1.1 WHAT IS THE GENERAL PLAN?

The Arizona Revised Statutes require that each city adopt a comprehensive, long-range general plan to guide the community's physical development. The purpose of the general plan is to:

- ✓ *Express the community's vision*
- ✓ *Identify the community's goals and development priorities*
- ✓ *Serve as a policy guide for local decision-making*
- ✓ *Fulfill legal requirements created by state law*

The ***Lake Havasu City General Plan 2002*** is an update of the original 1994 Lake Havasu City General Plan and the three specific plans that were amendments. Though the document is an "update" of previous plans, there is very little resemblance to the 1994 plan because of the new state law requirements. Due to these regulatory changes and tremendous growth of Lake Havasu City and the surrounding area, the City embarked on a yearlong community-wide update process. Lake Havasu City contracted with Partners for Strategic Action, Inc. (PSA) to work with the City in the plan's development. David Evans and Associates (Phoenix), Lima and Associates (Phoenix), and PAA, Inc. (Tucson) provided technical support to PSA as subconsultants.

The update process involved considerable public dialogue and input. The Lake Havasu City General Plan Update is a statement of policy and an expression of the community's vision for the future. The plan is a tool to help guide and shape the planning area's physical development. The mission of the general plan update is to achieve a sustainable future for the community through sound growth management.

The Lake Havasu City General Plan is intended to be a long-range plan to guide development toward build-out. However, the general plan will be updated at least every ten years, according to Arizona statutes. The general plan update replaces the 1994 general plan for Lake Havasu City and includes by reference subsequently adopted specific plans. The general plan is a usable, working document that is responsive to changes and unforeseen opportunities that are natural in a dynamic environment. The general plan is often confused with "zoning" actions. It is important to recognize that the general plan provides for long-range "general" policy direction related to physical development; whereas, zoning is a specific legal action related to land classification governed by the zoning ordinance. The zoning map (available at City Hall) depicts land classifications that must be in substantial conformance with the general plan; however, the general plan does not change any zoning until a formal request is made either by the landowner or initiated by the City.

What the General Plan is…	***The General Plan is not …***
A statement of city policy	A specific plan for a development project
A guide to decision-making	A zoning ordinance
A framework for more specific planning	A rigid/static document
A tool for education/communication	A capital improvement plan or budget
A legal mandate	A project master plan
A way to provide a long-range perspective	
A way to improve the quality of life	

1.2 GROWING SMARTER ACT

Growing Smarter Plus legislation, which became effective in May 2000, builds upon the 1998 Growing Smarter Act. These requirements created a new framework for the land-planning process in cities and counties within the State. The Lake Havasu City General Plan 2002 meets the requirements of Growing Smarter as well as the general plan requirements outlined in Arizona Revised Statutes (ARS) 9-461.05.

1.3 GENERAL PLAN REQUIREMENTS

The Lake Havasu City General Plan 2002 is more than a map depicting proposed land uses. The goals and policies are presented in a series of interrelated "elements." These elements provide the framework for the City's policy direction. The Lake Havasu City General Plan 2002 includes the following elements:

Land Use. Provides the proposed general distribution, location, and extent of land for housing, business, industry, public facilities, and open space.

Growth Management. Provides strategies to preserve and enhance the community's character (i.e., lake shoreline, natural wildlife refuge area, foothills, washes, and sensitive land areas), promote a sustainable community form, and preserve the natural environmental resources (e.g., air, water, and land). This chapter includes three required elements: Environmental Planning, Growth Area, and Water Resources.

Environmental Planning. Provides an analysis of the general plan's potential implications on air quality, water quality, and natural resources. This section also includes the Water Resources Element that is required by state law.

Growth Area. Identifies those areas, if any, that are particularly suitable for planned multi-modal transportation and infrastructure expansion and improvements designed to support a planned concentration of a variety of uses.

Water Resources. Presents policies and strategies to ensure that adequate water resources are available to support the land use pattern proposed in the general plan.

Transportation/Circulation. Identifies the general location and extent of existing and proposed roadways as well as other forms of transportation including transit, pedestrian, etc.

Open Space and Recreation. Presents an analysis of forecasted needs and identifies potential locations and policies to promote a regional system of integrated open space and recreational resources.

Cost of Development. Identifies policies and strategies that Lake Havasu City will use to require development to pay its fair share toward the cost of additional public service needs generated by new development.

1.4 PUBLIC PARTICIPATION

The general plan process was based on a fundamental goal to solicit widespread community involvement by citizens, landowners, and stakeholders. To ensure consensus on the community's vision for development, a plan for public involvement was developed. The public involvement process was designed to achieve three objectives: communicate, educate, and involve. At the initiation of the process, the City Council adopted a Public Involvement Plan (PIP). The Lake Havasu City public involvement process met the Growing Smarter Act that requires ensuring "*effective, early and continuous public participation in the development and major amendment of the general plan from all geographic, ethnic and economic areas of the municipality.*"

The Lake Havasu City General Plan 2002 process began in December 1999 when the City Council awarded the contract to the PSA Team. The involvement process included many different approaches to gathering input and tracking consensus. A citizen's committee was formed that provided oversight for the process. Workshops, forums, surveys, news articles, and presentations at various group meetings were done throughout the process to keep people informed as well as to solicit input. A critical component of the plan's development was the work sessions conducted with appointed and elected officials.

The following list summarizes the key elements of the public involvement process and is depicted on Table 1-1, Public Participation Program.

Lake Havasu General Plan Advisory Committee (GPAC). The GPAC was appointed by the City Council to provide oversight and guidance in the plan's development. The GPAC met at least fifteen times to provide guidance to the consultant team and staff during the 13-month process.

Future Search Conference. The goal of the Future Search Conference was to involve all stakeholders in a search for an achievable future. The full-day event was held March 18, 2000. It offered a unique opportunity to communicate, educate, empower, partner, and build consensus on issues that impact the general plan's development. Approximately 85 people attended the event, where issues were discussed, vision statements were developed, future land use plans were designed, and potential policies were identified. Future Search

Conference participants were solicited and asked to pre-register for the meeting. Prior to the meeting, all registrants were sent an issue paper. The issue paper provided background information about the City, the state of its current development patterns and demographics, and development issues facing the City. The Future Search Conference provided the foundation for the plan's development. The participants discussed the community's vision, goals, and developed land use alternatives.

Community Characteristics Survey. The survey was conducted with all Future Search Conference attendees participating. The slide show consisted of 60 slides of various aspects of community development. For example, the slides depicted images of all ranges of housing styles and densities, roadways, parks, streetscapes, employment centers, and signage. The purpose was to receive input on what the participants thought of the various images of physical development.

Community Workshops. At key milestones throughout the process, community workshops were organized and held. (July 13, 2000 – discussed land use alternatives and recommended a preferred alternative) Additional community workshops to solicit public comments were held April 17, 22,23, 24 and 25, 2002.

Elected Official Workshops. As the plan was evolving, presentations were made on the status of the planning process at City Council and Planning and Zoning Commission meetings. (August 15, 2000; March 20, 2001; April 24, 2001)

Public Hearings. In accordance with hearing requirements outlined in Arizona statutes, hearings were held with the Planning and Zoning Commission and City Council. Three public hearings were held with the Planning and Zoning Commission on August 28, 2001, September 26, 2001, and October 24, 2001. Presentations were made to the City Council in November 2001. The Planning and Zoning Commission recommended adoption of the plan on July 31, 2002.

Newspaper Articles. Throughout the process, regular news articles were included in the local newspapers. The Future Search Conferences received considerable press coverage. The newspapers provided a communication conduit to the public about the dialogue occurring during the process and maintained resident interest.

Comment Matrix. Throughout the 60-day review process, comments were received from citizens, landowners, developers, and stakeholder agencies. All comments were catalogued, a comment matrix was developed, and identification of how comments were addressed was documented.

Ratification Election. According to Arizona Revised Statutes, Lake Havasu City must conduct a public vote to ratify the General Plan 2002. (November 5, 2002)

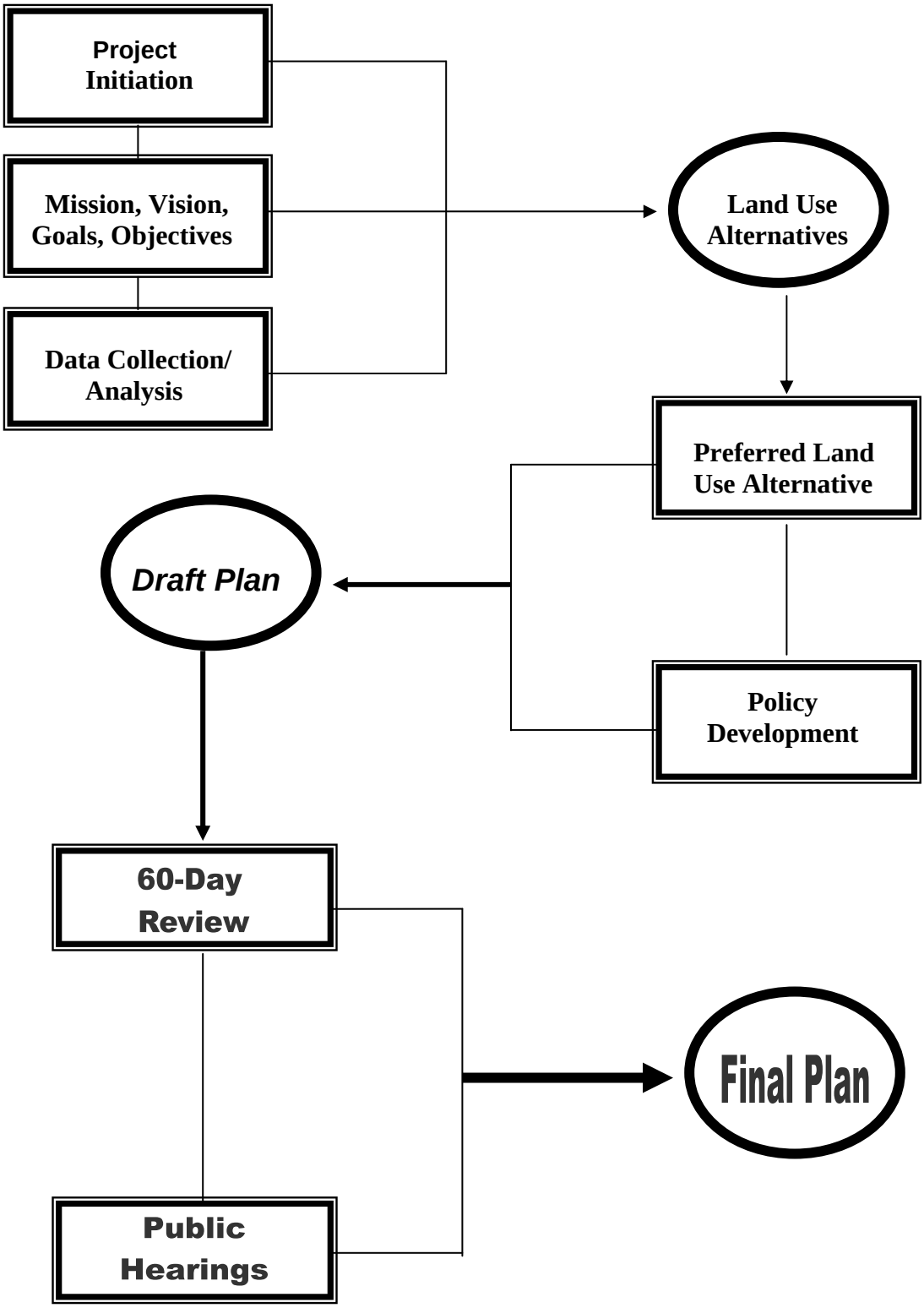
1.5 PROCESS WORK PROGRAM

The Lake Havasu General Plan 2002 began in December 1999 when the City Council awarded the contract to the PSA Team. A General Plan Advisory Committee (GPAC) was formed that included citizens, agency stakeholders (e.g., Arizona State Land Department), and key staff members. The overall study approach is graphically illustrated on Table 1-2, Process Work Program.

Table 1-1, Public Participation Program

General Plan Advisory Committee	Throughout Process →	Citizen-based committee to oversee the project
Elected Official Workshops	Throughout Process →	Plan review and input opportunities
Community Workshops	Throughout Process →	Citizen workshops to review alternatives
Future Search Conference	Early in Process →	Full-day event with 85 participating residents
Public Hearings	End of Process →	Official meetings for elected officials and citizen input
Public Vote	End of Process →	Citizens vote to ratify the elected officials' approval of the general plan

Table 1-2, Process Work Program



1.6 USING THE GENERAL PLAN DOCUMENT

Early in the process, the General Plan Advisory Committee developed a statement that described the mission for Lake Havasu City General Plan 2002. Following is the mission statement that was used as the guiding principle for the entire process.

> ***To create a comprehensive document that will provide effective guidance on how the community should grow and develop while protecting what makes Lake Havasu City unique. The process strives to solicit maximum public input to assist in developing the community's vision and plan. Critical issues, such as infrastructure, water quality, transportation, education, and environmental protection, are addressed in clearly defined strategies. The Lake Havasu General Plan 2002 is flexible enough to adapt to changes, but clear in its purpose and direction.***

The foundation of the General Plan 2002 is a series of "Elements" that are intended to work together to implement the community's vision. Each element is organized into the following sections:

Element Statement. Describes the purpose of the element.

Element Introduction. Provides basic background information regarding the element.

Element Issue Identification. Identifies the specific critical issues related to the element.

Element Goals and Policies. Provides the philosophical framework for the element. Although each topic in an element has a separate set of goals and policies, they are interrelated, forming a unit. Following are definitions for goals and policies.

Element Goals	A desired end that if pursued over the long-term will ultimately result in the attainment of a desired living environment described in the element.
Policies	A means to attain the established goals. Policies prescribe a course of action for the City.
Element Plan	The element's future direction.

It is important to recognize that the general plan is both text and maps. For example, the Future Land Use Map is supported by the series of goals and policies outlined within the Land Use Element. Neither should be used without the other.

2.0 COMMUNITY DESCRIPTION

2.1 WHAT IS THE PLANNING AREA?

The planning area for the Lake Havasu City General Plan Update stretches well outside the current incorporated boundaries of Lake Havasu City. The planning area is intended to include the expanded water service area, future anticipated annexation areas, and areas of influence. The total land area for the planning area is 84.9 square miles, and total acreage is 54,332, as indicated in Figure 2.1, Lake Havasu Planning Area.

The planning area comprises private and public lands as shown in Figure 2.2, Land Ownership. In addition to the privately held lands, ownership within the planning area includes the Arizona State Trust and Bureau of Land Management. Only just over one third of the planning area is privately-held with the remainder under Mohave County, Lake Havasu, State of Arizona Trust lands, and Bureau of Land Management jurisdiction.

2.2 LAKE HAVASU WITHIN THE REGION

Lake Havasu City is located along the 25-mile long Lake Havasu, formed by the Parker Dam on the Colorado River. Figure 2.3, Regional Context Map, indicates Lake Havasu in relationship to its regional location. Lake Havasu City is a master-planned community developed by the McCulloch Company and incorporated as a city in 1978. Lake Havasu City is located in southern Mohave County in the northwestern portion of Arizona. It is a major regional center located approximately 200 miles from the Phoenix Metropolitan Area and strategically positioned about 20 miles south of I-40. Lake Havasu City Municipal Airport provides daily direct commercial flights to Phoenix.

