City's circulation policies, and for the ways in which land use and circulation will be correlated with each other. Roadways are grouped into two categories: "Routes of Regional Significance" and "Basic Routes."

Policies and programs to define the responsibilities of new development projects for the provision of expanded roadway facilities are provided in Chapter 7.0 of the General Plan (Circulation Element). Policy direction addressing the manner in which expansion of roadways and other public services and facilities will be financed is provided in Section 8.13 (Public Services and Facilities Element).

3.4.1 Routes of Regional Significance

"Routes of Regional Significance" include state highways and other major roadways that carry a significant amount of through traffic, and link Antioch to neighboring jurisdictions. Routes of Regional significance are subject to implementation of "Action Plans," which are a set of programs and policies that are developed with other jurisdictions in the County to address traffic impacts along these regional routes. Development projects that may impact regional routes are required to comply with adopted Action Plans. These Action Plans are described in the Circulation Element.

¹ Traffic levels of service (LOS) are expressed in terms of volume-to-capacity ratios to estimate the delay experienced by drives at intersections. They are expressed as the letters A-F with A representing free flow (volumes less than 60% of capacity, and F representing gridlock (volumes greater than 100% of capacity).

The following are officially designated as routes of regional significance.

- State Route 4, including freeway interchanges and the State Route 4 bypass
- State Route 160, including freeway interchanges
- Lone Tree Way
- Hillcrest Avenue
- Deer Valley Road
- Delta Fair Boulevard, west of Sommersville Road
- Buchanan Road, west of Sommersville Road
- James Donlon Boulevard
- Somersville Road
- Sand Creek/Dallas Ranch Road
- Standard Oil Road

While it may be desirable to add new roadways to this list, to do so in the absence of preparing and adopting "Action Plans" would leave such additional routes without enforceable performance standards. The Antioch Circulation Element identifies roadways that should be added to the County's list of Routes of Regional Significance, including 18th Street, Wilbur Avenue, Sunset Avenue, Oakley Avenue, and the Pittsburg-Antioch Highway. Each of these roadways provides access between Antioch and other communities. A program to prepare Action Plans and have these roadways designated as Routes of Regional Significance is included in Chapter 12, Implementation.

3.4.1.1 Performance Standards for Routes of Regional Significance. Discretionary projects that impact Routes of Regional Significance shall comply with the requirements of the adopted Action Plans. The improvements proposed for each of these routes are described in the Circulation Element.

Table 3.A – Level of Service Traffic Standards

Land Use	Level of Service (LOS)	Range of Volume-to-Capacity Ratios (V/C)
Rural	Low – C	0.70 – 0.74
Semi-Rural	High-C	0.75 – 0.79
Suburban	Low-D	0.80 – 0.84
Urban	High-E	0.85 – 0.89
Central Business District	Low-E	0.90 – 0.94

3.4.2 Basic Routes

This Growth Management Element requires consistency with the following traffic standards for Basic Routes, which are defined as all local roads not otherwise designated as Routes of Regional Significance. The standards are defined for various land uses, as illustrated in Table 3.A.

3.4.2.1 Performance Standards for Basic Routes. The minimum acceptable operating levels of service on arterials, collectors, and intersections during peak hours shall be as follows.

- a. Regional commercial portions of the Antioch Planning Area; intersections within 1,000 feet of a freeway interchange: Low "E" (v/c = 0.90-0.94)
- b. Residential and commercial portions of the Rivertown Focus Area; freeway interchanges: High "D" (v/c = 0.85-0.89)
- c. Residential and arterial roadways in non-Regional Commercial areas: Mid-range "D" (v/c = 0.83-0.87)

The locations of each of these types of routes in illustrated in the Circulation Element Map. For school facilities, the applicable performance standard is design of facilities to avoid impeding traffic on public streets before, during, and after normal school days.

3.4.3 Transportation Facilities Objective

Maintain acceptable traffic levels of service on City roadways through implementation of Transportation Systems Management, Growth

Management, and the City's Capital Improvement Program, and ensure that individual development projects provide appropriate mitigation for their impacts.

3.4.4 Transportation Facilities Policies

- a. Place ultimate responsibility for mitigating the impacts of future growth and development, including construction of new and widened roadways with individual development projects. The City's Capital Improvements Program will be used primarily to address the impacts of existing development, and to facilitate adopted economic development programs.
- b. Continue to develop and implement action plans for routes of regional significance (see Circulation Element requirements).
- c. Ensure that development projects pay applicable regional traffic mitigation fees and provide appropriate participation in relation to improvements for routes of regional significance (see also Circulation Element Policy 5.3.1f).
- d. Consider level of service standards along basic routes to be met if 20-year projections based on the City's accepted traffic model indicate that conditions at the intersections that will be impacted by the project will be equivalent to or better than those specified in the standard, or that the proposed project has been required to pay its fair share of the improvement costs needed to bring operations at impacted intersections into conformance with the applicable performance standard.

- e. The policy set forth in Paragraph d, above, is based on *projected, with project* traffic conditions and is a more stringent standard than that required by Measure J, which does not require jurisdictions to adopt local LOS standards. In cases where the standard set forth in paragraph d, above, is not met in the *no project* condition (i.e., projected traffic will not meet the applicable standard, even if the proposed project is not built), General Plan traffic standards for Basic Routes will be considered to be met if (1) the proposed project has been required to pay its fair share of the improvement costs needed to bring operations at impacted intersections into conformance with the applicable performance standard and actual physical improvements will be provided by the project so as to not result in a further degradation of projected level of service at affected intersections.

3.4.5 Transportation Systems Management (TSM) Policies

- a. Continue to implement the City's TSM program to reduce trip generation and maximize the carrying capacity of the area's roadway system.
- b. Work to establish rail transit service within Antioch.
- c. Work with Tri-Delta Transit and other service providers to promote regional transit service. Refer proposed development projects to Tri-Delta Transit, and require the provision of bus turnouts and bus stops in locations requested by the agency, where appropriate.
- d. Maintain a comprehensive system of bicycle lanes and routes as specified in the Circulation Element.
- e. Synchronize traffic signals where feasible to improve the flow of through traffic.

3.5 SERVICE STANDARDS FOR OTHER COMMUNITY SERVICES

This section of the Growth Management Element sets forth performance standards for public services and facilities other than the transportation network. Descriptions of current facilities serving Antioch and its Planning Area, as well as plans and programs for expansion of facilities maintained by the City and the special districts serving the City are described in the Public Services and Facilities Element.

Standards are presented for services and facilities provided by the City of Antioch, as well as those provided by Special Districts other than the City, including fire protection services provided by the Contra Costa County Fire Protection District, school facilities provided by the Antioch Unified School District¹, and sewage treatment facilities provided by the Delta Diablo Sanitation District. In addition to the fire, police, water, sanitary sewer, flood control, and park performance standards that are set forth in the Growth Management Element, standards are also provided for community centers, schools, and general public services and facilities. The inclusion of these additional standards recognizes the crucial role that community centers, schools and other governmental facilities will play in ensuring a high quality of life for Antioch residents.

Policies and programs to define the responsibilities of new development projects for the provision of expanded public services and facilities needed to meet the performance objectives and stated that follow are provided in the Public Services and Facilities Element of the General Plan. Policy direction addressing the manner in which expansion of roadways and other public services and facilities will be financed is provided in Section 8.13 (Public Services and Facilities Element).

¹ A small portion of the Antioch Planning Area is located within the boundaries of the Brentwood School District and the Liberty Union High School District. Standards and policies for schools will apply to each school district serving the Planning Area.

3.5.1 Community Centers¹

3.5.1.1 Performance Objective. Ensure that community centers provide sufficient space to conduct civic meetings, recreational programs, and social activities to meet the needs of Antioch residents.

3.5.1.2 Performance Standard. Maintain a minimum of 750 square feet of community center space per 1,000 population.

3.5.2 Fire Protection Facilities

3.5.2.1 Performance Objective. Maintain competent and efficient fire prevention and emergency fire, medical, and hazardous materials response services with first responder capability in order to minimize risks to life and property.

3.5.2.2 Performance Standard. Prior to approval of discretionary development projects, require written verification from the Contra Costa County Fire Protection District that a five minute response time (including three minute running time) can be maintained for 80 percent of emergency fire, medical, and hazardous materials calls on a citywide response area basis.

3.5.3 Police Service

3.5.3.1 Performance Objective. Maintain an active police force, while developing programs and police facilities that are designed to enhance public safety and protect the citizens of Antioch by providing an average response time to emergency calls of between seven and eight minutes from the time the call is received to the time an officer arrives.

3.5.3.1 Performance Standard. Maintain a force level within a range of 1.2 to 1.5 officers,

¹ Community centers consist of buildings, other than City Hall, designed for community meetings, indoor recreational and instructional programs, and social activities. Included in the definition of community centers are such specialized facilities as senior centers, youth centers, and gymnasiums. Existing facilities include the Nick Rodriguez Community Center, Prewitt Family Park Center, and the Antioch Senior Center.

including community service officers assigned to community policing and prisoner custody details, per 1,000 population. The ratio of community service officers assigned to community policing and prisoner custody details to sworn officers shall not exceed 20 percent of the total number of sworn officers.

3.5.4 Water Storage and Distribution²

3.5.4.1 Performance Objective. Maintain a water system that is capable of meeting the daily and peak demands of Antioch residents and businesses, including the provision of adequate fire flows and storage for drought and emergency conditions.

3.5.4.2 Performance Standard. Adequate fire flow as established by the Contra Costa County Fire Protection District, along with sufficient storage for emergency and drought situations and to maintain adequate service pressures.

3.5.5 Sanitary Sewer Collection and Treatment Facilities¹

3.5.5.1 Performance Objective. A wastewater collection, treatment, and disposal system that is capable of meeting the daily and peak demands of Antioch residents and businesses.

3.5.5.2 Performance Standards.

- a. Sanitary sewers (except for force mains) will exhibit unrestricted flow in normal and peak flows.
- b. Prior to approval of discretionary development projects, require written verification from the Delta Diablo Sanitation District that the proposed project will not cause the rated capacity of

² The performance objectives and standards for water storage and distribution relate to the provision of capital facilities. Policies related to water conservation and the use of reclaimed wastewater are contained in the Open Space/Conservation Element.

treatment facilities to be exceeded during normal or peak flows.

3.5.6 Flood Control

3.5.6.1 Performance Objective. Ensure adequate facilities to protect Antioch residents and businesses from damaging flood conditions.

3.5.6.2 Performance Standard. Provide sufficient facilities development to protect structures for human occupancy and roadways identified as evacuation routes from inundation during the 100-year flood event.

3.5.7 Parks and Recreational Facilities

3.5.7.1 Performance Objective. A system of park, recreational, and open space lands of sufficient size and in the appropriate locations, including provision of a range of recreational facilities, to serve the needs of Antioch residents of all ages.

3.5.7.2 Performance Standard. Provide five acres of improved public and/or private neighborhood parks and public community parkland per 1,000 population, including appropriate recreational facilities.

3.5.8 Schools

Recognizing that provision of school facilities is the responsibility of the school district, as set forth in State law (SB50). The intent of the General Plan in setting forth objectives and a performance standard for school facilities to require the maximum mitigation allowable by law.

3.5.8.1 Performance Objective. Provision of schools in locations that are readily accessible to student populations, along with sufficient facilities to provide educational services without overcrowding.

3.5.8.2 Performance Standard. Require new development to provide necessary funding and/or capital improvements to mitigate projected impacts on school facilities,

as determined by the responsible school district.

3.5.9 Entitlement Process and Capital Improvements Program

3.5.9.1 Entitlement Process and Capital Improvements Program Objective. To ensure the attainment of public services and facilities standards through the City's development review process, Capital Improvements Program, and a variety of funding mechanisms.

3.5.9.2 Entitlement Process and Capital Improvements Program Policies

- a. Ensure that discretionary development projects comply with the City's performance standards, by approving such projects only after making one or more of the following findings.
 - The City's adopted performance standards will be maintained following project occupancy; or
 - Project-specific mitigation measures or conditions of approval have been incorporated into the project.
- b. Require new development to fund public facilities and infrastructure, either directly or through participation in a land-based financing district, as necessary to mitigate the impacts of new development on public services and facilities.
- c. Levy mitigation requirements in proportion to each development's anticipated impacts. Where infrastructure is required to be installed in excess of a development's proportional mitigation requirement, utilize benefit districts over the area to be benefited by the infrastructure or provide reimbursement to the development for excess cost.
- d. Maintain a Five-Year Capital Improvement Program, designed, in part, to ensure that traffic and other public service performance standards are met and/or maintained, and to address the needs of

existing development. Update capital improvement plans as part of the annual budget process.

3.6 MANAGING THE RATE OF GROWTH

3.6.1 Rate of Growth Objectives

- a. Provide for a reasonable rate of residential growth that ensures the ability of the City to provide housing opportunities for all economic segments of the community as required by State Housing Element law, and that facilitates the ability of public services and facilities provided by the City and outside agencies to expand at a commensurate rate.
- b. Encourage reinvestment in older neighborhoods in order to increase the efficiency and reduce the costs of providing public services, stabilize older residential neighborhoods, and revitalize the Rivertown area.

3.6.2 Rate of Growth Policies

- a. Prohibit the granting of new residential development allocations for the calendar years 2006 and 2007. For the five-year period from 2006 to 2010, no more than 2,000 development allocations may be issued. Thereafter, limit the issuance of development allocations to a maximum annual average of 600, recognizing that the actual rate of growth will vary from year to year. Thus, unused development allocations issued after December 31, 2010 may be reallocated in subsequent years, and development allocations may be moved forward from future years, provided that the annual average of 600 development allocations may not be exceeded during any given five-year period (i.e., no more than 3,000 development allocations may be issued for any given five-year period).
- b. To move development allocations forward from future years, the following finding must be made:

The constraints posed by needed infrastructure phasing or capital facilities financing require that development allocations be moved forward from future years to avoid jeopardizing the feasibility of existing infrastructure financing mechanisms or the financing of infrastructure for the development allocations that would otherwise be granted during the calendar year.

- c. To facilitate the development of housing required to meet the needs of all economic segments of the community and special needs groups identified in the Housing Element, age-restricted housing and multiple-family dwellings shall be counted as less than one single family dwelling unit for the purposes of residential development allocations. The relationship between an allocation for a single-family dwelling and an allocation for age-restricted housing and multiple-family dwellings shall be based on such factors as differences in traffic generation, school impacts, and demand for new recreation facilities.
- d. In order to avoid a predominance of any one housing type, limits shall be placed on the number of annual allocations that may be granted to age-restricted senior housing, single family detached housing, and multifamily housing.
- e. Permit residential projects that are subject to limitations on development allocations to proceed with other necessary approvals not directly resulting in the division of land or construction of residential dwelling units (e.g., General Plan amendments, rezoning, environmental review, annexation, etc.). The processing of such applications is not, however, a commitment on the part of the City that the proposal will ultimately receive development entitlements or allocations.
- f. To facilitate the development of housing required to meet the needs of all economic segments of the community and special needs groups identified in the Housing

Element, exempt the following types of developments from limitations on the annual issuance of development allocations, whether for single-family or multi-family residential development. Dwelling units approved pursuant to the following exemptions shall not be counted against the established maximum annual development allocation.

- (1) Income-restricted housing needed to meet the quantified objectives for very low and low income housing set forth in the Housing Element, along with "density bonus" dwelling units approved pursuant to the provisions of the Housing Element and the City's Density Bonus ordinance.
- (2) Dwelling units designed for one or more Special Needs Groups, as defined in the Housing Element (i.e., handicapped, income-restricted senior housing), pursuant to programs set forth in the Housing Element as needed to meet the Housing Element's quantified objectives for housing of special needs groups.
- (3) Dwelling units within development projects having vested rights through a valid (unexpired¹) development agreement or vesting map.
- (4) Construction of a single dwelling unit by or for the owner of the lot of record on which the dwelling unit is to be constructed.
- (5) Construction of a second dwelling unit on a lot of record.
- (6) Development of a project of four or fewer dwelling units.
- (7) Development projects within the Rivertown Focused Planning Area.
- (8) Smart growth, transit-oriented development projects.
- (9) Properties outside the City limits, as shown on the General Plan Land Use Map, that subsequently annex to the City and otherwise provide positive impacts to the City consistent with this article. Approval of such an exemption shall be at the sole discretion of the Council, and the details shall be memorialized by a statutory development agreement or other binding instrument. However, residential development in Roddy Ranch shall be subject to the residential development allocation program.

3.6.3 Development Allocation Policies

- a. Development allocations shall constitute a right, granted by the City Council, to apply for building permits for lots within an approved tentative map, subject to recordation of the map and conformance with all conditions of approval placed on the tentative tract map.
- b. Development allocation reservations shall constitute a "set aside" of a portion of the maximum annual number of development allocations in future years for dwelling units within an approved large-scale development project (e.g., Specific Plan, Planned Development) for which a tentative map has not yet been approved.
- c. At least once during each fiscal year, the City will grant development allocations for approved and proposed projects based upon the extent to which such projects meet or are consistent with the objectives set by the City Council for the following allocation period and, if appropriate, for succeeding allocation periods.
- d. Development objectives shall be adopted by the City Council following public hearing. In defining development objectives, the City Council shall provide an indication to the development community of the City's expectations for residential development for the allocation period.

¹ The majority of existing development agreements expired on December 31, 2002.

- (1) Base development objectives on the need to implement the provisions of the Antioch General Plan, public service and facilities capacities, recommendations of the City's Capital Improvements Program, environmental constraints, and other relevant factors.
 - (2) Formulate development objectives so as to facilitate comparative review of development projects and thereby allow the City to appropriately limit the number of development allocations at times when requests for such allocations would exceed the specified annual average, or the number of allocations assigned to any given time period.
 - (3) Incorporate identification of development projects providing net benefits to the community into development objectives, thereby providing such project with a priority for the granting of development allocations.
- e. Permit requests for development allocations (either tentative maps or other applicable approval for residential projects not requiring a land division) in excess of the limitations on annual allocations described above, provided that the project is phased so that the no single phase exceeds the number of allocations granted to the project for a given year. Thus, development projects may be granted development allocations for use in up to four years subsequent to the original allocation¹.
 - f. Permit development projects to carry over unused development allocations into subsequent years.

¹ For example, a 250-dwelling unit residential development project may, at one time, be granted 50 development allocations per year for a five-year period.

- g. Upon expiration of a development entitlement, the development allocations and reservations associated with the expired entitlement shall be automatically rescinded, and may be reallocated to other development projects, consistent with the annual limits set forth above.

3.7 REGIONAL COOPERATION

3.7.1 Regional Cooperation Objectives

- a. Resolution of regional and multi-jurisdictional transportation issues for the maintenance of regional mobility as required by Measure J Growth Management Program and the Contra Costa Congestion Management Program.
- b. A regional approach to regional issues that recognizes and respects Antioch's local interests.
- c. Establishment of a system of development review within Antioch *and* surrounding communities based on the principle that the impacts of new development must be mitigated or offset by project-related benefits within *each* of the jurisdictions in which the impacts will be experienced.

3.7.2 Regional Cooperation Policies

- a. Continue participation in regional transportation planning efforts, including the Contra Costa Transportation Authority, Eastern Contra Costa Transit Authority (Tri-Delta Transit), and TRANSPLAN.
- b. As part of the evaluation of individual development projects, address and provide appropriate mitigation for impacts on regional and local transportation facilities.
- c. Maintain ongoing communications with agencies whose activities affect and are affected by the activities of the City of Antioch (e.g., cities of Brentwood, Oakley and Pittsburg; Contra Costa County; Antioch Unified School District; Contra

Costa County Fire Protection District; Delta Diablo Sanitation District). The primary objective of this communication will be to:

- (1) Identify opportunities for joint programs to further common interests in a cost efficient manner;
 - (2) Assist outside agencies and the City of Antioch to understand each other's interests, needs, and concerns; and
 - (3) Resolve differences in these interests, needs, and concerns between Antioch and other agencies in a mutually beneficial manner.
- d. Support and promote inter-jurisdictional programs to integrate and coordinate the land use and circulation plans of area municipalities and the County, and to establish an ongoing inter-jurisdictional process for reviewing development proposals and mitigating their inter-jurisdictional impacts based on the principle that it is not appropriate for a jurisdiction, in approving a development project, to *internalize* its benefits and *externalize* its impacts.
- e. Continue to refer major planning and land use proposals to all affected jurisdictions for review, comment, and recommendation.
- a. Maintain an inventory of employment-generating lands, providing for a variety of office-based, industrial, and commercial (retail and service) employment opportunities.¹
 - b. Maintain an inventory of residential lands that provides for a broad range of housing types including executive housing in both urban and rural settings, traditional single family neighborhoods, middle to upper end attached housing products, and affordable housing².
 - (1) Provide a balance between the types and extent of employment-generating lands planned within the City of Antioch with the types and intensity of lands planned for residential development.
 - (2) Encourage businesses to locate and expand within Antioch through an aggressive economic development program that provides essential information to prospective developers and businesses, along with tangible incentive programs for new and expanding businesses.

3.8 BALANCING EMPLOYMENT AND HOUSING OPPORTUNITIES

3.8.1 Employment and Housing Balance Objective

Achievement of a balance between housing and employment opportunities within Antioch, providing the opportunity for households of all income levels to both live and work in Antioch.

3.8.2 Employment and Housing Balance Policies

¹ This inventory, including identification of locations for employment-generating uses and the types and intensity of development appropriate for each location, is provided in the Land Use Element.

² The Land Use Element delineates the inventory of residential lands, and defines appropriate housing types and development intensities. One of the primary objectives of the Land Use Element is to increase opportunities for local employment for existing and future residents. Specific plans and programs to accomplish this objective are set forth in that Element. The primary objective of the Housing Element is to provide housing opportunities at all income levels.

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4.0 Land Use

4.1 INTRODUCTION AND PURPOSE

The Land Use Element is the cornerstone of the General Plan, setting forth Antioch's fundamental land use philosophy and directing development to the most suitable locations, while maintaining the economic, social, physical, environmental health and vitality of the community. The Land Use Element, required by law since 1955, has the broadest scope of the seven mandatory General Plan elements, synthesizing all General Plan land use issues.

This Element focuses on the organization of the community's physical environment into logical, functional, and visually pleasing patterns, consistent with local values, to achieve Antioch's vision for its future. Of primary concern are the *type, intensity, location, and character* of land uses that will be permitted in the future. It is the purpose of this General Plan Element to provide appropriate land for each of the variety of activities associated with successful urban areas, and to guide the manner in which this land is developed and used. In so doing, the Land Use Element intends to create and regulate compatible and functional interrelationships between the various land uses in the City. Thus, the Land Use Element establishes City policy as to the appropriate use and development intensity for each parcel of land within the City, including the City's view of appropriate land uses and development intensity for lands outside of the City, but within the General Plan study area.

A key consideration in defining the type, intensity, location, and mix of future land uses is achieving a balance between local employment and housing. The Antioch General Plan seeks to achieve such a balance as a means of addressing issues of traffic congestion, air quality, and energy conservation. This balance, along with providing adequate land area for the commercial uses needed by local residents and businesses, will help achieve sufficient municipal income to pay for the

services and facilities discussed in the Growth Management and Public Services and Facilities elements. The ability to commute only a few short miles to and from work on roadways that resemble the open road more than they do parking lots is an important component of the quality of life Antioch seeks for its residents. As more residents throughout the Bay Area are able to live and work in the same or nearby communities, congestion can be eased, travel speeds increased, substantial amounts of fuel conserved, regional air quality improved. The Land Use Element also seeks to ease congestion and improve regional air quality by providing patterns of land use that support the use of transit. Such "transit-oriented" development consists of high density, mixed use development adjacent to transit nodes. Such transit nodes are proposed within Rivertown (adjacent to the Amtrak platform), at Hillcrest Avenue (surrounding the eBART station), and east of the SR-4 Bypass, south of the Laurel Avenue interchange (surrounding the eBART station)¹.

4.1.1 Existing Land Use

Despite substantial development in the past, Antioch has a great deal of land available for future development. Approximately 38 percent of the land within the City (6,383 acres) and nearly 46 percent of the land within the unincorporated portion of the General Plan study area (2,240 acres) are vacant. Additional land (928 acres in the City and 381 acres in unincorporated areas) is in agricultural use, and, may be available for future development, depending upon its land use designation. Overall, open space uses, including agriculture, open water, recreational lands, and vacant lands account for approximately half of the land within the City, and over 60 percent of the unincorporated land within the General Plan Study Area. Major open space areas include Black Diamond

¹ This transit-oriented development node is one of three "test sites" for smart growth sponsored by ABAG. It is part of the countywide "Shaping our Future" program.

Mines and Contra Loma regional parks, Antioch Dunes National Wildlife Refuge, and municipal parklands.

Within the developed portion of the City, single-family residential uses cover the largest area (3,871 acres, 23%). Industrial uses account for 831 acres (3.8% of the land within the study area), the majority of which (431 acres) is located within the unincorporated northeastern portion of the Study Area.

Currently, industrial uses are concentrated in the northern portion of the Study Area to the west and east of Rivertown. Existing commercial uses are limited in extent, encompassing 456 acres (2.7% of the land within the City); only 3.8 acres of commercial use are located within unincorporated portions of the Study Area. Commercial use is concentrated within Rivertown, and along major roadway corridors, such as Somersville Road, Hillcrest Avenue, and "A" Street/Lone Tree Avenue.

4.1.2 Contra Costa County 65/35 Land Preservation Plan (Urban Limit Line)

In 1990, the voters of Contra Costa County approved Measure C-1990. This Measure states that urban development within the County is to be limited to no more than 35 percent of the land within Contra Costa County. At least 65 percent of all land in the County is to be preserved for agriculture, open space, wetlands, parks and other non-urban uses. To ensure the enforcement of the "65/35" standard, the County has established an Urban Limit Line (ULL), which is incorporated into the County's General Plan Open Space and Conservation Element. Hence, there shall be a clear distinction between non-urban and urban use areas. The criteria set by the County for determining lands that should be located outside the ULL includes:

- Prime agricultural lands (U.S. Soil Conservation Service Class I and Class II)
- Open space, parks and other recreation areas
- Lands with slopes in excess of 25 percent
- Wetland areas

- Other areas not appropriate for urban growth because of physical unsuitability for development

Measure C-1990 requires that there be no changes made to the ULL that would violate the 65/35 standard. The ULL can be changed by a 4/5 vote of the Board of Supervisors after holding a public hearing and making one or more of the following findings based on substantial evidence in the record:

- A natural or man-made disaster or public emergency has occurred that warrants the provision of housing and/or other community needs within land located outside the ULL.
- An objective study has determined that the ULL is preventing the County from providing its fair share of affordable or regional housing, as required by state law. The Board of Supervisors must find that a change to the ULL is necessary and the only feasible means to enable the County to meet these requirements.
- A majority of the cities are party to a preservation agreement, and the County have approved a change to the ULL affecting all or any portion of the land covered by the preservation agreement.
- A minor change to the ULL will more accurately reflect topographical characteristics or legal boundaries.
- A five-year periodic review of the ULL has determined that, based on the criteria for establishing the ULL, new information is available or circumstances have occurred, warranting a change to the ULL.
- An objective study has determined that a change to the ULL is necessary or desirable to further the economic viability of the East Contra Costa County Airport, and either (i) mitigate adverse aviation related environmental or community impacts, or (ii) further the County's aviation related needs.
- A change is required to conform to applicable to California or Federal law.

Although the direct land use effects of the Urban Limit Line are limited to unincorporated areas of the County, the Contra Costa Local Agency Formation Commission (LAFCO) has consented to support the County's 65/35 Preservation Standard, Urban Limit Line, and Growth Management Standards in the review of proposed city spheres of influence and annexations. Thus, LAFCO has stated that it would not approve annexation of lands outside of the ULL to a city. Measure 1990-C states that the County is to review the location of the ULL every five years. The provisions of Measure C- 1990 will remain in effect until December 31, 2010.

In 2000, the County moved its Urban Limit Line in the East County area. Within the Antioch area, the Urban Limit Line was moved to coincide with the southern boundary of the City, placing lands in the unincorporated area outside the ULL. This move shifted approximately 1,922 acres out of the ULL within the Antioch area.

4.1.3 General Plan Land Use Designations and Development Feasibility

The General Plan provides a blueprint for community development by designating lands for different types of uses. In designating land uses, the General Plan takes into account:

- *Existing Land Use:* What is the current pattern of developed land by type of land use – residential, commercial, service, manufacturing, and others?
 - *Demand:* How much demand exists for existing and new land uses of various types (housing, retail, industry, etc.)?
 - *Desired Future Land Use:* Of lands available for development or redevelopment, which locations are best for different uses? Is there sufficient undeveloped land that is designated for various uses to meet community objectives, or do existing General Plan land use designations need to be adjusted to satisfy future needs?
 - *Infrastructure Availability:* Are urban services – water supply, wastewater collection and treatment, transportation facilities, and others – adequate to serve existing *and* future development? How will existing infrastructure inadequacies be corrected?
- Taking these considerations into account, the General Plan indicates where various kinds of land uses are best located, and how much of each use should be provided. The General Plan provides opportunities, but does not *cause* development to happen. The General Plan recognizes that, ultimately, growth and development depend on the initiative of individual developers, for whom the provisions of the General Plan establish the context for evaluating the economic feasibility of their specific projects. Whether developers seize the initiative, and move forward with projects depends on the economic benefit they expect to derive from such development. In deciding whether to pursue a development project on a particular site, potential developers evaluate a series of factors that collectively determine whether the project will be economically feasible (whether it will “pencil out”). These factors include:
- *General Plan Designation and Zoning:* Is the site designated for uses that are marketable at its location? (If development has not occurred in certain locations as anticipated by the General Plan, why not?)
 - *Competition:* Does a particular site have the location and physical, infrastructure, and environmental characteristics necessary to compete successfully in the marketplace? Has the community been successful in attracting the type of use being contemplated? Will the specific development at this specific site be appropriately timed and positioned within the market for that use?
 - *Cost of Land and Construction:* Is the site available at costs the value of a completed development can support? Are needed construction materials and labor available at acceptable cost levels? Is development financing (short-term construction loans and long term financing) available at acceptable interest rates?

- *Local Agency Costs:* What types of development standards do the city and other local agencies impose? What are the costs associated with development review fees, impact mitigation and other exactions by the city, and the interest carry over the time it takes to bring a project to market? How do these requirements affect the economic feasibility of different types of uses?

Developers consider the feasibility of each project – whether its costs and its revenue-generating potential will “pencil out” in the expected market – in the overall regulatory context established by the City’s General Plan and its development regulations. The General Plan sets the stage, but private-sector development decisions depend on a large number of other factors that contribute to feasibility. If projects are not economically feasible, development will not happen, regardless of the directives of the General Plan and the desires of the community. Thus, the development pattern that evolves is the joint outcome of the development framework established by the General Plan and the private sector conditions that shape the developer’s assessment of feasibility.

4.2 GOALS OF THE LAND USE ELEMENT

To provide for a sustained high quality of life and ensure that new development occurs in a logical, orderly, and efficient manner, it is the goal of the Land Use Element to accomplish the following:

- *Maintain a pattern of land uses that minimizes conflicts between various land uses, and promotes rational utilization of presently undeveloped and underdeveloped land, and supports the achievement of Antioch’s vision for its future.*

Defining the appropriate uses of land within the General Plan study area in a manner supportive of achieving the vision Antioch has established for its future is at the crux of the Land Use Element. The

Land Use Element is responsive to the City’s vision because it:

- Promotes expansion of the local employment base and achievement of a balance between local employment and housing. The Land Use Element provides for a wide variety of office-based and industrial employment, including heavier industrial uses along the San Joaquin River, rail-served industries, light industrial uses, commercial services, and retail businesses, and mixed use business and office parks.
- Opens up additional choices of living environment for families. The Land Use Element provides for executive housing in planned community settings, traditional single-family subdivisions, amenity-rich middle to upper end attached housing, high-density housing in transit-oriented, downtown, and mixed-use settings.
- Provides for the revitalization of the Rivertown area and waterfront, integrating General Plan policies with revitalization planning efforts undertaken by the City.
- Provides opportunities for achieving quality design and avoiding the relentless sameness present in many suburban communities.
- Aids in stimulating economic revitalization in areas that are having difficulty competing with larger and more diversified development sites in Antioch and other communities.
- Stimulates new options for development at key entry points into the community.

In defining appropriate uses, the Land Use Element addresses the future uses of lands that are currently undeveloped, and also sets forth desired changes in existing land uses and development intensities. In most cases, the Land Use Element recognizes existing land uses and development densities, and may

recommend urban design improvements. In some cases, such as along the "A" Street corridor north of the SR4 freeway, the Land Use Element proposes changes in basic land use types. In other cases, such as existing residential areas within Rivertown, the Land Use Element recommends increases in the overall development intensity of existing land uses. Each of the recommendations contained in the Land Use Element are intended to result in a harmonious pattern of land uses directed toward meeting community objectives and needs.

- *Establish a land use mix which serves to develop Antioch into a balance community in which people can live, work, shop, and have recreation without needing to leave the City.*

The Land Use Element designates lands for a broad range of residential, commercial, employment-generating, public/institutional, and open space and recreational lands. Residential and employment-generating land use designations are intended to include lands providing housing and employment opportunities for executives, managers, and professionals; highly skilled, semi-skilled, and unskilled workers; and retail and service workers. Residential land use designations are intended to provide housing opportunities for all economic segments of the community, as well as for the special needs groups identified in the Housing Element. The Land Use Element seeks an array of shopping and commercial service opportunities to meet the needs of Antioch residents and businesses, including daily convenience shopping along with large-scale commercial centers for community and regional markets. The Land Use Element aims to provide a sufficient inventory of lands for public, institutional, and recreation uses, and seeks to preserve needed open space areas.

- *Establish an overall design statement for the City of Antioch.*

As important as is defining the pattern of future land uses is maintaining and enhancing Antioch's character and providing a pleasing visual experience to residents and visitors. Thus, Antioch's Land Use Element incorporates "urban design" concepts aimed at ensuring that the built environment is a physical expression of desired community character.

4.3 COMMUNITY STRUCTURE

Throughout much of the General Plan study area, Antioch's land use pattern is well established, and is not intended to change over time. Future growth in the central and northern portions of the City will primarily consist of infill development, existing approved but undeveloped projects, and the expansion of existing uses. Along the riverfront, much of the existing heavy industrial development is planned to transition to lighter industrial and business park uses. Higher density housing will be introduced into the Rivertown area in the form of mixed-use buildings within the predominantly commercial northern portion of the area, while larger vacant parcels within the central and southerly portions of Rivertown will be encouraged to develop at medium and higher densities. As development expands into the southern portion of the City and its General Plan study area, Antioch will face significant challenges.

4.3.1 Community Structure Objective

Provide adequate land for present and future urban and economic development needs, while retaining a compact, rather than a scattered, development pattern.

4.3.2 Community Structure Policies

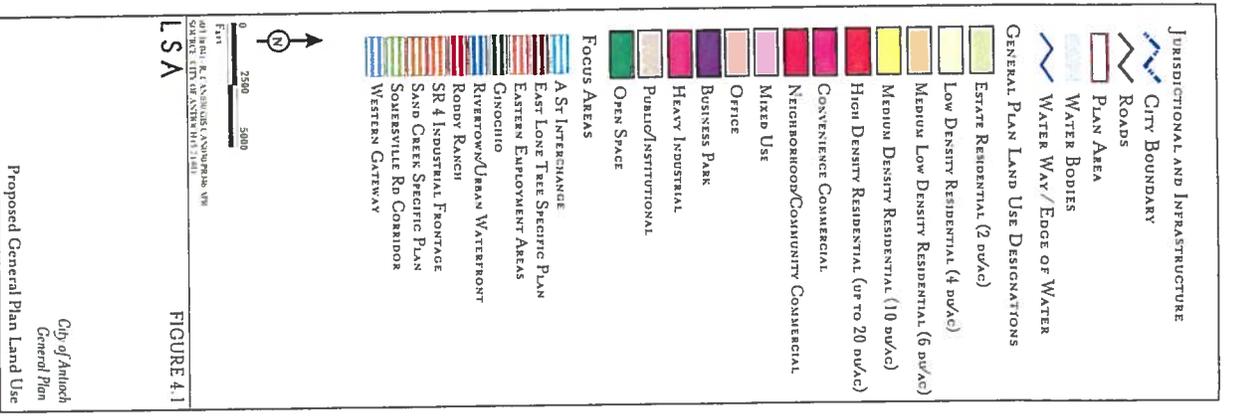
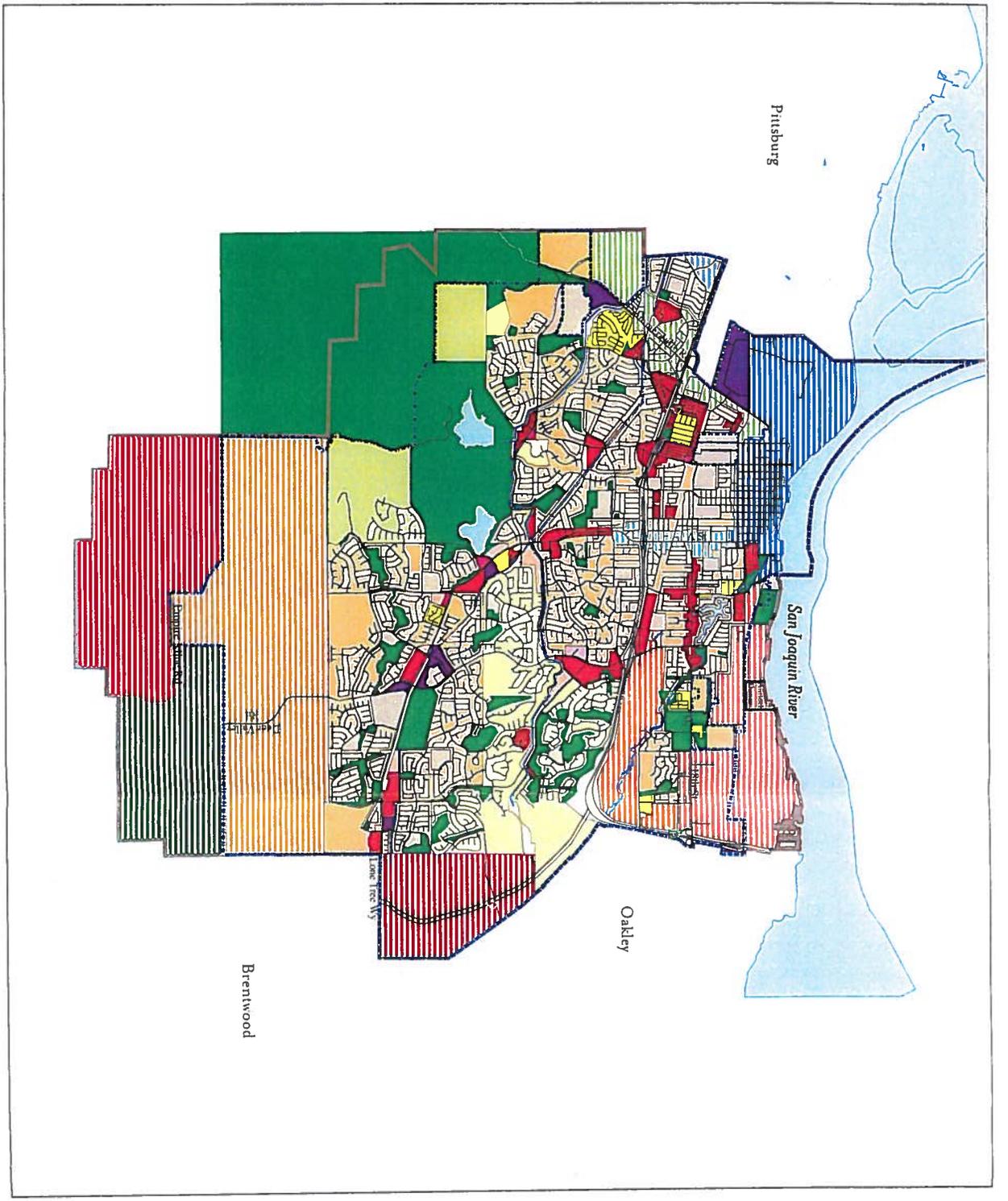
- As part of General Plan implementation – including development review, capital improvement planning, and preparation of Specific Plans – foster close land use/transportation relationships to promote use of alternative transportation system modes and minimize travel by single occupant automobiles.

- b. Give priority to new development utilizing existing and financially committed infrastructure systems over development needing financing and construction of new infrastructure systems.
- c. Encourage high-density residential development (both freestanding and in mixed use projects) within one-quarter mile of existing and planned heavy and/or light rail transit stops as illustrated in the Circulation Element.
- d. Concentrate large-scale industrial uses along the waterfront east of Rodgers Point and within areas designated for industrial use along existing rail lines. Limit employment-generating uses adjacent to residential areas and within mixed-use planned communities to business parks and office uses.
- e. Concentrate future regional commercial uses along Lone Tree Way, SR4 and SR160 and along the SR-4 bypass.
- f. Recognize the Voter-Approved Urban Limit Line (Figure 4.12) that encompasses up to 1,050 acres of land within the Roddy Ranch and Ginochio Property Focus Areas that were included in the Urban Limit Line as it was adopted by the voters in 1990 and in the Voter-Approved Urban Limit Line as a means of phasing urban and suburban development, preserving open space and maintaining a compact urban form.
 - Maintain rural land uses (residential densities less than one dwelling unit per five acres (0.2 du/ac) and compatible open space/recreational uses which do not require urban levels of public services and facilities through 2020 in areas outside of the Voter-Approved Urban Limit Line.
 - Limit future urban development within Roddy Ranch and the Ginochio Property through 2020 to a total of approximately 1,050 acres (approximately 850 acres within Roddy Ranch and 200

acres within the Ginochio Property) that were within the urban limit line as it was adopted by the voters in 1990 and that are also within in the Voter-Approved Urban Limit Line.

4.4 INTENSITY AND DISTRIBUTION OF LAND USE

Antioch's General Plan land use classifications are intended to define the City's land use intent in designating lands throughout the General Plan study area, and thereby carry out the provisions of the General Plan. General Plan land use classifications are also intended to provide the City with sufficient flexibility in implementation to address unique and unforeseen situations. The designations established by the General Plan land use map include Residential, Commercial, Employment-Generating, and Community and Public land use designations. In addition, the General Plan includes ten "Focus Areas." Specific policy direction is provided for each Focus Area. These designations are set forth in Section 4.4.1. Within this section, appropriate land use types are defined for each designation. These land use types are defined in Table 4.A, which also identifies which land use types are appropriate within which land use designations. Sections 4.4.2 through 4.4.5 provide policies for residential, commercial, employment-generating, and community and public land uses. Figure 4.1 presents the General Plan land use map. Tables 4.A through 4.D provide a quantified description of anticipated General Plan build out.



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<p>manufacturing is conducted wholly within an enclosed building. Light manufacturing activities do not produce odors, noise, vibration, or particulates, which would adversely affect uses within the same structure or on the same site. Also included are watchman's quarters.</p> <p>General Manufacturing and Assembly Activities typically include, but are not limited to, the mechanical or chemical transformation of raw or semi-finished materials or substances into new products, including manufacture of products, assembly of component parts (including required packaging for retail sale), blending of materials such as lubricating oils, plastics, and resins, and treatment and fabrication operations. Uses requiring massive structures outside of buildings such as cranes or conveyor systems, or open-air storage of large quantities of raw or semi-refined materials are also included within this land use type. Also included are watchman's quarters.</p> <p>Research and Development. Activities typically include, but are not limited to, scientific research and theoretical studies and investigations in the natural, physical, or social sciences. Also included is engineering, fabrication, and testing of prototypes developed with the objective of creating marketable end products; and the performance of physical and environmental testing and related activities by or under the supervision of professional scientists and highly trained specialists. Watchman's quarters are included as an ancillary use.</p> <p>Operable Vehicle Storage. Activities typically include, but are not limited to the parking and/or storage of operable vehicles. Typical uses include, but are not limited to fleet storage of automobiles and trucks, storage lots, and recreational vehicle and boat storage.</p> <p>Personal Storage. Activities typically include, but are not limited to storage services and facilities primarily for personal and business effects and household goods with enclosed storage areas having individual access. Typical uses include, but are not limited to mini-warehouses.</p> <p>Storage and Distribution – Light. Activities typically include, but are not limited to, wholesaling, storage, and warehousing services conducted entirely within enclosed buildings. Also included are watchman's quarters.</p> <p>Storage and Distribution – General Activities</p>	Estate Residential	Low Density Residential	Medium Low Density Residential	Medium Density Residential	High Density Residential	Convenience Commercial	Neighborhood/Community Comm.	Regional Commercial	Somersville Road Commercial	SR-4/SR-160 Frontage Comm.	Marina/Support Services	Rivertown Commercial	"A" Street Commercial/Office	Mixed Use	Mixed Use Medical Facility	Office	Business Park	Eastern Waterfront Business Park	Light Industrial	Rail-Served Industrial	General Industrial	E. Lone Tree Employment-Generating	Residential TOD	Office TOD	Town Center Mixed Use	Community Retail	Public/Institutional	Open Space
												✓									✓	✓						

Table 4.B – Anticipated Maximum General Plan Build Out in the City of Antioch

Land Uses	Single-Family (Dwelling Units)	Multi-Family (Dwelling Units)	Commercial/ Office (sq.ft.)	Business Park/ Industrial (sq.ft.)
Residential				
Estate Residential	905	--	--	--
Low Density Residential	4,100	--	--	--
Med Low Density Residential	14,884	--	--	--
Medium Density Residential	6,490	4,330	--	--
High Density Residential		5,310	--	--
Subtotal	26,379	9,640		
Commercial				
Convenience Commercial	--	--	277,900	--
Neighborhood Commercial	--	--	1,781,100	--
Service Commercial	--	--	776,680	--
Commercial Office	--	--	1,482,650	--
Subtotal	--	--	4,318,330	--
Industrial				
Business Park	--	--	--	3,353,210
Special				
Mixed Use	--	325	--	324,950
Public Institutional	--	--	--	5,968,350
Open Space	--	--	--	--
Subtotal	--	325	--	9,646,510
Focus Areas¹				
"A" Street Interchange	120	--	894,960	--
East Lone Tree Specific Plan	1,100	250	1,135,000	2,152,300
Eastern Employment Areas	12	248	25,000	5,926,125
Ginochio Property	--	--	--	--
Rivertown/Urban Waterfront	1,755	2,225	1,028,325	3,489,100
Roddy Ranch	--	--	--	--
Hillcrest Station Area		--	--	
		2,500	2,500,000	
Sand Creek	3,537	433	1,240,000	2,600,000
Somersville Road Corridor	--	360	2,045,530	--
Western Gateway	--	340	560,350	--
Subtotal	6,524	6,356	9,429,165	14,167,525
TOTAL	32,903	16,321	13,747,495	23,814,035

Population	128,222
Employed Population	71,800
Total Jobs	67,100
Retail Jobs	14,995
Non-Retail Jobs	52,105
Jobs/Population Ratio	0.93

¹ Figures indicated represent the maximum permitted development intensity. The actual yield of future development is not guaranteed by the General Plan, but is dependent upon appropriate responses to General Plan policies. The ultimate development yield may be less than the maximums stated in this table.

Table 4.C – Anticipated Maximum General Plan Build Out in the Unincorporated Area

Land Uses	Single-Family (Dwelling Unit)	Multi-Family (Dwelling Unit)	Commercial/ Office (sq.ft.)	Business Park/ Industrial (sq.ft.)
Residential				
Estate Residential	15	--	--	--
Low Density Residential	--	--	--	--
Med Low Density Residential	250	--	--	--
Medium Density Residential	30	--	--	--
High Density Residential	--	--	--	--
Subtotal	295	--	--	--
Commercial				
Convenience Commercial	--	--	--	--
Neighborhood Commercial	--	--	--	--
Service Commercial	--	--	--	--
Commercial Office	--	--	--	--
Subtotal	--	--	--	--
Industrial				
Business Park	--	--	--	--
Special				
Mixed Use	--	--	--	--
Public Institutional	--	--	--	--
Open Space	--	--	--	--
Subtotal	--	--	--	--
Focus Areas¹				
"A" Street Interchange	--	--	--	--
East Lone Tree Specific Plan	--	--	--	--
Eastern Employment Areas	--	--	--	7,137,875
Ginochio Property ¹	400	--	--	--
Rivertown/Urban Waterfront	--	--	--	--
Roddy Ranch	600	100	425,000	--
SR-4 Frontage	--	--	--	--
Sand Creek	--	--	--	--
Somersville Road Corridor	--	240	--	1,581,690
Western Gateway	--	--	--	--
Subtotal	1,000	340	425,000	8,719,565
TOTAL	1,295	340	425,000	8,719,565

¹ Figures indicated represent the maximum permitted development intensity. The actual yield of future development is not guaranteed by the General Plan, but is dependent upon appropriate responses to General Plan policies. The ultimate development yield may be less than the maximums stated in this table.

Population	4,476
Employed Population	2,506
Total Jobs	5,777
Retail Jobs	220
Non-Retail Jobs	5,557
Jobs/Population Ratio	2.31

Table 4.D – Anticipated Maximum General Plan Build Out in the General Plan Study Area

Land Uses	Single-Family (Dwelling Units)	Multi-Family (Dwelling Units)	Commercial/ Office (sq.ft.)	Business Park/ Industrial (sq.ft.)
Residential				
Estate Residential	920	--	--	--
Low Density Residential	4,100	--	--	--
Med Low Density Residential	15,134	--	--	--
Medium Density Residential	6,520	4,330	--	--
High Density Residential	--	5,310	--	--
Subtotal	26,674	9,640	-	--
Commercial				
Convenience Commercial	--	--	277,900	--
Neighborhood Commercial	--	--	1,781,100	--
Service Commercial	--	--	776,680	--
Commercial Office	--	--	1,482,650	--
Subtotal	--	--	4,318,330	--
Industrial				
Business Park	--	--	--	3,353,210
Special				
Mixed Use	--	325	--	324,950
Public Institutional	--	--	--	5,968,350
Open Space	--	--	--	--
Subtotal	--	325	--	9,646,510
Focus Areas¹				
"A" Street Interchange	120	--	894,960	--
East Lone Tree Specific Plan	1,100	250	1,135,000	2,152,300
Eastern Employment Areas	12	248	25,000	13,064,000
Ginochio Property ¹	400	--	--	--
Rivertown/Urban Waterfront	1,755	2,225	1,028,325	3,489,100
Roddy Ranch	600	100	425,000	--
SR-4 Frontage	109	--	--	5,878,900
Sand Creek	3,537	500	1,240,000	2,600,000
Somersville Road Corridor	--	--	2,045,530	1,581,690
Western Gateway	--	340	--	560,350
Subtotal	7,633	3,663	7,354,165	29,326,340
TOTAL	34,307	13,628	11,672,495	38,972,850

Population	131,291
Employed Population	73,518
Total Jobs	74,996
Retail Jobs	15,100
Non-Retail Jobs	58,896
Jobs/Population Ratio	1.02

¹ Figures indicated represent the maximum permitted development intensity. The actual yield of future development is not guaranteed by the General Plan, but is dependent upon appropriate responses to General Plan policies. The ultimate development yield may be less than the maximums stated in this table.

4.4.1 Land Use Designations

4.4.1.1 Residential Land Use Designations.

Six residential land use designations are set forth to provide for development of a full range of housing types, in conjunction with residential development within General Plan Focus Areas. Permitted maximum land use and anticipated population densities are described for each designation. Densities are stated as the maximum permissible number of dwelling units per net acre that exists within the project site *prior* to any new dedication requirements. Density is assumed to accrue only to lands that are "developable."

Developable acres are those that are not encumbered by prior dedications of easements or rights-of-way, and are not so steep (generally over 25%), unstable, flood-prone or subject to other hazards as to be unable to support new development. Achievement of the maximum allowable density is neither guaranteed nor implied by the General Plan. The final density of any particular residential development type is dependent upon development design; any physical, geological, or environmental constraints that might be present within the site; available infrastructure and services; and other factors. The development standards that are established in the Antioch zoning ordinance might also limit attainment of maximum allowable densities.

Second units on a residential lot and home occupations are permitted by local regulation. Provision of density bonuses as allowed by State law and City ordinance may result in development densities in excess of the nominal maximum density for any land use designation.

Estate Residential. Estate Residential land uses are planned as a transition between urban and rural areas, and for areas that are not suited for a more intensive form of development because of topography, geologic conditions, or urban service limitations. Estate Residential areas will also serve to provide "executive" housing on large lots, thereby expanding the community's range of housing types.

On designated lands where topography is not limiting, the representative form of development would be single-family homes on lots that average one acre in size. For properties so designated that are situated in steeper hillside settings, clustering of units and utilization of other hillside development techniques are anticipated and encouraged. The final approved and built density on lands in the Estate Residential land use designation should reflect the location of these lands as low-density residential transition areas between the urbanized Antioch and the undeveloped Mount Diablo Range of hills.

Since this designation is planned at the urban/non-urban interface, the type and level of development may require different construction standards, such as narrower street widths with parking along only one side of the street or no on-street parking, greater setbacks, limited sidewalk areas, etc. Development may require a different level of services than that required for strictly urban land uses. Projects that minimize the demand for urban services and provide major funding for construction of needed service facilities would be appropriate.

Environmental constraints such as steep slopes, riparian habitats, unstable soil conditions, sensitive flora and fauna, and visual prominence are often found on lands with the Estate Residential designation. These constraints may make development of these areas extremely sensitive, and could require creative and imaginative site planning in all projects. The steepness of the slopes and the visual prominence of these areas make many of these resources important public amenities to be preserved for all of the citizens of Antioch. Finally, as these areas will serve as a buffer between the urbanized City of Antioch and the undeveloped open space to the southwest, development must be at a level, which serves as an appropriate transition between urban and non-urban environments.

Development in this category is generally limited to a maximum of one (1) unit per gross developable acre, unless a density of two (2) units per developable acre is specified on the

General Plan land use map or in Focus Area policies. Overall, residential developments within the Estate Residential land use category should provide large lots, and project a semi-rural character.

Neighborhood entry signage is encouraged to create a sense of community, and define Estate Residential neighborhoods as special places. Within hillside areas, dwelling units should be clustered on land that is relatively flat, and no development should occur on slopes exceeding 20 percent. Due to the unique nature of these areas, a clustering of units may be needed to accommodate the unit yield and still maintain the topographic uniqueness of the area. Developments in these areas should be oriented around a major amenity that increases public exposure to the more hilly terrain. Examples of such amenities include golf courses and equestrian centers.

- *Appropriate Land Use Types:* See Table 4.A
- *Maximum Allowable Density:* One dwelling unit per developable acre (1 du/ac) or two dwelling units per developable acre (2 du/ac)
- *Anticipated Population per Acre:* Four (4) to eight (8) persons per acre

Low Density Residential. These areas are generally characterized by single-family homes in traditional subdivisions. Areas designated Low Density Residential are typically located on gently rolling terrain with no or few geological or environmental constraints. The residential neighborhoods of southeast Antioch reflect this residential density.

- *Appropriate Land Use Types:* See Table 4.A
- *Maximum Allowable Density:* Four dwelling units per gross developable acre (4 du/ac)
- *Anticipated Population per Acre:* Twelve (12) to Fourteen (14) persons per acre

Medium Low Density. These areas are generally characterized by single-family

homes in typical subdivision development, as well as other detached housing such as zero lot line units and patio homes. Duplex development would generally fall into this development density. Areas designated Medium Low Density are typically located on level terrain with no or relatively few geological or environmental constraints. Older subdivisions within the northern portion of Antioch reflect this residential density.

- *Appropriate Land Use Types:* See Table 4.A
- *Maximum Allowable Density:* Six dwelling units per gross developable acre (6 du/ac)
- *Anticipated Population per Acre:* Fourteen (14) to Eighteen (18) persons per acre

Medium Density Residential. A wide range of living accommodations, including conventional single-family dwellings, small lot single-family detached dwellings, mobile homes, townhouses, and garden apartments, characterizes the Medium Density land use designation. Development in these areas can be expected to be a maximum of two (2) stories, and include generous amounts of public or open space for active and passive recreational uses. Lands adjacent to parks, commercial uses, transit routes and rail stations, and arterial roadways would be appropriate for the upper end of the allowable development intensity for this category. Other lands would serve as a buffer or transition between lower density residential areas and higher density residential and commercial areas, as well as areas exhibiting greater traffic and noise levels.

At the higher end of the density range for this category, multi-family townhouse and apartment development is expected to be predominant. Where the Medium Density land use designation serves as a transition or buffer, lower density townhouse and small lot, single-family development would be the predominant uses.

- *Appropriate Land Use Types:* See Table 4.A

- *Maximum Allowable Density:* Ten dwelling units per gross developable acre (10 du/ac)
- *Anticipated Population per Acre:* Twenty (20) to Twenty-five (25) persons per acre

High Density Residential. High Density Residential densities may range up to twenty (20) dwelling units per gross developable acre, with density bonuses available for age-restricted, senior housing projects. Two-story apartments and condominiums with surface parking typify this density, although structures of greater height with compensating amounts of open space would be possible. This designation is intended primarily for multi-family dwellings. As part of mixed-use developments within the Rivertown area and designated transit nodes, residential development may occur on the upper floors of buildings whose ground floor is devoted to commercial use. Typically, residential densities will not exceed sixteen (16) to eighteen (18) dwelling units per acre for standard apartment projects, although projects with extraordinary amenities may achieve the maximum allowable density. However, permitted densities and number of housing units will vary, depending on topography, environmental aspects of the area, geologic constraints, existing or nearby land uses, proximity to major streets and public transit, and distance to shopping districts and public parks. Higher densities will be allowed where measurable community benefit is to be derived (i.e., provision of needed senior housing or low and moderate income housing units). In all cases, infrastructure, services, and facilities must be available to serve the proposed density, and the proposed project must be compatible with surrounding land uses.

- *Appropriate Land Use Types:* See Table 4.A
- *Maximum Allowable Density:* Twenty dwelling units per gross developable acre (20 du/ac) and up to a Floor Area Ratio¹ of

¹ Floor Area Ratio (FAR) represents the ratio between allowable floor area on a site and the size of the site. For example, an FAR of 1.0 permits one square foot of building floor area (excluding garages and parking) for each square foot of land within the development site, while an

1.25 within areas designed for mixed use or transit-oriented development.

- *Anticipated Population per Acre:* Forty (40) persons per acre. Within transit-oriented development, up to forty-five to sixty (45-60) persons per acre

Residential TOD. This mixed-use classification is intended to create a primarily residential neighborhood within walking distance to the eBART station, with complementary retail, service, and office uses. Residential densities are permitted between a minimum of 20 and a maximum of 40 units per gross acre. A range of housing types may be included in a development project, some of which may be as low as 10 units per acre, provided the total project meets the minimum density standard. Up to 100 square feet of commercial space such as retail, restaurant, office, and personal services are permitted per residential unit.

Residential units should be at least 300 feet away from rail and freeway rights-of-way, or should incorporate construction measures that mitigate noise and air emission impacts. Retail, restaurants, commercial services, and offices are allowed on the ground floor and second floor, particularly on pedestrian retail streets and adjacent to Office TOD designations. Low intensity stand-alone retail or restaurant uses with surface parking are not permitted. Fee parking in surface parking lots is not permitted as a primary use.

- *Minimum housing density:* 20 acres per gross acre
- *Maximum housing density:* 40 units per gross acre

4.4.1.2 Commercial Land Use

Designations. The General Plan land use map identifies two commercial land use designations, which, along with commercial development within Focus Areas, will provide a broad range of retail and commercial services for existing and future residents and businesses. Permitted maximum land use

FAR of 0.5 permits ½ square foot of building area for each square foot of land within the development site.

intensities are described for each designation. Maximum development intensities are stated as the maximum floor area ratio (FAR) within the project site. "Floor area ratio" is determined by dividing the total proposed building area of a development project by the square footage of the development site *prior* to any new dedication requirements.

Convenience Commercial. This designation is used to include small-scale retail and service uses on small commercial lots, generally ranging up to one to four acres in size. Total gross leasable area within Convenience Commercial areas typically ranges from about 10,000 to 40,000 square feet. Typical uses may include convenience markets, limited personal services, service stations, and commercial services. This designation is often located on arterial or collector roadway intersections in otherwise residential neighborhoods and, thus, requires that adequate surface parking be included to ensure against any potential circulation difficulties affecting adjacent residences. Design features need to be included in these centers to ensure that convenience commercial developments are visually compatible with and complementary to adjacent and nearby residential and other less intensive uses. The type and function of uses in convenience commercial areas are generally neighborhood serving, and need to be carefully examined to ensure compatibility with nearby uses. This land use designation may also be applied to small freestanding commercial uses in the older portions of Antioch.

While some areas may be designated on the Land Use Plan for Convenience Commercial use, this does not preclude small freestanding commercial uses from being zoned for such a use provided the above parameters are adhered to through adopted performance standards. Such a rezoning would be considered to be consistent with the General Plan, and not require a General Plan amendment.

- *Appropriate Land Use Types:* See Table 4.A

- *Maximum Allowable Development Intensity:* Floor Area Ratio (FAR) of 0.4 for new development within centers, and 0.6 FAR for small, freestanding uses.

Neighborhood/Community Commercial.

The intent of the General Plan is to service residential areas in an efficient manner by avoiding the creation of new strip commercial areas. Toward this end, the General Plan designates major commercial nodes of activity based on the need to serve defined neighborhood and community areas. Each area designated Neighborhood/Community Commercial would typically represent an integrated shopping center or an aggregate of parcels around an intersection, which create an identifiable commercial center or area.

The common denominator within this designation is that each neighborhood commercial node will have sufficient acreage to meet the commercial needs of one or more neighborhoods. A neighborhood center typically ranges from 30,000 - 100,000 square feet of floor area on about 3 to 12 acres, anchored by a major supermarket and/or-drug store. A community center may range from 100,000 to 250,000 square feet on 10 to 20 acres or more, and be anchored by a major retailer. Because of its size, a neighborhood center would typically locate at the intersection of a collector and an arterial. A community center is more likely to be found at major arterial intersections.

Typical spacing between community centers should be approximately 1.5 to 3.0 miles, with approximately one mile between neighborhood centers. Exact spacing depends on the nature and density of nearby development, and on the location of major roadways.

- *Appropriate Land Use Types:* See Table 4.A
- *Maximum allowable development intensity:* FAR of 0.4.

Regional Commercial. The primary purpose of areas designated "Regional Commercial" on the General Plan land use map is to provide areas for large-scale retail commercial

development and supporting uses. Regional commercial areas typically serve a large population base, with a market area as large as 8 to 20 miles or more. Typically, regional commercial areas have freeway visibility, or are located along major arterials, and linked directly to a freeway. Regional commercial areas typically encompass an integrated shopping center of 30 to 50 acres or more, and may also combine surrounding freestanding commercial uses and smaller neighborhood or community centers into a single large-scale shopping district.

- *Appropriate Land Use Types:* See Table 4.A
- *Maximum allowable development intensity:* FAR of 0.50 (1.0 within the existing Somersville Towne Center site)

Somersville Road Commercial. Areas designated Somersville Road Commercial represent an important gateway into the community and Rivertown area. This land use designation is limited to the Somersville Road Corridor Focus Area (see Figure 4.3). The primary purpose of Somersville Road Commercial is to provide an appropriate mix of uses for this specific corridor.

- *Appropriate Land Use Types:* See Table 4.A
- *Maximum allowable development intensity:* FAR of 0.50.

Community Retail. This classification is intended to facilitate the development of a community commercial center with highway frontage. The site shall be at least 10 acres and shall be developed with a maximum FAR of 0.30. This site may share parking with the adjacent office or Town Center Mixed Use development.

- *Maximum allowable development intensity:* FAR of 0.3:

Town Center Mixed Use. This classification is intended to provide for an integrated mix of high-intensity uses in the area surrounding the potential second eBART station near Phillips Lane. Residential, commercial, employment,

entertainment, and hospitality uses are permitted. Both horizontal mixed-use and vertical mixed-use projects are appropriate in this area. Retail, restaurant, and services uses are to be located on the ground floor in the pedestrian Town Center. Office space or residential space may be on upper floors. Development is to be high-density to support pedestrian and bicycle use, and shall provide easy pedestrian access to the potential transit station. The maximum floor area ratio (FAR) allowed is 1.0.

Residential densities may range from a minimum of 6 to a maximum of 25 units per gross acre (calculated based on the entire Town Center Mixed Use area). A range of housing types may be included in a development project, some of which may be as high as 50 units per acre with City Council approval, provided the total project does not exceed the maximum density standard. Residential units should be at least 300 feet away from rail and freeway rights-of-way, or should incorporate construction measures that mitigate noise and air emission impacts.

- *Maximum allowable development intensity:* FAR of 1.0.
- *Minimum housing density:* 6 units per gross acre.
- *Maximum housing density:* 25 units per gross acre.

Marina/Support Services. Areas designated Marina/Support Services are intended to encompass existing facilities located along the San Joaquin River within Rivertown and at the foot of the Route 160 freeway.

- *Appropriate Land Use Types:* See Table 4.A
- *Maximum allowable development intensity:* FAR of 0.50.

Mixed Use. The primary purpose of areas designated Mixed Use is to provide a different style of development than traditional neighborhoods, commercial, and employment areas that are physically separated from each

other. Development within areas designated Mixed Use is to provide a variety of uses in an integrated manner within a single site. The specific mix of uses and development density are to be appropriate to the development site's particular location, access, size, and adjacent land uses. The intent is to create areas in which a mix of uses can come together to meet the community's housing, shopping, employment, and institutional needs through efficient patterns of land use. Within the Mixed Use designation, both "vertical mixed use" (various types of uses integrated within individual buildings, such as commercial on the ground floor with residential uses above) and "horizontal mixed use" (individual buildings housing different types of uses within an integrated site plan) are appropriate. .

- *Appropriate Land Use Types:* See Table 4.A
- *Maximum allowable development intensity:* FAR of 0.50

Mixed Use Medical Facility. The primary purpose of areas designated "Mixed Use Medical Facility" is to provide for development of a hospital and related facilities within the Sand Creek Focus Area. Within this designation, an integrated mix of office, residential, commercial, and employment-generating uses is appropriate. Both horizontal mixed use (different types of uses located in adjacent buildings) and vertical mixed use (different types of uses within the same building) are appropriate. Development is to be compatible with the primary use of this land use designation for practice of the medical arts.

- *Appropriate Land Use Types:* See Table 4.A.
- *Maximum allowable development intensity:* FAR of 1.0 (including areas devoted to residential use).
- *Anticipated Population per Acre:* Twenty (20) to twenty-five (25) persons per acre.

4.4.1.3 Employment-Generating Land Use Designations. The General Plan land use map and Focus Area policies identify six

employment-generating land use designations, which will provide a broad range of employment opportunities for existing and future residents. Permitted maximum land use intensities are described for each designation. Maximum development intensities are stated as the maximum floor area ratio (FAR) within the project site. "Floor area ratio" is determined by dividing the total proposed building area of a development project by the square footage of the development site *prior* to any new dedication requirements. Achievement of this maximum is neither guaranteed nor implied by the General Plan. The final density of any particular commercial development is dependent upon development design; any physical, geological, or environmental constraints that might be present within the site; available infrastructure and services; and other factors. The development standards that are established in the Antioch zoning ordinance might also limit attainment of maximum allowable densities.

Office. The primary purpose of areas designated Office on the General Plan land use map is to provide areas for the establishment of park-like working environments for corporate, professional, and general administrative businesses; commercial services needed to support major business development; and retail facilities supporting office-based business operations. The office designation is intended to encourage the concentration of office uses near centers of commercial activity within the City, and to discourage isolated office buildings. Office developments may include low-rise garden office arrangements, or mid-rise structures, as appropriate to the project's specific location.

- *Appropriate Land Use Types:* See Table 4.A
- *Maximum Allowable Development Intensity:* Floor Area Ratio (FAR) of 0.5.

Office TOD. This classification is intended to provide a compact office employment center close to the eBART station. The types of development envisioned in the office TOD land use classification are shown in the photos

to the left. The maximum Floor Area Ratio (FAR) allowed is 1.0. A portion of the parking should be in parking decks or structures. Retail, restaurant, and commercial service uses that serve employees are permitted and encouraged on the ground floor. Low density, single-use retail or entertainment developments with surface parking are not permitted. Commercial parking in surface lots requires a conditional use permit (where it is a primary use, not associated with a development project).

- *Maximum allowable development intensity:* FAR of 1.0.

Business Park. The primary purpose of lands designated Business Park on the General Plan land use map is to provide for light industrial, research and development, and office-based firms seeking an attractive and pleasant working environment and a prestigious location. Business Park areas are typically labor-intensive, meaning that the density of employment is higher than areas involving mostly manufacturing or warehouse uses. Business Park development may occur as a single use, a subdivision wherein individual entities own and operate their businesses, or as multi-tenant complexes.

- *Appropriate Land Use Types:* See Table 4.A
- *Maximum Allowable Development Intensity:* Floor Area Ratio (FAR) of 0.5.

Light Industrial. Areas designated Light Industrial are intended for industrial uses compatible with a location in closer proximity to residential development than General or Rail-Served industrial areas.

- *Appropriate Land Use Types:* See Table 4.A
- *Maximum allowable development intensity:* FAR of 0.55.

Rail-Served Industrial. Areas designated Rail-Served Industrial are intended for industrial uses designed to take advantage of rail service. This designation is limited to the Eastern Employment Focus Area.

- *Appropriate Land Use Types:* See Table 4.A
- *Maximum allowable development intensity:* FAR of 0.55.

General Industrial. Areas designated General Industrial are intended for a range of industrial businesses, including uses, which, for reasons of potential environmental effects are best segregated from other, more sensitive, land uses, such as residential neighborhoods.

