PRIMARY URBAN CENTER DEVELOPMENT PLAN

Exhibit A4, May 2004

Department of Planning and Permitting
City and County of Honolulu
Jeremy Harris, Mayor

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TABLE OF CONTENTS

PREFACE **24-29**

EXECUTIVE SUMMARY **24-30.2**

1. THE ROLE OF THE PRIMARY URBAN CENTER IN OAHU'S DEVELOPMENT PATTERN **24-30.8**

2. THE VISION FOR THE PUC'S FUTURE **24-30.10**

2.1 Honolulu's Natural, Cultural and Scenic Resources are Protected and Enhanced **24-30.10**

2.2 Livable Neighborhoods Have Business Districts, Parks and Plazas, and Walkable Streets **24-30.10**

2.3 The PUC Offers In-Town Housing Choices for People of All Ages and Incomes **24-30.12**

2.4 Honolulu is the Pacific's Leading City and Travel Destination **24-30.12**

2.5 A Balanced Transportation System Provides Mobility **24-30.14**

3. LAND USE AND TRANSPORTATION **24-30.15**

3.1 Protecting and Enhancing Natural, Cultural, and Scenic Resources **24-30.15**

3.1.1 Existing Conditions, Issues and Trends 24-30.15

3.1.2 Policies 24-30.23

3.1.3 Guidelines 24-30.23

3.1.4 Relation to Views and Open Space Map (A.1 and A.2) 24-30.26

3.2 Neighborhood Planning and Improvement **24-30.26**

3.2.1 Existing Conditions, Issues and Trends 24-30.27

3.2.2 Policies 24-30.33

3.2.3 Relation to Land Use Maps (A.4-A.6) and Zoning 24-30.36

3.3 In-Town Housing Choices **24-30.39**

3.3.1 Existing Conditions, Issues and Trends 24-30.39

3.3.2 Policies 24-30.43

3.3.3 Guidelines 24-30.44

3.4 The Pacific's Leading City **24-30.45**

3.4.1 Existing Conditions, Issues and Trends 24-30.45

3.4.2 Policies 24-30.50

3.5 Develop a Balanced Transportation System 24-30.54
3.5.1 Existing Conditions, Issues and Trends 24-30.54
3.5.2 Policies 24-30.63
3.5.3 Guidelines 24-30.64

4. INFRASTRUCTURE AND PUBLIC FACILITIES 24-30.65
4.1 Water Allocation and System Development 24-30.65
4.1.1 Existing Conditions, Issues and Trends 24-30.65
4.1.2 Policies 24-30.66
4.1.3 Guidelines 24-30.67
4.2 Wastewater System 24-30.68
4.2.1 Existing Conditions, Issues and Trends 24-30.68
4.2.2 Policies 24-30.68
4.2.3 Guidelines 24-30.69
4.3 Electrical Power 24-30.69
4.3.1 Existing Conditions, Issues and Trends 24-30.69
4.3.2 Policies 24-30.69
4.3.3 Guidelines 24-30.69
4.4 Telecommunications Facilities 24-30.70
4.4.1 Existing Conditions, Issues and Trends 24-30.70
4.4.2 Policies 24-30.70
4.4.3 Guidelines 24-30.70
4.5 Solid Waste 24-30.71
4.5.1 Existing Conditions, Issues and Trends 24-30.71
4.5.2 Policies 24-30.71
4.5.3 Guidelines 24-30.71
4.6 Stormwater Systems 24-30.71
4.6.1 Existing Conditions, Issues and Trends 24-30.71
4.6.2 Policies 24-30.72
4.6.3 Guidelines 24-30.72
4.7 School and Library Facilities 24-30.72
4.7.1 Existing Conditions, Issues and Trends 24-30.73
4.7.2 Policies 24-30.74
4.7.3 Guidelines 24-30.74

4.8 Civic and Public Safety Facilities 24-30.74
4.8.1 Existing Conditions, Issues and Trends 24-30.74
4.8.2 POLICIES 24-30.74
4.8.3 Guidelines 24-30.75

5. IMPLEMENTATION 24-30.76
5.1 Public Facility Investment Priorities 24-30.76
5.2 Development Priorities 24-30.77
5.3 Special Area Plans 24-30.77
5.4 Functional Planning 24-30.77
5.5 Review of Zoning and Other Development Applications 24-30.78
5.5.1 Adequate Facilities Requirement 24-30.79
5.6 Five-Year Development Plan Review 24-30.79
5.6.1 Urban Community Boundary 24-30.79
5.7 Transition from the Current System 24-30.79
5.7.1 Development Plan Common Provisions and Existing Land Use Approvals 24-30.79
5.7.2 Review and Revision of Development Codes 24-30.80

APPENDIX A: MAPS 24-30.81
Map A.1: Significant Panoramic Views
Map A.2: Open Space Map
Map A.3: Land Use Key Map
Map A.4: Land Use Map, PUC – West
Map A.5: Land Use Map, PUC – Central
Map A.6: Land Use Map, PUC – East

APPENDIX B: IMPLEMENTATION STRATEGIES 24-30.91
APPENDIX C: GLOSSARY OF TERMS 24-30.99

LIST OF FIGURES

Figure P.1 Development Plan and Sustainable Communities Plan Areas for Oahu 24-30.1
Figure 2.1: Vision of a Livable Neighborhood with Mid-Rise Apartments 24-30.11
Figure 2.2: Vision of the Honolulu Waterfront 24-30.13
Figure 3.1: View Corridors 24-30.17
Figure 3.2: Stream Corridors 24-30.19
Figure 3.3: Children Enjoy New Play Equipment at a Honolulu Park 24-30.21