Figure 2.1, Lake Havasu Planning Area

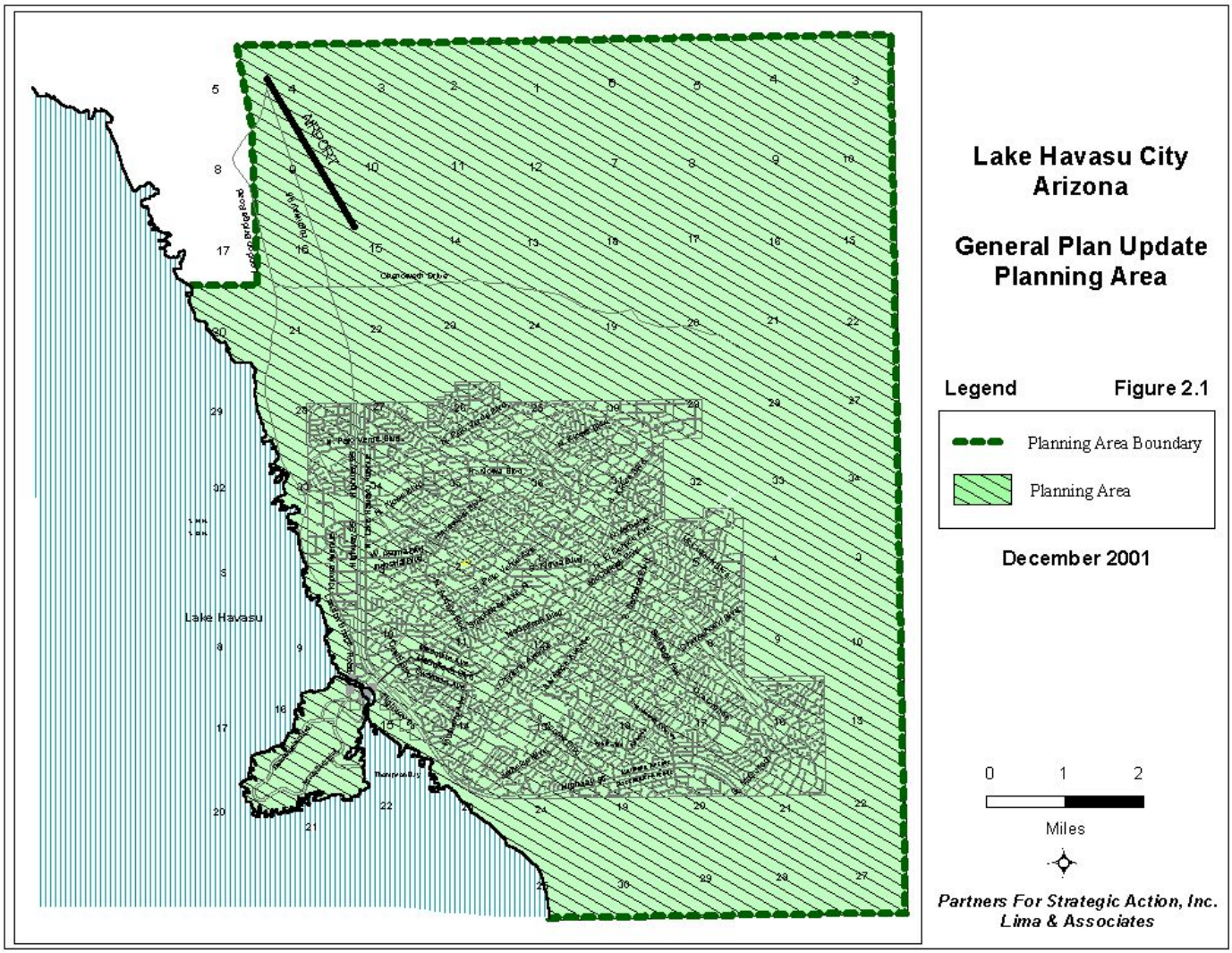


Figure 2.2, Land Ownership

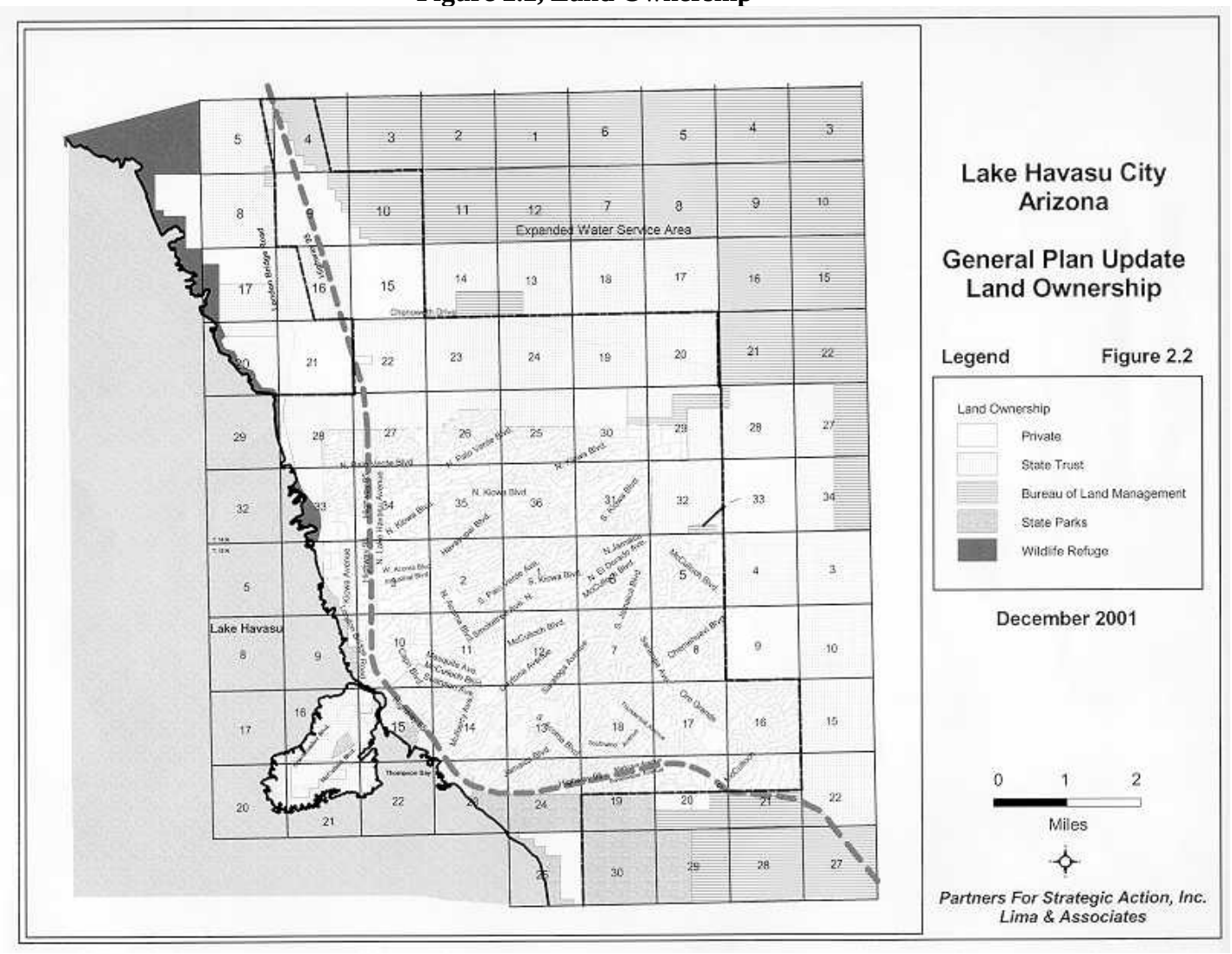
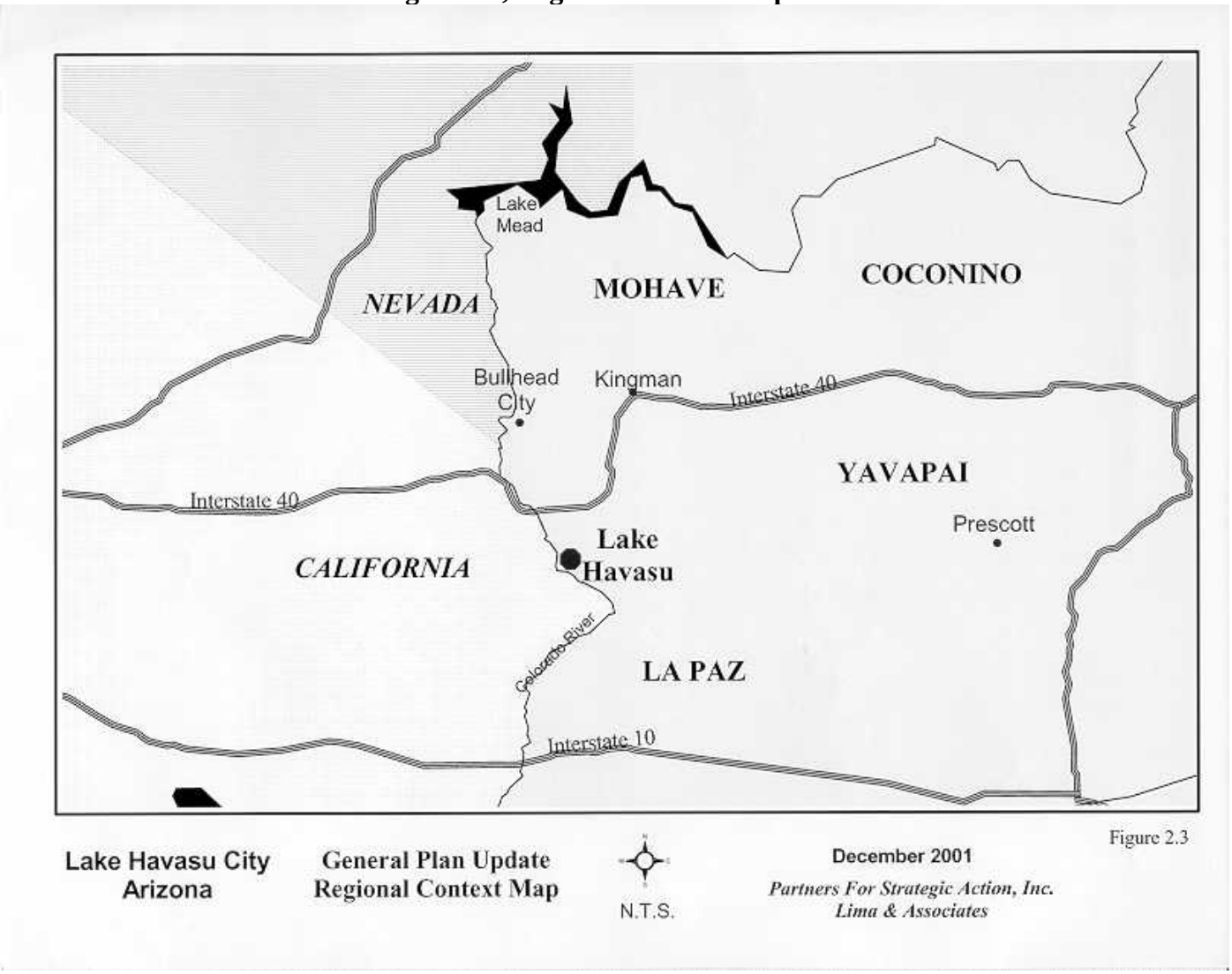


Figure 2.3, Regional Context Map



2.3 HISTORICAL OVERVIEW

Lake Havasu City was conceived in 1963 as a master-planned community with an emphasis on recreation and retirement residential. This theme, deriving from the area's outstanding features of scenery, climate, and shoreline, was augmented by adding a strong employment base. The City's founder, Robert P. McCulloch, commissioned comprehensive planning and design studies. He also brought his own industry as well as others to the community. He successfully sought to put Lake Havasu on the map by transporting the London Bridge from the River Thames to its current place of prominence spanning Bridgewater Channel. The community experienced strong growth during the 1960s and 1970s, which accelerated after official incorporation in 1978.

2.4 PHYSICAL CHARACTERISTICS

The existing topography of the planning area provided guidance related to suitability of the land within the planning area boundary. The entire planning area is highly undulating with hills and is crossed with major/minor washes. The planning area is ringed on the north and east with the Mohave Mountains, which have varying topographical features. Much of the planning area is sparsely vegetated, typical native desert terrain. Additional information regarding the existing conditions of the planning area is included in the Existing Conditions Report that was prepared early in the planning process.

Major drainageways extend from the mountains to the east and traverse Lake Havasu City, ending in the shoreline area, depositing run-off water in the Colorado River with associated sediments in the river and lands adjoining the river. Small drainage channels and off-road vehicular disturbances dissect portions of the shoreline with flats covered by desert and sparse vegetation. Freshwater marshes and aquatic habitats occur with a narrow (i.e., 10 to 25 feet) beach exposed in the winter months, when the water level of Lake Havasu lowers approximately three to five feet.

2.5 COMMUNITY VISION

One of the major challenges facing Lake Havasu City is to constructively cope with the impacts of growth. Judging from the experiences of other growing communities and regions, those that have carefully and consciously planned for future growth have been most successful in preserving their special qualities. One of the reasons they have been so successful is that they have created a broadly shared vision that serves to guide the policies and strategies used to meet the challenges of growth and change. Lake Havasu City underwent a comprehensive visioning process in 1996 that included distributing over 18,000 surveys to residents with 2,200 returned. From the information gathered, the City Council developed a vision document that is available for review at the Lake Havasu City Community Development Department.

The general plan process built upon the foundation set in this process to establish a Vision Statement to guide the Lake Havasu City General Plan 2002. The General Plan Vision Statement was the product of considerable discussion by the public during the Future Search Conference, community workshops, and discussion with the General Plan Advisory Committee.

The Vision is the philosophy and a unique image of the future. It is a future statement; a description of the community's desired future state. Following is the Lake Havasu Vision Statement developed for the general plan.

Lake Havasu City Vision Statement

Lake Havasu City is a lakeside community unlike any in the world. Its spectacular desert setting is complemented by its attractive, well-planned built environment. Areas have been preserved within the community to maintain an open space feel and free access to Lake Havasu for future generations.

While clearly an accessible, first-class resort destination, the well-balanced economy has been carefully crafted through a comprehensive, cooperative effort to include non-tourism-related job opportunities that produce excellent wages. Special emphasis has been focused on life-long learning and preparing people for the future.

The abundant recreational and cultural activities and relaxed, outdoor lifestyles are enhanced by the community's meticulous preservation of the environment. Residents and visitors enjoy "big city" amenities and services without compromising the community's values.

The City Council adopted a Mission Statement in 2000 that is intended to guide how local government operates. The Vision Statement and Mission Statement work together in providing a foundation for implementation of the Lake Havasu City General Plan 2002.

Lake Havasu City Mission Statement

Our mission is to serve the citizens of Lake Havasu City, to improve the quality of life for all, and to promote community spirit and pride.

The following concepts and values shall be used in directing the City's efforts toward accomplishing our mission:

Loyalty to our community, to this organization, and to each other.
Courtesy in providing high quality services for all.
Innovation in planning for a progressive community.
Responsibility to provide a safe and pleasant environment.
Leadership that is responsive to staff and community needs.
Support an environment that encourages economic opportunities.
Efficient in maintaining and improving city services.
Stewardship in managing our natural resources.
Integrity in preserving financial stability.
Accountability by promoting individual responsibility and citizen involvement.

3.0 LAND USE ELEMENT

3.1 LAND USE ELEMENT STATEMENT

The Land Use Element establishes the existing and preferred growth patterns of urban development within the City and its planning area. A variety of land uses and intensities is depicted to provide a full range of opportunities for living, working, and enjoying leisure time in Lake Havasu.

3.2 INTRODUCTION

Lake Havasu began as a planned community. Every public works installation, private construction project, and land use decision affecting Lake Havasu City over nearly three decades has been made in the context of the original McCulloch master plan. The original plan is outdated and the subdivision pattern causes constraints to new development. Additionally, the City's zoning and subdivision regulations are outdated. After more than a generation of development, it is necessary to evaluate conditions in a community that has nearly doubled in population from 24,363 to 41,938 according to the 1990 and 2000 United States Census. It is also necessary to reformulate general planning principles for future population numbers that will exceed the original plan's capacity. While the growth rate in the past decade has been significant, the land use element projects build-out population figures at somewhere between 116,000 and 168,000. The projected population range is not intended to be a "goal" but a possibility if land is developed according to the general plan. However, it is important to realize that there are potential constraints to achieving the population build-out figure. These constraints might include water availability, transfer of land from public to private use, and infrastructure. This type of projected growth will transform Lake Havasu City into a significant metropolitan area in the State of Arizona.

The Land Use Element provides the general guidelines for making future land use decisions. It also guides future growth of the planning area through build-out. The Land Use Element describes how the community desires to grow, while the Land Use Map graphically depicts, in a general fashion, how land uses will be distributed throughout the planning area and how the City will accommodate future growth. It is critical to utilize the text and map together when determining future land use decisions.

3.3 LAND USE ISSUE IDENTIFICATION

Land Use. Ensuring an appropriate mix of land uses for the 20-year planning horizon is critical for the future of Lake Havasu City. The land uses are based on economic data and ensure community sustainability. The City also provides direction on how the built environment will achieve the desired sense of community and values.

Development Design. The plan encourages the City to enhance existing design specifications, landscape requirements, and sign ordinance parameters that will promote a world class image for Lake Havasu City. The highest regard for quality and image enhancement as it relates to future development projects should be stressed.

Economic Development. Lake Havasu City has recently completed a Strategic Plan for Economic Development that outlines strategies for economic diversification, and the City Council has outlined City goals. The City's current economic base is highly dependent upon residential growth and supported by the continuation of new growth. The dilemma is what happens when this growth slows or the City begins to reach build-out. How does the community continue to support the residents and provide the necessary community services? The Land Use Element builds upon the City's current effort and ensures that adequate land, served by infrastructure, is available for near- and long-term economic opportunities. The plan encourages the City to endorse balanced development strategies that build development capacity for retail, commercial, manufacturing, restaurant/lodging, and entertainment oriented significant future opportunities to diversify the local economy. The City recognizes that the protection and acquisition of public shoreline access as well as preservation of sensitive lands (i.e., mountain foothills) is critical to the economic well being of the community.

Housing. Single-family home development has been brisk but many of the individuals who work in the tourism industry are unable to afford the existing housing stock. The plan strives to ensure a mix of housing types and prices to meet current and future needs.

Integration of Specific Plans. Several very important plans and studies (e.g., Island Specific Plans) have been completed that are integrated into the General Plan 2002.

Ensuring a Well-Balanced Community. It is important to recognize that the Land Use Map is not a zoning map. It is a policy guide on how the City should develop over the next 20 years and beyond. A comprehensive range of land uses is presented to ensure that Lake Havasu City is sustainable long-term. Therefore, the plan provides for every level of housing, a variety of employment opportunities appropriate to specific locations, commercial development needed to support local and regional retail needs, recreational/open spaces to ensure that the unique natural washes and terrain are preserved, and adequate public facilities to support the community long term. All of these uses are needed to ensure that Lake Havasu City can be fiscally responsible and responsive to the needs of a growing community. The plan does not deny landowners the ability to utilize their land, but it does dictate where appropriate land uses should be designated based on good planning principles.

Master Planning. The City has utilized specific area plans as a tool to comprehensively examine and plan for a large area in a master planned way. The plan encourages the continuation of master planning as a way to protect and better develop project areas that are deemed as significant catalysts to the diversification of the community and the promotion of a world class destination and globally competitive community. Such master planning should provide for the inclusion of capital requirement to build the necessary infrastructure to carry these signature

projects and master planned areas to fruition over a reasonable timeline. Examples of signature project areas or areas in need of master planning are the Island, Channel Area, Highway 95 North Corridor Area, Highway 95 South Corridor Area, and Kiowa Ponds.

Infrastructure. The City should take the necessary steps to deploy and maximize infrastructure improvements in conjunction with projects such as the sewer project. This would include the deployment of new enhanced telecommunications infrastructure and utility delivery services. Such services will provide for a more competitive community in the global economy and potentially defray some of the overhead associated with future costs for infrastructure delivery and improvements.

Arizona State Land Ownership. The Arizona State Land Department manages over 20 square miles of the planning area (refer to Figure 2.2). Much of this land is in prime locations on the island and along the shoreline. Additional Arizona Trust lands are on the perimeter of the currently incorporated and developed city area.

Rural vs. Suburban Compatibility. Existing rural neighborhoods within the planning area are being surrounded by new development. Compatibility issues, as related to keeping animals and continued equestrian uses within neighborhoods, should be resolved.

3.4 LAND USE GOALS AND POLICIES

Following are the goals and policies that together with other element policies implement the Lake Havasu Vision Statement.

Existing Development Patterns

Goal: Carefully manage and phase development that is compatible with the existing development pattern while achieving orderly, sustainable development.

Policies:

1. New development must not negatively impact service levels or increase costs for current users.

2. Ensure that new growth is compatible with the preservation or enhancement of the City's quality of life related to the lake and its shoreline. The City should promote world class environmentally and aesthetically well conceived waterfront development in conjunction with preservation efforts.

3. Encourage a compact urban form by supporting infill development and the assembly of small lots for new development that takes advantage of existing services, utilities, transportation, and schools.

4. Provide incentives to developers for desired development, public amenities, and long-term maintenance.

5. Allow development areas that can be reasonably serviced by police, fire, and emergency response services.

6. Maintain physical quality of neighborhoods through active enforcement of building and zoning codes, and the provision of public utilities and services.

7. In order to provide housing for all income levels, develop compatible new housing units.

8. Support development proposals that replace incompatible existing zoning with uses that are compatible with the general plan.

9. Implement the preferred growth area (as described in Chapter 4.0: Growth Management Element) and monitor City services and resource capacity for residential, commercial, and employment uses consistent with the City's Capital Improvement Program to match investment with growth.

10. Provide a total community environment that demands integration with adjacent commercial development and the provision of amenities such as parks, schools, and commercial areas for multi-family residential developments. City should utilize appropriate integration strategies that build upon mixed-use types of development and redevelopment within the city.

11. Promote central area revitalization, including joint-use parking areas and creation of a pedestrian area on upper McCulloch Blvd.

Residential Character

Goal: To create high quality residential environments that provide for safe and convenient vehicular circulation, open-space and recreational opportunities, access to public schools, and protection of residential areas from non-residential uses.

Policies:

1. Encourage all types of residential development provided each is properly located according to the general plan and the site plans and structural quality are in accordance with City Standards and Ordinances.

2. Locate higher-density/intense residential land uses and transportation-dependent uses near major roadway corridors to promote an efficient transportation system.

3. Protect residential neighborhoods from intrusion of more intensive land uses by adequate buffering and separation from other use categories.

4. Encourage infill residential development that takes advantage of existing services, utilities, transportation facilities, schools, and shopping areas.

5. Ensure schools have the current or potential capacity to support the increased enrollment generated from the new development.

6. Serve all housing developments by, and have reasonable accessibility to, existing highways or arterial streets through utilization of the collector street system.

7. Locate housing in areas that can reasonably be serviced by police, fire, and ambulance emergency services.

8. Require adequate provision of open space in all large-scale housing developments, and in particular medium-, high-density and multiple-family housing developments.

9. Maintain the physical quality of neighborhoods through active enforcement of building and zoning codes and the development of compatible new housing units.

10. Maintain comprehensive subdivision and site plan regulations governing land uses, platting procedures, design standards, public and private land specifications, required improvements, and other factors dealing with the proper subdivision of land.

11. Develop land suitable for residential properties according to well-conceived plans that can create a unique identity for the development and still relate positively to adjacent development.

12. Review all residential development proposals with consideration given to whether the proposal provides for residential development that promotes orderly community growth and a quality living environment.

13. Ensure future residents have adequate accessibility to all services. The following guidelines express a minimum by which developers, policy makers, and citizens can gauge the level of support services necessary within close proximity to any proposed development.

    - All housing should be adequately accessible to schools, services and employment to reduce the need for long auto trips while making provisions for use of mass transit, bicycles, and walking.
    - An adequate number of planned schools shall be provided to serve the children of future residents.
    - Housing developments shall be adequately served by, and be reasonably accessible to, existing roadways.
    - Adequate provision of open space shall be required in all large-scale housing developments as described in Chapter 6.0: Open Space and Recreation Element.

- A neighborhood park, playground, community recreational facility, or other public open space should be located within one mile of any housing development.
- Community shopping facilities should be located within 1-2 miles from all housing developments.
- Neighborhood shopping facilities should be located to serve residential development within a half-mile radius.

14. Encourage cost-effective, compatible infill development on currently subdivided residential streets by means of the assembly and appropriate combination and re-subdivision of existing lots using the residential planned unit development procedure.

15. Provide for a mixture of residential developments that meet local resident needs with respect to housing styles, tenures, price, and location.

16. Recognize well-designed and constructed high-density development on appropriate sites as being a worthwhile addition to the community and tax base under conditions established in the general plan and by zoning, subdivision, and other codes and ordinances.

17. Locate higher-density residential development adjacent to, or very near, major thoroughfares so as not to introduce an excessive amount of vehicular traffic onto minor residential streets.

18. Locate medium- to high-density development in close proximity to public open space such as parks, playgrounds, schools, and similar uses. The projects may include adequate open recreational space on the site for the residents' use and pedestrian/bikeway trails leading from the development to schools, parks, or playgrounds.

19. Design all residential development, but in particular low-density developments, shall be designed to provide a quiet and safe environment for its residents.

20. Support the development of alternative forms of housing such as zero lot line homes, townhouses, and condominiums, in addition to single-family homes.

21. Permit abandonment of existing streets where they are deemed not necessary and such vacation will allow consolidation of parcels into large developable tracts for residential or commercial purposes.

22. Discourage residential development in lakefront areas except as part of a mixed-use development that retains public physical access and visual connection to the waterfront.

23. Encourage residential, commercial, and employment areas to have access to advanced telecommunication infrastructure.

Code Enforcement

Goal: To promote the improvement and redevelopment of residential areas within the original site of Lake Havasu.

Policies:

1. Maintain the physical quality of neighborhoods through the active enforcement of local building codes, the provision of public facilities and services, and the development of compatible new housing units.

2. Protect residential development by minimizing adverse manmade impacts through corrective abatement measures, when necessary.

3. Control nuisances such as smoke, noise, dust, litter, vibration, weeds, soil erosion, junk, visual, and others by performance standards in the zoning regulations and other codes and ordinances.

4. Formulate a housing maintenance code and enforcement in order to protect the health and safety of occupants and ensure the stability of residential neighborhoods.

5. Create and/or maintain sound, viable neighborhoods to prevent deterioration of housing.

6. Encourage the use of energy-efficient design.

Economic Development

Goal: To promote and maintain a balanced economy that provides jobs, is responsive to the needs of the community, and positions Lake Havasu City to be the major retail center for the Colorado Basin.

Policies:

1. Attract commercial uses and market the City to large retailers that will provide employment opportunities for its residents.

2. Retain, expand, and attract business and industry uses that meet the overall well-balanced economic diversification structure of the community. Such opportunities should provide for economic opportunities through employment that improves the overall quality of life for all Lake Havasu City residents. The City should adopt and encourage policies that maximize Lake Havasu City's fair share of high quality business development from the national economy and insulate the local economy from major economic cycles or industry driven cycles of economic dependence on any one type of industry or business sector.

3. Maintain the integrity of the City's existing shopping facilities by discouraging the expansion of strip commercial development and encourage more clustered commercial developments that are aesthetically pleasing and compatible with surrounding uses.

4. Concentrate commercial uses in clusters at the intersections of arterial and collector streets.

5. Permit professional offices, and retail and service commercial uses in neighborhood commercial centers, but only at a development scale compatible with residential development.

6. The City should take appropriate efforts to create and enhance the availability of parking for the downtown area as not to obstruct future business development and existing business expansion plans. In addition, the City should encourage further redevelopment and new development in the downtown area that will create destination oriented business that diversifies the downtown district.

7. Strengthen Downtown Lake Havasu City economically by encouraging a compatible mix of infill commercial development.

8. Encourage infill and shopping center retrofitting, as well as revitalization of shops along the McCulloch Boulevard commercial spine (which includes commercially zoned properties on parallel collector streets in the corridor).

9. Strengthen the central commercial district to ensure continued economic health by strategically locating convenience shopping and services.

10. Encourage the expansion of employment-related uses around the airport.

11. Encourage and master plan the North Highway 95 Corridor Area around the airport for the attraction of new knowledge-based companies and air industry related types of businesses that create employment opportunities for existing and new Lake Havasu City residents. The Airport/North 95 Corridor Area should become a signature project area that is master planned and funded through the City's capital improvement plan to achieve the long range goals of the citizens with living wage and economic opportunities.