Primary processing industries involving the mechanical or chemical transformation of raw materials or the blending of materials such as lubricating oils, plastics, and resins; and treatment and fabrication operations would generally be appropriate only within this designation. Industrial uses that may require massive structures outside of buildings, such as cranes or conveyer systems, or open air storage of large quantities of raw or semi-refined materials are also limited to this land use designation.

- *Appropriate Land Use Types:* See Table 4.A
- *Maximum allowable development intensity:* FAR of 0.55.

4.4.1.4 Community and Public Land Use Designations.

The General Plan land use map identifies two Community and Public land use designations, which are intended to provide for public and institutional activities, as well as for the preservation of open space. Antioch recognizes that the City might not have jurisdiction over certain public facilities, and that public entities might not be required to follow the City's development standards. In such cases, the City's land use policies, including maximum development intensity are intended as a guideline for the agency.

Public/Institutional. This category is used to designate public land and institutional uses, including public and private schools and colleges, public corporation yards, libraries, fire stations, police stations, water treatment facilities, animal shelters, public and private museums churches, and governmental offices.

- *Appropriate Land Use Types:* See Table 4.A
- *Maximum Allowable Development Intensity:* Floor Area Ratio (FAR) of 0.50.

Open Space. These land uses are of a basically open space nature, and include parks, as well as other open space areas. Certain open space areas, such as those that exist to protect sensitive environmental resources, might not be open to public use, while other lands may be owned and managed by private entities, and therefore not open to the general public. The most prevalent public open space uses are City and regional parks, as well as private open space areas within residential developments. It is intended that this designation be applied only to lands owned by public agencies or which are already programmed for acquisition.

The locations of existing and programmed neighborhood and community parks are in most cases specifically defined on the Land Use Map. In the case of a park whose acquisition has been programmed, the ultimate configuration of the park may be different from that which is shown on the General Plan land use map. In addition to public parks and open spaces, this category designates certain privately owned lands used for recreation and low-intensity, open space activities. Appropriate private sector uses in this category include cemeteries and land that is restricted to agricultural use. This designation also includes a higher intensity of uses that are of open space character. The range of allowable uses includes, but is not limited to, country clubs (excluding golf course-oriented residential uses), golf courses, tennis clubs, driving ranges, equestrian centers, marinas, and other privately owned areas reserved for active recreational use.

- *Appropriate Land Use Types:* See Table 4.A
- *Maximum Allowable Development Intensity:* No FAR standard required.

4.4.2 Residential Land Uses

4.4.2.1 Residential Land Use Objective.

Provide a wide range of residential opportunities and dwelling unit types to meet the present and future needs of all socioeconomic groups.

4.4.2.2 Residential Land Use Policies. The following policies apply to land designated for residential uses on the General Plan land use map and by Focus Area policies.

- Within lands designated for residential use, permit the following non-residential uses:
 - Public elementary schools;
 - Parks, botanical gardens, and passive open space areas; and
 - Playgrounds and playing fields and active open space areas.
- Along the periphery of neighborhoods where traffic through the neighborhood can be minimized and adequate buffer areas along the common boundary with residential uses is provided, subject to development permits the following additional non-residential uses would be appropriate:
 - Churches and places of religious assembly;
 - Private elementary schools;
 - Public and private middle and high schools;
 - Day care centers.

Thus, these uses would be permitted along arterial and collector streets that are not intended to have single family residences fronting on them.

- Encourage larger neighborhood units to provide choices for residents as to the size and type of dwelling unit and lot, neighborhood design, density of development, community amenities, and form of ownership.

- d. Design new residential development with identifiable neighborhood units, with neighborhood shopping facilities, parks and recreational facilities, and schools provided as an integral component of neighborhood design.
- *Streets.* Street design should route through traffic around, rather than through new neighborhoods. Neighborhood streets should be quiet, safe, and amenable to bicycle and pedestrian use. Within new subdivisions, single-family residences should be fronted on short local streets, which should, in turn, feed onto local collectors, and then onto master planned roadways.
 - *Schools, Parks, and Recreation Areas.* Elementary schools, as well as parks and recreational areas should be contained as near the center of the neighborhood they are as is feasible.
 - *Neighborhood Commercial Areas.* Neighborhood commercial centers should be located at the periphery of residential neighborhoods, and be designed such that residents can gain vehicular, bicycle, and pedestrian access to the centers directly from the neighborhood.
 - *Connections.* Individual neighborhoods should be provided with pathways and open spaces connecting residences to school and recreational facilities, thereby facilitating pedestrian and bicycle access.
 - *Neighborhood Character.* Residential neighborhoods should be designed to maintain a distinct character through the use of neighborhood signage, streetscapes, architectural styles and variations, natural topographic variations, and landscape buffers.
- e. Provide recognizable variations in front and side yard setbacks within single-family residential neighborhoods.
- f. To reduce architectural massing, orient the shortest and lowest side of a corner residential dwelling unit toward the side street.
- g. Within multi-family and small lot single-family developments, cluster residential buildings around open space and/or recreational features.
- h. In higher density project with tuck-under parking and/or opposing garages, avoid the monotony of long parking corridors by turning individual units and/or staggering and landscaping parking areas.
- i. Provide each unit of a multi-family development project with some unique elements to create a sense of place and identity.
- Individual units within a project should be distinguishable from each other, and should have separate entrances and entry paths, where feasible.
 - The common space of each cluster of dwelling units should be designed to provide differences in size, dimensions, grading, and site furniture.
 - Every dwelling unit shall be provided with a usable private garden area, yard, patio, or balcony.

4.4.3 Commercial Land Uses

4.4.3.1 Commercial Land Use Objective.

Provide conveniently located, efficient, and attractive commercial areas to serve regional, community, and neighborhood functions and meet the retail and commercial needs of Antioch residents and businesses.

4.4.3.2 Commercial Land Use Policies.

The following policies apply to land designated for commercial uses on the General Plan land use map and by Focus Area policies.

- a. Design commercial and office developments in such a manner as to complement and not conflict with adjacent residential uses, and provide these developments with safe and easy vehicular, pedestrian, and bicycle access.

- b. Orient commercial development toward pedestrian use.
 - Commercial buildings should provide a central place of main focus.
 - Buildings should be designed and sited so as to present a human-scale environment, including identifiable pedestrian spaces, seating areas and courtyards.
 - Uses within pedestrian spaces should contribute to a varied and lively streetscape.
 - Buildings facing pedestrian ways and plazas should incorporate design features that provide visual interest at the street level.
- c. Building setbacks along major streets should be varied to create plaza-like areas, which attract pedestrians whenever possible.
- d. Provide for reciprocal access, where feasible, between commercial and office parcels along commercial corridors to minimize the number of drive entries, reduce traffic along commercial boulevards, and provide an orderly streetscape.
- e. Design internal roadways so that direct access is available to all structures visible from a particular parking area entrance in order to eliminate unnecessary vehicle travel, and to improve emergency response.

4.4.4 Employment - Generating Land Uses

4.4.4.1 Employment-Generating Land Use Objective. Provide a mix of employment-generating uses supporting a sound and diversified economic base and ample employment opportunities for the citizens of Antioch through a well-defined pattern of manufacturing, warehousing and distribution, professional services, and office-based uses.

4.4.4.2 Employment-Generating Land Use Policies. The following policies apply to land designated for commercial uses on the

General Plan land use map and by Focus Area policies.

- a. Focus the use of employment-generating lands on high value and high employment-generating uses (e.g., office environments, manufacturing and assembly).
- b. Provide for an appropriate mix of uses within employment-generating lands, including commercial and commercial service uses.
- c. Take advantage of existing rail facilities within the community by permitting the development of rail-served industrial uses.
- d. Ensure appropriate separation and buffering of manufacturing and industrial uses from residential land uses.
- e. All manufacturing and industrial uses shall be adequately screened to reduce glare, noise, dust, and vibrations.
- f. Office uses shall comply with the design policies set forth for commercial uses landscape (see Community Image and Design Element).
- g. Business park and office environments should blend well-designed and functional buildings with landscape (see Community Design Image and Element).

4.4.5 Community and Public Land Uses

4.4.5.1 Community and Public Land Use Objective. Maintain an adequate inventory of lands for the conduct of public, quasi-public, and institutional activities, including protection of areas needed for future public, quasi-public, and institutional facilities.

4.4.5.2 Community and Public Land Use Policies. The following policies apply to land designated for commercial uses on the General Plan land use map and by Focus Area policies.

The development and design of public office developments should comply with the General Plan provisions for commercial and office development.

- a. Maintain appropriate locations for the conduct of public business and the operation of institutional uses within the community (See also policies 4.4.2.2 a and b).
- b. Within areas designated Open Space, permit only such uses as are consistent with the provision of public and private recreation (active and passive), protection of public safety, managed production of resources, and preservation of significant environmental resources.
- c. Incorporate significant existing natural resources into the design of new projects, rather than removing them.
- d. When public or private natural or recreational open space is provided as part of a development project, amend the General Plan land use map to reflect the permanent provision of this open space. Alternatively, permanent open space protections in the form of easements, deed restrictions, or acquisition of development rights may be provided.

4.4.6 Focused Planning Areas

Ten areas within the Antioch General Plan study area have been identified for focused policy analysis and direction. The purpose of these "Focus Areas" is to provide policy direction specific to each area, including appropriate land use types and development intensity, based upon analysis of the particular opportunities and constraints affecting each area.

4.4.6.1 Rivertown/Urban Waterfront. The Rivertown/Urban Waterfront Focus Area is located in the northwestern portion of the General Plan study area, encompassing 963 acres. Antioch's downtown area – known as "Rivertown" – is located at the center of this Focus Area. South of Rivertown are older residential areas, with a mix of small commercial uses. These residential areas are concentrated immediately adjacent to Rivertown and along 10th Street. A mix of attached residential dwelling units is located between Rivertown and 10th Street. To the west of Rivertown are older heavy industrial

uses, a business park, and a large open land area between the San Joaquin River and the Pittsburg-Antioch Highway, encompassing the Dow Wetlands and other vacant lands. Along the eastern edge of this Focus area and to the east are heavy industrial uses along the river.

a. Purpose and Primary Issues. Rivertown and the Antioch waterfront contain a wide variety of features, conditions, and issues encompassing both new facilities, such as the City's central police facility and deteriorating sites such as the Rodgers Point boat launch; areas with an array of conflicts, problems, as well as areas with substantial potential opportunities. These conflicts, problems, and opportunities are described below.

- While Rivertown does not suffer the degree of decay found in some suburban downtown areas, neither does it enjoy the vitality its location along the river within a growing community would seem to be able to command. Antioch has made significant investments in Rivertown, including streetscape improvements, special lighting, and street sign monuments. Investments have also been made in the municipal marina and adjacent park site, river lookouts, and the extension of "A" Street into the downtown area.
- The waterfront between "I" Street and "F" Street is adjacent to the heart of historic downtown, including most of the remaining commercial buildings, which orient primarily to Second Street and G Street. A key need in this area is to recreate Rivertown's physical and economic link that once existed with the waterfront, which is still its major asset. Whereas the former heavy industrial uses along the riverfront were Antioch's major employment base, re-integrating the waterfront with Antioch's economic vitality will require a new land use focus. To accomplish this requires there be sufficient amenities on the waterfront, and enough "critical mass" in terms of restaurants, specialty retail, services, recreation, and other attractions to bring local resident and visitor trade to the waterfront and downtown area. The visual relationship of

- waterfront improvements to downtown would be improved by concentrating waterfront development and focusing on some of Rivertown's key physical features.
- To emphasize historical Rivertown, a traditional town square with a large gazebo could be developed within the area. The town square, which ideally, would be along the river or have a view of the river, could be the site for summer concerts. Development of recreational facilities, such as bocce ball or lawn bowling courts, could also assist in enhancing downtown activities.
 - Past market evaluations for marina developments have concluded that Antioch has a market for waterfront amenities from local and regional residents.
 - The San Joaquin River, along with views of the river and the potential for a riverfront trail, provide Antioch with its greatest opportunity for revitalizing Rivertown, and creating a citywide activity center. Antioch's downtown area sits on a bluff higher than the railroad embankment and the San Joaquin River normal high water mark. This elevation difference provides for dramatic views of the river and the opposite shore. However, there is a need to replace some buildings close to the river and refurbish the rear of others that tend to face south toward First or Second Street, turning their backs to the riverfront. In the future, it will be important to reorient buildings¹ and provide views toward the river.
 - The scale of Rivertown buildings in the vicinity of the waterfront provides the opportunity for mixed-use development. Such development could take the form of multi-story, attached housing or mixed-use buildings with commercial uses on the ground floor and residential uses on upper floors.
-
- ¹ Where existing buildings cannot be re-oriented to provide views of the river, the riverfront side of the building should be refurbished to enhance views of the building from the riverfront, or the building should be replaced.
- Antioch's location along the San Joaquin River, along with the existing of deep-water access to the shoreline, provides an opportunity for establishing waterborne transit service.
 - The General Plan objective of having continuous shoreline access is hampered in places where there is virtually no land outside the railroad right-of-way for such access. To provide a shoreline trail in these areas with appropriate resting and viewing locations and sufficient clearance for service and emergency vehicle access, it would be necessary to fill or bridge over the water. Such construction is expensive, potentially reduces wetland habitat values, and may require mitigation by restoration or wetland areas in other areas.
 - The waterfront area east of "E" Street has been identified as a prime wildlife habitat. Federal law limits the development potential of such areas, and permits the loss of wetland habitat only occur if it is replaced elsewhere, often at a 2:1 or 3:1 ratio. There is, unfortunately, a limited opportunity to provide such mitigation.
 - In some areas, the shoreline extends south of the railroad, requiring crossings. Currently, access from downtown to Rodgers Point is via McElheny Road, a substandard road running along the bottom of the East Antioch Creek. The development potential of areas to the east, including Rodgers Point, the Fulton Shipyard site, and the former City sewage treatment plant site depend on establishing a suitable direct connection across the railroad tracks. This will require either an overcrossing or an undercrossing to replace the existing undercrossing, as new at-grade crossings are generally against the policies of the railroad and the Public Utilities Commission. It is a key General Plan objective for Rivertown to close or improve the existing McElheny Road crossing, and create all-weather access between the downtown and Rodgers Point.
 - Rodgers Point is located entirely on the river side of the railroad, and is the only

significant land area adjacent to the downtown area with this advantage. It is a natural promontory of land owned by the City. It has dramatic views of the river and of downtown, and is prominent from downtown. Although quite small, Rodgers Point has the potential to be a major focal point of community recreation and special events.

- The area between the "A" Street/6th Street intersection and the Fulton Shipyard has the potential for mixed-use development, including hotel uses, as well as higher density residential uses with views of the river. The setting of this area could facilitate a market for higher end multi-family development within Antioch.
- East of Rodgers Point is the City-owned boat launch, with a single concrete launch ramp, a pier which also supports a water uptake line for the municipal water supply, some tie-up berths for day cruisers, automobile and auto/trailer parking, and a boarded-up two-story structure. The current boat launch facility has a number of deficiencies, making it difficult for both launching and landing. While a municipal boat launch facility is needed, it is not necessary that the facility be maintained at its current location. Rodgers Point and the boat launch area have the potential for development of visitor serving uses (e.g., hotel, and restaurants) and office development if improved access is provided.
- The isolated location of the boat launch area has attracted loiterers who may discourage other users. Thus, improved access and revitalization of adjacent uses is needed if the boat launch is to be improved and maintained in its present location.
- The former Fulton Shipyard, with its deep-water access, has the potential to serve as a marina or repair facility for larger recreational boats, or to provide a location for waterborne transit. Other areas that may be appropriate for waterborne transit include the Rivertown area, and heavy industrial areas located east of the Fulton Shipyard.
- Past parking studies have concluded that more infill development, including construction of some surface parking and parking structures, is needed to enhance the downtown area as a complete and functional shopping district. Past studies also concluded the proximity of the existing parking lots and addition of future parking structures would provide the opportunity to serve a modest reconstructed commercial waterfront. Thus, the General Plan proposes to modify parking standards within the downtown area to permit the use of offsite parking facilities to meet off-street parking requirements. This will also facilitate expanding the use of downtown buildings that have near 100 percent lot coverage, and cannot provide onsite parking.
- In providing downtown parking structures, it will be important to blend the design of these structures with the design of surrounding buildings. Provision of efficient and safe pedestrian and bicycle paths from the parking structures to uses within the downtown will also be needed.
- The residential area located south of downtown generally contains older homes and many senior citizens. Residents in this area typically have a lower income than in the newer portions of Antioch, and many dwellings are in some state of disrepair. A concentrated effort is needed to improve housing in this area. North of the fairgrounds, southwest of the downtown area¹, development was planned on fill over marshlands. Soils in this area generally have a low load-bearing capacity, and development is limited to low density dwellings, which can be supported by area soils, or very high densities, where costs for constructing special foundations can be supported.
- Currently, Rivertown is somewhat isolated from the balance of Antioch. The primary approaches to Rivertown from the SR-4 freeway consist of Somersville Road, "L" Street, "G" Street, and "A" Street. Only

¹ This area, known as "Proserville," is bounded by 6th Street, 10th Street, "O" Street, and "L" Street.

Somersville Road and "A" Street have full freeway interchanges. Current freeway improvement plans include closing the "G" Street interchange and providing "L" Street with a full interchange. Once a full interchange is provided, "L" Street will become a primary access route, via a four-lane roadway, improving the connection of Rivertown to the rest of Antioch.

- Access roads connecting Rivertown to the freeway run through older residential, commercial, and or industrial areas, and do not present a high quality visual entry into the downtown. Somersville Road runs through older commercial and industrial areas, some of which are in need of revitalization (see discussion of the Somersville Road Corridor Focus Area). At the Somersville Road transition to Fourth Street, older heavy industrial uses, which are also in need of revitalization, are predominant.
- The extension of "A" Street from Sixth Street into the downtown area has improved access, and will have a positive effect on Rivertown's commercial potential. However, the residential and commercial uses along "A" Street north of the freeway are in need of revitalization. Focus Area policies set forth for the "A" Street and Somersville Road corridors will assist by enhancing entries into Rivertown.
- The Antioch Rivertown Business Association has embarked upon a major effort to inject new vitality into the downtown/waterfront business district. Recognizing that Rivertown must create and provide something special for visitors to the area, the Business Association and the City have developed a plan called "Rivertown Renaissance," which includes a number of projects focusing on arts, entertainment, and specialty businesses. The Renaissance Plan provides several initiatives to attract arts- and entertainment-related businesses, including co-op art studios, artist live-work studios, and special events, such as the annual Jamboree. Specialty businesses

identified in the plan include galleries, boutiques, antique shops, crafts-related businesses, restaurants and cafés, and professional offices.

- The development potential of waterfront areas is affected by the fragility of natural biological habitats (wetlands) along the river. To the west of Rivertown and the municipal marina, north of the BNSF rail line is a large area set aside to protect wetland habitat. Special care must be taken in developing projects adjacent to this area and along the waterfront to minimize or avoid impacts on wetland areas.

b. Policy Direction. The Rivertown area is intended to be a community gathering place focused on the waterfront, providing specialty retail, restaurant, and office uses, as well as recreational activities along the riverfront. Emphasis within Rivertown will be on daytime *and* nighttime activities. Thus, in addition to retail uses, the City will work to attract restaurant, entertainment, and arts-related uses to Rivertown. Other activity areas, such as bocce ball courts and other active recreational uses are also desirable as a means of generating high levels of activity.

The General Plan intends the waterfront to be re-established as a major attraction for the downtown and the entire community by providing a range of activities for families and all age groups to enjoy public access and water-oriented recreation, waterfront commercial uses, RV camping, and environmental experiences. The downtown waterfront should serve as an extension of Rivertown commercial areas, and reflect its themes. To facilitate revitalization of the waterfront, improved boat launch facilities envisioned, along with establishment of dry boat storage and one or more recreational vehicle parks. Suitable locations for recreational vehicle parks include Fulton Shipyard Road, the City's former water treatment facility, and the existing industrial facility site on Fourth Street adjacent to the Municipal Marina. This older industrial facility could be redeveloped into a modern business park, with provision made for recreational vehicles adjacent to the marina.

The density of new development within the developed portions of the Rivertown/ Urban Waterfront Focus Area may be increased as compared to existing development as a means of increasing use of the Rivertown area. These densities will be achieved by permitting three-story structures in limited areas, and providing public parking lots and/or structures as a means of reducing on-site parking requirements, and encouraging uses, such as residential, on the upper floor of commercial buildings.

Figure 4.2 identifies specific land use designations within the Rivertown/Urban Waterfront Focus Area. The following policies shall apply to development within this Focus Area.

- a. The area designated "Dow Wetlands Preserve" on Figure 4.2 is intended to protect existing wetland resources, and is to remain in open space use.
- b. Areas designated "Business Park" in Figure 4.2 shall comply with the provisions of the Business Park land use category (see Table 4.A).
- c. The area designated "*Marina*" in Figure 4.2 shall comply with the provisions of the Marina/Support Services land use designation (see Table 4.A).
- d. The area designated "*Commercial*" in Figure 4.2 represents the Rivertown core. Uses designated "*Commercial*" in Figure 4.2 shall comply with the provisions of the Neighborhood/Community Commercial land use designation (see Table 4.A).

Maximum development intensity: FAR of 1.50 for non-residential uses along the riverfront north of Second Street. Within the balance of the Focus Area, the maximum allowable FAR is 0.50 for non-residential uses and 1.0 for mixed-use buildings that provide residential use within the upper floors. Residential development shall provide public and private amenities, such as:

- *building amenities*, including retail arcades, public art, sculptured

- rooftops, atriums, day care, water features;
- *pedestrian amenities, including sidewalk canopies and other overhead weather protection devices, streetscape enhancements,*

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- landscaping, multiple building entrances, public restrooms;
 - *pedestrian movement*, such as sidewalk widening, through block connections, promenade extensions;
 - *housing and human services*, such as employment creation, job training, income-restricted housing for very low and low income households;
 - *transportation improvements*, such as transit station access and private transportation services;
 - *cultural amenities*, such as performing arts facilities, art galleries, artist studios;
 - *preservation*, such as adaptive reuse of historic buildings; and
 - *planning objectives*, such as provision of uninterrupted retail frontage or creation of local resident population.
- e. Areas designated "Medium Density Residential" on Figure 4.2 shall comply with the provisions of the Medium Density Residential land use category (Section 4.4.1.1).
- f. Areas designated "High Density Residential" on Figure 4.2 shall comply with the provisions of the Medium Density Residential land use category (see Section 4.4.1.1).
- g. Areas designated "*Mixed Use Residential/Commercial*" as shown on Figure 4.2 may consist of a mix of the uses identified as appropriate for the High Density Residential designation (see Section 4.4.1.1) and the Convenience Commercial designation (see Section 4.4.1.2).
- h. Areas designated "Open Space" on Figure 4.2 shall comply with the provisions of the Open Space designation (see Section 4.4.1.4).
- i. The "*Industrial*" area identified in Figure 4.2 shall comply with the provisions of the General Industrial land use category described in Section 4.4.1.3 of the Land Use Element.
- j. The "*Water-Oriented Mixed Use*" area identified in Figure 4.2 is intended to facilitate the revitalization of Rodgers Point. Development within this land use category may comply with the provisions of the Business Park land use category described in Section 4.4.1.3 of the Land Use Element or the provisions of the Marina/Support Services or Community Commercial land use categories described in Section 4.4.1.2.
- k. The "Flood/Control/Wetlands Mitigation Area," "Park," and "Recreation" designations identified in Figure 4.2 are intended to identify existing open space uses that are not anticipated to change. Uses within these areas shall comply with the provisions of the Open Space land use category described in Section 4.4.1.4 of the Land Use Element.
- l. The central core of Rivertown is to be primarily retail in character, transitioning to office, commercial services, and neighborhood-serving retail at the periphery of Rivertown adjacent to the existing residential neighborhood. Within the core of Rivertown, buildings are to feature retail, restaurants, commercial services, and entertainment uses on the ground floor, with these uses, as well as residential and office uses permitted above the ground floor. The City will develop specific economic incentives for infill uses along First Street and at other locations close to, and visible from, the water as a means of re-establishing the downtown area's relationship to the river. In order to enhance the commercial vitality of the downtown area, municipal parking structures will be developed at key locations.
- m. Adjacent to the downtown area along the waterfront, uses should be complemented by public access boardwalks, piers or promenades with fully developed landscaping, lighting, and site furniture. Appropriate uses include:
- a limited number of marina berths
 - public access facilities and uses such as guest slips and moorings
 - Delta cruise/waterborne transit center

- boat rentals
 - fishing excursion boat charter center
 - sporting goods shops specializing selling and/or renting water-oriented recreational equipment such as fishing tackle windsurfers, jet skis or kayaks
 - chandlery.
- n. All improvements within this Focus Area should be oriented to and accessible from downtown as much as possible, and be designed to support the historical architectural theme of downtown.
- o. Land uses surrounding the existing Amtrak stop should be designed to take advantage of the rail line's transportation and visitor-serving potential. Within the area adjacent to the existing Amtrak platform, higher density, transit-oriented development, including a mix of office, commercial, and residential uses is permitted.
- p. A continuous waterfront park will be developed. This park will incorporate a continuous system of multi-use public trails along the entire waterfront from the westerly City limits to the Rodgers Point/Fulton Shipyard area, as permitted by environmental and physical constraints.
- In order to protect existing wetland areas, including the Dow Wetlands Preserve, alignment of the public access will generally be along the south of the rail line.
 - Where compatible with environmental conditions, rest stops, a "par course" and play structures should be provided.
 - The desired minimum width of the linear park is 25 feet to accommodate an 8-foot wide path and landscape buffers. To increase the apparent width of this linear park, a boardwalk can be extended over the embankment along many stretches of the shoreline.
- q. Public access is to be provided along the entire length of the riverfront. Views of the river are an important resource, and need to be preserved.
- r. Adequate pedestrian and vehicular access from the first public street inland of the waterfront must be provided, along with a riverfront multi-use trail. The riverfront is an active area; public access and use along the riverfront is to be provided, wherever possible.
- s. The deteriorated and blighted condition of the City's existing waterfront environment should be rehabilitated to form an amenity of regional significance. Existing wetland areas north of the railroad are to be left unaltered, except for clean up of beached debris and potential removal of invasive plant species and reintroduction of native plant species.¹
- t. The shore adjacent to the downtown area should be improved with an access road/path, bank top boardwalks, and landscaped areas (see above illustration).
- u. "Anchor" uses should be provided along the waterfront between "I" Street and "F" Street. Examples of such uses include:
- marina berths
 - restaurants
 - specialty shops (e.g., those specializing in retail sales and/or rental of water-oriented recreational equipment, such as windsurfers, jet skis, kayaks)
 - guest berths for boats
 - sport fishing and boat charter facilities
 - cultural facilities
- These uses should be clustered to provide economic "critical mass," and, along with the general ambience provided by the river and downtown, to attract visitors to the waterfront.
- v. Public access boardwalks, piers or promenades, landscaping, decorative light-

¹ The restored wetland is anticipated to help provide needed wetland mitigation credit to offset the construction of other facilities along the waterfront.

ing, and site furniture should complement anchor uses. All the improvements should be oriented to and directly accessible from downtown as much as possible, and designed to support the historical architectural theme of downtown.

- w. Near the extension of "C" Street, adjacent to the railroad trestle abutment, an overlook platform should be provided. At the overlook, a gazebo, tower or other special identity structure should be provided, both to act as a symbolic milestone destination for this length of shoreline trail and also to act as a focal point from downtown. Steps and a ramp should be provided to lead down from this overlook structure to connect to a pedestrian undercrossing.
- x. To maintain the strong economic and functional connection desired for the waterfront, provide improved direct access from downtown to Rodgers Point in a manner and at a location to be determined after the completion of engineering studies.¹
- y. Rodgers Point and the adjacent boat launch area should be developed as a multi-functional community gathering place to anchor the eastern terminus of the continuous waterfront park system. The objective is to create a waterfront area for family-oriented use, including both private development and public open spaces.
- z. The revitalization and redevelopment of Rodgers Point should include improved boat launch facilities, unless provision is made to provide a municipal boat launch at a different location in the community. Along with improved boat launch facilities, opportunities should be provided for the establishment of privately operated stackable dry boat storage.
- aa. Prior to or concurrent with approvals of any development applications at Rodgers Point, a Master Plan for the area shall be prepared and approved by the City. The Master Plan shall provide detailed

¹ This access would, at a minimum, provide a low flow crossing. Providing an all-weather undercrossing would be an expensive project.

guidance for environmental review, project-related land use, provision and financing of required public services and facilities, open space preservation, community design, recreational amenities, and community improvements.

- bb. "Anchor" commercial facilities such as restaurants or lodging/visitor services should be developed at Rodgers Point as part of the area's revitalization.
- cc. The distinctive streetscape existing within the downtown area should be expanded to encompass the all of the commercial and residential portions of the Rivertown/Urban Waterfront Focus Area. Entry monumentation, including signage, special landscaping, and, potentially, an overhead structure spanning the street, should be placed at the following locations:
 - Fourth Street at "L" Street
 - "L" Street at 10th Street
 - "A" Street at 6th Street
 - 10th Street at "L" Street.

4.4.6.2 Somersville Road Corridor. This Focus Area encompasses the commercial areas along Somersville Road from SR-4 north to Fourth Street, as well as the commercial areas south of the freeway, up to and including the Chevron property. The General Plan intends that existing auto dealerships be retained and revitalized along Somersville Road. If the existing dealers ultimately decide to relocate from Somersville Road, the City should work with the dealers to secure alternative locations within the City of Antioch. Potential alternative locations include the Regional Commercial area within the East Lone Tree Specific Plan Focus Area and between SR 4 and the railroad in the Hillcrest Station Area.

a. Purpose and Issues. The Somersville Road corridor is one of Antioch's primary sales tax generators, encompassing automobile dealerships, the Somersville Towne Center mall, and other retail businesses. Uses along this corridor are aging, and in need of improvement. In addition, the Somersville Road interchange is heavily congested.

Interchange capacity will be increased as part of improvements for SR-4. Interchange improvements could impact adjacent existing hotel uses.

- Automobile dealerships exist along Somersville Road. The City has worked in the past to improve the design of Somersville Road, and to assist existing dealerships to modernize their facilities. Relocating the dealerships to another location within Antioch could reduce the amount of land available for industrial use, and may or may not be desirable for the dealerships. The dealerships have generated a customer base in their present location, though they do not have freeway visibility.
- South of the freeway is Somersville Towne Center, formerly known as County East Mall. The center was an open air complex, and was enclosed in the 1970s. The mall has not provided the level of retailers, mix of uses (e.g., restaurants), or design interest that could be supported by the community. In addition, vehicular access to the mall from Somersville Road is difficult due to limited parking. Pedestrian entry along the easterly side of the mall is awkward due to the presence of commercial uses with access directly from the parking lot.

There have been discussions in the past regarding adding another anchor tenant. However, the present design of the mall, with a series of tenants having their entries open to the parking lot along Somersville Road, limits simple design solutions. As a result, there have been suggestions that the mall be revitalized as a mixed-use specialty retail, entertainment, office, and residential project.

- The Focus Area's commercial uses are auto-oriented, and its general character is that of a typical older suburban community. Improvements to signage, street-scapes, and building façades are needed throughout the developed portion of this Focus Area, along with improved pedestrian linkages in the mall area.
- At the southern end of this Focus Area is the Chevron property, which is a 193-acre

relatively flat, vacant parcel south of Buchanan Road. It is an unincorporated island surrounded by the cities of Antioch and Pittsburg, and is within Antioch's sphere of influence. The site has been extensively disturbed as the result of its previous use as an oil storage facility. With the extension of James Donlon Road, the Chevron property will become an important gateway into west Antioch.

b. Policy Direction. Efforts should be continued to keep existing automobile dealerships in their present locations, and to upgrade their facilities. Somersville Towne Center should be improved and expanded into a cohesive mixed-use retail, retail, entertainment, and residential center. Pedestrian and other urban design improvements need to be provided to increase linkages between the mall and adjacent uses. Special effort should be undertaken to improve access to the mall site from Somersville Road, and to improve the distribution of parking around the mall.

The following policies apply to the Somersville Road Corridor Focus Area.

- Areas designated "*Commercial*" on Figure 4.3 shall comply with the provisions of the Somersville Road Commercial land use category (see Table 4.A).
- Areas designated "*Regional Commercial*" on Figure 4.3 shall comply with the provisions of the Regional Commercial land use category (see Table 4.A).
- Areas designated "*High Density Residential*" in Figure 4.3 shall comply with the provisions of the High Density Residential land use category (see Table 4.A).

Expansion of Somersville Towne Center is encouraged, including new and expanded retail, particularly addition of new anchor tenants (department stores), higher end specialty retail, and sit-down restaurants. As shown in Figure 4.3, the General Plan permits expansion of the mall to the west. Expansion of the mall could also occur vertically by adding a second story of

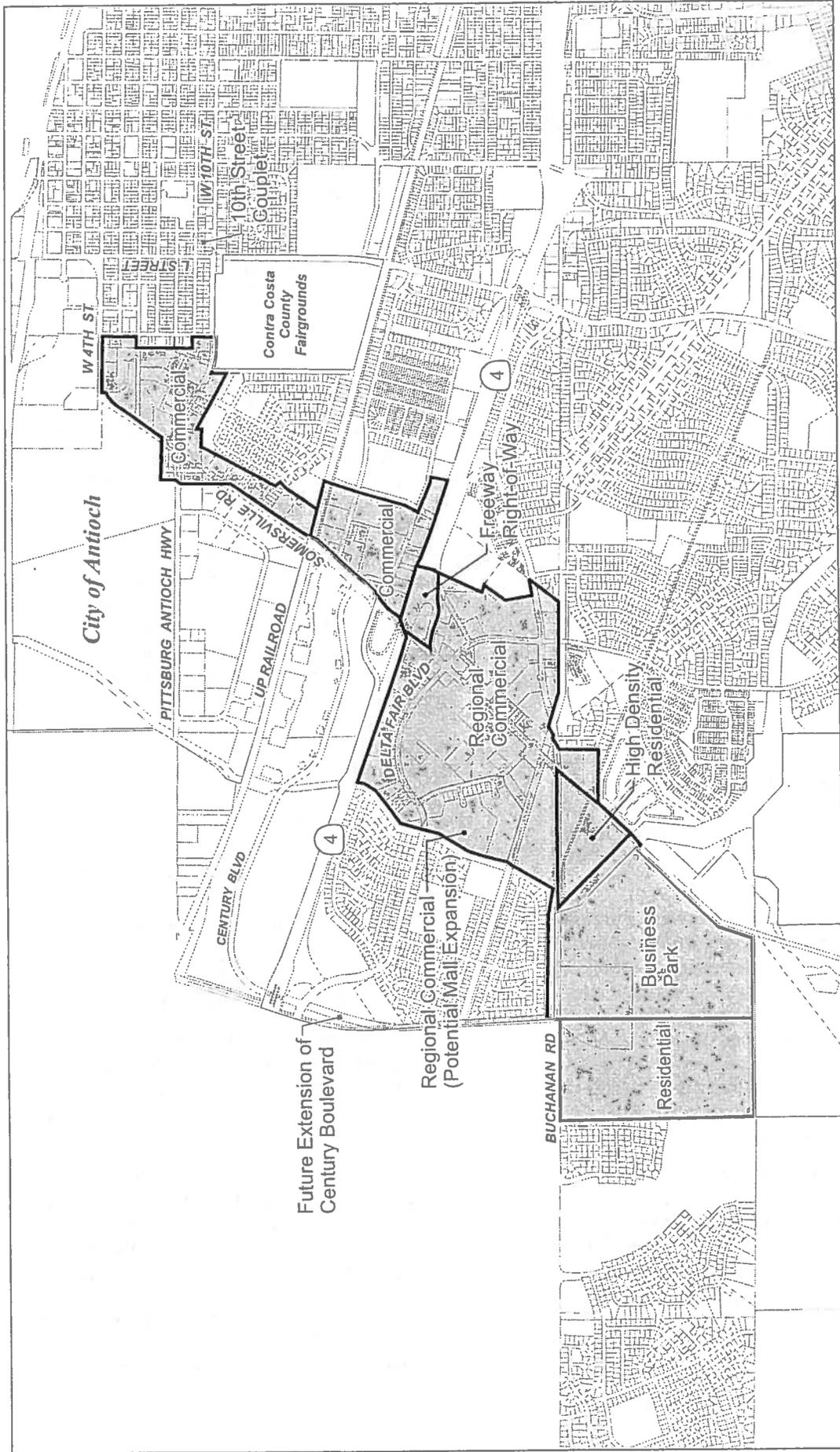


FIGURE 4.3

City of Antioch
 General Plan
 Somersville Road Corridor
 Focus Area

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ANTIOCH CITY LIMITS

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- shops. Also permitted is the conversion of the existing mall into a mixed-use commercial, office, and residential complex. Revitalization of the mall into a mixed use concept could occur alongside expansion of the existing mall itself through development of multi-story office buildings, either free-standing or attached to the mall.
- d. In cooperation with the City of Pittsburg, work to extend Century Boulevard to Buchanan Road as a two-lane arterial, with a connection to Los Medanos College.
- e. The development of the "Chevron property," located on the west side of Somersville Road, south of Buchanan Road, shall comply with the following provisions.
- The primary land use intent for this site is a mix of low-rise business park and medium density residential housing products.
- For illustrative purposes, Figure 4.3 shows the property divided into business park and residential portions. The specific development design of the site shall be determined through approval of a planned development for the site. A minimum of 40 percent of the site is to be devoted to business park and related commercial and open space uses.
- Business Park and related commercial uses shall front along the entire length of Somersville. Although it would be desirable to have business park and related commercial uses fronting along Buchanan Road at least as far west as the flood control channel, residential uses may front along Buchanan Road. The Business Park areas shall comply with the provisions of the Business Park land use category.
 - Development of the site should be heavily landscaped. Business park and related commercial uses should be one or two stories, and clustered in a park-like setting.
- A common design theme for business park and residential uses within the 193-acre site is to be provided, including compatible architectural, landscaping, and signage.
 - Residential uses within the Chevron site may consist of a combination of small lot single family detached and multi-family development, and shall be consistent with the provisions of the Medium Density Residential land use category.
 - Adequate separation shall be maintained between new office and multi-family uses and existing residential neighborhoods. If parking areas are located along the residential edge, sufficient noise mitigation shall be provided.
 - As part of site development, a community gateway monument shall be provided, including distinctive signage and landscaping at the northwest corner of the site, expressing the theme of Antioch as "Gateway to the Delta." Such signage and monumentation must portray a high quality design image for the City.
 - The City should work with the owner of the Chevron property to annex it into Antioch.
- f. An urban design plan should be prepared for the entire Somersville Road Corridor. The design plan should define a design theme; set specific architectural, sign, landscape, and streetscape design standards for the corridor; and select specific designs for public improvements such as street lighting, special paving sections at intersections, and street furniture.
- g. A façade improvement program should also be undertaken for existing commercial uses within this Focus Area, with assistance from the Antioch Redevelopment Agency.

4.4.6.3 Eastern Waterfront Employment Area.

This Focus Area encompasses the industrial areas in the northeastern portion of the City and its General Plan study area, south

of the San Joaquin River, west of the SR-160 freeway. The Eastern Waterfront Employment Area is approximately 474 acres in size, and lies partly within the City of Antioch and partly within unincorporated territory.

a. Purpose and Primary Issues. As a result of shifts in the national and regional economy, several of the heavy industrial uses located along the San Joaquin River have closed, or have significantly scaled back their operations. Thus, it is necessary to plan for revitalization of former heavy industrial lands along the river, including transition to other uses. This may include environmental clean up of brownfields resulting from years of heavy industrial use. To the east of Fulton Shipyard and south of the Antioch Dunes National Wildlife Refuge is the abandoned City Sewage treatment plant site. The development feasibility of this site may depend in part upon the clean up and improvement of nearby areas.

A large portion of this Focus Area, primarily north of Wilbur Avenue and the BNSF rail line, is within unincorporated territory, and would need to be annexed if Antioch is to have any control over future land use. Portions of this area are rail-served, which provides opportunities for the development of new industrial uses with modern plants.

South of Wilbur Avenue, industrial areas border along existing residential neighborhoods. As a result, it will be necessary to provide appropriate transitions between existing residential neighborhoods and future industrial development.

The environmental sensitivity and fragility of the Antioch Dunes National Wildlife Refuge within the northwestern portion of this Focus area establishes the need to provide appropriate buffer areas for urban uses located adjacent to the Refuge.

The proximity of the western portion of this Focus Area to Rodgers Point provides an opportunity for development of a recreational vehicle campground. Such a use would be possible at the site of the City's former water treatment plant. This Focus Area's location along the riverfront also provides the opportunity to extend the trail proposed for the

Rivertown area to the existing marina adjacent to the SR 160 freeway.

b. Policy Direction. The primary function of this Focus Area is to provide employment opportunities, and to assist Antioch in achieving its goal of a balance between local housing and employment. The majority of employment opportunities created within this area will continue to be industrial in character, will reflect lighter industrial uses than are now present. Generally, this Focus Area will feature a transition between larger industrial uses between Wilbur Avenue and the river to rail-served industrial uses along the south side of Wilbur Avenue to light industrial and business park uses to the south. The area within this Focus Area between East 18th Street on the south and the BNSF rail line on the north, Viera Avenue on the west and Drive-In Avenue on the east is subject to the provisions of the East Eighteenth Street Specific Plan.

As previously noted, transit improvements are envisioned to include extension of BART to Antioch in the long-term with interim use of existing rail lines (eBART) to provide a transit connection to BART, along with commuter rail connections to the Tracy and Stockton areas. One of the primary locations being considered for establishment of a rail transit stop is along the BNSF rail line west of the Route 160 freeway. Should a rail transit stop be established at that location, there will be a significant opportunity for of a mixed-use, transit-oriented development, consisting of a high-density cluster of retail, office, and residential uses.

The following policies apply to the Eastern Waterfront Employment Focus Area.

a. Areas designated "*Eastern Employment Business Park*" in Figure 4.4 are intended for employment-generating uses compatible with a location adjacent to residential neighborhoods as a transition from other industrial uses. Appropriate land use types are set forth in Table 4.A.

The maximum allowable intensity shall be an FAR of 0.55.

b. The "*Commercial*" area identified in Figure 4.4 shall comply with the provisions of the Neighborhood Commercial Land Use designation (see Section 4.4.1.2).

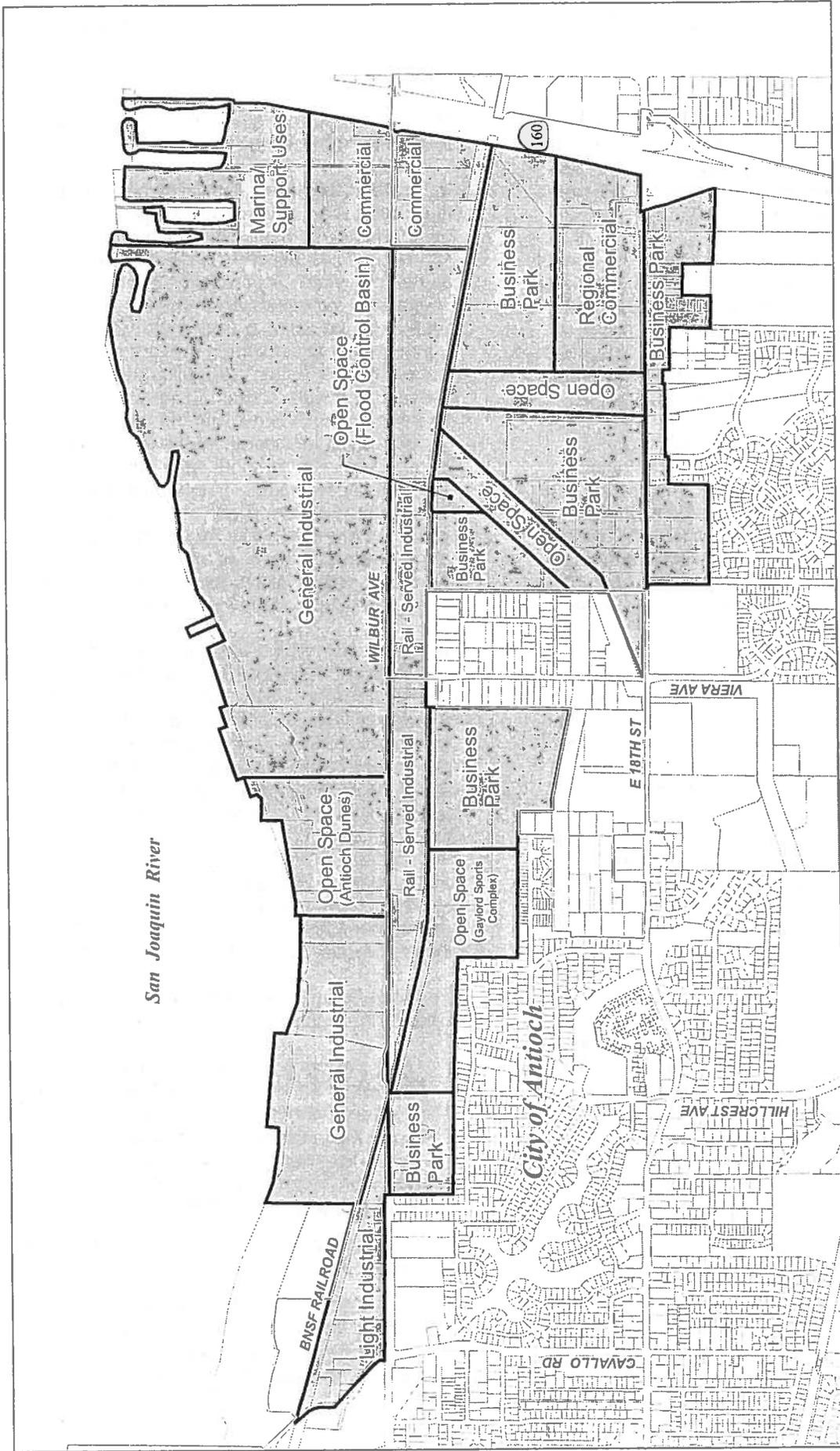


FIGURE 4.4

City of Antioch
 General Plan
 Eastern Waterfront Employment
 Focus Area

EMPLOYMENT FOCUS AREA
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- c. Areas designated "*Multi-Family Residential*" in Figure 4.4 shall comply with the provisions of the High Density Residential land use category (see Section 4.4.2.2 of the Land Use Element).
- d. The "General Industrial" area identified in Figure 4.4 shall comply with the provisions of the General Industrial land use category described in Section 4.4.1.3 of the Land Use Element.
- e. The "*Rail-Served Industrial*" area identified in Figure 4.4 shall comply with the provisions of the Rail-Served Industrial land use category described in Section 4.4.1.3 of the Land Use Element.
- f. The "*Light Industrial*" area identified in Figure 4.4 shall comply with the provisions of the Light Industrial land use category described in Section 4.4.1.3 of the Land Use Element.
- g. The "*Regional Commercial*" area identified in Figure 4.4 shall comply with the provisions of the Regional Commercial land use category described in Section 4.4.1.2 of the Land Use Element.
- h. The "*Marina/Supporting Uses*" area identified in Figure 4.4 shall comply with the provisions of the Marina/Supporting Uses land use category described in Section 4.4.1.2 of the Land Use Element.
- i. The "*Open Space*" area identified in Figure 4.4 shall comply with the provisions of the Open Space land use category described in Section 4.4.1.4 of the Land Use Element.
- j. Work with property owners and the California Department of Toxic Substances Control to facilitate clean up Figure 4.5, Hillcrest Station Area Focus Area
- of existing brownfields within the industrial properties between Wilbur Avenue and the San Joaquin River.
- k. If a rail transit stop can be established along the BNSF line west of the Route 160 freeway, development of a high-density cluster of retail, office, and residential uses adjacent to the proposed site would be appropriate. Such development could occur as an integrated, mixed-use project at densities as high as an FAR of 1.0 for non-residential uses and up to 35 units per acre for the residential portion of such mixed use development.
- As part of the development of sites adjacent to the freeway interchanges at Wilbur Avenue and East 18th Street, establish community gateway monumentation is to be provided, including distinctive signage and landscaping, expressing the theme of Antioch as "Gateway to the Delta." Such signage and monumentation must portray a high quality design image for the City.
- l. As a condition of new development or redevelopment of properties along the San Joaquin River between Rodgers Point and the existing marina at the SR 160 freeway, require dedication and improvement of a riverfront trail and linear park.
- 4.4.6.4 Hillcrest Station Area Focus Area.** The SR-4/SR-160 Industrial Frontage Focus Area has been repealed and replaced with the Hillcrest Station Area Specific Plan. Please refer to this adopted Plan for all policies related to the area shown on Figure 4.5.

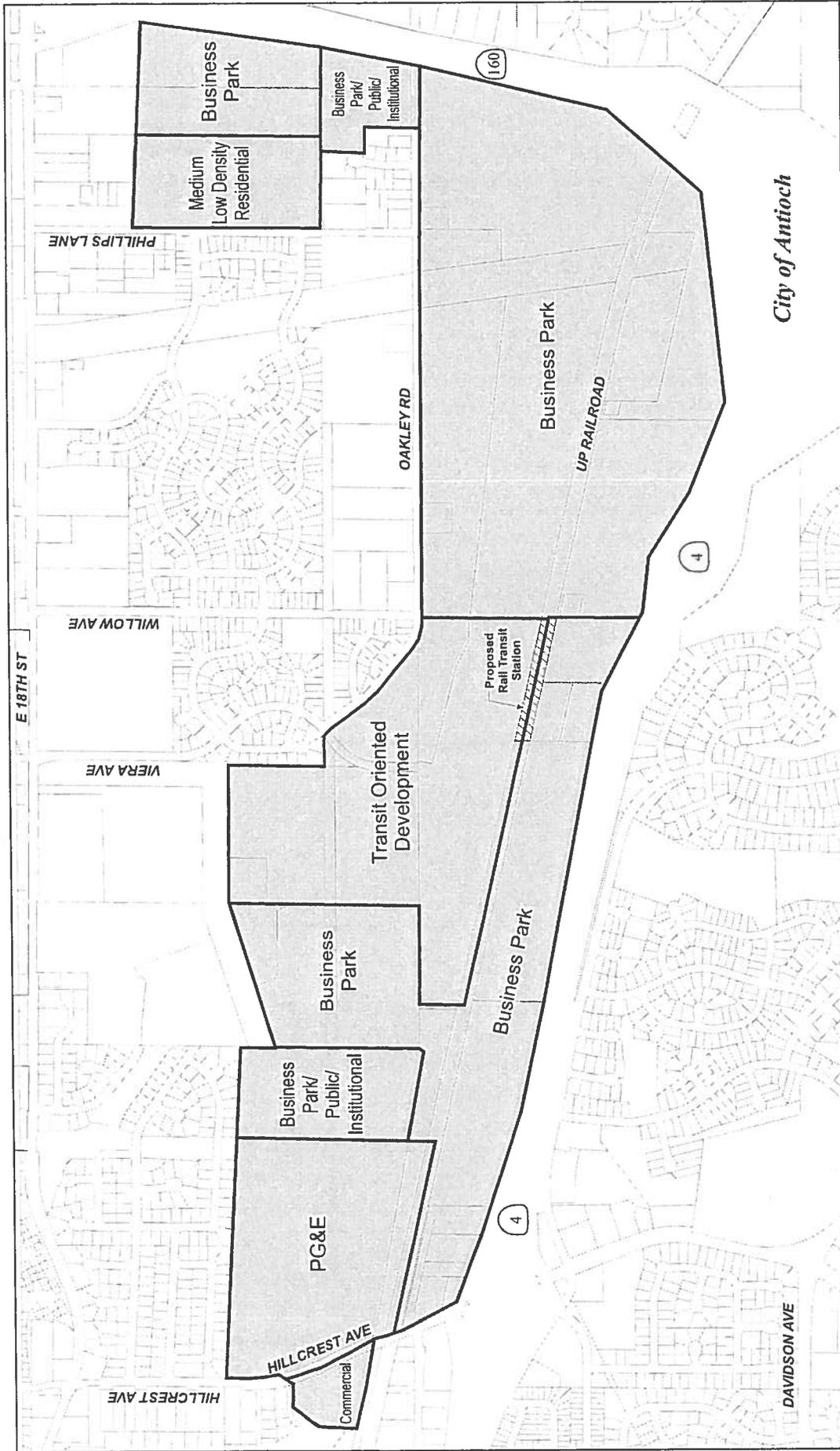
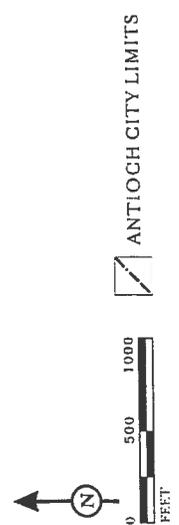


FIGURE 4.5

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City of Antioch
General Plan
State Route 4 Industrial Frontage
Focus Area

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4.4.6.5 “A” Street Interchange. The “A” Street Interchange Focus Area encompasses 160.26 acres of land along “A” Street from Worrel Road on the south to 10th Street and the Rivertown/Urban Waterfront Focus Area on the north. This Focus Area includes lands actually fronting on “A” Street, as well as additional adjacent properties.

a. Purpose and Primary Issues. “A” Street is located at the center of Antioch, and is an important gateway to Rivertown. The existing interchange has the opportunity to become the primary gateway into the Rivertown area, as well as into southeastern Antioch. Thus, revitalization of uses at the interchanges, as well as uses along the route into Rivertown is needed. Currently, “A” Street is a suburban commercial strip with some single-family residential fronting on the roadway north of SR-4 freeway. Many uses along “A” Street are deteriorating or have a typical suburban commercial strip design. Most commercial parcels are too shallow to allow for modern design, and existing residential uses fronting on “A” Street are in need of upgrade. Relatively high traffic volumes make it undesirable for single family residential uses to front along and take access from “A” Street. To facilitate revitalization of this corridor, it would be desirable to consolidate commercial parcels fronting on “A” Street, and increase their depth. By accomplishing this, new commercial centers with high quality architectural and site design could be developed, accommodating many of the same uses that are now present, but in a manner more befitting of the area’s central location within the City. It would also be desirable to relocate residents fronting along “A” Street to more suitable living environments.

Remaking the uses at the “A” Street Interchange will be costly, and relocation of residents can be traumatic and difficult. However, the potential benefits are substantial. At a minimum, urban design improvements, including undergrounding of utilities, building façade, and sign improvements are needed in the short-term. In the mid- to long-term (8 to 15 years), deepening of existing commercial parcels and removal of existing residences

fronting on “A” Street at the interchange appear to be appropriate.

b. Policy Direction. The General Plan envisions a cluster of commercial and office uses with high design quality, transforming the “A” Street corridor from a strip commercial area into a pedestrian-oriented village with well-designed retail and office uses. The A Street interchange along the SR 4 freeway needs to feature a major community gateway statement. “Signature” buildings (those having greater height and design detail than adjacent buildings) will be encouraged at key locations, including at all four quadrants of the freeway interchange, as well as the intersections of A Street with Texas Avenue, East Eighteenth Street, Tenth Street and Wilbur Avenue.

To accomplish this requires relocation of deteriorating residential uses from the “A” Street frontage, and increasing the depth of commercial/office uses to provide a more sensible development pattern.

Transformation of the “A” Street corridor is intended to occur over a period of several years. Residents to be relocated as part of the revitalization effort will be afforded all of the protections and relocation benefits provided under State law.

The following policies apply to the “A” Street Interchange Focus Area.

- a. Areas designated “*Commercial*” in Figure 4.6 shall comply with the provisions of the Neighborhood Commercial Land Use designation (see Section 4.4.1.2).
- b. Areas designated “*Commercial/Office*” in Figure 4.6 shall comply with the provisions of the Neighborhood/Community Commercial Land Use designation (see Section 4.4.1.2). The land uses that are considered to be appropriate for areas designated “*Commercial/Office*” in Figure 4.6 are those identified for “A” Street Commercial/Office in Table 4.A.
- c. Areas designated “*Office*” in Figure 4.6 shall comply with the provisions of the Office Land Use designation (see Section 4.4.1.3). In addition to the uses identified

as being appropriate within the Office designation, Religious Assembly uses would also be appropriate.

- d. Areas designated "*Residential*" in Figure 4.6 shall comply with the provisions of the Low Medium Density Residential Office Land Use designation (see Section 4.4.1.1).
- e. An urban design plan should be prepared for this Focus Area. The plan should define a design theme; set specific architectural, sign, landscape, and streetscape design standards for the corridor; and select specific designs for public improvements such as street lighting, special paving sections at intersections, and street furniture.
- f. A signage and façade improvement program should also be undertaken for commercial uses within this Focus Area.
- g. To provide visual emphasis to specific locations, commercial and office buildings should be limited to two stories in height, except at the intersection of 18th Street, where three story structures with distinctive architecture ("signature buildings) are encouraged.
- h. The City should, if feasible, expand Antioch Development Agency Project Area 1 or establish a new redevelopment project area for the "A" Street Interchange Focus Area. The primary purpose of such a redevelopment project would be to:
 - assist in the conversion of existing residential dwellings to commercial and office uses;
 - assist residents with relocation costs;

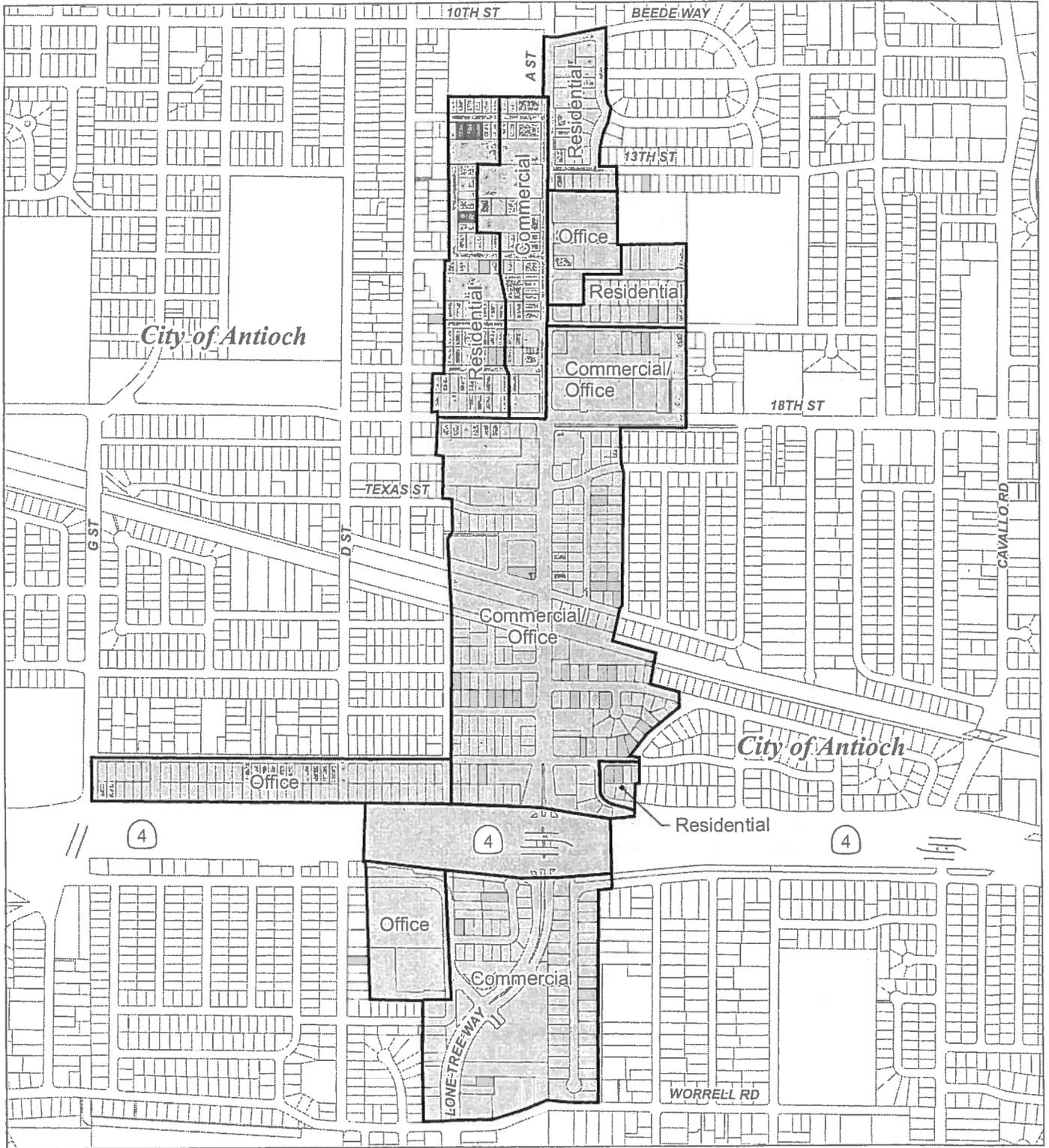
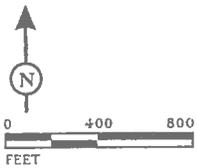


FIGURE 4.6

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General Plan

A Street Interchange Focus Area

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- i. assist area businesses in financing façade and sign improvements;
- j. assist in funding improvements within the public right-of-way (e.g., streetscape improvements, special paving at intersections, street furniture)
- k. facilitate the consolidation of parcels along "A" Street as a means of encouraging new, high quality, pedestrian-oriented commercial and office development.

4.4.6.6 Western Gateway. The Western Gateway Focus Area consists of approximately 43 acres, located at the western edge of the City, adjacent to the City of Pittsburg (Figure 4.7). The triangular Focus Area is bounded by the SR-4 freeway to the north, the Pittsburg city limits to the west, and an existing single-family residential neighborhood to the southeast. Delta Fair Boulevard runs through the center of Focus Area.

a. Purpose and Issues. The Western Gateway Focus Area is located at a key community entry. It is the first property in Antioch seen by eastbound travelers along the SR-4 freeway, and as such, will define Antioch's visual character for new visitors to the community. The Focus Area is partially developed. The County Social Services Department maintains offices along the south side of Delta Fair Boulevard. An existing transitional housing development is located adjacent to the County offices. Los Medanos College is located adjacent to the west side of the Focus Area, in Pittsburg. The Western Gateway Focus Area is connected to the Somersville Towne Center mall and regional commercial uses along Somersville Road by Delta Fair Boulevard, which traverses the residential neighborhoods between the two areas. Thus, even though there is a roadway connecting between the Western Gateway Focus Area and regional commercial uses along Somersville Road, the two areas do not have a functional linkage. Extension of Century Boulevard from the north is proposed, providing a roadway connection between this

Focus Area and commercial areas to the north of the SR-4 freeway in the City of Pittsburg.

Along the southeasterly side of this Focus Area are single-family dwellings. Thus, while the location of this Focus Area at a key entry to the community calls for dramatic architecture, perhaps with mid-rise buildings, there is also a need to maintain compatibility with the adjacent residential neighborhood.

b. Policy Direction. A community gateway monument and landscaping should be developed along the west side of the intersection of Delta Fair Boulevard and Century Boulevard. This monument should include modern community signage and appropriate landscaping. Development along the north side of Delta Fair Boulevard should consist of mid-rise office uses at the intersection of Delta Fair and Century boulevards, and potentially attached residential dwelling units adjacent to the existing neighborhood. The area north of Delta Fair Boulevard may also be developed solely as an office park. The following policies shall guide development of the Western Gateway Focus Area.

- a. The Western Gateway Focus Area is intended for office uses northwest of Delta Fair Boulevard, along with existing multi-family residential and public uses on the opposite side of the roadway.
- b. Areas designated "*Mixed Use Residential/Commercial*" in Figure 4.7 may consist of a mix of the uses identified as appropriate for the High Density Residential designation (see Section 4.4.1.1 for maximum allowable development intensity and appropriate land use types) and the Convenience Commercial designation (see Section 4.4.1.2 for maximum allowable development intensity and appropriate land use types).
- c. Areas designated "Office" on Figure 4.7 shall comply with the provisions of the Office land use designation (see Section 4.4.1.3).

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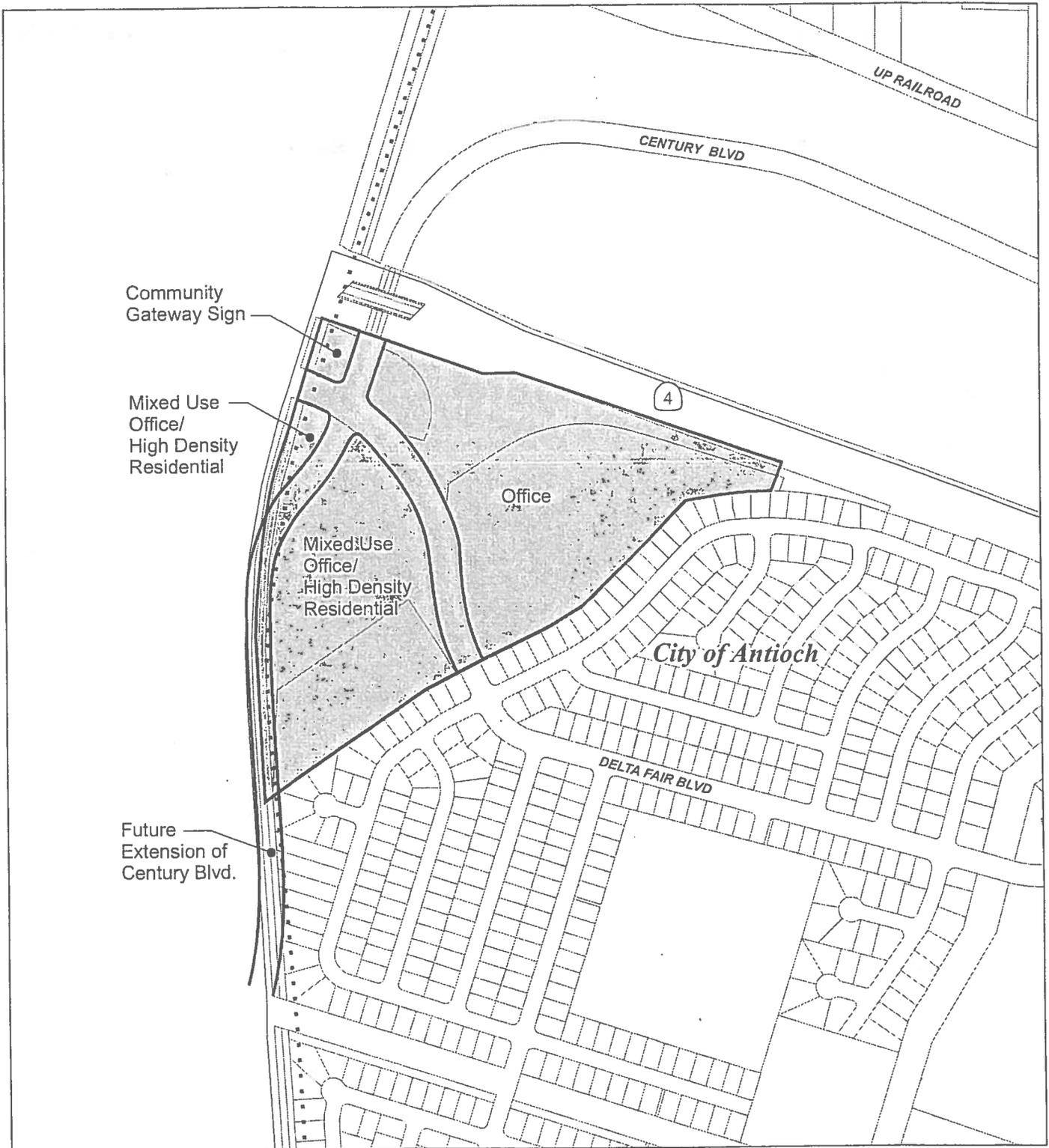
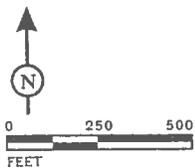


FIGURE 4.7

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-  POWER LINE
-  ANTIOCH CITY LIMITS

City of Antioch
General Plan

Western Gateway Focus Area

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- Future multifamily residential, if provided, is to be developed as part of a mixed-use office/residential development.
- d. Because of the highly visible nature of the Focus Area, office development at the intersection of Delta Fair and Century boulevards should be mid-rise (three to five stories), and display high quality architecture.
 - e. Adequate separation shall be maintained between new office and multi-family uses and existing residential neighborhoods. If parking areas are located along the residential edge, sufficient noise mitigation shall be provided.
 - f. As part of the development of this Focus Area, community gateway monumentation is to be established at the northwest corner of Delta Fair and Century Boulevards, including distinctive signage and landscaping and expressing the theme of Antioch as "Gateway to the Delta." Such signage and monumentation must portray a high quality design image for the City.¹

4.4.6.7 Sand Creek. The Sand Creek Focus Area encompasses approximately 2,712 acres in the southern portion of the City of Antioch (Figure 4.8).

This Focus Area is bounded by existing residential neighborhoods to the north, Black Diamond Mines Regional Preserve to the west, the city limits to the south, and the City of Brentwood to the east. Empire Mine Road and Deer Valley Road run in a general north-south direction through the Focus Area, dividing it roughly into thirds.

a. Purpose and Primary Issues. The Sand Creek Focus Area combines two existing policy and planning areas identified in the previous General Plan: the southern portion of "Focused Policy Area 18" and the entirety of Future Urban Area 1." Previous General Plan policy tied the timing of development within this Focus Area to progressive build out of the land immediately to the north (the area generally known as Southeast Antioch), and to

agreement on an alignment for the SR-4 bypass.