12. Encourage the relocation of industrial uses along the lakeshore to the airport area.

13. Actively work to implement and annually update economic development goals and objectives.

14. Maintain an aggressive market share in the increasing leisure-service industry by ensuring amenities, support services, additional hotels, name franchise restaurants and resorts, and accommodations conducive of a world-class destination.

15. Work to develop weeklong events and activities to be held on weekdays to attract visitors for longer stays in the area.

16. Define and develop regulations for home-based business and bed/breakfast operations in appropriate areas.

17. The City should encourage the creation of specific plan project areas such the Island, Channel, Highway 95 North Corridor Area, Highway 95 South Corridor Area, Downtown, and Kiowa Ponds to achieve the long range economic development goals of the citizens.

18. The City should continue to partner with educational institutions for further development of expanded educational opportunities for the residents of Lake Havasu City.

19. The City should develop a well-funded capital plan to establish and sustain business and industry parks that will allow for the attraction of new companies to the community to provide better employment opportunities for residents. These parks should be marketed as a comprehensive asset of the community to attract the fair share of future business industries to the Lake Havasu City market.

3.5 FUTURE LAND USE PLAN

The Land Use Map was created based on considerable input and updated to reflect the current planning area as well as current thinking about how Lake Havasu City should continue to grow. Early in the process, the participants at the Future Search Conference developed vision statements, goals, and land use alternatives. Following the Conference, the Alternatives were analyzed and two land use/transportation alternatives were developed by PSA. The alternatives were presented at a Community Workshop along with a survey instrument that provided citizens an opportunity to comment on the alternatives. The surveys were summarized and alternatives evolved through discussions with the GPAC at several meetings. A preferred alternative was completed and continued to be fine-tuned as the process evolved. The following are some of the Land Use Map's key concepts.

Centralized Focus. Urban form in Lake Havasu City has been predicated on a strong, centralized activity focus. However, as the community's built environment has extended spatially, and additional traffic has been generated, convenient access to shopping and work places has been affected. Without markedly departing from Lake Havasu's central focus in the downtown area, strategic opportunities for supplying jobs, shopping, and recreational opportunities closer to residents' homes should be considered.

Urban Form. Lake Havasu's form exhibits three different character areas: the tourism-based area along much of the Shoreline and on the island; the urban core, serving both tourists and local residents; and the arc of suburban residential neighborhoods that ring the core. Physical planning directions should respect these use gradations. Transition between these areas requires buffering policies that will blend one into the other without sharp edges or abrupt

discontinuities. The City should encourage, plan for, and partner with the private sector in the development of significant amounts of planned developments (PDs) to address the residential growth requirements of the community. Such PDs should be established so as to minimize the cost of continued access to adequate infrastructure and allow for more reasonable building lots within the residential housing market. Such PDs should build upon the sense of neighborhood and quality of life with access to urban amenities such as parks, green space, bike and walking trails, and recreational amenities.

Circulation. Moving people through and within Lake Havasu is critical. The system of streets and pathways assists in the establishment of the urban form. Some planned additions to local circulation may be used to reinforce the City's distinctive zones. A second bridge connects Island resort uses with Shoreline resort and recreation uses. It will also provide another connection to commercial uses.

Highway 95 will continue to be the major roadway supporting Lake Havasu City. Over time, through investments in improvements, Highway 95 will operate more like a parkway. Improvements in landscaping, traffic management, and how development will occur along Highway 95 will create a more efficient and pleasing transportation corridor.

The parkway also provides an important role in establishing urban form. The parkway improves traffic mobility in and around the planning area. It is not intended to act as a by-pass. It should be planned as an arterial corridor or a circulation spine to support the City's residential neighborhoods. Cross-town connections from the parkway to the central commercial area ought to serve as collector/feeder streets without unduly separating contiguous neighborhoods.

Limited, non-residential uses along the proposed parkway should be widely spaced and understated. Commercial nodes along the parkway are multi-use intensity areas that are intended to be clustered in a master-planned way at selected intersections. However, the corridor should not depart from its principal intent to serve as an alternative corridor for uncontested vehicular traffic through residential neighborhoods.

Building Form. The built environment should continue to exhibit a generally horizontal character. Mid-rise structures (e.g., hotels, offices, and corporate centers) would be confined to specific areas, such as the core area or the Island. Maintaining wide scenic views is a basic component in determining the City's future vertical form. Non-residential developments in the suburban area should retain a character defined by low buildings, ample open space, and transitional buffering to adjacent residences. New design parameters should be created to require development and redevelopment projects to address the highest quality facades and building designs that will promote and enhance Lake Havasu City's image as a world class destination and high quality of life community.

Physical Amenities. The Lake should continue to serve as the community's focal point. Views of Lake Havasu should be protected. Additionally, the views of the mountains and foothill areas are an important community attribute and must be protected.

Residential development has been and will continue to be the driving force in Lake Havasu's development. With more than 13,660 platted residential lots remaining, infilling with custom home construction will continue as the predominant source of building activity. Additionally, the City will encourage appropriately located production homebuilding based on need and market trends. To encourage stability and enhance the residential environment, the "neighborhood" concept will be promoted in newly developing areas. The neighborhood concept is based upon the provision of a mix of housing types, community, and recreational facilities as well as shopping opportunities within a well-defined area. The use of clustering techniques would be encouraged to protect unique, environmentally sensitive areas within larger developments.

Land Use Classifications

The purpose of this section is to present the basic concepts that form the foundation of the Future Land Use Plan. It also addresses the use and interpretation of the Future Land Use Plan. The land use districts guide land use decision-making for Lake Havasu City. The district lines are located along significant natural and man-made features wherever possible to aid in identification. These features include, but are not limited to, powerlines, roadways, subdivisions, washes, and existing development patterns.

Following are the land use classifications for the Lake Havasu City Future Land Use Plan. The residential land use classifications are presented in dwelling units per acre (du/ac). These ranges represent "gross" densities. The following definitions relate to the designations on the Land Use Map and should be used when interpreting the map. Though not explicitly stated in the definitions, manufactured housing is allowed in any residential district if it meets Lake Havasu City building codes. Public access to the shoreline must be addressed within all developments along the shoreline.

Rural Residential (0-2 du/ac). Denotes areas where single-family residential development is desired that retains the rural character of a given location and/or respects the environmental constraints.

Low-Density Residential (2-4 du/ac). Denotes areas where single-family residential development is desirable. Suitability is determined on the basis of location, access, existing land use patterns, and natural or man-made constraints.

Medium-Density Residential (4-10 du/ac). Denotes areas where attached single-family residence, townhouse, and patio home development is appropriate, ranging from four to ten dwelling units per acre. These areas should be located within proximity to schools, parks,

shopping, and employment. Other uses permitted in this category may include limited neighborhood commercial or office where deemed appropriate by the City.

High-Density Residential (10-20 du/ac). Denotes areas where multiple residential uses are permitted, including attached single-family residences, townhouses, and patio home developments. The City could approve higher densities only for multi-residential developments that will provide a master-planned concept, integration with the adjacent commercial development, and the provision of exceptional residential amenities.

Resort. Denotes areas that provide visitor accommodations in the 7- to 25-units per acre density range, including hotel facility complexes with amenities increasing proportionally with intensity of use. Amenities with an emphasis on pedestrian environments are preferred. Design options should provide flexibility in the placement of buildings and more reasonable and practical use of open space. Shoreline building setbacks for boundaries adjacent to shoreline public access easement should be: 20 feet free public access side and 40 feet other. Setbacks from the Shoreline are measured from the 450-foot high water mark.

Resort-Residential. Denotes areas where planned resort residential development would occur (i.e., primarily on the Island and along the Shoreline). A primary purpose of the Resort-Residential classification is to provide guaranteed public access to, and the public use of, all parts of the Island and Shoreline. The residential product is intended to differ from the historic residential development pattern with regard to project density, type, and open space as a part of an overall planned development. It will be situated within a system of open space and other amenities that are not possible to provide in the currently developed neighborhoods of Lake Havasu City. These areas may be higher in density, with opportunities for clustering and other innovative development patterns. Performance criteria will be developed and applied to resort-residential developments governing the height and bulk of buildings. Shoreline building setback for boundary adjacent shoreline public access easement should be: 20 feet free public access side and 40 feet other. Resort-residential classification does not allow RV resorts or mobile home parks.

Resort-Related. Denotes areas intended to serve and primarily support the resort industry of Lake Havasu City and the tourists and visitors the industry attracts. A primary purpose of the Resort-Related classification is to provide guaranteed public access to, and the public use of, all parts of the Island and Shoreline. Uses within the Planned Resort-Related classification may include service, commercial, and retail uses (e.g., boat rentals, sales and repairs, hotels, motels, restaurants, and shopping facilities); and recreational uses (e.g., marinas, golf courses, parks and recreational trails). Shoreline access corridors shall be provided as required. Shoreline building setbacks for boundary, adjacent shoreline public access easement should be: 20 feet free public access side and 40 feet other. Resort-related classification does not allow RV resorts or mobile home parks.

Resort-Related Island. Denotes areas intended to enhance the leisure-service industry by ensuring accommodations and amenities conducive of a world class destination. A primary

purpose of the Resort-Related Island classification is to encourage large scale resort developments with the allowance of mixed-uses. Residential elements may be integrated with commercial uses or as separate high density uses within a mixed use development. The residential element of a mixed use development cannot exceed 40 percent of the overall building(s) square footage and a hotel use is required within the commercial element. Uses within a development will be calculated by square footage of gross floor area. Uses within the Resort-Related Island classification may include medium- to high-density resort residential uses (e.g., condominiums, townhomes, patio homes, extended stay timeshares/hotel). Single-family detached residential and apartments are prohibited. Additional uses may include incidental services, incidental commercial, and retail uses (e.g., boat rentals, sales and repairs, hotels, motels, restaurants, and shopping facilities); and accessory recreational uses (e.g., marinas, golf courses, parks and recreational trails). Resort-Related Island allows RV facilities and campgrounds as accessory uses within a development, but not as stand alone uses. Shoreline building setbacks shall be 60 feet and a minimum of one public access at least 12-feet in width from the shoreline to an adjacent right-of-way is required. Uses within the 60 foot area shall include free unencumbered public access, beaches, parking, and landscaping. Access to existing lighthouses and Island bike/pedestrian path shall be maintained.

Resort-Related Mainland. Denotes areas intended to serve and primarily support the resort industry of Lake Havasu City and the tourists and visitors the industry attracts. A primary purpose of the Resort-Related Mainland classification is to allow mixed-use developments to occur in areas of Lake Havasu City that do not have direct access to the shoreline. However, in the event a property has direct shoreline access, public access to, and the public use of, all parts of the shoreline shall be secured. Shoreline building setbacks for boundary, adjacent shoreline public access easement should be: 20 feet free public access side and 40 feet other. Mixed-use developments shall provide a minimum of 20% commercial element. Uses within the Resort-Related Mainland classification may include medium- to high-density resort residential uses (e.g., condominiums, townhouses, apartments); incidental services, incidental commercial, and retail uses (e.g., boat rentals, sales and repairs, hotels, motels, restaurants, and shopping facilities); and accessory recreational uses (e.g., marinas, golf courses, parks and recreational trails). Resort-Related Mainland does not allow RV resorts, mobile home parks and campgrounds.

Commercial. Denotes areas where the most intensive types of commercial applications are desired. Commercial is intended to provide the necessary "**retail shopping and services"** (such as: health facilities, night clubs, studios, artisan shops, grocery/retail stores, restaurants, banks, medical office/hospital/clinics, veterinary clinics, parking facilities, personal services, etc.) for the community's current and future needs. Commercial use is critical to the community's quality of life and financial stability. It is important to have adequate but controlled access to arterial streets. Upper McCulloch, Main Street Area, should receive attention to encourage development or redevelopment at increased land use intensities and types. Uses in the Main Street Area may include Commercial and/or multi-family

development with increased densities, provided however, that no more than 20 percent of any commercial center may be devoted to residential uses.

Commercial-Nodal. Denotes areas where the most intensive types of commercial and high-density residential development can take place in a "multi-use nodal" or a "non-strip" setting. While commercial areas may include either commercial or multi-family development, adequate but controlled access to arterial streets is essential. The commercial areas are intended to develop as the community's major commercial and service activity centers. Residential densities may be higher; however, no more than 20 percent of any commercial center may be devoted to residential uses.

Neighborhood Commercial Centers. Denotes areas for service retail in an effort to create quality neighborhoods in Lake Havasu City. Retail and service commercial uses will be permitted as part of the neighborhood pattern. These areas are typically less than 15 acres per corner and are not indicated on the Future Land Use Map. However, any commercial development must be sited and designed such that the activities proposed will not adversely impact adjacent residential neighborhoods.

Employment. Denotes areas appropriate for employment-related uses. The particular type of use will be determined based upon its potential impact on adjacent land uses and the intensity of development. In particular, the development of industrial parks shall be such that the light industrial uses (e.g., knowledge-based companies, entrepreneurial small companies, light manufacturing, research and development, professional office, office/showroom, retail, service, and related uses) shall be located along arterial streets where visibility to the public is likely. Heavier industrial uses (e.g., intense manufacturing, warehousing and distribution) shall be located away from the arterial streets, buffered by the light industrial uses. Typical techniques such as screening, landscaping buffers, separation of incompatible uses, lighting, design, and architectural standards may be used.

Parks/Open Space. Denotes areas that are to be precluded from development, except for public park facilities. Open space areas should be left in a relatively natural state for scenic purposes due to topographic constraints or the need for buffer areas between potentially incompatible uses. Parks/open spaces are generally held in ownership by public entities. Where the General Plan calls for an open space designation, and where consent of the owner is not available, and where State law requires an alternative designation, the alternative designation shall be Rural Residential with densities not exceeding a maximum of one (1) dwelling unit per acre.

Public/Semi-Public. Denotes public and semi-public areas that are owned and/or operated by a governmental, nonprofit, or philanthropic institution that provide educational, recreational, cultural, governmental, or other similar uses. In some cases developments may include accessory commercial and accessory residential uses.

Mountain Protection Area. Denotes areas that, due to their special environmental characteristics and considerable distance from the developed core and developing fringe of Lake Havasu City, will require extensive, detailed studies prior to justifying any general plan amendment that would permit any non-residential development or residential development in a Mountain Protection Area. Where the General Plan calls for an open space designation, and where consent of the owner is not available, and where State law requires an alternative designation, the alternative designation shall be Rural Residential with densities not exceeding a maximum of one (1) dwelling unit per acre.

The boundaries of the land use designations (i.e., districts and district boundaries) shown on the Figure 3.1 Land Use Plan and Figure 3.2 Future Land Use Plan Island and Shoreline are located along significant natural or manmade features wherever possible, to assist in identification. These features include drainageways, washes, roadways, existing subdivisions, land ownership, powerlines, or existing development areas. These boundaries represent general recommendations for future development. However, the precise location of the boundaries may not always be exact or critical. Variations of several hundred feet, particularly where no significant natural or man-made features are present, may be acceptable. It will be the responsibility of the City Council, with recommendation from the Planning and Zoning Commission and the Lake Havasu City Community Development Department, as well as guidance provided by the Lake Havasu

General Plan, to establish and define the boundaries if questions arise. Additionally, these lines will be further defined through specific area plans or neighborhood plans.

The land uses within the Lake Havasu City Planning Area, Water Service Boundary, Growth Area (further described on page 46), and current City Incorporated Area are shown in Table 3-1.

Table 3-1, Lake Havasu City Land Use Plan Designation Acreage by Type

Land Use	Total Acreage			
	City Incorporated Area	Growth Area	Expanded Water Service Area	Planning Area
Rural Residential	2,638	2,744	6,198	8,115
Low-Density	14,353	17,012	15,581	17,060
Medium-Density	95	95	95	95
High-Density	943	957	957	973
Resort	372	372	372	372
Resort-Residential	21	21	21	21
Resort-Related	1234	1234	1277	1277
Resort-Related Mainland	288	288	288	288
Commercial-Nodal	533	552	563	581
Commercial	1,739	1,760	1,745	1,760
Employment	1905	1633	1456	2275
Parks/Open Space	2526	4728	6913	7742
Public/Semi-Public	320	320	320	320
Mountain Protection Area	443	836	1,138	11,370
Totals	27,410	32,552	36,924	52,249

Figure 3.1 Future Land Use Plan

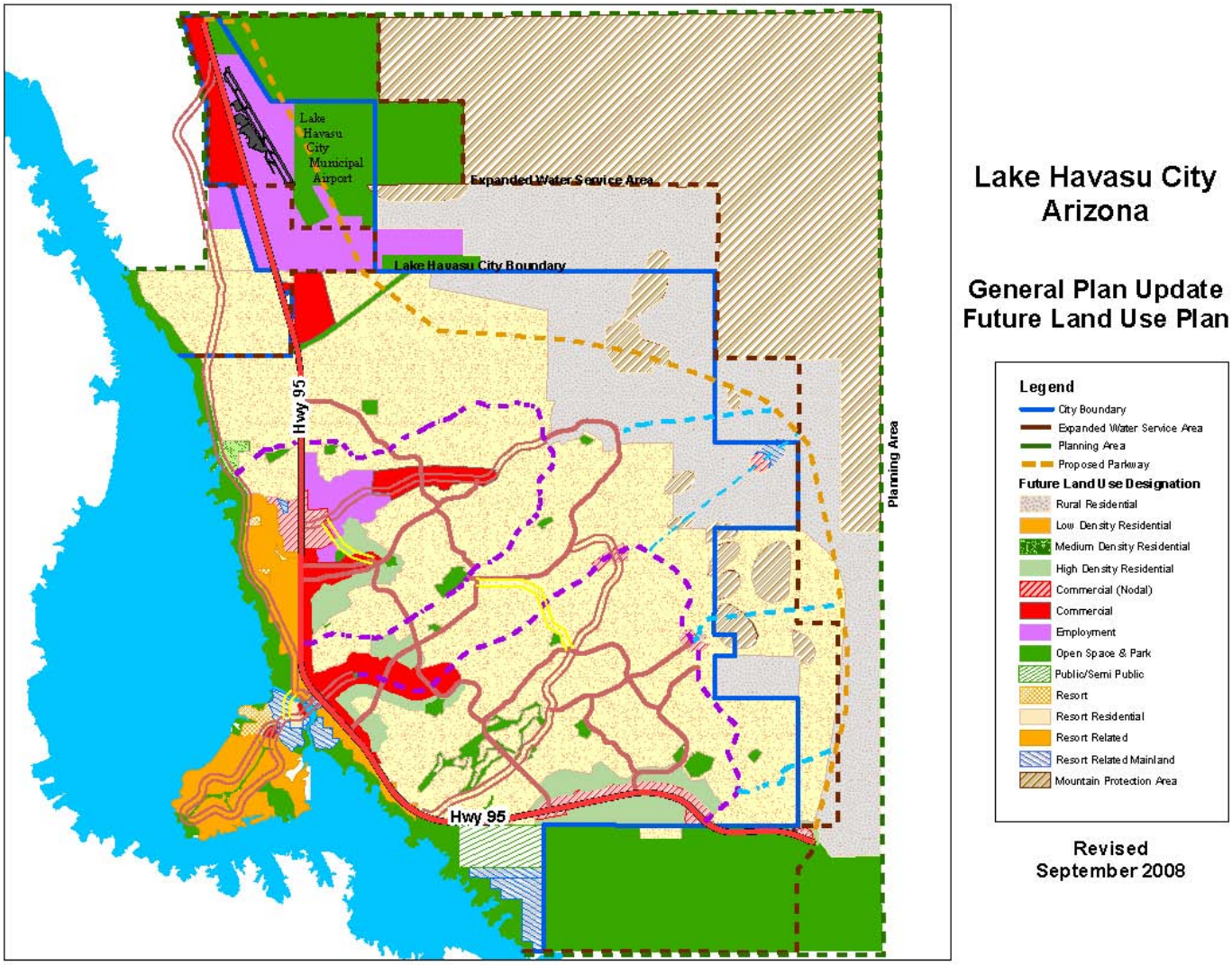
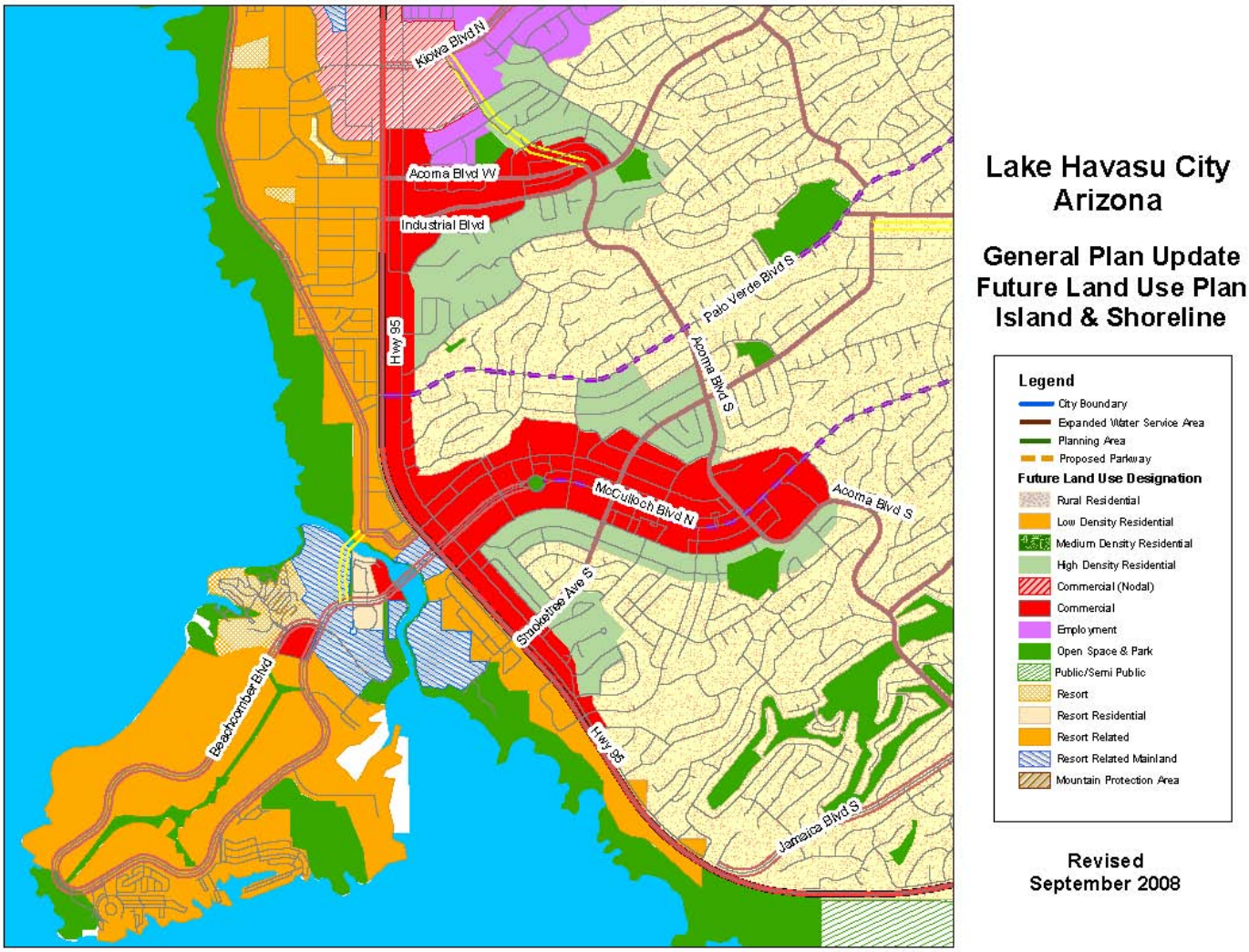


Figure 3.2 Island and Shoreline



3.6 BUILD-OUT LAND USE/POPULATION PROJECTIONS

The following analysis provides the population projections if the Lake Havasu City Future Land Use Plan is implemented as shown. The projections have been calculated for land within the currently incorporated area, the Growth Area, the Expanded Water Service Area, and for the entire Planning Area. While utilizing the figures from the incorporated area, Growth Area, and Expanded Water Service Area may be a valuable short-term tool, build out population projections for the Planning Area should be used for long-range planning.