Through the 1990s, build out of Southeast Antioch was largely completed, an alignment for the SR-4 bypass was selected, and financing for construction of the bypass was developed. As a result, the City stepped up its planning efforts for the Sand Creek Focus Area with area landowners. Because of the multiple ownerships within the Sand Creek Focus Area, detailed coordination of access and infrastructure, along with the establishment of workable financing mechanisms was necessary in addition to land use planning.

Sand Creek, as well as natural hillsides and canyons within the Sand Creek Focus Area, contain habitats for sensitive plant and animal species, as well as habitat linkages and movement corridors. Overall, the western portion of the Focus Area is more environmentally sensitive than the eastern portion in terms of steep topography, biological habitats and linkages, the existence of abandoned coal mines, and proximity to public open space at Black Diamond Mines Regional Preserve. The west end of the Sand Creek Focus Area serves as a linkage between two regionally significant blocks of grassland. Decades of urban and agricultural use have greatly reduced the width of this linkage, substantially increasing the ecological importance of the remaining linkage within the Sand Creek Focus Area. Land has been preserved in regional parks and permanent open space, primarily in extensive grassland to the immediate west and northwest, as well as south of the Sand Creek Focus Area. These preserves represent a significant investment of public resources, and are a valued public asset.

Stream and riparian communities occupy a small portion of the Focus Area, but are widely distributed. Because of their high biotic value, stream and riparian communities within the Focus Area are considered to be a sensitive resource. The Focus Area also includes an oak woodland and savanna community, which, because of its high wildlife value, is considered to be a sensitive resource.

¹ See the Community Image and Design Element.

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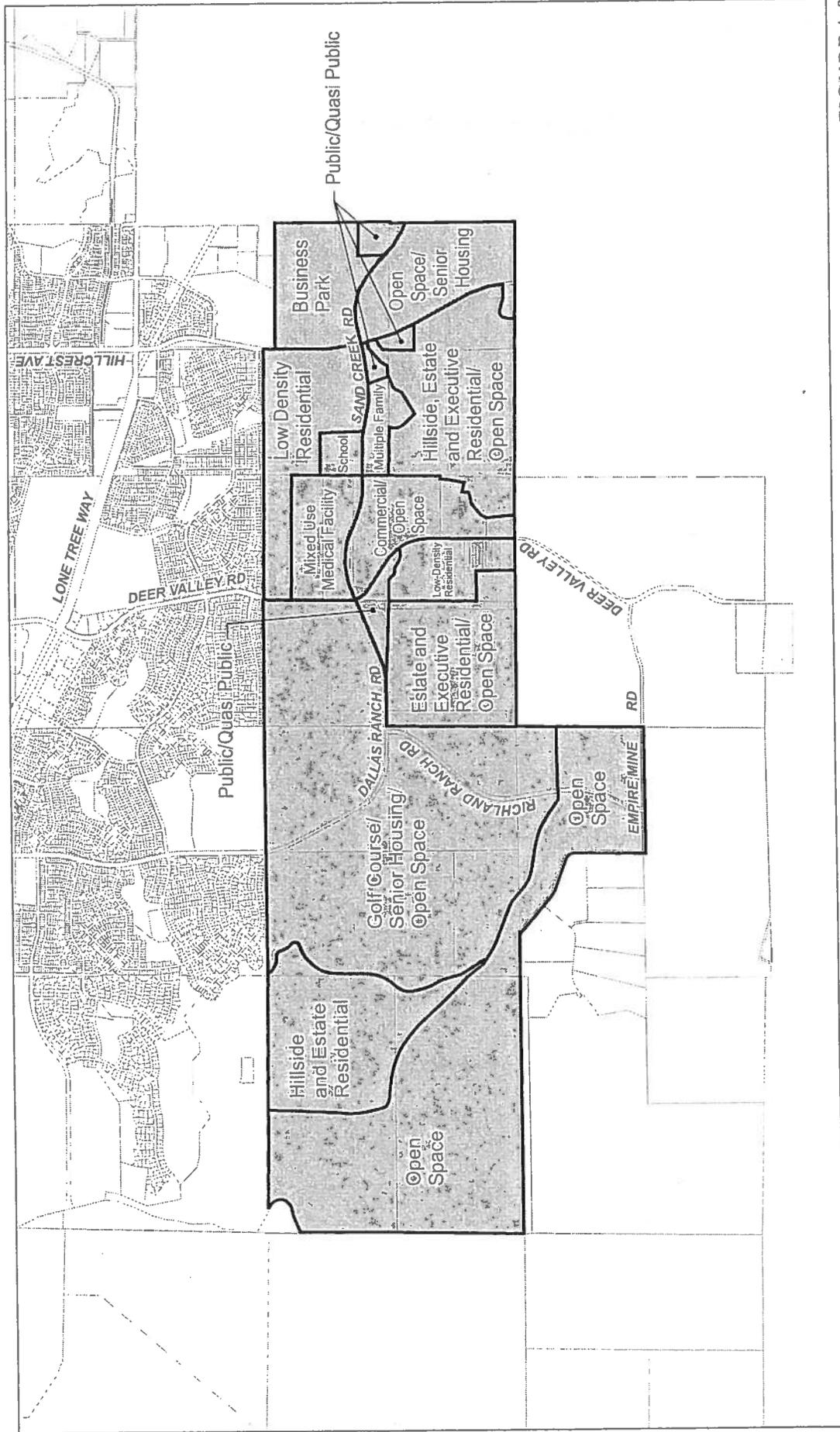
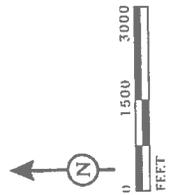


FIGURE 4.8

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b. Policy Direction. The environmental sensitivity of portions of the Sand Creek Focus Area was recognized in the City's previous General Plan; however, policy direction was very general. As an example, the previous General Plan did not provide any indication of the maximum allowable development intensity for Future Urban Area 1. The previous General Plan also stated that while the area between Contra Loma Boulevard and Empire Mine Road was designated Estate Residential, "the actual density should be based on a development plan that ensures that the special characteristics of the area, including steep slopes, riparian habitat, and other environmental constraints, are accommodated.

The following policy discussion and policies for the Sand Creek Focus Area are intended to provide clear direction for the future development and environmental management of the area.

The Sand Creek Focus Area is intended to function as a large-scale planned community, providing needed housing and employment opportunities. This Focus Area is also intended to provide substantial employment opportunities. Up to approximately 280 acres are to be devoted to retail and employment-generating uses, which will result in the creation of up to 6,500 jobs at build out. Residential development within the Sand Creek Focus Area will provide for a range of housing types, including upper income estate housing, golf course-oriented age-restricted housing for seniors, suburban single-family detached housing, and multifamily development.

The following policies apply to development within the Sand Creek Focus Area.

- a. Prior to or concurrent with approvals of any development applications other than major employment-generating uses (including, but not limited to a medical facility on the Kaiser property), a specific plan or alternative planning process as determined by the City Council, shall be prepared and approved for the Sand Creek Focus Area. Such specific plan or alternative planning process shall identify and provide for project for project-related

land uses, financing of required public services and facilities, open space preservation, community design, recreational amenities, and community improvements within the area proposed for development.

- b. Sand Creek Focus Area development shall make a substantial commitment to employment-generating uses. Up to 280 acres are to be devoted to employment-generating uses within the areas shown for Business Park and Commercial/Open Space, in addition to the area shown as Mixed Use Medical Facility. Appropriate primary land uses within employment-generating areas include:
 - Administrative and Professional Offices
 - Research and Development
 - Light Manufacturing and Assembly
 - Hospital and related medical uses
- c. Secondary, support and ancillary uses within employment-generating areas include:
 - Banks and Financial Services
 - Business Support Services
 - Eating and Drinking Establishments
 - Health Clubs and Spas
 - Lodging and Visitor Services
 - Storage and Distribution – Light
 - Civic Administration
 - Cultural Facilities
 - Day Care Centers
- d. The maximum development intensity for employment-generating lands shall be an overall FAR of 0.5.
- e. A maximum of 95 acres of retail commercial uses designed to service the local community may be developed within the areas shown for Commercial/Open Space, with a maximum overall development intensity of a 0.3 FAR.
- f. Up to 1.24 million square feet of retail commercial uses may be constructed.

- Within areas designated for retail use (areas shown for Commercial/Open Space), office development may be developed at a maximum FAR of 0.5.
- g. Appropriate uses within the retail portions of this Focus Area include:
 - Administrative and Professional Offices
 - Automotive Uses
 - Banks and Financial Services
 - Business Support Services
 - Eating and Drinking Establishments
 - Food and Beverage Sales
 - General Merchandise
 - Health Clubs and Spas
 - Personal Services
 - Personal Instruction
 - Theaters
 - Civic Administration
 - Cultural Facilities
 - Day Care Centers
 - Residential development as part of a mixed-use medical facility
 - h. Commercial areas shall be designed as cohesive centers, and not in narrow corridors or commercial strips.
 - i. Each commercial center shall establish an identifiable architectural theme, including buildings, signage and landscaping.
 - j. Commercial and employment-generating developments shall be designed to accommodate public transit and non-motorized forms of transportation.
 - k. A maximum of 4,000 dwelling units may be constructed within the Sand Creek Focus Area. Appropriate density bonuses may be granted for development of age-restricted housing for seniors; however, such density bonuses may not exceed the total maximum of 4,000 dwelling units for the Sand Creek Focus Area.
 - l. It is recognized that although the ultimate development yield for the Focus Area may be no higher than the 4,000 dwelling unit maximum, the actual development yield is not guaranteed by the General Plan, and could be substantially lower. The actual residential development yield of the Sand Creek Focus Area will depend on the nature and severity of biological, geologic, and other environmental constraints present within the Focus Area, including, but not limited to constraints posed by slopes and abandoned mines present within portions of the Focus Area; on appropriate design responses to such constraints, and on General Plan policies. Such policies include, and but are not limited to, identification of appropriate residential development types, public services and facilities performance standards, environmental policies aimed at protection of natural topography and environmental resources, policies intended to protect public health and safety, and implementation of the Resource Management Plan called for in Policy "t," below.
 - m. As a means of expanding the range of housing choices available within Antioch, three types of "upscale" housing are to be provided, including Hillside Estate Housing, Executive Estate Housing, and Golf Course-Oriented Housing.

Hillside Estate Housing consists of residential development within the hilly portions of the Focus Area that are designated for residential development. Appropriate land use types include Large Lot Residential. Within these areas, typical flat land roadway standards may be modified (e.g., narrower street sections, slower design speeds) to minimize required grading. Mass grading would not be permitted within this residential type. Rough grading would be limited to streets and building pad areas. Residential densities within Hillside Estate Areas are to be limited to one dwelling unit per gross developable acre (1 du/ac), with typical lot sizes ranging upward from 20,000 square feet. The anticipated population density for this land use type is up to four persons per developed acre. Included in this category is

custom home development, wherein semi-improved lots are sold to individuals for construction of custom homes. Approximately 20 percent of Hillside Estate Housing should be devoted to custom home sites.

Executive Estate Housing consists of large lot suburban subdivisions within the flatter portions of the Focus Area. Appropriate land use types include Large Lot Residential. Densities of Executive Housing areas would typically be 2 du/ac, with lot sizes ranging upward from 12,000 square feet. The anticipated population density for this land use type is up to eight persons per developed acre.

Golf Course-Oriented Housing consists of residential dwelling units fronting on a golf course to be constructed within the portion of the Focus Area identified as Golf Course/Senior Housing/Open Space in Figure 4.8. Appropriate land use types include Single Family Detached and Small Lot Single Family detached for lots fronting on the golf course. Maximum densities for golf course-oriented housing would typically be 4 du/ac, with lot sizes as small as 5,000 square feet for lots actually fronting on the golf course. Given the significant environmental topographic constraints in the portion of the focus area west of Empire Mine Road, the minimum lot size for executive estate housing within this area shall be a minimum of 10,000 square feet. This would allow additional development flexibility in situations where executive estate housing needs to be clustered in order to preserve existing natural features. In no case shall the 10,000 square foot minimum lot size constitute more than 20 percent of the total number of executive estate housing units in the area west of Empire Mine Road. The anticipated population density for this land use type is up to eight to twelve persons per acre developed with residential uses. Should the City determine as part of the development review process that development of a golf course within the area having this designation would be infeasible, provision of an alternative open space program may

be permitted, provided, however, that the overall density of lands designated Golf Course/Senior Housing/Open Space not be greater than would have occurred with development of a golf course.

- n. Single-Family Detached housing within suburban-style subdivisions with lot sizes ranging from 7,000 square feet to 10,000 square feet may also be developed within the Sand Creek Focus Area within areas shown as Residential and Low Density Residential in Figure 4.8. The anticipated population density for this land use type is up to eight to twelve persons per acre developed with residential uses.
- o. A total of 25 to 35 acres is to be reserved for multi-family housing to a maximum density of 20 du/ac. Areas devoted to multi-family housing should be located adjacent to the main transportation routes within the Focus Area, and in close proximity to retail commercial areas. The anticipated population density for this land use type is up to forty persons per acre developed with residential uses.
- p. Age-restricted senior housing should be developed within the Focus Area as a means of expanding the range of housing choice within Antioch, while reducing the Focus Area's overall traffic and school impacts. Such senior housing may consist of Single Family Detached, Small Lot Single Family Detached, of Multi-Family Attached Housing, and may be developed in any of the residential areas of the Sand Creek Focus Area. Within areas identified in Figure 4.8 specifically for senior housing, limited areas of non-senior housing may be permitted where environmental or topographic constraints would limit development densities to a range more compatible with estate housing than with senior housing.
- q. Areas identified as Public/Quasi Public and School in Figure 4.8 are intended to identify locations for new public and institutional uses to serve the future development of the Sand Creek Focus Area. Development within these areas is to be consistent with the provisions of the Public/In-

- stitutional land use category described in Section 4.4.1.4 of the Land Use Element.
- r. Sand Creek, ridgelines, hilltops, stands of oak trees, and significant landforms shall be preserved in their natural condition. Overall, a minimum of 25 percent of the Sand Creek Focus Area shall be preserved in open space, exclusive of lands developed for golf course use.
- s. Adequate buffer areas adjacent to the top of banks along Sand Creek to protect sensitive plant and amphibian habitats and water quality shall be provided. Adequate buffer areas shall also be provided along the edge of existing areas of permanently preserved open space adjacent to the Sand Creek Focus Area, including but not limited to the Black Diamond Mines Regional Park. Buffers established adjacent to existing open space areas shall be of an adequate width to minimize light/glare, noise, fire safety, public safety, habitat, public access impacts within the existing open space areas, consistent with the provisions of Section 10.5, Open Space Transitions and Buffers Policies of the General Plan.
- t. Because of the sensitivity of the habitat areas within the Sand Creek Focus Area, and to provide for mitigation of biological resources impacts on lands in natural open space, as well as for the long-term management of natural open space, a Resource Management Plan based on the Framework Resource Management Plan attached as Appendix A to this General Plan shall be prepared and approved prior to development of the Sand Creek Focus Area.
- u. A viable, continuous grassland corridor between Black Diamond Mines Regional Preserve and Cowell Ranch State Park shall be retained using linkages in the southwestern portion of the Lone Tree Valley (within the Sand Creek drainage area), Horse Valley, and the intervening ridge. The primary goal of preserving such a corridor is to allow for wildlife movement between Black Diamond Mines Regional Preserve and Cowell Ranch State Park. Completion of such a corridor is contingent upon the cooperation with the City of Brentwood and Contra Costa County, each of whom may have land use jurisdiction over portions of this corridor.
- To preserve this corridor and in view of other significant development constraints, certain lands in the southwestern portion of the Focus Area shall be designated as "Open Space," as depicted in Figure 4.8. Limited future adjustments to the boundaries of this "Open Space" area may occur as part of the Specific Plan and/or project level environmental review processes, provided that such adjustments: (a) are consistent with the goals and policies outlined in the Framework for Resource Management set forth in Appendix A; (b) are based upon subsequently developed information and data relating to environmental conditions or public health and safety that is available at the Specific Plan stage, the project-level development plan stage, or during the permitting processes with federal, state or regional regulatory agencies; and (c) would not cause the "Open Space" area west of Empire Mine Road to be less than 65 percent of the total lands west of Empire Mine Road. Any open space and otherwise undeveloped areas west of Empire Mine Road that are within the area designated as "Hillside and Estate Residential" shall not count towards meeting this 65 percent minimum "Open Space" requirement.
 - All areas designated as "Open Space" within the Focus Area may be utilized for mitigation for loss of grassland and other project-level impacts by projects within the Focus Area.
 - Due to the varied and complex topography west of Empire Mine Road the exact boundary between the "Hillside Estate" residential area and "Estate" residential area shall be determined as part of the project-level entitlement process.

- It is anticipated that there will be only minor adjustments to the boundary between the open space area and the hillside and estate residential area shown in Figure 4.8. Minor adjustments may be made to this boundary provided that such adjustments shall not create islands of residential development within the area designated open space in Figure 4.8..
- In order to ensure adequate buffering of the Black Diamond Mines Regional Park from development in the Sand Creek Focus Area, no residential development shall be allowed north of the Sand Creek channel between the area designated "Hillside and Estate Residential" in Figure 4.8 west of Empire Mine Road and the existing Black Diamond Mines Regional Park boundary.
- v. The construction of facilities necessary to ensure adequate public access across Sand Creek west of Empire Mine Road, including the bridging of Sand Creek, an appropriately sized parking lot and staging area, and any trails needed to ensure public access to Black Diamond Mines Regional Park shall be implemented as an infrastructure component of development in the Focus Area.
- w. To mitigate the impacts of habitat that will be lost to future development within the Focus Area, an appropriate amount of habitat shall be preserved on- or off-site per the compensatory provisions of the Framework Resource Management Plan prepared for the Sand Creek Focus Area (attached as Appendix A of the General Plan).
- x. Ponds, wetlands, and alkali grassland associated with upper Horse Creek shall be retained in natural open space, along with an appropriate buffer area to protect sensitive plant and amphibian habitats and water quality. If impacts on the Horse Creek stream and riparian downstream are unavoidable to accommodate infrastructure, appropriate compensatory mitigation shall be required off-site per the provisions of the Resource Management Plan attached as Appendix A to this General Plan.
- y. Chaparral, scrub, and rock outcrop community within the western portion of the Focus Area (west of Empire Mine Road), as well as adjacent grassland community that is suitable habitat for the Alameda whipsnake (*masticophis lateralis euryxanthus*) shall be retained in natural open space. Within other portions of the Focus Area, the chaparral, scrub, and rock outcrop shall be retained in natural open space contiguous to the required grassland linkage to function as a buffer and protect the grassland linkage south of the chaparral, scrub, and outcrop community.
- z. Within the western portion of the Focus Area (west of Empire Mine Road), the oak woodland and savanna community shall be preserved in natural open space. Within other portions of the Focus Area, the oak woodland and savanna community shall be preserved in natural open space where it overlaps the rock outcrop community.
- aa. As appropriate and necessary to protect public health and safety, abandoned mines shall be included within required natural open space areas, along with appropriate buffer areas and measures to prevent unauthorized entry.
- bb. Mass grading within the steeper portions or the Focus Area (generally exceeding 25 percent slopes) is to be avoided.
- cc. Impacts of residential development on the Antioch Unified School District and Brentwood school districts will be mitigated pursuant to a developer agreement with the District.
- dd. Project entry, streetscape, and landscape design elements are to be designed to create and maintain a strong identification of the Sand Creek Focus Area as an identifiable "community" distinct from Southeast Antioch.
- ee. The Sand Creek Focus Area is intended to be "transit-friendly," including appropriate

provisions for public transit and non-motorized forms of transportation.

- ff. subject to its financial feasibility (see Policy "m"), a golf course shall be provided within the Focus Area, designed in such a way as to maximize frontage for residential dwellings. The golf course may also be designed to serve as a buffer between development and open space areas set aside to mitigate the impacts of development.

The golf course shall be designed to retain the existing trail within Sand Creek.

The golf course and Sand Creek corridor shall function as a visual amenity from the primary access road within the Focus Area (Dallas Ranch Road/Sand Creek Road). As part of the golf course clubhouse, banquet and conference facilities shall be provided.

- gg. A park program, providing active and passive recreational opportunities is to be provided. In addition to a golf course and preservation of natural open space within Sand Creek and the steeper portions of the Focus Area, the development shall meet the City's established park standards. A sports complex is to be developed.

A sports complex is to be developed. The sports complex is intended to be located within the Flood Control District's detention basin.

Neighborhood park facilities may be privately maintained for the exclusive use of project residents. The sports complex within the Sand Creek Detention Basin will be maintained by the City.

- hh. Development of an appropriate level of pedestrian and bicycle circulation throughout the community is to be provided, including pathways connecting the residential neighborhoods, as well as non-residential and recreational components of the community. Sand Creek Focus Area development should also provide recreational trail systems for jogging and bicycling, including areas for hiking and mountain biking. Trails along Sand Creek and Horse Valley Creek shall be designed so

as to avoid impacting sensitive plant and amphibian habitats, as well as water quality.

4.4.6.8 East Lone Tree Specific Plan Area.

The East Lone Tree Specific Plan Focus Area encompasses approximately 796 acres in the eastern portion of the City of Antioch. It is bounded by Lone Tree Way on the south, Empire Avenue and the Southern Pacific rail line on the east, the Contra Costa Canal on the north, and existing residential subdivisions on the west (Figure 4.9). The City's previous General Plan identified the East Lone Tree Specific Plan Area as "Future Urban Area 2." The alignment of the SR-4 bypass runs through the center of the Focus Area, with interchanges proposed at Lone Tree Way and at the extension of Laurel Road.

a. Purpose and Primary Issues. City General Plan policy has long held that the lands within the East Lone Tree Focus Area should be developed for employment-generating uses, with the majority of the area developed with suburban-type business parks, incorporating major office complexes and light industrial uses, all developed in accordance with high development standards. The SR-4 By-pass runs through the middle of the Focus area, along the base of rolling hills. The eastern portion of the area is relatively flat, while the western portion of the area consists of rolling hills.

The East Lone Tree Specific Plan was adopted by the City in May 1996. The Specific Plan supports long-standing General Plan goal of a new employment center by devoting the flat eastern portion of the Focus Area to employment-generating uses. At the heart of the employment center is a proposed retail nucleus of restaurants, shops, and service providers. The Specific Plan identifies the purpose of this retail nucleus as providing a "sense of vitality and urbanity to what is otherwise a low, spread-out campus of largely internalized workplaces." The Specific Plan also encourages a commuter rail station along the existing Southern Pacific rail line to link the proposed employment center with the proposed commuter rail system. The

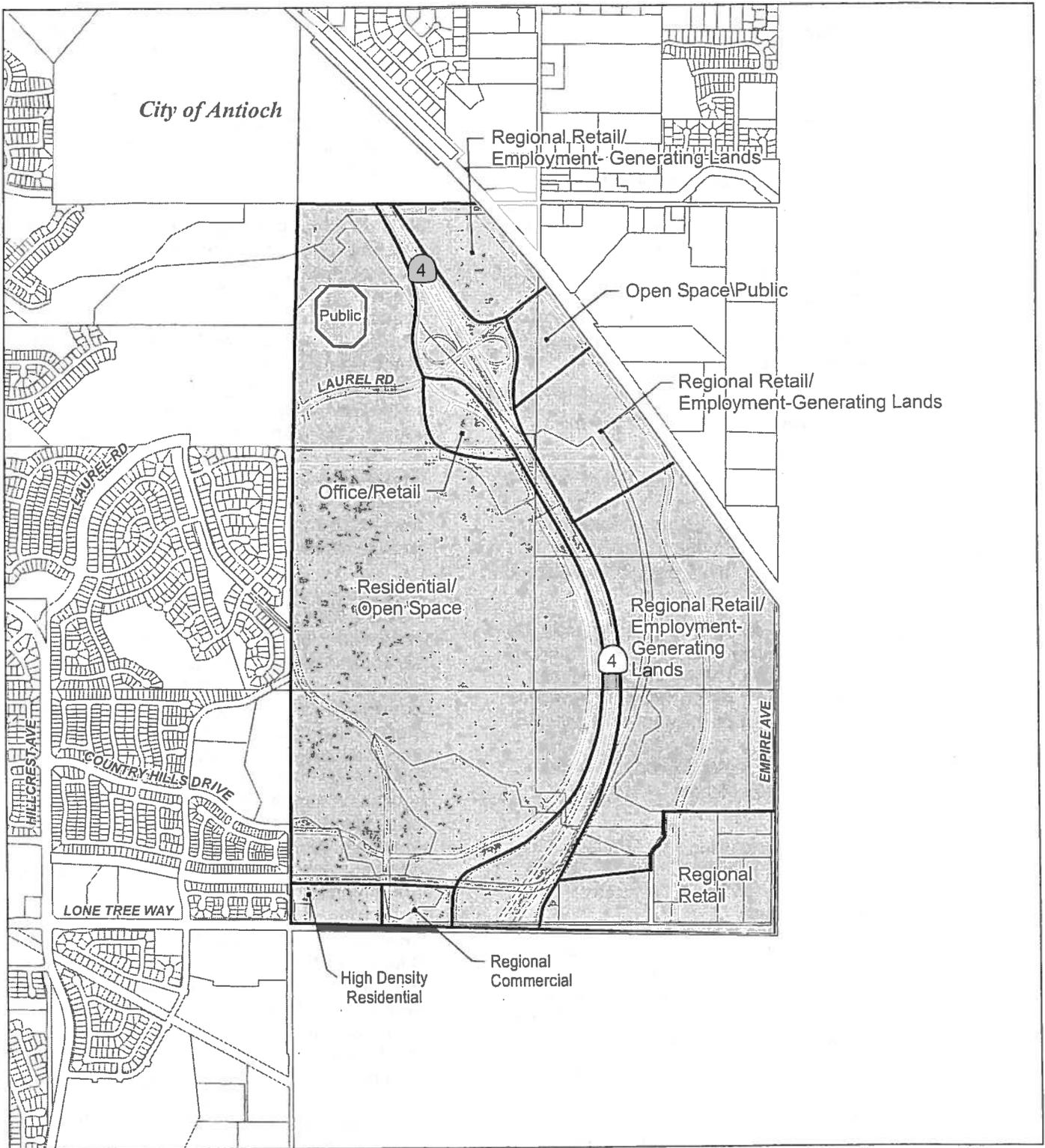
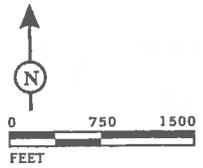


FIGURE 4.9

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East Lone Tree Focus Area

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commuter rail station proposed in the Specific Plan will actually be located to the east of the Specific Plan (see Figure 7.1).

The Specific Plan identifies three sites as being appropriate for regional retail development. A 30-acre site at the Lone Tree Way interchange along the SR-4 Bypass is reserved in the Specific Plan exclusively for regional retail use, while two other sites, encompassing 48 acres are identified for regional retail use, but may be used for employment-generating uses. These two sites are located at the Laurel Road interchange along the Bypass, and at the intersection of Lone Tree Way and Empire Road. The East Lone Tree Specific Plan dedicates the western portion of the area primarily to detached single-family development at a density of 4 to 6 units per acre. A system of open space, trails, and parks is planned throughout the residential portion of the area.

The East Lone Tree Specific Plan, with its frontage along the SR-4 Bypass, provides Antioch with substantial opportunities for expansion of the employment and retail bases. The 98 acres devoted to employment-generating uses in the Specific Plan could provide employment for up to 2,850 workers. An additional 2,275 jobs could be created within the 78 acres reserved by the Specific Plan for "Regional Focus Area Retail/Employment" uses, if that area were to be devoted to employment-generating use. Retail and service employment could be as high as 2,025.

b. Policy Direction. The East Lone Tree Specific Plan implements General Plan policies aimed at establishing Antioch as a balanced community, providing a broad range of employment and shopping opportunities for its residents. The eastern portion of the Focus Area, east of the SR-4 Bypass, is to be devoted to employment-generating and commercial land uses, while the area west of the Bypass will be devoted to residential and open space uses, with supporting neighborhood commercial development and public uses. The eastern portion of the Focus

Area was included by ABAG in its "Shaping Our Future" program¹.

Along with the provisions of the Specific Plan, the following land use policies shall apply.

- a. The maximum development intensity for the East Lone Tree Specific Plan area shall be as follows:
 - Single-Family Residential: 1,100 dwelling units, developed within the areas shown as "Residential/Open Space in Figure 4.9, subject to the provisions of the Low and/or Medium Low Density Residential land use category described in Section 4.4.1.1 of the Land Use Element.
 - Multi-Family Residential: 250 dwelling units, developed within the areas shown as "Residential/Open Space in Figure 4.9, subject to the provisions of the High Density Residential land use category described in Section 4.4.1.1 of the Land Use Element.
 - Commercial/Office: 1,135,000 square feet, developed within the areas shown as "Office/Retail," "Regional Retail," or "Regional Retail/ Employment Generating Lands in Figure 4.9. Such development may include a mix of uses that comply with the provisions of the Regional Retail land use category described in Section 4.4.1.2 or the Office land use category described in Section 4.4.1.3 of the Land Use Element.

¹ "Shaping Our Future" is sponsored by 45 organizations in the Bay Area in an attempt to achieve consensus on comprehensive approaches to growth and change in Contra Costa County. The program aims to define a "smarter way to grow," including "efficient" design of development along the edges of the metropolitan area. Planning principles being followed in Shaping Our Future include reducing single occupant vehicle trips through mixed use development at "efficient" densities, developing new transit centers and focusing new development around those centers, and preserving open space and agricultural lands.

- Business Park/Industrial: 2,152,300 square feet, developed within the areas shown as "Regional Retail/Employment Generating Lands" in Figure 4.9. Such development may include a mix of uses that comply with the provisions of the Business Park or Light Industrial land use categories described in Section 4.4.1.3 of the Land Use Element.
 - b. Land uses within the area shown as Open Space/Public in Figure 4.9 may include a mix of uses that comply with the provisions of the Open Space or Public/Institutional land use category described in Section 4.4.1.4 of the Land Use Element.
 - c. If a regional mall can be attracted to the East Lone Tree Specific Plan area, the land area devoted to regional retail may be expanded as necessary to accommodate this use.
 - d. Should the Antioch Unified School District not purchase land within the East Lone Tree Focus Area for a new high school as provided in State law, the area may be developed consistent with the East Lone Tree Focus Area Residential/Open Space designation.
 - e. The physical extent of the office/retail area along in the southwest quadrant of the Laurel Road interchange may be expanded, should the market support additional office/commercial development.
 - f. With implementation smart growth principles and the introduction of a rail transit stop in the vicinity of the Focus Area, the Commercial/Employment area located adjacent to the transit stop, may be developed as a mixed-use area, incorporating high intensity, residential, commercial, and office uses. Such development could occur at densities as high as an FAR of 1.0 for non-residential uses and mixed-use buildings, up to 20 units per acre for residential areas. Residential development should incorporate residential village themes, providing identifiable neighborhood areas within the Focus Area. The identity of individual neighborhoods should be reinforced with differing architectural styles and location within the community.
 - g. Development of an appropriate level of pedestrian and bicycle circulation throughout the community is to be provided, including pathways connecting the each residential neighborhood, as well as non-residential and recreational components of the community. Development of the East Lone Tree Specific Plan area should also provide recreational trail systems for jogging and bicycling, including areas for hiking and mountain biking.
 - h. Public services and facilities, including needed on-site and off-site facilities, shall be provided and financed by the project as needed to meet the public services performance standards set forth in the Growth Management Element for each increment of project development.
 - i. Project development shall provide full mitigation of impacts on school facilities to the Antioch Unified School District, Brentwood Union School District, and Liberty Union High School District to offset demands for new school facilities created by future development within each district
 - j. Project entry, streetscape, and landscape design elements are to be designed to create and maintain a strong identification of the East Lone Tree Specific Plan area as an identifiable "community."
- 4.4.6.9 Roddy Ranch.** Roddy Ranch is located in the southerly portion of the General Plan study area, within unincorporated territory. A portion of Roddy Ranch is inside the Voter-Approved Citywide Urban Limit Line (Figure 4.12). This Focus Area encompasses over 2,100 acres of rolling land used for grazing and ranching. Other existing land uses include a golf course, clubhouse, and open space. As a condition of approval for the golf course, development rights on 875 acres of land were dedicated to the County in 1998. These lands will be retained in permanent Open Space.

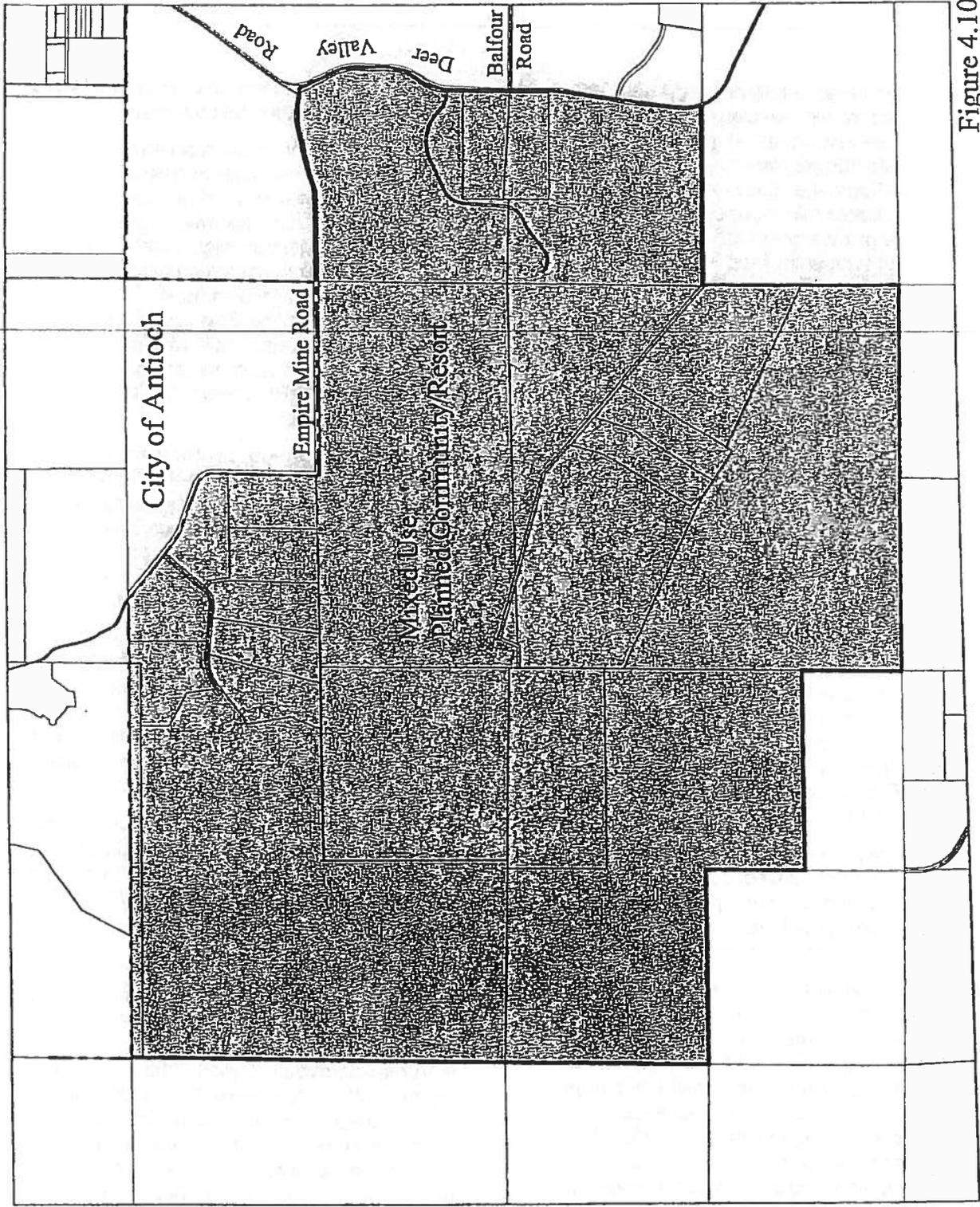
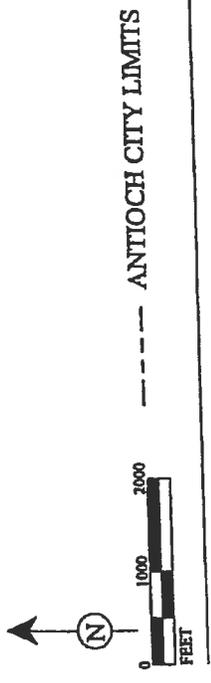


Figure 4.10

Roddy Ranch Focus Area



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a. Purpose and Primary Issues. The striking natural beauty of the Roddy Ranch area, along with its large size and single ownership, represent both a significant opportunity and a substantial challenge. Roddy Ranch provides Antioch with the opportunity to establish a unique high-end, recreation-oriented planned community. Because of the site’s natural setting and relative isolation, it should be possible to create an “exclusive” community identity for Roddy Ranch, which is the intent of the General Plan. Consistent with Policy 4.3.2f, through 2020, development within Roddy Ranch that is outside of the Voter-Approved Urban Limit Line as it was approved by the voters of the City may be limited to uses consistent with the General Plan.

Key issues in the development of Roddy Ranch will be preservation of natural open space areas, financing the development of new infrastructure to serve the site, and managing project-related traffic. Roddy Ranch is currently devoid of the services needed to support urban and suburban development of the type envisioned in the long-term for this Focus Area. Water, sewer, drainage, and other utility systems will need to be developed essentially “from scratch.” Roddy Ranch most likely will not generate sufficient students to support its own elementary, middle or high schools.

Currently, two-lane rural roads serve Roddy Ranch. Development of this Focus Area will require not only the development of an extensive on-site roadway system, but also widening of off-site roadways within existing developed and undeveloped areas.

b. Policy Direction. As noted in Land Use Element Policy 4.3.2, the General Plan recognizes the Voter-Approved Urban Limit Line as a means of phasing urban and suburban development preserving open space, and maintaining a compact urban form.

It is the intent of the Antioch General Plan that Roddy Ranch be developed as a master planned enclave nestled in the rolling hills south of the present City of Antioch. The visual character of Roddy Ranch should be defined

principally by suburban density residential development clustered within natural and recreational open spaces, along with the preservation of the steeper natural hillsides and the canyon bottoms containing riparian resources within the site. The existing golf course, as a major recreational amenity, should be the central focus of the planned community.

The following policies shall guide development of the Roddy Ranch Focus Area, pursuant to the Voter-Approved Urban Limit Line provisions of Policy 4.3.2f.

- a. Prior to approvals of any development applications, a Final Development Plan for the Roddy Ranch Focus Area is to be prepared and approved. Such Final Development Plan shall provide detailed guidance for project-related land use, provision and financing of required public services and facilities, open space preservation, community design, recreational amenities, and community improvements. Development within the Roddy Ranch shall be predicated upon extension of infrastructure from the north through the Sand Creek Focus Area.
- b. Residential development within Roddy Ranch shall not exceed a maximum of 700 dwelling units within the portion of Roddy Ranch located generally on lands not committed to open space and having steep slopes or significant environmental constraints, which lands shall not exceed 500 acres within the Voter-Approved Urban Limit Line (6-9 persons per developable acre on average) consistent with Policy 4.3.2f. Of these 700 units, all or substantially all shall be Estate Residential and the balance shall be Multi-Family Attached residential product types (as defined in Table 4.A) in a resort-style setting.
- c. Residential neighborhoods within Roddy Ranch should be designed to provide high quality housing attractive to a broad spectrum of buyers, including upper end housing that provides “move-up” opportunities for local residents. Multifamily, for-rent housing should be

- limited to a central "town center" location within the site, adjacent to commercial uses and along the golf course.
- d. Residential development should incorporate residential village themes, providing identifiable neighborhood areas within the planned community. The identity of individual neighborhoods should be reinforced with differing architectural styles and location within the community.
 - e. Commercial uses within Roddy Ranch are intended to serve local neighborhood needs (e.g., supermarket, drug store, and personal services), and are to be limited to that which can be supported by residential and recreational uses within Roddy Ranch (10 to 20 acres, approximately 100,000 to 225,000 square feet of gross leasable area).
 - f. Visitor-serving commercial uses (e.g., hotel and restaurants) may also be developed within Roddy Ranch. Such visitor-serving uses would be oriented toward the golf course. The hotel may include a maximum of 250 rooms with ancillary retail, conference, restaurant, and recreational uses. Visitor-serving commercial uses may occupy a total of 20 acres at a maximum building intensity of 0.50.
 - g. Primary access to Roddy Ranch is to be from both Deer Valley Road and Empire Mine Road, with secondary connections to Balfour Road and Sand Creek Road.
 - h. Development of an appropriate level of pedestrian and bicycle circulation throughout the community is to be provided, including pathways connecting each residential neighborhood, as well as non-residential and recreational components of the community. Roddy Ranch development should also provide recreational trail systems for jogging and bicycling, including areas for hiking and mountain biking.
 - i. Development of the Roddy Ranch shall provide such on- and off-site road improvements on City of Antioch streets as to ensure that applicable performance standards set forth in the Growth Management Element are met.
 - j. Public services and facilities, including needed on site and off site facilities, shall be provided and financed by the project as needed to meet the public services performance standards set forth in the Growth Management Element for each increment of project development.
 - k. Performance standards for emergency response services (police and fire) are to be met at the time the first increment of development is occupied and for each subsequent increment of development.
 - l. Project development shall provide full mitigation of impacts on school facilities to affected school districts.
 - m. The timing of new development shall be correlated with the installation of water, sewer, electrical, and natural gas utility systems, provision of municipal services (including emergency services), and project open space and amenities with land development in a manner that is economically feasible and that ensures adequate service to uses within the site starting with the time the first increment of development is occupied.
 - n. Project entry, streetscape, and landscape design elements are to be designed to create and maintain a strong identification of Roddy Ranch as an identifiable "community."
 - o. Development of an attractive, but natural-appearing landscape is to be provided with groves of trees, earth tone wall colors, and drifts of flowering shrub materials.
 - p. A central open space area, which may include the golf course, is to be provided to serve as the dominant visual feature of the Roddy Ranch, as well as to provide recreational opportunities.
 - q. Because of the sensitivity of the habitat areas within the Roddy Ranch Focus Area, preparation and approval of a Resource Management Plan to provide for mitigation of biological resources impacts, as well as for the long-term management of natural open space, shall be required prior to development of the Roddy Ranch

Focus Area. The Resource Management Plan shall provide for appropriate habitat linkages consistent with General Plan policies and Resource Management Plan provisions for the Sand Creek Focus Area.

4.4.6.10 Ginochio Property. The Ginochio Property is located in the southerly portion of the General Plan study area, within unincorporated territory (Figure 4.11). This Focus Area encompasses nearly 1,070 acres of rolling lands and canyon areas. The site is currently vacant. A portion of Ginochio Property is located within the Voter-Adopted Urban Limit Line (Figure 4.12).

a. Purpose and Primary Issues. The Ginochio Property presents Antioch with similar opportunities and challenges, as does Roddy Ranch. Within the Ginochio Property is the opportunity to establish a high-end planned community, which is the intent of the General Plan.

Key issues in the development of the Ginochio Property will be preservation of natural open space areas, financing the development of new infrastructure to serve the site, and managing project-related traffic. Water, sewer, drainage, and other utility systems will need to be developed essentially "from scratch" to support long-term suburban development of the Ginochio Property. If family-oriented housing is development, new school facilities will be needed; however, development of the Ginochio Property might not support develop-

ment of its own new schools, necessitating students to travel to distant locations for school. As was the case for Roddy Ranch, the Ginochio Property is served by winding two-lane rural roads, which will require substantial widening along with development of an extensive on-site roadway system.

b. Policy Direction. Urban development within the Ginochio Property is limited to property within the Voter-Approved Urban Limit Line as a means of phasing urban and suburban development preserving open space, and maintaining a compact urban form. Thus, the policy direction that follows is predicated on compliance with the provisions of Policy 4.3.2f.

It is the intent of the Antioch General Plan that the Ginochio Property be developed as a master planned enclave nestled in the rolling hills south of the present City of Antioch. The visual character of the Ginochio Property should be defined principally by suburban density residential development within the northerly portion of the Focus Area, and preservation of large, unbroken blocks of open space in the southern portion of the site. A major recreational amenity should be developed as the central focus of the planned community.

The following policies shall guide development of the Ginochio Property, pursuant to the Urban Limit Line provisions of Policy 4.3.2.

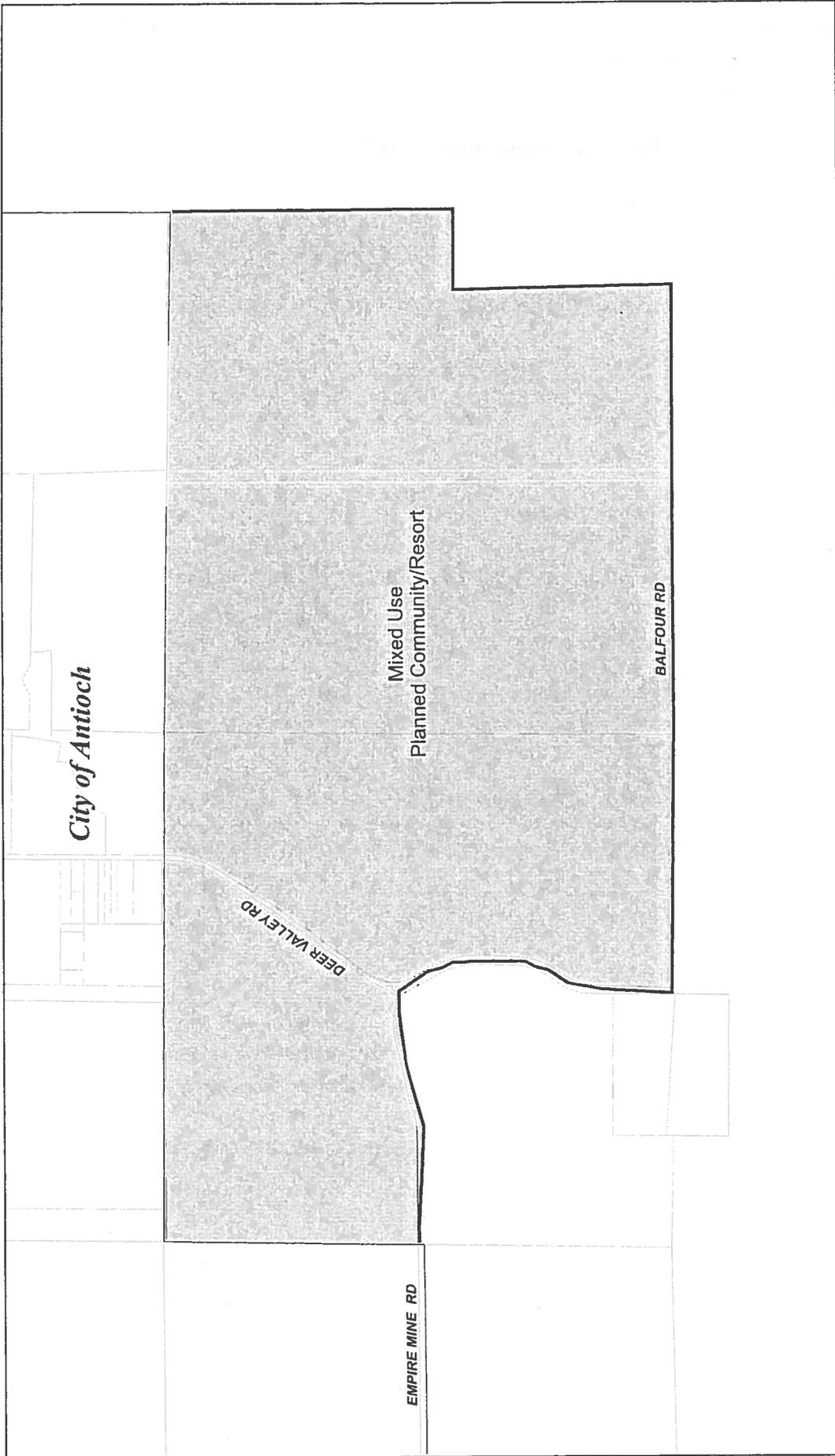
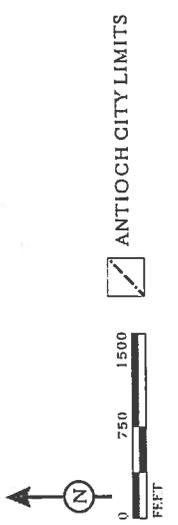


FIGURE 4.11

LSA



City of Antioch
 General Plan
 Ginochio Focus Area

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- a. Prior to approvals of any development applications, a Final Development Plan for the Ginochio Property Focus Area is to be prepared and approved. Such Final Development Plan shall provide detailed guidance for project-related land use, provision and financing of required public services and facilities, open space preservation, community design, recreational amenities, and community improvements.
 - b. While it is in force, development shall be consistent with the City's boundary agreement with the City of Brentwood.
 - c. Residential development within the Ginochio Property shall not exceed a maximum of 2.0 dwelling units per developable acre (6 persons per developable acre) with the permitted development area set forth in Policy 4.3.2f, and shall include a range of Single-Family Detached and Multi-Family Attached residential product types (as defined in Table 4.A) in a resort-style development within the northern portion of the site. Large Lot Residential development consisting of custom home sites on five and ten acre parcels is appropriate, provided that the maximum density is not exceeded. Senior, age-restricted residential development is anticipated to be an important component of the Ginochio Property's residential development. For purposes of determining density within the Ginochio Property focus area, a "developable acre" shall be defined as lands not committed to open space and having steep slopes or other significant environmental constraints. These lands will be mapped in the Final Development Plan. Development may occur on lands with steep slopes at a maximum density of one dwelling unit per 10 acres (1 du/10ac). The mapping of such lands will occur as part of the Final Development Plan.
 - d. Residential neighborhoods within the Ginochio Property should be designed to provide high quality housing attractive to a broad spectrum of families and retirees, including upper end housing that provides "move-up" opportunities for local residents. Multifamily, for-rent housing should be limited to a central "town center" location within the site, adjacent to commercial uses.
 - e. Residential development should incorporate residential village themes, providing identifiable neighborhood areas within the planned community. The identity of individual neighborhoods should be reinforced with differing architectural styles and location within the community.
 - f. Primary access to the Ginochio Property is to be from an extension of Hillcrest Avenue, with secondary connections to Balfour Road and Sand Creek Road.
 - g. Development of an appropriate level of pedestrian and bicycle circulation throughout the community is to be provided, including pathways connecting each residential neighborhood, as well as non-residential and recreational components of the community. Development of the Ginochio Property should also provide recreational trail systems for jogging and bicycling, including areas for hiking and mountain biking.
 - h. Along with the development of on-site roadways required to meet the applicable Growth management Element performance standards, new development shall provide the off-site road improvements to City Antioch needed to meet applicable performance standards for each increment of project development.
 - i. Public services and facilities, including needed on site and off site facilities, shall be provided and financed by the project as needed to meet the public services performance standards set forth in the Growth Management Element for each increment of project development.
 - j. Performance standards for emergency response services (police and fire) are to be met at the time the first increment of development is occupied and for each subsequent increment of development.

- k. Project development shall provide full mitigation of impacts on school facilities to the Brentwood Elementary School District and the Liberty Union High School District.
- l. The timing of new development shall be correlated with the installation of water, sewer, electrical, and natural gas utility systems, provision of municipal services (including emergency services), and project open space and amenities with land development in a manner that is economically feasible and that ensures adequate service to uses within the site starting with the time the first increment of development is occupied.
- m. Project entry, streetscape, and landscape design elements are to be designed to create and maintain a strong identification of the Ginochio Property as an identifiable "community."
- n. Development of a natural-appearing style of landscaping is to be provided with groves of trees, earth tone wall colors, and drifts of flowering shrub materials.
- o. A central open space area, which may include a golf course, is to be provided to serve as the dominant visual feature of the Ginochio Property, as well as to provide active or recreational opportunities.
- p. Because of the sensitivity of the habitat areas within the Ginochio Property Focus Area, preparation and approval of a Resource Management Plan to provide for mitigation of biological resources impacts, as well as for the long-term management of natural open space, shall be required prior to development of the Ginochio Property Focus Area. The Resource Management Plan shall provide for appropriate habitat linkages consistent with General Plan policies and Resource Management Plan provisions for the Sand Creek Focus Area.

General Plan to establish the urban limit line as shown on Figure 4.12. This Voter-Approved Urban Limit Line establishes a line through the Roddy Ranch and Ginochio Property Focus Areas beyond which the General Plan land use designations cannot be amended to allow uses other than open space uses. Until December 31, 2020, the location of the Voter-Approved Urban Limit Line may be amended only by the voters of the City. The City shall oppose any annexation to the City of any land outside of the Voter-Approved Urban Limit Line.

4.4.7. Voter-Approved Urban Limit Line.

Pursuant to the City of Antioch Growth Control, Traffic Relief, Voter-Approved Urban Limit Line, and Roddy Ranch Development Reduction Initiative, the voters amended the

5.0 Community Image and Design

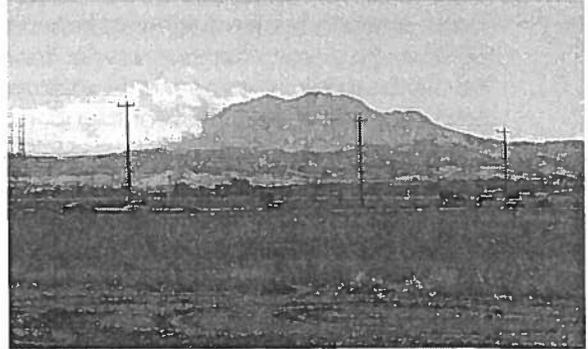
5.1 FUNCTION AND PURPOSE

Underlying the livability and economic vitality of a community is its perceived image. Community design quality is not just an aesthetic matter, but has distinct functional dimensions. Persistent attention to the details in the design of the built environment is an investment in the quality of the community. It pays dividends in residents' perception of their quality of life and the perceptions that prospective employers and retailers will have regarding the desirability of Antioch as a location for their businesses.

With rapid growth, the City's appearance has become an increasingly important issue for Antioch's residents. The Community Image and Design Element addresses the visual quality and character of Antioch's built environment, and a continuing process to shape the community's physical form and create a more efficient, attractive, and, at times, dramatic urban environment. As Antioch continues to grow, this Element, along with the Land Use Element, will provide guidance for more detailed design guidelines and standards contained in specific plans and planned community documents, design guideline handouts provided by the City, provisions of the sign ordinance, and other provisions of the zoning ordinance.

5.2 EXISTING COMMUNITY DESIGN

Antioch extends in a roughly square pattern from Pittsburg on the west to the Antioch Bridge on the east, and from the foothills of Mt. Diablo on the south to the San Joaquin River on the north. The City is bisected by State Route 4 (SR 4), an east-west-oriented four-lane freeway. The Southern Pacific Railroad line runs east-west just north of SR 4; the Burlington Northern Santa Fe Railroad line runs east-west along the San Joaquin River waterfront. The Contra Costa Canal is located south of SR 4, and traverses the Planning Area in an east-west direction.



On the north side of SR 4, older residential areas and the historic Downtown area are organized in a traditional grid street pattern. Small lots of vacant, undeveloped land are situated between homes, such as the lots at the intersection of J and Third Streets. There are few large undeveloped parcels, such as the Hickmott site and the land adjacent to Beede Lumber on 2nd Street. Many of these vacant parcels are small or irregular in shape.

South of SR 4, the suburban street patterns of newer residential areas reflect their development as a series of separate subdivisions. Some vacant or underutilized parcels exist within the subdivisions. The hill and valley areas south of the Contra Costa Canal have grown most recently. In general, growth over the past 30 years has solidified the City's current role as a bedroom community for the San Francisco Bay Area.



South of SR 4, minor ridgelines occur northeast of the Contra Loma Boulevard/James Donlon Boulevard

intersection, east and west of Hillcrest Avenue, and in the area separating Lone Tree Way from Lone Tree Valley. Major ridgelines associated with the foothills of Mt. Diablo occur along the entire southwest boundary of the Planning Area, from Somersville Road to the City's southeastern boundary adjacent to the City of Brentwood. Most of the open lands in the southwest Antioch are located within the Black Diamond Mines Regional Preserve, Contra Loma Regional Park, or the Sand Creek Focus Area, an area of mostly privately-owned ranch land that is planned for development.

North of SR 4, the majority of the San Joaquin River shoreline is in park or open space uses. North of Downtown, the Antioch Riverfront Promenade, a 1/3-mile urban walkway and linear park, runs adjacent to the River, connecting the Marina and the Barbara Price Marina Park to G Street. To the west of Downtown and bordering Pittsburg, the Dow Wetland Preserve forms part of the City's shoreline. To the east of Downtown, the Antioch Dunes National Wildlife Refuge and other open areas occupy the City's shoreline. The Contra Costa County Fairgrounds and Lake Alhambra are upland open areas among higher-density residential uses north of SR 4.

The City also maintains 31 parks, varying in size and amenities from the 2-acre Deerfield Park to the 99-acre Prewett Family Water Park. The Delta De Anza Regional Trail, operated by the EBRPD, is a linear open space element that begins at the City of Antioch Community Park, and travels east along the Contra Costa Canal.



5.2.1 Residential Districts

5.2.1.1 Residential Districts North of the Route 4 Freeway

Residential districts north of SR 4 were historically identified with the local school or other landmark features such as the San Joaquin River or Lake Alhambra. Architecture in these districts is variable, with newer modern and post-modern housing alongside historic Victorian, Queen Anne, craftsman cottage, or California bungalow style housing. Typical of older areas in most cities, the average density is about seven dwelling units per acre. A number of apartment buildings (such as Antioch Bayview Apartments, Garden Court Apartments, and Riverbank Apartments) are located north of SR 4. Large and mature trees that create a unifying theme often border the grid-oriented streets in residential districts north of SR 4. Unkempt vacant lots are also dispersed among housing in this area of the City.

5.2.1.2 Residential Districts South of the Route 4 Freeway



Residential districts south of SR 4 were built mainly from the 1950s to the present. These newer residential areas tend to be defined by subdivision, each with common architecture and landscaping themes. Single-family housing is the most common type, with a density of approximately five housing units per net acre, which is a typical suburban housing density. Some condominium developments and apartments (such as Flores Apartments, Hudson Townhouse Manor, and Delta View) are located south of SR 4.

5.2.2 Commercial Districts



Built at the turn of the century when the San Joaquin River provided port facilities for agriculture, mining, canning, general shipping, and manufacturing, the downtown area, known as "Rivertown," was Antioch's historical retail center. However, during the latter half of the 20th century, as automobile and truck transportation increased, most of the commerce left the Downtown area and moved south of what is now SR 4. As a result, the City's main retail areas are currently auto-oriented facilities located along main arterials. The Route 4 interchange at Somersville Road is the City's principal retail area; shopping centers in this area include Somersville Towne Center, Delta Fair Shopping Center, Albertson's/Long's Center, and Somersville Shopping Center. Other commercial areas -- Deer Valley Plaza, Slatten Ranch Plaza, and Williamson Ranch Plaza -- are located along Lone Tree Way or in the southern portion of the City. Like most retail areas in Antioch, with the exception of Rivertown, these commercial areas are served by busy arterials, and are accessible mainly by car with expansive parking lots in front of each retail center.

5.2.2.1 Pedestrian-Oriented Retail: Rivertown

Antioch's downtown area is currently defined as the area between A Street on the east and L Street on the west, and from the railroad on the north to 4th Street on the south. Along G Street, the Downtown area extends as far south as 6th Street. The Downtown core

includes the portion of 2nd Street between E and I Streets, and G Street from 4th Street to the railroad. The Downtown continues in its role as the City of Antioch's pedestrian-oriented commercial area.

The Rivertown core is walkable, with some one- and two-story, turn-of-the-century buildings fronting along wide sidewalks. Street traffic volumes are low; large display windows encourage browsing; and streetscape improvements include planters, street furniture, historically themed light fixtures, monument wall street signs, and underground utilities. Conducive to walking and window shopping, Rivertown provides small-scale commercial services including specialty stores; consignment shops; dance and driving schools; a few restaurants and taquerias; a community center; and stores that serve the needs of workers employed in and around Rivertown. Local government services are also situated in the Rivertown area in newer modern-style buildings.

5.2.2.2 Auto-Oriented Regional Retail Centers

Regional retail centers include those commercial areas generally anchored by one or more full-line department stores with additional specialty stores that may provide apparel, home furnishings, and services. The County East Mall, located on Somersville Road, is the only regional retail center in the City of Antioch. Surrounding the mall are freestanding commercial sites and neighborhood retail centers.

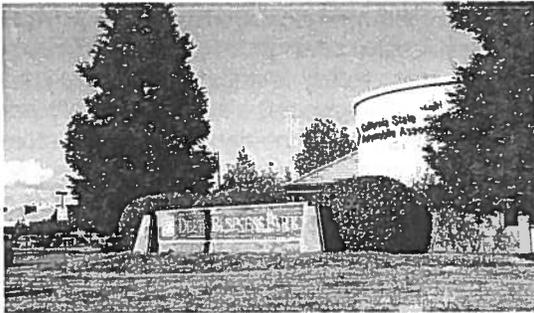
5.2.2.3 Auto-Oriented Community Retail Centers

Community retail centers are those anchored by junior department stores, discount department stores, or variety stores that also have specialty stores that may provide apparel, furniture, convenience goods, and professional services such as banking. Examples of community retail centers within the City include Williamson Ranch Plaza, Delta Fair Shopping Center, Antioch Square Shopping Center, and Bridgehead Plaza.

5.2.2.4 Auto-Oriented Neighborhood Retail Centers

Neighborhood retail centers have stores that provide goods associated with needs for daily living such as food, drugs, hardware, and personal services, and are generally anchored by a supermarket. Examples of neighborhood retail centers within the City include Deer Valley Plaza, the Raley's Center, and Albertson's/Long's Center on Somersville Road, and Deer Valley Plaza.

5.2.3 Office and Business Parks



Antioch's office and business parks tend to have either a campus-like setting with one- or two-story buildings linked by streets, sidewalks, trees, and bordering parking lots; or an auto-oriented environment with parking adjacent to offices and few, if any, walks between buildings. The two largest office/business parks in the City, which also have extensive landscaping, are the Delta Square

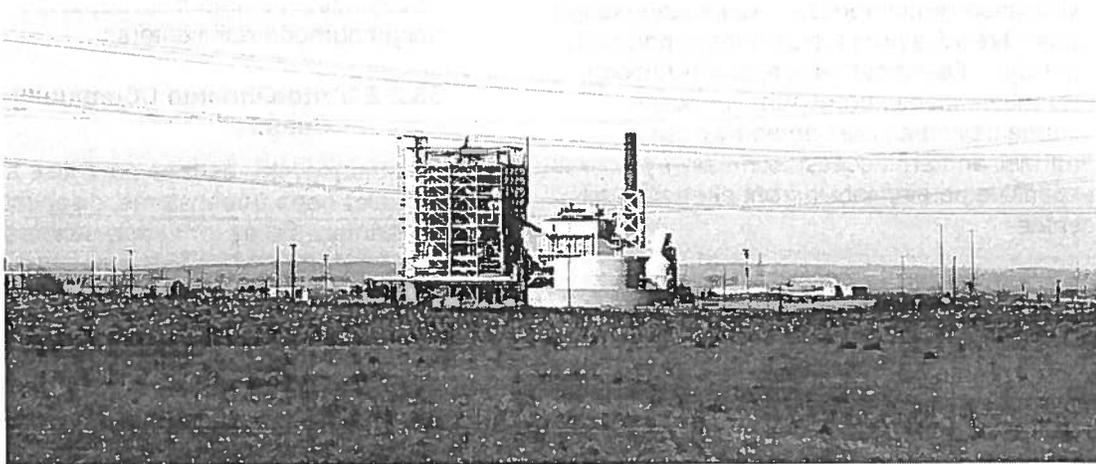
Business Park and Plaza Lynda Office Complex. Also located within Antioch are the Dobrich Commercial Facility and Vineyard Business Park.

5.2.4 Industrial Areas

Industrial facilities within the Antioch General Plan study area have a variety of visual appearances. Light industries, such as those found in the Delta Square Business Park, are generally housed in large square buildings or warehouses. Like office buildings in the vicinity, such structures are generally well landscaped, and have adjacent parking and space for loading. Heavy industries located along the San Joaquin River are somewhat monumental due to the flat terrain; they are more noticeable, and consist of large structures that occasionally have tall smokestacks, and tend to have little if any landscaping.

5.2.5 Urban Design Elements

Urban design elements include views and view corridors, transportation corridors, streetscapes, open space areas, landmarks, gateways, districts, and edges. These elements, and how they are perceived by the people who live, work, pass through, and play there, are described below.





5.2.5.1 Views and View Corridors

Views of features within a community contribute to a feeling of community identity, as well as to visual enjoyment. Views of Mt. Diablo, the ridgelines, and the San Joaquin River from locations that are accessible to the public are important resources for the City. Because the San Joaquin River historically served as the City’s major access point, and the hills as housing for local mining operations, these public views are also a reminder of Antioch’s history. New developments south of SR 4, specifically those built on or near the ridgelines, have obstructed some historic and panoramic views of Mt. Diablo and the ridgelines that were once visible from roads and neighborhoods located at a distance from these features. However, new opportunities to view the San Joaquin River are being developed with projects such as the Municipal Public Marina (built in 1988), Antioch riverfront promenade, and the “A” Street extension into Rivertown.

Motorists traveling along Somersville Road or on the “A” Street extension view either the hills or the San Joaquin River. Other major streets providing north and south views include Contra Loma Boulevard, Lone Tree Way, Hillcrest Avenue, and SR 160. Streets providing east and west views include James Donlon Boulevard, Lone Tree Way, Putnam Street, SR 4, Oakley Road, and Empire Mine Road. Views along utility easements also occur in several areas throughout the City; for example, the open views created by the

Contra Costa Canal present opportunities to see the ridgelines.

5.2.5.2 Transportation Corridors

Streets and highways are a prominent feature in Antioch. In some areas, transportation corridors connect different parts of the community, whereas in other areas, they create barriers between districts, especially when the streets are wide and highly trafficked. For example, SR 4 divides the City into north and south regions that have very different characteristics. As mentioned previously, other streets serve as view corridors, connecting the City through a shared visual experience. Roadways also contain bicycle lanes serving transportation and recreational needs. Trails, such as the Delta De Anza Regional Trail, provide recreation, and well as linear visual open space.

5.2.5.3 Streetscapes



Streetscapes are a series of decorative features that create a unifying effect for a street, or entice people to stroll or gather. They include such elements as street trees, benches, public art, theme light fixtures, fountains, awnings, banners, raised planters, etc. Many of Antioch's trees tend to lean due east because of prevailing winds. Improved maintenance of street trees has been identified as a needed component of enhancing community aesthetics.

Rivertown. Most of the Rivertown area has been provided with streetscape improvements, including decorative sidewalks, street trees, planters, street furniture, historically-theme lighting fixtures, monument wall street signs, and underground utilities. The riverfront promenade and Waldie Plaza include pedestrian plazas, lawns, sitting areas, walls, and tree groupings.

Major Streets. Hillcrest Avenue and Deer Valley road south of SR 4 are examples of a major street with well-developed, mature trees.

Neighborhoods. Successful incorporation of trees into a residential area is seen in the southeast neighborhoods where cherry trees provide a unifying theme.¹ Residential subdivisions south of SR 4 tend to have well-developed streetscapes in terms of landscaping and meet a design criteria for new subdivisions within the City of Antioch.



5.2.5.4 Landmarks

Landmarks are prominent visual features or focal points within a community. They can vary in size and need not actually be located within the community, but all help orient people and provide community identity. Antioch's two prominent natural landmarks are the San Joaquin River and Mt. Diablo. Other landmarks include the Antioch Bridge, Somersville Towne Center, the El Campanile Cinema, the Historical Society Building, the Contra Costa County Fairgrounds, Antioch High School, Prewett Family Park, Contra Loma Reservoir, Antioch Municipal Reservoir, the Antioch Police Department headquarters, and the Municipal Marina. Historic buildings that serve as landmarks include the Hard House, the mid-19th Century ship captain's house at the southeast corner of First and J Streets; the Lynn House, a turn-of-the century structure located adjacent to the Hard House²; Beedee Lumber, one of the oldest businesses in the county, situated along the waterfront on 2nd Street; and the Williamson Ranch Park located at the intersection of Lone Tree Way and Hillcrest Avenue, which includes several historic farm buildings.

¹ Antioch, City of, Department of Development Services. 1987. *Antioch General Plan, Work Product One: Analysis of Baseline Conditions.*

² Planning Collaborative, Inc. 1991. *Antioch Urban Waterfront Restoration Plan*, August.



5.2.5.5 Design Districts

Some residential and commercial areas within Antioch can be described as “districts,” because of similar architecture, landscaping, activities, street patterns, surrounding natural features, or other characteristics. Residential districts within the City include the Downtown, Lake Alhambra, Delta Fair, Gentrytown, Mira Vista Hills, Ridgerock, Hillcrest corridor, and East Side areas.¹ Commercial areas with unifying architecture include Williamson Ranch Plaza, Deer Valley Center and Slatten Ranch Plaza.



5.2.5.6 Gateways

“Gateways” are key points of arrival into a community or district, which can convey civic pride and identity. Gateways are often

emphasized with landscaping, lighting, signs, art, banners, gate markers, ornamental trees, or decorative pavement. Lone Tree Way and Hillcrest Avenue have been designated since 1988 as scenic arterials and gateways to the City. Delta Fair Boulevard near Los Medanos College, and where Buchanan Road crosses the Contra Costa Canal, are also gateways. Gateways to commercial districts, such as the Downtown, have decorative pavement and monument signs, and a number of subdivisions south of SR 4 have gates and signs marking their entrance.