Since this is an inexact science, assumptions have been made to produce the estimates. These assumptions include the amount of buildable property in a given area and an estimated population per household in each dwelling unit. Buildable property percentages have been determined based on the terrain and amount of other uses (washes, steep hillsides, roads, public facilities, etc.).

Each residential land use has been calculated at three levels: on the low side of the allowable density range, at the mid-range, and at the high range. Resort Residential population projections have not been included in the analysis since the majority of these uses are not anticipated to accommodate full-time residents.

Assumptions

- Total acreage available for Rural-, Low- and Medium-Density Residential was calculated at 70 percent (30 percent of land will be roadways, washes, drainage, public facilities, etc.).
- Total acreage available for High-Density Residential was calculated at 80 percent (20 percent of land will be roadways, washes, drainage, public facilities, etc.).
- Assumption of average household size of 2.62 persons per dwelling.

Incorporated Area

Rural Residential – 2,638 total acres, 1,847 buildable acres at 0-2 dwelling units per acre

Density Scenario	Potential Dwelling Units	Potential Population
Low (.5 units per acre)	923	2,418
Medium (1.25 units per acre)	2,309	6,050
High (2.0 units per acre)	3,694	9,678

Source: Partners for Strategic Action, Inc., July 2002

Low-Density Residential – 14,353 total acres, 10,047 buildable acres at 2-4 dwelling units per acre

Density Scenario	Potential Dwelling Units	Potential Population
Low (2.0 units per acre)	20,094	52,646
Medium (3.0 units per acre)	30,141	78,969
High (4.0 units per acre)	40,188	105,293

Source: Partners for Strategic Action, Inc., July 2002

Medium-Density Residential – 95 total acres, 67 buildable acres at 4-10 dwelling units per acre

Density Scenario	Potential Dwelling Units	Potential Population
Low (4.0 units per acre)	268	702
Medium (7.0 units per acre)	469	1,229
High (10.0 units per acre)	670	1,755

Source: Partners for Strategic Action, Inc., July 2002

High-Density Residential – 943 total acres, 754 buildable acres at 10-20 dwelling units per acre

Density Scenario	Potential Dwelling Units	Potential Population
Low (10.0 units per acre)	7,540	19,755
Medium (15.0 units per acre)	11,310	29,632
High (20.0 units per acre)	15,080	39,510

Source: Partners for Strategic Action, Inc., July 2002

Incorporated Area Land Use/Population Build Out Projection Summary

Density Scenario	Potential Dwelling Units	Potential Population
Low	28,825	75,521
Medium	44,229	115,880
High	59,632	156,236

Source: Partners for Strategic Action, Inc., July 2002

Growth Area

Rural Residential – 2,744 total acres, 1,921 buildable acres at 0-2 dwelling units per acre

Density Scenario	Potential Dwelling Units	Potential Population
Low (.5 units per acre)	961	2,517
Medium (1.25 units per acre)	2,401	6,291
High (2.0 units per acre)	3,842	10,066

Source: Partners for Strategic Action, Inc., July 2002

Low-Density Residential – 17,012 total acres, 11,908 buildable acres at 2-4 dwelling units per acre

Density Scenario	Potential Dwelling Units	Potential Population
Low (2.0 units per acre)	23,816	62,398
Medium (3.0 units per acre)	35,724	93,597
High (4.0 units per acre)	47,632	124,796

Source: Partners for Strategic Action, Inc., July 2002

Medium-Density Residential – 95 total acres, 67 buildable acres at 4-10 dwelling units per acre

Density Scenario	Potential Dwelling Units	Potential Population
Low (4.0 units per acre)	268	702
Medium (7.0 units per acre)	469	1,229
High (10.0 units per acre)	670	1,755

Source: Partners for Strategic Action, Inc., July 2002

High-Density Residential – 957 total acres, 766 buildable acres at 10-20 dwelling units per acre

Density Scenario	Potential Dwelling Units	Potential Population
Low (10.0 units per acre)	7,660	20,069
Medium (15.0 units per acre)	11,490	30,104
High (20.0 units per acre)	15,320	40,138

Source: Partners for Strategic Action, Inc., July 2002

Growth Area Land Use/Population Build Out Projection Summary

Density Scenario	Potential Dwelling Units	Potential Population
Low	32,705	85,687
Medium	50,084	131,220
High	67,464	176,756

Source: Partners for Strategic Action, Inc., July 2002

Expanded Water Service Area

Rural Residential – 6,198 total acres, 4,339 buildable acres at 0-2 dwelling units per acre

Density Scenario	Potential Dwelling Units	Potential Population
Low (.5 units per acre)	2,170	5,684
Medium (1.25 units per acre)	5,424	14,211
High (2.0 units per acre)	8,678	22,736

Source: Partners for Strategic Action, Inc., July 2002

Low-Density Residential – 15,581 total acres, 10,907 buildable acres at 2-4 dwelling units per acre

Density Scenario	Potential Dwelling Units	Potential Population
Low (2.0 units per acre)	21,814	57,153
Medium (3.0 units per acre)	32,721	85,729
High (4.0 units per acre)	43,628	114,306

Source: Partners for Strategic Action, Inc., July 2002

Medium-Density Residential – 95 total acres, 67 buildable acres at 4-10 dwelling units per acre

Density Scenario	Potential Dwelling Units	Potential Population
Low (4.0 units per acre)	268	702
Medium (7.0 units per acre)	469	1,229
High (10.0 units per acre)	670	1,755

Source: Partners for Strategic Action, Inc., July 2002

High-Density Residential – 957 total acres, 766 buildable acres at 10-20 dwelling units per acre

Density Scenario	Potential Dwelling Units	Potential Population
Low (10.0 units per acre)	7,660	20,069
Medium (15.0 units per acre)	11,490	30,104
High (20.0 units per acre)	15,320	40,138

Source: Partners for Strategic Action, Inc., July 2002

Expanded Water Service Area Land Use/Population Build Out Projection Summary

Density Scenario	Potential Dwelling Units	Potential Population
Low	31,912	83,609
Medium	50,104	131,272
High	68,296	178,936

Source: Partners for Strategic Action, Inc., July 2002

Planning Area

Rural Residential – 8,115 total acres, 5,681 buildable acres at 0-2 dwelling units per acre

Density Scenario	Potential Dwelling Units	Potential Population
Low (.5 units per acre)	2,841	7,443
Medium (1.25 units per acre)	7,101	18,605
High (2.0 units per acre)	11,362	29,768

Source: Partners for Strategic Action, Inc., July 2002

Low-Density Residential – 17,060 total acres, 11,942 buildable acres at 2-4 dwelling units per acre

Density Scenario	Potential Dwelling Units	Potential Additional Population
Low (2.0 units per acre)	23,884	62,576
Medium (3.0 units per acre)	35,826	93,864
High (4.0 units per acre)	47,768	125,152

Source: Partners for Strategic Action, Inc., July 2002

Medium-Density Residential – 95 total acres, 67 buildable acres at 4-10 dwelling units per acre

Density Scenario	Potential Dwelling Units	Potential Additional Population
Low (4.0 units per acre)	268	702
Medium (7.0 units per acre)	469	1,229
High (10.0 units per acre)	670	1,755

Source: Partners for Strategic Action, Inc., July 2002

High-Density Residential – 973 total acres, 778 buildable acres at 10-20 dwelling units per acre

Density Scenario	Potential Dwelling Units	Potential Additional Population
Low (10.0 units per acre)	7,780	20,384
Medium (15.0 units per acre)	11,670	30,575
High (20.0 units per acre)	15,560	40,767

Source: Partners for Strategic Action, Inc., July 2002

Planning Area Land Use/Population Build Out Projection Summary

Density Scenario	Potential Dwelling Units	Potential Population
Low	34,773	91,105
Medium	55,066	144,273
High	75,360	197,443

Source: Partners for Strategic Action, Inc., July 2002

3.7 COMMERCIAL GROWTH ANALYSIS

This analysis was performed to ensure that adequate space is set aside to accommodate commercial activities to support projected build-out populations and provide employment opportunities for current and future community residents.

Build-out population projections the consultant made based on proposed residential land uses were used in the following analyses. Assumptions are based on proposed land uses, land character, industry standards, and the consultant's experience on similar projects.

Ensuring that the community can accommodate commercial activities (retail shopping and services for current and future residents) is critical to quality of life and financial stability.

<u>Assumptions</u>

- Due to terrain, 70 percent of commercial property will be developable.
- A floor-to-area ratio (FAR) of .22 will be utilized (amount of actual building under roof for any given parcel).
- 36 square feet of retail space will be needed per resident.
- 20 square feet of general services/commercial space will be needed per resident.

- To accommodate tourism and anticipated regional shopping patterns, significant commercial space will be needed over and above accommodating residents' needs.
- The Resort Related land use has not been included in this analysis.

The following tables represent the commercial market accommodated in the acreage commercially designated area in the Incorporated Area, Growth Area, Expanded Water Service Area, and Planning Area.

Designated Area	Acreage	Square Feet	Population Served
Incorporated Area	2,272	15,395,072	274,912
Growth Area	2,312	15,666,112	279,752
Exp. Water Service Area	2,308	15,639,008	279,268
Planning Area	2,341	15,862,616	283,261

Source: Partners for Strategic Action, Inc., July 2002

Based on the assumptions, the commercial land uses designated in the all scenarios will accommodate all build-out scenarios. Adequate commercial development can be provided to accommodate visitors and regional shoppers to the community in addition to serving current and future residents.

3.8 EMPLOYMENT GROWTH ANALYSIS

The designation of an appropriate amount of property for employment uses is critical for the community's long-term sustainability. Employment property must be vigorously protected from being changed to residential uses since once residential development begins to occur it is very difficult to bring employment uses into the vicinity.

The key factor that must be determined is what employment-to-population ratio the community desires. Typical bedroom communities will have between two and three jobs for every ten residents (an employment-to-population ratio of .2 and .3 respectively). A well-balanced and sustainable economy needs to approach the .5 employment-to-population ratio. Some of these jobs are in the retail and service sector, while others will be in manufacturing or technology firms (these types of jobs are anticipated to be developed in the employment-designated parcels within the community).

<u>Assumptions</u>

- Due to terrain, 60 percent of employment-designated property will be developable.
- Projections have been calculated for the Incorporated Area, Growth Area, Expanded Water Service Area, and Planning Area.
- 250 square feet of space under roof will be required per employee.
- Employment property will have a FAR of .20.
- 50 percent of total community employment will be accommodated in the Employment Designate areas and 50 percent will be accommodated in Commercially designated areas.

Designated Area	Acreage	Square Feet	Potential Employment
Incorporated Area	1,821	9,614,880	38,460
Growth Area	1,549	8,178,720	32,715
Exp. Water Service Area	1,372	7,244,160	28,977
Planning Area	2,191	11,568,480	46,274

Source: Partners for Strategic Action, Inc., July 2002

Based on the assumptions, the employment-designated land will accommodate adequate employment opportunities to meet the demands of projected build-out populations at the .5 jobs to population ratio.

4.0 Growth Management Element

4.1 GROWTH MANAGEMENT ELEMENT STATEMENT

The Growth Management Element is intended to preserve and enhance the community's character (i.e., lake shoreline, natural wildlife refuge area, foothills, washes, and sensitive land areas), promote a sustainable community form, and preserve the natural environmental resources (e.g., air, water, and land).

4.2 INTRODUCTION

Lake Havasu City is a master-planned community and as the City continues to mature, accommodating new growth in a managed way is very important. The 1994 General Plan Update had a Growth Management Element that provided guidance over the past six years.

The Growth Management Element provides an important foundation for the Lake Havasu City General Plan. Included within 4.5 Growth Management Plan are several new Arizona requirements:

A. Environmental Planning
B. Growth Area
C. Water Resources

The ***Environmental Planning*** element identifies the policies and strategies to manage the environment within the Lake Havasu City planning area. The element discusses critical issues that must be addressed and serves as a guide to decision-making.

The ***Growth Area*** element discusses where development will be focused over the next 20 years. The element identifies those "target areas" suitable for planned multimodal transportation and infrastructure expansion. It also identifies improvements designed to support a planned concentration of a variety of uses such as residential, office, commercial, tourism, and industrial. The element also includes policies and strategies that are designed to make automobile, transit, and other multimodal circulation more efficient, make infrastructure expansion more economical, and provide for a rational pattern of land development. Another key component is to conserve significant natural resources and open space in the growth areas and coordinate their location to similar areas outside the growth area boundaries. Promotion of public and private construction of timely and financially sound infrastructure expansion through the use of infrastructure funding and financing planning that is coordinated with development activity is also considered.

The ***Water Resources*** element presents policies and strategies to ensure that adequate water resources are available to support the land use pattern proposed in the general plan. On March 1, 2001, the City of Lake Havasu City adopted the *Water Resources Plan*, prepared by Brown and Caldwell. The Water Resources Plan meets and exceeds the State of Arizona requirements for a Water Resources Element. The *Lake Havasu City Water Resources Plan* reviews and revises the water supply demand projections, presents a shortage-year plan, estimates additional water supply needs, evaluates current water sources, identifies and prioritizes options, and presents preliminary engineering costs for the top three options.

4.3 GROWTH MANAGEMENT ISSUE IDENTIFICATION

Preferred Growth Locations. Infilling areas where infrastructure investments have already been made are Lake Havasu's first-order growth absorption preference. However, due to the size of existing undeveloped lots, infill may be difficult. The number of lots that are suitable for development are shrinking dramatically in the City. The City's original master plan subdivided over 30,000 lots, which has resulted in scattered, undeveloped, and small parcel ownership patterns.

Master Planning. Lake Havasu City was conceived as a master-planned community in 1963 with a recreational and retirement residential emphasis. The current development pattern has continued this master-planning trend. The existing subdivided City is not conducive to large-scale master planning. However, there is considerable land under single ownership within the planning area that is conducive to large-scale master planning.

Environment. The physical setting's attractiveness, in terms of scenery, clean air, and recreational activity, is the primary asset upon which the City's positive growth opportunities are based. Environmental protection, therefore, becomes an integral precept of sound growth management.

Hillside/Mountain Protection. The Mohave Mountains to the east and the Colorado River to the west border the City, forming natural boundaries. Elevations range from approximately 450 feet above mean sea level (ft/msl) near the river, to 5,148 ft/msl at Crossman Peak in the Mohave Mountains. To date, most of the land developed within Lake Havasu City has been in the non-mountainous areas of the community. However, the planning area does include mountain preservation areas that require sensitive site planning and/or protection.

Preservation of Washes. The planning area has very diverse terrain with many washes, both major and minor, dissecting the area. These washes create a unique environment that offers opportunities to sensitively integrate them into the community design.

The Lake. Lake Havasu City is located on the eastern bank of the Colorado River adjacent to the lake formed in 1938 by the damming of the river downstream at Parker, Arizona. The reservoir formed by the dam can store approximately 211 billion gallons of water. Lake Havasu reservoir functions as a storage facility for water diversions to Southern California via the Colorado River

Aqueduct and to Arizona via the Central Arizona Project (CAP) canal. Approximately two billion gallons of water per day are pumped from the reservoir into these canals.

The formation of the lake has provided a desirable location for retirement and recreation. Recreational benefits of the reservoir have contributed to growth along this reach of the Colorado River, particularly in Lake Havasu City. Unplanned growth is not worth risking overuse of the water, its shoreline, and riparian and desert habitats, or failing to protect the air, water, and land resources needed to support burgeoning populations.

Shoreline Protection. Many of the natural resource areas in the City, particularly its beaches, have been subjected to overcrowding. To prevent irreparable damage to Lake Havasu and its shoreline, care should be taken to understand its use patterns, redevelop or expand user conveniences, and plan additional strategically placed public access.

Wildlife Refuge Areas. Within the planning area there is a considerable amount of acreage composed of national wildlife refuge areas, primarily along the western edge. This area offers visitors and residents the joy of wildlife observation and wildlands appreciation. Boating and canoeing on the Colorado River and Toprock Marsh bring thousands of visitors annually. South of Lake Havasu is the Bill Williams Unit, Havasu National Wildlife Refuge. This 6,000-acre-unit refuge provides insight into the Sonoran Desert environment with elevations ranging from 425 to 1,000 feet. Fishing and limited hunting are permitted in both refuge areas. Ensuring compatible land uses adjacent to these areas is critical.

Impacts on Water Supply. Carefully managing the water supply and determining the impacts that new developments have on the water supply is critical. The City Code requires a "Water Service Letter" to be obtained from the City before a building permit can be issued for any residential development, as described in Chapter 7 of the City Code. This water service letter ensures that the delivery of an assured 100-year water supply for use to and within the City's water service area can be executed. However, water service letters are provided on a first-come, first-served basis. Each water service letter must state the maximum quantity of water available for the new or expanded use for which it is issued. Should the maximum quantity be subsequently exceeded due to an unauthorized expansion, addition, or alteration of the property, the City can terminate service to the property.

The existing Sanitary District incorporates approximately 12 percent (4,300 acres) of total land area. Most water users in the area have individual septic tank wastewater disposal systems. For reclaimed water to become a larger part of the City's water supply, improvements, including residential sanitary sewer service, are required. The *1998 Phase II Comprehensive Wastewater Master Plan* addressed these limitations and evaluated the requirements for collection, pumping, treatment, and reuse of wastewater for the entire Water Service Area through build-out based on a population of 96,000. In 2001, the community moved forward with a $463,000,000 bond and Wastewater System Expansion Program. To date, this program has installed: 902,158 feet main line sewer, 887,418 feet sewer service line, 2,721 manholes, 2,860,292 square yards of paved asphalt, 21 pump stations and added 4.6 MGD treatment capacity. More than 10,000 homes have

been removed from their septic systems and connected to the sewer system. Upon completion, approximately 28,000 sewer laterals will have been installed and approximately 80% of the existing community sewered.

Multiplicity of Jurisdictional Influences. The planning area has a multiplicity of agencies (e.g., federal, state, county, city, school districts, and other agencies) that have jurisdiction. Therefore, it is essential to foster joint cooperative planning on an organized basis to implement common goals.

Air Quality. Many residents moved to Lake Havasu City due to its clean air and wide-open spaces. It is imperative that the plan promotes good planning that minimizes negative impacts on air quality.

Noise Implications. The quiet, peaceful lifestyle that residents and visitors enjoy in Lake Havasu City must be protected. Roadway and airport noise will continue to increase as the area continues to grow and expand. Boat noise will also continue to be an issue as lake activities increase.

4.4 GROWTH MANAGEMENT GOALS AND POLICIES

Goal: Ensure community sustainability by managing growth within the planning area in a systematic, pro-active manner.

Policies:

1. Encourage a mix of residential development provided each development is properly located according to the general plan and the site plans and structural quality are in accordance with City standards and ordinances.

2. Protect residential neighborhoods from intrusion of more intensive land uses by adequate buffering and separation from other use categories.

3. Encourage specific plans as a means of master-planning large parcels that evaluate development suitability and incorporate a mix of land uses.

4. Allow residential development to occur in areas originally platted for residential uses (i.e., when the City was first master planned). Within the immediate growth area, infill development that will create a compact, fully developed city will be encouraged.

5. Development outside the immediate subdivided area shall be allowed only if an identified minimum level of public facilities is available or can be made available in conjunction with development.

6. Develop a comprehensive system of growth impact fees to ensure that new development pays the costs of new public improvements (i.e., recognizing that there are existing development or lease agreements, such as the Island's second bridge impact fee, that must be taken into consideration).

7. Develop a consistent, concise, and fair method for assessing the fiscal impact of new development on City services.

8. Develop and implement a growth management data information system to monitor growth type and impacts.

9. Provide incentives and direct compensation for preserving natural amenities through a comprehensive planning effort and in specific plans.

10. Commit to land assembly initiatives to ensure a compact urban form and protect neighborhoods' character.

11. Create a program to encourage dedication or attainment of land reserves, open space, or recreational dedications, including public shoreline access areas.