5.2.5.7 Edges

Edges in the form of natural or human-made features mark the boundaries between different districts of Antioch, as well as between Antioch and surrounding communities. Various features such as trees, open space, parks, utilities, drainage channels, and streets create edges within the City of Antioch. Some edges within the City are well defined, while others are less distinct as Antioch, its districts, and the surrounding cities grow and blend into each other. The waterfront near Rivertown marks the northern edge of the City, and the ridgelines mark its southern edge. The Dow Wetlands Preserve and surrounding open space in the extreme northwest portion of the City mark the western edge between Pittsburg and Antioch. The railroad line and orchards along Neroly Road in the southeast area of the City creates a boundary between Antioch and Brentwood. A more subtle edge is created between Pittsburg and Antioch where the Contra Costa Canal crosses Buchanan Road. Within the City, utility easements such as pipelines, power lines, rail lines, and the Contra Costa Canal tend to traverse the City’s planning area in an east-west direction, and create areas between districts. For example, the East Bay Utility District power lines situated between Somersville Road and Lone Tree Way form an edge between these two districts. SR 4 also marks a distinct edge between the northern and southern portions of the City. Black diamond Mines Regional Preserve forms the southwest edge of the community.

¹ Antioch, City of, Department of Development Services. 1987. *Antioch General Plan, Work Product One: Analysis of Baseline Conditions.*



5.3 GOALS OF THE COMMUNITY IMAGE AND DESIGN ELEMENT

To provide for a sustained high quality of life and ensure that new development occurs in a logical and orderly manner, it is the goal of the Community Image and Design Element to accomplish the following.

- *Create a community design theme and a visual identity for Antioch, recognizing its local as "Gateway to the Delta."*

The design quality of a community and its design expectations reflect a critical philosophy regarding community development, whether the community is committed not only to defining the right mix and location of land uses, but to their exceptional quality as well. Community design must reflect Antioch's commitment to the concept that new development needs to make a positive contribution to the community. Thus, the Community Image and Design Element aims to:

- Sustain Antioch's identity as "Gateway to the Delta" and provide the visual character of a unique, desirable living environment;
- Contribute to the City's economic development objectives and assist in achieving a local balance between jobs and housing by appealing to investors who value municipal commitments to quality development that will protect private sector investments in their projects;

- Offer incentives for new residential, commercial, office, business park, and industrial developments to achieve excellence and make a positive contribution to the community because the quality of the project will be matched or exceeded by subsequent projects;
- Stimulate development of pedestrian-friendly, appealing enclaves, and provide accessibility for bicyclists;
- Provide a vehicle for reinforcing Antioch's heritage through compatible design and preservation/reuse of historic resources;
- Enhance the quality of existing developed areas as they mature over time, eliminating perceived differences in the quality of newer and older portions of the community;
- Stimulate ongoing pride in Antioch by its citizens and those who work in the community; and
- Help to communicate to others what kind of community Antioch believes itself to be.

5.4 COMMUNITY DESIGN

Design applies at multiple levels, from citywide to districts to neighborhoods, and down to individual projects and buildings.

Development at these scales must function effectively and convey a sense of identity and place at the appropriate scale. Linear systems, – highways, streets, trails, and open space corridors – must perform a useful function, as well as contribute to the aesthetic qualities making Antioch a more enjoyable living environment.

5.4.1 Community Design Objective

Preserve and enhance Antioch's visual character, including its natural features, hillsides, distinct districts, and entries and major roadways by carrying a community theme into the design of new developments and public facilities.

5.4.2 General Design Policies

- a. Base the City's review of public and private projects on the following general design principles.
 - Innovative design, regardless of its style, is more important to the achievement of "quality" than the use of predetermined themes.
 - "High quality" comes from the explicit consideration of all aspects of development design. It is in design details that "quality" is ultimately manifested
 - Designers need to respect community goals and needs, as well as address their client's economic objectives.
 - Individual buildings and developments are not isolated entities, but are part of a larger district and community into which they must fit. While innovation and individual expression are sought, compatibility of design elements is also important.
 - Standardized design solutions, "corporate architecture," and "off the shelf models" can not always be depended upon. What worked before or was accepted elsewhere may not work or be acceptable in the proposed application in Antioch.
 - Architectural styles, landscaping, and project amenities should complement surrounding development, and convey a sense of purpose, not expediency.
 - All building elevations visible to the public should be given equal attention and detail.
 - The same design solution, no matter how well done, when repeated too often or over too large an area, can become boring, lose its effectiveness, and no longer communicate "quality."
- b. Incorporate Antioch's "Gateway to the Delta" theme and reminders of its community heritage into the design of new residential, commercial, employment-generating, and recreational development, as well as into public facilities.
 - Incorporate nautical/waterway, gateway/entry, industrial or ranching themes into the design details of new developments and community facilities, such as building architecture, signage, lighting standards, site paving and landscaping, street furniture (e.g., benches, trash enclosures and receptacles), fencing, and placement of murals and sculpture in public locations.
 - Maintain a consistent design theme throughout each development project. Each individual development project and area within the project should portray an identifiable design theme.
 - Select tree species that are appropriate to their specific applications (e.g., providing shade, framing long-distance views of the San Joaquin River or Mt. Diablo, or framing short-distance views of new development.
- c. Maintain view corridors from public spaces to natural ridgelines and landmarks, such as Mount Diablo and distant hills, local ridgelines, the San Joaquin River, and other water bodies.
 - Recognizing that new development will inevitably result in some loss of existing views, as part of the City's review of development and commercial and industrial landscape plans, minimize the loss of views from public spaces.
 - Important view corridors to be protected include Somersville Road, Lone Tree Way, Hillcrest Avenue, SR 4, SR 160, James Donlon Boulevard, Deer Valley Road, and Empire Mine Road.
- d. Strengthen and emphasize community focal points, visual landmarks, and features contributing to Antioch's identity using design concepts and standards implemented through the zoning ordinance, design guidelines and design review process, and specific plan and planned community documents.

- e. Create a framework of public spaces at the neighborhood, community, and regional scale.
- Provide for new open space opportunities throughout the City, especially in neighborhoods having minimal access to open space. This includes exploring the potential for creek corridors, bicycle and pedestrian paths, and new small open space and conservation areas.
 - Provide an open space network linked by pedestrian and bicycle paths, which preserves and enhances Antioch's significant visual and natural resources.
 - Provide sitting areas within parks and along pedestrian and bicycle paths.
 - Restore the San Joaquin Riverfront as a linear park and multi-use trail from the westerly City limits to Rodger's Point/Fulton Shipyard.
 - Utilize existing creeks, such as Sand Creek, as linear parks, providing pedestrian and bicycle paths.
 - Views along utility corridors should be retained and enhanced through the use of planting materials to frame and focus views and to provide a sense of orientation.
- f. Provide for consistent use of street trees to identify City streets, residential neighborhoods, commercial and employment districts, and entry points to the City.
- Select species that enhance the pedestrian character of, and convey a distinctive and high quality visual image for the City's streets; are drought-tolerant, fire- and pest-resistant; and complement existing street trees.
 - Use changes in tree species, scale, color and spacing to differentiate the roadway types identified in the Circulation Element.
 - Use a consistent palette of street trees to distinguish Antioch from other communities, and to distinguish individual areas within the community (e.g., Rivertown, East Lone Tree, "A" Street Corridor) from each other.
- g. Maintain common community design elements throughout the City.
- Street trees should relate to the scale, function, and visual importance of the area in which they are located, establishing a hierarchy of street trees for entry locations, intersections, and activity centers.
- Major accent trees* are to be located at City and community entry locations, key intersections, and major activity centers (e.g., County East Mall, Prewett Family Park).
- Street Trees* should be selected as a common tree for street frontages. A single species may be selected for all residential neighborhoods or different species to distinguish different neighborhoods from each other. Within residential neighborhoods, street trees should be full, providing shade and color. In commercial districts, the trees should provide shade but be more transparent at the motorist and pedestrian levels to promote views of stores fronts and visual interaction of pedestrians. Within employment districts street trees should provide shade and screening, and be used to frame views of buildings and building entries.
- Provide a system of well-designed directional signage, facilitating way-finding to community features such as shopping areas, marinas, parks, and civic buildings.
 - Incorporate common design elements in community features such as roadway landscaping, streetlights, street signs, traffic lights, and community directional signage.
 - Use design variations in landscaping, street light standards, and street signs as a means of defining special design

- districts (e.g., Rivertown, Somersville Road and "A" Street corridors).
- h. Wherever feasible, existing above-ground utility lines should be placed underground.
 - i. Preserve and strengthen Rivertown as a vital and attractive place.
 - Promote activity along Rivertown streets through attractive building designs with street level activity and façade windows, public art, and other landscaping elements that are pedestrian-friendly.
 - Maintain views of the San Joaquin River from buildings within Rivertown, where they are available, by placing windows rather than solid walls along the river side of buildings.
 - Avoid blank parking garage building frontages.
 - Orient buildings along the first street inland from the San Joaquin River toward the river to enhance pedestrian and bicycle activity.
 - Utilize murals to enhance the design quality of existing large blank walls (e.g., Campanile Theater).
 - Seek opportunities for small public spaces throughout Rivertown to provide for the comfort of pedestrians and bicyclists, enhance street level activity, and provide sitting areas and protection from the sun and rain. Small left over spaces between buildings, at street corners, at the edges of parking lots, or along the edges of sidewalks can thus become attractive and lively additions to the street scene.
 - j. Within multi-family, commercial, office and business parks, and industrial developments, screen enclosures, loading areas, mechanical equipment, and outdoor storage areas from view from public streets, and, as appropriate, from other public views.
 - Ground mounted equipment incidental to multi-family, commercial, office, and business park development shall be appropriately screened with solid walls, trellises, and/or landscaping. Equipment location should be away from the front of the building, and screening must be similar to adjacent architecture and materials.
 - Refuse collection areas are to be large enough to accommodate storage of recyclable materials, and be screened with a *solid* perimeter wall using materials and colors compatible with those of the adjacent structures. Refuse collection areas should be located on an interior building side yard, and are to be roofed if the contents of the area are visible from a freeway.
 - Loading docks and areas, as well as trash enclosure areas shall be screened from public view areas. When there is adjacent residential development, loading and trash enclosure areas shall be physically separated and screened from adjacent residential structures.
 - Service areas, including storage, special equipment, outdoor work areas, and loading areas, should be screened from public view with landscaping *and* architectural elements.
 - Screen utility equipment and communication devices so that the project will appear free of all such devices.
 - k. Prohibit roof-mounted equipment (with the exception of small satellite dishes and solar panels) for single-family residential development consistent with FCC regulations.
 - New residential uses should be pre-wired so as to allow for the placement of satellite dishes in a manner that is integrated with the building design, and avoids placement of dishes on chimneys or above the roof line.
 - Where required for commercial, office, and industrial development, screen roof mounted equipment and cellular antennas completely from public view

on all sides. Particular attention shall be given to the sides visible from freeways, with the intent of minimizing the need for screening devices to the greatest extent possible.

- l. Screening of roof-mounted equipment and cellular antennas, where provided, should be an integral part of the building design and not appear as a tacked-on afterthought. Ground-mounted mechanical equipment (with appropriate wall or landscape screening) is encouraged as an alternative to roof mounting.
 - m. All roof screens must be solid and continuous. Continuous grills or louvers must cover equipment. Roof screens will be sheathed in a matching or complementary material to the exterior building material.
 - n. Utilize street lights in commercial, office, and business park areas that are pedestrian-oriented, attractively designed, compatible in design with other street furniture, and provide adequate visibility and security.
 - o. Design onsite lighting to improve the visual identification of adjacent structures.
 - Within commercial areas, lighting should also help create a festive atmosphere by encouraging evening use of areas by pedestrians.
 - Within commercial and industrial development, provide design features such as screened walls, landscaping, setbacks, and lighting restrictions between the boundaries of adjacent residential land use designations to reduce the impacts of light and glare.
 - In all projects, lighting fixtures should be attractively designed and of a low profile to complement the overall design theme of the project within which they are located.
 - On-site lighting shall create a safe environment, adhering to established crime prevention
- standards, but shall not result in nuisance levels of light or glare on adjacent properties. Limit sources of lighting to the minimum required to ensure safe circulation and visibility.
- p. Lighting should accommodate night use of streets and promote security while complying with the provision of a dark night sky. Streetscape areas that are used by pedestrians at night should be well lit. Within rural and open space areas, limit street lighting to intersections and other locations that are needed to maintain safe access (e.g., sharp curves).
 - q. The design of new developments shall protect residents' privacy by avoiding placement of windows directly opposite each other and avoiding windows overlooking the yard areas of adjacent residences to the maximum feasible extent.
 - r. New multi-family, commercial, office, and business park developments shall emphasize pedestrian level activities by utilizing the following techniques.
 - design projects so as to have a central plaza or main visual focus which is oriented toward pedestrians;
 - incorporate plaza areas which can be used as informal gathering places;
 - install "street furniture" (benches, bus shelters, planters, bike racks, trash receptacles, newspaper racks, water fountains, and bollards) to create and enhance small plazas and similar open spaces within urban areas; and
 - within commercial, office, business park, and industrial developments, encourage architectural styles that provide covered verandas and other similar pedestrian-oriented shade features.
 - s. Where needed, undertake active programs to minimize or prohibit through traffic from using neighbor-

hood collectors and local streets. Visual deterrents to through traffic will be emphasized, using physical deterrents only as a last resort.

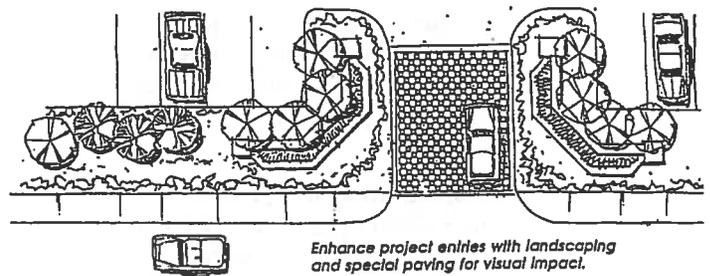
5.4.3 Community Entries and Gateways Policies

- a. Develop gateways at key locations in the City, ranging in scale as appropriate with their importance.
 - Gateways should be developed identifying entrances to the City, neighborhood groups or development projects, and to single buildings.
 - Gateway improvements should include enriched paving; raised medians; decorative signage and monument pylons; landscaping; appropriately scaled lighting; public art; and other features such as freestanding banners on poles, banners hung from existing light standards, or graphic elements attached to private buildings, as appropriate.
- b. Enhance the appearance of the City's major entries through streetscape improvements, City entry monumentation, and special landscape design, and special design criteria. Provide City entry monumentation at the following locations.
 - 10th Street (Pittsburg-Antioch Highway) at the western city limits
 - Buchanan Road at the western city limits (Standard Oil Road)
 - Lone Tree Way at the easterly city limits (Empire Avenue)
 - SR 4 at the western city limits
 - SR 4 Bypass at the Lone Tree Way interchange
 - SR 160 at the south bank of the San Joaquin River
 - Deer Valley Road at the southern edge of the City

Entry monumentation at these locations should include monument signs portraying the "Gateway to the Delta" theme and City logo; enriched paving; raised medians (where feasible); public

art; landscaping with seasonal color and trees of a "grand" scale; appropriate lighting; and other features such as freestanding banners on poles, banners hung from existing light standards, or graphic elements attached to private buildings, as appropriate.

- c. Provide gateways to specific districts/communities within Antioch through streetscape improvements, entry monumentation, and special landscape design at the following locations.
 - SR 4/Somersville Road interchange (entry into "auto row" and Rivertown to north and County East Mall to the south)
 - Entries into Rivertown at the SR 4 interchanges with "A" Street and "L" Street, and the intersections of "L" Street and 10th Street, "A" Street at 6th Street, 4th Street at "L" Street, and Somersville Road at 4th Street
 - SR 160 interchanges at Wilbur Avenue and 18th Street (entries into eastern employment areas)
 - Hillcrest Avenue north of the SR 4 freeway (entry into the Hillcrest Station Area Focus Area)
 - Primary entries into the Sand Creek Specific Plan Focus Area
 - Primary entries into the East Lone Tree Specific Plan Focus Area
 - Future primary entries into the Roddy Ranch Focus Area
 - Future primary entries into the Ginochio Property Focus Area



These gateways should include enriched paving; raised medians (where feasible); decorative signage; landscaping with

seasonal color; appropriately scaled lighting; public art; and other features such as freestanding banners on poles, banners hung from existing light standards, or graphic elements attached to private buildings, as appropriate. The gateway at the SR 4/SR 160 interchange would consist of a single, tall monument structure.

- d. Provide enhanced project entries into single family residential neighborhoods and multi-family, commercial, office, and business part developments.

5.4.4 Streetscapes

- a. Provide street trees and streetscape landscaping that is appropriate to the character of the community and the desired character of the adjacent land use.
- b. Provide functional travel routes for pedestrians, and, where designated, bicyclists, hikers, and joggers that are buffered from automobile traffic.
- c. Use a landscaping buffer to transition between automobile traffic lanes and developed sites adjacent to the street while maintaining safe sight distances.
- d. Provide visually attractive and physically comfortable environments where people pause, gather, wait, meet, and relax, that are integrated with similar environments of adjacent private property.
- e. Design streetscape plantings to serve a variety of different functions: climate and glare control, aesthetics, and architectural enhancement, erosion protection, and delineation of space.
 - Plant palettes and irrigation systems shall be designed to be water efficient. The emphasis in plant selection should be on native and naturalized plants.
 - Where they are relevant to landscaping issues, cultural, environmental, and historical considerations should be incorporated into the plant palette for the streetscape.

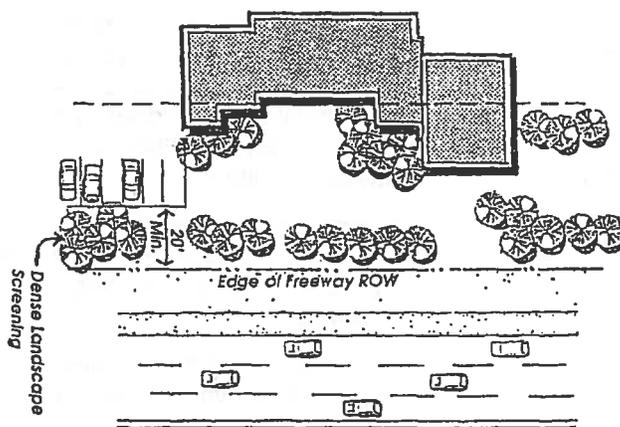
- Landscape plans should account for the size of plants when they are mature so as to avoid an overgrown appearance, while still providing appropriate coverage and a quality visual appearance, including an appropriate amount of mature landscaping, when first planted.
- Landscape plans shall protect necessary sight visibility triangles for all transportation modes and avoid conflicts with utilities.
- Plants that are selected for roadside areas should be able to thrive in a roadside environment, including its high levels of reflected heat and glare, as well as vehicle air pollutant emissions.
- Plants selected for use in the streetscape should be easy to maintain and replace, while providing seasonal color.
- Trees should be used to provide scale, unify unrelated elements, and provide overhead and vertical planes to create sheltered spaces, provide shade and block winds, and either screen undesirable views or enhance desirable views.
- Shrubs should be used to provide mid-level vertical planes for creating space, screen or enhance views, direct/guide circulation, and provide a protective barrier between pedestrian and vehicular circulation.
- Groundcovers should be used to provide ground level visual interest and direct/guide pedestrian and bicycle circulation.
- f. The design and location of street furniture should avoid conflicts with driver sight lines and utilities.
- g. Where a distinctive street character is important, such as along "A" Street and Somersville Road, the types and colors of lighting fixtures used should contribute to that character.

- h. Pedestrian furniture (benches, planter seating, trash containers, drinking fountains, etc.) should embellish pedestrian gathering places (places for sitting, meeting people, relaxing, people watching, etc.). It should be compatible with the streetscape theme, durable, easily maintained and easily replaced.

As pedestrian furniture is both in the public right-of-way and on private property, the style and placement of furniture should be coordinated on public and private property, and should avoid blocking travel on the sidewalk.

5.4.5 Freeway Corridor Design Policies

- a. Work with Caltrans to screen views of residential development adjacent to the Route 4 freeway with dense landscape treatments, allowing only glimpses or short breaks to points of interest and commercial sites.
- b. Landscaped setbacks for structures and parking areas along freeways are to be provided to soften the appearance of development along the freeway right-of-way. These setbacks are to be of a sufficient distance and density, and are to be designed to make the landscaping, rather than the development, the dominant visual feature for freeway motorists.



- c. Structures adjacent to freeways are to be set back various distances from the

freeway right-of-way to avoid flat, straight walls at the edge of a fixed setback line.

- d. Project site plans may be oriented either to the freeway or to the adjacent street, but in either case should provide an equal amount of site amenities throughout the project. Buildings should not turn their backs completely to either the freeway or adjacent street(s).
- e. Buildings visible from the freeway, regardless of their orientation, are to be designed to provide the same level of architectural detail on the freeway elevation as on other elevations of the building.

5.4.6 General Architectural Design Policies

- a. The size, height, bulk, and location of buildings are to be managed in relation to the size of the parcel and overall site design to avoid a crowded appearance, and preserve a visual appearance of openness.
- b. Building forms and elevations should create interesting roof silhouettes, strong patterns of light and shadow, and integral architectural detail. Box-like structures and flat monotonous facades are to be avoided.
- c. Encourage a harmonious appearance of new development with the surrounding environment and existing developments based on the compatibility of individual structures rather than one specific style of architecture.
- d. Uniform materials and compatible style should be evident within a development project in all exterior elevations. Secondary accent materials and colors should be used to highlight building features and provide visual interest.
- e. Encourage the rehabilitation of older structures within neighborhoods to preserve the City's history, and to facilitate a diversity of architectural styles in the City.

5.4.7 Residential Development

- a. Design new residential development in identifiable neighborhood units, with neighborhood shopping facilities, parks and recreational facilities, and schools provided as an integral component of neighborhood design.

Streets. Street design should route through traffic around, rather than through new neighborhoods. Neighborhood streets should be quiet, safe, and amenable to bicycle and pedestrian use. Within new subdivisions, single-family residences should be fronted on short local streets (generally with 50 or fewer dwelling units along them), which should, in turn, feed onto local collectors (two-lane streets without dwelling units fronting on them), and then onto the master planned roadways illustrated in the Circulation Element (Figure 7.1).

Schools, Parks, and Recreation Areas. Elementary schools, as well as parks and recreational areas, including joint-use school/park sites, should be contained as near the center of the neighborhood as is feasible.

Neighborhood Commercial Areas. Neighborhood commercial centers should be located at the periphery of residential neighborhoods, and be designed such that residents can gain vehicular, bicycle, and pedestrian access to the centers directly from the neighborhood.

Connections. Individual neighborhoods should be provided with pathways and open spaces connecting residences to school and recreational facilities, thereby facilitating pedestrian and bicycle access.

Neighborhood Character. Residential neighborhoods should be designed to maintain a distinct character through the use of neighborhood signage, streetscapes, architectural styles and variations, natural topographic variations, and landscape buffers.

- b. Provide recognizable variations in front and side yard setbacks within single-family residential neighborhoods.

- c. To reduce architectural massing, two-story dwelling units should incorporate one-story elements, with the shortest and lowest side of a corner residential dwelling unit oriented toward the side street.
- d. Within multi-family and small lot single-family developments, cluster residential buildings around open space and/or recreational features.
- e. In higher density projects with tuck-under parking and/or opposing garages, avoid the monotony of long parking corridors by turning individual units and/or staggering and landscaping parking areas.
- f. Provide each unit of a multi-family development project with some unique elements to create a sense of place and identity.
- Individual units within a project should be distinguishable from each other, and should have separate entrances and entry paths, where feasible.
 - The common space of each cluster of dwelling units should be designed to provide differences in size, dimensions, grading, and site furniture.
 - Every dwelling unit shall be provided with a usable private garden area, yard, patio, or balcony.

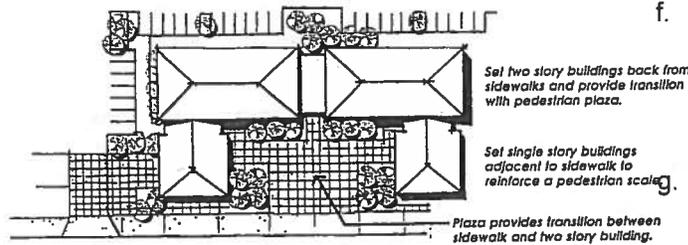
5.4.8 Commercial Development

- a. Avoid strip patterns of commercial development, and improve the appearance and functioning of existing commercial strip corridors, such as "A" Street, 10th Street between "G" and "L" streets, and others.
- Restructure existing strip developments to cluster commercial uses in commercial nodes, where feasible.
 - Minimize curb cuts through shared access and width reduction.
 - Provide continuous sidewalks and, where feasible, bicycle lanes on both sides of major arterial streets.

- Provide, where feasible, planting strips or planters with large canopy trees between the roadway and sidewalk to buffer pedestrians from traffic, and help define the street space along commercial arterials.
 - Install pedestrian amenities within the planting strip, such as street lighting, seating, bus shelters, and bicycle racks.
- b. Separate parking areas from the streetscape to the extent possible.
- Place commercial buildings at or near the front setback line in order to project a desirable architectural image contiguous to the street, or
 - Provide landscape screening or berms to visually screen parking areas.
- c. Incorporate variations in setbacks and in the massing of building bulk along major streets to provide variety and visual interest to the streetscape.
- d. Provide adequate lighting for the security and safety of on-site parking, loading and pedestrian areas as well as adequate screening where such aesthetic treatment is required and can be provided without compromising the surveillance of such areas for safety and security purposes.
- e. Develop commercial projects in a manner that is architecturally harmonious with a defined theme, and in accordance with the following design guidelines:
- Materials, textures, colors, and architectural detailing shall be consistent with the specific design themes employed in the project.
 - Architectural elements, such as variations in rooflines and building masses broken into smaller components, are encouraged.
 - Recesses, reveals, projections, architectural trim, and other elements are encouraged to enhance the architectural image of structures.
 - Shadow patterns created by architectural elements such as overhangs, projections, or recession of stories, balconies, reveals, and awnings are encouraged in order to contribute to a building's character and aid in climate control.
- f. The following design elements are encouraged in conjunction with the design and construction of commercial and office buildings.
- Richness of surface and texture.
 - Equal solid-to-void building wall ratios.
 - Multi-planed, pitched roofs.
 - Vegetation integrated with building walls and details such as trellises.
 - Roof overhangs.
 - Regular or traditional window rhythms.
- g. The following architectural elements are to be discouraged in large expanses of the same monotonous patterns in conjunction with the construction of commercial and office buildings:
- Highly reflective surfaces over the majority of the façade visible to the public.
 - Large, blank walls.
 - Flat roofs without mansards.
 - Split face or exposed concrete block.
 - Metal or plastic siding.
- h. Attached standing-seam metal roofs may be permitted with pitches varying from 5:12 to 9:12. Pitches shall be consistent with each building.
- i. Mechanical plants and distribution networks shall be minimized and contained within efficient rooftop penthouses.

5.4.9 Mixed-Use, Office, Business Park Development

- a. The primary design objective for office and business park development is the arrangement of structures and functions in a clean, campus-like setting reflective of quality, contemporary design.



Creation of Plazas

- b. A variety of building and parking setbacks should be provided in order to avoid long monotonous facades and to create diversity within the project.
- c. Setbacks from property lines should be provided proportionate to the scale of the building and in consideration of adjacent development. Larger buildings require additional setback area for a balance of scale and so as not to impose on neighboring uses.
- d. The main elements of appropriate mixed-use/office/ business park design include the following:
 - a campus-like setting with strong pedestrian orientation;
 - provision of plazas, courtyards, and landscaped open space;
 - convenient access, visitor parking, and on-site circulation;
 - service areas located at the sides and rear of structures;
 - screening of outdoor storage, work areas, and equipment; and
 - an emphasis on primary business entries with significant landscaping.
- e. Generally, an overall low-rise¹ appearance is desired, with mid-rise "signature" buildings designed to make a visual statement placed at strategic locations, such as key intersections, project entries, and project focal points.

¹ "Low-rise" is defined as one to three stories. "Mid-rise" refers to buildings four to eight stories in height, while "high-rise" refers to buildings that are nine stories or greater.

- f. Parking lots should not be the dominant visual element. Large paved areas located along the street frontage should be avoided in favor of smaller lots separated by buildings and landscaping. Buildings should be located within "landscape islands," where the main entrance does not directly abut paved parking areas. A minimum 5- to 7-foot wide landscape strip should be provided between parking areas and buildings.
- h. Parking lots adjacent to and visible from public rights-of-way should be screened from view through combinations of earth berms, low screen walls, changes in elevation, and landscaping.
- i. The use of architectural elements that define the main entrance and organize space at the ground plane (i.e. arcades, colonnades, and covered walkways) is encouraged. Such elements help to reinforce the pedestrian scale of the building and contribute to its overall low-rise character.
- j. Buildings should be designed with a precise concept for adequate signing. Provisions for sign placement, size, and the readability of the sign should be considered in developing the overall signing concept. All signs should be highly compatible with the building and site design relative to color, material, scale and placement.
- k. Monument signs are the preferred sign type for business and office park identification. Where several tenants occupy the same site, individual wall mounted signs are appropriate in combination with a monument sign identifying the business park complex and address.
- l. Sites should be appropriately signed to give directions to loading and receiving areas, visitor parking, and other special areas.

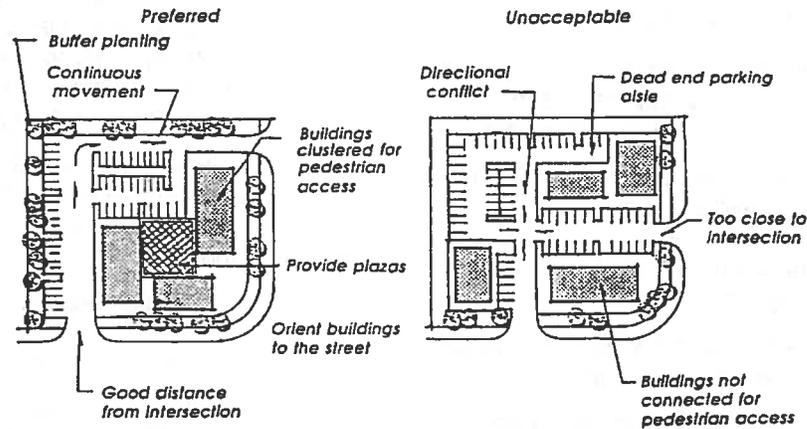
5.4.10 Industrial Development

- a. The primary design objective for industrial development is the arrangement of

structures and functions in an efficient manner. Within the constraints of utility and economic feasibility, manufacturing and industrial buildings shall display architectural statements that are aesthetically pleasing, and shall be designed in accordance with the following design guidelines:

- Architectural design and details are generally to be oriented toward public views with utilitarian work, maintenance, and storage areas screened from public view.
- Architectural design and details should be used to break up the box-like appearance of the tilt-up construction typically used for industrial buildings.

- Although no particular "style" is suggested, the use of contemporary, clean, architectural expressions is encouraged.
- Blank building elevations plotted parallel to public streets and highways are inappropriate. Variety should be provided in the surface of exterior walls facing public streets or highways with pilasters, deep reveals at construction joints, and staggering of wall components to create projections and recesses in an otherwise flat wall surface.



Appropriate Site Layout for Mixed-Use, Office, and Business Park Development

- b. Entries into industrial buildings should be well defined through the use of projections, recesses, entry space frames, pergolas, colonnades, raised planters, seating elements, surface texture and enhanced paving elements, low-level lighting bollards, or other elements designed to announce entrance into these structures. Blank unarticulated building entries are to be avoided.
- c. Where long, linear walls or fences are needed, a combination of wall/fence along a landscape berm is to be encouraged.
- d. Truck docks and trash storage areas are to be closed off by roll-down or another appropriate type of door, and should be arranged in an organized manner, integrated within the overall design of the project.
- e. Service areas should be simple and efficient, and not interfere visually or physically with other building operations. Service areas should not be visible from public roadways and highways
- f. On-site parking and loading areas within manufacturing and industrial developments shall be designed in such a manner as to provide direct access to major or local industrial streets, while prohibiting primary access through residential areas.
- g. Signs for multi-tenant uses shall be integrated with building designs and

coordinated to create an overall sign theme for the project.

- h. Adequate lighting shall be required to provide adequate lighting for the security and safety of on-site parking, loading, shipping and receiving, and pedestrian and working areas.

5.4.11 Infill Development

- a. Unless the specific purpose is to change the visual appearance of an area due to its outdated or deteriorated character:
 - The scale of proposed infill development should not overpower neighboring developments.
 - The perceived intensity and character of infill buildings should be similar to that of the existing neighborhood.
 - Infill development should appear to be an integral part of the intended character of the neighborhood.
- b. Where single family residences dominate the existing street scene, infill development should feature single family elements along the street, with additional density behind.
- c. Setbacks for infill development should respect existing street setbacks.
- d. By using variations in building height, roof lines, façade articulation, grade definition, the overall perceived mass of proposed infill projects can be effectively reduced to be compatible with existing development. Other techniques to provide appropriate scale relationships include:
 - Vary building setbacks and massing of large structures along major streets to provide visual interest.
 - Detail multi-story buildings so as to reduce their vertical appearance.
 - Provide a greater level of architectural detailing at the ground level than at upper levels.

5.4.12 Development Transitions and Buffering Policies¹

- a. Minimize the number and extent of locations where non-residential land use designations abut residential land use designations. Where such land use relationships cannot be avoided, strive to use roadways to separate the residential and non-residential uses².
- b. Ensure that the design of new development proposed along a boundary between residential and non-residential uses provides sufficient protection and buffering for the residential use, while maintaining the development feasibility of the non-residential use. The burden to provide buffers and transitions to achieve compatibility should generally be on the second use to be developed. Where there is bare ground to start from, both uses should participate in providing buffers along the boundary between them.
- c. Provide appropriate buffering to separate residential and non-residential uses, using one or more of the following techniques as appropriate.
 - Increase setbacks along roadways and common property lines between residential/non-residential uses.
 - Provide a heavily landscaped screen along the roadway or common property line separating residential and non-residential use.
 - Locate noise-generating activities such as parking areas; loading docks; and service, outdoor storage, and trash collection areas as far from residential uses as possible.

¹ These policies are focused on protecting existing and planned residential uses from the effects of adjacent land uses. Policies to provide similar buffers between existing and proposed developments and existing open space and agricultural areas are set forth in Section 10.5 of the Resource Management Element.

² It is recognized that residential and non-residential properties will sometimes abut along a common property line (such as between neighborhood shopping centers and adjacent neighborhoods).

- Where a multifamily residential use is located adjacent along a common property line with a non-residential use, locate the noise-generating activities of both uses (e.g., parking areas; loading docks; and service, outdoor storage, and trash collection areas) along the common property line.
 - Design the residential area with cul-de-sacs running perpendicular to and ending at the non-residential use, facilitating greater separation of residential and non-residential structures than would be possible if residential streets ran parallel to the boundary of the non-residential use.
- d. Where a difference in residential density is indicated on the General Plan land use map, the size of parcels and character of development facing each other across a street or along a common property line should be similar, creating a transition between the densities in each area.
- e. Where multi-family development is located adjacent to a single-family neighborhood, appropriate buffering is to be provided.
- Increase setbacks for multi-family development along common property lines with single family development.
 - Provide a heavy landscaped screen along the property line of the multi-family use.
 - Locate noise-generating activities such as parking and trash collection areas as far from the single family neighborhood area as possible.
- f. The transition from lower to higher residential density should occur within the higher density area.
- g. Uninterrupted fences and walls are to be avoided, unless they are needed for a specific screening, safety, or sound attenuation purpose.
- h. Where they are needed, fences or walls should relate to both the site being developed and surrounding developments, open spaces, streets, and pedestrian ways.
- i. Fencing and walls should respect existing view corridors to the greatest extent possible.
- j. Fencing and walls should incorporate landscape elements or changes in materials, color, or texture in order to prevent graffiti, undue glare, heat, or reflecting, or aesthetic inconsistencies.

5.4.13 Signs

- a. Prohibit offsite signs¹, except for offsite signs identifying subdivisions and signs along freeways for the purpose of providing motorists with advanced notice of services available at an upcoming freeway interchange.
- b. Encourage theme-based signage integrated with building designs within multi-tenant commercial and office developments.
- c. Limit the size of signs to that necessary to adequately provide identification and direction.
- d. Users of freeway advanced identification signs are limited to those types of business providing services to the motoring public (i.e. hotels/motels, restaurants, vehicle service). Information provided on the sign should be limited to company names and/or logos only.
- e. Although the City may establish detailed guidelines for the design of freeway advanced identification signs, each sign should be individually designed to be compatible with its own unique setting.
- f. Onsite signs (those which identify uses and businesses that are located on the same site) are to be permitted for the sole purpose of identifying businesses located on the same site as the sign. Such signs are to be designed to communicate

¹ Off-site signs are those identifying uses and businesses at a location different from that of the sign, and signs advertising products or services on a commercial basis that are not available at the same location.

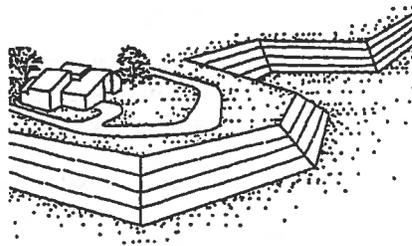
- clearly, and are to be integrated into the overall design of the project.
- g. Pole signs are not to be permitted. Signs are to be designed to reflect the general low-rise character of the City. Low monument-type signs are appropriate for identifying freestanding commercial uses, shopping centers, and business/office complexes. Where roof signs are permitted, they are to be architecturally integrated with the overall building design.
 - h. Individual tenant signs within centers should be designed as part of an overall sign program, integrating all signs with the architectural design of the project.
 - i. "Corporate" and "franchise" signage is discouraged, unless it is blended into the overall design theme of the center within the sign is located.
 - j. Gas station canopies with corporate colors, logos, and signs are discouraged unless their design is blended into the overall design of the adjacent structure.

5.4.14 Hillside Design Policies

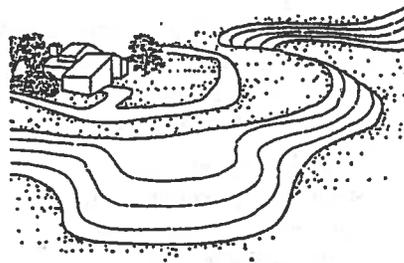
- a. Design hillside development to be sensitive to existing terrain, views, and significant natural landforms and features.
- b. Projects within hillside areas shall be designed to protect important natural features and to minimize the amount of grading. To this end, grading plans shall conform to the following guidelines.
 - *Slopes less than 25%:*
Redistribution of earth over large areas may be permitted.
 - *Slopes between 25% and 35%:*
Some grading may occur, but landforms need to retain their natural character. Split-level designs and clustering are encouraged as a means of avoiding the need for large padded building areas.
 - *Slopes between 35% and 50%:*
Development and limited grading can occur only if it can be clearly demonstrated that safety hazards, environmental degradation, and aesthetic impacts will be avoided. Structures shall blend with the natural environment through their shape, materials and colors. Impact of traffic and roadways is to be minimized by following natural contours or using grade separations. Encouraged is the use of larger lots, variable setbacks and variable building structural techniques such as stepped or post and beam foundations are required.
- *Slopes greater than 50%:*
Except in small, isolated locations, development in areas with slopes greater than 50% should be avoided.
- c. Manufactured slopes in excess of five vertical feet (5') shall be landform graded. "Landform grading" is a contour grading method which creates artificial slopes with curves and varying slope ratios in the horizontal and vertical planes designed to simulate the appearance of surrounding natural terrain. Grading plans shall identify which slopes are to be landform graded and which are to be conventionally graded.
- d. The overall project design/layout of hillside development shall adapt to the natural hillside topography and maximize view opportunities to, as well as from the development.
- e. Grading of ridgelines is to be avoided wherever feasible, siting structures sufficiently below ridgelines so as to preserve unobstructed views of a natural skyline. In cases where application of this performance standard would prevent construction of any structures on a lot of record, obstruction of views of a natural skyline shall be minimized through construction techniques and design, and landscaping shall be provided to soften the impact of the new structure.
- f. Hillside site design should maintain an informal character with the prime determinant being the natural terrain. This can be accomplished by:

- utilizing variable setbacks and structure heights, innovative building techniques, and retaining walls to blend structures into the terrain, and
 - allowing for different lot shapes and sizes.
- g. Buildings should be located to preserve existing views and to allow new dwellings access to views similar to those enjoyed from existing dwellings.

- h. Streets should follow the natural contours of the hillside to minimize cut and fill, permitting streets to be split into two one-way streets in steeper areas to minimize grading and blend with the terrain. Cul-de-sacs or loop roads are encouraged where necessary to fit the terrain. On-street parking and sidewalks may be eliminated, subject to City approval, to reduce required grading.



Unacceptable



Acceptable

- i. Clustered development is encouraged as a means of preserving the natural appearance of the hillside and maximizing the amount of open space. Under this concept, dwelling units are grouped in the more level portions of the site, while steeper areas are preserved in a natural state.
- j. Project design should maximize public access to canyons, overlooks, and open space areas by:
- providing open space easements between lots or near the end of streets or cul-de-sacs; and
 - designating public pathways to scenic vistas.
- k. Permit the use of small retaining structures when such structures can reduce grading, provided that these structures are located and limited in height so as not to be a dominant visual feature of the parcel.
- Where retaining walls face public streets, they should be faced with

materials that help blend the wall into the natural character of the terrain.

- Large retaining walls in a uniform plane should be avoided. Break retaining walls into elements and terraces, and use landscaping to screen them from view.
- l. Lot lines shall be placed at the top of slopes to facilitate maintenance by the down slope owner, who has the greater "stake" in ensuring the continued integrity of the slope.
- m. The overall scale and massing of structures shall respect the natural surroundings and unique visual resources of the area by incorporating designs which minimize bulk and mass, follow natural topography, and minimize visual intrusion on the natural landscape.
- The overall height of a building is an important aspect of how well it fits into the existing character of the neighborhood and its hillside environment. Houses should not be excessively tall so as to dominate their

- surroundings or create a crowded appearance in areas of small lots. Structures should generally be stepped down hillsides and contained within a limited envelope parallel to the natural grade, rather than "jutting out" over natural slopes.
- Building forms should be scaled to the particular environmental setting so as to complement the hillside character and to avoid excessively massive forms that fail to enhance the hillside character.
 - Building facades should change plane or use overhangs as a means to create changing shadow lines to further break up massive forms.
 - Wall surfaces facing towards viewshed areas should be minimized through the use of single story elements, setbacks, roof pitches, and landscaping.
- n. Collective mass rooflines and elements should reflect the naturally occurring ridgeline silhouettes and topographical variation, or create an overall variety, that blends with the hillside.
- o. Based upon the graphic principle that dark colors recede and light colors project, medium to dark colors which blend with the surrounding environment should be used for building elevations and roof materials in view-sensitive areas.
- p. Architectural style, including materials and colors, should be compatible with the natural setting. The use of colors, textures, materials and forms that will attract attention by contrasting or clashing with other elements in the neighborhood is to be avoided. No one dwelling should stand out.
- q. The interface between development areas and open space is critical and shall be given special attention. Slope plantings should create a gradual transition from developed slope areas into natural areas. By extending fingers of planting into existing and sculptured slopes, the new landscape should blend in with the natural vegetation.
- r. Planting along the slope side of a development should be designed to allow controlled views out, yet partially screen and soften the architecture. In general, 50 percent screening with plant materials should be accomplished.
- Trees should be arranged in informal masses and be placed selectively to reduce the scale of long, steep slopes.
 - Shrubs should be randomly spaced in masses.
 - Skyline planting should be used along recontoured secondary ridgelines to recreate the linear silhouette and to act as a backdrop for structures. Trees should be planted to create a continuous linear silhouette since gaps in the planting will not give the desired effect.
 - Trees that grow close to the height of structures should be planted between buildings to eliminate the open gap and blend the roof lines into one continuous silhouette.
 - For fire prevention purposes, a fuel modification zone shall be provided between natural open space and development.
- s. New development within hillside areas shall be conditioned upon:
- the preparation and recordation of a declaration of covenants, conditions and restrictions providing for the development and maintenance of manufactured slopes;
 - in the case of a parcel map or subdivision, the subdivider's supplying a program and/or staff for preventive maintenance of major manufactured slope areas. Such program must be approved prior to approval of a final map, and shall include homeowner slope maintenance requirements and guidelines to be incorporated into the declaration of covenants, conditions, and restrictions.

5.4.15 Landscaping

- a. Landscape design should accent the overall design theme and help to reinforce the pedestrian scale of the project. This could be accomplished through the use of structures, arbors, and trellises that are appropriate to the particular architectural style of the project. Pedestrian amenities should be provided throughout the project including benches, trash receptacles, and lighting.
 - b. The use of water efficient landscape materials and the installation of appropriate irrigation systems are required. This does not mean that the landscape is brown, displays a "desert" theme, or is devoid of plants. However, it does mean that a well designed landscape shall be provided which produces the same lush appearance as other non-water efficient landscapes, but requires less water and maintenance. Where consistent with the site's design theme, native and naturalized species should be featured in the site's landscape design.
 - c. Whenever landscaping of the public parkway is required it should be designed in coordination with the project's on-site landscaping to provide an integrated design concept along street frontages.
 - d. Project entries should be designed as special statements reflective of the character of the project in order to establish identity for tenants, and visitors. Accent planting, specimen trees, enhanced paving, and project entry signs should be used to reinforce the entry statement.
 - e. Landscaping should be designed as an integral part of the overall site plan design. Landscaping and open spaces should not be relegated to pieces of the site left over after buildings, parking, and circulation have been laid out.
- activities to residents and visitors, including such activities as art shows, school competitions, public exhibitions, art in public places, musical performances, dance recitals, plays, film festivals, and artists in residence.
- b. Pursue the establishment of facilities for the arts, including a museum; gallery space; and outdoor amphitheater for community events, musical performances, and plays; storage space for local arts groups; an indoor performance facility in addition to the Antioch community Center; and work space for both professional and amateur artists.
 - c. Provide incentives to developments for the provision of outdoor art in public places in a variety of forms, such as stationary and kinetic sculptures, commemorative plaques, and murals. Such incentives could include, but are not necessarily limited to, credits for the provision of open space, density bonuses, or considerations in the City's residential development allocation system.

5.4.16 Civic Arts Policies

- a. Support the efforts of the Civic Arts Organization to provide cultural and civic

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6.0 Economic Development

6.1 INTRODUCTION

California has one of the largest and most diverse economies in the world. If California was a nation, it would be one of the ten largest. A healthy local economy, in part, depends on the strength of the conditions of the State and regional economy. This includes State fiscal policies, employment and labor, business regulations, infrastructure, and other resources.

The City of Antioch is in the eastern portion of Contra Costa County generally known as "East County." The East County region generally consists of the Cities of Antioch, Brentwood, Oakley, and Pittsburg. This region's economy depends on the regional issues of transportation, land use, housing, the environment, and the economy. A local economy is dependent on the regional economy in the same manner that a region is dependent on the State's economy. It is essential for all cities to cooperate in a regional planning approach to assist in maintaining a healthy regional economy.

Antioch is committed to maintaining a vibrant and healthy local economy, ensuring the fiscal and financial health of the City, and working with the private sector to provide as close a match between the range of local employment-generating uses and housing types as can be achieved. The purpose of the Economic Development Element is to promote economic development and fiscal stability in Antioch by:

- Maximizing local economic opportunities for businesses and individuals;
- Providing a positive business climate, which includes these major components:
 - Affordable housing;
 - A wide range of housing options;
 - Available land;
 - Sufficient employment opportunities;
 - Streamlined permitting process; and

- A sufficient population to support business.
- Promoting location of institutions of higher learning in the City;
- Working with adjacent cities on regional transportation issues/solutions that will assist business expansion and business attraction;
- Encouraging employers to relocate to Antioch, based on the abundance of affordable housing opportunities for their workers compared to other Bay Area communities, available space for business/industrial development, and a high local quality of life;
- Encouraging businesses that create permanent, higher wage jobs to locate and/or expand in Antioch;
- Providing the necessary support to existing and future businesses to assist them to locate in Antioch and expand their local operations;
- Assisting City residents to acquire skills so that they may fill the jobs of the future;
- Expanding the inventory of sales tax-generating uses; and
- Ensuring that new development pays for its own infrastructure costs.

The Economic Development Element is closely related to the Growth Management, Land Use, and Public Services and Facilities elements. This Element provides guidance to City decision-makers, developers, businesses, and the public when considering specific projects and other municipal decisions affecting the community economic development and fiscal health.

The Economic Development Element recognizes that Antioch is part of a larger regional economy. The Bay Area has a highly competitive economic climate, providing continuous opportunities and challenges for the City of Antioch, not the least of which is

the ability to work with adjacent jurisdictions to achieve a local balance between jobs and housing in the face of regional projections, transportation initiatives, and economic development efforts working to the contrary.

6.1.1 General Economic Development and Fiscal Condition Concepts

Economic conditions reflect the state of the *private sector economy* in an area, typically measured by jobs and incomes. Fiscal conditions, in the General Plan context, consist of *public sector revenues and cost* (i.e., the City's net cost/revenue balance). These two sets of conditions are distinct, but related: conditions in the overall economy (local, regional, national) affect local government substantially through direct impacts on jobs and incomes, while local fiscal conditions influence the local economy by affecting the mix of advantages and disadvantages that firms consider in choosing where to establish operations.

How General Economic Conditions Affect Fiscal Conditions. A city's fiscal outlook tends to rise and fall with economic conditions. When economic conditions are favorable, employment levels are robust and higher individual and household incomes support expanded discretionary spending. Retail sales increase, property values typically rise, and all of the activities that relate to local government charges, fees, and taxes tend to increase. Therefore, city revenues are likely to grow. While new development may add to a city's service delivery responsibilities, it will contribute at the same time to increased local revenues.

When economic conditions are adverse, the opposite tends to occur. Lower employment and income levels translate into reduced consumer spending, resulting in decreased local tax revenues from retail sales as well as lower levels of activity of other kinds that are typically subject to local fees, permits, and other revenue sources. In a prolonged recession, property values will decline to a point at which the valuations of real property will be adjusted downward.

Long-term economic stability strengthens the predictability of municipal costs and revenues. The effects of a marked change in economic direction, whether expansion or contraction, take time to show up in revenue increases or reductions, but City fiscal planners who are alert to the influences of the economic cycle on the public sector can normally plan for modest fluctuations.

How Local Fiscal Conditions Affect Local Economic Conditions. Local communities are affected by the health of the overall economy. City fiscal conditions, in turn, can affect city economic vitality. A solid fiscal base is among the influences that can prompt employers to retain or establish operations locally; a weak economic base, in contrast, will discourage establishment of new economic operations and may even prompt existing employers to relocate elsewhere. City fiscal management – tax and fee levels, availability and quality of services, efficiency and responsiveness of city staff – will also influence the perception of a city as “a good place to do business.”

Often a business seeking a site for a new operation will look critically at the mix of local government costs and benefits associated with sites in different cities, balancing costs against the benefits that various cities offer. If a city's operating revenues are insufficient, some new development may be discouraged from locating there. Businesses and non-residential developers often tend to avoid communities with perceived fiscal problems. Due to concerns with the community's ability to provide an adequate level of public safety and general maintenance services, and a concern that property values will not appreciate, and may even deteriorate over time. A solid municipal fiscal situation and provision of a high level of services, in contrast, can assist in bringing prospective employers into the community. A more prosperous appearing community provides businesses with a comfort level that their investment in the community will appreciate over time. Employment-generating uses also tend to locate in areas that have desirable locations for its management team to live.

If a city charges higher development fees than its neighbors because the cost of providing infrastructure is high, however, then development may gravitate toward other, lower-cost locations.

One of the key themes of the General Plan is achieving a balance between jobs and housing. The most accurate measure of “balance” compares the local job count to the number of employed residents. By defining the local housing measure in terms of employed residents, distortions that would result from using housing unit or household statistics are avoided. (The number of housing units differs from the number of households because not all housing units are occupied; the number of households differs from the number of employed local residents for several reasons, including the fact that many households have more than one employed resident, and some have none.)

6.1.2 Jobs/Housing Balance Concepts

In the ideal world, jobs/housing balance helps a community achieve important goals. For example, if employed residents can work locally, commute times and distances will be reduced; air quality will be improved; transportation infrastructure needs will be minimized; and each jurisdiction will have a mix of housing types that accommodates the workers in the entire range of income groups created by the local jobs. In the real world, achieving a numeric balance between jobs and housing (measured by the number of employed local residents) is an often cited but rarely accomplished objective.

Although cities can require that companies grant local hiring preferences they assist to expand or relocate, cities cannot ultimately dictate who works at local jobs. The existence of a certain number of local jobs does not guarantee that employed residents will choose to work locally or that newly hired employees at a company will choose to move to the city they work in. For a mostly residential city like Antioch, the best chance to place employed residents in local jobs is to try to increase employment, targeting the kinds of businesses

that employ people with skills found in the local resident workforce. Even then, workers who live elsewhere will already hold some of the jobs that move into an area. In addition, some workers may prefer not to live and work in the same community.

Even if the number of housing units in a community is sufficient to accommodate the number of local residents who work, some workers at local jobs who live elsewhere may not be able to afford the prices (or rents) of new (or even existing) housing in the community. Most cities have a limited ability to reduce the price of market-rate housing to bring it in line with the earnings of local workers.

For these and other reasons, a city in which there is parity between jobs and housing may still have substantial cross-commuting: employed local residents working elsewhere and local job-holders living elsewhere. “Balance” is not by itself sufficient to reduce commute-hour traffic, lessen distances between work and home, or to provide local housing at costs that local workers can afford. It is, however, an important component in achieving the goals of congestion relief, improving air quality, and improving residents’ quality of life by reducing commute times.

A jobs/housing balance calculation can be a useful tool in illuminating current home/work travel patterns, but if the desire is to change those patterns, then the focus needs to be on the underlying characteristics of the job market and the housing market that give rise to imbalance. A General Plan can affect jobs/housing balance constructively by identifying objectives for residential, employment, and transportation facilities and working toward achieving specific outcomes, such as adding a certain type of job or increasing a certain type of housing. Success in accomplishing such specific objectives *may* improve the community’s jobs/housing ratio but, more important, it will result in progress toward other community goals.

Antioch’s Resident Labor Force. The civilian labor force includes those people who are employed (except in the armed forces),

and those people who are unemployed, but considered to be actively looking for work. People who have never held a job, people who have stopped looking for work, and people who have been unemployed for a long period are considered not to be in the labor force. In 1990, 48 percent of Antioch households (30,130 people) had some wage or salary income. In 2000, that number was 41,600 or 46 percent.¹ This slight percentage decrease is possibly due to an aging population or an influx of retirees into the community.

Local Employment Base. Antioch's economy functions as a small part of the Bay Area economy, comprising only 1.1 percent of the Bay Area labor force. In 2000, the total number of jobs in Antioch was estimated by ABAG to be 18,930. Year 2000 land use surveys conducted for the General Plan indicate that there are 5.0 million square feet of commercial uses, 1.0 million square feet of office use, and 17.8 million square feet of industrial use within the General Plan study area. All of the office development and all but about 40,000 square feet of the commercial uses within the General Plan study area are located within the Antioch city limits. By comparison, approximately 52 percent of the industrial development within the General Plan study area is within unincorporated territory, primarily along Wilbur Avenue and East 18th Street.

Relationship between Antioch's Resident Labor Force and Local Jobs. Although the term "jobs/housing" balance is still often used, a more precise relationship is between local employment and the number of employed residents. The primary reason is that some households have no workers, while others have multiple workers. Although 1.3 jobs per household is often cited as representing a balance between jobs and housing, depending upon the demographics of a community (e.g., number of retirees and resident labor force in non-retiree households), that figure can vary widely. For the Antioch General Plan, jobs and housing are "balanced" when there is an

equal number of employed residents and jobs in the community (i.e., a ratio of employed residents to jobs of 1.0). An analysis of Antioch's existing jobs/housing ratio and ABAG jobs/housing projections through 2020 is presented in Table 6.A.

As shown in Table 6-A, ABAG projects that Antioch will continue to experience a jobs/housing imbalance, with only marginal improvement over time. Current jobs/housing estimates show that Antioch and adjacent communities lag well behind Contra Costa County as a whole, which in turn, lags behind the inner Bay Area.

ABAG projections reflect current boundaries for cities, and do not reflect the potential for future annexations. The projections are also largely based on existing trends. As a result, ABAG projects that the Bay Area as a whole will continue to experience job growth in excess of housing growth, requiring even greater numbers of workers to commute long distances into the Bay Area from the Central Valley and other locations. Within the Bay Area, ABAG projects that job growth will continue to concentrate in existing employment centers, while residential growth will continue to concentrate in existing bedroom communities. Development as projected by ABAG will result in increasingly long commutes and the likelihood of increasing traffic congestion. ABAG projections of an increasing disparity between local jobs and housing run counter to General Plan policies adopted by the Cities of Antioch, Brentwood, Oakley, and Pittsburg, each of which seek to achieve a local jobs-housing balance.

According to a local survey by the Contra Costa Economic Partnership, 33 percent of East County residents commute over 30 miles to work, while 45 percent commute over 20 miles, and 68 percent commute over 10 miles. This survey indicated 60 percent of Antioch's residents commute out of the area to work (see Table 6.B).

¹ 1990 Census, 2000 Census.

Table 6.A – ABAG Jobs/Housing Balance Projections

	1990	2000	2010	2020	2025
Antioch City and Sphere of Influence					
Population	63,062	91,293	102,900	115,800	118,800
Total Jobs	13,980	17,060	21,400	27,300	29,850
Employed Residents	30,130	43,811	51,700	59,800	62,500
(Total Jobs/ Employed Residents)	0.46	0.39	0.41	0.46	0.48
Contra Costa County					
Population	803,732	1,013,200	1,074,500	1,179,500	1,209,900
Total Jobs	314,550	361,110	419,140	470,480	495,460
Employed Residents	409,351	518,700	573,800	647,500	677,500
(Total Jobs/ Employed Residents)	0.77	0.70	0.73	0.73	0.73

Table 6.B – Place of Employment

Place of Employment	Percent
Antioch, Brentwood, Oakley	39.3
Total out of local area	60.7
West & Central Contra Costa County	25.8
Pittsburg/Bay Point	8.1
Tri-Valley Area (Livermore, Pleasanton, San Ramon)	7.1
San Francisco, San Mateo County	6.9
West Alameda County	4.4
Santa Clara County	2.6
Solano County	2.5
Sacramento & San Joaquin Counties	1.5
Other out of local area	1.8

Currently, within the East Contra Costa subregion,¹ 31,878 workers, representing 48.8 percent of the total workforce in the area, have a work destination westbound on the SR-4 freeway. A lack of adequate regional transportation has constrained the ability of Antioch and surrounding communities to attract employment-generating uses as businesses have expressed reluctance to move east along the congested SR 4 freeway. Other businesses have cited concerns with a lack of market area, freeway access, or labor base east of Antioch. As freeway improvements are completed, residential development continues in eastern Contra Costa County, and existing Bay Area employment centers become more expensive

and congested, the constraints experienced by Antioch in attracting new employment-generating uses will ease. The jobs/housing ratio and commuting statistics cited above do not fully indicate the extent of the existing imbalance between local housing and employment. Many local jobs are lower paying retail and service industry positions, rather than the more vertically integrated manufacturing, office, and technology-related jobs for which local residents commute long distances.

6.1.3 Opportunities and Constraints for Economic Development

Economic development studies conducted for Future Urban Area 1 indicated five sources of

¹ The East Contra Costa Subregion consists of the cities of Antioch, Oakley, Brentwood, and rural eastern contra Costa County (Byron, Discovery Bay, Bethel Island, Knightsen).

demand for industrial and office space in Antioch and surrounding communities:¹

- *Region Serving Demand.* To at least some degree, the eastern portion of Contra Costa County will attract regional serving businesses seeking affordable, vacant land and a skilled local labor force.
- *Overflow Demand from Central Costa County.* Due to growth restrictions in Walnut Creek, and an increasingly expensive and shrinking land inventory in the central portion of the County, some businesses may have to move out of the Central County area in order to maintain profitability or to expand their businesses. Antioch and surrounding communities provide an opportunity for these businesses to expand while remaining close to their clients and suppliers.
- *Internally Generated Demand.* A large number of existing local, service-oriented, construction-oriented, and light industrial firms will create demand for support service and can be expected to expand over time. This is anticipated to be the most common source of economic development demand in the next 5 – 10 years.
- *Workforce Driven Demand.* A number of firms can be expected to relocate from central Costa County and other portions of the Bay Area because a large portion of their work force already lives in the area. This source of demand is anticipated to be the most important in attracting larger, more regionally oriented employment.
- *Executive Driven Demand.* As household growth continues, particularly high-end executive housing, Antioch and adjacent communities may benefit from executives and business owners relocating their firms closer to home.

6.1.4 Space Demand Projections

¹ Economic and Planning Systems, "Final Report, Future Urbanization Area #1 Business Park Market Study," May 24, 2002.

Based on ABAG *Projections 2002* employment projections, demand for various types of employment-generating uses was estimated for the Eastern Contra Costa County market area.² These projections are illustrated in Table 6.C.

Based on ABAG projections, market studies tend to conclude that cumulative demand for office and industrial development will exceed the supply of land available for employment-generating development through 2025. In reviewing demand projections and this conclusion, it is important to note that ABAG projections assume that Antioch and Eastern Contra Costa County will largely remain residential suburbs, providing labor for distant job centers in the central portion of the County, the Livermore/Pleasanton area, and other inner Bay Area locations. **Antioch does not share that vision of its future. As a result, it is the objective of the Antioch General Plan to expand local job opportunities to a greater degree than is reflected in ABAG projections.**

Table 6.C – Building Space Demand, Eastern Contra Costa County, 2000-2025

	Acres	Building S. F.
Warehouse/Industrial	349	4,149,936
Office/R&D	625	7,420,634
Total	974	11,570,569

Source: Economic and Planning Systems, 2002.

6.1.5 Existing Economic Development Incentives

Antioch has been active in providing local incentives to encourage the development of new employment-generating uses and expansion of existing businesses within the community. Programs range from streamlined approval processes to the planning, financing,

² Economic and Planning Systems, "Final Report, Future Urbanization Area #1 Business Park Market Study," May 24, 2002. The Eastern Contra Costa County market area consists of the cities of Pittsburg, Antioch, Oakley, and Brentwood; the unincorporated communities of Bay Point, discovery Bay, and Bethel Island; and adjacent unincorporated areas.

and construction of infrastructure to the preparation of Specific Plans and certified environmental documents.

Participation in Regional Programs.

Antioch participates in several regional economic development programs as described below.

- *Cooperative Marketing Program.* Antioch is one of five jurisdictions cooperating in the provision of marketing and financial incentives, and coordinating with residential developers to encourage new employment-generating uses in the region.
- *Economic Development Program.* Antioch is part of the coordinated East Contra Costa County regional economic development program intended to help address the current imbalance of jobs and housing, along with related resulting transportation issues in the area.
- *Transportation Improvements Program.* Antioch is participating in the East County's \$180 million regional traffic impact fee program. This program imposes a local fee on new residential development to help pay for needed transportation improvements in the region, including the SR-4 Bypass, SR-4 widening, and extension of BART service.
- *Transit Service.* Bus transit services have been expanded. Antioch participates on the Tri-Delta Transit Board of Directors, which is working to add new transit routes, integrated into plans for new employment areas.
- *BART Extension.* Antioch is working with the Contra Costa Transportation Authority, BART, and the Metropolitan Transportation Commission to plan for the extension of BART diesel or light rail (e-BART) service along existing rail lines.
- *Jobs/Housing Opportunity Zones.* Antioch is working with the cities of Brentwood and Oakley on two Jobs/Housing Opportunity Zones. Creation of these zones will establish a powerful set of new economic development tools to intensify and

accelerate existing economic development incentives. The joint proposal with the City of Brentwood encompasses the East Lone Tree Specific Plan and adjacent lands in Brentwood. The joint proposal with Oakley is located immediately north of the SR-4 freeway, at the SR-160/East 18th Street interchange.

Existing Local Economic Development Incentives.

In addition to participation in regional efforts, Antioch has specific citywide incentive programs designed to attract employers to the area.

- *Planning.* Antioch has completed development of the East Lone Tree Specific Plan, covering planned business, commercial, and employment development within the East Lone Tree Focus Area. The City has also completed the East 18th Street Specific Plan to facilitate employment-generating development along that corridor adjacent to the SR-160 freeway. In addition, the City provided substantial assistance to area property owners in the Sand Creek Focus Area leading to preparation of a Specific Plan for that area, which proposes substantial employment-generating development.
- *Environmental Reviews.* Environmental documentation for the East Lone Tree Specific Plan has been completed, including final certification of an EIR. An EIR has also been prepared for the East 18th Street Specific Plan. These environmental documentation efforts will significantly streamline environmental review for future employment-generating uses within the areas covered by the EIRs.
- *Jobs Development Incentive Fund.* The City has implemented a Job Development Incentive Fund to reward employers for retaining or developing new employment opportunities in the City by forgiving loans at a rate of 25 percent over a four-year period if the employer can meet employment goals. Loans have ranged from \$40,000 to \$150,000.

- *Training Programs.* Antioch works closely with the California Employment Training Panel to offer companies reimbursement of pay for employees' training.
- *Recycling Market Development Zone.* The State of California has designated Antioch as a Recycling Market Development Zone. Manufacturing companies whose processes involve the use of recycled materials may qualify for tax credits and other assistance from the State.
- *Industrial Development bonds.* Antioch offers tax-exempt Industrial Development bonds, which allow relocating and expanding businesses to borrow money at rates below the market, which are normally only available to the state and local governments.
- *Equipment Only Purchase Program.* The City has in place a tax-exempt lease purchase program for manufacturing process equipment. Funds are derived from the sale of tax-exempt bonds. This allows for reduced interest rates for equipment purchases for businesses.
- *Financing Districts.* The City of Antioch is working with the City of Brentwood to develop over \$37 million in assessment-type financing districts for the construction of infrastructure within the East Lone Tree Focus area and adjacent land within Brentwood.
- *Impact Fees and Gas Taxes.* Antioch has applied impact fees and gas taxes, along with other funding mechanisms, to develop funding for critical regional transportation projects needed to support growing businesses in the area.
- *Lease Subsidies.* The City has entered into agreements with developers of office projects on East 18th Street and Lone Tree Way to assist in their development. These agreements include City subsidies of rental rates. The City subsidies assisted in enhancing the feasibility of financing development of the office projects, while increasing the economic attractiveness of the projects for new and expanding businesses.

6.2 GOALS AND STRATEGIES OF THE ECONOMIC DEVELOPMENT ELEMENT

To provide for a sustained high quality of life, it is the goal of the Economic Development Element to accomplish the following:

- *Create a sound local economy that attracts investment, increases the local tax base, and generates sufficient public revenues to support desired municipal services and facilities.*

A strong economy not only provides local workers with adequate income to afford a high quality of life, but it also provides local government with sufficient public revenues to provide high levels of municipal services and facilities. To achieve such a local economy requires implementation of an economic development strategy, which includes:

- preparing specialized business marketing materials;
- utilizing appropriate distribution channels to reach the widest business market;
- targeting key industries; maintaining a high web site with key economic and site availability information;
- improving relationships with existing local employers; maintaining a business friendly reputation;
- providing appropriate incentives to attract new businesses and facilitate expansion of existing businesses;
- maintaining partnerships with local and regional business organizations;
- expanding the local retail market to maintain a fiscally strong City;
- building adequate infrastructure to maintain an inventory of ready-to-build sites for new and expanding businesses; and

- providing a mix of housing in a quality community environment to attract a strong labor force.
- *Promote a diverse range of jobs, businesses, and industries, providing high paying employment and entrepreneurial opportunities, balanced with and well-suited to Antioch's population.*

This goal reflects Antioch's commitment to increase the quality of life of its residents. Increasing the number and types of local employment opportunities in relation to the area's labor force is the first and most important step toward economic self-reliance. Currently, East Contra Costa's low jobs/housing ratio and the small number of locally available professional positions make it necessary for 60 percent of the area's residents to commute long distances – often more than 100 miles round trip – to job centers in Pleasanton, San Ramon, Walnut Creek, Oakland, San Francisco, and the Silicon Valley. By increasing local employment opportunities and balance between the number and types of local jobs and residents in the labor force, Antioch residents will be better able to work close to home, spending more time with their families, and in leisure pursuits, while helping to reduce the traffic congestion and air pollution inherent in those commutes.

- *Maintain a balance of new development with revitalization of existing retail locations.*

6.3 ECONOMIC DEVELOPMENT OBJECTIVES AND POLICIES

The most important contributions Antioch will make to its future economic development are to allocate land in appropriate locations for employment-generating development; facilitate the extension of infrastructure to support the development of these lands, provide positive marketing of Antioch and incentives to potential developers and users of employment-generating lands. Firms that are expanding and/or relocating look not only for a

sufficient land supply, but also adequate access and infrastructure in an attractive setting. To be successful in its economic development program, Antioch must establish itself as a "good address." This can be accomplished by offering attractive, affordable, and useable building space, adequate in-place infrastructure and "ready-to-build" sites, an attractive business and residential environment, and a desirable local living environment.

6.3.1 Positive Business Climate and Business Attraction Objective

Foster a climate in which Antioch businesses can prosper.

6.3.2 Positive Business Climate Policies

- a. Maintain an Economic Development Department to represent the City to current and potential employers, and to provide those employers with a point-of-contact for resolving business-related issues.
- b. Maintain an Economic Development Commission to advise the City Council regarding economic development, redevelopment, and employment generation issues and activities.
- c. Periodically meet with and conduct surveys of the local business community to evaluate the effectiveness of City services and economic development activities.
- d. Provide expedited permit review processing for time-sensitive employment- and sales tax-generating development proposals meeting City objectives.
- e. Work with private sector entities to identify and implement technologically advanced infrastructure improvements to enable the City to compete with other communities.
- f. Promote Antioch as a good location in which to do business through a coordinated City effort. Promote Antioch as a business location including an educated workforce, competitive

- development sites, and an active business-friendly government.
- g. Work with the private sector to maintain an adequate supply of skilled workers and the capital needed to attract and maintain business in Antioch.
- Encourage local and regional educational institutions to establish education and continuing education programs to meet the existing and foreseeable needs of local employers.
 - Network with local businesses and real estate professionals to identify the types of industries and occupations most in demand and/or least available in the local workforce. Work with the Antioch Unified School District, Los Medanos College, and California State University Hayward to identify local educational resources applicable to the labor force needs of emerging industries (e.g., telecommunications, fiber optics, and biotechnology) in relevant occupational specialties.
 - Encourage the entry of lower income Antioch residents into job training programs, enabling them to hold meaningful, well paying jobs.
- g. Support location of permanent satellite facilities for the California State University system or another public or private university within the local area.
- h. Streamline the development review process so that it works effectively and efficiently for the applicant and the public through:
- explicit statements of City expectations,
 - early identification of issues,
 - consistent application of community policy,
 - an emphasis on expedited problem-solving, and
 - ensuring that detailed regulations facilitate and do not hinder the achievement of community objectives.
- i. Continue to enhance Antioch's image in order to improve the local business climate.
- Publicize positive images of Antioch through placement of articles in the local and regional media and business journals.
 - Promote Antioch as an excellent place to do business by building on Antioch's competitive advantages.
 - Provide excellent customer service to businesses and developers of employment-generating projects by demonstrating that local government is focused on solving problems and providing certainty in the development review process.
 - Recognize the economic development benefits of, and place emphasis on beautification of major arterials and community entries, street cleaning and consistent enforcement of City regulations.
 - Undertake provision of urban design improvements at key community entries within employment-generating lands,¹ including:
 - 10th Street (Pittsburg-Antioch Highway) at the western City limits
 - Buchanan Road at the western City limits
 - SR-160 at the 18th Street interchange.
- j. Continue to facilitate the availability of needed infrastructure for employment-generating uses while keeping development impact fees to the minimum. Establish assessment districts where feasible to fund up-front installation of needed public facilities.

¹ Improvements at these locations are described in the Community Image and Design Element, Policy 5.3.3b.

6.3.3 Business Attraction and Expansion Policies

- a. Focus business attraction and expansion efforts on employment and sales tax generating uses; high performance, fast growing firms, and community and regional serving retail; and high technology and other industries that will enhance the local economy.
- b. Attract and assist the relocation and local expansion of medium sized firms (15 to 250 employees) in recognized growth sectors, including high-tech, biotech, research and development, and retail trade and services.
- c. Provide similar incentives for existing local businesses wishing to expand as for new businesses wishing to locate in Antioch.
- d. Conduct outreach to City vendors to attract new businesses to Antioch.
- e. Maintain an up-to-date inventory of available lands, including lands for sale or lease) and supporting infrastructure (in cooperation with the commercial and real estate sector) for new business development and business expansion for sales tax and employment generators.
- f. Continue and expand research activities providing a better understanding of local economic, labor market, and employment characteristics to better anticipate economic development opportunities and provide information helpful for targeting marketing efforts, and addressing major economic development issues.
- g. Continue to participate in economic development partnerships with neighboring communities, recognizing that job creation, both within Antioch and in Eastern Contra Costa County, will assist in reducing peak hour traffic congestion along the SR-4 freeway.
- h. Work with local groups demonstrating community support to acquire property and attract important public and quasi-public institutions including college campuses, hospitals and other medical facilities, offices and yards for public

utilities and service agencies, post office, and State and federal offices and facilities.

6.3.4 Commercial and Industrial Land Availability Objective

Provide adequate land to accommodate planned development, with office, business park, industrial, and commercial areas complementing residential and public development in location, access, mix of uses, attractiveness, and design quality.

6.3.5 Commercial and Industrial Land Availability Policies

- a. Maintain a mix of uses on the General Plan land use map (Figure 4.1), providing a balance of housing types, commercial development, and employment-generating uses.
- b. Work toward redevelopment of existing heavy industrial areas along Wilbur Road and Fourth Street to increase their overall employment density.
- c. Promote the establishment of workplace alternatives, including home occupations and telecommuting.
 - Continue to permit home occupations in all residential districts.
 - In defined residential mixed-use districts, expand the definition of home occupations, where appropriate, to permit hiring of workers who are not residents of the household.
 - Promote the provision of high-speed telecommunications cabling in new residential development.
 - Encourage businesses to provide part-time as well as full-time opportunities to accommodate families looking for second income opportunities.
- d. Maintain an inventory of turnkey sites for commercial and employment-generating development, complete with appropriate zoning, in-place infrastructure, and environmental clearances.

- Promote the preparation of Specific Plans with associated environmental documentation to facilitate the development of specific local areas, including, but not necessarily limited to, the following:
 - Business Park areas west of Rivertown
 - Rodgers Point area, including the former City water treatment plan
 - Chevron property (along with annexation of the site)
 - Eastern Waterfront Employment Focus Area (expansion of the East 18th Street Specific Plan)
 - Hillcrest Station Area Focus Area
 - "A" Street Interchange Focus Area
- Implement assessment districts or other financing mechanisms to facilitate the development of infrastructure for specific local areas, including, but not necessarily limited to, the following:
 - Business Park areas west of Rivertown
 - Rodgers Point area, including the former City water treatment plan
 - Eastern Waterfront Employment Focus Area (expansion of the East 18th Street Specific Plan)
 - Hillcrest Station Area Focus Area
- e. Require the provision of fiber optic networks and other advanced telecommunications in new employment-generating developments.
- f. Maintain space in business parks for distribution and research uses. Attract a wide range of industries, which serve local and regional needs and contribute to the community's economic vitality, and at the same time protect the local environment and quality of life.
- g. Seek innovative ways to reduce the cost of infrastructure provision for employment-generating and commercial development (e.g., providing incentives for the provision

of infrastructure serving employment-generating and commercial development areas as part of the residential development allocation system).

6.4 CITY FISCAL HEALTH OBJECTIVES AND POLICIES

The City of Antioch's fiscal health is determined by an important balance among many factors including retail and commercial growth, residential growth, available commercial and residential sites, job creation, affordable housing for all economic groups, and transportation systems. This balance is the ultimate goal in providing Antioch with the necessary resources to sustain a high quality of life for its residents.

Antioch's operating revenues and expenditures determine its fiscal condition. Revenue sources include taxes, fees, assessments, rent on City-owned facilities, interest on City investments, and transfers from the state and federal governments. Expenditures include the costs of government operations, police protection, community development, maintenance of capital facilities, and park and recreation services. The land use changes called for in the General Plan will have fiscal consequences for Antioch. By substantially increasing its commercial and industrial base in relation to its residential base over the next 25 years, Antioch's long-term fiscal health will be significantly improved. Increases in business activity will boost revenues collected by the City from property taxes, sales and use taxes, and other sources. Similarly, population expansion resulting from residential development will add to City revenues. At the same time, the City's operating costs will rise as the City provides services to existing and new residents and businesses.

6.4.1 Fiscal Health Objective

Ensure the fiscal and financial health of the City.

6.4.2 Fiscal Health Policies

- a. Require new development to pay for its infrastructure¹, its share of public and community facilities, and the incremental operating costs it imposes on the City.
 - New development shall construct and/or pay for new on-site capital improvements required by their projects consistent with the performance standards set forth in the Growth Management Element.
 - New development shall ensure that all new off-site capital improvements required by their project are available consistent with the performance standards set forth in the Growth Management Element.
 - New development shall provide for public services consistent with the performance standards set forth in the Growth Management Element.
 - New development shall incorporate such features as to ensure that it will not increase the cost of public services provided to existing development.
- b. Encourage the establishment and expansion of local businesses and development of commercial and other properties producing retail sales taxes, transient occupancy taxes, and high assessed valuation by providing assistance with financing, local processing, and environmental permitting.
- c. Encourage and assist the development of hotels and other tourist-related uses at sites within and near Rivertown along the river.
- d. Provide incentives for Downtown/Rivertown district revitalization with various programs such as the current Restaurant Incentive Grant Program, façade improvement programs, and other creative programs that may be considered from time to time.
- e. Determine the need for a fiscal impact analysis to be conducted as part of the development review process to provide input into assessment of the overall fiscal impact of development within the City, and to determine what costs to the City, if any, should be mitigated.
- f. As part of the development review of office, business park, and industrial development within Antioch, seek opportunities for the designation of these uses as "point of sale."
- g. Pursue the continued use and expansion of the Contra Costa fairgrounds as a major regional-serving recreation, entertainment, and cultural center.
- h. Design redevelopment project areas to include a sufficient number of high property value uses so that the City can take advantage of opportunities to attract sales tax-generating uses that might not create substantial property tax increments.

¹ Participation in a land-based financing project in the absence of direct financial contributions or actual construction of facilities will be considered as meeting this policy if the performance standards set forth in the Growth Management Element will be met.

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7.0 Circulation

7.1 INTRODUCTION

The Circulation Element addresses broad issues of physical mobility -- how people and goods move about within the community. Convenient and safe movement between home, work, school, shopping and recreation is an important component of Antioch's perceived quality of life and its economic prosperity, and serves as a framework for its overall pattern of development. The Circulation Element establishes official City policy to meet the need for safe and convenient movement of people and goods between land uses at the development intensity anticipated in the Land Use Element.

The Circulation Element represents Antioch's policies governing its transportation system, including:

- roadways and intersections;
- pedestrian and bicycle paths; and
- bus and rail transit.

Circulation is one of the most pervasive issues of the General Plan, and is related to land use, community design, growth management, economic development, air quality, energy consumption, and the City's infrastructure¹. Antioch's transportation issues affect more than just the City, and are of a regional nature, involving regional, State, and Federal agencies, as well as adjacent communities.

7.1.1 Existing Roadway Network

State Route (SR) 4 and SR 160 provide direct access to Antioch. SR 4 runs east-west, connecting Antioch with Oakley, Brentwood, Pittsburg, I-680, Martinez, Pinole, and I-80. SR 4 is a divided freeway from I-680 east through Concord, Pittsburg, and Antioch, and

is currently a two-lane roadway through Oakley and Brentwood. SR 4 has been one of the more congested freeways in Contra Costa, in particular, the segments between Lone Tree Way and Railroad Avenue in the morning and Bailey Road to Lone Tree Way in the afternoon, and is in the process of being widened. On- and off-ramps between SR 4 and Antioch's local street network occur at East Eighteenth Street, Hillcrest Avenue, A Street/Lone Tree Way, G Street, L Street/Contra Loma Boulevard, and Somersville Road.

SR 160 begins at the East Eighteenth Street/SR 4 junction, and continues north over the San Joaquin River via the Antioch Bridge to Rio Vista and Sacramento. Access to and from SR 160 and Antioch's local street network occurs at Wilbur Avenue south of the Antioch Bridge.

Primary arterials provide access to Pittsburg to the west, Oakley and Brentwood to the east, and rural Contra Costa County to the south. The major thoroughfares in Antioch are identified in Table IV.D-1. Each major arterial is briefly described below.

A Street/Lone Tree Way. A Street runs between downtown Antioch and SR 4 providing direct access to the Rivertown District. South of SR 4, A Street becomes Lone Tree Way, and continues southeast into Brentwood.

Deer Valley Road. Deer Valley Road runs north-south beginning in the north at the Hillcrest Avenue/Davison Drive junction and ending in the south at Marsh Creek Road, south of the City's boundary in Contra Costa County.

Hillcrest Avenue. Hillcrest Avenue is located in eastern Antioch on both sides of SR 4 linking the area north of East Eighteenth Street to Prewett Ranch Road.

¹ State law specifically recognizes the relationship between the Circulation Element and the Land Use Element, requiring these two components of a City's General Plan to be correlated.

Table 7.A – Primary Arterials in Antioch

Arterial	Activity Centers Served
North/South Direction	
A Street/Lone Tree Way	Antioch City Park, SR 4, Sutter Delta Medical Center, Prewett Park
Deer Valley Road	Prewett Park
Hillcrest Avenue	Hillcrest Park & Ride lot, SR 4
L Street/Contra Loma Blvd.	Contra Costa County Fairgrounds
Somersville Road	County East Mall, Black Diamond Mines Regional Preserve
Dallas Ranch Road	Sand Creek Specific Plan, including proposed golf course and employment-generating areas.
East/West Direction	
Eighteenth Street	Employment Development Department, County Library, Oak View Memorial Park, SR 4
James Donlon Blvd.	Antioch Community Park
West Fourth Street/A Street extension	Downtown
West Tenth Street	Downtown
Wilbur Avenue	SR 160
Davison Drive	Commercial uses along Lone Tree Way and Hillcrest Avenue
Buchanan Road	Regional connection to the west of Antioch

L Street/Contra Loma Boulevard. L Street runs north-south in northern Antioch between SR 4 and West Tenth Street. Contra Loma Boulevard runs north-south in southern Antioch between SR 4 and James Donlon Boulevard.

Somersville Road. Somersville Road runs north-south in western Antioch on both sides of SR 4 providing access to the Pittsburg-Antioch Highway and Buchanan Road.

Eighteenth Street. Eighteenth Street is located north of SR 4 and runs parallel to SR 4. Eighteenth Street acts as a major arterial between A Street and the SR 4/SR 160 junction.

James Donlon Boulevard. James Donlon Boulevard connects Lone Tree Way and Somersville Road, and provides east-west access through the southwest quadrant of Antioch.

West Fourth Street/A Street Extension. West Fourth Street and West Sixth Street and the A Street Extension provide east-west access in Downtown Antioch. West Fourth Street is the main arterial between Somersville Road and G Street. The A Street extension is the main connector between the eastern portion of the downtown area and the SR 4 freeway.

West Tenth Street. West Tenth Street provides east-west access in downtown Antioch between Somersville Road and A Street. West of Somersville Road, West Tenth Street becomes the Pittsburg/Antioch Highway, serving industrial uses and providing a regional roadway connection to the west of Antioch.

Wilbur Avenue. Wilbur Avenue provides east-west access in northeastern Antioch, and becomes a major arterial between A Street and SR 160.

Dallas Ranch Road. Dallas Ranch Road provides north-south access between Lone Tree Way and the Sand Creek Specific Plan Focus Area. Dallas Ranch Road will serve as one of the primary routes into the Sand Creek Focus Area.

Buchanan Road. Buchanan Road runs east-west between Contra Loma Boulevard and the westerly City limit. Buchanan Road serves as one of the primary routes to the west of Antioch.

Davison Drive. Davison Drive is located south of Hwy 4 and serves as an east-west connection between Lone Tree Way and Hillcrest Avenue.

7.1.2 Rail Facilities

Burlington Northern Santa Fe (BNSF) and Union Pacific (UP) both have railroad tracks running through Antioch. The BNSF tracks run along the southern bank of the San Joaquin River, and the UP tracks run adjacent to SR 4. Grade-separated railroad intersections exist at McElheny Road, Wilbur Avenue and SR 4 for the BNSF line. Grade-separated intersections exist at G and L Streets, Cavallo Road and SR 4 for the UP line. The number of trains using the UP tracks is minimal. UP is considering sale of the right-of-way.

Amtrak offers passenger rail service to Antioch on the BNSF, which services the Oakland-Bakersfield corridor. The train station is located at the foot of I Street, and is also served by Tri-Delta Transit. Four round-trip San Joaquin route passenger trains run on BNSF's tracks 7 days a week.

Between 1995 and 2000, ridership increased by approximately 24 percent, nearly 5 percent annually. Antioch-Pittsburg riders comprise less than 2 percent of all passengers on the San Joaquin route. Freight activity on the UP tracks creates significant disturbances to roadway traffic at the existing A Street and Somersville Road at-grade crossings.

7.1.3 Existing Transit Service

Tri Delta Transit provides transit service to Antioch as well as to Shore Acres, Bay Point, Pittsburg, Oakley, and Brentwood. Tri-Delta Transit also provides connections to and from the Bay Point/Pittsburg BART station, Martinez, and the Bishop Ranch. Transfers to County Connection's Route 930C, which services Pittsburg, Concord, Walnut Creek

and the Walnut Creek BART station are possible at the Hillcrest Park & Ride lot.

About nine westbound or eastbound Tri Delta Transit buses serve the Hillcrest Park & Ride lot and the Pittsburg/Bay Point BART station during the a.m. and p.m. peak hours. Between six and seven buses serve the Sutter Delta Medical Center in Antioch during the a.m. and p.m. peak hours.

7.1.4 Existing Bicycle and Pedestrian Facilities

Existing and proposed bikeway facilities in Antioch are distributed throughout Antioch, and are listed in Table 7.B. Class I facilities are bike paths that exclude motor vehicle access. Class II facilities are designated bike lanes that provide a space in the road for bicycle travel. Class III facilities are bicycle routes that provide signage to alert bicyclists and motorists that a bicycle route exists.

Pedestrian access is available throughout the developed areas of Antioch, including sidewalks, wheelchair ramps, and crosswalks. Many outlying areas are still rural in character, and do not have sidewalks, including Wilbur Avenue between Viera Avenue and SR 160, and Lone Tree Way east of Heidorn Ranch Road. Pedestrian and bicycle facilities will be provided in accordance with the General Plan as future development proceeds.

Table 7.B – Existing and Proposed Bicycle Facilities

Existing Class I Trails	
Delta De Anza Trail	From Pittsburg City Limit to Hillcrest Ave. along the Contra Costa Canal
Mokelumne Trail (EBMUD right-of-way)	From Buchanan Rd. to Hillcrest Ave.
North of Lone Tree Way	Between Hillcrest Ave. and the curve of Fairside Wy.
Adjacent to PG&E power lines	From Prewitt Family Park north
Creek trail	Buchanan Rd. to Sequoia Dr.
South Antioch trail	Empire Mine Rd. to Woodhaven Wy.

Table 7.B – Existing and Proposed Bicycle Facilities (continued)

Existing Class II Lanes		Existing Class III Shared Routes	
Buchanan Rd.	From Contra Loma Blvd. to Somersville Rd.	Bluerock Dr.	From Lone Tree Wy. to Deer Valley Rd.
Canada Valley Rd.	From Laurel Rd. to Vista Grande	Buchanan Blvd.	Pittsburg city limits to Contra Loma Blvd.
Contra Loma Blvd.	From James Donlon Blvd. to SR 4	Country Hills Dr.	From Deer Valley Rd. to Hillcrest Ave.
Country Hills Dr.	From Hillcrest Ave. to 2 mi. east of Vista Grande; Lone Tree Wy. to Deer Valley Rd.	Canada Valley Rd.	From Vista Grande to Lone Tree Wy.
Dallas Ranch Rd.	From Lone Tree Wy. to Mokelumne Dr.	Country Hills Dr.	From 2 miles east of Vista Grande to SR 4 By-pass
Davison Dr.	From Lone Tree Wy. to Hillcrest Ave./ Deer Valley Rd.	Fitzuren Wy.	Contra Loma Blvd. to "G" St.
Deer Valley Rd.	From Hillcrest Ave. to 800 feet South of Prewett Ranch Rd.	"L" St.	10th St. to 9th St.
Eighteenth Street	Safe routes to school project from "D" to "L" St..	Laurel Rd.	From Canada Valley Rd. to Laurel Rd. in Oakley
Frederickson Lane	From Hanson Dr. to Golf Course Rd.	Ninth St.	"L" St. to "A" St.
Golf Course Rd.	From Lone Tree Wy. to Mt. Hamilton Rd.	Tenth St.	Somersville Road to "L" St.
Hillcrest Ave.	From SR4 to Prewett Ranch Rd.	Tregallis Wy.	"G" Street to Hillcrest Ave.
James Donlon Blvd.	From Lone Tree Wy. to Somersville Rd.	Wilbur Avenue	A Street to SR 160
Laurel Rd.	From Hillcrest Ave. to Canada Valley Rd.	Proposed Facilities (Class II, unless otherwise noted)	
Lone Tree Wy.	From James Donlon Blvd. to SR 4	Mokelumne EBMUD ROW	Extend from Hillcrest Ave. to Brentwood, crossing SR4 By-pass (Class I)
Mokelumne Dr.	From Lone Tree Wy. to Prewett Ranch Rd.	Dallas Ranch Rd.	Extend lanes south
Mt. Hamilton Dr.	From Dallas Ranch Rd. to Golf Course Rd.	James Donlon Blvd.	Extend from Somersville Rd. to Pittsburg
Muirwood Dr.	From Bamboo Wy. to Mt. Hamilton Dr.	Wild Horse Road	Will be extended east to the SP rail line
Pittsburg-Antioch Highway	From L Street to western city limits	Canada Valley Rd.	Extend from vista Grande to Lone Tree Wy.
Prewett Ranch Rd.	From Dallas Ranch Rd. to Hillcrest Ave.	Country Hills Dr.	Extend to the SR 4 By-pass
Sycamore Dr.	From Somersville Rd. to L Street	Delta DeAnza Trail	Extend to Neroly Rd.
Via Dora Dr.	From Deerfield Dr. to Hillcrest Ave.	Fitzuren Way	Contra Loma Blvd. to "G" St.
Wild Horse Rd.	From Hillcrest Ave. to Meadow Lake	Hillcrest Ave.	Extend from East 18 th St. to SR 4
		Laurel Rd.	Connect to Laurel Rd. In Oakley
		Buchanan Road	Construct bicycle lanes or route to connect Delta-De Anza and Mokelumne trails; Pittsburg city limits to Contra Loma Blvd.
		Rivertown-Southeast Antioch	Construct bicycle lanes connecting Rivertown to Southeast Antioch

Note: Class indicates the type of bicycle facility (bikeway). Class I represents separate, multi-use trails or paths. Class II represents striped, bicycle lanes on roadways. Class III represents signed bicycle routes sharing the roadway. The City of Antioch adopted TRANSPLAN's East Contra Costa Bikeway Plan in November

of 2001. In this plan, the City of Antioch affirmed the 'North of Highway 4' and 'South of Highway 4' trunk bicycle routes. All the facilities listed Plan are listed in Table 7.B.

The Contra Costa Transportation Authority has completed and adopted a Countywide Bicycle Plan, which has also been adopted by the City of Antioch.

7.1.5 Parking

Parking requirements and standards for development within the City of Antioch are incorporated into the City's Zoning Ordinance. Parking facilities appear to be adequate throughout the community, including the Downtown and other commercial areas.

7.1.6 Regional Planned Transportation Improvements

Several planned and programmed transportation improvements have been programmed for completion in the seven year Capital Improvement Program (CIP) contained in the Contra Costa Transportation Authority's *2001 Update to the Contra Costa Countywide Congestion Management Program (CMP)*. The County CMP provides the overall direction and approach for the regional transportation system, and includes specific projects that may affect the future regional transportation system. The projects included in the CIP are those that:

- the County Transportation Authority proposes for programming through the State and Federal funding cycles;
- are already programmed;
- are proposed for funding through the Metropolitan Transportation Commission's Regional Transportation Improvement Program (RTIP) and Federal processes;
- encompass Transportation for Clean Air bicycle projects; and
- are developer-funded projects where funding through fee programs is imminent.

The following regional roadway and transit improvements within the City of Antioch are identified in the *2001 Update*:

Planned SR 4 Improvements

- Widen from four to six mixed-flow lanes from Loveridge to SR 160 (Phase 1).
- Widen from six to eight lanes (six mixed-flow lanes and two HOV lanes, with a median to accommodate future BART extension) for its ultimate configuration.
- Construct a new interchange at Contra Loma Boulevard.
- Improve the Hillcrest interchange, including signalization, frontage road, and park-and-ride lot in the northeast quadrant.

SR 4 By-Pass

- Phase 1
 - Construct a four-lane expressway from SR 4 to Lone Tree Way with partial interchanges at SR 4 and Lone Tree Way, and an intersection at Laurel Road.
 - Construct a two-lane roadway from Lone Tree Way to Balfour Road with at-grade intersections at Balfour Road, Sand Creek Road, and Lone Tree Way, along with construction of one mile of Sand Creek Road east to Fairview.
- Phase 2
 - Widen to four lanes from Lone Tree Way to Balfour Road;
 - Construct a freeway-to-freeway interchange with connectors at SR 160;
 - Construct full interchanges at Laurel Road and Lone Tree Way;
 - Upgrade the entire length of the Bypass to four-lane freeway status, with full interchanges constructed at Balfour, Sand Creek, and Marsh Creek.

Arterials and Roadways

- Buchanan Road: widen to four lanes between Somersville Road and the Antioch city limits.
- Deer Valley Road: widen from Prewett Ranch to south of Balfour.
- East Eighteenth Street: widen to four lanes from Hillcrest to Cavallo.
- East Eighteenth Street: widen to four lanes with a median from SR 160 to Viera.
- Hillcrest Avenue: widen from Prewett Ranch to south of Balfour (developer funded).
- James Donlon Boulevard: extend from Somersville Road to Standard Oil Road (developer funded).
- Lone Tree Way and Hillcrest Avenue: widen to six lanes, plus turn lanes.
- Lone Tree Way: widen at James Donlon to six lanes.
- Lone Tree Way: widen to six lanes, construct a median, turn lanes and a bike path on the north side from Heidorn to SR 4 By-pass.
- Pittsburg-Antioch Highway: widen to four lanes from Somersville Road to the Antioch city limits.
- Somersville Road: widen to four lanes from Buchanan Road to James Donlon Boulevard and reconstruct the bridge over the Contra Costa Canal.
- Standard Oil Road: construct a new two-lane arterial.
- Wilbur Avenue: widen to four lanes from the BNSF railroad to SR 160.

Transit

- Extend rail service connected to BART easterly to a station at or near Hillcrest Avenue, and into Brentwood along the SR 4 By-pass.
- Establish Tri Delta Transit express bus commuter service between Antioch, Oakley, and Brentwood to Concord and to

Lawrence Livermore Laboratory in Livermore.

- Construct park and ride lots at the Somersville Road/SR 4 and future SR 4 By-pass/Lone Tree Way intersections.

Systems Management

- Lone Tree Way: interconnect signals from Davison to Empire.
- SR 4 Corridor Signal Interconnect: interconnect 50 signals on Leland, Delta Fair, and Somersville, as well as at freeway interchanges on SR 4; install traffic responsive coordination plans.

The East Contra Costa Fee and Financing Authority imposes a fee to fund the widening of SR 4, the SR 4 Bypass and other East County projects.

7.2 GOALS OF THE CIRCULATION ELEMENT

To provide for a sustained high quality of life, it is the goal of the Circulation Element to achieve and maintain a balanced, safe, problem-free transportation system that:

- *improves present traffic flows and provides easy and convenient access to all areas of the community;*
- *is safe for all modes of motorized and non-motorized transportation;*
- *reduces dependence on single occupant automobile travel by providing a high level of pedestrian, bicycle, and public transit travel opportunities; and*
- *preserves a sense of comfort and well-being throughout the community by reducing the intrusiveness of commercial, business park, and industrial traffic, rail traffic, and regional traffic on neighborhood streets and residents' quality of life.*

Antioch recognizes that even by constantly expanding the local roadway network and providing an ongoing

sequence of programmed street improvements, problems of traffic congestion will continue. Providing a real solution to traffic congestion requires a balanced approach to future transportation improvements. An efficient transportation system needs to offer Antioch area residents not only efficient automobile traffic distribution, but also viable alternatives to automobile travel. The General Plan aims to increase the balance between various modes of transportation by increasing the desirability of transit, walking, and bicycling. The General Plan also coordinates land use, transportation, and air quality concepts and strategies. General Plan objectives are designed to improve traffic flow, local air quality, and energy conservation. To achieve this of balance, the City of Antioch will:

- provide for the efficient movement of vehicles by designing, constructing, and maintaining a roadway circulation network, which will function at an acceptable level of service (LOS), as set forth in the Growth Management Element.
- expand the existing roadway system where it is feasible to do so, increasing its carrying capacity and eliminating congestion;
- regulate the intensity of future development in relation to the carrying capacity of Antioch roadways as part of ensuring that the performance standards of the Growth Management Element are met;
- provide a mix of land uses that realistically balances growth in the local employment and housing, increasing local employment opportunities and reducing the need for long commutes to work;
- ensure that each new development that would cumulatively contribute to the need for improvements provides appropriate mitigation;
- provide a system of bicycle routes and pedestrian links such that pedestrian and bicycle travel become safer and more useful for everyday tasks such as travel to shopping, work, and recreational facilities;
- achieve and maintain an organization of land uses which integrates places of residence, retail commerce, daily service needs, work, education, and recreation, thereby reducing the number and length of vehicular trips;
- require site plans for individual development projects to minimize or eliminate through traffic within residential neighborhoods;
- to the degree feasible, encourage mixed-use developments to reduce vehicle trips;
- improve the relationship of roadways with land uses, including regulating driveway access and development intensity where needed;
- improve the carrying capacity of existing roadways through implementation of transportation systems management concepts;
- participate in developing regional circulation improvement measures in cooperation with surrounding cities and Contra Costa County. Such measures may include, but are not limited to, the development of reciprocal traffic improvement fee programs; and
- implement the provisions of the Contra Costa County Congestion Management Program by requiring development projects to analyze and provide mitigation for traffic impacts on regional circulation facilities.

It is Antioch's intent to require new developments to mitigate their traffic impacts, either through construction of new roadways or participation in land-based financing mechanisms.

7.3 VEHICULAR CIRCULATION OBJECTIVE AND POLICIES

SR 4 has become increasingly congested due to continued residential, commercial, and industrial growth in Antioch and eastern Contra Costa County. Recognizing that the economic vitality and quality of life for residents of Antioch and the East County region are dependent upon the condition of SR 4, improvements are being made to the SR 4 freeway from Willow Pass to SR 160. Construction of a SR 4 By-pass from the SR 4/SR 160 interchange east into Brentwood is also being funded.

Traffic conditions on Antioch roadways are generally acceptable, with congestion developing at the intersections of major arterials and at freeway interchanges during peak hours. As traffic volumes increase throughout the City, it will be critical to improve the local roadway system to provide additional capacity, including extending or expanding existing roadways, constructing new roadways, and providing connections between existing roads. Construction of railroad grade separations at primary roadways and improving intersection operations to accommodate future traffic levels will also be important.

Figure 7.1 illustrates Antioch's roadway plan, which has been developed to provide acceptable access to and within the City of Antioch. This plan includes existing and proposed major thoroughfares, and the proposed locations of future rail transit stations. Antioch's roadway classifications consist of the following.

- **Freeways and Expressways.** Freeways are divided highways with full control of access and grade separations for all intersecting traffic flows. There are no intersections at-grade, traffic signals, pedestrians, or parking on freeways to interfere with the continuity of high capacity, high speed traffic flow. Freeways are designed to provide regional, rather than, local traffic movement. Expressways are partially developed freeways on which some or all

intersections are not grade separated. Like freeways, expressways do not provide direct access to adjacent land uses.

- **Arterials.** Arterials are the major streets, typically with four through lanes¹ that serve large volumes of through traffic between different sections of the urbanized area, and provide access to freeways and expressways. The primary function of arterials is to provide for through traffic movement. Although they may provide access to abutting land uses, such access is typically limited. Direct access for individual residential units is generally prohibited, but access into individual neighborhoods or multi-family developments may be permitted. Arterials need to have sufficient carrying capacity so as to prevent the undesirable diversion of through traffic into residential neighborhoods.
- **Collector Streets.** A collector street is a relatively moderate-speed, moderate-volume street, typically with two through lanes, designed for circulation within and between neighborhoods. These roads serve relatively short trips, and are meant to collect and distribute traffic from local streets to the arterial network. Direct access for individual residential units is generally discouraged, but access into individual neighborhoods or multi-family developments may be permitted.
- **Local Streets.** These streets are primarily used for access to individual abutting land uses. These streets are more pedestrian-oriented than collector or arterial roadways, and will also carry higher volumes of bicycle traffic. Through vehicular traffic is discouraged.

¹ Depending upon traffic volumes, arterials may have six or even eight through lanes. Additional left- and right-turn lanes are often provided at intersections.

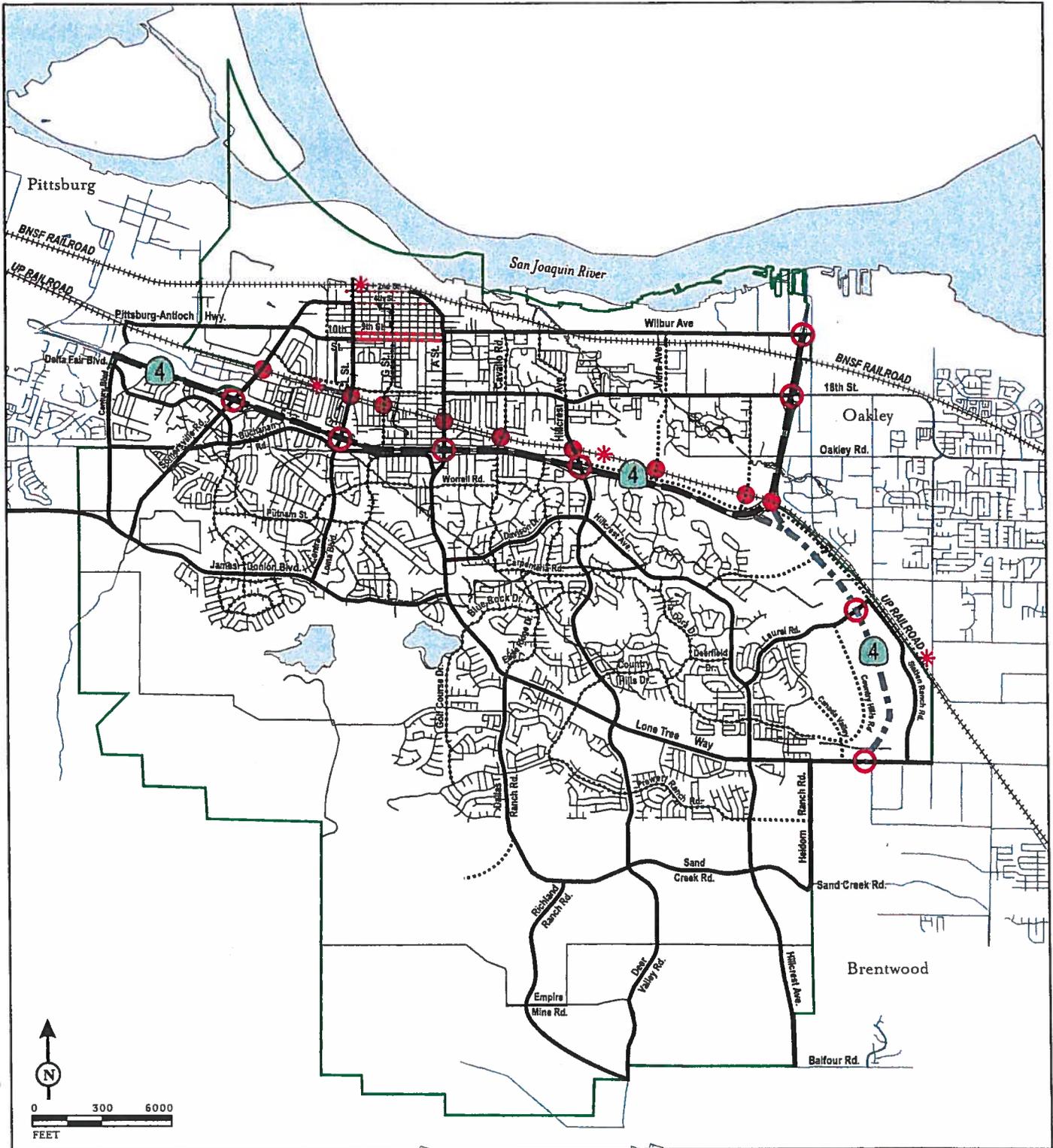


FIGURE 7.1

LSA

-  CITY OF ANTIOCH
-  PLANNING AREA BOUNDARY

- | | |
|---|---|
|  FREEWAYS |  RAIL |
|  ARTERIALS |  PROPOSED FREEWAY |
|  ARTERIAL (COUPLET) |  RAILROAD GRADE SEPARATION |
|  MAJOR COLLECTOR |  RAIL TRANSIT STATION |
|  MAJOR COLLECTOR (COUPLET) |  FREEWAY INTERCHANGE |

City of Antioch
General Plan
Circulation

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7.3.1 Vehicular Circulation Objective

Provide adequate roadway capacity to meet the roadway performance standards set forth in the Growth Management Element.

7.3.2 Vehicular Circulation Policies

- a. Facilitate meeting the roadway performance standards set forth in the Growth Management Element and improving traffic flow on arterial roadways.

Work with the UP and BNSF railroads to construct grade separations along the tracks at Somersville Road, Hillcrest Avenue, "A" Street, the proposed Viera Road extension, and the proposed Phillips Lane extension.

- Promote the design of roadways to optimize safe traffic flow within established roadway configurations by minimizing driveways and intersections, uncontrolled access to adjacent parcels, on-street parking, and frequent stops to the extent consistent with the character of adjacent land uses.
- Provide adequate capacity at intersections to accommodate future traffic volumes by installing intersection traffic improvements and traffic control devices, as needed, as development occurs.
- Facilitate the synchronization of traffic signals.
- Where needed, provide acceleration and deceleration lanes for commercial access drives.
- Provide for reciprocal access and parking agreements between adjacent land uses, thereby facilitating off-street vehicular movement between adjacent commercial and other non-residential uses.
- Encourage regional goods movement to remain on area freeways and other appropriate routes.

- b. Design and reconfigure collector and local roadways to improve circulation within and

connections to residential and commercial areas.

- Implement appropriate measures to mitigate speeding and other traffic impacts in residential areas.
 - Implement roadway patterns that limit through traffic on local residential streets.
- c. Require the design of new developments to focus through traffic onto arterial streets.
- d. Where feasible, design arterial roadways, including routes of regional significance, to provide better service than the minimum standards set forth in Measure C and the Growth Management Element. Thus, where feasible, the City will strive to maintain a "High D" level of service ($v/c = 0.85-0.89$) within regional commercial areas and at intersections within 1,000 feet of a freeway interchange. The City will also strive where feasible to maintain Low-range "D" ($v/c = 0.80-0.84$) in all other areas of the City, including freeway interchanges.
- e. Establish Assessment Districts in areas that will require major roadway infrastructure improvements that will benefit only that area of the City, and thereby facilitate the up-front construction of needed roadways.
- f. Design street intersections to ensure the safe passage of through traffic and accommodate anticipated turning movements. Implement intersection improvements consistent with the following lane geometrics, unless traffic analyses indicate the need for additional turn lanes.

Number of Through Lanes on Route	Intersection Turn Lanes	
	Intersections with 4-Lane Arterials	
	Left	Right
6 or 8	1	1
4	1	1
2 (Collector)	1	NA
2 (Local)	NA	NA
	Intersections with Collectors	
	Left	Right
6 or 8	1	1
4	1	NA
2 (Collector)	1	NA
2 (Local)	NA	NA

- g. Where uses such as commercial centers that generate heavy traffic volumes are located along arterial roadways, provide acceleration and deceleration lanes as needed to maintain the carrying capacity of through traffic lanes.
- h. Require traffic impact studies for all new developments that propose to increase the approved density or intensity of development or are projected to generate 50 peak hour trips or more at any intersection of Circulation Element roadways. The purpose of these studies is to demonstrate that:
 - the existing roadway system, along with roads to be improved by the proposed project, can meet the performance standards set forth in Sections 3.4.1 and 3.4.2 of the Growth Management Element, and
 - required findings of consistency with the provisions of the Growth Management Element can be made.
- i. Require the preparation of a traffic management plan for special event uses to serve major events (e.g. fairs, festivals, sporting events), where traffic volumes that are generated less than 45 times per year would exceed the roadway performance standards set forth in the Growth Management Element. Such special event venues shall be required to

provide sufficient manual traffic control as to maintain consistency with Growth Management Element roadway performance standards. Evaluate the traffic impacts of special event uses based on factors specifically related to the special event, rather than those of a typical development (e.g., traffic patterns, hourly flow, and presence of manual traffic controls).

- j. Require that existing driveways that are unnecessary or substandard be removed or upgraded, wherever feasible, in conjunction with any on-site development or any adjacent street construction.
- k. Where single family residences have no feasible alternative but to front on collector or arterial roadways, require, wherever possible, that circular driveways or on-site turnarounds be provided to eliminate the need for residents to back onto the street.
- l. Locate driveways on corner parcels as far away from the intersection as is possible.
- m. Avoid locating driveways within passenger waiting areas of bus stops or within bus bays. Locate driveways so that drivers will be able to see around bus stop improvements.
- n. Use raised medians as a method for achieving one or more of the following objectives: access control, separation of opposing traffic flows, left turn storage, aesthetic improvement, and/or pedestrian refuge.
- o. Where medians are constructed, provide openings at the maximum feasible intervals, typically no less than 1/8 mile.
- p. Where a series of traffic signals are provided along a route, facilitate the coordination of traffic signals to optimize traffic progression on a given route. Traffic signalization should emphasize facilitating access from neighborhood areas onto the City's primary roadway network, and should work to discourage through traffic from using local streets.
- q. Demand-actuated traffic signals should include push buttons to signal the need for pedestrians to cross, and include audible

- signals and countdown signs to assist the disabled in crossing streets. Demand-actuated traffic signals corresponding with bicycle routes should include bicycle sensitive loop detectors or push buttons adjacent to the curb.
- r. Avoid offset intersections along arterials and collectors. Intersections along local and minor residential collector streets may be offset within the subdivision as a means of discouraging through traffic.
 - s. Expand intersections to include additional turning and through lanes at intersections where needed to relieve congestion and improve intersection operation, so long as the intersection can continue to accommodate pedestrians and bicyclists. Avoid traffic system improvements that facilitate vehicular turning and bus movements, but that also discourage pedestrian or bicycle movements. This can be accomplished on wide streets by providing safe stopping places for pedestrian crossing the street.
 - t. Maintain the first priority for public streets of providing safe and efficient travel for the public with parking as a second priority.
 - u. Generally, permit parking on collector streets, with restrictions as needed to accommodate transit stops, on-street bicycle lanes, added lanes at intersections, or other operational requirements.
 - v. Private streets, where permitted, shall provide for adequate circulation and emergency vehicle access. Private streets that will accommodate more than 50 vehicles per hour in the peak hour or that are designed for on-street parking shall be designed to public street standards. The design of other private streets shall be subject to the review and approval of the City Engineer. Private streets shall be improved to public street standards prior to acceptance of dedications to the City.
 - w. Provide arterial and collector roadways within hillside areas with added rights-of-way as needed for roadway slopes, and no on-street parking in order to provide extra safety.
 - x. Require new development to construct all on-site roadways, including Circulation Element routes, and provide a fair share contribution for needed offsite improvements needed to maintain the roadway performance standards set forth in the Growth Management Element. Contributions for offsite improvements may be in the form of fees and/or physical improvements, as determined by the City Engineer. Costs associated with mitigating off-site traffic impacts should be allocated on the basis of trip generation, and should have provisions for lower rates for income-restricted lower income housing projects needed to meet the quantified objectives of the General Plan Housing Element.
 - y. Where feasible, require permitted General Plan land uses that generate high volumes of traffic to be located along major transportation corridors and near transit facilities to minimize vehicular use, congestion, and traffic delays.
 - z. Provide direct access between industrial areas and freeways, with truck routes avoiding residential areas to the extent possible.
 - aa. Design street systems serving industrial areas, including the primary routes accessing these areas to accommodate the movement of trucks.
 - bb. Pursue construction of public parking facilities within the downtown area to serve projected parking demand and facilitate mixed-use development without the need to meet off-street parking standards on each individual parcel.

7.4 NON-MOTORIZED TRANSPORTATION OBJECTIVE AND POLICIES

Bicycling and walking are key elements of Antioch's planned circulation system. The City currently has an extensive network of bikeways, sidewalks, and multi-use trails that

enhance neighborhood accessibility, and help to reduce reliance on the private automobile for mobility within the community.

There has been a resurgence of interest in bicycling, both for recreational purposes and as a quiet, non-polluting means of transport. Bikeways are becoming increasingly important because they are a non-polluting alternative mode of transport, and provide links to schools, civic and neighborhood centers, shopping, employment, and other trails within the region. Maintaining a system of bicycle facilities for Antioch is important, both as recreation and transportation. The hilly nature of the southern portion of the General Plan study area poses a constraint to the widespread use of bicycles as a means of transportation and recreation; however, despite the area's hilly terrain, there are many residents who would choose to use bicycles for transportation and recreation.

By striping bicycle routes throughout the City, riders will be able to travel with a greater sense of security. Thus, Antioch's vision is to establish a system of bikeways to encourage bicycle travel as an alternative when:

- commuting to school or work;
- riding for recreation or fitness along roadways; and
- riding off-road trails in the hills of Antioch.

To facilitate the use of bicycles in Antioch, the General Plan accomplishes the following:

- provides for the implementation of a system of bicycle facilities connecting residential areas to schools, parks, and employment and shopping areas;
- encourages the provision of bicycle parking, security, and other facilities at key destinations;
- recognizes Caltrans standards for bicycle and pedestrian facilities where they cross state highways; and
- provides safe routes for bicycles within the City.

The design of pedestrian-oriented neighborhoods with well connected streets and sidewalks, as well as convenient and safe connections to shopping, schools, and recreation encourages walking and bicycling.

7.4.1 Non-Motorized Transportation Objectives

Maintenance of a safe, convenient, and continuous network of pedestrian sidewalks, pathways, and bicycle facilities serving both experienced and casual bicyclists to facilitate bicycling and walking as alternatives to the automobile.

7.4.2 Non-Motorized Transportation Policies

- a. Design new residential neighborhoods to provide safe pedestrian and bicycle access to schools, parks and neighborhood commercial facilities.
- b. Design intersections for the safe passage of pedestrians and bicycles through the intersection.
- c. Provide street lighting that is attractive, functional, and appropriate to the character and scale of the neighborhood or area, and that contributes to vehicular, pedestrian, and bicycle safety.
- d. Maintain roadway designs that maintain mobility and accessibility for bicyclists and pedestrians.
- e. Integrate multi-use paths into creek corridors, railroad rights-of-way, utility corridors, and park facilities.
- f. Provide, as appropriate, bicycle lanes (Class II) or parallel bicycle/pedestrian paths (Class I) along all arterial streets and high volume collector streets, as well as along major access routes to schools and parks.
- g. Design new roadway bridges to meet Caltrans standards for bridges involving State highways, including bicycle lanes on all new bridges along Circulation Element roadways. Where provision of bicycle lanes is not feasible, undertake measures

- to provide alternative routes and to prohibit bicycle riding on bridge walkways.
- h. Require the provision of bicycle parking and other support facilities (e.g., racks or lockers) as part of new office and retail developments and public facilities.
 - i. Where shopping facilities are located adjacent to residential areas, provide direct access between residential and commercial uses without requiring pedestrians and bicyclists to travel completely around the commercial development.
 - j. Permit the sharing or parallel development of pedestrian walkways with bicycle paths, where this can be safely accomplished, in order to maximize the use of public rights-of-way.
 - k. Orient site design in non-residential areas to allow for safe and convenient pedestrian access from sidewalks, transit and bus stops, and other pedestrian facilities, in addition to access through required parking facilities.
 - l. Require the construction of attractive walkways in new residential, commercial, office, and industrial developments, including provision of shading for pedestrian paths.
 - m. Maximize visibility and access for pedestrians, and encourage the removal of barriers for safe and convenient movement of pedestrians.
 - n. Ensure that the site design of new developments provides for pedestrian access to existing and future transit routes and transit centers.
 - o. Pave walks and pedestrian pathways with a hard, all-weather surface that is easy to walk on. Walks and curbs should accommodate pedestrians with disabilities. Walks within open space areas should have specially paved surfaces that blend with the surrounding environment.
 - p. In general, design walks to provide a direct route for short to medium distance pedestrian trips, and to facilitate the

movement of large numbers of pedestrians. Meandering sidewalks are appropriate in areas where the natural topography or low-density land uses lend themselves to informal landscapes.

7.5 TRANSIT OBJECTIVE AND POLICIES

Transit is an important part of Antioch's transportation planning efforts. Expansion of bus service and extension of rail transit into the community will assist in easing the burden on the SR 4 freeway during peak commute hours. Bus and rail transit service will also improve access to Antioch's employment-generating areas, and provide mobility to transit-dependent populations (e.g., youth and senior citizens).

Smart growth principles being implemented throughout the nation have incorporated the concept of a "transit oasis." The transit oasis is a system that can provide transit service to concentrations of employment, community activities, and residences, consistent with the moderate development intensities of suburban communities such as Antioch. The concept of the transit oasis is to provide local bus service that is linked with regional transportation opportunities, commonly rail or light rail. Within proximity of the rail transit center, transit vehicles would be given priority on roadways (e.g., dedicated lanes and turn lanes) so they could operate at high frequencies and at regular intervals. A one-way transit loop, with stops within a five-minute walk, can effectively serve about 900 acres with a 10-minute frequency of service, and require only a single vehicle and a single lane right-of-way. Each of the transit centers proposed within Antioch could serve as the focal point of a transit oasis system. The transit center would be part of the transit oasis system.

7.5.1 Transit Objective

Maintenance of rail and bus transit, providing both local and regional service that is available throughout the week, and operates on par with automobile travel during peak commute hours.

7.5.2 Transit Policies

- a. Facilitate development of rail transit centers within the Hillcrest Station Area Focus Area and the East Lone Tree Focus Area by:
 - permitting higher residential densities and mixed-use development adjacent to the rail transit station;
 - working with Caltrans and the Contra Costa County Transportation Commission to provide freeway interchanges capable of serving these transit centers; and
 - working with BART, Amtrak, Tri-Delta Transit, and other transit providers toward the development and implementation of a transit oasis system within areas surrounding area transit centers, including establishment of a system of priority transit lanes or dedicated travel lanes in addition to those needed for vehicular travel to facilitate movement by transit oasis vehicles in areas surrounding the transit center.
- b. Permit higher residential densities and mixed-use development adjacent to the downtown Amtrak stop and other rail transit station(s).
- c. Approval of higher densities and mixed-use transit-oriented development shall be commensurate with the level of transit service being provided and conditioned upon the availability of adequate public services and facilities pursuant to the performance standards set forth in the Growth Management Element. Approval of such higher densities and mixed-use transit-oriented development shall be approved in anticipation of future transit service only when there is reasonable assurance that transit services will be available within one to two years of initial occupancy of transit-oriented development.
- d. Design transit stations to provide safe and convenient vehicular, bicycle, and pedestrian access.
- e. Cooperate with Caltrans, Tri-Delta Transit, BART, and other transit providers to establish park-and-ride lots at convenient locations.
- f. Pursue cooperation between local and regional transit providers to coordinate multi-modal transit connections (e.g., timed transfers connecting different transit routes and future rail service, bicycle parking at transit centers, and transit stops at park-and-ride lots).
- g. Preserve options for future transit use when designing roadway and highway improvements.
- h. Include Tri-Delta Transit in the review of new development projects, and require new development to provide transit improvements in proportion to traffic demands created by the project. Transit improvements may include direct and paved access to transit stops, provision of bus turnout areas and bus shelters, and roadway geometric designs to accommodate bus traffic.
- i. Encourage ridership on public transit through use of City information sources (e.g., City web site, and mail-outs) to provide information on transit services.
- j. Require community care facilities and large age-restricted developments (50 units or more, but excluding facilities designed for "active" adults) to provide transportation services for the convenience of residents.
- k. Work with the MTC, Contra Costa Transportation Authority, the Ports of San Francisco and Oakland, and water transit providers to determine the feasibility and establish commuter ferry service in Antioch.

8.0 Public Services and Facilities

8.1 INTRODUCTION

The purpose of the Public Services and Facilities Element is to define the types of levels of public services and facilities Antioch desires for its local taxpayers, and to set forth a well-conceived plan to manage the expansion of these services for a growing population and business community. The focus of this Element is providing the means to ensure that the capital facilities and public services needed to support build out of the land uses identified in the Land Use Element, while maintaining the service standards set forth in the Growth Management Element of the Antioch General Plan.

8.2 GOALS OF THE PUBLIC SERVICES AND FACILITIES ELEMENT

To provide for a sustained high quality of life, it is the goal of the Public Services and Facilities Element to accomplish the following:

- *Provide for the timely expansion of high quality public services and infrastructure to serve existing and future residents, businesses, recreational facilities, and other facilities within the City of Antioch consistent with the service levels set forth in the Growth Management Element.*

Antioch recognizes that it must find a balance between the high quality and level of services desired by the community and the financial ability of the City and other service agencies to provide these services and infrastructure. Thus, Antioch cannot provide all the services and facilities other agencies have found they cannot afford to provide, nor can the City spend more on the provision of services and facilities than it receives in revenues. Recognizing that the City cannot and should not "go it alone," the delivery of public services and facilities within the Antioch Planning Area occurs in one of three methods:

- **Direct Service.** Certain public services and facilities are most appropriately provided directly by the City, or by contractors who provide services pursuant to standards and requirements set by the City Council. The include services provided directly by the City within its boundaries, such as police protection, parks and recreation, water service (provided directly by the City), and maintenance of local sewer lines and streets. Solid waste collection and street construction are examples of contracted direct services.
- **Partnerships.** Certain functions are performed in partnership with other organizations. In these cases, Antioch's collaborative role is performed via financial support, technical assistance, coordination, or the creation of new organizations. Examples of such functions and partnerships include the provision of joint school/park sites, the Contra Costa County Transportation Commission, Metropolitan Transportation Authority, Association of Bay Area Governments (ABAG), East Contra Costa Regional Fee and Financing Authority, State Route 4 Bypass Authority, and the East Contra Costa Transportation Authority (Tri-Delta Transit).
- **Supporting the Community Agenda.** In addition to services provided directly by the City and those provided in partnership with other agencies, important public services are provided to the community by special districts and other outside agencies. Examples of these services include schools, fire protection, sewage treatment, flood control, and solid waste disposal. The City's role in the provision of these services is coordinating land development

activities with the expansion of services and facilities by the outside agencies providing the services. Although Antioch does not have the final say in the provision of services provided by outside agencies, in its role as the planning agency for the City, Antioch's policies and actions have substantial capacity to assist in the provision of services to the community.

The availability of adequate public services and facilities, including meeting the performance standards established in the Growth Management Element, is integral to permitting new development. As a result, if Antioch is to meet community goals such as maintaining a high quality of life, achieving a balance between local housing and employment opportunities, and providing of a wide range of shopping and recreational opportunities, it is critical that services and facilities be expanded in a timely manner. The most direct way of ensuring the timely expansion of services and facilities is for the City to control the provision of the public services and facilities needed to support community goals. Where such direct control is economically or administratively infeasible, a high level of coordination with the outside agencies provided needed and services is necessary.

8.3 COMMUNITY FACILITIES OBJECTIVE AND POLICIES

Community facilities include City Hall and other facilities needed to support daily operations of the City, as well as other buildings designed for community meetings, indoor recreational and instructional programs, and social activities. Existing community facilities include City Hall, the Nick Rodriguez Community Center, Prewett Family Park Center, and the Antioch Senior Center. Community facilities also include facilities such as the City corporation yard used to support general City maintenance functions. Together, these facilities serve two important

functions: providing important services to the community, and functioning as symbols of community identity and pride.

The following objective and policies are intended to facilitate meeting the performance objective and standards set forth in Section 3.5.1 of the General Plan (Growth Management Element).

8.3.1 Community Facilities Objective

Provide public and cultural facilities supportive of a high level of community activities, and facilitating conduct of the daily operations of municipal government.

8.3.2 Community Facilities Policies

- a. Maintain a centralized civic center within Rivertown to serve as a focus for civic and community social activities, including City Hall, as well as a performing arts theater for which both public and private investment would occur.
- b. Maintain a system of community centers to meet the needs of Antioch's residents for civic meetings, recreational activities, social gatherings, and senior and youth activities. These facilities should be distributed throughout the community, and may be associated with community parks or other public facilities. Specialized community centers providing citywide services for seniors and youth are also appropriate.
- c. Facilitate the establishment of a community theater within Rivertown, providing space for concerts, plays, lectures, and shows. Both indoor and outdoor theaters should be provided. The former Campanile Theater or another facility would be ideal within Rivertown, while an outdoor facility would be ideal at or adjacent to Rodgers Point.
- d. Work with the Contra Costa Library System to achieve and maintain facilities and titles consistent with the standards of the American Library Association.

8.4 WATER FACILITIES OBJECTIVE AND POLICIES

The City of Antioch operates a water treatment, storage, and distribution serving the entire City, as well as unincorporated areas within the City's sphere of influence. Raw water diverted by the City from the San Joaquin River and purchased from the Contra Costa Water District is stored in the Municipal Reservoir, located adjacent to the Lone Tree Golf Course, and then treated at the Antioch Water Treatment Plant, located on Putnam Street. After treatment, the water is transmitted through a distribution system of 4 to 30 inch pipelines throughout the City. In addition to the Municipal Reservoir and Water Treatment Plant, the City owns and operates 11 storage reservoirs with a combined storage capacity of 21.5 million gallons, six booster stations, and several backup wells. In the last several years, the City has increased the amount of water pumped from the San Joaquin River, and has the right to further increase diversions from the river.

The following objective and policies are intended to facilitate meeting the performance objective and standards set forth in Section 3.5.4 of the General Plan (Growth Management Element).

8.4.1 Water Facilities Objective

Ensure a water system capable of providing high quality water to existing and future residences, businesses, institutions, recreational facilities, and other uses within the City of Antioch during peak use conditions, with sufficient water in storage reservoirs for emergency and fire protection needs.

8.4.2 Water Facilities Policies

- a. As part of the design of water systems, provide adequate pumping and storage capacity for both drought and emergency conditions, as well as the ability to provide fire flows required by the Contra Costa County Fire Protection District.

- b. Ensure that adequate infrastructure is in place and operational prior to occupancy or new development, such that (1) new development will not negatively impact the performance of water facilities serving existing developed areas, and (2) the performance standards set forth in the Growth Management Element will continue to be met.
- c. Maintain an up-to-date master plan of water facilities.
- d. Maintain existing levels of water service by protecting and improving infrastructure, replacing water mains and pumping facilities as necessary, and improving the efficiency of water transmission facilities.
- e. Permit the construction of interim facilities only when it is found that construction of such facilities will not impair the financing or timely construction of master planned facilities.
- f. Periodically evaluate local water consumption patterns, the adequacy of existing facilities, and the need for new facilities, including this information in the comparison of proposed development projects to the performance standards of the Growth Management Element.
- g. Incorporate expected reductions in the need for water facilities resulting from water conservation programs only after several years of experience with the implementation of such programs.
- h. Provide the Contra Costa Water District with timely information on development proposals and projected levels of future growth so that it can maintain appropriate long-term master plans and refine the delivery of service and facilities to maintain the performance standards set forth in the Growth Management Element.

8.5 WASTEWATER MANAGEMENT OBJECTIVE AND POLICIES

The City is responsible for collection of wastewater and maintenance of local sewer lines. The City has over 190 miles of sewer

lines ranging in diameter from 6 inches to 3 feet. The Delta Diablo Sanitation District (DDSD) provides sewer treatment service to Antioch, as well as to Pittsburg and Bay Point. The Delta Diablo Sanitation District is responsible for conveyance of wastewater from City pipelines to interceptor sewers, which convey the sewage to the Bridgehead and Antioch pump stations, located in southeast Antioch and at Fulton Shipyard Road, respectively. The wastewater is treated at the DDSD wastewater treatment plant, located near the border of Antioch and Pittsburg.

Expansion of current facilities at the DDSD wastewater treatment plant was finished in 1990, increasing capacity from 13.5 mgd to 16.5 mgd. The next planned expansion will increase the plant capacity from 16.5 mgd to 22.5 mgd; however, DDSD estimates that this additional capacity will not be needed until after 2008. Funds for future plant expansion are collected by the City on behalf of DDSD from sewer connection fees.

The following objective and policies are intended to facilitate meeting the performance objective and standards set forth in Section 3.5.5 of the General Plan (Growth Management Element).

8.5.1 Wastewater Management Objective

Ensure a wastewater collection, treatment, and disposal system capable of providing sewer services to existing and future residences, businesses, institutions, recreational facilities, and other uses within the City of Antioch during peak use conditions.

8.5.2 Wastewater Management Policies

- a. As part of the design of sewer systems, provide adequate capacity for average and peak conditions.
- b. Ensure that adequate infrastructure is in place and operational prior to occupancy of new development, such that new development will (1) not negatively impact

the performance of sewer facilities serving existing developed areas, and (2) the performance standards set forth in the Growth Management Element will continue to be met.

- c. Maintain an up-to-date master plan of sewer facilities.
- d. Continue to facilitate economically feasible water conservation programs as a means of reducing sewage generation and the need for expanding sewage treatment capacity.
- e. Work with Delta Diablo Sanitation District to explore and develop uses for treated wastewater. Where reclaimed wastewater can be economically delivered, require the installation of dual water systems permitting the use of reclaimed water supplies for irrigation purposes and industrial purposes.
- f. Incorporate expected reductions in sewage flow projections and the need for sewage treatment capacity resulting from water conservation programs only after several years of experience with the implementation of such programs.
- g. Permit the construction of interim facilities only when it is found that construction of such facilities will not impair the financing or timely construction of master planned facilities.
- h. Periodically evaluate local sewage generation patterns, the adequacy of existing facilities, and the need for new facilities, including this information in the comparison of proposed development projects to the performance standards of the Growth Management Element.
- i. Provide the Delta Diablo Sanitary District with timely information on development proposals and projected levels of future growth so that it can maintain appropriate long-term master plans and refine the delivery of service and facilities to maintain the performance standards set forth in the Growth Management Element.
- j. Work cooperatively with affected agencies to ensure that capacity allocations are adjusted among the agencies swerved by

Delta Diablo Sanitation District to optimize plant utilization, avoid unnecessary expansions, and facilitate needed expansions.

8.6 SOLID WASTE MANAGEMENT OBJECTIVE AND POLICIES

Pleasant Hill Bayshore Disposal¹ currently provides solid waste collection, disposal, recycling, and yard waste services to the City through a franchise agreement. Solid waste and recyclables from Antioch are taken to the Contra Costa Transfer and Recovery Station¹ located in Martinez, where recyclables are separated out and stored before shipment to recycling markets. Solid waste is transferred from the transfer station to the Keller Canyon Landfill¹ in Pittsburg. The Landfill has a permitted lifetime site capacity of 64 million cubic yards, although the actual site capacity is estimated at over 70.2 million cubic yards. The operators of the landfill estimate its life span to be beyond 2060, even accounting for expected growth throughout Contra Costa County. The landfill serves the entire County, and accepts all general refuse, construction debris (including concrete, soil, and roofing materials), appliances, and tires, but no hazardous, flammable, or special wastes.

Six certified used oil centers in the City collect used household oil for recycling. The City of Antioch, in cooperation with its franchised waste hauler, Pleasant Hill Bayshore Disposal, has implemented a green waste program. Grass clippings, brush, weeds and leaves, prunings, hay, straw, tree trimmings and small tree branches are reused at the Keller Canyon Landfill as alternative daily cover. This reuse counts towards the City's solid waste diversion goal, and is an approved use by the California Integrated Waste Management Board. The

¹ Pleasant Hill Bayshore Disposal, Contra Costa Transfer & Recovery, and the Keller Canyon Landfill Company are wholly-owned subsidiaries of Allied Waste Industries, forming a vertically integrated solid waste and recyclables collection and disposal operation serving residential and commercial customers in Contra Costa and Solano Counties.

green waste is not disposed of "in" the landfill, but is generally blended with soil needed to cover the solid waste deposited at the landfill on a daily basis.

8.6.1 Solid Waste Management Objective

Reduce the amount of solid waste requiring disposal at landfills, enhancing the potential for recycling of the City's solid wastes.

8.6.2 Solid Waste Management Policies

- a. Continue contracting for garbage and recycling collection services.
- b. Require provision of attractive, convenient recycling bins and trash enclosures in new residential and non-residential development.
- c. Provide and promote opportunities to reduce solid waste generation at home and in businesses and public facilities, making possible the safe disposal of hazardous materials.
- d. Require builders to incorporate interior and exterior storage areas for recyclables into new commercial, industrial, and public buildings.
- e. Consider the use of co-generation at appropriate facilities.
- f. Support the identification and selection of new landfill sites in remote locations of the County outside of and not requiring access through the Antioch Planning Area, where such sites would not impact existing or proposed parks or water storage facilities.
- g. Limit the location of solid waste transfer stations to areas where heavy industrial uses would be appropriate, avoiding traffic, odor, and other environmental impacts on the community.
- h. The City of Antioch shall follow State regulations in implementing the goals, policies, and programs in order to achieve and maintain a 50 percent reduction in

solid waste disposal through source reduction, reuse, recycling, and composting.

- i. In accordance with State regulations, Antioch shall prepare an annual progress report to determine the City's progress toward meeting its diversion goals and objectives.
- j. The City shall require all development projects to coordinate with appropriate departments and/or agencies to ensure that there is adequate waste disposal capacity to meet the waste disposal requirements of the project, and the City shall recommend that all development projects incorporate measures to promote waste reduction, reuse, recycling, and composting.

8.7 STORM DRAINAGE AND FLOOD CONTROL OBJECTIVE AND POLICIES

The Contra Costa County Flood Control and Water Conservation District oversees stormwater collection and flood control within the Antioch Planning Area. The City has over 110 miles of trunk lines to collect stormwater, independent from the area's wastewater collection system. The stormwater trunk lines discharge to channels owned and maintained by both the City of Antioch and the Flood Control District.

The following objective and policies are intended to facilitate meeting the performance objective and standards set forth in Section 3.5.6 of the General Plan (Growth Management Element).

8.7.1 Storm Drainage and Flood Control Objective

Conduct all storm water via adequately sized storm drains and channels.

8.7.2 Storm Drainage and Flood Control Policies

- a. Continue working with the Contra Costa County Flood Control District to ensure that runoff from new development is adequately handled.
- b. Require adequate infrastructure to be in place and operational prior to occupancy of new development, such that:
 - new development will not negatively impact the performance of storm drain facilities serving existing developed areas and
 - the performance standards set forth in the Growth Management Element will continue to be met.
- c. Design flood control within existing creek areas to maximize protection of existing natural settings and habitat.
- d. Provide retention basins in recreation areas where feasible to reduce increases in the amount of runoff resulting from new development.
- e. Require new developments to provide erosion and sedimentation control measures to maintain the capacity of area storm drains and protect water quality.
- f. Require implementation of Best Management Practices in the design of drainage systems to reduce discharge of non-point source pollutants originating in streets, parking lots, paved industrial work areas, and open spaces involved with pesticide applications.

8.8 SCHOOL FACILITIES OBJECTIVE AND POLICIES

The majority of the Antioch Planning Area is served by the Antioch Unified School District. A small area in the southeastern portion of the Planning Area is served by the Brentwood School District (grades K-8) and the Liberty Union High School District (grades 9-12).

Availability of quality education facilities is one of Antioch's highest priorities. The high priority placed on schools by area residents is

reflective of the family-oriented nature of the community, and the community's commitment to its youth. In addition to being a leading indicator of residents' quality of life, high educational quality is also a key to implementing the community's economic development program.

However, present laws regulating school facility financing (SB50) place responsibility on the State and local school districts. State law also caps development fees for schools, and limits the ability of cities to require new development to provide new school facilities. In general, payment of development fees established by local school districts is considered to be "mitigation in full" for the impacts of such development on schools, whether or not the maximum fees allowable under the law are adequate to construct new facilities.

Although the construction of schools is the responsibility of local school districts and not the City, municipal development policies, along with the ups and downs of the housing market, significantly affect the rate at which new schools must be built. As a result, close cooperation between the City and local school districts is essential both for the districts and the City.

The following objective and policies are intended to facilitate meeting the performance objective and standards set forth in Section 3.5.8 of the General Plan (Growth Management Element).

8.8.1 School Facilities Objective

Cooperate with the Antioch Unified School District, Brentwood School District, and the Liberty Union High School District to facilitate the acquisition of sites and the construction of school facilities such that all school age children have access to uncrowded school facilities providing superior educational opportunities.

8.8.2 School Facilities Policies

a. Maintain clear, ongoing communications with area school districts on all matters

related to the need for and provision of school sites and other administrative, educational, and recreational facilities.

b. Coordinate the planning efforts of the City and local school districts by:

- locating school facilities to facilitate the primary educational purpose of the facility and allow for safe pedestrian, bicycle, and vehicular access, including the provision of traffic calming measures, where appropriate, in the vicinity of schools;
- maximizing the joint use of facilities by the City and local school district (including, joint school/park sites and, where feasible, joint use of athletic fields, community meeting facilities, and provision of child and senior care facilities) by developing joint funding for such facilities through a combination of school district and City sources, provided that City contributions to joint facilities are consistent with the availability of such joint facilities to meet non-school recreational and other community needs;
- designing attractive facilities that can also serve as neighborhood and community gathering places, and contribute to neighborhood identity and pride;
- requiring reasonable reservation of appropriate locations for development of new schools as part of new development;
- regularly exchanging information on (1) the status of development review and construction, (2) the capacity of area schools, (3) the status of site acquisitions by the districts, and (4) applicable student generation factors by type of development.

c. Require new development to pay all legally established fees or participate in land-based financing districts established by local school districts for the acquisition and development of school sites with

- adequate, permanent classroom space, as required by the local school district.
- d. Maintain land development regulations permitting the development of public and private educational facilities at appropriate locations within the Planning Area.
 - e. Provide incentives in the City's residential growth management program for the provision of developer assistance to local school districts beyond nominally required mitigation fees. The objective of such incentives is that the combination of required fees and incentives provide a full contribution proportional to the needs of the proposed development for all school-related facilities to serve the proposed project.
 - f. Work with Los Medanos College to further accessibility to and the quality of local community college education.
 - g. Work with public and private universities (e.g., CSU Hayward, University of Phoenix) to create satellite campuses within Antioch.
 - h. Work with trade schools (e.g., DeVry Institute, ITT Technical Institute, Bryman College) to locate new facilities in Antioch.