12. Develop a system of incentives and disincentives to encourage timely infill development.

13. Encourage development in locations where infrastructure exists or can be financed by the development and installed and maintained cost-effectively by users.

14. Establish specific plan priority areas in coordination with Lake Havasu City's Capital Improvement Plan.

15. Manage and/or expand the transportation system to accommodate growth needs as they occur.

Goal: Preserve free public access to and enjoyment of the Lake Havasu shoreline.

Policies:

1. Continue to support the efforts of the Shoreline Acquisition and Preservation Commission (Ordinance No. 00-598) appointed by the City Council.

2. Actively pursue the acquisition of the Lake Havasu shoreline, concentrating initially on the channel and mainland shorelines.

3. The City shall pursue the acquisition of a portion of Black Rock Cove (shown on the Future Land Use Map) as a public access conservation area through the Arizona Preserve Initiative (API) or other innovative techniques.

Goal: Preserve the natural environment and scenic resources within the planning area by ensuring compatible development that protects environmentally sensitive areas.

Policies:

1. Outside the Growth Area, slopes fifteen (15) percent or over shall be evaluated for development compatibility, safety, and preservation as natural open space.

2. Protect ridge/crestline, steep-sloped areas as open space by the use of transfer or purchase of development rights, acquisition, donation, or other acceptable methods.

3. Encourage building envelopes (where appropriate) in master-planned communities that encourage the provision of natural buffers between buildings. Building envelopes designate the specific areas that can be disturbed in any way during or following construction. The area outside the building envelope must be maintained in its natural state.

4. Ensure that new growth is compatible with the preservation or enhancement of the City's quality of life related to its environmental amenities including, but not limited to, Lake Havasu and its shoreline.

Goal: Ensure that the implementation of the general plan does not negatively impact the supply and quality of Lake Havasu City's water resources.

Policies:

1. Pursue opportunities to acquire additional water supplies to support Lake Havasu City's short- and long-term interests as outlined in the *Lake Havasu City's Water Resources Plan*.

2. Implement water conservation strategies outlined in *Lake Havasu City's Conservation Plan*.

Goal: Implement activities and actions that maintain lake and groundwater quality to meet state standards.

Policies:

1. Continue pursuing installation of a citywide sewer system.

2. Work with agencies or groups to control solid waste on the Lake.

3. Assure the Non-Point Source "Best Management Practices" are employed in new construction and landscape maintenance.

4. Develop settling/infiltration basins in drainages to clear storm water run off.

Goal: ***Lake Havasu City is recognized for its unique physical environment. Efforts must be made to protect the planning area's visual, cultural, and natural attributes that have been designated as a key community value.***

Policies:

1. Protect major natural washes and floodplains to minimize flood hazards, maintain natural/riparian areas for wildlife migration, and provide natural groundwater recharge of the aquifer.

2. Evaluate grading practices to ensure that they do not contribute to flooding and erosion.

3. Provide visual and non-vehicular physical links to the lake.

4. Encourage citizen initiatives to identify, acquire, and preserve sensitive natural open space within the planning area, such as the shoreline or foothill areas.

5. Strive to preserve the scenic quality of the lake and surrounding foothills.

6. Enforce dust control strategies associated with development activities to ensure the planning area's air quality.

7. Ensure all roadways are paved and maintained to reduce air particulates.

8. Work with appropriate agencies regionally to ensure air quality.

9. Develop a plan to encourage indigenous vegetation and riparian habitats to be maintained and enhanced where possible. Where protection is not possible, the City shall develop and adopt a native plant ordinance to save valuable plant material.

10. Prepare and adopt an environmentally sensitive land ordinance and other appropriate environmental ordinances related to development within areas of significant landform, and that are important for steep slope, and vegetation.

11. Protect wildlife habitat and corridors by avoiding sensitive natural features, such as wetlands, riparian areas, sensitive plant and animal sites, and migration corridors. When it is not possible to avoid these natural areas, sensitive areas shall be protected by using innovative planning, design, buffering, and management practices.

12. Require new development to evaluate the impact on special-status or endangered flora and fauna species.

Goal: Minimize the impact of noise within the planning area.

Policies:

1. Support public awareness programs regarding compatible land use planning in the vicinity of the airport to minimize noise impacts.

2. Ensure noise mitigation that is compatible with the area's character along all high-volume roadways (e.g., SR 95).

3. Continue to evaluate the impact of boat noise on the community's quality of life and develop mitigation strategies if necessary.

4.5 GROWTH MANAGEMENT PLAN

The Lake Havasu City Growth Management Plan includes three sub-elements: Environmental Planning, Growth Area, and Water Resources. Together, these sub-elements provide guidance on how the City can manage growth effectively.

A. Environmental Planning

The following are key growth management principles that the Lake Havasu City General Plan 2002 is founded upon.

Growth Trends. Lake Havasu City will take a proactive approach to development by anticipating future trends instead of just reacting to new proposals.

Urban Containment Boundary. The Urban Containment Boundary that follows the Parkway corridor on the fringe of the planning area represents the area where Lake Havasu City will consider new development over the next 20-25 year period. Future general plan updates may promote outward growth based on findings of sufficient financial, water, and other resources to sustain development beyond the urban containment boundary. It is determined that all action programs for municipal services and urban development are restricted to occur within the Urban Containment Boundary, except as may be permitted by specific plan exception (e.g., Havasu Foothills Estates Specific Plan).

Specific Plan Development. The community has successfully used the specific plan approach to master plan and develop areas of the City. This technique is anticipated to be used in future development areas. Any specific plan area beyond the urban containment boundary is expected to be:

- Self-contained in terms of its municipal services.
- Positive in its contributions to City revenues.

- Manageable in terms of its demands on water and other resources.

- Dedicated in terms of preserving unique environmental and visual characteristics.

Infill Intensification Emphasis. Infill development, for which infrastructure investments have already been made, is Lake Havasu's first-order growth absorption preference. Emphasis should be placed on platted lots that are not built on yet; assemblage of contiguous vacant parcels for appropriate land development as well as more intense development, or redevelopment in appropriate areas.

Improvement Areas. There are appropriate areas for redevelopment to occur in order to allow a more efficient mix of land uses. Upper McCulloch Boulevard and the City's southern gateway area should receive attention to encourage development or redevelopment at increased land use intensities. Other locations, such as the Island's interior, London Bridge Shopping Center, North Kiowa Boulevard Area, Main Street Area, and the Southside Commercial areas are also encouraged for improvement.

Mountain Preservation. The planning area has a natural containment area created by the foothills to the north and east. The natural terrain of this section makes it difficult to provide adequate public facilities to support development in the area.

Shoreline Protection. Shoreline access preservation with free public access is a fundamental planning precept to maintain Lake Havasu's character. In all community meetings, shoreline protection has been expressed as a community value of Lake Havasu City's citizens and must be protected.

Sewer Expansion Program. Maintaining a blue lake and clean drinking water has been the City's highest priority for the past several years. The sewer expansion project, when built (i.e., financing program was passed by the voters in November 2001), combined with the major water system improvements currently underway, will achieve the following objectives:

1. Protect the quality of drinking water by significantly reducing nitrates in the groundwater by decommissioning 25,000 septic tanks.
2. Protect lake quality by eliminating a food source (nitrogen and phosphorous) for the natural occurring bacteria.
3. Recovery and reuse of the effluent (treated wastewater), reducing demand on our potable water system.
4. Protect our natural resources to allow for future growth and economic development and avoid the devastating economic and environmental consequences of declining water quality.
5. Reduce the dollars needed to acquire additional water supply.

Effluent. The City is working on the development of an extensive effluent reuse program that possibly will include the irrigation of the various school ballfields and other turf areas, the cemetery, the City and County parks, the golf courses, and other water-intensive irrigation areas. A plan is currently being prepared to provide a landscape corridor along State Route 95 to emphasize and accent the entry into the City and as you travel along State Route 95 through the City. It is included also in the CIP plan to install many Vadose Zone Wells and the NRWWTP well field. Vadose Zone Wells are shallow injection wells that will facilitate recharge and recovery. It is projected that at build-out of the community, there will be excess effluent produced, and this effluent will be disposed of through evaporation/percolation ponds and/or injection wells. The City is and will continue to pursue attempts to get credit from the Bureau of Reclamation for this percolated or injected water or pursue recharge and recovery projects to help increase our potable water allocation.

B. Growth Area

Growth areas indicate where Lake Havasu City anticipates focusing development over the next 20 years. The area inside the "Urban Containment Boundary" is identified as Lake Havasu's growth area. The Lake Havasu Growth Area is approximately 49 square miles, or 30,720 acres. This area identifies the "target area" suitable for planned multimodal transportation and infrastructure expansion. It also identifies improvements designed to support a planned concentration of a variety of uses such as residential, office, commercial, tourism, and industrial. The policies and strategies outlined in this element are designed to make automobile, transit, and other multimodal circulation more efficient, make infrastructure expansion more economical, and provide for a rational pattern of land development. Another key component is to conserve significant natural resources and open space in the growth areas and coordinate their location to similar areas outside the growth area boundaries.

Promotion of public and private construction of timely and financially sound infrastructure expansion through the use of infrastructure funding and finance planning that is coordinated with development activity is also considered. Any development outside the urban containment boundary is intended to be self-contained. Through the specific planning process, areas outside the urban containment boundary could be considered if it was determined that they could provide municipal-level services in a self-contained fashion, that the area would be positive in its contributions to City revenues, and that the area is manageable in terms of its demand on water and other resources.

C. Water Resources

The following section is taken directly from the *Water Resources Plan* prepared by Brown and Caldwell. For more detailed information about water resources, refer to that plan. The purpose of this section is to highlight key elements of water resources as they relates to the general plan.

Water Supply. Lake Havasu City relies exclusively on the Colorado River for its water supply. Municipal wells serve the entire municipal water service area, except for approximately 3,500 acres to the north that are supplied by American Water Works Company (formerly Citizens Utilities), a private water provider. The municipal Water Service Area is significantly larger than the current City limits.

The City operates a total of 14 wells in three well fields for domestic water production. The municipal wells produce from 300 to 3,000 gallons per minute (gpm), with a maximum total combined capacity of approximately 24 million gallons per day (mgd) (27,000 ac-ft per year). All wells are understood to be pumping from the Colorado River Aquifer, as defined by the Bureau of Reclamation (BOR), therefore constituting debits against the City's Colorado River water allocation.

The City has installed and has tested a Ranney well system, a horizontal collector well to provide the water production facilities (in conjunction with some of the existing wells) required for build-out water demands. The horizontal collector well is located on London Bridge Beach, on Pittsburg Point Island, approximately 70 feet from shore. The well was completed in early spring 2000, and results from the test pumping of the well indicate that the design yield of the well (25mgd) will be met on a continual basis, with a maximum intermittent yield of approximately 32.1 mgd.

Currently, Lake Havasu City has rights to an allocation of 25,180 ac-ft per year of water from the Colorado River. This quantity includes:

- The City's original allocation of 14,831 ac-ft per year.
- An additional allocation of 4,349 ac-ft per year received in September 1995 to provide water for a 10,500-acre expansion to the City's Water Service Area.
- An allocation of 6,000 ac-ft per year received in December 1995 as part of a water transfer from the Mohave County Water Authority.

In addition to groundwater pumping, the City has an existing surface water take-out facility on the lake. Surface water pumped from the lake via this pump station is mixed with reclaimed water and used for golf course irrigation in the southern portion of the City. Surface water withdrawals also count against the City's Colorado River water allocation. The City is currently consuming approximately 50 percent of its yearly allocation (13,000 ac-ft per year).

Water Quality. Water quality for wells located in the Lake Havasu Basin was analyzed in the *Lake Havasu City Water Resources Plan (March 2001)* conducted by Brown and Caldwell. Based on available historical data through 1999 about groundwater quality, fluoride and nitrate were detected in groundwater *within the basin* at concentrations above their respective MCL. The MCL for fluoride is 4.0 milligrams per liter (mg/L); concentrations of this analyte ranged from less than 4.0 to 5.1 mg/L (less than 4.0 indicates non-detect with a laboratory reporting limit of 4.0 mg/L). The MCL for nitrate is 10.0 mg/L; concentrations of this analyte ranged from less than 1.0 to 16.0 mg/L. In Lake Havasu City's *municipal wells*, however, concentrations of

fluoride and nitrate did not exceed the primary MCLs, although fluoride was found in excess of the secondary MCL of 2.0 mg/L. Chloride, iron, pH, manganese, sulfate, and TDS were detected in groundwater *within the basin* at concentrations above the respective secondary MCLs. Chloride was detected at concentrations ranging from 5 to 1,258 mg/L. Laboratory reports indicated that iron was detected at concentrations ranging from 0.017 to 3.9 mg/L. The results for pH ranged from 7.1 to 8.8 and sulfate was detected at concentrations ranging from 7 to 972 mg/L. TDS was detected at concentrations ranging from 204 to 1,390 mg/L. Concentrations of these analytes within the *municipal wells* were also above the secondary MCLs, except pH.

Manganese has consistently been detected in *municipal well fields* in concentrations exceeding the secondary MCL of 0.05 mg/L; manganese concentrations ranged from less than 0.01 to 1.44 mg/L between 1991 and 2000. Prior to 1998, high manganese was detected only in the south and central well fields. In May 1998, manganese concentrations exceeded the MCL in one of the north wells (Well 15) for the first time. The subsequent year (1999), concentrations of manganese exceeded MCLs in north well field Wells 12 and 15, and increased above a non-detect value for the first time in the north well field, Well 10. In the most recent sampling (July 2000), manganese concentrations were below the secondary MCL in all north wells, and exceeded the secondary MCL in all other wells except Well 16. The precipitation of metals in water containing manganese causes the water to turn yellow-brown or black. Periodic flushing of "black" water is being performed to remove manganese-impacted water from the municipal delivery system. To resolve the manganese problem, the City is building a biological manganese removal water treatment plant to augment existing wellhead treatment. Surface water quality data for the Colorado River and Lake Havasu were obtained from a variety of sources.

Based on the available historical data, nitrate was detected at concentrations exceeding the primary MCL (10.0 mg/L) at sampling locations upstream of the City near Topock and downstream of Lake Havasu near Cattail Cove State Park. These samples were collected in 1975 and 1976. Concentrations in samples collected since that time have been below the primary MCL. Nitrate concentrations in water samples from the Ranney horizontal collector well for the period from September 1999 through April 2000 ranged from less than 0.05 to 0.67 mg/L, well below the primary MCL.

Downstream, south of Parker Dam, cadmium, fluoride, and thallium have been detected in concentrations exceeding the national primary drinking water MCLs. Water quality data for locations upstream of Lake Havasu and within Lake Havasu are not available for these analytes; except fluoride, which was detected at a concentration of 0.8 mg/L in the Lake Havasu City Ranney Well.

Containments that were found to exceed secondary MCLs in the surface water samples included aluminum, pH, iron, maganese, fluoride, sulfate, and total dissolved solids (TDS). The exceedances of aluminum, iron, and fluoride occurred in samples collected from locations upstream of Lake Havasu City or downstream, south of Parker Dam. Surface water samples from the Ranney collector well exceeded the secondary MCLs for manganese, pH, and TDS.

Lead concentrations exceeded the federal action level of 0.015 mg/L (for tap water samples) downstream of the City, but were less than the SWQS of 0.05 mg/L. Lead concentrations in surface water samples from Lake Havasu are not available.

Microbiological organisms that are commonly found in surface water supplies include bacteria, viruses, and protozoa. Microscopic particulate analyses performed on samples collected during repeat sampling in the Ranney well in April 2000 did not indicate the presence of giardia or coccidia.

Data provided by Lake Havasu City's Public Works Department for water samples collected in the Ranney well between September 1999 and April 2000 indicate that fecal coliform was detected at concentrations ranging from less than 1 to 45 colony-forming units per 100 milliliters (CFU/100 ml) and E. coli was detected at concentrations ranging from 0 to 8 CFU/100 ml. These concentrations do not exceed the AWQS for single-sample maximum nor do they exceed the calculated geometric mean of a minimum of five samples collected in a 30-day period.

Water Conservation. Water conservation is one method of reducing demand and addressing deficits in water availability. However, Lake Havasu City's water conservation program has been in place for some time, and the savings have largely been realized, as evidenced by the relatively low per capita consumption of 262 gpcd. The recently developed *2000 to 2005 Water Conservation Plan (Brown and Caldwell, 2000)* was designed to maintain the low gpcd, and further reduce consumption by increasing wastewater reuse, targeting residential customers to reduce demand, and decreasing summer season usage.

Summer season and residential conservation measures outlined in the *2000 to 2005 Water Conservation Plan* are projected to reduce per capita consumption by five percent. Summer season usage (based on a six-month period) accounts for approximately 62 percent of the total water demands for the year. Total water demand for the year 2005 is anticipated to be approximately 16,723 ac-ft (14.93 mgd); summer season usage will be approximately 10,368 ac-ft. A five percent savings on the summer season usage is 518 ac-ft, or 462,828 gpd. This equates to a reduction of 8 gpcd, for a consumption rate of 254 gpcd. The revised gpcd was incorporated into the water budget.

Wastewater reuse was analyzed in the *2000 to 2005 Water Conservation Plan* in the context of potential long-term reductions for inclusion in the water budget. As sewer service expands and effluent treatment capacities are increased, more effluent is available for reuse. Reuse will be allotted to both existing water users and new sources of reclaimed water demand. Existing users include all parks, school grounds, and golf course irrigation that currently use groundwater or surface water. New sources of demand include additional golf courses and future planned landscaping along Arizona Highway 95. Reuse that replaces existing groundwater or surface water demand will reduce the overall demand projections. Reuse that satisfies new sources of demand will help maintain the per capita consumption at its current low rate. For the conservation period 2000 to 2005, it is estimated that the reuse of reclaimed water for city irrigation purposes will save from one to two percent annually of the City's current water

demand. For the year 2005, demand will be approximately 14.93 mgd; savings will be approximately 150,000 gpd or 1,556 ac-ft per year. To maintain a conservative approach, conservation attributed to wastewater reuse was held constant at 1,556 ac-ft per year through build-out.

Water Summary and Recommendations. The following were the recommendations outlined in the *Lake Havasu City Water Resources Plan (2001)* by Brown and Caldwell. In a "normal year", depending upon conservation, Lake Havasu City's water deficit will range from 573 to 2,990 ac-ft per year by build-out (2060). In a "shortage year," depending upon conservation, Lake Havasu City's water deficit will range from 8,883 to 11,300 ac-ft per year by build-out.

Lake Havasu City does not have sufficient Colorado River water allocation to support projected growth to the build-out population of 96,000 in the water service area. In addition, lower-than-average flow on the Colorado River will increase the water deficit in years when a shortage is declared by the Secretary of the Interior. A ten percent probability of shortage was used as a threshold for planning purposes. Based on the recent results of Arizona Department of Water Resources (ADWR) river management models, a ten percent probability of shortage occurs in approximately 2021. By that time, Lake Havasu City will need to have additional short-term water supplies to cover water demands in the event of a shortage year. After approximately 2045, Lake Havasu City will have a constant water supply deficit due to growth, regardless of whether a shortage year is declared. By 2045, deficits due to growth will be compounded by deficits due to the high probability of shortage (47 percent), requiring long-term permanent water supplies. Additional short- and long-term water supplies will be required to support Lake Havasu City's water demand through build-out.

Alternative short- and long-term water sources for the City were identified and evaluated. The highest-ranked water supply options that the City could pursue include the following.

> ***Land fallowing.*** Land fallowing is a means of augmenting water supply that is available to the City, and can be either a short- or long-term option.
>
> ***Purchase additional water from the Water Bank during shortage years.*** The Arizona Water Banking Authority (i.e., Water Bank) stores unused Arizona Colorado River water to meet future needs. One of the Water Bank's goals is to establish a recharged water account that is sufficient to "firm" municipal and industrial supplies for the mainstream Colorado River uses (e.g., Lake Havasu City) during shortage years.
>
> ***Clarify Bureau of Reclamation (BOR) contracts to resolve return flow issue.*** Clarification and modification of existing contracts with BOR to classify allocation as consumptive use, thereby gaining credits for return flow from reclaimed water that percolates to the river aquifer.
>
> ***Colorado River water transfers.*** Mainstream Colorado River users hold contracts with the BOR for river water, and are able to enter into contracts for allocation transfers.

Construct irrigation conservation devices in exchange for the water saved. This option is a variation on a direct transfer of water allocation and involves the construction of water conservation devices (e.g., irrigation canal liners, slope control) in exchange for water saved by conservation device(s). Legally, the precedent for such an exchange was set in California. However, the City must identify specific users in Arizona and appropriate conservation measures. It is currently unknown what water conservation measures may yield as available supply.

Recharge and recovery outside of the Colorado River Aquifer. The BOR manages and controls diversions from the Colorado River. To provide a basis for calculating withdrawals on a case-by-case basis, the BOR has delineated both the elevation and the lateral extent of the Colorado River Aquifer, which supplies water to the Colorado River. All groundwater pumping within the designated Colorado River Aquifer is counted against river allocations because it is considered to be drawing from the river. Outside the boundaries, groundwater is considered to be part of the basin flow regime, and not hydraulically connected to the river.

5.0 TRANSPORTATION/CIRCULATION ELEMENT

5.1 TRANSPORTATION/CIRCULATION ELEMENT STATEMENT

Lake Havasu City is a recreational-oriented community attracting millions of visitors annually to its shores. The Lake Havasu City Transportation/Circulation Element ensures that residents and visitors have the ability to move through the community efficiently and safely. The circulation system provides internal as well as regional connections. The multimodal system is intended to address the immediate circulation needs while ensuring that projected future needs outlined in the Land Use Element are met.

5.2 INTRODUCTION

The purpose of the Lake Havasu City General Plan 2002 Transportation/Circulation Element is to present a roadway framework that supports the projected future growth. This comprehensive system is critical to Lake Havasu City's future economic and community development as well as providing residents the ability to move easily around the community.

People travel for a variety of reasons (e.g., work, shopping, deliveries, and tourism). As part of this study, these trips were analyzed and the *origins and destinations* (i.e., transportation trips) were identified. Travel forecasts were developed based on population and employment projections in order to develop an effective system that supports the current and future land use pattern.