8.9 PARKS AND RECREATION OBJECTIVE AND POLICIES

Along with schools, the provision of parks and recreational programs is a high community priority, and an indicator of residents' quality of life. A significant emphasis has been placed on existing park development. As a result, the City owns and administers 31 parks, varying in size and amenities from the 2-acre Deerfield Park to the 99-acre Prewett Family Park. Over 400 acres of parks, open space areas, and marinas are located within the City, 200 acres of which are developed. The remaining 200 acres consist of acreage awaiting development or are areas managed exclusively as open space (e.g., Sunnyridge Park and trail system).

The City has two categories of parks: Neighborhood Parks and Community Parks. Neighborhood Parks serve the immediate

neighborhood or are a local attraction. Community Parks are community oriented, with facilities that attract users from all over the City, such as the Antioch Community Park, Antioch City Park, Prewett Family Park, and Barbara Price Marina Park.

The following objective and policies are intended to facilitate meeting the performance objective and standards set forth in Section 3.5.7 of the General Plan (Growth Management Element).

8.9.1 Parks and Recreation Objective

Maintain a system of parks, specialized recreational facilities, and natural open spaces of sufficient size and variety and in the appropriate locations to serve the needs of Antioch residents of all ages.

8.9.2 Parks and Recreation Policies

- a. Provide a comprehensive system of recreation and park facilities and services needed by various segments of the City's population -- including specific age groups, persons with special physical requirements, and groups interested in specific recreational activities -- and make these facilities and services easily accessible and affordable to all users.
- b. Provide a range of public parklands for use by the community including the following.

Neighborhood Park. A park or playground generally five to ten acres in size primarily developed to meet the recreational needs of citizens living within 0.5 to one mile.

Joint School/Park. A neighborhood park development, improved, and maintained on or adjacent to school grounds by the City. Joint school/park facilities are utilized jointly by students and residents from the surrounding neighborhoods. Since school facilities are only available for use by the general public when school is not in session, only half of the total acreage is to be applied to the City's park standard.

Community Park. A larger park or facility developed to meet the park and recreational needs of those living or working within a three to five mile radius. Community parks generally range in size from 10 to 60 acres.

Regional Park. A park having a wide range of improvements not usually found in neighborhood or community parks, and designed to meet recreational needs of an entire regional population. Regional parks are generally over 100 acres and serve a population within a 30-minute driving time. Regional parks are generally provided by County and State agencies, and are therefore not included in local park standards.

Specialized Recreation Areas. These include recreational areas of facilities devoted to specific activities or uses. Examples include linear parks (trails), sports and ball field complexes, swimming pools, river access and viewing areas, bicycle facilities, and riverfront trail and sitting areas, and marinas and boat launch facilities.

The facilities identified above, with the exception of regional parks devoted to preserving the natural environment, generally require relatively flat land. Areas over 10 percent slope will be reviewed by the City prior to dedication to determine the extent to which they serve the intended purposes of the park and to which dedication of such sloping lands will therefore be credited against the applicable performance standards of the Growth Management Element.

- c. Maintain a minimum size for neighborhood parks of five acres or more, unless there is a specific need for a smaller facility.
- d. Secure and develop a shoreline park along the San Joaquin River consisting of recreational trails, viewing areas, and natural habitat protection so as to ensure availability of the waterfront in the City for public enjoyment.
- e. Provide passive and active elements within neighborhood and community parks to meet the needs of citizens of all ages and interests, and thereby ensure that the need for lands for athletics and team sports is an equal to the provision of tranquil settings for picnicking, walking, and relaxation.
- f. Develop athletic field complexes and specialized recreation areas to accommodate the growing community needs for such facilities.
- g. Encourage the preservation of significant natural features and development of landscaped parkways and trail systems in new developments in addition to required park development.
- h. Work with Contra Costa County to establish joint use flood control/recreational facilities, including multi-use trails and open space along channels and creeks, and within detention basins.
- i. Provide incentives in the City's residential growth management program for the dedication and improvement of usable parklands beyond those normally required by the City.
- j. Provide incentives for private individuals to donate land and funds for park development to the City by establishing a means to accept tax-deductible donations, which may also include donation of equipment and facilities.
- k. Seek partnership opportunities with the private sector and non-profit organizations for the acquisition, development, and maintenance of park facilities and the provision of leisure activities.
- l. Recognize that high quality maintenance and upkeep of park facilities is necessary for the economic health of the community, and place appropriate priority on park maintenance.
- m. Locate new park facilities so that they are highly visible from adjacent streets and neighborhoods to increase safety and enhance visual quality.
- n. Require the provision of private play space for children in small lot single family subdivisions and attached residential developments.

- o. In addition to the provisions of the Quimby Act, pursue use of park fees through grants, the provisions of AB1600, and land-based financing districts.
- p. Establish limitations on the amount of private recreational facilities (e.g., swimming pools, tennis courts, and private parks) that can be substituted for public park dedication of payment of fees. Base such limitations on the extent of public access to the facilities and the extent to which such private facilities might serve public recreation needs.

8.10 FIRE PROTECTION OBJECTIVE AND POLICIES

The Contra Costa County Fire Protection District (CCCFPD) provides fire and emergency services to residents of the City of Antioch and adjacent unincorporated areas, including fire fighting and rescue, fire prevention and training, and emergency medical care.

Fire Fighting and Rescue. Five CCCFPD fire stations are located within the City of Antioch, each with a minimum of three personnel per engine company (Captain, an Engineer, and a Firefighter). All personnel are Emergency Medical Technicians with training in defibrillators (EMT-D) level and are paid professionals. In addition to the existing stations, two new stations are proposed to serve the Antioch area and a long-term plan for an additional station in southeast Antioch is also under consideration.

Fire Prevention. To prevent fire, the CCCFPD strongly recommends that wildland access, or access to existing open areas, be planned into all new subdivisions. Wildland areas must be accessible by fire trail gates to ensure expedient response to grass fires in open areas and fires within the subdivisions themselves. The CCCFPD also trains industries located in the City to prevent and respond to fires.

Emergency Medical Service (EMS). The CCCFPD is the first responder, or first on the scene of an emergency, providing

supplemental basic life support (BLS) and advanced life support (ALS). Transportation is provided by Emergency Medical Response (AMR), a private ambulance service contracted by the CCCFPD.

The following objective and policies are intended to facilitate meeting the performance objective and standards set forth in Section 3.5.2 of the General Plan (Growth Management Element).

8.10.1 Fire Protection Objective

Provision of an adequate number of fire stations, along with fire fighting personnel and equipment to protect Antioch residents and businesses.

8.10.2 Fire Protection Policies

- a. Work with the Contra Costa County Fire Protection District to provide high quality fire protection services to area residents and businesses. The City's role should include, but not be limited to:
 - Determining the appropriateness of station location sites;
 - Enforcement of building codes to reduce fire hazards;
 - Collection of mitigation fees established by the fire district to construct needed additional stations within the Antioch Planning Area.
 - Support the District in providing funding for personnel costs to staff stations within the City;
 - Support the District in establishing fees that are adequate to mitigate the impacts of new development and income to support operation of new stations whose construction is financed with development fees; and
 - Requiring reasonable reservation of appropriate sites for new fire stations as part of new development.
- b. In cooperation with the Contra Costa County Fire Protection District, conduct an annual assessment of the adequacy of

facilities and services serving Antioch, personnel and staffing needs, and capital needs, based on anticipated growth and the level of service standard set forth in the Growth Management Element. This assessment should be undertaken as part of the annual review of proposed capital projects required by the California Government code (see Chapter 12, Implementation, Section 12.4b).

- c. Provide the Contra Costa County Fire Protection District with timely information on development proposals and projected levels of future growth so that it can maintain appropriate long-term master plans and refine the delivery of service and facilities to maintain the performance standards set forth in the Growth Management Element.
- d. Involve the Fire Protection District in the development review process by referring development requests to the Fire District for review and comment.

8.11 POLICE SERVICES OBJECTIVE AND POLICIES

The Antioch Police Department provides crime prevention and law enforcement services within the City's boundaries. Operating from a central station within Rivertown, the Antioch Police Department maintains a combination of professional sworn officers and non-sworn positions, along with volunteer positions.

The Contra Costa County Sheriff's Department is responsible for crime prevention and law enforcement services within the unincorporated portions of the Planning Area, and maintains a station in the City of Oakley. The Sheriff's Department also provides safety services within the City in two capacities: patrolling the Contra Costa County Fairgrounds and responding to a City of Antioch "critical incident" in which a request has been made for "mutual aid."

Animal control services are provided through the Police Department, including programs promoting animal welfare and public awareness. The Antioch Animal Services

Center is responsible for the enforcement of local and State Laws relating to the care, control, and protection of animals, as well as the protection of area residents from animals. Animal control officers' responsibilities include picking up and confining stray, sick, injured, vicious, and dead animals; issuance of dog licenses; patrolling the City streets; control of animal nuisance problems; and animal euthanasia. The Animal Shelter also provides adoption, volunteer, and education.

The following objective and policies are intended to facilitate meeting the performance objective and standards set forth in Section 3.5.3 of the General Plan (Growth Management Element).

8.11.1 Police Services Objective

Reduce the risk of crime and provide security to Antioch residents and businesses through maintenance of an adequate force of police personnel, physical planning strategies, and a high level of public awareness and support for crime prevention.

8.11.2 Police Services Policies

- a. Provide an adequate police force meeting the performance standards for police services set forth in the Growth Management Element.
 - As part of the annual budget and capital improvements program, assess crime prevention and law enforcement services, and evaluate the adequacy of Antioch's facilities and services, personnel and staffing needs, and capital needs, based on anticipated growth and the level of service standard set forth in the Growth Management Element.
- b. Provide sufficient facilities and staffing to ensure the safety of the citizens of Antioch by:
 - Providing expedient response to emergency calls.
 - Maintaining an efficient well-trained and adequately equipped force of police personnel.

- Providing neighborhood watch and crime prevention programs, and attempting to improve the participation of individual neighborhoods and businesses.
 - Continuing to provide a variety of programs within the Police Department (e.g., traffic crime prevention, REACH, narcotics, investigations) to meet the needs of an active community.
- c. Provide basic requirements and incentives for the provision of design features in new development to reduce the potential for crime.
 - Provide well-lighted and visible streets and street names, entrances, addresses, recreation areas, and parking areas.
 - Limit access into and between buildings to reduce escape routes and undetected entry is made difficult.
 - Provide landscaping which permits surveillance of open areas and entryways, and does not create places for concealment.
 - Within multi-family and non-residential developments, design access systems to allow emergency vehicle access around buildings to the greatest extent possible.
 - Within multi-family and non-residential developments, eliminate the potential for access to roofs by pallets, flag poles, etc.
- d. Involve the Antioch Police Department in the development review process by referring development requests to the Police Department for review and comment.
- e. Promote community involvement in crime prevention.
 - Promote the establishment and operation of neighborhood watch, park watch, and business watch programs.
 - Work with area schools to maintain educational programs aimed at

preventing gang and drug-related activities.

8.12 SOCIAL SERVICES AND INSTITUTIONS OBJECTIVE AND POLICIES

At a time when federal and State government funding have been shifted away from social services, public recognition of the need for those services has increased at the local government level. The rise of the two-worker household, single parenting, latchkey children, an increasingly aging population, greater amounts of leisure time, and drug abuse have combined to raise the demand for child care, youth programs, and programs for senior citizens. As a result, many of the serviced benefiting Antioch residents and provided by private businesses and non-profit institutions. Although the City does not control the provision of these services, City actions can have the affect of facilitating or hindering provision of these services.

8.12.1 Social Services and Institutions Objective

Facilitate provision of social service programs to address the needs of a diverse population, including, but not limited to senior citizens, children, handicapped individuals, and the mentally ill.

8.12.2 Social and Institutions Services Policies

- a. Provide incentives in the City's residential growth management program for the provision of child and senior care facilities as part of new residential development.
- b. Collaborate with schools, businesses, non-profit agencies, religious organizations, law enforcement, and others to prioritize needs, and establish and expand programs and services for children and youth.
- c. Facilitate the provision of safe, affordable, and quality child and senior care services and facilities by providing a reasonable

range of sites where such facilities would be permitted within the City.

8.13 FINANCING EXPANSION OF PUBLIC SERVICES AND FACILITIES OBJECTIVE AND POLICIES

Provision of the services and facilities required by new development in a manner that will not impact services and facilities enjoyed by existing residents and businesses is a key to the success of the Antioch General Plan. Several basic approaches to financing the expansion of public facilities are available. The basic financing methods include having (1) having developers build infrastructure and also provide facilities, (2) financing facilities and infrastructure through development impact fees, and (3) use of assessment districts.

Developer financing of infrastructure is common for on-site improvements within the development itself. In some cases, however, large-scale facilities are needed that will be shared by more than one development, sometimes involving large portions of the City. When such facilities are needed, it may be difficult or impossible to have one developer construct or provide up-front financing on their own. In response, the City can offer "reimbursement agreements" to promote equity and offset the cost to individual developers of upsizing infrastructure or providing facilities that would serve other developments. Pursuant to these reimbursement agreements, developers who provide up-front infrastructure or facilities that would be shared with other, future, development projects would be reimbursed for this increased up-front expense by subsequent developments.

Many communities rely on development impact fees to fund such large-scale or "backbone" facilities. Development fees work well at equitably spreading the cost of new facilities among those who create the need. However, development fee systems generally result in gaps between the time that facilities are needed and the time that sufficient money has been collected to pay for them.

Development fee programs also require regular maintenance to ensure that the fees being charged are reasonably related to the impacts of individual development projects, and that they are sufficient to actually build the infrastructure and facilities they are intended for.

Where multiple ownerships or developments need to share major infrastructure, and where no individual ownership or development could reasonably afford to provide such major infrastructure on its own, assessment districts provide an attractive means of financing. Antioch has successfully used large-scale assessment districts in the past, and, as a result, has not suffered from infrastructure deficiencies to the extent that other communities have. However, the use of assessment districts can lead to situations where newer portions of the City receive a higher level of facilities than do older areas by virtue of paying higher taxes (in the form of assessments) than other portions of the City.

8.13.1 Financing Expansion of Public Services and Facilities Objective

Ensure that the expansion of public facilities occurs in an equitable manner such that new development pays for all of the infrastructure and public facilities required to support the development without impacting levels of service provided to existing residents and businesses.

8.13.2 Financing Expansion of Public Services and Facilities Policies

- a. Place the ultimate responsibility on the sponsor of proposed development projects for ensuring that the services and facilities needed to support the project and maintains applicable performance standards in the Growth Management Element are available at the time they are needed.
- b. Require that new development:
 - Participate in a land-based financing district, construct, and/or pay for the new onsite capital improvements required to meet the applicable

- performance standards of the Growth Management Element;
- Be phased so as to ensure the services and capital facilities used by the new development meet the applicable performance standards of the Growth Management Element;
 - Ensure that, in the event public services or off-site capital facilities do not meet the applicable performance standards of the Growth Management Element prior to approval of the project, the level of service provided to existing development will not be further impacted by new development.
- c. Continue to use special assessments as a means of financing infrastructure for future development areas where the establishment of land-based financing would equitably spread infrastructure costs.
- d. Where permitted by law, require that special assessments for single-family residential development be paid off at the time of the initial sale of homes to individuals.
- e. Continue to apply existing policies and regulations precluding City financial assistance for any on-site capital improvements required by new development.
- f. As part of new development proposals, determine whether any service level deficiencies might result, and place needed conditions on the proposed development to ensure that:
- Service level standards will continue to be met, and
 - New development will not result in any substantial, short- or long-term reduction in the level of municipal services provided by the City to existing developed areas.
- g. Encourage infill development which utilizes existing infrastructure, as well as the planning and development of large scale, self-sufficient, mixed use communities with integrated phasing and financing of public facilities.

9.0 Housing

9.1 INTRODUCTION AND PURPOSE

New Housing Element adopted under
Separate cover October 12, 2010.

10.0 Resource Management

10.1 INTRODUCTION

The focus of the Resource Management Element is on conservation and use of environmental resources and open space issues throughout the General Plan Planning Area. While the majority of the privately owned land within the present City limits has been developed or committed to development of urban uses, significant environmental and open space resources remain. The portion of the Planning Area outside of Antioch's present city boundaries is largely undeveloped, and also contains significant environmental and open space resources. As Antioch expands to the south and its population grows, as future industrial and employment-generating development occurs in the northern portion of the Planning Area, as Rodgers Point and a shoreline trail are developed along the San Joaquin River, the need to wisely manage natural resources will become more acute. This will entail balancing such competing objectives as the need for:

- Conservation of resources;
- Open space preservation,
- Adequate water and energy resources to support future populations;
- Providing public access to open space areas;
- Expanding existing roadway and highway systems;
- Ensuring housing for all economic segments of the community; and
- Ensuring economic development in a manner that protects Antioch's beautiful setting and enhances the quality of life of its residents.

The Resource Management Element addresses the use, management, and protection of environmental resources, including open space, biological resources, air quality, water resources, cultural resources, and energy resources. Combined, these

topics cover all major aspects of Antioch's natural setting, and encompass state requirements for preparation of General Plan Open Space and Conservation Elements. In many cases, there are overlaps in the issues addressed here with other elements of the General Plan. For example, hillside open space issues are addressed in the Community Image and Design Element (Section 5.4.14). Achieving a local balance between jobs and housing, as discussed in the Land Use and Economic Development Elements, and eliminating traffic congestion in the community are key components of maintaining good local air quality. Open space for the protection of public health and safety is addressed in the Hazards Element, while open space for public recreation is addressed in the Public Services and Facilities Element.

10.2 GOALS OF THE RESOURCE MANAGEMENT ELEMENT

To provide for a sustained high quality of life, it is the goal of the Resource Management Element to accomplish the following:

- *Conserve and enhance the unique natural beauty of Antioch's physical setting, and control the expansion of urban development by protecting open space where it is important to preserve natural environmental processes and areas of cultural and historical value.*

Open space provides a variety of community benefits, including recreation use, visual enjoyment, protection of habitat areas, and hazard protection. In Antioch, this means protecting the San Joaquin and natural creeks, as well as their adjoining natural beaches and shorelines. It also means opening up views of the River, and preserving views of Mt. Diablo and its foothills to protect the beauty of the physical setting of the City.

Inherent in Antioch's open space goal is provision of a wide range of recreational lands and facilities, including parks for active and passive recreation, special purpose and multi-use trails, and preservation of the natural environment for the enjoyment of area residents.

Protection of certain types of open space is required by law. The provisions of the state and federal endangered species acts, the federal Clean Water Act, and state requirements for stream alteration agreements all require mitigation of impacts on natural habitats. The provisions of the California Environmental Quality Act also require analysis and provision of mitigation for physical impacts on habitats and cultural resources. The City of Antioch recognizes its responsibility to act as a responsible steward for the natural environment, and to strike an appropriate balance between preserving that environment and providing lands for the housing, employment, and shopping needs of an expanding population.

- *Minimize the use of water and energy resources so as to ensure a sustainable long-term supply.*

The history of settlement in California -- from prehistoric native villages to modern urban development -- is largely tied to the availability of water. Throughout the state, groundwater resources are being overdrawn, while demands on large-scale water projects to continue supplying urban growth increase. Presently, every major urban area of the state requires the importation of water from distant sources. Without major statewide investment in costly water transport facilities, growth in some urban areas may eventually need to be curtailed for lack of dependable water supplies. During major droughts in the past, public awareness of the need for water conservation grew. This awareness slacked off during wet periods. Water resource projects for the state indicate that the need for significant, permanent water conservation will affect large areas of the State by 2020. Although the Contra Costa

Water District indicates that it has sufficient water supplies committed through 2040, the City's desire to achieve a balance between local jobs and housing means that local employment growth must occur in the future at a faster rate than has previously been projected. Thus, water conservation will need to become part of Antioch's overall vision and its economic development program.

The availability of reliable, cheap electrical and natural gas supplies was routinely taken for granted until the summer of 2000, when costs soared and rolling blackouts hit portions of the state. Crisis was averted with the construction of new power generating facilities and higher energy costs. As the immediacy of energy shortages fades, so has the public's willingness to reduce its energy consumption. However, electricity and natural gas demands of a growing statewide population will eventually outstrip the capacity of existing energy-generating facilities, and could plunge the state into another energy crisis. Thus, energy conservation also needs to become part of Antioch's overall vision.

10.3 OPEN SPACE OBJECTIVE AND POLICIES

As discussed in the Land Use Element, a great deal of open land remains in the Antioch Planning Area. Approximately 38 percent of the land within the City (6,383 acres) and nearly 46 percent of the land within the unincorporated portion of the General Plan Planning Area (2,240 acres) are undeveloped in open space use. Additional land (928 acres in the City and 381 acres in unincorporated areas) is in agricultural use. Overall, open space uses, including agriculture, open water, recreational lands, and vacant lands account for approximately half of the land within the City, and over 60 percent of the unincorporated land within the General Plan Study Area. Major open space areas include Black Diamond Mines and Contra Loma regional parks, Antioch Dunes National Wildlife Refuge, and municipal parklands.

Active Recreation Lands. City residents have access to a variety of local parks, recreational facilities, regional parks, and open space areas. The City oversees the local parks and recreational facilities, while the East Bay Regional Park District (EBRPD) oversees the regional facilities. The following description of open space and recreation facilities within the City of Antioch is divided into four sections: parks and recreation facilities; recreation programs; special use facilities; and regional facilities and trails.

The City owns and administers 28 parks, varying in size and amenities from the 2-acre Deerfield Park to the 99-acre Prewett Family Water Park. Over 400 acres of parks and open space areas are located within the City, 200 acres of which are developed. The remaining 200 acres consist of acreage awaiting development or are areas managed exclusively as open space.

The East Bay Regional Park District operates three facilities in the Antioch area, the largest of which is Black Diamond Mines Regional Preserve, a 5,984-acre open space area accessed by multiple use trails (i.e., pedestrian, bike, and equestrian trails). The Preserve offers naturalist programs, and visitors can tour the underground mining museum and a historic cemetery. Picnic areas and horse staging areas are also available. Two wilderness group camps are located in the southern portion of the park. Additional open space preserves are located to the southeast of Antioch adjacent to the Los Vaqueros reservoir and within the Cowell Ranch, which has recently become a State Park.

Contra Loma Regional Park, adjacent to the Lone Tree Golf Course on the southern edge of the City, is 775 acres in size. The park surrounds the Contra Loma Reservoir, and offers multiple use trails for hiking, biking, and horseback riding. The reservoir is available for fishing, boating, sailboarding, and swimming (in a separate swim lagoon). The Park also provides picnic areas, horseshoe pits, and a food concession stand. EBRPD also maintains the Antioch Regional Shoreline, which consists of 7 acres fronting the San

Joaquin River, north of downtown Antioch. The Shoreline has a 550-foot long fishing pier, a small beach, picnic tables and barbecues, and a 4.5-acre meadow. Swimming is not allowed at the Antioch Regional Shoreline Park.

The EBRPD also oversees the Delta DeAnza Regional Trail, which originates at Bay Point in the West Pittsburg area, and runs east to a connection with the Marsh Creek Trail in Oakley, with a connection to the Iron Horse Trail through the Concord Naval Weapons Station along the Contra Costa Canal Right of Way. The Trail crosses Antioch from its western boundary with Pittsburg at approximately Somersville Road, parallels the Contra Costa Canal to Wild Horse Road at Hillcrest Avenue, and runs to the Union Pacific Railroad tracks at Neroly Road in Oakley. An agreement with the railroad to permit a trail crossing is preventing the trail from being opened. When opened, the Delta de Anza Trail will extend from the Marsh Creek Trail in Brentwood to the Iron Horse Trail in Concord. The segment through Antioch is also part of the De Anza National Historic Trail.

Agriculture. Antioch is located in an area of Contra Costa County that has traditionally contained areas of land used for grazing, orchards, field and row crops. The City has approximately 5,600 acres of grazing and former agricultural lands.

Passive Open Space. Passive open space in and near the City of Antioch consists of hillsides, vacant lands, and the San Joaquin River. Views of natural features both within the City and of the surrounding topography are a valuable resource for many of the City's residents. Natural features that can be viewed from the City include Mt. Diablo, the surrounding ridgelines, and the San Joaquin River. These views contribute a feeling of community identity, as well as visual enjoyment.

The City is located on the southern bank of the San Joaquin River, near its confluence with the Sacramento River. The confluence of these rivers is located in the Sacramento-San Joaquin Delta, an area that is largely level,

with views to the north and east. To preserve open space and views along the River, and to attract residents down to the area, the City has developed projects such as the Municipal Public Marina (built in 1988) and the Antioch Riverfront Promenade.

In 1981, the City enacted the Hillside Planned Development (HPD) Ordinance to protect hillsides, ridges, and ridgelines within the City. The Ordinance was revised and adopted in 1994 as part of the Zoning Ordinance and applies to those hillside areas in which one or more of the following apply:

- A predominant portion of the area has slopes in excess of 10 percent;
- A significant area of slopes of 25 percent or greater; or
- A significant ridgeline, hilltop, or exposed slope is located in the area.

The purpose of the Ordinance is to promote a more harmonious visual and functional relationship between the natural and built environments. The HPD Districts are reserved for residential uses that are clustered in a manner that will preserve significant features of hillside areas, such as drainage swales, streams, steep slopes, ridgelines, rock outcroppings, and native vegetation.

As of 1998, the City had three HPD Districts located in the south and southwest portions of the City. This land could be developed or redeveloped at any time with uses as specified in the General Plan or Zoning Ordinance. Areas designated, currently or in the future, as HPD Districts will be developed and should not be considered permanent passive open space. However, these areas will be developed in a manner which preserves valued open space characteristics.

10.3.1 Open Space Objective

Maintain, preserve and acquire open space and its associated natural resources by providing parks for active and passive recreation, trails, and by preserving natural, scenic, and other open space resources.

10.3.2 Open Space Policies

- a. Establish a comprehensive system of open space that is available to the public, including facilities for organized recreation; active informal play; recreational travel along formal, natural, and riverfront trails; passive recreation; and enjoyment of the natural environment.
- b. Implement the design standards of the Community Image and Design Element so as to maintain views of the San Joaquin River, Mount Diablo and its foothills, Black Diamond Mines Regional Preserve and other scenic features, and protect the natural character of Antioch's hillside areas as set forth in the Community Image and Design Element¹.
- c. Maintain the shoreline of the San Joaquin River as an integrated system of natural (wetlands) and recreational (trails and viewpoints) open space as set forth in the Land Use Element and Public Services and Facilities Element.
- d. Where significant natural features are present (e.g., ridgelines, natural creeks and other significant habitat areas, rock outcrops, and other significant or unusual landscape features), require new development to incorporate natural open space areas into project design. Require dedication to a public agency or dedication of a conservation easement, preparation of maintenance plans, and provision of appropriate long-term management and maintenance of such open space areas.
- e. Require proposed development projects containing significant natural resources (e.g. sensitive or unusual habitats, special-status species, habitat linkages, steep slopes, cultural resources, wildland fire hazards, etc.) to prepare Resource Management Plans to provide for their protection or preservation consistent with the provisions of the Antioch General

¹ Policies related to viewshed protection are set forth in Section 5.4.2, General Design Policies. Hillside design polices are found in Section 5.4.14.

Plan, other local requirements, and the provisions of State and Federal law. The purpose of the Resource Management Plan is to look beyond the legal status of species at the time the plan is prepared, and provide a long-term plan for conservation and management of the natural communities found onsite. Resource Management Plans shall accomplish the following.

- Determine the significance of the resources that are found onsite and their relationship to resources in the surrounding area, including protected open space areas, habitat linkages and wildlife movement corridors;
 - Define areas that are to be maintained in long-term open space based on the significance of onsite resources and their relationship to resources in the surrounding area, and
 - Establish mechanisms to ensure the long term protection and management of lands retained in open space.
- f. Encourage public access to creek corridors through the establishment of trails adjacent to riparian resources, while maintaining adequate buffers between creeks and trails to protect sensitive habitats, special-status species and water quality to the maximum extent feasible.
- g. Where feasible, incorporate preserve and protect significant existing natural features as part of the design of new development projects rather than removing them. Where preservation of natural features is not feasible, introduce natural elements into project design. Impacts to significant natural features that cannot be preserved or reintroduced into the project design on-site shall be mitigated off-site.

10.4 BIOLOGICAL RESOURCES OBJECTIVE AND POLICIES

Although it is largely urbanized, portions of remaining undeveloped lands contain vegetation and habitat types the California Department of Fish and Game considers rare

and worthy of consideration in the California Natural Diversity Database:

- Native grasslands
- Vernal pools
- Stabilized interior dunes
- Seasonal wetlands
- Freshwater seeps
- Freshwater marshes
- Coastal brackish marshes
- Alkaline floodplains
- Alkali seeps
- Valley oak woodlands
- Riparian woodland

Grassland. Native grasslands have been reduced to 90 percent of their former area in California. Native grassland in the Antioch Planning Area would be dominated by purple needlegrass (*Nassella puchra*). A variety of spring wildflowers are also found in native grasslands. Because of the rarity of this once abundant vegetation type, the California Department of Fish and Game may request mitigation for projects that impact native grasslands. Additionally, special-status plants are more likely to be found in undisturbed native vegetation. Native grasslands are most likely to be found scattered in the southern part of the Antioch Planning Area. A number of special-status species has been identified in certain native and non-native grassland habitats within and adjacent to Antioch, including San Joaquin kit fox (*Vulpes macrotis*), California tiger salamander (*Ambystoma californiense*), American badger (*Taxidea taxus*), western burrowing owl (*Athene cunicularia hypugea*), and golden eagle (*Aquila chryseatos*).

Vernal Pools. Vernal pools are seasonal wetlands typically occurring in depressions in grasslands. These depressions collect water during the winter and spring rains, and dry once the rains cease. As the ponds dry in the spring, a succession of different plant species bloom around the edges of the pool. A high-quality vernal pool will display concentric rings

of different colors of flowers in bloom in mid-spring. Because vernal pools tend to be isolated from each other, they may possess a unique flora that includes special-status, federally protected plants and special-status animals. Vernal pools are most likely to be found in the southern portion of the Antioch Planning Area. Special-status plants and invertebrates are often found within this habitat type.

Stabilized Interior Dunes. The Antioch Dunes along the banks of the San Joaquin River contain a unique assemblage of plant and animal species, several of which are found nowhere else in the world. Scattered grasses and forbs, some of which reach shrub size, form the ground cover. The federally endangered Antioch Dunes evening-primrose (*Oenothera deltoides* ssp. *howellii*) and Contra Costa wallflower (*Erysimum capitatum* ssp. *angustatum*) are found here amongst more common species. A number of special-status animals occur in this habitat, the most sensitive of which are the insects, including the federally endangered Lange's metalmark butterfly.

Wetlands. Seasonal wetlands and ponds hold water for only part of the year, and can be found in any part of the Antioch Planning Area, but are more common along the San Joaquin River and seasonal streams in the southern portion of the Planning Area. Coastal brackish marshes are wet year round and are found along the banks of the San Joaquin River. If pickleweed (*Salicornia* sp.) is present, coastal brackish marshes may contain suitable habitat for the State and Federally endangered salt marsh harvest mouse. Other listed species associated with the coastal brackish marsh in the Antioch Planning Area include California clapper rail (*Rallus longirostris obsoletus*), California black rail (*Laterallus jamaicensis coturniculus*).

Alkaline floodplains exist along the banks of the San Joaquin River. These may appear barren because of the difficulty of growing in highly alkaline, frequently disturbed soil. If unprotected, such barren lands tend to attract people seeking recreation in four-wheel drive vehicles, which reduces the vegetation ever

further. Stands of pickleweed and saltgrass growing within alkaline floodplains can be habitat for the State and federally endangered salt marsh harvest mouse (*Reithrodontomys raviventris*).

Open Water. This category includes the San Joaquin River and permanent waterbodies, such as natural or man-made lakes, ponds, and reservoirs. Although open water does not provide habitat for many plant species, it is important for wildlife and fish. The San Joaquin River is used as a movement corridor, foraging, and breeding habitat for a variety of native and non-native fish including steelhead (*Oncorhynchus mykiss*), Chinook salmon (*Oncorhynchus tshawytscha*), delta smelt (*Hypomesus transpacificus*), striped bass (*Morone saxatilis*), and many others. Water birds and waterfowls use the lakes and rivers for foraging and breeding and stopovers during migration.

Oak Woodland. Oak woodlands are important habitat for numerous common and special-status wildlife species. Blue oak woodland is found on north-facing slopes and in shady ravines in the Mt. Diablo foothills. Valley oak woodlands once dominated the edges of the Central Valley in vast park-like stands. Valley oaks are the largest and longest-lived of the California oaks. This habitat type has been much reduced by conversion of land to agriculture and because modern grazing patterns prevent the regeneration of young oaks. Valley oak stands are still found in Antioch in Contra Loma Regional Park and other southern portions of the Antioch Planning Area.

Riparian. Riparian vegetation refers to the native scrub or forest occurring along streams and riverbanks. In riparian areas, the roots of trees and other vegetation can easily reach the water table. Such areas are prone to frequent flooding. Riparian vegetation used to be found along most perennial and intermittent streams in the Antioch Planning Area and along the San Joaquin River. This vegetation type has become rare due to disturbance by cattle, riverfront development, and the filling or channelizing of small streams in urban areas. Riparian areas provide important breeding and

foraging habitat for many species of birds, mammals, reptiles, and amphibians. The federally-listed California red-legged frog (*Rana aurora draytonii*) occurs along creeks in the Planning Area and the state-listed Swainson's hawk will nest in large trees such as cottonwoods that grow along creeks.

Special-Status Species. Special-status species are defined as:

- Species that are listed, or designated as candidates for listing, as threatened or endangered under the Federal Endangered Species Act;
- Species that are listed, or designated as candidates for listing as rare (plants), threatened, or endangered under the California Endangered Species Act;
- Plant species on List 1A, List 1B, List 2, and List 3 in the California Native Plant Society's *Inventory of Rare and Endangered Vascular Plants of California*;
- Wildlife species listed by the California Department of Fish and Game as species of special concern or fully protected species;
- Species that meet the definition of rare or endangered under the California Environmental Quality Act (under Section 15380 of CEQA¹); and
- Considered to be a taxon of special concern by local agencies.

10.4.1 Biological Resources Objective

Preserve natural streams and habitats supporting rare and endangered species of plants and animals.

10.4.2 Biological Resources Policies

- a. Comply with the Federal policy of no net loss of wetlands through avoidance and clustered development. Where

¹ This section of *CEQA Guidelines* states that any species not included on any formal list, can nevertheless be considered rare or endangered if the species can be shown to meet the criteria for listing.

preservation in place is found not to be feasible (such as where a road crossing cannot be avoided, or where shore stabilization or creation of shoreline trails must encroach into riparian habitats), require 1) on-site replacement of wetland areas, 2) off-site replacement, or 3) restoration of degraded wetland areas at a minimum ratio of one acre of replacement/restoration for each acre of impacted onsite habitat, such that the value of impacted habitat is replaced.

- b. Preserve in place and restore existing wetlands and riparian resources along the San Joaquin River and other natural streams in the Planning Area, except where a need for structural flood protection is unavoidable.
- c. Require appropriate setbacks adjacent to natural streams to provide adequate buffer areas ensuring the protection of biological resources, including sensitive natural habitat, special-status species habitats and water quality protection.
- d. Through the project approval and environmental review processes, require new development projects to protect sensitive habitat areas, including, but not limited to, oak woodlands, riparian woodland, vernal pools, and *native* grasslands. Ensure the preservation in place of habitat areas found to be occupied by state and federally protected species.

- If impacts to sensitive habitat areas are unavoidable, appropriate compensatory mitigation shall be required off-site within eastern Contra Costa County. Such compensatory mitigation shall be implemented through the provisions of a Resource Management Plan ("RMP") as described in Policy 10.3.2.e, except where, in the discretion of the Community Development Director, an RMP is not necessary or appropriate due to certain characteristics of the site and the project. Among the factors that are relevant to determining whether an RMP is necessary or appropriate for a given

project are the size of the project and the project site, the location of the project (e.g., proximity to existing urban development or open space), the number and sensitivity of biological resources and habitats on the project site, and the nature of the project (e.g., density and intensity of development).

- Where preserved habitat areas occupy areas that would otherwise be graded as part of a development project, facilitate the transfer of allowable density to other, non-sensitive portions of the site.
- e. Limit uses within preserve and wilderness areas to resource-dependent activities and other uses compatible with the protection of natural habitats (e.g., passive recreation and public trails).
- f. Through the project review process, review, permit the removal of healthy, mature oak trees on a case-by-case basis only where it is necessary to do so.
- g. Preserve heritage trees throughout the Planning Area.
- h. Within areas adjacent to preserve habitats, require the incorporation of native vegetation and avoid the introduction of invasive species in the landscape plans for new development.
- i. Design drainage within urban areas so as to avoid creating perennial flows within intermittent streams to prevent fish and bullfrogs from becoming established within a currently intermittent stream.
- j. Whenever a biological resources survey is undertaken to determine the presence or absence of a threatened or endangered species, or of a species of special concern identified by the U.S. Fish and Wildlife Service or the California Department of Fish and Game, require the survey to follow established protocols for the species in question prior to any final determination that the species is absent from the site.

10.5 OPEN SPACE TRANSITIONS AND BUFFERS OBJECTIVE AND POLICIES

Transition and buffering policies set forth in the Community Image and Design Element focus on protecting existing and planned residential uses from the effects of adjacent land uses. Similar provisions are needed to address the urban edge, where development will lie adjacent to open space, and provide buffers between existing and proposed developments and existing open space; agricultural areas; lands in public open space; lands subject to conservation easement areas; and land set aside as mitigation from the effects of development. These buffering policies are intended to avoid creation of significant impacts from adjacent development on preserved open space lands and conservation areas in terms of aesthetics, light and glare, noise, fire safety, habitat management, and the public's quiet enjoyment of protected areas.

10.5.1 Open Space Transitions and Buffers Objective

Minimize the impacts of development located adjacent to natural areas, preserved in open space, and protected environmental resources.

10.5.2 Open Space Transitions and Buffers Policies

- a. Minimize the number and extent of locations where residential, commercial, industrial, and public facilities land use designations abut lands designated for open space and protected resource areas (e.g., lands with conservation easements or set aside as mitigation for development impacts). Where such land use relationships cannot be avoided, use buffers and compatible uses to buffer and protect open space and protected resources from the adverse effects of residential, commercial, industrial and public facilities development.

- b. Ensure that the design of development proposed along a boundary with open space or protected resources provides sufficient protection and buffering for the open space and protected resources. The provision of buffers and transitions to achieve compatibility shall occur as part of the proposed development.
- c. In designing buffer areas, the following criteria shall be considered and provided for (when applicable) within the buffer areas to avoid or mitigate significant impacts.
- Aesthetics: How will development affect views from adjacent open space areas? What are the sensitive land uses and resources within open space areas and how might they be affected by changes in the visual environment?
 - Light and Glare: Will a proposed development result in increased light or glare in open space areas that would impact open space uses or wildlife habitats within that open space?
 - Noise: Will noise generated by the proposed development affect the public's quiet enjoyment of public open space? What are the sensitive noise receptors in open space areas and how can impacts on those sensitive receptors be avoided or mitigated? Can noise-generating uses be located away from noise-sensitive areas?
 - Fire Safety: How will development affect the risk of fire on adjacent open space and resource areas? How would development affect or be affected by existing fire abatement practices on adjacent open space and resource areas, including livestock grazing, prescribed fire, plant pest management, mowing, disking, ecological restoration and other practices?
 - Public Safety: How will development adjacent to open space or resource areas increase the risk of vandalism, trespass, and theft in adjacent open space and resource areas?
 - Habitat Management: How will proposed development affect habitat values on adjacent open space and resource areas? How will development prevent the spread of introduced animals and plant pests into adjacent open space and resource areas? How will proposed development affect wildlife migration corridors between or within open space and/or resource areas?
 - Public Access Management: How will development adjacent to public open space and resource areas affect the maintenance of existing public facilities, such as roads, trails, fences, gates and restrooms? How might development adjacent to open space or resource areas facilitate illegal public access?
 - Buffer Management: How can appropriate management of lands that are set aside as buffers between development and open space or resource areas be ensured?

10.6 AIR QUALITY OBJECTIVE AND POLICIES

Antioch has a relatively low natural atmospheric potential for pollution given the persistent and strong winds typical of the area. These winds dilute pollutants and transport them away from the area, so that emissions released in Antioch may influence air quality in the Sacramento and San Joaquin Valleys. Antioch lies on the south side of Carquinez Strait, which is the only sea-level gap in the central and northern California coastal mountains, resulting in relatively strong and persistent winds flowing through the gap. The large temperature difference between the greater Bay Area to the west and the Central Valley to the east also creates a strong flow of generally west-to-east winds that dilute and transport air pollutants.

Within the Bay Area, periods of high atmospheric stability, known as inversion conditions, severely limit the ability of the atmosphere to disperse pollutants vertically. In the Antioch area, inversions can be found during all seasons, but are more prevalent in the summer months when they are present about 90 percent of the time, both morning and afternoon.

Local air quality is affected by several major stationary pollutant sources that originate in Antioch and upwind in Pittsburg. Antioch's location downwind of the greater Bay Area also means that pollutants from other areas are transported to the area.

Exceedances of air quality standards occur primarily during meteorological conditions conducive to high pollution levels, such as cold, windless winter nights or hot, sunny summer afternoons. As is true throughout much of the U.S., motor vehicle use is projected to increase substantially in the region. However, due to improving emissions control technology, individual vehicles will contribute substantially fewer pollutants to regional air quality. This decrease in emissions from individual vehicles is not expected to eliminate an overall increase in regional air emissions.

The major pollutants of concern in the San Francisco Bay Area ozone, carbon monoxide, and particulate matter are monitored at a number of locations. There are no monitoring stations in the City of Antioch; the monitoring station closest to the site is in Pittsburg. The Pittsburg monitoring station measures ozone, carbon monoxide, NO₂, and (beginning in 1999) PM₁₀ levels. The Concord monitoring station, which is the next closest monitoring station, also measures PM₁₀ (from 1996 to 2000). Pollutant monitoring results for the years 1996 to 2000 in Pittsburg and Concord indicate that air quality in the Contra Costa County area has generally been good.

From 1996 to 1998, pollution levels at the Concord station have not exceeded the State PM₁₀ standards more than three times in a calendar year, and have not exceeded federal standards during the same period. State PM₁₀

standards were exceeded 12 times in 1999 and 6 times in 2000 at the Pittsburg station. Between 1996 and 1998, federal PM₁₀ standards were not exceeded at the Concord station. Federal and State carbon monoxide standards were not exceeded at the Pittsburg monitoring station during the 5-year period. Ozone levels have been lower than the federal standard at the Pittsburg monitoring station, and the State ozone standard was exceeded less than 5 days per year during the past 5 years of published data.

Antioch is within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD), which regulates air quality in the San Francisco Bay Area. The BAAQMD's Bay Area Clean Air Plans (CAPs) contain district-wide control measures to reduce carbon monoxide and ozone precursor emissions. The State standards for these pollutants are more stringent than the national standards. The BAAQMD is primarily responsible for regulating air pollution emissions from stationary sources (e.g., factories) and from indirect sources (e.g., traffic associated with new development), and for monitoring ambient pollutant concentrations. Indirect sources are defined as facilities that do not have equipment that directly emits substantial amounts of pollution, but that attract large numbers of mobile sources of pollution. Direct emissions from motor vehicles are regulated by California Air Resources Board (ARB) and EPA.

Two power plants are located near Antioch: the Contra Costa Power Plant (CCPP) located on Wilbur Avenue, one mile northeast of the City, and Calpine's Los Medanos Energy Center in Pittsburg. The Los Medanos Energy Center is a new facility and began operation on July 9, 2001. The Energy Center is fueled by natural gas, and will produce up to 555 megawatts of electricity. The CCPP plant is being expanded, adding a 530 megawatt natural gas-fired, combined cycle, combustion turbine power plant to the existing facilities. Neither power plant is expected to be a source of high pollutant emissions.

10.6.1 Air Quality Objective

Minimize air pollutant emissions within the Antioch Planning Area so as to assist in achieving state and federal air quality standards.

10.6.2 Air Quality Policies

Construction Emissions

- a. Require development projects to minimize the generation of particulate emissions during construction through implementation of the dust abatement actions outlined in the CEQA Handbook of the Bay Area Air Quality Management District.

Mobile Emissions

- b. Require developers of large residential and non-residential projects to participate in programs and to take measures to improve traffic flow and/or reduce vehicle trips resulting in decreased vehicular emissions. Examples of such efforts may include, but are not limited to the following.
 - Development of mixed use projects, facilitating pedestrian and bicycle transportation and permitting consolidation of vehicular trips.
 - Installation of transit improvements and amenities, including dedicated bus turnouts and sufficient rights-of-way for transit movement, bus shelters, and pedestrian easy access to transit.
 - Provision of bicycle and pedestrian facilities, including bicycle lanes and pedestrian walkways connecting residential areas with neighborhood commercial centers, recreational facilities, schools, and other public areas.
 - Contributions for off-site mitigation for transit use.
 - Provision of charging stations for electric vehicles within large employment-generating and retail developments.

- c. Budget for purchase of clean fuel vehicles, including electrical and hybrid vehicles where appropriate, and, if feasible, purchasing natural gas vehicles as diesel powered vehicles are replaced.
- d. Support and facilitate employer-based trip reduction programs by recognizing such programs in environmental mitigation measures for traffic and air quality impacts where their ongoing implementation can be ensured, and their effectiveness can be monitored.

Stationary Source Emissions

- e. As part of the development review process for non-residential development, require the incorporation of best available technologies to mitigate air quality impacts.
- f. Provide physical separations between (1) proposed new industries having the potential for emitting toxic air contaminants and (2) existing and proposed sensitive receptors (e.g., residential areas, schools, and hospitals).
- g. Require new wood burning stoves and fireplaces to comply with EPA and BAAQMD approved standards.

10.7 WATER RESOURCES AND QUALITY OBJECTIVE AND POLICIES

Throughout much of urban California, the availability of water is becoming a critical resource issue. Statewide, agricultural, environmental, and urban development interests are competing for limited water resources. Agricultural interests point to the key role farming plays in California's economy, and cite the need to maintain a dependable flow of irrigation water to maintain this economy. Environmental interests raise important concerns over the effect on wild rivers and natural habitats resulting from increased diversion and storage of water for urban and agricultural use. At the same time, California's population continues to grow, with its major population and growth centers

located at great physical distances from its sources of clean water.

Antioch's two principal sources of water are the San Joaquin River and the Contra Costa Water District (CCWD). CCWD supplies the City with raw water obtained from the Sacramento-San Joaquin Delta and delivers it to Antioch via the Contra Costa Canal. In addition to CCWD water, Antioch has the right to divert water directly from the San Joaquin River, and has a pumping plant for this purpose. In the last several years the City has increased the amount of water pumped from the San Joaquin River to approximately 9,000 acre-feet, a level that is approaching the amount purchased annually from CCWD.

Total water usage within the City has grown from 12,205 acre feet a year in 1990 to 18,700 acre feet a year in 2000, an increase of 53 percent. Most of this increase has been supplied by water the City pumps from the San Joaquin River. The amount of water received from CCWD has stayed relatively stable, increasing only two percent over the same time period.

Although CCWD does not impose daily entitlements for water on the City, there is a physical limitation on the amount of water that can be delivered through the Contra Costa Canal. Daily deliveries are based on the daily estimates provided by each raw water customer, and the Canal operates at close to peak capacity during peak hours and the summer.

In 2001, CCWD began construction of a new multi-purpose pipeline linking the Randall-Bold Treatment Plant in Oakley with the Central County Treated Water Service Area. The new pipeline will be used to transport either treated or raw water east or west, depending on conditions and needs, and will enable CCWD to meet projected demands for the CCWD service area through 2040.

Water that the City can pump from the San Joaquin River is not limited by an allotment or contract, but by the water quality of the River. Water quality in the San Joaquin River near Antioch can vary greatly during the course of a

year. Generally, the water quality is best during the spring when winter snows have thawed and the salinity of the River is at a minimum.

10.7.1 Water Resources Objective

Ensure that an adequate supply of water is available to serve existing and future needs of the City.

10.7.2 Water Resources Policies

Water Supply

- a. As part of the implementing the City's residential growth management program and its development review process for non-residential development, ensure that adequate long-term water supplies are available to serve the development being granted new allocations, including consideration of peak drought and peak fire fighting needs.
- b. Require new development to be equipped with drought tolerant landscaping and water conservation devices.
- c. Work with Delta Diablo Sanitation District to make reclaimed wastewater available for irrigation use. Where reclaimed wastewater can be made available at a reasonable cost, require the installation of dual water systems in development projects and public facilities, using reclaimed wastewater for irrigation.
- d. Protect, where possible, groundwater recharge areas, including protection of stream sides from urban encroachment.
- e. Oppose proposals with the potential to increase the salinity of the Delta and/or endanger the City's rights to divert water from the San Joaquin River.

Water Quality

- f. Participate in the Contra Costa Clean Water program to reduce storm water pollution and protect the water quality of the City's waterways.
- g. Require public and private development projects to be in compliance with applicable National Pollution Discharge

Elimination System (NPDES) permit requirements, and require the implementation of best management practices to minimize erosion and sedimentation resulting from new development.

- h. Participate in regional watershed planning efforts to enhance area water quality.
- i. Design drainage within urban areas to avoid runoff from landscaped areas and impervious surfaces from carrying pesticides, fertilizers, and urban and other contaminants into natural streams.

10.8 ENERGY RESOURCES OBJECTIVE AND POLICIES

Maintenance of a high quality of life for Antioch residents and a vibrant local economy depends on the availability of affordable energy. Electricity and natural gas are needed to provide light, heat, and cooling of structures housing residential, commercial, industrial, and institutional uses, as well as to power office equipment, home appliances, and industrial machinery. Affordable energy is also required to provide fuel for moving people and goods. Many of the energy resources used within the City are nonrenewable. Electricity and natural gas are the primary sources of household energy, while fossil fuels are the primary source of energy for most modes of transportation.

Energy conservation and the substitution of renewable for nonrenewable energy resources should be encouraged if these resources are to be preserved for future generations. Energy conservation – reducing per capita consumption of nonrenewable energy resources – reduces costs, ensures ongoing availability of supplies, and the need for new infrastructure to deliver energy resources to Antioch and other communities. Energy conservation is also an important component of air quality management planning. In addition to the following objective and policies, other portions of the General Plan address energy conservation, including plans and programs to achieve a balance between local employment and housing opportunities, air

quality policies (Section 10.6) and policies facilitating the use of non-motorized transit (Section 7.4.2).

10.8.1 Energy Resources Objective

Reduce reliance on nonrenewable energy sources in existing and new commercial, industrial, and public structures¹.

10.8.2 Energy Resource Policies

- a. Continue to implement Title 24 of the State Building Code, and provide incentives to encourage architects and builders to exceed the energy efficiency standards of Title 24 through increased use of passive, solar design and day-lighting.
- b. Promote the use of site design, landscaping, and solar orientation to decrease the need for summer cooling and winter heating.
- c. Where feasible, incorporate recycled materials in new construction.
- d. Encourage the installation of energy-efficient lighting, reduced thermostat settings, and elimination of unnecessary lighting in public facilities.
- e. Facilitate the installation of environmentally acceptable forms of distributed generation², where such systems can be safely and economically provided.
- f. Maintain City physical facilities so as to ensure that optimum energy conservation is achieved.
- g. Promote purchasing of energy-efficient equipment based on a fair return on investment, and use energy-savings

¹ See also Objective 7.4.1, which addresses reducing the use of nonrenewable energy resources by encouraging non-motorized transportation.

² “Distributed generation” encompasses various small-scale types of electrical generation, such as microturbines, fuel cells, photovoltaics, co-generation (reuse of waste heat) and other sources of electrical power that can be effectively located within office parks, industrial facilities, and other large buildings.

- estimates as one basis for purchasing decisions for major energy-using devices.
- h. Promote coordination of new public facilities with transit services and non-motorized transportation facilities, including bicycles, and design structures to enhance transit, bicycle, and pedestrian use.
 - i. The City shall review all development plans prior to approval to guarantee that energy conservation and efficiency standards of Title 24 are met and are incorporated into the design of the future proposed project.

10.9 CULTURAL RESOURCES OBJECTIVE AND POLICIES

Prehistoric cultural resources in the San Francisco Bay region tend to be located near sources of fresh water, along the bay shore, and in the hills of Contra Costa County. A records search indicated that eight prehistoric archaeological sites have been recorded within the Antioch General Plan area. Therefore, it is likely that additional unidentified prehistoric cultural resources exist within the Antioch area. The rapid urbanization of the study area during the late 20th century may have resulted in the burial of unknown cultural resources under modern development. To deter vandalism, artifact hunting, and other activities, which can damage cultural resources, the locations of cultural resources must be kept confidential. The legal authority to restrict cultural resource location information is in the National Historic Preservation Act of 1966, as amended Section 304, and California Government Code 6254.1. The Antioch Community Development Department maintains a map of known cultural resource sites.

Antioch is home to a variety of historical resources, ranging from landmark commercial buildings, to Victorian, Craftsman, and Modern-style homes, to churches, schools, and civic buildings. The City and environs also contain historical archaeological deposits associated with homes, farms, ranch sites, and industrial activities. Twenty historical

archaeological sites are recorded within the study area. The Antioch waterfront is a distinctive resource both on- and off-shore. Numerous shipwrecks are mapped on topographic maps and one submerged vessel is listed with the California State Lands Commission.

Fifty-six of Antioch's historical buildings and four monuments to vanished sites are listed on national, state, and local registers of historic properties and landmarks. The Directory of Properties in the Historic Property Data File (HPD), maintained by the state Office of Historic Preservation, is a master list of all resources that have been evaluated for potential eligibility for State and national registers of historic places. The HPD listing for the City of Antioch, as of February 2001, is attached as Appendix B to the General Plan. The Antioch Historical Society maintains a separate listing of designated City landmarks, which may overlap those included in the HPD. Historical resources primarily in the Downtown area that have been listed in the Antioch historical society are also identified in the General Plan EIR.

Numerous fossils have been collected from the Antioch Planning Area. Most of these collections are curated at the California Academy of Sciences, Golden Gate Park (CAS). The vertebrate fauna are curated at the University of California Museum of Paleontology, UC Berkeley (UCMP). A fossil locality search at the CAS identified marine pelecypod and gastropod fossils collected from almost all of the sedimentary formations located in Antioch. Literature review indicated that all of the formations north of Mt. Diablo contain fossils. At least eight fossil localities occur within and immediately adjacent to the Antioch Planning Area and another five are within a one-mile radius of the Planning Area. Fossils in the Planning Area identified by UCMP include mammoths, primitive horses, bison, rats, beaver-type creatures, and sloths.

10.9.1 Cultural Resources Objective

Preserve archaeological, paleontological, and historic resources within the Antioch Planning

Area for the benefit and education of future residents.

10.9.2 Cultural Policies

- a. Require new development to analyze, and therefore avoid or mitigate impacts to archaeological, paleontological, and historic resources. Require surveys for projects having the potential to impact archaeological, paleontological, or historic resources. If significant resources are found to be present, provide mitigation in accordance with applicable CEQA guidelines and provisions of the California Public Resources Code.
 - b. If avoidance and/or preservation in the location of any potentially significant cultural resource is not possible, the following measures shall be initiated for each impacted site:
 - A participant-observer from the appropriate Indian Band or Tribe shall be used during archaeological testing or excavation in the project site.
 - Prior to the issuance of a grading permit for the project, the project proponent shall develop a test-level research design detailing how the cultural resource investigation shall be executed and providing specific research questions that shall be addressed through the excavation program. In particular, the testing program shall characterize the site constituents, horizontal and vertical extent, and, if possible, period of use. The testing program shall also address the California Register and National Register eligibility of the cultural resource and make recommendations as to the suitability of the resource for listing on either Register. The research design shall be submitted to the City of Antioch for review and comment. For sites determined, through the Testing Program, to be ineligible for listing on either the California or National Register, execution of the Testing Program will suffice as mitigation of project impacts to this resource.
- After approval of the research design and prior to the issuance of a grading permit, the project proponent shall complete the excavation program as specified in the research design. The results of this excavation program shall be presented in a technical report that follows the City's outline for Archaeological Testing. The Test Level Report shall be submitted to the City for review and comment. If cultural resources that would be affected by the project are found ineligible for listing on the California or National Register, test-level investigations will have depleted the scientific value of the sites and the project can proceed.
 - If the resource is identified as being potentially eligible for either the California or National Register, and project designs cannot be altered to avoid impacting the site, a Treatment Program to mitigate project effects shall be initiated. A Treatment Plan detailing the objectives of the Treatment Program shall be developed. The Treatment Plan shall contain specific, testable hypotheses relative to the sites under study and shall attempt to address the potential of the sites to address these research questions. The Treatment Plan shall be submitted to the City for review and comment.
 - After approval of the Treatment Plan, the Treatment Program for affected, eligible sites shall be initiated. Typically, a Treatment Program involves excavation of a statistically representative sample of the site to preserve those resource values that qualify the site as being eligible for the California or National Register. At the conclusion of the excavation or research program, a Treatment Report shall be developed. This data recovery report shall be submitted to the City for review and comment.

- c. When existing information indicates that a site proposed for development may contain paleontological resources, a paleontologist shall monitor site grading activities with the authority to halt grading to collect uncovered paleontological resources, curate any resources collected with an appropriate reposition, and file a report with the Community Development Department documenting any paleontological resources found during site grading.
- d. As a standard condition of approval for new development projects, require that if unanticipated cultural or paleontological resources are encountered during grading, alteration of earth materials in the vicinity of the find be halted until a qualified expert has evaluated the find and recorded identified cultural resources.
- e. Preserve historic structures and ensure that alterations to historic buildings and their immediate settings are compatible with the character of the structure and the surrounding neighborhood.

11.0 Environmental Hazards

11.1 INTRODUCTION

The Environmental Hazards Element contains an evaluation of natural and manmade conditions which may pose certain health and safety hazards to life and property in Antioch, along with a comprehensive program to mitigate those hazards. Inherent in this Element is a determination of "acceptable risk." This determination is based on defining how safe is safe enough, balancing the severity of the hazard, costs and feasibility of hazard mitigation, and expected benefits. In most cases, the level of acceptable risk is widely shared throughout the State and nation. For example, the standard for protection from flooding is a national standard. Standards for protection of structures from earthquake damage are based on the provisions of the Uniform Building Code. The Environmental Hazards Element addresses constraints to development from geologic and seismic conditions, noise, wildland fire, flooding, and hazardous materials.

11.2 GOALS OF THE ENVIRONMENTAL HAZARDS ELEMENT

To provide for a sustained high quality of life, it is the goal of the Environmental Hazards Element to accomplish the following:

- *Minimize the potential for loss of life injury, property damage, and economic and social disruption resulting from natural and manmade hazards in the community.*

One of Antioch's fundamental values is that people's lives and properties will be safe from natural and manmade hazards. While there is a practical limit to the level of protection that can be provided in a community, Antioch is committed to minimizing the community's vulnerability to natural and manmade hazards. In accomplishing this goal, the City seeks to offer assurance to those who wish to invest in Antioch, whether as a resident business owner, that their protection and that of their

properties has a high priority in the City. This priority is encompassed in the Safety element by:

- incorporating safety considerations into the land use planning and development review process;
- Identifying and mitigating hazards faced by existing and new development;
- Facilitating the strengthening of existing codes, project review, and permitting processes; and
- Strengthening disaster planning and post-disaster response policies.

11.3 GEOLOGY AND SEISMICITY OBJECTIVE AND POLICIES

Seismicity. Eastern Contra Costa County, as well as the San Francisco Bay Area as a whole, is located in one of the most seismically-active regions in the United States. Major earthquakes have occurred in the vicinity of Antioch in the past, and can be expected to occur again in the near future. The 1999 Working Group on California Earthquake Probabilities estimated that there is a 70 percent probability of at least one magnitude 6.7 or greater earthquake to occur on one of the major faults within the San Francisco Bay region before 2030. Furthermore, they determined that there is a 30 percent chance of one or more magnitude 6.7 or greater earthquakes occurring somewhere along the Calaveras, Concord-Green Valley, Mount Diablo Thrust, and Greenville Faults before 2030.

Although no known active faults are located within the Planning Area, several major faults are located within a few miles. Historically active faults (exhibiting evidence of movement in the last 200 years) in Contra Costa County include the Hayward, Calaveras, Concord-Green Valley, and Marsh Creek-Greenville faults. The largest regional fault, the San

Andreas Fault, is located approximately 45 miles west of Antioch.

The intensity of ground shaking that would occur in Antioch as a result of an earthquake in the Bay Area is partly related to the size of the earthquake, its distance from the City, and the response of the geologic materials within the Planning Area. As a rule, the earthquake magnitude and the closer the fault rupture to the site, the greater the intensity of ground shaking. The Association of Bay Area Governments (ABAG) has mapped the distribution of ground shaking intensity. Ground shaking intensity is described using the Modified Mercalli Scale, which ranges from I (not felt) to XII (widespread devastation). When various earthquake scenarios are considered, ground shaking intensities will reflect both the effects of strong ground accelerations and the consequences of ground failure. Possible earthquake intensities are described below. A large earthquake on the Concord-Green Valley fault is projected to produce the maximum ground shaking intensities in Antioch with Modified Mercalli intensity IX in Bay Mud deposits along the Suisun Bay, north of SR 4. Modified Mercalli intensity IX is associated with damage to buried pipelines and partial collapse of poorly-built structures. Strong ground shaking of Mercalli intensity VII would occur locally along creek beds in inland portions of Antioch; however, the major portion of the Planning Area is projected to experience ground shaking of intensity VII on the Modified Mercalli scale, which is associated with non-structural damage. A large earthquake on the Hayward fault is projected to produce ground shaking intensities of Mercalli VIII along the Suisun Bay, north of SR 4, and less intense ground shaking in Upland Areas.

Since the 1970s, the Uniform Building Code (UBC) in California has incorporated standard response spectra as a basis for structural design. The response spectra establish the minimum standards for which a building must be designed. The UBC considers primary lateral seismic forces and general soil type; incorporation of vertical forces into code design requirements is currently being considered. The objective of the UBC is to

protect the life safety of building occupants and the public. For large earthquakes, the UBC primarily ensures that the building will not collapse, but some structural and non-structural damage may be expected.

Buildings constructed prior to code revisions in the 1970s generally would not meet current design provisions for earthquake forces of the UBC. Expected damage to different types of buildings is described below:

- Unreinforced masonry buildings constructed of brick or concrete block present the most severe hazards. Under strong intensity ground shaking, many of these structures may be expected to collapse or require demolition. The City has developed a list of unreinforced masonry buildings.
- Other types of buildings that may also be severely damaged are older buildings of steel and concrete framing that were not designed to resist earthquake vibrations and older reinforced brick and masonry structures.
- Light wood-frame, such as most residential structures, and sheet metal buildings would be expected to have moderate damage in most conditions.
- Steel-frame structures designed to resist earthquake vibrations have an excellent record in earthquakes.

New construction in Antioch is required to meet the requirements of the California Building Code. Buildings of special occupancy are required by the State to meet more stringent design requirements than the UBC. Special occupancy buildings include hospitals, schools, and other structures that are important to protecting health and safety in the community.

Liquefaction. Liquefaction is the rapid transformation of saturated, loose, fine-grained sediment to a fluid-like state because of earthquake ground shaking. Liquefaction has resulted in substantial loss of life, injury, and damage to property. In addition, liquefaction increases the hazard of fires because of explosions induced when

underground gas lines break, and because the breakage of water mains substantially reduces fire suppression capability. The area directly adjacent to the San Joaquin River has a high to very high potential for liquefaction. Upland areas away from the river have a very low to moderate potential for liquefaction.

Landsliding. The strong ground motions that occur during earthquakes are capable of inducing landslides, generally where unstable slope conditions already exist. The United States Department of the Interior Geologic Survey *Regional Slope Stability Map of the Northeastern San Francisco Bay Region California* indicates that landslide hazards exist primarily in the hilly portions of the southwestern part of the Planning Area. Most of the southwest corner of the Planning Area is susceptible to landslides with the majority of slopes considered to be moderately unstable. To the east, the Lone Tree Valley has little susceptibility to landslides with stable to generally stable slopes. However, the area south of Lone Tree Valley is prone to landslides with moderately unstable and unstable slopes. The area to the north of Lone Tree Valley is generally not prone to landslides with slopes that are generally stable to marginally stable. However, a few small areas have unstable slopes susceptible to landslides, including an area to the north of Contra Loma Reservoir, and an area to the west of the intersection of the Contra Costa Canal and SR 4. Contra Loma dam went through a major maintenance program, which resulted in lowering of water levels.

Inundation from Seiche and Tsunami. Earthquakes can cause tsunamis ("tidal waves") and seiches (oscillating waves in enclosed water bodies). There are no enclosed bodies of water in the vicinity of the Planning Area that would be affected by seiches. Low-lying portions of the City adjacent to the San Joaquin River could be affected by a tsunami. However, projected wave height and tsunami run-up is expected to be small in the interior portions of the San Francisco Bay and the Delta. Some coastal inundation and damage could occur in Antioch if a tsunami coincided with very high tides or an extreme storm.

Historic Mineral Extraction. Coal mining in the southwestern portion of the General Plan study area resulted in the excavation of mining tunnels over a relatively large area, including the Sand Creek Focus Area and the Black diamond Mines Regional Preserve.

The U.S. Bureau of Mines closed six ventilation shafts in the southwestern portion of the Sand Creek Focus Area in 1981 and 1982.

These mines, abandoned in the late 1800s, present a possible risk of collapse and surface subsidence that could compromise the integrity of buildings developed overlying the mine tunnels. Ultimately, the potential for mine collapse is dependent upon the type of mining that was conducted, the size and dimensions of the mined area, the bearing strength of the materials bounding the mined area, depth of mining, and the length of time since the mining was discontinued.

The southern portion of the General Plan study area is within the outer, western, margin of the Brentwood oil field. The California Department of Conservation Oil, Gas, and Geothermal Resources online database of production wells indicates that 52 wells have been operated within the Brentwood oil field. All but three of these wells have been plugged and capped.

11.3.1 Geology and Seismicity Objective

Minimize the potential for loss of life, physical injury, property damage, and social disruption resulting from seismic groundshaking and other geologic events.

11.3.2 Geology and Seismicity Policies

Seismicity

- a. Require geologic and soils reports to be prepared for proposed development sites, and incorporate the findings and recommendations of these studies into project development requirements. As determined by the City of Antioch Building Division, a site-specific assessment shall be prepared to ascertain potential ground

shaking impacts on new development. The site-specific ground shaking assessment shall incorporate up-to-date data from government and non-government sources and may be included as part of any site-specific geotechnical investigation. The site-specific ground shaking assessment shall include specific measures to reduce the significance of potential ground shaking hazards. This site-specific ground shaking assessment shall be prepared by a licensed geologist and shall be submitted to the City of Antioch Building Division for review and approval prior to the issuance of building permits. For purposes of this policy, "development" applies to new structures and existing structures or facilities that undergo expansion, remodeling, renovation, refurbishment or other modification. This policy does not apply to second units or accessory buildings.

- b. Provide information and establish incentives for property owners to rehabilitate existing buildings using updated construction techniques to protect against seismic hazards.
- c. Encourage the purchase of earthquake insurance by residents and businesses.
- d. Encourage continued investigation by State agencies of geologic conditions within the Bay Area to update knowledge of seismic hazards and promote public awareness.
- e. Provide expedited review of any seismic-related revisions to the Uniform Building Code proposed by the State.
- f. Work with PG&E, pipeline companies, and industrial uses to implement measures to safeguard the public from seismic hazards associated with high voltage transmission lines, caustic and toxic gas and fuel lines, and flammable storage facilities.
- g. Require that engineered slopes be designed to resist seismically-induced failure.
- h. Require that parcels overlying both cut and fill areas within a grading operation be

over-excavated to mitigate the potential for seismically-induced differential settlement.

Other Geologic Conditions

- i. Limit development in those areas, which, due to adverse geological conditions, will be hazardous to the overall community and those who will inhabit the area.
- j. Require evaluations of potential slope stability for developments proposed within hillside areas, and incorporate the recommendations of these studies into project development requirements.
- k. Require specialized soils reports in areas suspected of having problems with potential bearing strength, expansion, settlement, or subsidence, including implementation of the recommendations of these reports into the project development, such that structures designed for human occupancy are not in danger of collapse or significant structural damage with corresponding hazards to human occupants. Where structural damage can be mitigated through structural design, ensure that potential soils hazards do not pose risks of human injury or loss of life in outdoor areas of a development site.
- l. Where development is proposed within an identified or potential liquefaction hazard area (as determined by the City), adequate and appropriate measures such as (but not limited to) designing foundations in a manner that limits the effects of liquefaction, the placement of an engineered fill with low liquefaction potential, and the alternative siting of structures in areas with a lower liquefaction risk, shall be implemented to reduce potential liquefaction hazards. Any such measures shall be submitted to the City of Antioch Building Division for review prior to the approval of the building permits.