Another key element to be analyzed in order to build an effective system is to determine how people are getting from place to place or their desires related to a preferred mode. This is typically referred to as the *mode of transportation.* Modes of transportation can be automobiles, buses, trains, golf carts, by foot, and bicycles. It is important to consider multimodal (i.e., many or mixed modes) transportation options when developing a transportation system.

The purpose of the Transportation/Circulation Element is to:

- ✓ Provide a comprehensive understanding of the existing transportation/circulation system.
- ✓ Provide balance and coordination between development and land use with future transportation demands.
- ✓ Identify key issues that must be addressed within the planning area to ensure an effective multimodal circulation system.
- ✓ Develop a comprehensive transportation/circulation system that supports the planning area's future land use plan.
- ✓ Outline a series of defined strategies to ensure network implementation.

5.3 TRANSPORTATION/CIRCULATION ISSUE IDENTIFICATION

Provide Sufficient Transportation Network. The Lake Havasu City transportation network for the planning area should provide for adequate connections among major roadways. Currently various roadways cannot function as required due to a lack of critical connections (e.g., Highway 95 operating as a local street). An upgrade of the existing system to enhance functionality and smooth travel flows will consist of developing more connector streets that link existing arterials, collectors, and local streets. The planned parkway will provide some critical linkages within the transportation system over the short and medium range planning time frame. We may eventually see the SR 95 alignment relocated to this corridor, providing Lake Havasu City direct control over the old SR 95 roadway system. This would allow for a redevelopment on this transportation corridor into a more urban and unique form. The planned parkway along with its arterial connector streets should provide for critical linkages within the transportation system. The exact location for the parkway will be determined by specific engineering and traffic analysis studies. Additionally, as the specific planning of the airport area is done the parkway location will be addressed specifically. These specific actions are currently being reviewed as a part of the ADOT/Mohave County/Lake Havasu City Joint Location Study Project for the Relocation of SR 95 which is anticipated to be completed in 2009. The next step in the process, currently not programmed, would be a design concept level review. It is anticipated that this portion of the work would be programmed over the next 5 to 10 years. The primary goal of the location study is to provide planning level information for land use and development purposes in the mostly undeveloped state lands and peripheral areas so that future development does not limit the future transportation choices.

Develop Transportation Infrastructure Compatible with the Land Use Plan. Forecasts were developed based on the population and employment forecasts as a result of the Future Land Use Plan. Therefore, a future multimodal circulation system was developed. Land use and circulation are closely linked and support one another. Land use patterns affect travel decisions and travel decisions affect land use patterns.

Develop a Long-Range Multimodal Transportation Plan. Due to the nature of Lake Havasu City as a tourist destination, ensuring that visitors and residents have more choices to get to the lake or other activity areas is critical. Lake Havasu City will continue to grow and traffic volumes will increase, making travel movements increasingly frustrating. Developing a comprehensive, multimodal transportation system will become inevitable. Alternative modes such as public transit, bicycling, and walking will need to be expanded to support future growth.

Circulation Development Policy. The Transportation/Circulation Element presents the policy statement for all new transportation/circulation improvements that will be developed by the public as well as private sector. Determining the responsibility for improvements and the costs associated with these improvements must be determined in order to accommodate the development of proposed growth areas and associated land uses.

Develop a Safe Pedestrian- and Bicycle-Friendly Community. Lake Havasu City has made strides in establishing pedestrian facilities along the lake and throughout the island. Connecting a community-wide pedestrian and bicycle system is an important issue that must be addressed.

5.4 TRANSPORTATION/CIRCULATION GOALS AND POLICIES

Goal: Provide for the mobility of all segments of the population in an efficient, cost-effective, and safe multimodal transportation system.

Policies:

1. Maximize circulation access to community activity centers such as the downtown area bounded by Mesquite, Swanson, Lake Havasu, and Acoma Avenues; the hospital and other emergency services; employment and retail centers along Highway 95 and at the airport; and recreational areas along the waterfront, Island, and parks.

2. Prioritize transportation improvements and aggressively pursue federal, state, local, and private funding sources for the development of the circulation system.

3. A balance of transportation modes should be attained and maintained to provide mobility for those who cannot or choose not to drive motor vehicles. Create a transit system, beyond the existing door-to-door service, that connects residential, commercial, employment, and activity/recreational areas to provide travel options.

4. Develop Standard Guidelines for Transportation-Related Projects that build upon the foundation provided in the Transportation/Circulation Element.

5. Ensure that multimodal services and facilities are connected to provide a “seamless” system. This requires that someone can walk or bicycle to catch a bus or that park-and-ride facilities are provided in close proximity to highways.

6. Transportation improvements must build upon the existing system to promote system efficiency and ensure connections.

7. When reviewing new projects, traffic impacts must be analyzed. New development must not degrade mobility as a result of its development. If the development negatively impacts mobility, mitigation strategies must be addressed.

8. Embrace promising transportation and information technologies to promote system efficiencies such as coordinated signalization systems and other means of optimizing traffic flow.

9. Relieve traffic congestion associated with accidents by increasing coordination and communication between responding agencies.

10. Develop design guidelines to retrofit existing roadways to connect out to the parkway.

11. Minimize congestion by designing streets with adequate capacity for peak travel demands.

12. Minimize rights-of-way costs associated with transportation projects through early acquisition of properties for planned facilities.

13. Provide a transportation/circulation system that fosters an aesthetically pleasing community image.

14. Maintain the integrity of residential neighborhoods by creating an appropriate and supportive circulation system.

15. Improve all arterial connector streets and future Highway 95 improvements to include boulevard-style green space for parkway amenities to add consistency and a higher quality image to the community from the traveler's perspective.

Goal: Develop a basic network of facilities to serve pedestrians and bicyclists.

Policies:

1. Encourage land uses that foster pedestrian and bicycle travel.

2. Emphasize pedestrian and bicycle facilities within and between developments to encourage walking and bicycling as major modes of travel. Require pedestrian circulation plans to be submitted, along with vehicular circulation plans, as a part of the review process for new development proposals.

3. Encourage pedestrian- and bicycle-friendly areas on widened roadways.

4. Develop pedestrian and bicycle standards that provide American Disabilities Act (ADA)-accessible surface and clearance for all pedestrian areas where possible.

5. Utilize traffic-calming techniques in pedestrian areas to reduce vehicular speed limits and encourage a bicycle- and pedestrian-friendly environment.

6. Provide bicycle-friendly areas on all arterials throughout the Lake Havasu City planning area.

7. Encourage pedestrian and bicycle trips to all major employment, commercial, and activity centers by ensuring that adequate storage/security (bike racks) facilities are made available.

8. Implement the *Pedestrian and Bike Path Plan (1998)* that proposes a comprehensive system throughout the planning area.

Goal: Improve the access to and around the Island and Shoreline.

Policies:

1. Provide facilities to support the recreational development of the Island and Shoreline.

2. Encourage the development of the second bridge to the Island area to promote the Island's development.

3. McCulloch Boulevard and Beachcomber Boulevard on the Island should be expanded to four lanes.

4. Develop bicycle access to the Island's second bridge.

5. Continue to expand public access to the Island and Shoreline.

6. Create hiking/biking trails or paths along the Shoreline both on the Island and Mainland.

5.5 TRANSPORTATION/CIRCULATION PLAN

Accommodating the use of cars and trucks must be balanced against costs, livability factors, the ability to support other modes of transportation, and negative impacts on adjacent land uses. The basis of transportation in All-American cities is the roadway system. This trend is clearly seen in the existing Lake Havasu City circulation system, which consists almost entirely of roadway facilities for cars and trucks. However, the transportation/circulation of the future must provide a link between the proposed land uses and the demand on the transportation network. High-density land uses will generate a greater number of trips than a lower-density land use. Therefore, the future roadway network must accommodate the projected increases in traffic volumes associated with development of the land uses.

In the State of Arizona, three major types of functional street classifications are recognized; arterials, collectors, and access streets or minor streets. Arterial streets are designed to provide efficient flow of through traffic with minimum direct service to abutting land uses. Collector streets connect residential and commercial areas to arterial streets. Access streets serve local abutting land uses and neighborhood traffic. In Lake Havasu City, there are four basic functional categories that are used to classify roadways. These categories include:

- Principal Arterial Streets
- Minor Arterial Streets
- Collector Streets
- Minor Streets

The street groupings comprise the hierarchy of functional roadway classes that directly relate to the types and lengths of generated trips. A brief description of each functional classification is described below.

Principal Arterial. Principal arterials consist of both freeways and expressways; they form the primary roadway network within and through a region. They provide a continuous road system that distributes traffic between neighborhoods and central business districts. They also handle significant levels of urban travel between central business districts, outlying residential areas and major inner-city communities, and major suburban centers. Principal arterials are high traffic volume transportation facilities and carry a major proportion of the total urban traffic on a minimum of mileage. In Lake Havasu City, Highway 95 is an example of a principal arterial.

Minor Arterial. Minor arterials function as necessary connections to principal arterials. They provide functional service to retail, commercial, and industrial land uses and have been located at one-mile intervals. Traffic movements are at higher speeds and the arterials connect rather than penetrate residential neighborhoods. In Lake Havasu City, North Kiowa Boulevard, Chenoweth Boulevard, and Lake Havasu Boulevard are examples of minor arterials.

Collectors. Major collectors exhibit the following characteristics: traffic movements are between traffic generators, and between traffic generators and routes of higher classification. Collectors usually experience low side friction traffic and are striped for one lane in each direction. Developments may front directly on collectors and traffic signal spacing is usually two miles or greater. In Lake Havasu City, roadways with name extensions of Boulevard and Avenue are considered collector streets with the exception of the segments listed above.

Minor Streets. Minor streets consist of traffic movements between collectors and adjacent lands involving relatively short distances. Minor streets that penetrate neighborhood and homes will typically front these streets. In Lake Havasu City roadways with name extensions other than Boulevard and Avenue are considered minor streets.

Street Alignment. The layout of street patterns should be based on an evaluation of a variety of factors. These should be sensitive to development, construction, and operation and maintenance costs. Impacts can be minimized by properly inter-relating street layout to the natural topography. Other factors to be considered include soil characteristics, geologic conditions, drainage patterns, potential runoff qualities, length and character of the streets, types and locations of abutting land uses, and purpose of individual streets. The horizontal alignment should be based on terrain, sight distance, and probable roadway speeds. The vertical alignment should be easily negotiated with adequate sight distance.

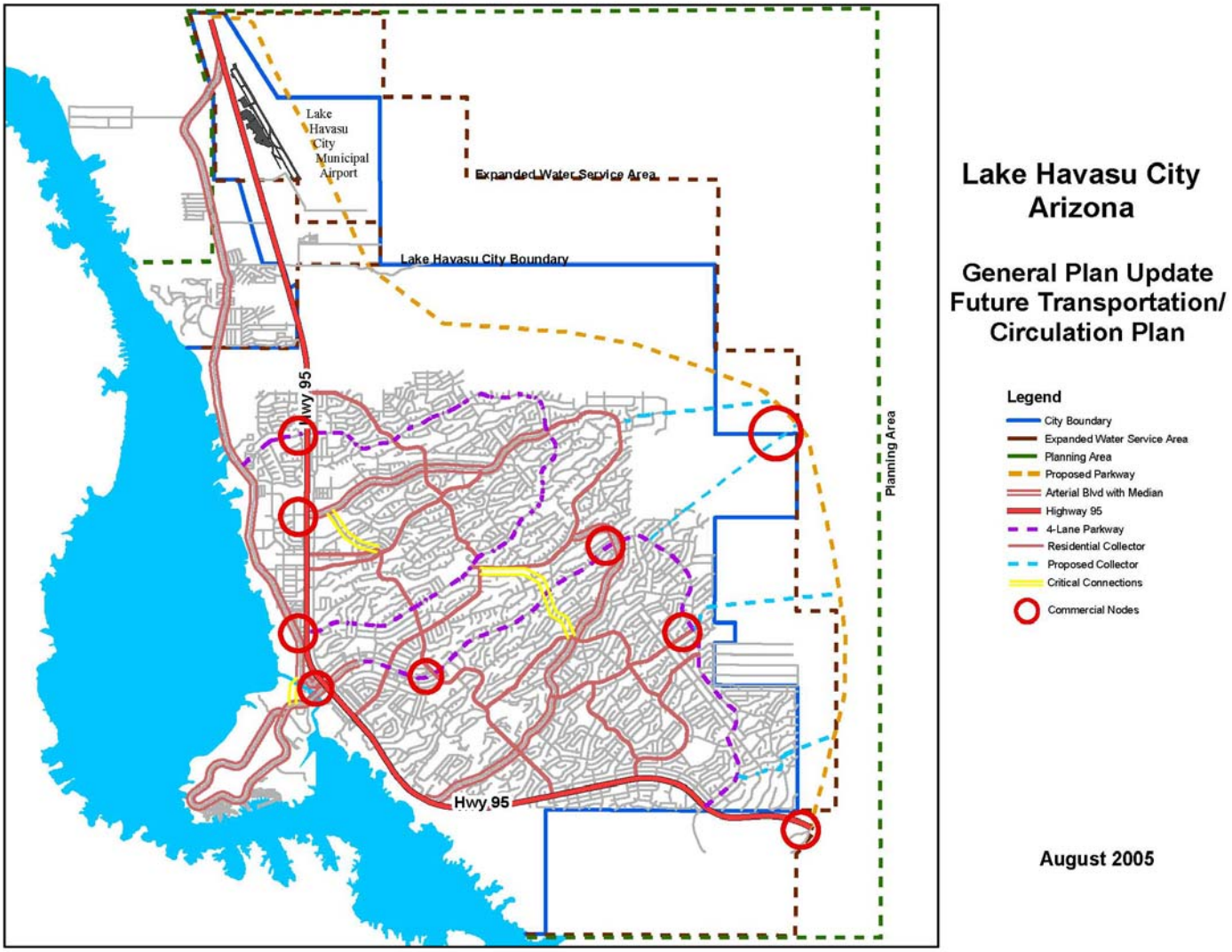
Proposed Roadway Improvements. Figure 5.1, Future Transportation/Circulation Plan presents the comprehensive system to support the Land Use Plan. Following are three key elements of the future plan.

Highway 95. Highway 95 traffic will continue to increase as development occurs. This roadway plays the most important role of any roadway in the system providing regional and local access. Access control is critical to protect the roadway's functional integrity. On the Future Transportation/Circulation Plan, this roadway is proposed to be redesigned over time as a "parkway." It is the intent to manage access and improve the aesthetics along Highway 95.

Parkway. To alleviate local traffic having to use Highway 95 for cross-town travel, the Parkway is proposed. The parkway is a half-loop east of the developed portions of the City and is intended to provide a future alternative. As Lake Havasu City continues to grow and development fills in the eastside of the City, an additional, continuous route may be needed to facilitate through traffic and longer intra-city trips. The parkway is intended to have limited access, with several local streets being extended (e.g., Chemehuevi Boulevard, Cherry Tree Boulevard, and South Kiowa Boulevard). The parkway would be constructed in phases as needed and as development projects are considered, parkway access should be designated. Early action to preserve the right-of-way and ensure compatible development is strongly recommended. As a long range plan (20 to 50 year time frame), the Parkway may be developed as the Relocation of SR 95 to fulfill the needs of the State Highway system and provide expandability past the 5 lane section and 200'.

Critical Connections. The Transportation/Circulation Plan identifies several "critical connections" within the planning area to improve cross-town mobility. These connections are identified where roadways have been discontinued due to development and need to be re-established. The City must adopt a comprehensive strategy to ensure that these connections are made.

Figure 5.1, Future Transportation System



Public Transportation. Land use planning has tremendous impact on a transit system's ability to work. In Lake Havasu City, most travel patterns are concentrated in the shopping, medical, multi-housing and resort areas. Although few visitors use the public transit system at this time, many workers in the resort areas depend on public transportation. As the population base and resort areas increase, the need and support to expand the public transit system and frequency of service will also increase. Additionally, a circulator route will be needed to link the downtown area, the Island and resort areas. Vehicles used for the circulator route should be themed wrapped on the outside to enhance their appeal and to gain public interest.

Havasu Area Transit (HAT) operates a fixed route bus service for the general public and a curb-to-curb service for seniors, persons with disabilities and people that live outside the fixed route service area. The service area includes all areas within the city limits, Desert Hills, Horizon Six and the Shops at Lake Havasu. The fixed route service consists of five routes that link all major shopping, medical, multi-housing and resort areas within one hour. A transit transfer station with comfort facilities is in place to afford riders the ability to transfer routes with minimal wait times of less than four minutes. The curb-to-curb service operates with 24 hour advanced reservations. All HAT vehicles are 100% ADA accessible and have bicycle racks for carrying two bicycles.

The Transit Services division also operates Seniors on the Move, a no fare senior transportation service. Seniors on the Move provides transportation for seniors to the local senior center, shopping and medical appointments.

In 2008, a federal grant was obtained for a feasibility study on establishing a tri-city transit connector service between Lake Havasu City, Bullhead City and the City of Kingman. Results of this study should be available in 2009.

Pedestrian System. Currently, there are somewhat limited pedestrian facilities in Lake Havasu City. McCulloch Boulevard, Lake Havasu Avenue, Smoketree Avenue, and Oro Grande Boulevard are the only roadways with sidewalks on both sides of the road continuously for longer than a ½-mile segment. Eight roadways have continual sidewalks on one side of the road for longer than a ½ mile. They are Daytona Avenue, Saratoga Avenue, Kiowa Boulevard, Havasupai Boulevard, Palo Verde Boulevard, Smoketree Avenue, Thunderbolt Avenue, and Newport Drive.

The Lake Havasu Transportation/Circulation Plan ensures that pedestrian facilities are not an afterthought and that they are planned as an essential component of any development project. Typically, the distance pedestrians walk is approximately one-half mile. The Transportation/Circulation Plan intends to implement the *Pedestrian and Bike Path Plan* developed in 1998 by improving approximately 35 miles of roadway with sidewalks.

A ten-foot paved, multi-use path exists adjacent to Beachcomber Boulevard around the Island. In the Pedestrian and Bike Path Plan, it indicates that "a key element of the plan is to construct a multi-use path along SR 95 from Kiowa Boulevard to Smoketree Avenue. This multi-use path will allow for interaction between the commercial "downtown area" of Lake Havasu City with

the existing multi-use path on the Island. As a part of the SR 95 Reconstruction and Widening Project, completed by ADOT in 2006, a multi-use pathway was constructed from South McCulloch Boulevard to North Palo Verde Boulevard (Mile Post 177 to 185.5) on alternating sides of the highway, depending on topography. Lake Havasu City has provided a connection to the Queens Bay Parking Lot and McCulloch Boulevard sidewalks that access the Island Pathway and the London Bridge Beach area. Connecting Havasu plans (an extension of the R/UDAT Study in 2007) have been implemented to expand pedestrian and bicycle facilities along the pathway, including the installation of landscaping amenities and ramadas and rest areas.

Bikeway System. In the Lake Havasu City General Plan 2002 Transportation/Circulation Element, bicycling is encouraged to be an integral part of development projects. The intent is to reduce the use of automobiles for short trips and encourage more recreational bicycle trips. Typically, a short trip that would be taken by bicycle is two miles; on foot, the distance commonly walked is around a half-mile.

The *Pedestrian and Bike Path Plan* introduced the concept of utilizing the striped parking lane for a bicycle lane. The plan encourages the striping of bicycle lanes on all avenues and boulevards in Lake Havasu City. The Transportation/Circulation Element systematically increases the miles of streets that are striped for bicycle lanes. As streets are widened, striping is completed.

Pedestrian and Bicycle Support Facilities. Support facilities are intended to effectively promote walking and bicycling. These support facilities complement the physical pedestrian and bicycle system and include shade, water, and bicycle storage. Important support facilities also include safe parking areas at trailheads and rest areas. As new pedestrian paths and bikeways are developed throughout the planning area, support facilities should be considered in the planning and implementation.

The construction of the Multi-Use Pathway along SR 95 (one side only) from South McCulloch Boulevard to North Palo Verde has provided the skeleton to a multi-modal pedestrian and bicycle support facility that has been connected to both the Island Jogging Pathway and Rotary Park along city streets. The goal for the community will be to continue these efforts with connections to Windsor Beach State Park and London Bridge Road.

6.0 OPEN SPACE AND RECREATION ELEMENT

6.1 OPEN SPACE AND RECREATION ELEMENT STATEMENT

The Open Space and Recreation Element is designed to meet the community's current and future recreational, parks and open space needs. It is the mission of the Open Space and Recreation Element to establish a vision for future open space excellence that preserves fragile, natural resources from degradation, enhances recreational opportunities for local residents, and continues to promote Lake Havasu City's image as an attractive, healthful, and active human environment.

6.2 INTRODUCTION

Lake Havasu City is a recreational-oriented community that attracts over a million visitors annually to its shores. The community's extensive array of outdoor pursuits enhances its tourism industry in significant ways. A key component of the element is the preservation and enhancement of the natural environment. The future of Lake Havasu depends on the preservation and enhancement of a balanced natural and developed environment. The addition of quality recreational facilities that complement the Lake, its shoreline, and its riparian habitats has resulted in a successful tourist economic base that creates a rich quality of life for local residents. The element addresses multi-levels of Lake Havasu City's recreational needs. It addresses the daily needs of local residents, facilities provided for the regional community, and attractions for visitor populations.

From the very beginning, Lake Havasu residents and leaders attempted to establish a strong parks, recreation, and open space program. In 1990, Jack Hardie Park was renovated, Rotary Community Park was completed in 1992, and the Recreation/Aquatic Center was opened to the public in May 1994. The Lake Havasu City Parks and Recreation Department was established in 1989 and plays an essential role in developing and providing quality programs. The Parks Maintenance Division was established in 1991 and is responsible for total maintenance for city parks, parkway vistas, medians, entry monuments, street tree programs, and Highway 95. The Parks Division also provides assistance with recreational special events held citywide.

The Lake Havasu City Arts and Culture Commission was created by the City through City Ordinance 94-437 on January 26, 1994. The Commission provides guidance to the Recreation and Parks Department. It acts in an advisory capacity to the City Council and to the Lake Havasu City arts and cultural community. The Lake Havasu City Allied Arts Council is the collective voice of the Lake Havasu arts and cultural community and it takes action on initiatives. However, there are other organizations within the community that are stakeholders. These stakeholders include, but are not limited to, Lake Havasu School District, Creative Cultural Center, Tourism Bureau, Chamber of Commerce, Shoreline Acquisition and Preservation Commission, and the Lake Havasu Genealogical Society.

6.3 OPEN SPACE AND RECREATION ISSUE IDENTIFICATION

Zoning for Open Space. While open space is a designated land use in the general plan, the zoning ordinance does not have a specific zoning category for implementation. According to Growing Smarter Plus legislation (Arizona law) "a municipality shall not designate private land or State Trust land as open space without written consent or providing an alternative that is an economically viable designation (i.e., at least one du/ac) in the General Plan or Zoning Ordinance." The Lake Havasu General Plan recognizes and complies with this statute.

Regional Coordination. The existing washes, Colorado River, and Lake Havasu are all critical recreational amenities and opportunities in the planning area. These areas have increased potential for trail development to link parks, open space, and schools. However, agreements do not currently exist between the City and other entities for operation and maintenance.

Acquisition of Preservation Areas. The existence of steep-sloped, sensitive areas within the planning area provide the opportunity for preservation of open space, but mechanisms and financial resources must be pursued. Additionally, the acquisition of hiking/biking paths for both the Mainland and Island Shoreline must also be obtained.

Creation of Comprehensive Trail System. Opportunities to create new equestrian and pedestrian uses should be supported. A trail system should connect activity centers and parks throughout the planning area.

Changing Demographics. Lake Havasu City has seen more families moving into the area in addition to active retirees. The City must address the needs of age groups in developing recreational opportunities.

Shoreline. The Shoreline of Lake Havasu is a treasured commodity of the community. Free public access to the Shoreline and lake needs to be maintained and enhanced as the community develops.

Wildlife Refuge. This facility provides a significant open space amenity for the community and must be protected from encroaching growth.

SARA Park. This 1,140-acre regional county park adjacent to the community serves the areas residents and visitors. Integrating the amenities of this facility with the City's programs will continue to be an important issue.

6.4 OPEN SPACE AND RECREATION GOALS AND POLICIES

Goal: Create and maintain a high quality of life through the provision of adequate parks, open space, and recreational opportunities.

Policies:

1. Apply the park classifications (e.g., neighborhood park/school, Community Park, and urban park/sports complex) within the general plan to ensure adequate park facilities.

2. Prepare and adopt a Parks Master Plan to determine the specific size, facilities, and locations for new parks, revitalization activities for existing parks, and programs/enhancements for existing public and private recreation programs including provisions for the City's growing animal populations. The Master Plan shall include Island and Shoreline recreational sites and facilities.

3. Pursue free public access along the Shoreline to Lake Havasu.

4. As part of the Parks Master Plan, provide a sound basis for developing park sites by establishing criteria for the various types of recreation to be offered, selecting site locations, and considering space requirements.

5. Provide a minimum standard of ten acres of parkland per 1,000 population and attempt to maintain current ratios.

6. Strive for balanced distribution of parks and recreational facilities throughout the City.

7. Encourage developers to provide parks and recreational facilities within Lake Havasu City.

8. Maintain the Intergovernmental Agreements (16A) with Lake Havasu School District #1 regarding cooperation in organizing, promoting, and conducting joint community recreation programs.

9. Continually review current recreation programs to see if they are meeting the residents' existing needs. Research and develop new and innovative programs.

10. Disseminate information to the public through newsletters, flyers, etc. about recreation programs and services being offered by the City.

11. Research and seek funding to enhance recreational programs.

12. Encourage staff to attend workshops and conferences to gain new and innovative approaches to providing recreation services.

Goal: Enhance arts and cultural knowledge and understanding within the Lake Havasu planning area.

Policies:

1. Identify and clearly define the Lake Havasu City cultural community.

2. Identify sources for the community's cultural development.

3. Develop a long-range plan for community cultural development.

4. Develop short-range goals and objectives for community cultural development.

Goal: Stimulate and aid the practice and exhibition of the arts in the Lake Havasu planning area.

Policies:

1. Identify artists within the community and establish an artists' registry.

2. Form a network of community cultural groups.

3. Encourage the placement of art in public places and develop a mechanism to ensure upkeep and maintenance.

Goal: Increase and broaden the opportunities for the community to enjoy and participate in activities that meet the diverse cultural needs and interests.

Policies:

1. Support and promote cultural events, lectures, workshops, and demonstrations.

6.5 OPEN SPACE AND RECREATION PLAN

The Parks/Open Space designation on the Land Use Map of the general plan denotes those large areas optimally suited to be maintained or enhanced in their natural condition based on their environmental value or developed for recreational activities. Residential development, at densities at a minimum of one dwelling unit per acre (ARS 9-461.06 (M)) is permitted in these areas subject to compliance with the City's development and environmental regulations. Lake Havasu City utilizes the following definitions when defining parks.

> ***Parkettes.*** Parkettes are small areas of passive land usually ranging in size from a few square feet to an acre. They are landscaped areas that sometimes have special design features such as fountains, rose gardens, or flower areas as the dominant feature in their design.

Neighborhood Parks. A neighborhood is generally a residential area of one square mile, bounded by arterial streets and served by an elementary school. The neighborhood park should, whenever possible, be combined with the elementary school to obtain maximum benefits from both facilities. The park provides space for indoor and outdoor recreation activities, primarily for children from approximately 5 to 14 years of age, and also spaces where pet owners can enjoy recreational activities with their pets. Family groups and preschool children are also planned for. A neighborhood park generally contains a play area for tots and younger children; a water feature; picnic area; a pet area; a small meeting room; and when possible, off-street parking. The specific facilities and space available reflect the recreational needs of the particular neighborhood area to be served. Local neighborhood parks are usually one to five acres, and the service radius is approximately one-half mile, which makes walking from surrounding homes convenient and minimizes crossing major arterial streets. When the park is adjacent to a school, the usable acreage may be increased from 5 to 15 acres.

Community Parks. A community park serves several neighborhoods within a community just as a junior high school serves several elementary schools. The community park provides indoor and outdoor facilities to meet a much wider range of recreation interests than does the neighborhood park. A community park generally contains such features as a community building, picnic grounds, children's play area, pet area, swimming facility, outdoor activity courts, and off-street parking. This type of park is generally five to ten acres and its service radius is three miles.

Special Use Facilities. Special use facilities, such as the Aquatic Center, are generally considered to be those areas that provide a specific recreational service within the community but do not provide the wide range of recreational activities that may be found in a community or neighborhood park. Among the community special use facilities are golf courses; zoos, casting ponds; local camp sites; archery and rifle ranges; dog parks; and athletic complexes that may include baseball, softball, soccer, and football fields, or tennis; handball, and racquetball courts. Due to the uniqueness of this type of facility, the service area does not become a factor in the location of sites, while specific physical features of the site do.

Subregional Parks. A subregional park generally is 25 to 50 acres in size, may serve several cities, and provides spaciousness that the typical neighborhood or community parks do not provide. Because of its size, this type of park may contain, but is not limited to, such uses as family and group picnicking, camping, nature trails, play areas, outdoor amphitheater, and a lake with water-oriented activities, etc. Its service radius extends from three or more miles.

Regional Park. A regional park facility is generally a large reservation of land (50 acres or more), that encompasses unique scenic characteristics. This type of park may serve several cities or an entire region and is often outside the corporate boundaries of the city. Its purpose can be threefold: to preserve a portion of natural landscape; to supplement the recreation facilities available within the region; and to act as a greenbelt separating cities in a large, highly developed region. The regional park may contain the same facilities as a subregional

park, and, because of its size, can also accommodate a large swimming pool, athletic fields, bowling greens, water-oriented facilities, golf course, amusement park, and children's petting zoo, etc. The regional park is usually developed by county, state or federal agencies with the cooperation of local cities within their jurisdiction.

Arizona Preserve Initiative. The City is in the process of pursuing the acquisition of a portion of Black Rock Cove as a public conservation area through the Arizona Preserve Initiative (API) or other innovative techniques. The area is mainly bedrock at the surface (very rare for Lake Havasu City shoreline) and has undulating landscape both horizantally and vertically as well as prime lake views.

The Open Space and Recreation Plan is based on the common standard of park acreage historically promulgated by the National Recreation and Park Association. The nationally accepted standard is that 6.25 to 10.0 acres of park acreage be provided per 1,000 population. In addition, the same amount of acreage should be provided in open space. The assessment of existing and planned park acreage with the existing population established the benchmark to determine the adequacy of the City's parkland. The existing park acreage in the City is approximately 750 acres, which results in an existing service level of 16.67 acres per 1,000 residents (based on an estimated current population of 45,000). This 750 acres includes the Aquatic Center and Rotary Park. A total of 72 additional acres of parks (i.e., in conjunction with trail sites) is planned for the City at the present time. Park and open space areas on county and state lands total 1,471 acres. This includes specific areas of Body Beach, Pittsburgh Point, SARA Park, London Bridge Beach, Site 6, and Windsor Beach. While Lake Havasu City is well above the recognized standards of park acreage per 1,000 population, park sites get significant use from visitors and tourists. Therefore, it is recommended that the community strive to maintain the existing level of service of 16.67 acres per 1,000.

Based on the population projections identified in the Land Use Element, park acreage projections were determined for the entire Lake Havasu City planning area. The projections are based on the provision of ten acres of parks for every 1,000 residents. If the build-out population projections are achieved in this general plan at the medium-density scenario, a total of 1,450 acres of park area will be necessary in the City. If the community wishes to maintain the current ratio of 16.67, 2,384 acres will be necessary.

If the City desires to match the amount of open space acreage and parkland, additional acreage should be allocated. This acreage could comprise additional landscaped retention basin areas within Specific Area Plans; open space buffers; or a linear open space system.

A total of 5,325 acres has been designated for Parks/Open Space in the Land Use Plan. In addition, a significant portion of Mountain Protection Area has been designated.

Table 6-1, Lake Havasu City Open Space Classifications

Classification	Description	Service Radius/ Siting Criteria	Park Size	Determines LOS*
Natural Area Open Space	Preserves significant natural resources for open space and visual aesthetics/ buffering	Varies/ based on resource availability and opportunity	Varies	No
Greenways/ Retention Basins	Open space linkages for parks within the community	Varies/ based on resource availability and opportunity	Varies	No
Private Open Space Park/ Recreation Facilities	Privately owned, yet contribute to the public system	Varies/ dependent on requirements of specific use	Varies	Dependent on type of use

Source: Park, Recreation, Open Space and Greenway Guidelines; National Recreation and Park Association; 1996

*LOS = level of service, which is determined by the ratio of park and recreation acreage per 1,000 residents.

Island Open Space

The open space system has been delineated to protect and enhance remaining areas of natural condition while providing a system of active and passive recreation opportunities along the Island's shoreline and interior. The open space system provides a major visual and functional amenity that will benefit the community, visitors, and property owners, while providing public access to shoreline areas. The goal is to achieve public shoreline access in perpetuity through the acquisition of lands or access rights along the Shoreline and in the Island's interior.

The Shoreline Protection Zone consists of the area from the 450-foot lake elevation to the inland boundary of the public access easement located on the bluff. Acquisition of the Shoreline through dedication of land or access rights and lease/purchase will require the redevelopment

and long-range conversion of some existing uses to higher and better uses. In some cases, preparation of a public access easement as a part of a zoning request will suffice. The open space defined in the plan indicates the most beneficial public location and configuration of open space and should be utilized as a guide for project plans and zoning submittals.

The Open Space designation on the Land Use Plan is generalized and should be reviewed on a project basis with a coordinated applicant and City procedure, including accurate topographic and boundary surveys, and field inspection conducted with staff and applicant present. Protection and enhancement of open space is critical to maintaining the Island's unique environment and recreational opportunities.

A service and recreational trail/bikeway system is planned to link the Island in the open space system connecting to shoreline areas and along roadways for pedestrian and bicycle movement. The system should include pedestrian paths and bikeways along the major loop road; trails through and between the developed parcels; and trails that encompass the Island within the shoreline protection zone. The bluff line is supplemented with trails that connect to the loop road trails and that traverse the slope down to the beach. The open space and trail system should be accessed via adjacent properties and at specifically identified staging areas. The staging areas should provide trail access, parking, information, and comfort stations.

The Island's open space contains four components: 1) shoreline protection zone; 2) golf facilities; 3) interior island open space system; and 4) park areas. The Shoreline Protection Zone includes the beach, bluff slope, and top of the bluff that have been established as a free public access easement. The plan prescribes that residential development be set back further from the public access easement boundary than commercial, resort, and recreation uses that typically allow and encourage public access in their facilities.

Island Shoreline: Building setback shall be 60 feet from the 450-foot high watermark. There shall be a minimum 12-foot wide walkway located within the setback area. The entire 60 feet shall be a dedicated easement in favor of the general public for free public access. Uses within the 60 foot area shall include free unencumbered public access, beaches, parking, landscaping. Access to existing lighthouses to be maintained. A portion of the island bluffs shall be maintained. It is recommended that taller buildings be built away from the shoreline.

Channel Shoreline Area: Building setback shall be forty feet from the 450-foot waterline. There will be a walkway of 12 feet minimum width located somewhere within the setback area. The entire 40-foot setback area shall be dedicated as an easement in favor of the general public for free public access. The walkway shall connect with adjacent properties. Uses within the forty foot dedicated easement area shall include free unencumbered public access, beaches, parking, and landscaping.

Shoreline Open Space

The open space system along the shoreline has been delineated to protect and enhance remaining areas of natural condition while providing a system of active and passive recreational opportunities. The open space system will provide a major visual and functional amenity that will benefit the community, visitors, and property owners while providing public access to shoreline areas. The general plan is structured to achieve public shoreline access in perpetuity through the dedication and acquisition of lands along the shoreline.

Acquisition and development of the shoreline for public use will require close coordination with the following agencies: Arizona State Land Department, Arizona State Parks Department, Game and Fish, Bureau of Land Management, Bureau of Reclamation, and Corps of Engineers. In some cases, preparation of a public access easement as part of a zoning request will suffice. The open space defined in the plan indicates the most beneficial public location and configuration of open space and should be utilized as a guide for interagency coordination, project plans, and zoning submittals. The open space indicated on the Land Use Plan is generalized and should be reviewed on a project basis with a coordinated applicant, agency, and City procedure, including: accurate topographic and boundary surveys, and field inspection conducted with staff and applicant present.

Protection and enhancement of open space is critical to maintaining the unique environment and recreational opportunities of the Shoreline for Lake Havasu City's citizens and visitors. The general plan stresses the importance of establishing the maximum opportunity for leisure activity, a quality environment, and shoreline access. As open space lands are acquired through dedication, the City should work to establish recreational programs for each site including development plans, activity programs, and maintenance programs with agreements assigning responsibilities for these items.

A recreational trail/bikeway system is planned to link through the open space system along the Shoreline connecting the shoreline areas and roadways for pedestrian and bicycle movement. The Shoreline trail should provide a continuous trail system along the Shoreline through all of the parcels and connect to supplemental interior and linkage trails that tie back into the community. The open space and trail system should be accessed via adjacent properties and at specifically identified staging areas. The staging areas should provide trail access, parking, information, and comfort stations as required.

The Shoreline open space system contains a wide range of components: Wildlife Refuge; City Parks; State Parks; and the existing executive golf course. The open space system has been designated in locations that will allow the most beneficial public access to the Shoreline and a variety in the user's experience. The intent of the shoreline system is to provide unobstructed access to the Shoreline with pedestrian linkage connecting parks and defining open space that will be protected from adjacent land use and building encroachments.

Mainland Shoreline: Building setback shall be 60 feet from the 450-foot high watermark. There shall be a minimum 12-foot wide walkway located within the setback area. The entire 60 feet shall be a dedicated easement in favor of the general public for free public access. Uses within the 60 foot area shall include; free unencumbered public access, beaches, parking, landscaping. Access to the existing lighthouses to be maintained.

7.0 PUBLIC FACILITIES AND SERVICES/COST OF DEVELOPMENT ELEMENT

7.1 PUBLIC FACILITIES AND SERVICES/COST OF DEVELOPMENT ELEMENT STATEMENT

The Public Facilities and Services/Cost of Development Element presents a functional, efficient, and cost-effective system of public facilities and community services to serve an expanding population and employment base in a sustainable manner.

7.2 INTRODUCTION

Since the development of public facilities and provision of services are so interrelated to the cost of development, these two elements have been combined. The Public Facilities and Services/Cost of Development Element of the Lake Havasu City General Plan 2002 provides an overview of the various public facilities and services provided by the City, outlines the role that the City will play in the development of facilities and services, and provides goals and objectives to ensure that the City is able to provide for the community as it develops. It is critical that Lake Havasu City has the necessary public facilities and services to support new growth and existing development, as well as adequate policies in place to determine what role the public sector plays in financing public services and facilities.

The following table identifies the major services that are provided in Lake Havasu City and the service provider.

Table 7-1, Public Service Providers

Water	Lake Havasu City Irrigation and Drainage District
Wastewater	Lake Havasu City Sanitary District
Police/Public Safety	Lake Havasu City Police Department
Fire Protection/EMS	Lake Havasu City Fire Department
Street Maintenance	Lake Havasu Public Works Department
Solid Waste Collection	River Cities Waste Services (through contract with City)
Electricity	Citizens Utilities Company
Telecommunications	Citizens Communications
Natural Gas	Citizens Utilities Company
Parks and Recreation	Lake Havasu City Parks and Recreation Department

7.3 PUBLIC FACILITIES AND SERVICES/COST OF DEVELOPMENT ISSUE IDENTIFICATION

Public Administration Facilities. Lake Havasu City completed the city complex in September 2000 that houses most of the municipal governmental activities. The only activities still remote are the streets and park divisions.

Water Service. Lake Havasu City currently has 565 miles of water lines and an available water allotment of 25,180 acre feet. There is a Water Service Boundary around the community and additional water resources will need to be identified to develop outside of the boundary. There are currently over 20,000 active water accounts in the community.

Wastewater Collection and Treatment. Approximately 15 percent of the community is currently serviced by the sewer system. There are nine miles of force mains, 120 miles of gravity sewer lines, and 17 lift stations with two sewage treatment plants. There are over 2,700 active sewer accounts. In June 1998, the *Comprehensive Wastewater Master Plan* was completed for Lake Havasu City. The reason for developing this plan was to address the number of septic tank systems being used throughout the City and the detection of high nitrogen levels in monitoring wells being monitored and evaluated by the Arizona Department of Environmental Quality. The Lake Havasu City Council, at their meeting of July 24, 2001, voted to ask voters whether a conventional gravity sewer system should be constructed and directed by resolution a bond issue election that was held on November 6, 2001. The voters of Lake Havasu City approved $463 million in financing authority that will be used to build all the component parts of the new sewer system over the next 10-20 years.

Public Safety. The Lake Havasu City Police Department has over 70 sworn officers and over 20 additional civilian employees. The department responded to over 12,000 9-1-1 calls in 1999 and over 47,000 additional calls for service.

Fire Protection/Emergency Medical Services. The Lake Havasu City Fire Department has four stations positioned throughout the community. There are over 50 people assigned to fire operations, seven people assigned to administration, 11 paid on-call firefighters, a fire marshal, four fire inspectors, and two public education officers for a total of 76 people. The fire department responded to 1,084 fire calls and 3,513 medical calls for a total of 4,602 911 calls in the year 2000. They provided advanced life support (paramedics) on all engines, presented 700 public education classes to over 13,000 people, and responded to 4,723 service demands from the public.

Parks and Recreation. The City has five municipal parks totaling 61.6 acres, a public library, and an aquatics center. There is also a three-mile pedestrian/bike trail on the Island.

Education. There are six elementary schools in the community, two middle schools and one high school. There are twelve preschools, four private schools, NAU-Mohave, and the Mohave Community College Campus.

Medical Care. Expansion of the hospital in 2002 resulted in a 140-bed facility, with surrounding professional buildings. These facilities provide professional medical care in all major medical disciplines.

Other Utilities. Electricity, natural gas, and telecommunications, including Internet access and cellular services, are provided by the local utilities.

7.4 PUBLIC FACILITIES AND SERVICES GOALS AND POLICIES

Goal: To develop and maintain quality, reliable services in a cost-effective and systematic manner.

Policies:

1. Capital improvements planning will be used to guide public facility and service development. A minimum five-year and maximum ten-year horizon will be utilized.

2. Aggressively work to expand sewer service to the entire community.

3. Develop and maintain a mid- and long-range financial forecasting plan.

4. Up-to-date master plans for all major facilities and services will be used to forecast staffing needs, operations and maintenance, and capital expenditures.

5. Develop and maintain a Geographic Information System (GIS) for the community.

6. Evaluate opportunities for joint-use facilities as part of the master planning process.

Goal: Provide high-quality public safety services.

Policies:

<u>Police</u>

1. Maintain a 4.5-minute police response time for emergency calls, a 5.5-minute response time for urgent calls, and a 10-minute response time for service calls.

2. Work with the community development and facilities development processes to improve the design of the built environment to help lower crime.

3. Continue to support and implement appropriate crime prevention programs such as Block Watch, Neighborhood Night Out, and DARE.

4. Maintain a special event deployment strategy that ensures coordination with other public safety agencies (Mohave County, San Barnardino County, DPS, etc.) during high-use periods on and around the Lake.

Fire

1. Maintain a 3.5-minute emergency response time, and a 4.5-minute response time for all other calls.

2. Continually review and update five-year and ten-year public safety master plans.

3. Maintain or improve upon the City's ISO grading of Class 3.

4. Build new fire stations as the need develops.

5. Support a strong public education program of fire and life safety to all ages in the community.

6. Work on reducing the number of juvenile fire setters through public education and special programs for those involved and reduce recurrent rate to less than five percent.