Historic Mineral Extraction

- m. As appropriate and necessary to protect public health and safety, abandoned

mines shall be placed in natural open space areas, with appropriate buffer areas to prevent unauthorized entry.

- n. Within areas of known historic mining activities, site-specific investigations shall be undertaken prior to approval of development to determine the location of any remaining mine openings, the potential for subsidence of collapse, and necessary measures to protect public health and safety, and prevent the collapse or structural damage to structures intended for human occupancy due to mine-related ground failure or subsidence. Such measures shall be incorporated into project approvals.
- o. All identified mine openings shall be effectively sealed.
- p. Construction of structures for human occupancy shall be prohibited within areas found to have a high probability of surface collapse or subsidence, unless foundations are designed that would not be affected by such surface collapse or subsidence, as determined by site-specific investigations and engineered structural design.
- q. The locations of all oil or gas wells on proposed development sites shall be identified in development plans. Project sponsors of development containing existing or former oil or gas wells shall submit documentation demonstrating that all abandoned wells have been properly abandoned pursuant to the requirements of the California Department of Conservation Oil, Gas, and Geothermal Resources.

11.4 FLOOD PROTECTION OBJECTIVE AND POLICIES

The National Flood Insurance Act of 1968 called for identification and mapping of flood plain hazard areas prone to flooding in major storm events. These flood hazard maps, known as Flood Insurance Maps (FIRMS), are used by the Federal Emergency Management Agency (FEMA) to determine eligibility areas for inclusion in the federal flood insurance

program. Portions of the City are located within the 100-year and 500-year flood hazards zones as mapped by FEMA, and are defined by FEMA as "flood prone." Except for small areas located within the 100- and 500-year flood hazard zones, the majority of Antioch is defined by FEMA as being subject to minimal or no flooding. Antioch's flood hazard areas are shown in Figure 11 and reflect the most recent FEMA mapping as of July 2010.

Areas subject to flooding are mainly found adjacent to the San Joaquin River and tributary creeks. Within the City of Antioch Planning Area, a 100-year flood hazard zone runs adjacent to the San Joaquin River. In the western portion of the Planning Area, a 100-year flood hazard zone begins at the San Joaquin River and encompasses the area bounded by the Planning Area border to the west; the BNSF Railroad to the south; and the area to the east of the mouth of West Antioch Creek. A 100-year flood hazard zone also is located adjacent to West Antioch Creek, and has its widest point at the Creek's mouth. In the vicinity of B Street, the 100-year flood hazard zone extends from the San Joaquin River south across the BNSF railroad, and then spans East Antioch Creek until the Creek reaches SR 4. This flood zone is widest, spanning a width of approximately 1,600 feet, just south of the Railroad. Just north of Lake Alhambra, the flood hazard zone spans an area of similar width. In the southern portion of the Planning Area, flood hazard zones are intermittently located adjacent to East Antioch Creek on its west and main branch. A 100-year flood zone also is located adjacent to Markley Creek, Los Medanos Wasteway, and Sand Creek.

Dams. The Bureau of Reclamation Division of Dam Safety conducted a safety analysis of the Contra Loma Reservoir in 1983 and determined that "safe" performance of the dam can be expected under all anticipated loading conditions, including the maximum credible earthquake and probable maximum flood events." The overall safety classification of the dam is registered as satisfactory.

11.4.1 Flood Protection Objective

Minimize the potential for loss of life, physical injury, property damage, and social disruption resulting from flooding.

11.4.2 Flood Protection Policies

- a. Prohibit all development within the 100-year floodplain, unless mitigation measures consistent with the National Flood Insurance Program are provided.
- b. Minimize encroachment of development adjacent to the floodway in order to convey flood flows without property damage and risk to public safety. Require such development to be capable of withstanding flooding and to minimize the use of fill.
- c. Prohibit alteration of floodways and channelization of natural creeks if alternative methods of flood control are technically and financially feasible. The intent of this policy is to balance the need for protection devices with land use solutions, recreation needs, and habitat preservation.
- d. Require new development to prepare drainage studies to assess storm runoff impacts on the local and regional storm drain and flood control system, along with implementation of appropriate detention and drainage facilities to ensure that the community's storm drainage system capacity will be maintained and peak flow limitations will not be exceeded.
- e. Where construction of a retention basin is needed to support new development, require the development to provide for the perpetual funding and ongoing maintenance of the basin.
- f. Eliminate hazards caused by local flooding through improvements to the area's storm drain system or creek corridors as resources allow.

11.5 FIRE HAZARDS OBJECTIVE AND POLICIES

Overall, the risk of both urban and wildland fires exists within the Antioch Planning Area.

The level of fire risk in a given area results from a variety of factors, including type and amount of vegetation and groundcover, combustibility of building materials, adequacy of access for fire fighting equipment and manpower, water supply and pressure, and weather conditions. The most common source of urban fires is home heating systems and electrical appliances.

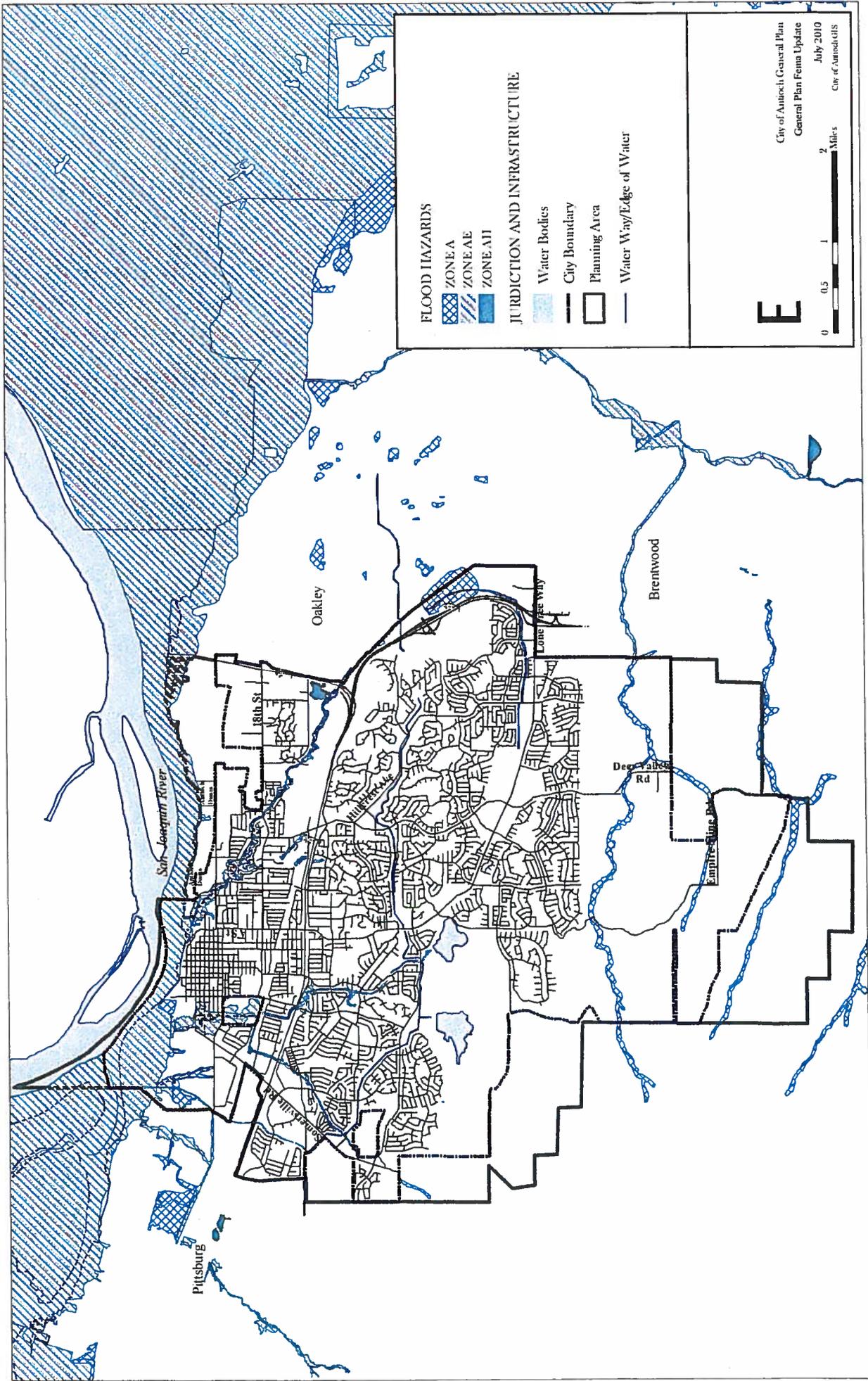
As Antioch expands into hillside areas, urban development will begin to encroach into areas of more rugged topography with flammable indigenous vegetation. Over time, all of California's wildlands will burn, as they are naturally prone to do. However, various human factors increase risks for fire occurrence, and that wildland fires will be larger, more intense and damaging, cost more to fight, and take a larger toll (in economic and non-economic terms) than would otherwise occur naturally.

11.5.1 Fire Hazards Objective

Minimize the potential for loss of life, physical injury, property damage, and social disruption resulting from wildland fires.

11.5.2 Fire Hazards Policies

- a. Where new development borders wildland areas, require appropriate fuel modification and use of fire retardant building materials per the requirements of the Contra Costa County Fire Protection District. Fuel modification may be permitted to extend beyond the boundaries of the site for which wildland fire protection is being provided only if the adjacent owner provides written permission, the proposed fuel modification is consistent with the management practices of the agency controlling such land (if it is in permanent open space), and the off-site fuel modification activity will not significantly impact sensitive habitat areas.
- b. Require that adequate fire protection be available at initial project occupancy, whenever feasible. Thus, stations should be constructed and manned at the outset of new development. If the Contra Costa Fire Protection District finds that a lag time



FLOOD HAZARDS

- ZONE A
- ZONE AE
- ZONE AH

JURISDICTION AND INFRASTRUCTURE

- Water Bodies
- City Boundary
- Planning Area
- Water Way/Edge of Water

E



City of Amarec General Plan
 General Plan Future Update
 July 2010
 City of Amarec

between initial occupancy and operation of new stations cannot be avoided, the City may consider requiring sprinklers in new homes as an alternative.

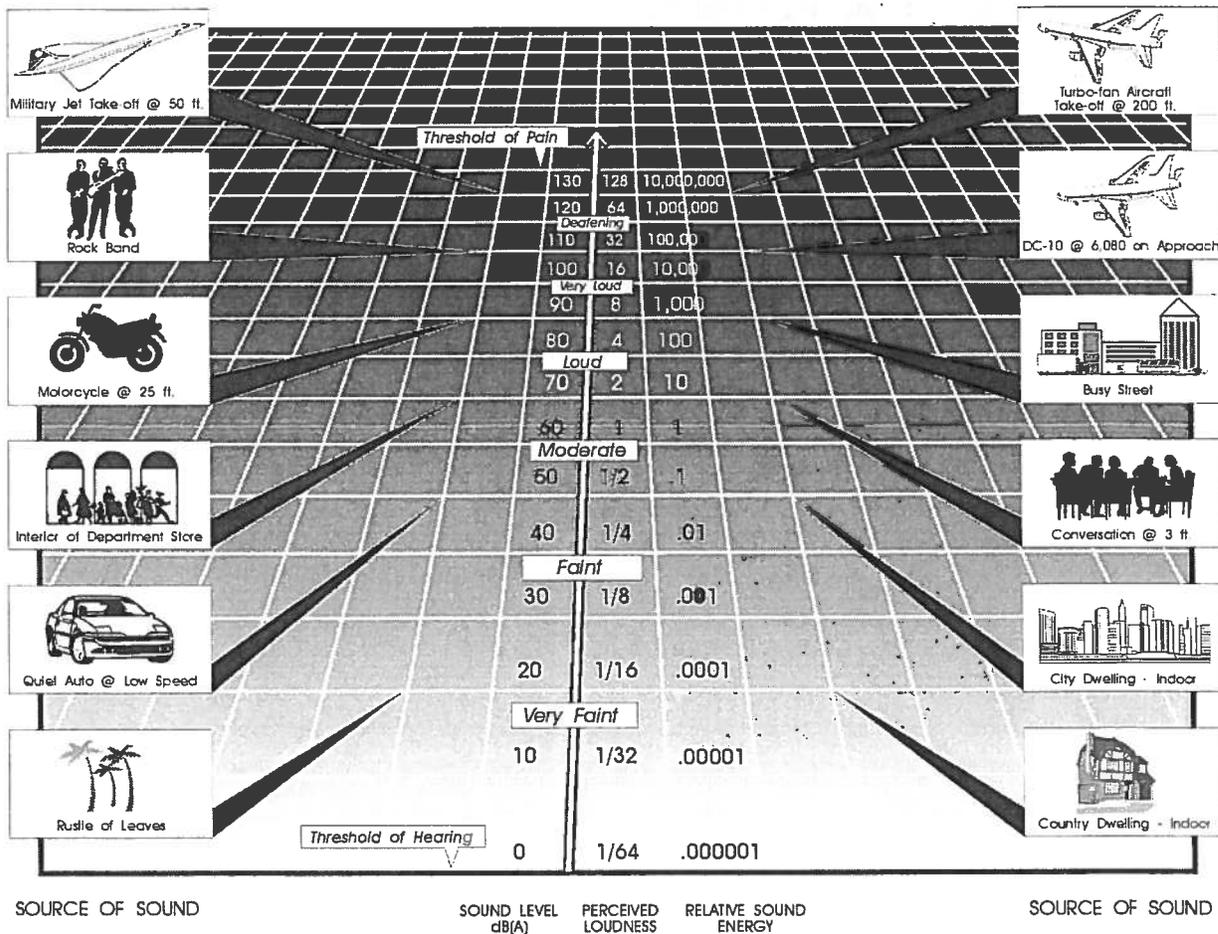


Figure 11.1 – Measurement of Noise

11.6 NOISE OBJECTIVE AND POLICIES

Introduction to "Noise." Noise is usually defined as "unwanted sound," and consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep.

Sound levels are measured in decibels (dB), typically through an "A-weighted" scale, which emulates human hearing¹. Unlike linear units such as inches or pounds, decibels (dBA) are

measured on a logarithmic scale, representing points on a sharply rising curve. In this scale, an increase of 10 dBA represents a ten times increase in sound energy, and is perceived by the human ear as a doubling of loudness (see Figure 11.1). Thus, a noise at 70 dBA has 10 times the sound energy as a 60 dBA noise, and will be perceived as being twice as loud.

Except under special conditions, changes in sound levels of less than 1.0 dBA cannot be perceived by the human ear. Audible increases in noise levels generally refer to a change of 3.0 dBA or more, since this level has been found to be barely perceptible in typical exterior environments. A 5.0 dBA change in noise levels is generally the

¹ All sound levels in the General Plan are A-weighted, unless specified otherwise.

threshold at which a noticeable change in community response occurs.

For environmental and land use planning purposes, several methods of expressing the average noise level over a given period of time have been developed. The predominant average noise measurement scale in California are the Equivalent-Continuous Sound Level (L_{eq}) and the Community Noise Equivalent Level (CNEL), both of which are based on A-weighted decibels (dBA). L_{eq} is the total sound energy of time-varying noise over a given sample period. CNEL is the average sound level occurring over a 24-hour period, with a weighting factor of 5.0 dBA applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours), and 10 dBA adjustment for events occurring between 10:00 p.m. and 7:00 a.m. (defined as sleeping hours). The noise adjustments are added to the noise events occurring during the more quiet evening and nighttime hours to compensate for the added intrusiveness that noise has during these hours.

Other noise rating scales of importance when assessing annoyance factor include the maximum noise level (L_{max}), which is the highest exponential-time-averaged sound level that occurs during a stated time period, and noise standard in terms of percentile exceedance noise levels (L_n). L_{max} reflects peak operating conditions, and addresses the annoying aspects of intermittent noise. The percentile exceedance noise levels are the levels exceeded during a stated period of time. For example, an L_{10} noise level represents the noise level exceeded 10 percent of the time during a stated period. The L_{50} noise level represents the median noise level (exceeded 50% of the time). The L_{90} noise level represents the noise level exceeded 90 percent of the time, and is considered the lowest noise level experienced during a monitoring period. It is normally referred to as the background or ambient noise level.

Physical damage to human hearing occurs with prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects the entire human body, with prolonged

noise exposure in excess of 75 dBA increasing tension, and thereby affecting blood pressure, functions of the heart, and the nervous system. In comparison, extended periods of noise exposure above 90 dBA result in permanent cell damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by the feeling of pain in the ear. This is called the threshold of pain. A sound level of 190 dBA will rupture the eardrum and permanently damage the inner ear. Table 11.A lists acoustical term definitions, and Table 11.B identifies common sound levels and their sources.

Noise in Antioch. Major noise sources within Antioch include "mobile sources" such as traffic along State Route 4 and State Route 160 freeways, rail lines, and major arterial roadways. Significant "stationary" sources of noise within Antioch include heavier industrial development in the northern portion of the Planning Area, commercial development, where it backs up against residential neighborhoods and construction activities.

Traffic noise depends primarily on the speed of traffic and percentage of trucks along the route. Traffic volume has a lesser influence on highway noise levels.

11.6.1 Noise Objective

Achieve and maintain exterior noise levels appropriate to planned land uses throughout Antioch, as described below.

- Residential
 - Single Family: 60 dBA CNEL within rear yards
 - Multi-Family: 60 dBA CNEL within interior open space
- Schools
 - Classrooms: 65 dBA CNEL
 - Play and sports areas: 70 dBA CNEL
- Hospitals, Libraries: 60 dBA CNEL

- Commercial/Industrial: 70 dBA CNEL at the front setback.

11.6.2 Noise Policies

Noise Compatible Land Use and Circulation Patterns

- Implementation of the noise objective contained in Section 11.6.1 and the policies contained in Section 11.6.2 of the Environmental Hazards Element shall be based on noise data contained in Section 4.9 of the General Plan EIR, unless a noise analysis conducted pursuant to the City's development and environmental review process provides more up-to-date and accurate noise projections, as determined by the City.
- Maintain a pattern of land uses that separates noise-sensitive land uses from major noise sources to the extent possible, and guide noise-tolerant land uses into the noisier portions of the Planning Area.
- Minimize motor vehicle noise in residential areas through proper route location and sensitive roadway design.
 - Provide planned industrial areas with truck access routes separated from residential areas to the maximum feasible extent.
 - Where needed, provide traffic calming devices to slow traffic speed within residential neighborhoods.

Noise Analysis and Mitigation

- Where new development (including construction and improvement of roadways) is proposed in areas exceeding the noise levels identified in the General Plan Noise Objective, or where the development of proposed uses could result in a significant increase in noise, require a detailed noise attenuation study to be prepared by a qualified acoustical engineer to determine appropriate mitigation and ways to incorporate such mitigation into project design and implementation.
- When new development incorporating a potentially significant noise generator is proposed, require noise analyses to be prepared by a qualified acoustical engineer. Require the implementation of appropriate noise mitigation when the proposed project will cause new exceedences of General Plan noise objectives, or an audible (3.0 dBA) increase in noise in areas where General Plan noise objectives are already exceeded as the result of existing development.
 - In reviewing noise impacts, utilize site design and architectural design features to the extent feasible to mitigate impacts on residential neighborhoods and other uses that are sensitive to noise. In addition to sound barriers, design techniques to mitigate noise impacts may include, but are not limited to:
 - Increased building setbacks to increase the distance between the noise source and sensitive receptor.
 - Orient buildings which are compatible with higher noise levels adjacent to noise generators or in clusters to shield more noise sensitive areas and uses.
 - Orient delivery, loading docks, and outdoor work areas away from noise-sensitive uses.
 - Place noise tolerant use, such as parking areas, and noise tolerant structures, such as garages, between the noise source and sensitive receptor.
 - Cluster office, commercial, or multi-family residential structures to reduce noise levels within interior open space areas.
 - Provide double glazed and double paned windows on the side of the structure facing a major noise source, and place entries away from the noise source to the extent possible.
 - Where feasible, require the use of noise barriers (walls, berms, or a combination thereof) to reduce significant noise impacts.

- Noise barriers must have sufficient mass to reduce noise transmission and high enough to shield the receptor from the noise source.
 - To be effective, the barrier needs to be constructed without cracks or openings.
 - The barrier must interrupt the line of sight between the noise source and noise receptor.
 - The effects of noise "flanking" the noise barrier should be minimized by bending the end of the barrier back from the noise source.
 - Require appropriate landscaping treatment to be provided in conjunction with noise barriers to mitigate their potential aesthetic impacts.
- h. Continue enforcement of California Noise Insulation Standards (Title 25, Section 1092, California Administrative Code).

Temporary Construction

- i. Ensure that construction activities are regulated as to hours of operation in order to avoid or mitigate noise impacts on adjacent noise-sensitive land uses.
- j. Require proposed development adjacent to occupied noise sensitive land uses to implement a construction-related noise mitigation plan. This plan would depict the location of construction equipment storage and maintenance areas, and document methods to be employed to minimize noise impacts on adjacent noise sensitive land uses.
- k. Require that all construction equipment utilize noise reduction features (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer.
- m. Prior to the issuance of any grading plans, the City shall condition approval of subdivisions and non-residential development adjacent to any developed/occupied noise-sensitive land uses by requiring applicants to submit a construction-related noise mitigation plan to the City for review and approval. The plan should depict the location of construction equipment and how the noise from this equipment will be mitigated during construction of the project through the use of such methods as:
 - The construction contractor shall use temporary noise-attenuation fences, where feasible, to reduce construction noise impacts on adjacent noise sensitive land uses.
 - During all project site excavation and grading on-site, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site.
 - The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.
 - The construction contractor shall limit all construction-related activities that would result in high noise levels to between the hours of 7:00 a.m. and 7:00 p.m. Monday through Saturday. No construction shall be allowed on Sundays and public holidays.
- n. The construction-related noise mitigation plan required shall also specify that haul truck deliveries be subject to the same hours specified for construction equipment. Additionally, the plan shall denote any construction traffic haul routes where heavy trucks would exceed 100 daily trips (counting those both to and from the construction site). To the extent feasible, the plan shall denote haul routes that do not pass sensitive land uses or residential dwellings. Lastly, the construction-related noise mitigation plan

shall incorporate any other restrictions imposed by the City.

11.7 HAZARDOUS MATERIALS OBJECTIVE AND POLICIES

The term "hazardous materials includes a full spectrum of substances from pre-product materials to waste. Pre-product materials are considered to have value, and are used in, or represent the purpose of the manufacturing process. These materials solvents, paints, acids and other chemicals, which, because they have value, are subject to proper transportation, storage, and use procedures. "Hazardous waste" refers to the valueless by-products of manufacturing processes and other use of materials. Hazardous waste requires proper disposal.

The California Department of Toxic Substances Control identifies two (2) sites within Antioch where surface an/or sub-surface contamination has occurred due to the potential release of hazardous materials or wastes. Those sites include the GBF/Pittsburg Dumps, located at the intersection of Somersville Road and James Donlon Boulevard, and the former Hickmott Cannery site at the intersection of 6th and "A" Streets.

Pursuant to State law, Antioch has adopted by reference Contra Costa County's Hazardous Waste Management Plan. This Plan establishes a comprehensive approach to management of hazardous wastes in the County, including siting criteria for new waste management facilities, educational and enforcement efforts to minimize and control the hazardous waste stream in the County, and policies to maintain a unified data base on businesses generating hazardous wastes.

11.7.1 Hazardous Materials Objective

Minimize the negative impacts associated with the storage, use, generation, transport, and disposal of hazardous materials.

11.7.2 Hazardous Materials Policies

- a. Promote the reduction, recycling, and safe disposal of household hazardous wastes through public education and awareness.
- b. Implement the provisions of the Contra Costa County Hazardous Waste Management Plan, including, but not limited to, provisions for pretreatment and disposal, storage, handling, and emergency response.
- c. Require businesses generating hazardous wastes to pay necessary costs for local implementation of programs specified in the Contra Costa County Hazardous Waste Management Plan, as well as costs associated with emergency response services for a hazardous materials release.

Source Reduction

- d. Require new and expanding hazardous materials users to reduce the amount of hazardous waste generated.
 - Require submittal of a waste minimization plan with any use permit application for a new large facility or expansion of an existing large facility creating additional hazardous wastes.¹
 - Encourage existing large facilities to prepare waste minimization plans.
 - Require new large hazardous waste-producing facilities to provide onsite treatment of recycling of wastes generated to the maximum extent feasible. This will minimize the amount of hazardous waste being transferred offsite for treatment or disposal.
 - Require all hazardous waste generators to recycle wastes to the maximum extent feasible.
- e. Encourage reductions in the amount of hazardous wastes being generated within Antioch through incentives and other methods.

¹ Large facilities are those routinely generating more than 1,000 kilograms of solid hazardous waste month or 275 gallons of liquid hazardous waste per month.

- Provide educational and technical assistance to all hazardous materials users and waste generators to aid in their source reduction efforts (e.g., substitution of less hazardous products and modifications to operating procedures). These services will primarily be provided by through the County.
- Provide public recognition to hazardous materials users and waste generators who meet or exceed source reduction goals.
- Provide penalties for facilities failing to meet minimization objectives, and place funds from these penalties in a revolving account for use in educational and emergency services efforts.

Facilities Siting

- f. Locate hazardous materials facilities in areas reserved for compatible uses.
 - Permit large hazardous waste users and processors only in areas designated for "heavy industrial" use. Smaller generators and medical facilities (e.g., service stations) may be sited in other industrial and commercial areas, consistent with applicable General Plan policies and zoning regulations. The compatibility of small facilities will be determined by the types and amounts of hazardous materials involved and the nature of the surrounding area.
 - Require use permits for all operations handling hazardous materials to ensure compatibility with the surrounding area.
- g. Maintain adequate siting criteria to determine appropriate locations for hazardous material facilities.
 - Maintain a "Hazardous Materials" section in the Antioch zoning ordinance to define siting criteria to be used for various types of facilities, requirements for application submittal, and required findings for approval.
- h. Locate hazardous materials facilities at a sufficient distance from populated areas to reduce potential health and safety impacts.
 - Require risk assessment studies to determine potential health impacts for all proposed hazardous waste processors and large generators as part of permit application submittals.
 - Require a 2,000-foot buffer zone around all new hazardous waste processors within which no residences, schools, hospitals, or other immobile populations, existing proposed, or otherwise, would be located, unless evidence is presented in the risk assessment study that a larger buffer is needed.
- i. Permit hazardous waste processors based on their relative need in conjunction with the "fair share" approach to facilities siting contained in the Contra Costa County Hazardous Waste Management Plan.
 - Require a needs assessment as part of use permit applications for a waste processor, demonstrating the proposed facility will serve a need that cannot be better met in any other manner (e.g., source reduction) or at any other location.
 - Discourage proposed hazardous waste facilities processing materials similar to those treated or stored at existing facilities within the County, unless the need for the new facility can be adequately demonstrated.
- j. Carefully review and require appropriate mitigation for pipelines and other channels for hazardous materials.

Facilities Management

- k. Ensure adequate provision is made for emergency response to all crises involving hazardous materials.
 - Require emergency response plans for all hazardous waste processors and large generators to be submitted as part of use permit applications.
 - Require training of employees of all facilities in emergency procedures, and that they be acquainted with the properties and health effects of the

- hazardous materials involved in the facilities' operations.
- I. Promote the safest possible transport of hazardous materials through Antioch.
 - Maintain formally designated hazardous material carrier routes to direct hazardous materials away from populated and other sensitive areas.
 - Restrict all processors and new large generators to access only along established hazardous material carrier routes.
 - Locate hazardous waste processors as near to waste generators as possible, in order to minimize the need for transport.
 - Require transportation analyses for all new large generators and processors to determine the effect of each facility on Antioch's transportation system, and assess and provide mitigation for potential safety impacts associated with hazardous materials transported to and from the site.
 - Prohibit the parking of vehicles transporting hazardous materials on City streets.
 - Require that new pipelines and other channels carrying hazardous materials avoid residential areas and other immobile populations to the greatest extent possible.
 - m. Require that hazardous materials facilities within Antioch operate in a safe manner.
 - As a condition of approval for new hazardous materials facilities, require access for vehicles carrying hazardous materials to be restricted to hazardous materials carrier routes.
 - Undertake inspections of hazardous materials facilities as needed (e.g., when an unauthorized discharge into City sewers is made), and assist Contra Costa Health Services in their inspections as requested.
 - Require that water, sewer, and emergency services be available
 - n. Require appropriate design features be incorporated into each facility's layout to increase safety and minimize potential adverse effects on public health.
 - Require the provision of spill containment facilities and monitoring devices in all facilities.
 - Ensure that pipelines and other hazardous waste channels are properly designed to minimize leakage and require above ground pipelines to be surrounded by spill containment basins.
 - Give priority to underground storage of hazardous materials, unless this method is shown to be infeasible.
 - Require hazardous materials storage areas to be located as far from existing pipelines and electrical transmission lines as possible.
 - o. Maintain a high priority on clean-up of the GBF landfill, Hickmott Cannery, and other contaminated sites.
 - Maintain communication with the Department of Toxic Substances Control, Contra Costa Health Services, and other responsible agencies to complete clean-up of the GBF landfill and Hickmott Cannery sites as rapidly and thoroughly as possible.
 - Participate in task forces with County and State agencies for remediation of the GBF landfill and Hickmott Cannery sites.
 - p. Require that new large hazardous materials users and/or processors maintain communication lines within the
 - consistent with the level of service standards set forth in the Growth Management Element. Work with LAFCO to require that sites for proposed hazardous materials facilities annex into the City before necessary municipal services are provided.

Public Education/Outreach

- p. Require that new large hazardous materials users and/or processors maintain communication lines within the

community by establishing a Communication and Information Panel. Encourage existing large users and processors to form similar panels.

- q. Facilitate public awareness of hazardous materials by preparing and distributing in conjunction with Contra Costa Health Services public information regarding uniform symbols used to identify hazardous wastes, Antioch's household hazardous waste collection programs, and hazardous waste source reduction programs.

Monitoring

- r. Monitor the progress and success of hazardous materials efforts, and modify these efforts as needed.
- s. Maintain data regarding the use and generation of hazardous materials within Antioch and its Planning Area.

11.8 DISASTER RESPONSE

Antioch maintains an Emergency Plan addressing response to disasters, including but not limited to earthquakes, floods, fires, hazardous spills or leaks, major industrial accidents, major transportation accidents, major storms, airplane crashes, environmental response, civil unrest, and national security emergencies. Emergency operations centers are maintained at the City's central police facility and at the City water treatment plant.

The emergency plan indicates that Antioch would experience casualties, significant property damage, and utility service interruptions following a major Bay Area earthquake. The potentially catastrophic effects of an earthquake on the Hayward Fault would more than likely exceed the response capabilities of both the City of Antioch and the County.

The plan outlines the general authority, organization, and response actions for City staff to undertake when disasters happen. The City's plan is in compliance with existing law. The objectives of the plan are to reduce life, injury, and property losses through

effective management of emergency forces, and accomplish the following.

- Identifies who is in charge during disaster response and clarifies who does what.
- Lists the necessary jobs for disaster response and what each person is to do.
- Ensures survivability and availability of government services, or the continuity of government.
- Helps to understand the City of Antioch's emergency organization.
- Provides guidance for disaster education and training.

11.8.1 Disaster Response Objective

Maintain a level of preparedness to adequately respond to emergency situations to save lives, protect property, and facilitate recovery with minimal disruption.

11.8.2 Disaster Response Policies

- a. Maintain and update the City's emergency Response Plan, as required by State law.
- b. Disseminate disaster preparedness information to local residents and businesses, describing how emergency response will be coordinated, how evacuation, if needed, will proceed, and what residents and businesses can do to prepare for emergency situations. Provide information to the public about:
 - Environmental hazards existing in Antioch;
 - The costs of doing nothing to mitigate these hazards;
 - Why governmental agencies can not eliminate all hazards;
 - What the City does to assist;
 - What the City cannot do;
 - What the public can do to protect itself.
- c. Maintain an effective and properly equipped emergency operations center, along with trained personnel, for receiving

emergency calls, providing initial response and key support to major incidents, meeting the demands of automatic and mutual aid programs, and maintaining emergency incident statistical data.

- d. Maintain ongoing emergency response coordination with surrounding jurisdictions.
- e. Encourage private businesses and industrial uses to be self-sufficient in an emergency by:
 - Maintaining a fire control plan, including onsite fire fighting capability and volunteer response teams to respond to and extinguish small fires; and
 - Identifying personnel who are capable and certified in first aid and CPR.
- f. Regularly review and clarify emergency evacuation plans for dam failure, fire, and hazardous materials releases.

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12.0 Implementation

12.1 INTRODUCTION

Previous chapter of the General Plan set forth the community's vision, along with goals, objectives, and policies to guide Antioch's future. It is the purpose of this chapter of the General Plan to describe the specific actions that the City will take to implement the provisions of the General Plan. These implementation programs are organized into five general programs. In addition to the housing programs, which are contained in Chapter 9, these programs include the following.

- **Follow-up Studies and Actions** include studies, ordinances, and other activities that need to be undertaken to implement the Antioch General Plan.
- The **Intergovernmental Coordination and Community Involvement Program** outlines programs to maintain open lines of communication with outside agencies and members of the community whose activities affect, and are affected by, the City of Antioch.
- **General Plan Maintenance** includes provisions to ensure a regular review of the General Plan and implementation efforts.

12.2 FOLLOW-UP STUDIES AND ACTIONS

a. Zoning Ordinance

As a result of updating the Antioch General Plan, a number of modifications to previous General Plan land use designations are proposed. These modifications to proposed land uses are primarily located within General Plan Focus Areas. As a result of these modifications, not all lands will have zoning consistent with the General Plan. In addition,

the General Plan contains provisions calling for modifications of zoning standards.

California Government Code Section 65860 requires that a city's zoning be consistent with its General Plan¹. Where a city has undertaken a comprehensive update of its General Plan, case law permits the city a reasonable period of time to change its zoning ordinance (zoning map and text) to achieve consistency with its updated General Plan.

The following implementation programs will be undertaken in relation to the City's zoning ordinance.

1. Revise the zoning map to reflect the land use categories of the adopted General Plan, including zoning of lands within focus areas.
2. Prepare a matrix defining the zoning classifications that are considered to be consistent with each General Plan designation.
3. Revise the text of the zoning ordinance to reflect the provisions of the adopted General Plan in relation to the following issues.
 - Modify permitted uses within zoning designations to reflect the delineation of appropriate uses set forth in the Land Use Element.
 - Establish development standards for mixed-use buildings within the downtown area and within transit-oriented development nodes. Typically, a mixed-use building would consist of residential dwelling units placed on the upper floors of buildings having commercial or office uses on the ground floor.
 - Modify zoning standards to reflect appropriate locations for churches

¹ This requirement extends to general law cities, such as Antioch. Exceptions are made for charter cities.

and schools as set forth in the Land Use Element.

- Add requirements for the provision of charging stations for electric vehicles in major commercial and employment-generating developments.
- Establish standards for boat storage yards, including standards for stackable storage.
- Establish density bonuses for senior housing projects.
- Establish standards for the development of residential care facilities.
- Modify zoning standards to incorporate standards for open space transitions and buffers.

b. Development Review Process

Antioch's development review process involved examining proposed development projects for their conformance with the following.

- policies set forth in the General Plan;
- development standards set forth in the zoning ordinance and (where applicable) subdivision ordinance;
- the provisions of any applicable specific plan;
- for residential projects, the provisions of Antioch's residential growth management program;
- and the provisions of the City's economic development strategy.

General Plan Consistency Review. New development projects that require discretionary actions by the City will be reviewed for consistency with the provisions of the General Plan, including the General Plan land use and circulation maps and all applicable General Plan goals, objectives, and policies. The City will not approve any

development project found to be inconsistent with the provisions of the General Plan.¹

Zoning Review. The City's zoning ordinance sets for a description of specific permitted uses and development standards needed to implement the General Plan. All proposed development will be reviewed to ensure that the requirements and standards of the City's zoning ordinance are met.

Subdivision Review. Whenever a proposed development requires division of land into separate parcels, such development shall be subject to the provisions of the City's subdivision ordinance. This ordinance sets forth both procedural and substantive requirements for the division of land within the City, implementing both the Antioch General Plan and the California Subdivision Map Act. All divisions of land within the City shall be required to meet the provisions of the City's subdivision ordinance and the Map Act.

Environmental Review. The provisions of the California Environmental Quality Act (CEQA) require public agencies to review the potential environmental impacts of discretionary actions they proposed to undertake prior to actually undertaking those actions, including review of proposed development projects. The City will maintain review guidelines in accordance with CEQA and State guidelines to implement CEQA. Environmental review of individual projects (public and private) will entail preparation of sufficient technical data to determine consistency with General Plan policies related to the physical environment, including, but not limited to, traffic, noise, air quality, biological and cultural resources, public services and facilities, availability of energy and water resources, visual impacts, and flooding and geotechnical hazards.

As part of the environmental review process, mitigation measures needed to achieve consistency with the provisions of the General Plan will be applied to proposed projects.

¹ See also "Resolution of Competing Objectives" under Section 12.4d.

c. Maintain Adequate Municipal Services and Facilities

On an annual basis, coinciding with the Fiscal Year, as part of the General Plan review, the City will conduct an assessment of the municipal services and facilities being provided to Antioch residents and businesses. The assessment will determine whether the performance level of municipal services and facilities meet the performance objectives outlined in the Growth Management Element. This review will also include an evaluation of the adequacy of city facilities and equipment; personnel staffing and program needs; and five-year equipment, facility, and staffing needs based on anticipated growth and desired levels of service.

Where the performance objectives contained in the Growth Management Element are not being met, the following procedures will be implemented:

- The City will determine the nature and geographic extent of the deficiency.
- Upon the nature and geographic extent of the deficiency, the City Council will direct the City Manager to prepare a program for Council adoption to ensure that the performance objectives will be met at the earliest possible date.
- As part of the program to cure the identified deficiency, appropriate limitations on new development will be established within the improvement area so to facilitate elimination of the deficiency. These limitations will remain in effect until the deficiency is eliminated.
- New development within the improvement area will be required to provide such facilities as are necessary to ensure that the services and facilities provided to the new development meet established performance standards, and that the services

and facilities provided to existing development will not be further degraded.

d. Urban Limit Line

- Prior to the County's review of the Urban Limit Line, request modification of the County's Urban Limit Line to include approximately 1,000 acres within the Roddy Ranch (approximately 850 acres) and Ginochio Property (approximately 150 acres) Focus Areas that were within the Urban Limit Line as it was approved by the voters in 1990 within County's present Urban Limit Line.

e. Actions to Implement Focus Area Policies

The General Plan Land Use Element sets forth policies specific to individual Focus Areas within the City. To implement these Focus Area policies, the following actions will be undertaken.

- Update plans for the San Joaquin River waterfront, including such issues as appropriate development design; location and design of the proposed waterfront trail and park amenities, and means for providing improved all-weather access to Rodgers Point.
- Consider renaming "L" Street to Marina Boulevard and "A" Street to Rivertown Boulevard as a means of increasing the visibility of the waterfront, marina, and downtown area.
- Prepare a design plan and implement design improvements for Somersville Road from its entrance to Rivertown at Fourth Street to the south end of County East Mall.
- Develop zoning overlays, modifying permitted uses within Focus Areas for which a Specific Plan has not been adopted to reflect the identification of appropriate uses set forth within the Land Use Element for each Focus Area.
- Undertake an engineering analysis to determine the feasibility of providing an

all-weather vehicular access connection between Rivertown and the Rodgers Point area between Second and Sixth streets, including a grade-separated crossing of the existing railroad line.

- Work with the City of Pittsburg to create a roadway connection from Century Boulevard to Buchanan Road along the western city limits.
- Prepare a Specific Plan for the "A" Street Focus Area.
- Investigate the feasibility of creating a redevelopment project area for the "A" Street Interchange Focus Area, including the feasibility of relocating residents as part of planned conversion of lands within the Focus Area from residential to commercial use.
- Undertake a review of the East Lone Tree (FUA 2) Specific Plan to determine whether its assumed residential buildout is feasible given the area's topography.

f. Community Design: Streetscapes

The Community Image and Design Element contains guidelines and policies to improve the visual quality of roadways throughout the City. To implement these policies, the City will undertake the following actions.

- Prepare a landscape manual for roadway rights-of-way, delineating specific street trees to be used to accomplish the purposes outlined in Policy 5.4.2e of the Community Image and Design Element:
 - Differentiate the roadway types outlined in the Circulation Element.
 - Define the hierarchy of entry locations, intersections, and activity centers.
 - Incorporate a full palette of plants, including annual color, to the streetscape.
 - Emphasize drought-resistant landscaping.
- Prepare a plan for utilizing different types of street light within the various Focus

Areas of the City to assist in creating a unique character for each of the areas.

- Establish a program for banners on lighting standards to provide visual interest and to announce community events.

g. Community Design: Community Activity Areas

The City will establish a program of signage and kiosks throughout the community identifying locations of and directions to important community features and activity areas (e.g., major shopping areas, Rivertown, City marina, Rodgers Point), as well as identifying pedestrian and bicycle paths and trails.

h. Community Entries and Gateways

Prepare specific designs for and install gateway improvements at the key locations within Antioch identified in Policy 5.4.3 of the Community Image and Design Element and Policy 6.3.2l of the Economic Development Element.

i. Screening along State Route 4

Undertake a joint program with Caltrans to design screening of residential areas along the Route 4 freeway, as set forth in Policy 5.4.5a.

j. Commercial Lighting

Develop specific standards for the screening of light sources within commercial developments to avoid spillover of light into adjacent residential areas. Such standards could include height limits for lighting standards, requirements for use of cut-offs, and performance standards defining the maximum amount of light (expressed in foot-candles) that would be permitted on adjacent properties from a commercial lighting source.

k. Transportation Improvements

- Require development projects to dedicate and construct roadways indicated on the Circulation map, as well as local roadways, as needed to maintain the

performance standards set forth in the Growth Management Element.

- Work with the Contra Costa County Congestion Management Agency to prepare Action Plans and have Eighteenth Street, Wilbur Avenue, Sunset Avenue, Oakley Avenue, and the Pittsburg-Antioch Highway designated as Routes of Regional Significance.
- Undertake design studies and pursue construction of couplets in the Rivertown area for Ninth and Tenth streets and for Second and Fourth streets.
- Undertake annual traffic counts on the Antioch roadways identified on the Circulation Element map (Figure 7.1). For best results, counts should be taken in the spring or fall.
- Support regional efforts to determine the feasibility of and implement (if feasible) waterborne transit.
- Maintain current street standards to be applied to all public streets prior to dedication to the City, as well as to private roadways accommodating more than 50 vehicles per hour.
- Review roadway development standards to ensure that bicycle lanes are included in standard roadway sections.

i. ABAG Housing and Employment Projections

Work with the cities of Pittsburg, Oakley, and Brentwood to lobby ABAG to modify regional plans and projections to reflect a more balanced relationship of jobs and housing in eastern Contra Costa County. Such a regional policy would be intended to better reflect the jobs/housing balance policies of these cities' General Plans, recognizing the traffic and air quality imperatives for achieving such a balance.

m. Review of Annexations

- Annexation proponents shall demonstrate that facilities, services, and infrastructure are adequate to serve the proposed annexation area in accordance with the

performance standards set forth in the General Plan Growth Management Element, or that provision has been made to upgrade deficient facilities, services, or infrastructure.

- Small, piecemeal annexations should be avoided. Lands annexed to the City should encompass entire neighborhoods or development areas.

n. Water and Sewer Infrastructure

- Maintain current master plans for water facilities and sewage collection facilities that are consistent with Federal, State and regional standards.
- On a five-year basis, evaluate local water consumption patterns to determine whether the City's water supplies are adequate to support buildout of the General Plan.
- In cooperation with the Delta Diablo Sanitation District and other potential purveyors, undertake an analysis to determine the feasibility of developing a system to use reclaimed wastewater and/or raw (untreated) water, along with creating a market for its use for irrigation and industrial purposes within the community.

o. Public Safety

- In cooperation with the Contra Costa County Fire Protection District, and coordinated with the City's annual budget cycle, conduct an annual assessment of the adequacy of facilities and services serving Antioch. This assessment would address personnel and staffing needs, and capital needs, based on anticipated growth and the level of service standard set forth in the Growth Management Element.
- On a five-year basis, have POST undertake an analysis of the Antioch Police Department's staffing needs.

p. Monitor New Technologies

The General Plan includes techniques to improve water quality, reduce water

consumption and solid waste generation, and conserve energy. However, research is continually being done, which expands our understanding of these issues and suggests new technologies to address the problems. To ensure that the General Plan implementation programs reflect the most current understanding of the issues, it is essential that new technologies be reviewed, and that the General Plan implementation programs be updated to incorporate current technologies. Of particular interest is maintaining an understanding of the commercial viability of new technologies, and when their incorporation into new public and private development projects should be encouraged or required. For example, the first year's review should review such new technologies as fiber optic cabling and support of Internet broadband services in new developments. Review of solar and photovoltaic cell technologies should, for example, also be examined. As part of the City's annual budget process, accommodation for such monitoring should be included, with results and recommendations placed in the General Plan annual report.

q. Promote Energy Conservation by Example

It is the intention of the City of Antioch to set an example for energy conservation by reducing energy consumption in City operations. Techniques for energy conservation include, but are not limited to:

- emphasizing fuel efficiency in the purchase and use of City-owned vehicles;
- periodically reviewing energy use by City operations and implementing programs to conserve energy;
- encouraging the use of bicycles by providing bicycle parking facilities at all City facilities; and
- achieving adopted solid waste source reduction and recycling goals in municipal operations.

r. Maintain Disaster Preparedness; Upgrade Existing Plan

- The City will maintain a Multi-Hazard Functional Plan to coordinate disaster recovery activities within the City of Antioch. As part of this effort, the City will actively solicit the input of local disaster preparedness agencies, including, but not limited to, fire, Sheriff and Highway Patrol, and the American Red Cross. The City's existing plan will be expanded to address issues of domestic terrorism, including incident prevention and response.
- On a five-year basis, the City will undertake an analysis of Antioch's Multi-Hazard Functional Plan, emergency response facilities, staffing and capabilities.
- The City will maintain information on emergency and disaster response on its web site, and at least once during each fiscal year, provide information emergency and disaster response information in a City mailing.

12.3 INTERGOVERNMENTAL COORDINATION AND COMMUNITY INVOLVEMENT PROGRAM

The Intergovernmental Coordination and Community Involvement Program proposes actions that reflect Antioch's commitment to look for appropriate responses to specific issues. For example, some issues, such as traffic, not only affect the City of Antioch, but also affect adjacent jurisdictions and the surrounding region. Many public services and facilities issues affecting the City require actions to be taken by or in cooperation with the agencies charged with the provision of specific services within the General Plan study area (e.g., Antioch Unified School District, Delta Diablo Sanitation District, Contra Costa County Fire Protection District). Many issues cross geographic boundaries, and therefore require concerted efforts by several governmental entities before they can be resolved. Intergovernmental coordination means actively pursuing regional solutions to

regional problems. Antioch is committed to working with its neighbors to address these issues.

a. Coordinate Land Use Planning Activities

- Actively pursue reviewing the land use planning efforts of adjacent jurisdictions, and provide constructive comments regarding the impacts that such programs will have on the City of Antioch.
- Work with Contra Costa County and the cities of Brentwood, Oakley, and Pittsburg to achieve compatibility between the land use plans of each jurisdiction.
- Work with Contra Costa County to ensure consistency between the County's and City's development review processes and development standards. The objective is that development occurring within the unincorporated portions of the General Plan study area address the issues raised in the Antioch General Plan and are of a character and quality consistent with that which would result from development within the City of Antioch.
- Pursue formation of ad hoc coalitions with other local agencies and community groups as a means of increasing the effectiveness of Antioch's voice in regional planning efforts and the planning efforts of adjacent jurisdictions.
- Along with Contra Costa County and the cities of Brentwood, Oakley, and Pittsburg, set up an ongoing forum of the discussion of areawide issues and the resolution of conflicts between the agencies.
- Pursue establishment of inter-jurisdictional agreements for the mitigation of development impacts. It is the City's intent that such inter-jurisdictional agreements support a policy of using adjacent jurisdictions' General Plans and Master Plans as the basis for defining appropriate mitigation of inter-jurisdictional development impacts.
- On an annual basis (at any mutually agreeable time), initiate discussions of issues of common interest with local,

regional, State, and Federal agencies whose efforts could benefit or impact the City of Antioch.

b. Coordinate Transportation Planning and Facilities Funding

The City of Antioch will work with Caltrans, the Contra Costa County Transportation Commission, Contra Costa County, and the cities of Pittsburg, Oakley, and Brentwood to coordinate subregional transportation facilities. Coordination efforts will include:

- updating and providing information to other agencies on the status of development projects, roadway facilities, and other transportation improvements;
- encourage and support the activities of Contra Costa County and cities to the east of Antioch to increase employment in their communities and thereby reduce the need for commutes through Antioch to the inner Bay Area;
- coordinate with Caltrans, Contra Costa County, and communities to the east of Antioch to establish a system of park-and-ride lots along with an active rideshare matching program;
- coordinate with the Contra Costa Transportation Authority, Tri-Delta Transit, Caltrans, and BART to provide support facilities (e.g., parking and access) improvements for the extension of rail service into Antioch; and
- coordinate revisions to the City's circulation and bicycle plans with regional circulation planning efforts.

c. Coordinate Planning Programs with the Antioch Unified School District, Brentwood School District, and the Liberty Joint Union High School District

The City will coordinate future development with area school districts by:

- participating with the school districts in joint land use/facilities planning efforts;
- establishing a joint task force of city, school district, and development community representatives to identify additional means of funding school construction, if needed, beyond the limits imposed on the City's ability to require payment of development fees as a condition of approval;
- requesting that the school district indicate the level of facilities available to serve new development projects requiring discretionary review by the City;
- coordinating with the school district in preparation of a Master Plan of Schools which outlines specific sites needed to support buildout of the Antioch General Plan; and
- coordinating with the school district to establish a clear methodology for determining the impacts of development within the City of Antioch upon school facilities, including:
 - student generation ratios for residential development;
 - methods to determine student generation factors and mitigation responsibilities of commercial, office, and business park uses in a manner that businesses within the City of Antioch are only required to pay for the school impacts they create within the City;

- potential credits for contributions made from city parks and recreation funding mechanisms to establish joint use school/park facilities; and
- establishment of a construction cost index for new school and park facilities.

d. "Responsible Neighbor" Project Review

The City of Antioch will provide timely review and constructive comments on the projects other agencies as they affect the City of Antioch and its General Plan study area. The City will base its comments and requests for mitigation of impacts upon the provisions of this General Plan document, and will actively lobby jurisdictions to apply the same principles of recognizing each agency's General Plan as the basis for requesting and providing mitigation of impacts created in other jurisdictions.

e. Enhance Community Awareness

The effectiveness of the programs described in the Antioch General Plan is dependent on the participation of Antioch residents. To ensure that residents are made aware of these programs, the City will publicize local programs and provide a forum for public debate of local issues.

- Continue to use the City's web site to publicize City-sponsored programs such as:
 - recycling efforts;
 - recreation programs;
 - water conservation;
 - energy conservation;
 - community policing and Neighborhood Watch programs;
 - fire prevention programs;
 - alternative modes of transportation; and

- disaster preparedness.
- Invite agencies involved in water and energy conservation programs to set up educational displays in City Hall and other community facilities.
- Pursue expanding the use of local cable television as a means of providing public information.

f. Involve the Community in the Development Review Process

In order to facilitate citizen participation in the development review process, and to facilitate the public hearing process, the City of Antioch will encourage informal meetings between citizen groups and developers on proposed development projects. The purpose of such meetings is to facilitate interaction between the developer and neighborhood interests to provide the developer with the opportunity to inform and obtain feedback from the neighborhood in a relaxed, informal setting.

Although the results of these informal meetings are not binding upon the City, early consultation and discussion between developers and affected citizens can significantly facilitate the development review process by resolving neighborhood and community issues before public hearings begin.

12.4 GENERAL PLAN MAINTENANCE

a. Annual General Plan Review

California Government Code Section 65400(b) requires the planning agency of each city and county in the State to provide an "annual report to the legislative body on the status of the (general) plan and progress in its implementation." Such a report will be prepared and delivered annually to the Antioch City Council as part of its budget process, providing both an update on the implementation of the General Plan and a work program for General Plan implementation for the next fiscal year.

Pursuant to the provisions of the General Plan, the City Council will not permit new development to cause the performance of public services and facilities to fall below performance standards included in the Growth Management Element. The annual report on general plan implementation will be used to identify the performance of services and facilities in relation to the performance standards adopted as part of the Growth Management Element.

b. Review of Capital Improvement Plans and their Consistency with the General Plan

Among the statutory responsibilities of California cities and counties is to "annually review the capital improvement program of the City or county and the local public works projects of other local agencies for their consistency with the General Plan..." (Government Code Section 65103(c)). Also, pursuant to State law (Government Code Section 65401), all departments within the City and all other local government agencies (including the County school districts, and special districts) must submit a list of proposed capital improvement projects to the City. Antioch currently accomplishes this requirement internally through its Capital Improvement Program. The City is also responsible under the Government Code for reviewing these projects (both City and special districts) for conformity with the City's General Plan, and report back to the agency. It is the City's intent to execute these requirements for general plan consistency reporting and review capital improvement plans to the best of its ability. The annual General Plan consistency report process, which is tied to the City's fiscal year, will be used to comply with the provisions of Government Code Sections 65301 and 65401. A notice to special districts will be sent by the City sufficiently prior to the end of the fiscal year, outlining Government Code requirements, and requesting submittal of proposed capital projects by the districts for City review.

c. Maintain a Current General Plan

To continue to function as the "constitution" for managing the community's future, the General Plan should reflect current conditions and community values and priorities. Adequate review of the General Plan subsequent to its adoption is an important part of its implementation, permitting it to be adjusted in response to changing conditions, both internal and external, availability of more recent information, changing technologies, and shifting community values.

The City will undertake a comprehensive review of its General Plan, and will update the General Plan as needed at five-year intervals. To the extent feasible, this review will be undertaken concurrent with updates of the Housing Element (2007, 2012, 2017, etc.).

As a result, State law provides for amending and updating the General Plan. By law, each element of the General Plan may be amended a maximum of four times a year (several changes may be grouped into each amendment, and there is no limit on the number of individual changes any single amendment may consider.). State law also requires that the City's Housing Element be updated every five (5) years.

It is anticipated that the annual General Plan review will result in amendments to the General Plan that are needed to keep the document up to date. In addition, citizens and landowners may apply for General Plan amendments. The City Council and Planning Commission may initiate, or any citizen may apply to amend general plan text, exhibits, or maps. In order to ensure a compatible and internally consistent general plan document, any proposed change to the plan must be consistent with the criteria and conditions of the balance of the General Plan text, as well as with general plan maps and exhibits.

General Plan amendment requests will be processed in accordance with State Planning Law, CEQA, and City ordinances. There are two types of General Plan amendments that might be filed, with each type having a

different degree of complexity related to its review (see Table 12.A).

d. How to Interpret the General Plan

Interpretation of the General Plan Land Use Map. In any case where uncertainty exists regarding the location of boundaries of any land use category, proposed public facility symbol, circulation alignment, or other symbol or line found on the official maps, the following procedures will be used to resolve such uncertainty.

- Boundaries shown as approximately following lot lines shall be construed to be following such lot lines.
- Where a land use category applied to a parcel is not mapped to include an adjacent street or alley, the category shall be considered to extend to the centerline of the right-of-way.
- Boundaries shown as following or approximately following the limits of any municipal corporation shall be construed as following such limits.
- Boundaries shown as following or approximately following section lines, half-section lines, or quarter-section lines shall be construed as following such lines.
- Boundaries shown as following or approximately following railroad lines shall be construed to lie midway between the main tracks of such railroad lines.
- Boundaries shown as following or approximately following high water lines shall be construed to follow the mean high water lines of such water bodies, and, in the event of change in the mean high water line, shall be construed as moving with the actual mean high water line.

Table 12.A – Types of General Plan Amendments

<p>Substantive Amendments</p> <p>Substantive Amendments are any changes to the goals, objectives, or policies set forth within the General Plan, including changes to the General Plan land use or circulation maps.</p> <p>Substantive Amendments are subject to State law limitations on the number of amendments that may be considered within a year. These amendments may be considered by the City on an ongoing basis, and be grouped together, as needed, to form individual amendments for final action by the City.</p>
<p>Technical Corrections</p> <p>Amendments of this nature are essentially changes to the data base and statistics used in preparation of the General Plan, as well as corrections of grammatical and typographical errors that do not change the meaning of policies and actions as adopted. These will be processed on an ongoing basis. Because Technical Revisions are editorial rather than substantive in nature, more than four technical revisions may be approved by the City for any individual element within a year.</p>

- Boundaries shown as following or approximately following the centerlines of streams, creeks, rivers, or other continuously flowing water courses shall be construed as following the channel centerline of such water courses taken at mean low water, and, in the event of a natural change in the location of such streams, rivers, or other water courses, the zone boundary shall be construed as moving with the channel centerline.
- Boundaries shown as separated from, and parallel or approximately parallel to, any of the features listed above shall be construed to be parallel to such features and at such distances therefrom as are shown on the map.
- Symbols that indicate appropriate locations for proposed public facilities are not property specific. They indicate only the general area within which a specific facility should be established.

Within Focus Areas, boundaries on land use maps will generally follow the above rules, but may be modified consistent with General Plan

policies to reflect site-specific conditions and analysis.

Resolution of Competing Objectives. It is the intent of the Antioch General Plan to present straightforward goals, objectives, policies, and implementation programs, and to present sufficient information with which to make consistent land use and policy decisions. Despite the requirements of State law requiring internal consistency of the General Plan, the inclusion of goals, objectives, approaches, policies, and implementation programs which are based on competing community values is inevitable. An example of such a case is the requirement for regular watering of areas being graded, and the desire for water conservation.

Where such competition between competing values results in seemingly incompatible policies or implementation actions, City decisionmakers will be required to determine the relative priorities of the values upon which the policies or implementation actions are based, and to act based on that determination.

12.5 HOUSING PROGRAM

Housing programs are found in Chapter 9, Housing Element.

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APPENDIX A

SAND CREEK RESOURCE MANAGEMENT PLAN

**FRAMEWORK
FOR
RESOURCE MANAGEMENT PLAN
FOR
SAND CREEK FOCUS AREA**

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INTRODUCTION AND APPROACH

This Framework for Resources Management Plan for Sand Creek Focus Area (the "Plan") provides the framework for addressing the special status biological resources in the Sand Creek Focus Area in the City of Antioch (Figure 1). This Plan has been developed to provide a basis for establishing resource management policies for the Sand Creek Focus Area. As its name suggests, this Plan will serve as the framework for a more detailed Resource Management Plan ("RMP") which will refine the policies described in this Plan. The resource management policies developed in this Plan and in the resulting RMP are intended to inform and support the City's determinations regarding appropriate land uses for the Focus Area, which determinations will be implemented and given effect through the City's General Plan 2003 and its Sand Creek Specific Plan. Both the General Plan 2003 and the Sand Creek Specific Plan will be considered for adoption by the City Council in the fall of 2003.

This Plan takes a broad and integrated approach to these resources, based on three well-accepted principles from conservation biology. First, it considers the biological resources in the Focus Area in terms of natural communities at a regional scale. In doing so, the Plan recognizes the variable distribution and interactions of the sensitive resources in the area, providing a perspective superior to the common project-by-project and species-by-species approach typically applied to sensitive species issues. The natural communities present in the Sand Creek Focus Area and addressed in this Plan include the grassland community; the stream and riparian community; the chaparral, scrub and rock outcrop community; and the oak woodland and savannah community. The Plan also addresses the relationships between these natural communities and the existing preserved lands in regional proximity to these natural communities. This broad, regional approach is complementary to the General Plan and Specific Plan processes that will be used to consider and approve development proposals for the Focus Area, and helps to ensure that the benefits of comprehensive multi-parcel planning are realized.

Second, the Plan utilizes the concept of landscape corridors to link existing areas of preserved habitat. Habitat fragmentation has been identified as one of the greatest threats facing wildlife species today. In recent years, ecologists have placed increased emphasis on the role that preserved landscape corridors play in maintaining regional habitat values. Among other things, preserving landscape corridors between larger, fragmented habitat areas helps to prevent local extinctions of isolated populations, aids in the support of species that require more resources than can be supplied by single preserves, and increases the value of existing preserves as potential habitat by providing access points between larger habitat preserves.

In general, the greater the number of access points (e.g., corridors) between or among suitable habitat areas, the greater the chance of species persistence. This is particularly true when habitat areas are too small to support self-sustaining populations, or the species' history includes multiple episodes of extinction and recolonization, such as the California tiger salamander.

Habitat corridors should generally be as wide as possible to be fully functional. A fully functional corridor is one that can be readily occupied and traversed by all of the species associated with its community, and a less functional corridor is difficult or impossible for some

species to occupy or traverse. Width is best expressed relative to the length of the corridor: as a rule of thumb, fully functional corridors are typically at least as wide as the pinched area is long, and corridors that are many times longer than they are wide are typically less functional.

The adverse effects of development on habitat corridors can, as a general rule, only be effectively mitigated by minimizing or avoiding the impact. When avoidance is not practicable, minimizing the impact can be accomplished by ensuring that other corridors remain intact.

Wildlife populations usually experience stochastic (uncertain) extinctions for one of four reasons: 1) genetic (i.e., inbreeding depression); 2) demographic (e.g., one gender disappears from a small population); 3) environmental; or 4) catastrophic (e.g., fire). Landscape corridors minimize the potential for extinction events by reducing the likelihood that one of these scenarios will occur.

It is important to note that landscape corridors are used differently by different species. For instance, medium to large mammals (or some bird species) may traverse a corridor in a matter of hours, while smaller mammals or other species may take a longer period of time to move through the same corridor (e.g., measured in days, weeks and even years).

An example of a species moving more quickly through a corridor was demonstrated empirically by Paul Beier in Orange County. Dr. Beier was able to show that the immigration of one male cougar every 10 years was sufficient to reduce the probability of the Santa Ana cougar population from experiencing an extinction event. Demographic extinction was a possibility in this case because there was a relatively small area that supported cougars, a biased sex ratio among the species (1 males for every 4 or 5 females), and because males of the species typically experienced higher mortality rates. In this case, a narrow landscape linkage that connected habitat in the Santa Ana Range with larger areas of the Cleveland National Forest allowed for the necessary influx of males.

A local example of a species moving more slowly is the California ground squirrel. Concerted efforts by the Contra Costa County Department of Agricultural in the 1950's to the late 1970's extirpated the ground squirrel from the northern part of the County. Ground squirrels were found to be absent from all of the Focus Area in the mid-1990's and even as late as 1998. Ground squirrels have now recolonized the Focus Area and, as a result, there is an increased likelihood that other species that prey on the ground squirrel, such as the burrowing owl or the kit fox, may appear in the Focus Area. In addition, other special-status species, such as the California tiger salamander, may also benefit by the recolonization of the ground squirrel in the Focus Area. This gradual movement of ground squirrels into the Focus Area from suitable areas to the south is best described as incremental movement over several years.

These examples demonstrate that landscape linkages are not simply highways that animals use to move back and forth. While they serve this purpose, they also allow for slower or more infrequent movement; movement strategies that may be just as profound as a single movement event over just a couple of hours.

Third, the Plan utilizes the concept of "umbrella species." Umbrella species are those species that require large amounts of unfragmented habitats. As a result, preservation of lands that provide suitable habitat for specified umbrella species will result in the preservation of lands that are suitable habitat for other sensitive species that occupy the same types of habitat. Two grassland species, the San Joaquin kit fox and burrowing owl, and one woodland/scrub species,

the Alameda whipsnake, are considered umbrella species for the purpose of this Plan (these species will also be considered umbrella species for the Resource Management Plan that will be developed based on this Plan). The preservation of habitats regionally for these umbrella species will maintain or enhance the regions biodiversity by preserving habitats for many other sensitive and special-status species.

A number of sensitive species in addition to the umbrella species are either known to occur or are suspected to occur on the lands within the Sand Creek Focus Area. On a large scale, the Plan is designed to preserve large parcels of habitat lands based on the needs of the umbrella species. At the same time, however, the Plan contains provisions to ensure that the lands chosen for preservation will meet the habitat needs of the particular special-status species that are directly or indirectly impacted by development. For example, under the Plan, development of a parcel that impacts the breeding and/or estivation habitat for the California tiger salamander would be required to preserve grassland habitats that support conditions for the tiger salamander in an amount that is equal to or greater than the acreage of the impacted site. Conversely, if the tiger salamander was absent from that site, then the preservation lands would not need to contain the specific habitat values required by this species. This approach not only preserves habitats for umbrella species (i.e., large habitat requirements), but also those habitat parameters required by all the special-status species that occur within the Plan Area.

By its design, the Plan and resulting RMP will encourage the preservation of lands that will contribute to maintaining landscape linkages and corridors between larger areas of open space and preserved habitats primarily outside the Focus Area, and reduce future anthropogenic impacts that would fragment the landscape. In doing so, this approach will help maintain the region's biodiversity by preserving habitats for the specified umbrella species and the other special-status species that share these habitats, thereby preserving the habitat value of the entire region.

This natural, community-based approach offers several important benefits for the Focus Area, both at the General Plan level and at the Specific Plan level:

- The General Plan and Specific Plan are long-term documents that must remain functional from their approval through buildout of the last property in the Focus Area. To be effective, the Plan and RMP must be similarly long-term. A species-based approach, based on “snapshots” of species distribution generated by biological surveys, does not provide this longevity when the distribution of sensitive species changes over time. A plan based on “snapshots” will soon become obsolete when the subjects move, where a plan based on natural communities will work over the long-term as needed.
- Several of the special-status species that are known or suspected to occur in the Focus Area can be very difficult to detect, either because of their life history (*e.g.*, they spend much of their lives underground), their tendency to be present at very low densities, and their irregular presence over time (*i.e.*, they are absent one year, but present in another). Their irregular presence may especially confound planning efforts when build-out is expected to occur over a number of years.
- A natural, community-based approach offers a sound technique to deal with data deficiencies that arise when biological information has been unevenly and/or incompletely collected, such as when differing survey efforts have occurred on various parcels.

- A natural community-based approach also allows the planning effort to look beyond the present legal status of a species, which is important in this case because status of several species may change over the life of the General Plan and Specific Plan.
- The natural community-based approach is biologically appropriate if one or more of the natural communities present in the covered area is itself considered a key or sensitive resource (such as the oak woodland and savannah community), or if species of interest are closely tied to particular communities. Both of these conditions are met in the Focus Area.

KEY SENSITIVE RESOURCES AFFECTED

This section of the Plan identifies and describes the sensitive resources that would be most affected by the General and Specific Plans. It focuses on the natural communities that support the umbrella and other special-status species, placing them in a larger regional context that includes existing patterns of urban development, agricultural, already-preserved lands and open space. The significant natural communities in the Plan Area are grassland; stream and riparian; chaparral, scrub and rock outcrop; and oak savannah and woodland (see Figure 1). This section also identifies and describes the umbrella species, other special-status species, and other sensitive resources present in these natural communities, summarizes their current status, notes any status changes likely to occur during buildout of the General and Specific Plans, and notes the status of the resources on site.

GRASSLAND COMMUNITY

The grassland community includes areas vegetated by both annual and perennial grasses, with lesser amounts of forbs (broadleaved herbaceous plants), which are commonly used as rangeland. It includes areas that have been lightly cultivated for dryland farming in some years, which retain key ecological characteristics of grassland under this use. It excludes areas with significant woody vegetation and areas that have been intensively cultivated in most years.

At the broadest regional level, the Focus Area is part of a large swath of grasslands that historically extends from San Joaquin County in the northeastern San Joaquin Valley to Central Contra Costa County. These historical grasslands have been greatly reduced by agricultural and urban development. Existing grasslands are now confined to relatively narrow bands closer to the foothills.

In the region of east Contra Costa County immediately surrounding the Focus Area, grasslands extend west from the Altamont Pass area, located to the southeast of the Focus Area, through lands to the south of the cities of Brentwood and Antioch in the southeastern portion of the County, and along the north flank of Mt. Diablo and into East Bay Regional Park District lands to the west of the Focus Area. (See Figure 1)

The west end of the Focus Area is in a linkage between two regionally large blocks of grassland: one to the north of Mt. Diablo extending west to Concord, and a second on the west edge of the San Joaquin Valley extending to Altamont Pass and beyond. Historically, this linkage was broad, extending from the chaparral and oak woodland of the Diablo Range to the edge of Delta wetlands. Decades of urban and agricultural development have substantially reduced the width

of this linkage over the past several decades, thereby increasing the ecological importance of the remaining linkage.

Primary movement corridors in this region follow the flat valley floors of the northwest-trending valleys: Briones Valley, Deer Valley, Horse Valley, and Lone Tree Valley. Connectivity also occurs over ridges between the major valleys, but on a secondary basis because the steep habitat between the valleys is generally suboptimal. Briones Valley has the least function in this regard because it ends in oak woodland and chaparral, rather than connecting with the grassland to the north. Deer Valley and Horse Valley have intermediate function. Historically, the Lone Tree Valley had the highest function in this regard because it connected former grasslands in the Brentwood area to the grassland on EBRPD lands to the northwest, which land has been protected for its resource values. However, the function of the Lone Tree Valley corridor, and to a lesser extent the Deer Valley and Horse Valley corridors has been reduced by existing urban and agricultural development in Brentwood, which essentially blocks the east end of these linkages.