Goal: Work with non-municipal service providers to improve and expand service levels.

Policies:

1. Develop a telecommunications master plan and work with communications providers to implement upgrades in telecommunications capabilities.

2. Support additional local services and expansion of the hospital and healthcare system.

3. Work with power utilities to improve reliability of electric service.

4. Coordinate with local educational institutions to ensure adequate locations for new or expanded educational facilities.

Goal: Ensure long-term availability and quality of potable water.

Policies:

1. Protect current water allocations and pursue additional allocations to support new growth.

2. Ensure quality, and regularly inventory the condition of the existing delivery system.

3. Determine long-term impact on water resources and the water system, and critically evaluate each development proposal.

4. On-site water source, storage, and distribution shall be provided by the developer according to Arizona Department of Water Resources and Arizona Department of Environmental Quality requirements.

5. Water shall meet quality, quantity, and pressure standards to meet City fire protection requirements.

7.5 COST OF DEVELOPMENT OVERVIEW

It is the City's desire to encourage development that requires little or no extension of services. Development that occurs within or directly adjacent to existing infrastructure or service areas is the most cost effective since much of the investment in providing those services has already been made. Building outside of these existing service areas creates sprawl that is very expensive to the community unless the majority of costs are borne by the developer. These costs are not just the basic infrastructure, but also for public safety services that must expand service areas to accommodate the new development.

7.6 CURRENT DEVELOPMENT COSTS AND STANDARDS

In order to determine the burden that a particular development may place on a community, it is important to calculate the costs of providing services to the existing population. Industry standards can also be used to estimate the economic impacts of a specific development proposal. Utilizing these figures, additional costs of new development can be calculated and contemplated during the project review process.

The following figures have been developed using the Lake Havasu City 1999-2000 Annual Budget and estimates made by the engineering consultant on this project. A population of 45,000 was used to calculate the costs.

Table 7-2, Annual Per Capita Costs of Basic Municipal Services in Lake Havasu City

Function	Operating Budget	Per Capita Cost
Street Maintenance	$5,409,403	$120.21
Fire Protection/EMS	$4,236,995	$94.16
Police Protection	$5,984,541	$132.99
General Administration	$3,264,510	$72.54
Parks and Recreation	$2,163,838	$48.09
General Government Services	$1,393,484	$30.97

Source: 1999-2000 Lake Havasu City Budget

Table 7-3, Estimated Costs of Infrastructure Improvements

Improvement	Estimated Cost	Estimated Cost Per Mile
Eight-Inch Sewer Line	$60 per linear foot	$316,800
Twelve-Inch Water Line	$55 per linear foot	$290,400
Streets (per 14-foot lane)	$115 per linear foot	$607,200
Curb, Gutter, Sidewalks (5 foot)	$20 per linear foot	$205,280

Source: David Evans and Associates, Inc.

Examining the above figures, it is easy to see why the City encourages development where existing services are available.

7.7 COST OF DEVELOPMENT GOALS AND POLICIES

Goal: Carefully manage financial resources to ensure that new development pays its fair share and does not burden existing residents.

Policies:

1. Maximize the existing investment in infrastructure by encouraging infill of the existed platted area.

2. Require private developers to install all public utilities and facilities to state and municipal standards, as required by their proposed development project outside of the subdivided area.

3. Develop a standardized cost/benefit analysis to be used on all new development project submittals.

4. Develop policies to address low-density residential service delivery costs in the foothills areas of the community.

5. Consider the development and adoption of a comprehensive impact fee ordinance.

6. Maximize public/private partnerships in infrastructure development.

Goal: Strong policies will be followed to ensure service delivery in a cost-effective manner.

Policies:

1. Periodically evaluate municipal-controlled utility rates and other fees to ensure appropriate levels.

2. Revisit and update any development fees to ensure equity and legal compliance.

3. Potential annexations will be evaluated using cost/benefit analysis techniques.

4. Development proposals will be evaluated by analyzing all impacts on service delivery.

5. Implement the March 1, 2001 *Lake Havasu City Water Resources Plan.* As part of the plan's implementation, maintain an aggressive water conservation program that will maximize current resources.

6. Consider an infill incentive program for the existing platted area to maximize economies of scale of existing infrastructure.

7.8 COST OF DEVELOPMENT FINANCING OPTIONS

When the City takes on the responsibility for making capital expenditures, there are several mechanisms that can be utilized. Of course, paying for improvements is almost always desirable but often not feasible. It is critical that the City weigh all options when determining the appropriate financing vehicle.

Financing Mechanisms Available to Finance Public Service Expansion

Pay-As-You-Go Out of Current Revenues. This is the optimum way to pay service expansion. Current revenues consist mostly of local sales and property taxes, state-shared revenues, and grants. Unfortunately, revenues usually follow development while most service expansions must occur prior to or simultaneously with development.

Revenue Bonds. Revenue bonds are a method of borrowing to finance service expansions. The bonds are paid back through future revenues that are legally pledged to the bond issuer. Revenues generally utilized for debt service are privilege taxes (sales tax), Highway User Revenues Funds (payments made to municipalities from state fuel taxes), and user fees. Bonding must be approved by a public vote.

General Obligation Bonds. General Obligation Bonds (G.O.) are a method of borrowing to finance service expansion. These bonds are based on the full taxing authority of the municipality and are generally paid back through property taxes. The municipality may bond for up to 20 percent of its secondary assessed valuation with an additional 6 percent available for special projects. Bonding must be approved by a public vote.

Certificates of Participation/Municipal Property Corporations. These are methods of borrowing that are paid back by municipal revenues. They are usually not legally tied to a specific revenue stream such as revenue bonds. These methods are subject to public vote in Lake Havasu City.

Development Impact Fees. Fees that are established by the municipality based on the cost of expanding services to accommodate new development. These fees are then passed on to the project developer as part of the development cost. Development impact fees can be fairly narrow in scope (impact of development on the wastewater treatment facility) to very broad in scope (covering all utilities, public safety, municipal operations, parks/recreation/open space, library services, etc.).

User Fees. Fees that are charged for services such as water and sewer fees or park and recreation venue admissions.

7.9 PUBLIC FACILITIES AND SERVICES/COST OF DEVELOPMENT ELEMENT PLAN

The City has done an excellent job of maintaining service levels throughout a period of very rapid growth and population increases. However, water and wastewater issues still dominate the list of concerns for residents and leadership.

Historically, planning in the community has been based on the Water Service Boundary. For the first time, the Lake Havasu City General Plan 2002 addresses the fact that development may occur outside of this boundary and additional potable water resources will be necessary. The developer or landowner is required to pursue additional water resources to accommodate the project's needs.

Lake Havasu City's residential growth pattern has been fairly high-density compared to most rural Arizona communities. This has made the provision of public services very efficient. The Lake Havasu City General Plan 2002 recognizes that for the first time, there will probably be some significant rural residential-type development occurring in the community's foothills area. The City must ensure through its policies and ordinances that these more expensive areas to serve do not negatively impact existing residents and developments.

In November 2001, the voters of Lake Havasu City approved a financing program to build a new sewer system over the next 10 to 20 years. The $463 million financing program includes an inflation allowance of $65 million to counter the effect of inflation and increased construction costs in future years. The sewer expansion program consists of the installation of a sewer collection system for the community, a new wastewater treatment plant and upgrade/expansion of the two existing treatment plants, and the development of a significant treated effluent reuse/disposal system. The collection system itself will include approximately 390 miles of gravity sewer mains, over 400 miles of sewer laterals connecting homes to the sewer mains, 9,700 sewer manholes, 17 miles of sewer force main, 75 wastewater pump stations and the decommissioning of over 25,000 septic tanks. Very few of Lake Havasu City's single-family residences are connected to the sanitary sewer system.

It will take approximately eight months to design the first year's sewer construction drawings and obtain ADEQ approval to build the sewers. Therefore, construction of the first phase of the

sewer system would begin in the fall of 2002. The construction will begin with those properties located closest to the lake, and proceed eastward toward the mountains. The project is broken into phases corresponding to the City's water pressure zones, with Pressure Zone 1 being constructed during the first five years, Pressure Zone 2 during the next five years, and so on. The City will attempt to construct the sewer expansion program within approximately 15 years to minimize the impact of the construction on the community and allow smaller contractors to bid the work.

Both current plants will remain in operation, although after the new treatment plant is constructed in the northern portion of the City, the existing plants will be converted to water reclamation plants that will only treat as much wastewater as effluent is needed for irrigation purposes in the City. The remainder of the wastewater will be pumped to the new plant to the north for treatment and reuse or disposal. As much as possible, the sewer mains will be located to one side of the street; however, in most areas there will not be sufficient shoulder area to keep the line out of the paved portion of the street. The sewer laterals from the main lines to the buildings will cross the streets at every building.

If a house or the sewer lateral leaving the house is below the level of the new sewer main, a small individual home grinder pump station will be installed on the building sewer lateral and will be connected to the sewer main through a small plastic force main pipe 1 ½" to 2" in diameter. This grinder pump will pump the sewage from the house through the force main to the sewer main, where it will flow by gravity from that point. The property owner will be responsible for maintaining the sewer lateral from the sewer main in the street to their home. If individual grinder pump station and force main is required, the property owner will be responsible to maintain the pump station and force main to its point of connection at the sewer main in the street.

The sewer expansion program debt will be issued in a series annually after bids have been received for the year's project phase. Debt will be issued only in the amount necessary to complete that phase based on the bid price. The actual amount of debt issued will be for the bid price of the project less any federal funding or City contribution received. The City anticipates repaying all the bonds or loans within 20 years of the borrowings. The City negotiated with the State of Arizona's Water Infrastructure Financing Authority (WIFA) for favorable borrowing rates. WIFA provides funding for water and wastewater infrastructure projects in the state at lower than market interest rates.

The fee for new customers to hook up to the sewer will be $2,000. This fee will not be collected until the customer is required to hook up to the system. Customers will have the option of paying the fee in full or financing the fee at a four percent interest rate over 10 years. Homeowners who occupy their homes and whose household incomes fall below the Community Development Block Grant (CDBG) threshold will qualify to have their hook up fee paid through this grant program.

Through the City's initiative, the Colorado River Regional Sewer Coalition was formed in order to find a long-term regional arrangement with the federal government to solve water quality problems. Though federal funding for sewer projects was eliminated in 1989, it now appears the federal government will have to invest $23 billion more over current projections to meet the national and public health priorities in the Clean Water Act and Safe Drinking Water Act. Some grant money may become available in the next two fiscal years. The best strategy for the coalition in 2002 is to seek an individual sub-program authorization that fits within the broadly-defined national program, or other legislation pending in Congress that is germane to the coalition's purpose and need.

8.0 IMPLEMENTATION PROGRAM

8.1 IMPLEMENTATION INTRODUCTION

Measuring the success of any plan or planning effort is dependent upon the effective implementation of action strategies. The Lake Havasu City General Plan 2002 serves as the blueprint or guide for future development of the City. However, it is critical that the plan is put into action through a comprehensive strategic implementation program. The City's role in implementing the plan is to provide direction to private and public sector development and investment. This chapter discusses the specific strategies for implementing, reviewing, and updating the General Plan.

8.2 MONITORING THE GENERAL PLAN

The Community Development Department will be responsible for the regular monitoring of the general plan's implementation. At least annually, staff will provide a written status report to the planning and zoning commission and City Council on development activity, the implementation program, and evaluation of the City's position in relationship to key performance indicators (e.g., jobs-to-population ratio, public safety response time) in the general plan. The reports will also assist in determining if any major or minor amendments should be initiated by the City. The potential City-initiated major amendment applications must be reviewed by July 1st and public hearings held by October 1st of every year (i.e., major amendment review period). The Community Development Department will produce an annual report that provides an overview of the general plan implementation process. The annual report will be distributed to residents and included on the Lake Havasu City Web site.

8.3 GENERAL PLAN AMENDMENT

The Planning and Zoning Commission will meet annually to review and make recommendations regarding potential updates to the general plan. The General Plan Advisory Committee (GPAC) and citizens will be invited to review the proposed updates. The Community Development Department will receive requests and submit a report for discussion by the Planning and Zoning Commission. After careful review, the Planning and Zoning Commission will make a recommendation to the City Council regarding compatibility of general plan amendment requests.

In 1998 the State of Arizona passed revisions to the section of law that defined general plan "major amendments" in terms of increases or decreases in land use intensity or in changes to major streets. This was combined with a requirement for a 2/3-majority vote for approvals by City Councils. In February 2000 the statutes for general plans were again modified. The new requirements took effect in May 2000.

The new wording eliminated any reference to streets as well as land use intensity. The new language refers to *"substantial alteration of the municipality's land use mixture or balance as established in the municipality's existing general plan land use element."*

Defining Major and Minor Amendments to the General Plan.
A major amendment to the Lake Havasu City General Plan 2002 is any proposal that would result in a change to the land use plan that would substantially alter the City's planned mixture or balance of uses. It is important to examine the implications of the project on the cumulative impact on the entire Growth Area (i.e., if located within) as well as the entire planning area. The criterion for determining whether or not a proposed amendment to the general plan is a major amendment is based upon the relative size and amount of change proposed in addition to its relationship with surrounding land uses and its impact upon major public infrastructure.

Following are the criterion for determining a major or minor amendment to the Lake Havasu City General Plan 2002.

	Within Platted Area	**Outside Platted Area**
Major Amendment	• 5 or more acres	• 40 to 320 acres with no Specific Plan • 320 or more acres
Minor Amendment	• All other amendments	• 40 to 320 acres with a Specific Plan • All other amendments

<u>Within platted areas:</u>
Major Amendment:

- Any land use change of 5 or more acres that requires a change to the Future Land Use Plan Category.

Minor Amendment:

- All other amendments (i.e., besides those that meet the guidelines for a Major Amendment). These Minor Amendments include minor text changes and corrections that do not impact the substantive portions of the Land Use Plan's mixture or balance. Any change mandated by initiatives or state law shall utilize the Minor Amendment process. Though an amendment may be considered a Minor Amendment it must go through the appropriate public hearing process prior to the adoption of the amendment.

<u>Outside platted areas:</u>
Major Amendment:

- Any proposed land use change of more than 320 acres that requires a change to the Future Land Use Plan Category.
- Any proposed land use change of 40 to 320 acres that requires a change to the Future Land Use Plan Category and does not include a Specific Plan submittal.

Minor Amendment:

- Any proposed land use change of 40 to 320 acres that requires a change to the Future Land Use Plan Category and includes a Specific Plan submittal.
- All other amendments (i.e., besides those that meet the guidelines for a Major Amendment). These Minor Amendments include minor text changes and corrections that do not impact the substantive portions of the Land Use Plan's mixture or balance. Any change mandated by initiatives or state law shall utilize the Minor Amendment process. Though an amendment may be considered a Minor Amendment it must go through the appropriate public hearing process prior to the adoption of the amendment.

The platted areas are those areas that were originally platted at the time of City incorporation as well as any subsequently recorded subdivisions. The platted areas also include the mainland side of the Channel but not the Island side of the Channel or the balance of the Island. Outside the platted areas includes the remainder of the City.

A request for a Minor Amendment involving a change to a property's Future Land Use Map Designation shall require written notification of all owners of real property within a 300-foot radius.

Procedure for General Plan Amendments. Lake Havasu City will consider major amendments to the general plan once each year per Arizona statutes. General plan major amendment applications will be received by February 15th and public hearings will be held by the City during the calendar year the proposal is made. The major amendment applications must be submitted within the same year they are heard and a 2/3-majority vote of the City Council is needed to approve them. In addition, all major amendments must meet the public involvement criteria outlined in the state statutes that reads, *"effective, early, and continuous public participation in the development and major amendment of the general plan from all geographic, ethnic, and economic areas of the municipality."*

8.4 GENERAL PLAN UPDATES

State law requires that a comprehensive update of the general plan be conducted and ratified by the citizens of Lake Havasu at least once every ten years. With regular monitoring of the implementation program, the Community Development Department, the Planning and Zoning Commission, and the City Council will determine when an update will be needed. Substantial population shifts, socio-economic changes, technological changes, and expansion of the planning area might indicate a need to update the plan sooner than the ten-year period.

APPENDIX A - GLOSSARY OF TERMS

American Disabilities Act of 1990 prohibits discrimination on the basis of disability by public accommodations and requires places of public accommodation and commercial facilities to be designed, constructed, and altered in compliance with the accessibility standards established.

Annexation is a legal process that the city uses to bring previously unincorporated land into its jurisdiction.

Arizona State Trust lands granted by Congress to Arizona when it became a Territory in 1863. Today, these lands are held in trust for 14 beneficiaries that include public schools, colleges, and prisons. By Constitution, the State Land Department acts as the Trustee to determine the land's highest and best use. State Trust lands must be revenue producing.

Arizona Revised Statutes are the laws of the State of Arizona.

Buffering are techniques that provide a transition between various land uses.

Capital Improvement Plan (or Program) (CIP) is a five or six year plan of infrastructure improvements that prioritizes and identifies appropriate funding sources. The CIP is closely tied to the general plan.

Cluster Development allows the reduction of lot sizes below the zoning ordinance's minimum requirements; if the land thereby gained is preserved as permanent open space for the community. Unbuildable lands (i.e., drainageways, and steep hillsides) are not typically eligible for these trade-offs.

Cost-Benefit Analysis is an approach to evaluate the advantages and disadvantages of a project, policy, action, etc. in which an attempt is made to quantify the various results, so that the pros and cons can more objectively be compared with one another.

Community Vision Statement is written as a future statement that describes Lake Havasu in a desired future state.

Density is the number of households or dwelling units allowed or built per acre of land.

Development Impact Fees are fees based on the cost of expanding services to accommodate new development. These fees are then passed on to the project developer as part of the development cost.

Elements are a series of chapters that work together to implement the community vision and comprise the general plan. Within each element there are a series of subheadings:

Element Statement describes the purpose of the element.
Element Introduction provides the basic background information regarding the element.
Element Issue Identification presents the specific critical issues related to the element.
Element Goals are desired ends that if pursued over the long-term will ultimately result in the attainment of a desire living environment described in the element.
Element Policies are a means to attain the established goals. Policies prescribe a course of action for the City.
Element Plan presents the element's future direction.

Fiscal Year (FY) for Lake Havasu City starts July 1 and ends June 30 of every year.

Floor to Area Ratio (FAR) is the amount of actual building under roof for any given parcel.

General Obligation Bonds is a method of borrowing to finance service expansion.

General Plan is a community's general policies regarding its long-term physical development of the jurisdiction.

Growth Areas are targeted areas that the city envisions planned development to be encouraged. These areas support a mix of uses, multi-modal transportation, and infrastructure expansion/improvements.

Gross Density means the number of households or dwelling units allowed per acre of total land area.

Growing Smarter legislation was passed by the Arizona State Legislature and signed by the Governor. Growing Smarter Plus became effective in May 2000 and built upon the 1998 Growing Smarter Act that created a new framework for the land planning process in cities and counties.

Jurisdiction refers to Lake Havasu City and/or the authority provided to the City to govern and legislate through the Arizona Revised Statutes.

Infill refers to development in areas where existing infrastructure, services, and facilities are currently in place.

Infrastructure consists of the necessary physical facilities (e.g., water, and sewer) to support municipal operations.

Insurance Services Office (ISO) rates the fire readiness of individual communities as an informational service to potential insurers. ISO rates are based on the adequacy of a community's water supply, its fire department, and its fire alarm system. Public protection classifications range from the most desirable rate of 1 to the least desirable of 10.

Multimodal Transportation provides for all aspects of transportation personal vehicles, mass transit, pedestrians, and bicycles. A multi-modal transportation plan provides an opportunity for growth in all of these areas.

Origins and Destinations are transportation trips.

Revenue Bonds are a method of borrowing to finance service expansions.

Right-of-Way is the passage over the property of another. The public may acquire it through implied dedication and most commonly refers to the land on which a road or railroad is located. Utility pathways and drainage ways are usually referred to as easements.

Traffic Calming is the use of various traffic management devices to address concerns about speed, cut through traffic, and safety on neighborhood roads.

Urban Design gives form, in terms of both beauty and function, to physical improvements. The term implies a more fundamental approach than "beautification" and is concerned with the location, mass, and design of various urban components, combining the concerns of urban planning, architecture, and landscape architecture.

User Fees are fees charged for services such as water and sewer fees or park and recreation venue admissions.

Zoning is a specific legal action related to land classifications governed by the Zoning Ordinance. Zoning must be in substantial conformance with the general plan.

APPENDIX B – GENERAL PLAN ACRONYMS

The following are acronyms that are used in the Lake Havasu City General Plan 2002 either in text or on graphics.

ADA	American Disabilities Act
ADOC	Arizona Department of Commerce
ADEQ	Arizona Department of Environmental Quality
ADOT	Arizona Department of Transportation
ADWR	Arizona Department of Water Resources
API	Arizona Preserve Initiative
ARS	Arizona Revised Statutes
BLM	Bureau of Land Management
BOR	Bureau of Reclamation
CIP	Capital Improvement Plan or Program
CAP	Central Arizona Project
CFU/100 ml	Colony-forming units per 100 milliliters
CDBG	Community Development Block Grant
CRA	Community Reinvestment Act
DU/AC	Dwelling Units per Acre
EMS	Emergency Medical Service
EOP	Edge of Pavement
FT/MSL	Feet Above Sea Level
FY	Fiscal Year
FAR	Floor to Area Ratio
GPCC	Gallons Per Capita Consumption
GPM	Gallons Per Minute
GPAC	General Plan Advisory Committee
GIS	Geographic Information System
GO	General Obligation Bonds
HUD	US Housing and Urban Development
HURF	Highway User Revenue Funds
IGA	Intergovernmental Agreement
ISO	Insurance Services Office
LOS	Level of Service
MPH	Miles per Hour
MG/L	Milligrams per Liter
MGD	Million Gallons Per Day
NRPA	National Recreation and Park Association
PIP	Public Involvement Plan
PSA	Partners for Strategic Action, Inc.
ROW	Right-of-Way
SR	State Route
TDS	Total Dissolved Solids
TSM	Transportation System Management
TWLTL	Two Way Left Turn Lane