Secondary connectivity is likely more functional toward the east, where topography tends toward rolling hills rather than steep ridges. The importance of this secondary connectivity has been increased by the extent of development in Brentwood, which blocks the east end of the linkages.

Existing Preserved Lands in the Region

Significant areas of grassland have been set aside in regional parks and permanent open space in the region, primarily in extensive grassland habitats typical of the Central Valley to the immediate west and northwest of the Plan Area, but also south of the Plan Area (see Figure 1). Other preserved lands to the west and southwest, centered on Mt. Diablo, are largely in a mosaic of woodland, chaparral/ scrub, and grassland more typical of the Inner Coast Range. These preserved lands represent a significant investment of public resources, and are a valued public asset.

To maintain their full biotic function, the preserved grasslands in and around the Focus Area must remain connected to other blocks of grassland habitat. Significant reduction of connectivity would indirectly affect these existing preserved grassland habitats.

Vernal Pools and Associated Species

Vernal pools are a seasonal wetland type fairly closely associated with the grassland community, particularly the lower elevations with flatter slopes and older soils. Because their viability is dependent on hydrologic integrity, the sensitive area includes the pools themselves and their contributing watersheds. The watersheds are usually several times the area of the pools, but rarely many times the area of the pools.

When inhabited by any of several species of small freshwater shrimp listed as threatened or endangered, vernal pools are regulated under the federal Endangered Species Act (ESA). Vernal pool regulatory status under the federal Clean Water Act (CWA) is uncertain following the US Supreme Court's SWANCC decision, and is likely to be in flux during the life of the General and Specific Plans.

Vernal pools are found in the eastern part of the Focus Area in small numbers, typical of their distribution. A number of these pools are known to support vernal pool fairy shrimp (a listed

threatened species) (see Figure 2), but its status throughout the Plan Area has not been fully determined.

San Joaquin Kit Fox

For the purpose of this Plan and the resulting RMP, the kit fox is considered an umbrella species. The San Joaquin kit fox is a small carnivore closely associated with the grassland community.

This species is listed as endangered under the federal ESA, and as threatened under the state ESA.

The Focus Area is at the very northerly edge of this species' range, consequently its presence would be on only an irregular basis in very small numbers. It is clearly more numerous south of Marsh Creek Road toward Altamont Pass, but occasional sightings have been made both south and west of the Focus Area (see Figure 3). San Joaquin kit fox are difficult to detect because they are largely nocturnal, generally shy, and spend much of their time underground. Although parts of the Focus Area have been surveyed in some detail, the combination of poor detectability and irregular distribution from year to year means that the absence of detections in previous surveys in the Focus Area does not rule out the possibility that this animal could be found at some future time in grassland in the Focus Area.

California Tiger Salamander

The California tiger salamander is an amphibian very closely associated with the grassland community.

California tiger salamanders are not currently listed under state or federal ESAs. However, there is a high probability that this species will be proposed for federal ESA listing in 2003 and a considerable probability that it will then be listed in 2004.

The California tiger salamander requires both breeding pond habitat and terrestrial grassland habitat, with the latter extending well beyond breeding ponds when conditions allow (Figure 4 shows known breeding locations and maps terrestrial habitat). Although it may be fairly readily detected in the breeding ponds, the salamander is extremely difficult to detect in terrestrial habitat because it is underground more than 95% of the time. The Focus Area is solidly in the range of this species and contains quality habitat. California tiger salamanders are known to occur in a number of locations in and adjoining the Focus Area, but status throughout the Focus Area has not been fully determined.

Burrowing Owl

For the purposes of this Plan and the resulting RMP, the burrowing owl is considered an umbrella species. This small owl is very closely associated with the grassland community.

Although burrowing owls are not currently listed under state or federal ESAs, they are currently given some level of protection under the state Fish and Game Code and federal Migratory Bird Treaty Act. A petition has been submitted to the State Fish & Game Commission to add the burrowing owl to the state's list of endangered or threatened species, and there is some probability that it will be listed.

Burrowing owls are known to be present in and around the Focus Area (see Figure 5). The distribution of this species is somewhat variable over time, meaning that this owl may occur in

essentially any grassland location within the Focus Area in future years. In subsequent years, this species may re-use a nest found during a survey, or it may establish a nest in a new burrow. Because of its comparatively variable distribution, the “shelf life” of burrowing owl surveys is quite short and it is not practical to fully determine status of this species through the life of the General and Specific Plans.

STREAM AND RIPARIAN COMMUNITY

The stream and riparian community is found where water flows in discrete paths, ranging from small swales to substantial streams. This community occupies a comparatively small portion of the landscape (usually less than 2% of the landscape), but this small amount is typically distributed widely. In places, the stream and riparian community includes ponds formed by impoundments of watercourses. It excludes aquatic areas that are not part of tributary systems (see vernal pools above).

Regional Setting

The stream and riparian community in the Focus Area flows from west to east, and drains watersheds that extend a comparatively short ways outside the Focus Area. Nevertheless, because of high percolation losses in the area’s alluvial soils, the stream and riparian community in the Focus Area has a greater affinity for the Diablo Range stream and riparian community than the downstream stream and riparian community of the Sacramento-San Joaquin Delta. Although this natural community does provide a key linkage and movement corridor for many species, this function is less pronounced in the Focus Area than in many other areas because of limited easterly linkage, which usage has been reduced by previous development in Brentwood.

Stream and Riparian Communities in the Focus Area

Sand Creek flows through the Focus Area from west to east, with a greater number of tributary watercourses in the west end of the Focus Area than in the east end. The tributaries in the west end tend to be smaller and associated with ponds, while the tributaries in the east end tend to be larger watercourses. The westerly tributaries are more typical of the Diablo Range stream and riparian community, while the eastern (downstream) stream and riparian community is more typical of the Sacramento-San Joaquin Delta edge. A portion of upper Horse Valley Creek (located on the Richland property), along with associated ponds, wetlands, and alkali grassland, occurs in the southern extension of the Focus Area. This portion of the creek is more typical of the Diablo Range stream and riparian community than the Sacramento-San Joaquin Delta stream and riparian community.

Key Associated Sensitive Resources

Because of its high biotic values and intrinsically limited distribution, the stream and riparian community is itself considered a sensitive resource. It is subject to a variety of regulatory programs at both state and federal levels. The extent of this community has been delineated and formally verified over much of the Focus Area, meaning that its location may be considered fixed through the remainder of 2003 (the formal verification expires in 2003, but may be renewed if no physical changes have occurred). Major changes in location and extent are not likely to occur through the buildout of the General and Specific Plans.

California Red-legged Frog

The key sensitive species associated with the stream and riparian community is the California red-legged frog. The California red-legged frog is an amphibian fairly closely associated with the stream and riparian community. It will disperse through adjoining communities, but otherwise makes limited use of adjoining communities.

The California red-legged frog is listed as a threatened species under the federal ESA.

The California red-legged frog is generally considered to be extirpated (extinct in a given area) from the Central Valley floor, but remains in the Inner Coast Range and foothills. In the Focus Area, the species is known to have been present in recent years in the western end of the Focus Area, and in the southernmost portion of the panhandle. (See Figure 6) For this reason, Horse Valley Creek, and that portion of Sand Creek and its tributaries in Zone 3 (west of Empire Mine Road) can be considered the most sensitive watercourses in the Focus Area overall, followed by that portion of Sand Creek in the center of the Focus Area. Distribution of this species is somewhat variable over time, however. As a result, it could be found in much of the stream and riparian community within the Focus Area, but is least likely to be present in the eastern end. Status throughout the Focus Area has not been fully determined.

CHAPARRAL, SCRUB AND ROCK OUTCROP COMMUNITY

The chaparral, scrub and rock outcrop community occurs on thin-soiled areas that may contain chaparral, grasses, and broadleaved herbs, or may support minimal vegetation. It is comparatively drought-adapted. The rock outcrop community is generally limited to ridgetops, where it may co-occur with grassland, oak savannah, chaparral, or scrub. This community excludes grassland and oak woodland or savannah on deeper soils.

Regional Setting

The chaparral, scrub and rock outcrop community is associated with the Inner Coast Range, rather than the Central Valley floor. Within the Focus Area it is found primarily in the western part of the Focus Area, and otherwise extends eastward only on the ridges on either side of the Sand Creek drainage.

Key Associated Sensitive Resources

Alameda Whipsnake

This snake is fairly closely associated with the chaparral, scrub and rock outcrop community, which is limited to the west end of the Focus Area. It may be found in other communities, especially the grassland community, where the other community is within several hundred feet of chaparral, scrub and rock outcrop elements.

The Alameda whipsnake is listed as a threatened species under both state and federal ESAs.

For the purposes of this Plan and the resulting RMP, the Alameda whipsnake is considered an umbrella species.

Alameda whipsnakes have not been documented in the Focus Area, but no formal protocol-based surveys have been undertaken. A herpetologist expert in this species has determined that habitat in the southwestern part of the Focus Area is suitable habitat for this snake (see Figure 7),

meaning that it could be found there by future formal surveys. The status of the Alameda whipsnake in the Focus Area has not been fully determined.

OAK WOODLAND AND SAVANNAH COMMUNITY

The oak woodland and savannah community is typified by one or more of several species of oaks, either widely spaced with a grassland understory (oak savannah) or more closely spaced with a brush or absent understory (oak woodland). This natural community is found in areas with more abundant moisture, such as north-facing slopes. It excludes non-native plantings such as eucalyptus and trees planted around farmsteads.

Regional Setting

The oak woodland and savannah community is more associated with the Inner Coast Range than the Central Valley floor (see Figure 1), but the association is not as strong as for the chaparral, scrub and rock outcrop community.

Key Associated Sensitive Resources

Because of its high wildlife value, the oak woodland and savannah community is itself considered a sensitive resource. However, it is not subject to any special regulatory programs at either state or federal levels of government. There are no sensitive species specifically associated with this natural community in the Focus Area.

RESOURCE MANAGEMENT FRAMEWORK FOR THE FOCUS AREA

This section of the Plan identifies the adverse effects the development contemplated by the General Plan and Specific Plan would have on the key resources discussed above, and identifies policies and measures to manage those resources in a way that minimizes and mitigates these potential impacts. As described above, the Plan takes a regional and natural community-based approach to this topic. Implementation of the management measures will result in impact avoidance and minimization, reducing the adverse effects that the General and Specific Plans may otherwise have on key resources. Figure 8 summarizes the effects of the resource management strategies on development within the Focus Area.

GRASSLAND COMMUNITY

Potential Effects of the General and Specific Plans on Existing Grassland Resources

The grassland community in the Focus Area is located where urban and agricultural development have squeezed the grassland into a fairly narrow band at the edge of the Inner Coast Range. (Figure 1) One sensitive habitat type (vernal pools) and three sensitive species (San Joaquin kit fox, California tiger salamander and burrowing owl) are closely associated with the grassland natural community. This close association suggests that management plans for the grassland sensitive resources (vernal pools and three species) should be based on management of the grassland community overall.

The distribution of two of these species is variable over time (San Joaquin kit fox and burrowing owl), and two are statically distributed but affect fairly large areas of grassland (vernal pools and California tiger salamander). These distribution patterns suggest that management plans for the grassland sensitive resources should be based on management of the grassland community overall.

Each of the grassland sensitive resources is trending downward due to continued habitat loss and fragmentation, but none has reached the point of severe endangerment where any further losses of individuals would jeopardize its continued existence. Rather, the conservation of the grassland sensitive resources can best be assured by strategic preservation of the grassland community. Preservation is strategic when it occurs in key locations and results in preservation of larger blocks of well-connected habitat. Grassland habitat may be preserved if it remains in rangeland use with widely scattered residences (ensured via a conservation easement), or it may be preserved as traditional parkland or natural open space.

The strategic preservation value of the grassland community in the Plan Area increases from east to west, due to the existing pattern of urban and agricultural lands and the existing pattern of preserved lands. Within the Plan Area, lands east of Deer Valley Road are least strategically important (where adjoining land uses are urban/agriculture on two sides), lands in the Lone Tree Valley between Deer Valley Road and Empire Mine Road have intermediate strategic value (where adjoining land uses are urban on one side), and lands west of Empire Mine Road and in Horse Valley have the highest strategic value (where adjoining land is parkland and open space preserved for natural values). (See Figure 1)

Outside the Plan Area, the strategic preservation value of the grassland community is greatest in the remainder of the Horse Valley and Deer Valley areas, along with lands between these two valleys that provide connectivity between them. Collectively, these areas are a gap between the preserved open space of the Cowell Ranch and the preserved natural parkland of EBRPD (Black Diamond Mines Regional Preserve). (See Figure 1)

Potential Effects on Existing Grassland Corridors in the Focus Area

The urban development contemplated by the General and Specific Plans would further degrade the habitat corridor in the Lone Tree Valley. The existing corridor in the Lone Tree Valley has already been adversely affected by previous development in Antioch and, in particular, by previous development in Brentwood, which entirely blocks the east end of the corridor. Although a narrow corridor along Sand Creek will be retained, this corridor will have minimal function for grassland species because: 1) the east end is blocked by development in Brentwood; 2) the remaining corridor will be many times longer than it will be wide; and 3) certain grassland species will either avoid the corridor or use it infrequently because it lacks the habitat elements important for these species. This adverse effect is unavoidable without major modifications to the General and Specific Plans that would be inconsistent with the City's goals and plans for the Focus Area.

Such development would also narrow the less important primary corridor in Horse Valley, by pinching that corridor in the vicinity of the existing golf course. This potential adverse effect would be minimized by making targeted modifications to the General Plan and Specific Plan. Such development would also eliminate an existing landscape linkage that crosses the ridge between Horse Valley and the Lone Tree Valley. This potential adverse effect also would be minimized by making targeted modifications to the General and Specific Plans.

Resource Management Strategies for Grassland Corridors in the Focus Area

- **Designate a portion of the lands in the Focus Area adjacent to the EBRPD preserved lands as natural open space.** (See Figure 8) Sufficient lands adjacent to the existing preserved lands to the west of the Focus Area should be preserved to maintain the integrity of the corridor connecting EBRPD lands to the west and northwest of the Focus Area with preserved grasslands to the south of the Focus Area.
- **Designate the Horse Creek watershed portion of the Focus Area as natural open space.** (See Figure 8) The Horse Creek watershed portion of the Focus Area should be preserved to provide additional linkages between preserved grasslands to the west and northwest of the Focus Area with grasslands to the south of the Focus Area.
- **Provide incentives to preserve linkages and corridors between EBRPD lands and existing open grasslands to the south of the Focus Area.** Strategic incentives should be provided that will encourage the preservation of lands deemed most important to maintain the linkages and corridors described above and grasslands in the Deer Valley.

The net result of these strategies will be to minimize to the greatest degree practicable the potential adverse effects of development on the existing corridors. These strategies recognize that loss of the primary Lone Tree Valley corridor is unavoidable, but they ensure that a viable grassland linkage will remain by using linkages in Horse Valley and on the ridge between Horse Valley and the Lone Tree Valley at the west end of the Focus Area. The preserved linkage will retain a grassland connection at the pinch point in the Focus Area, connecting grassland habitats south of the Focus Area to preserved grasslands to the west and northwest of the Focus Area. Rock outcrop and oak savannah may be included as parts of these grassland linkages and corridors, because these two natural communities support most grassland species when embedded in a grassland community.

Potential Effects on Key Grassland Sensitive Resources in the Focus Area

Development contemplated by the General and Specific Plans would eliminate most of the grassland community and associated species from the project site. Some small areas would be retained as natural open space on the Richland/Cowan property in the central part of the Plan Area and on the Ginochio/Nunn and Williamson property in the eastern part of the Plan Area. However, with the possible exception of one area on the Ginochio/Nunn property, all of the retained grassland would be isolated from other grassland and would retain minimal levels of function as part of a grassland community. This effect is unavoidable without major modifications to the General and Specific Plans that would be inconsistent with the City's goals and plans for the Focus Area.

The impacts on key grassland sensitive resources would parallel the impacts on grassland corridors described above. These resources (San Joaquin kit fox, California tiger salamander, burrowing owl, and vernal pools) would be largely or entirely eliminated from the Focus Area, and the remaining grassland community would have little or no ability to support these resources due to the small size and comparative isolation of the grassland community retained in the Focus Area. Because of the pattern of adjoining land uses, this effect would be most severe in the western end of the Focus Area, least severe in the eastern end of the Focus Area, and intermediate in the center of the Focus Area.

Resource Management Strategies for Key Grassland Sensitive Resources in the Focus Area

- **Require sufficient mitigation for impacts resulting from individual development proposals to adequately protect the habitat of key grassland sensitive resources.** Before any new development is permitted in the Focus Area, mitigation ratios applicable to all lands within the Focus Area should be developed which, when implemented according to the requirements of the RMP, will adequately compensate for the key sensitive resources located on the site proposed for development, and help ensure that a viable and functional grassland community remains on lands outside the Focus Area.
- **Mitigation requirements should be carefully tailored to reflect the relative importance of the specific lands proposed for development.** The level of mitigation required for impacts to key sensitive species and habitats should be greater where the lands to be developed are deemed to be of greater strategic importance to maintaining the integrity of the grassland resources in the region.
- **Provide incentives to encourage the purchase of mitigation lands in those areas deemed to be of greater strategic importance to maintaining the integrity of the grassland resources in the region.** Strategic incentives should be provided that will encourage the preservation of lands deemed most important to protecting the grassland resources in the region.
- **Require species and habitat surveys consistent with applicable published protocols no more than six months before issuing of grading permits.** Strategic incentives should be provided that will encourage the preservation of lands deemed most important to maintain the linkages and corridors described above and grasslands in the Deer Valley.

The net result of these strategies will be compensation for the impacts from development contemplated by the General and Specific Plans to the greatest degree practicable by ensuring strategic grassland preservation to offset the resulting loss of grassland. These strategies recognize that loss of functional grassland community is unavoidable within the Focus Area, but they help to ensure that a viable and functional grassland community remains on lands outside the Focus Area.

These strategies recognize that the relative strategic preservation importance of lands within the Focus Area and lands outside the Focus Area is non-uniform. This lack of uniformity requires that effective resource management strategies be tailored to reflect variations in both the severity

of potential impacts and the strategic importance of grassland areas selected for preservation. The Plan's and the resulting RMP's mitigation ratios and incentives, in the form of discounts on mitigation requirements in exchange for strategically located lands (see Figure 9 and 10), combine to form an approach that accurately reflects and accounts for those variations in impacts. This tailored approach, using incentives to encourage strategic location of mitigation lands, is superior to a blanket and formulaic approach. Together with other strategies in this Plan, they will ensure that projects within the Specific Plan area provide all feasible on-site mitigation and contribute a fair share to strategic grassland preservation in the region.

The level of mitigation for impacts to habitats will increase from east to west due to three factors: (1) the relative distribution of sensitive resources occurring more to the west; (2) the adjacency of the west end of the Focus Area to preserved open space lands (e.g., Black Diamond Mines, Roddy Ranch Open Space Area, etc.); and (3) the proximity to existing development that is greatest at the east end of the Focus Area (see Figure 9). The lands east of Deer Valley Road are classified as Impact Zone 1. Development of lands in Impact Zone 1 will require a lower mitigation ratio than development of lands in the two zones to the west. The lands between Deer Valley Road and Empire Mine Road are classified as Impact Zone 2, and will require a median mitigation ratio. The lands west of Empire Mine Road are classified as Impact Zone 3. The lands in Impact Zone 3 contain the largest portion of sensitive biological resources, and therefore require the highest mitigation ratio for land lost to development.

To encourage preservation of lands deemed to be the most strategically important to maintaining the integrity of the region's grassland resources, additional mitigation credit will be provided for purchasing such lands. This credit, which may be implemented in the form of a discount from the Impact Zone mitigation requirements imposed on individual development projects, would reduce the mitigation requirement for a given project if the requirement is met through the purchase of lands within the Focus Area, or lands outside the Focus Area deemed to be most crucial to preserving the biological integrity of the region's strategically important grasslands. (See Figure 10) By providing purchasers of mitigation lands with additional credit against their mitigation requirements for purchasing these strategically important grasslands, the Plan will minimize the impacts of the development contemplated by the General and Specific Plans.

Under this Plan and the resulting RMP, the final mitigation requirements on a given development proposal will depend on the location of the impact within the Focus Area (mitigation ratios decline from west to east), the location (i.e., mitigation value decreases from west to east) and amount of habitat preserved within the Focus Area that is not fragmented (i.e., connected to other habitats both within the Focus Area and adjacent to the Focus Area), habitat that is preserved on-site but isolated, and mitigation that preserves or enhances a landscape linkage. Thus, both the location of the impact and the location of the mitigation is needed to calculate the size of the areas that need to be preserved.

These resource management strategies would adequately protect the habitat of grassland sensitive species (San Joaquin kit fox, vernal pool shrimp, California tiger salamander, and burrowing owl) on a regional basis through strategic habitat preservation. In addition, by requiring completion of surveys consistent with applicable published protocols no more than six months before issuance of grading permits, the Plan will ensure that the impacts on each key sensitive species in the Focus Area are identified and addressed.

STREAM AND RIPARIAN COMMUNITY

Potential Effects on the Stream and Riparian Community

Although development contemplated by the General and Specific Plans would, overall, retain Sand Creek in its current location, the functional value of the stream and riparian community would be reduced if creek corridor does not provide foraging opportunities for species that breed/nest in the stream riparian community and feed in adjoining grassland, and if the stream and riparian community is not adequately buffered from urban spillover impacts (predation by dogs and cats, yard waste dumping, *etc.*). In addition, without adequate buffers, the golf course may introduce exotic grasses, nuisance runoff, and nutrients and pesticides into the stream and riparian community.

The General and Specific Plans provide for the creek to be retained within an open space corridor approximately 250 feet wide (roughly 125 feet on either side of the creek centerline). While this corridor generally includes all of the stream and riparian community, it provides minimal buffering capabilities between this sensitive community and adjoining residential and golf development.

The General and Specific Plans do not make any particular provisions for the Sand Creek tributary watercourses, suggesting that these watercourses may be channelized and/or placed in storm drain pipes. The same is true of various ponds associated with these tributaries, which, if filled, would require federal and state approvals.

The General and Specific Plans include an open space corridor allowing upper Horse Valley Creek to be retained in its current location. However, development plans indicate that associated ponds, wetlands, and alkali grassland would be eliminated. Federal and state approvals would be needed for these activities. Additionally, storm drainage infrastructure required downstream from the upper segment of Horse Valley may result in impacts to the stream and riparian community downstream from this portion of the Focus Area.

Impacts on California red-legged frog would correspond to those described above. Impacts to red-legged frogs in Sand Creek itself would be relatively limited, due to the extent of buffering. These impacts would result primarily from potential loss of shading and water quality changes from golf crossings. Red-legged frogs and their habitat in the Sand Creek tributaries, as well as the ponds, wetlands, and alkali grassland adjoining upper Horse Valley Creek, could be eliminated.

Resource Management Strategies for the Stream and Riparian Community

- An open space corridor should be established on both sides of Sand Creek, within which no grading, development or other site disturbance would be permitted. (See Figure 8.) A policy should be established requiring that all irrigated landscaping associated with the golf course drain away from Sand Creek, or drain to Sand Creek via a bioswale (vegetated water treatment swale) at least 200 feet long.
- Wherever practicable, a buffer should be established within which no grading, development or other site disturbance would be permitted to preserve in place the Sand

Creek tributaries and associated ponds. Where preserving and buffering tributaries and ponds is not practicable, compensatory mitigation off-site should be required. Federal regulatory requirements require use of alternative 1 on any watercourse where this alternative is practicable. Off-site pond preservation may occur on lands designated for grassland preservation, and preservation requirements may be discounted for strategic location as specified for the grassland community.

- Ponds, wetlands, and alkali grasslands associated with upper Horse Creek, along with associated buffers within which no grading, development or other site disturbance would be permitted, should be included in lands preserved as natural open space. (See Figure 8.) If impacts on the Horse Valley Creek stream and riparian community downstream to accommodate infrastructure are unavoidable, compensatory mitigation off-site should be required. Off-site pond preservation may occur on lands designated for grassland preservation, and preservation requirements may be discounted as specified for the grassland community.

The resource management strategies above, in conjunction with the Habitat Corridors and Linkages strategies, would adequately protect the habitat of California red-legged frogs in the Plan Area. To protect individual frogs and to minimize the risk of ESA violations, add a policy requiring red-legged frog surveys consistent with applicable published protocols no more than six months before issuance of grading permits.

The net result of these strategies will be minimization of General and Specific Plan impacts to the greatest degree practicable by ensuring that impacts are avoided to the greatest degree consistent with the objectives of the City's General and Specific Plans. These strategies recognize that the small portion of the Focus Area occupied by the stream and riparian community makes impact minimization more achievable than for widely-distributed communities, such as grassland. These strategies are compatible with requirements of federal and state approvals necessary for buildout of the General and Specific Plans.

CHAPARRAL, SCRUB AND ROCK OUTCROP COMMUNITY

The chaparral, scrub and rock outcrop community found in the Plan Area is an easterly outlier of a community that is more extensive to the west in the Diablo Range. This natural community could support one key associated sensitive resource, the Alameda whipsnake, however, Alameda whipsnake have not been detected in the Focus Area. This community also supports several other less sensitive associated resources (Mt. Diablo manzanita and Brewer's dwarf flax), and contributes to the biodiversity of the Focus Area, particularly the west end.

Potential Effects on the Chaparral, Scrub & Rock Outcrop Community

Development contemplated by the General and Specific Plans would result in some encroachment into this natural community by residential and golf course development in Impact Zone 2. A portion of this community would be retained in ungraded open space, but this area would be a small and isolated fragment, and as a result it would not remain a fully functional element of the chaparral, scrub and rock outcrop natural community.

The relationship of residential and infrastructure development to the chaparral, scrub and rock outcrop community has not yet been determined for Impact Zone 3. However, the proposed densities suggest a high likelihood that this community will be directly eliminated or isolated in less than fully functional fragments.

The effects of development on habitat of the key associated sensitive resource, Alameda whipsnake, would generally parallel the description above. Because this species is not strictly restricted to the chaparral, scrub and rock outcrop community, but may also use grasslands within several hundred feet, development in the some of the Focus Area grasslands may also affect this species. However, the chaparral, scrub and rock outcrop community is at the northeasternmost edge of this species' range, and the species may not actually use habitat in the Focus Area, especially the more easterly habitat in the southern portion of Impact Zone 3. In contrast to the grassland sensitive species, which are known to occur within and on multiple sides of the Focus Area, additional suitable Alameda whipsnake habitat occurs only to the southwest of the Focus Area. Thus, General and Specific Plan development may affect a small area on the margin of the snake's range, but would not block any habitat corridors or linkages important to this species.

Resource Management Strategies for the Chaparral, Scrub & Rock Outcrop Community

- Preserve the chaparral, scrub and rock outcrop community on the southern portion of Impact Zone 2 in natural open space contiguous with the open space required in conjunction with the habitat corridor and linkage strategies. (See Figure 8 and 10) This requirement will preserve the portion of the grassland habitat south of the chaparral, scrub and rock outcrop community, but not the portion north of it. It will result in on-site mitigation of the comparatively minor impact on the Richland property through this locally-strategic preservation.
- Preserve the chaparral, scrub and rock outcrop community and adjoining grassland potentially suitable for Alameda whipsnake on Impact Zone 3 in natural open space. This natural open space would be contiguous with or part of the open space required in conjunction with the habitat corridor and linkage strategies. (See Figure 8 and 10)
- Conduct Alameda whipsnake surveys consistent with applicable published protocols no more than six months before issuance of grading permits for lands containing potentially suitable Whipsnake habitat; or obtain written concurrence by the California Department of Fish and Game and the US Fish and Wildlife Service that take of whipsnakes is unlikely to occur.

These resource management strategies would adequately protect the habitat of the Alameda whipsnake in the Focus Area. The net result of these strategies will be to minimize the General and Specific Plans' effects on the chaparral, scrub and rock outcrop community, and compensate for unavoidable impacts through locally-strategic habitat preservation. These strategies recognize that the small portion of the Focus Area occupied by the chaparral, scrub and rock outcrop community makes impact minimization more achievable than for widely distributed communities, such as grassland. However, these strategies also recognize that, within the Focus Area, this community is an outlier, particularly at its eastern end.

OAK WOODLAND AND SAVANNAH COMMUNITY

The oak woodland and savannah community found in the Focus Area is an easterly outlier of a community that is more extensive to the south and west in the Inner Coast Range and Diablo Range.

This community may itself be considered a sensitive resource, although it is not specifically protected by any resource protection laws or regulations. It contributes to the biodiversity of the Focus Area, particularly at its southwest end.

Potential Effects on the Oak Woodland and Savannah Community

Development contemplated by the General and the Specific Plans would result in some loss of low-density oak savannah on the southeastern portion of Impact Zone 2. A portion of this community overlaps with the chaparral, scrub and rock outcrop community, and would be retained in ungraded open space. However, this area would be a small and isolated fragment, and as a result it would not remain a fully functional element of the oak savannah natural community.

The relationship of residential and infrastructure development to the oak savannah and woodland natural community has not yet been determined on Impact Zone 3. However, the proposed densities suggest a high likelihood that this community will be directly eliminated or isolated in less than fully functional fragments.

Resource Management Strategies for the Oak Woodland and Savannah Community

The net result of these strategies will be to minimize the General and Specific Plans' effects on the oak savannah and woodland natural community and compensate for unavoidable impacts through locally strategic habitat preservation. These strategies recognize that the small portion of the Focus Area occupied by the oak savannah and woodland natural community makes impact minimization more achievable than for widely distributed communities, such as grassland. However, these strategies also recognize that, within the Focus Area, this community is an outlier.

- Preserve the oak savannah and woodland natural community where it overlaps the rock outcrop community on the southeastern portion of Impact Zone 2 (See Figure 8) This preservation shall be in natural open space contiguous with the open space required in conjunction with the habitat corridors and linkage strategies. This requirement will preserve the more important oak savannah community, but not the less important portion of it. It will result in on-site mitigation of the comparatively minor impact on the southeastern portion of Impact Zone 2 through this locally-strategic preservation.
- Preserve the oak savannah and woodland natural community in Impact Zone 3. This natural open space would be contiguous with or part of the open space required in conjunction with the habitat corridors and linkage strategies. (See Figure 8 and 10)

EXISTING PRESERVED LANDS

Land has been set aside in regional parks and permanent open space in the subregion, primarily in extensive grassland habitats. These preserved lands represent a significant investment of public resources, and are a valued public asset. To maintain their full biotic function, the preserved grasslands must remain connected to other blocks of grassland habitat.

Potential Effects on Existing Preserved Lands

General and Specific Plan development would significantly reduce connectivity between existing preserved lands. It would further degrade the habitat corridor in the Lone Tree Valley, which is already restricted at its east end by existing development in Brentwood. Such development would also further reduce the intermediately important linkage in Horse Valley already narrowed by the Roddy Ranch golf course. Only the intermediately important linkage in Deer Valley would remain available to connect blocks of grassland habitat northwest of and southeast of the Focus Area. The overall effect would be a significant narrowing of the pinch point that has developed between urban lands and the chaparral and oak habitats of the Diablo Range.

The relationship of residential and infrastructure development to the existing preserved lands surrounding three sides of Impact Zone 3 has not yet been determined. However, the proposed densities suggest a high likelihood of conflicts due to urban spillover impacts (predation by dogs and cats, spread of landscaping materials, conflicts with grazing, conflicts with wildfire, *etc.*). Reducing the function and values of these lands due to urban spillover effects would degrade a highly valued public asset.

Resource Management Strategies on Existing Preserved Lands

- Implement the habitat corridors and linkage strategies above and implement the Grassland Sensitive Species and Resources strategies above.
- Require a buffer between development and the boundary of existing preserved lands within which no grading, development or other site disturbance would be permitted. (See Figure 8)

The net result of these strategies will be to minimize the Specific Plan's effect on the existing preserved lands in the subregion. The Habitat Corridors and Linkages strategies and the Grassland Sensitive Species and Resources strategies offset the impact of the Specific Plan on connectivity between existing preserved lands to the north and west of the Plan area and existing preserved lands south of the Plan Area by: 1) ensuring that viable connections remain within the Plan Area to the greatest degree feasible in light of project objectives; and 2) provide incentives for compensatory mitigation to be located in the most strategic locations.

MANAGEMENT OF PRESERVED LANDS

Once lands have been identified for preservation a management plan should be developed that is specific to those lands and the key sensitive species being considered. This management plan should not only identify the restoration and/or enhancement efforts that are to take place, but should also identify those activities that are permitted to continue (e.g., cattle grazing) or new activities (e.g., establishment of regional trails) that need to be accommodated. If cattle grazing is to continue on these lands, then the management plan would need to describe stocking rate, timing, and other activities that would accompany this use.

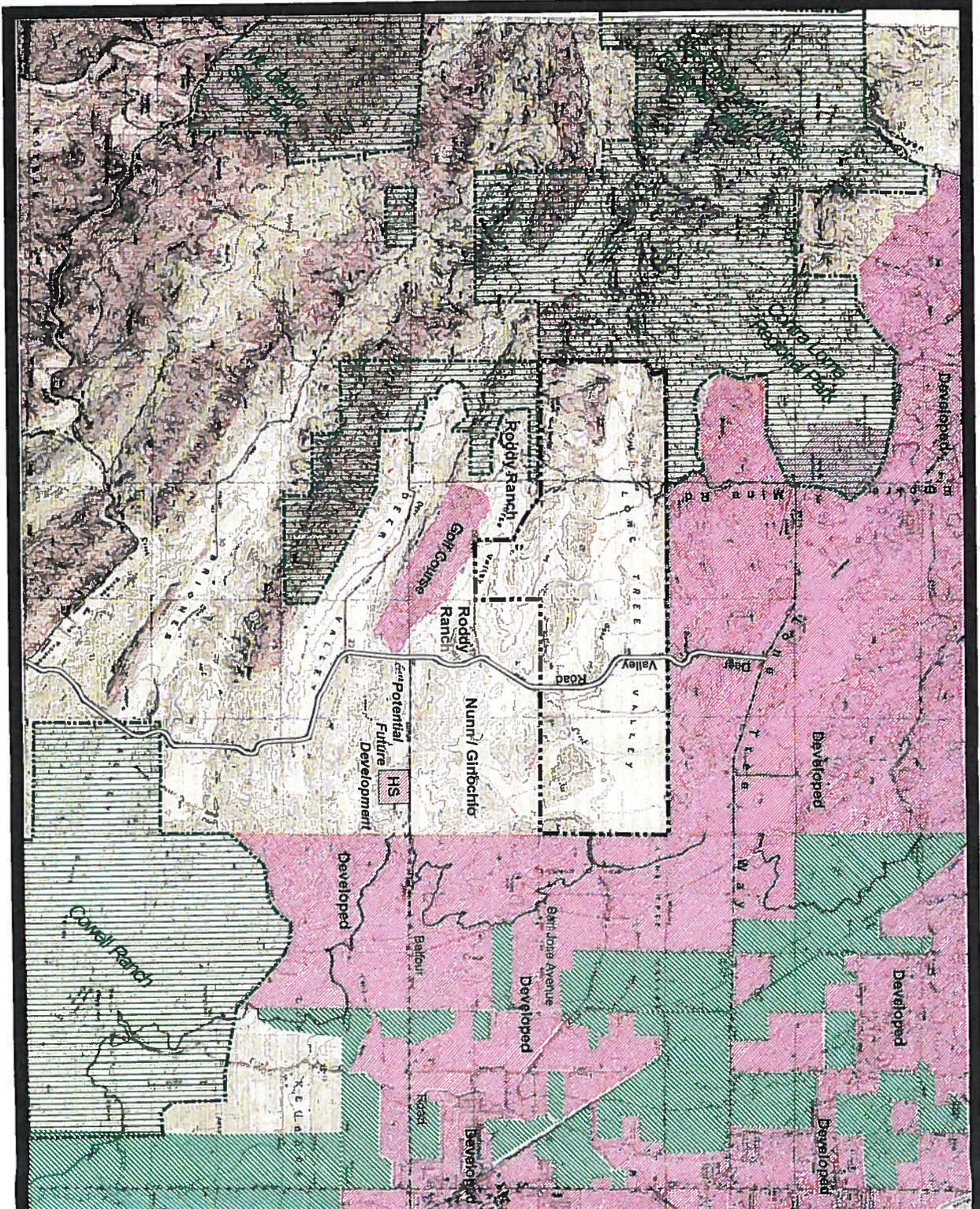
The management plan would also describe those activities that would be restricted or banned from the preserved lands. These could include, but not be limited to the use of rodenticides and herbicides, discing for fire abatement (use of mowing instead), and recreational activities that would require substantial alteration of the habitat (e.g., ball fields).

Management plans would be site specific as different key sensitive species would likely be the target for preservation. Thus, the establishment of an endowment for the management of these lands will also be specific to the lands set aside.

CONSISTENCY WITH DRAFT HABITAT CONSERVATION PLAN

While this Plan and the RMP are being developed independent of the Draft Habitat Conservation Plan that is currently being prepared by Contra Costa County (HCP), the general direction and approach of this Plan and the RMP is expected to be consistent with HCP. Therefore, these documents and the HCP will complement each other and provide measures that will aid in protecting the region's biodiversity.

APPENDIX A



LEGEND

-  Sand Creek Project Site
-  Land Use / Land Cover
-  Developed
-  Agricultural / Open
-  Grassland
-  Oak Woodland
-  Chaparral (rock outcrop and small patches of chaparral and scrub are not visible at this scale)
-  Park / Preserve / Protected



			
Live Oak Associates, Inc. Sand Creek Specific Plan communities			
Date	Project #	Figure #	
7/9/03	377-03	1	

LEGEND

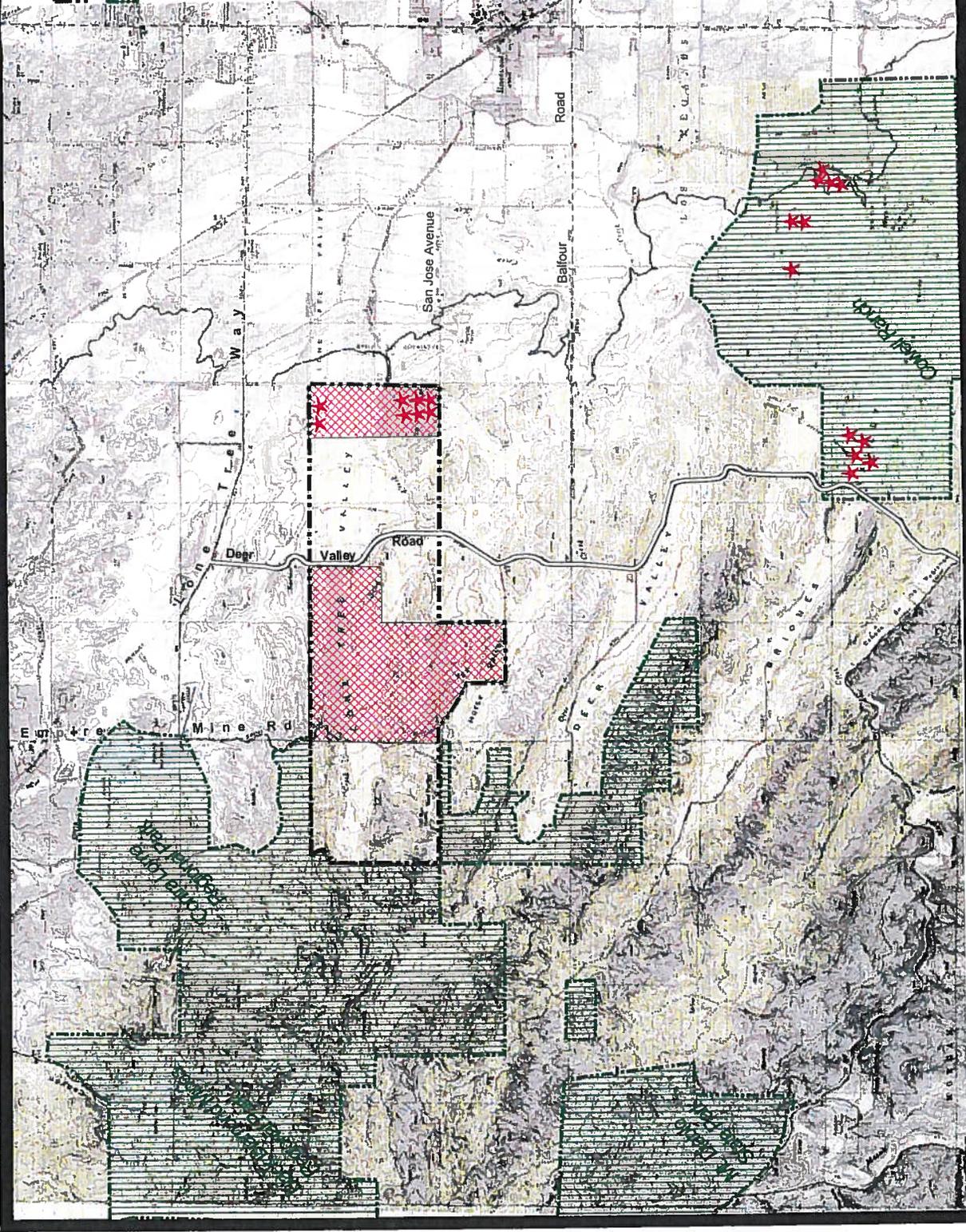
-  Sand Creek Project Site
-  Park / Preserve / Protected
-  Vernal Pool Fairy Shrimp
-  Potential Vernal Pool Fairy Shrimp Habitat *
-  Portions of the Specific Plan Area with Partial Surveys and / or Assessments

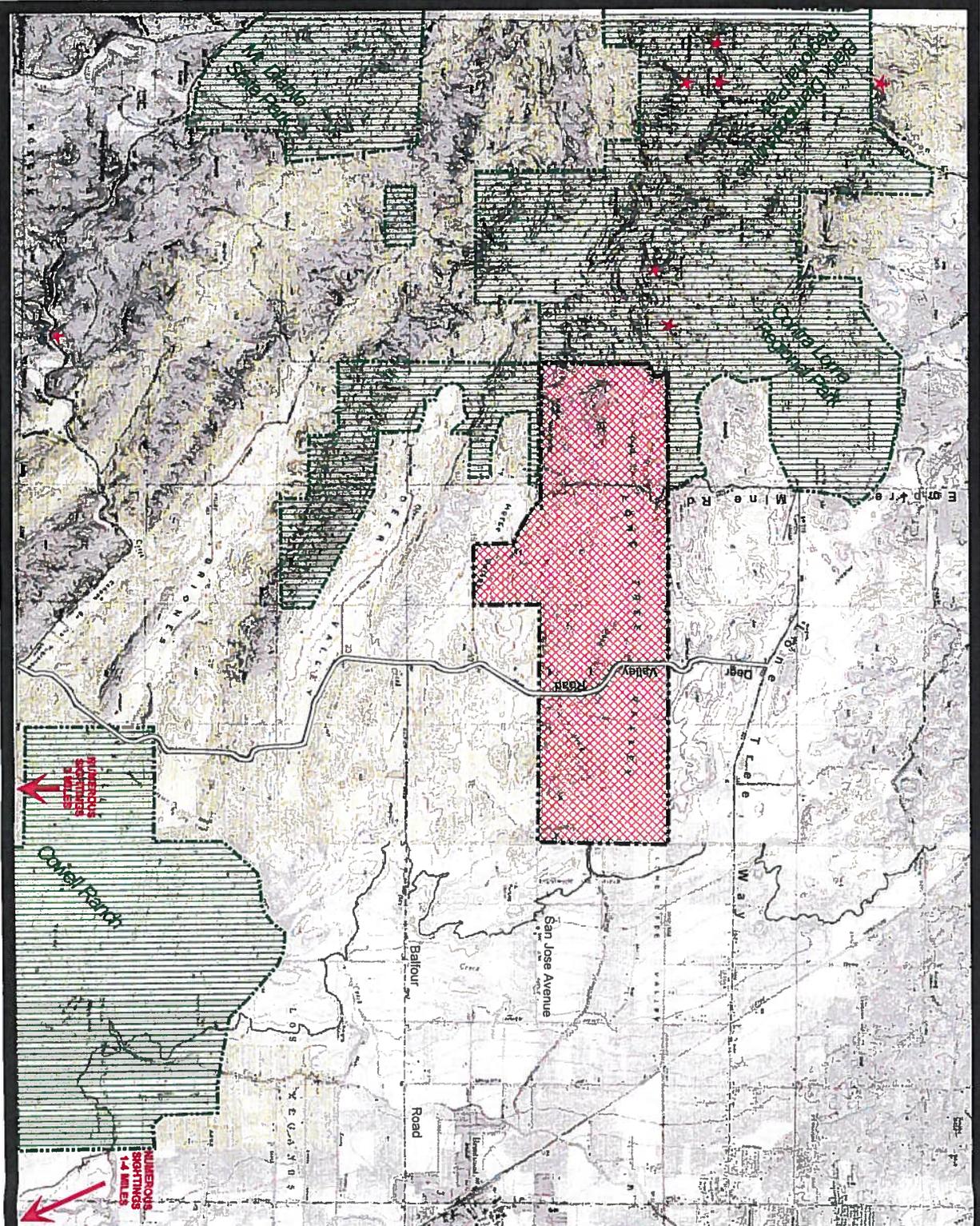
* Only in grassland areas supporting appropriate ponding characteristics



0 1 mile
approximate scale

 Live Oak Associates, Inc.	
Sand Creek Specific Plan Vernal Pool Fairy Shrimp	
Date 7/9/03	Project # 377-03
Figure # 2	





LEGEND

-  Sand Creek Project Site
-  Park / Preserve / Protected
-  San Joaquin Kit Fox Sighting
-  Potential San Joaquin Kit Fox Habitat
-  Portions of the Specific Plan Area with Partial Surveys and / or Assessments

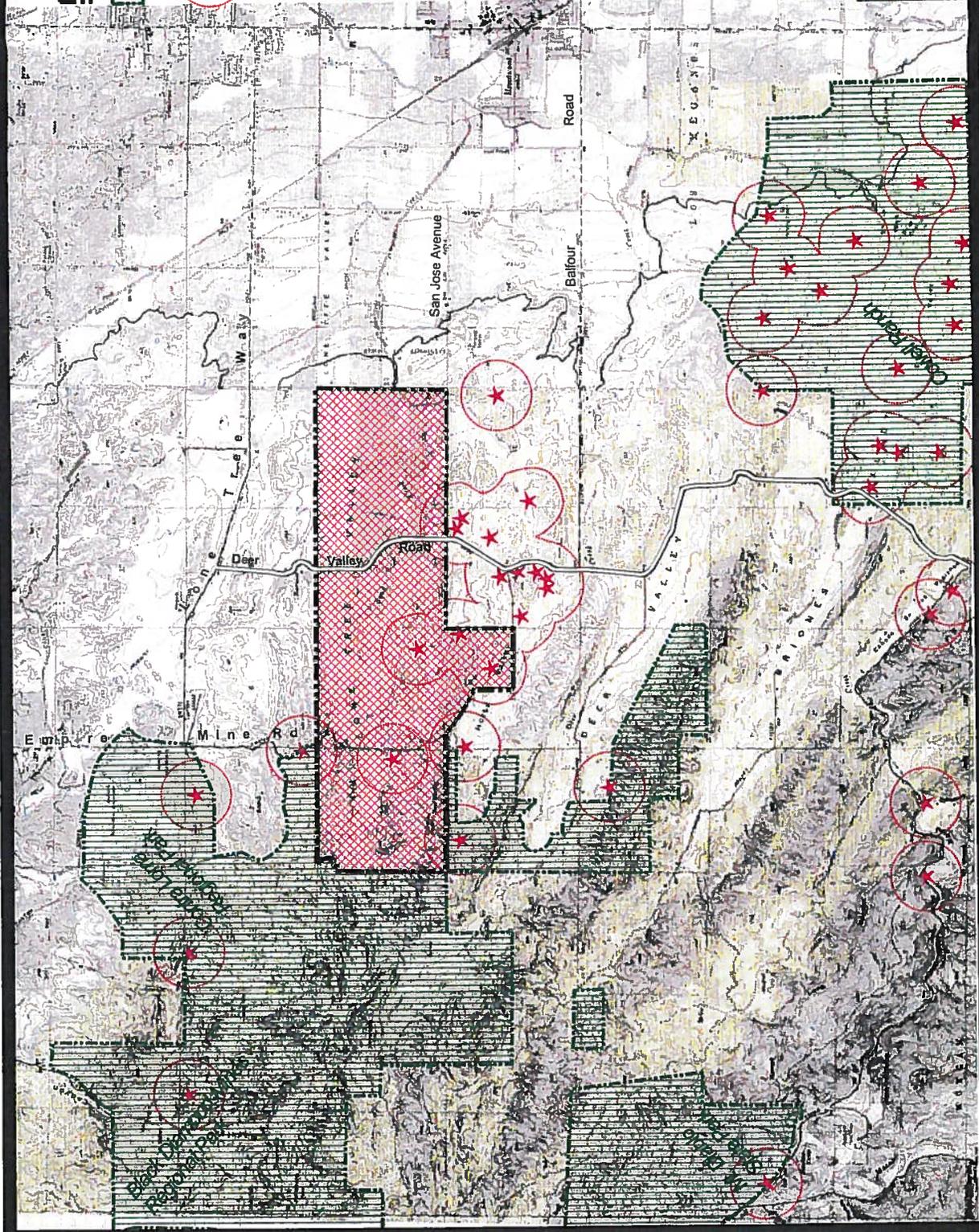


1 mile
0
1 mile
approximate scale

	
Live Oak Associates, Inc. Sand Creek Specific Plan San Joaquin Kit Fox	
Date	7/9/03
Project #	37-03
Figure #	3

LEGEND

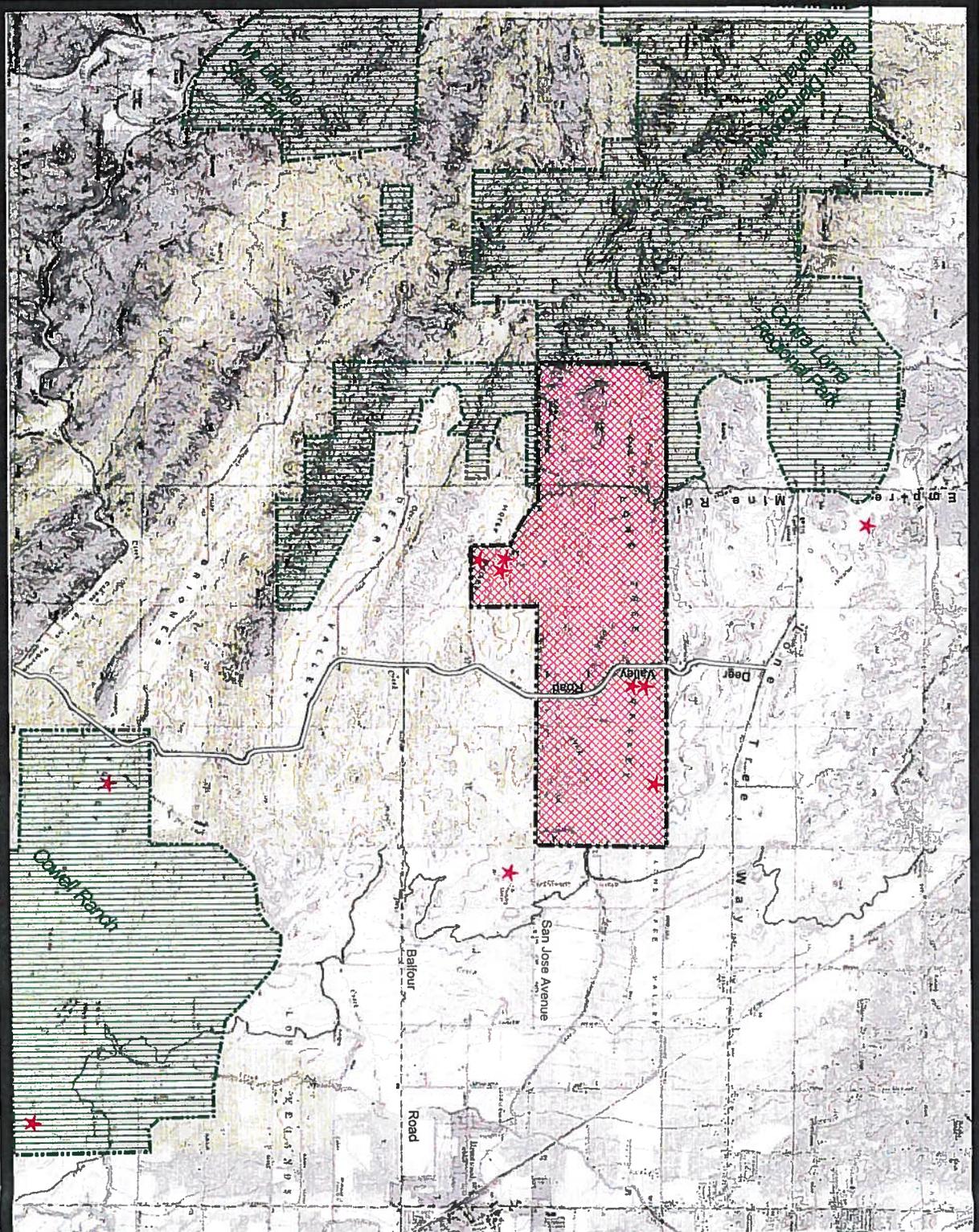
-  Sand Creek Project Site
-  Park / Preserve / Protected
-  California Tiger Salamander
(plus 1,500 foot radius non-breeding
terrestrial habitat)
-  Potential Tiger Salamander
Habitat
-  Portions of the Specific Plan
Area with Partial Surveys
and / or Assessments



Live Oak Associates, Inc.

Sand Creek Specific Plan
California Tiger Salamander

Date: 7/9/03 Project #: 377-03 Figure #: 4



LEGEND

-  Sand Creek Project Site
-  Park / Preserve / Protected
-  Burrowing Owl Sighting
-  Potential Burrowing Owl Habitat
-  Portions of the Specific Plan Area with Partial Surveys and / or Assessments

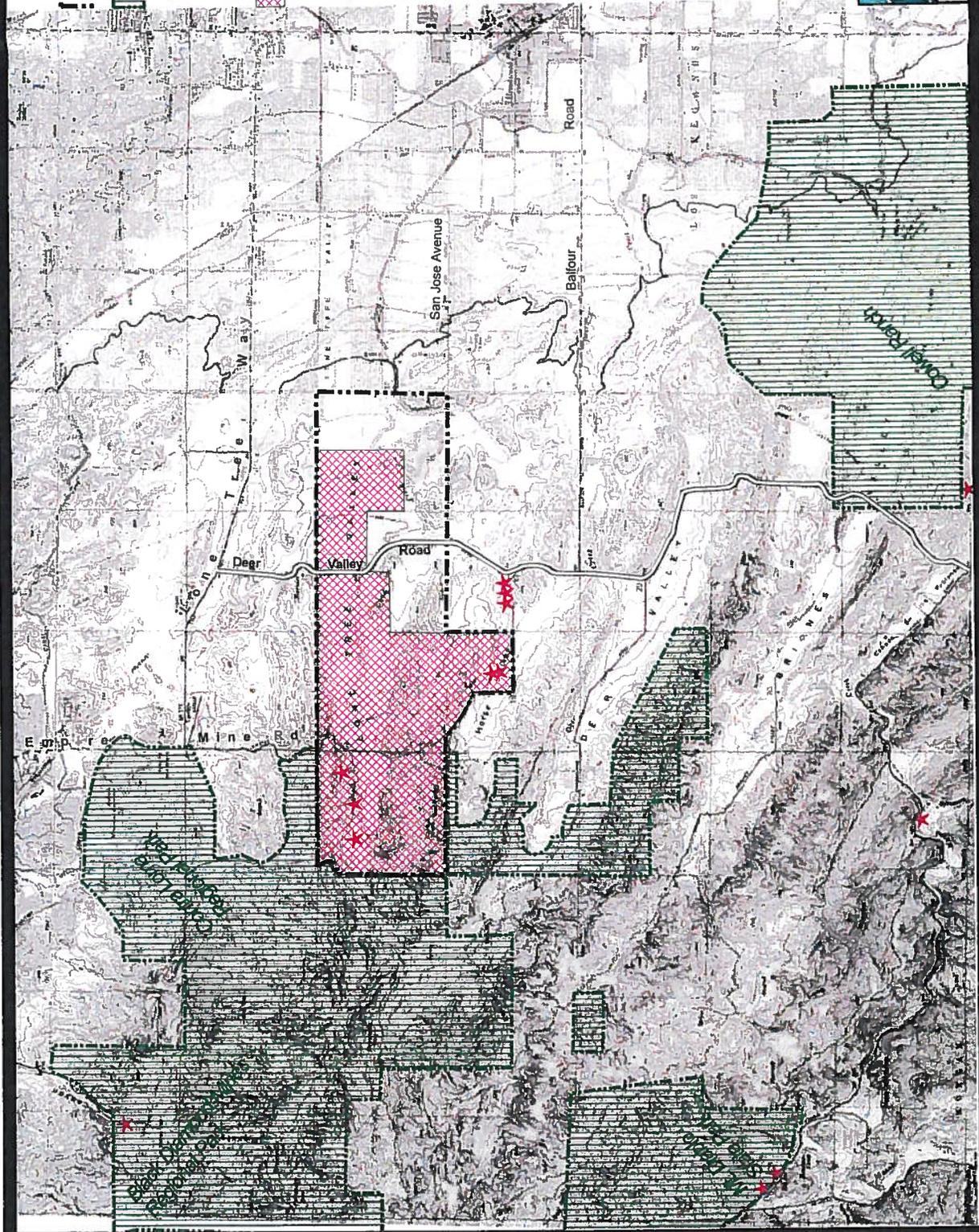


0 1 mile
 approximate scale

	
Live Oak Associates, Inc.	
Sand Creek Specific Plan	
Burrowing Owl	
Date	7/19/03
Project #	377-03
Figure #	5

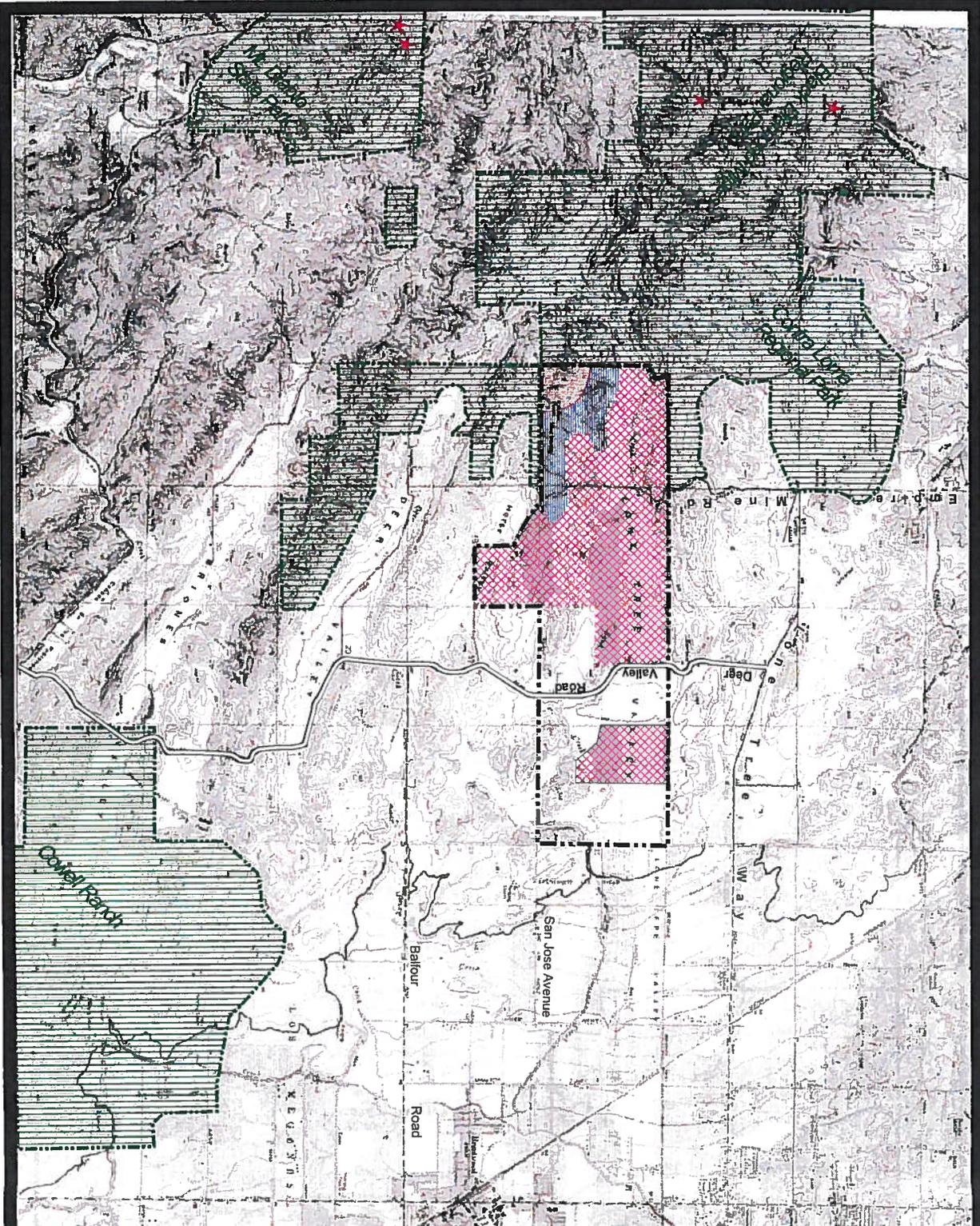
LEGEND

-  Sand Creek Project Site
-  Park / Preserve / Protected
-  Red-legged Frog Sighting
-  Portions of the Specific Plan Area with Partial Surveys and / or Assessments



Live Oak Associates, Inc.
Sand Creek Specific Plan
California Red-legged Frog

Date	7/19/03	Project #	377-03	Figure #	6
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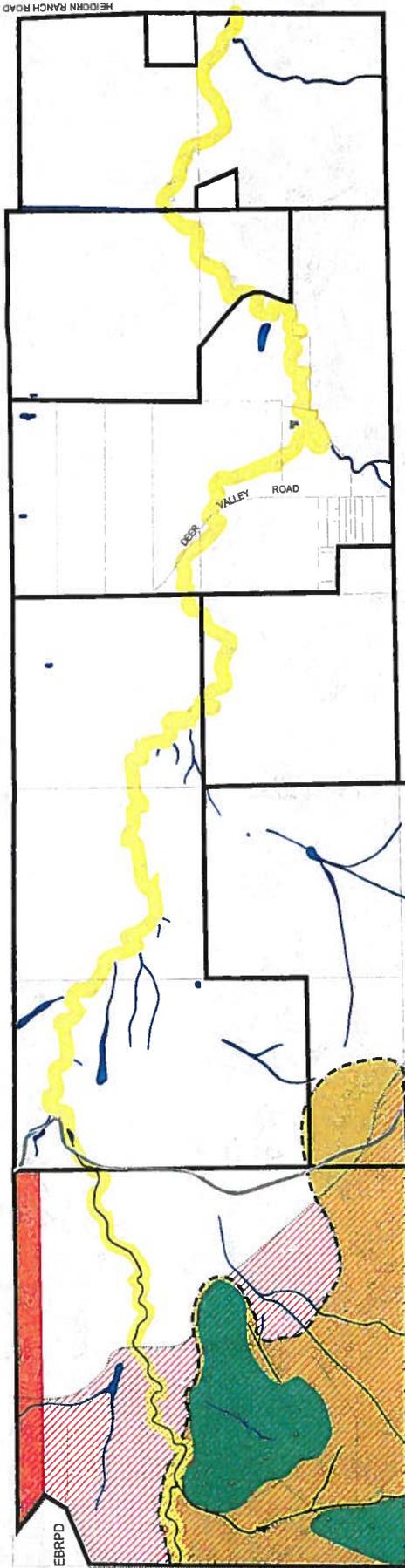
LEGEND

-  Sand Creek Project Site
-  Park / Preserve / Protected
-  Whipsnake Sighting
-  Portions of the Specific Plan Area with Partial Surveys and / or Assessments
-  Habitat where Whipsnake May Occur
-  Habitat Most Likely to Support Whipsnake



0 1 mile
 0 1 mile
 approximate scale

	
Live Oak Associates, Inc. Sand Creek Specific Plan Alameda Whipsnake	
Date 7/9/03	Project # 377-03
	Figure # 7

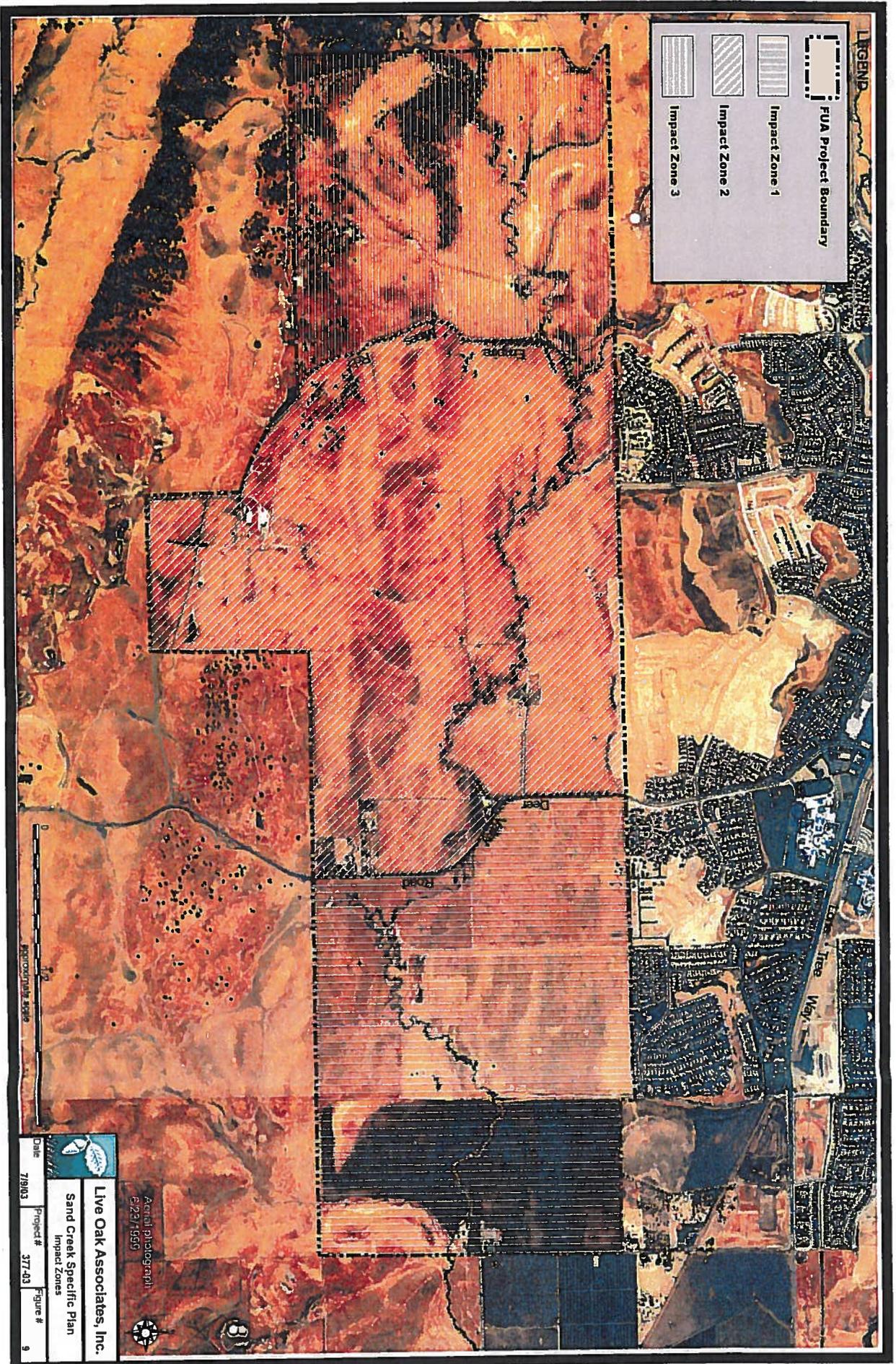


LEGEND

-  Proposed Habitat Linkages
-  Proposed Sand Creek and Horse Valley Creek Corridors
-  Potential Alameda Whipsnake Habitat
-  Oak Woodland and Savannah
-  Existing Park and Proposed Open Space Buffer



		Live Oak Associates, Inc.	
		Sand Creek Specific Plan	
Date		Project #	Figure #
7/9/03		377-03	8
Plan Area Constraints Summary			



LEGEND

-  FUA Project Boundary
-  Impact Zone 1
-  Impact Zone 2
-  Impact Zone 3

Live Oak Associates, Inc.
Sand Creek Specific Plan
 Impact Zones

Date: 7/19/03
 Project #: 377-03
 Figure #: 9

Aerial photograph
 6/23/1995



LEGEND

-  Sand Creek Project Site
- Land Use / Land Cover**
-  Developed
-  Agricultural / Open
-  Grassland
-  Park / Preserve / Protected

Mitigation Zones

-  Primary (50% Discount)
-  Secondary (25% Discount)
-  Tertiary (10% Discount)



1 mile
0 1 mile
approximate scale

Live Oak Associates, Inc.

Sand Creek Specific Plan
Grassland Sensitive Resources

Date 7/9/03 Project # 377-03 Figure # 10