Figure 3.4: Lehua Avenue, Pearl City – 2001 ..... 24-30.32
Figure 3.5: Lehua Avenue, Pearl City – in the Future 24-30.33
Figure 3.6: Kuakini Street, Liliha – 2001 ..... 24-30.38
Figure 3.7: Kuakini Street, Liliha – In the Future 24-30.38
Figure 3.8: Kakaako – Cooke and Pohukaina Streets – 2001 ..... 24-30.42
Figure 3.9: Kakaako – Future In-Town Residential Neighborhood 24-30.43
Figure 3.10: Waikiki 24-30.47
Figure 3.11: Location of Town Centers in Aiea-Pearl City 24-30.50
Figure 3.12: Aiea-Pearl City Region 24-30.52
Figure 3.13: Rapid Transit Corridor 24-30.59
Figure 3.14: Pedestrian Network Concept for Honolulu 24-30.60
Figure 3.15: Pedestrian Network Concept for Pearl Harbor 24-30.61
Figure 3.16: Bicycle Links in "Lei of Parks" Concept Plan 24-30.62

Preface

The *Primary Urban Center Development Plan* has been prepared in accordance with the Charter-prescribed requirements for development plans and is to be accorded force and effect as such for all Charter- and ordinance-prescribed purposes. It is one of a set of eight community-oriented plans intended to help guide public policy, investment and decision-making through the 2025-planning horizon. Each plan addresses one of eight geographic planning regions on Oahu, responding to the specific conditions and community values of each region.

Two of the eight planning regions, Ewa and the Primary Urban Center, are the areas to which major growth in population and economic activity will be directed over the next twenty years and beyond. The plans for these regions will continue to be titled "Development Plans," and will serve as the policy guides for the development decisions and actions required to support that growth.

The remaining six planning regions are envisioned to remain relatively stable. The plans for these regions are titled "*Sustainable* Communities Plans" to appropriately indicate the intent of the plans to serve as policy guides for public actions that support existing populations, and maintain and enhance the region's ability to sustain their unique character and lifestyle.

THE DEVELOPMENT PLAN PROCESS

This document is the culmination of the Charter-mandated development plan revision effort lead by the City and County of Honolulu's Planning Department and its successor agency, the Department of Planning and Permitting. This effort was comprised of a process that encouraged and enabled involvement from the region's neighborhood boards, community associations, business leaders, private landowners and area residents.

In its final form, the Plan incorporates input received from public outreach, review and comment received through a variety of formats since 1996.

LAND USE PLANNING AND MANAGEMENT IN HONOLULU

The City and County of Honolulu guides and directs land use and growth through a three-tier system of objectives, policies, planning principles, guidelines and regulations. The **General Plan** forms the first tier of this system. First adopted by resolution in 1977, the General Plan is a relatively brief document, consisting primarily of one-sentence statements of objectives and policies. It has been amended several times, but the basic objectives and policies set forth in the 1977 Plan remain intact.

The second tier of the system is formed by the **Development Plans and *Sustainable* Community Plans** (hereinafter referred to as "Development Plans" for simplicity), which are adopted and revised by ordinance. These plans address eight geographic regions of the island, including the Primary Urban Center, Central Oahu, Ewa, Waianae, North Shore, Koolauloa, Koolaupoko and East Honolulu. Under the current revision program, the Primary Urban Center and Ewa retain the title "Development Plan," while the other regions are now referred to as "*Sustainable* Community Plans" to reflect their policy intent. The map on the following page illustrates these planning regions (Figure P.1).

The third tier of the system is composed of the **implementing ordinances and regulations**, including the Land Use Ordinance (Honolulu's zoning code) and the City's Capital Improvement Program. Mandated by the City Charter, these ordinances constitute the principal means for implementing the City's plans. These ordinances are required to be consistent with the General Plan, the Development Plans (or *Sustainable* Communities Plans), and each other.

In addition to these three Charter-mandated tiers, the development plans are supplemented by two planning mechanisms that are not required by the Charter: the functional planning process and special area planning.

Functional planning activities, some of which are mandated by state or federal regulations, provide long-range guidance for the development of public facilities such as the water system, wastewater disposal and transportation. Special area plans are intended to give specific guidance for neighborhoods, communities and specialized resources.

AUTHORITY OF THE DEVELOPMENT PLANS AND SUSTAINABLE COMMUNITIES PLANS

The authority of the Development Plans is derived from the City Charter, which mandates preparation of a General Plan and development plans to guide "the development and improvement of the city." Together with the General Plan, the development plans provide a policy context for the land use and budgetary actions of the City. This is the authority the originally adopted Development Plans carried, and it remains unchanged in the revised Plan presented in this document.

The Charter provides that "public improvement projects and subdivision and zoning ordinances shall be consistent with the development plan for that area." Although the development plans are not themselves regulatory, they "regulate the regulators." They are policy tools and are to be used, in conjunction with the programs and budgets of the City, to accomplish the objectives of the City and as guides for the decisions made in the private sector.

WHY THE DEVELOPMENT PLANS HAVE BEEN REVISED

In 1992, the City Charter Commission recommended, and the voters of Honolulu adopted, amendments to the City Charter. Chief among its findings, the Charter Commission concluded that the development plans were overly detailed and had engendered processes that duplicated the zoning process. To eliminate this unnecessary duplication, the 1992 Charter amendments changed the definition of development plans from "relatively detailed plans" to "conceptual schemes."

The 1992 Charter amendments established that the purpose of the development plans is to provide:

- "Priorities ... (for the) coordination of major development activities"; and
- Sufficient description of the "desired urban character and the significant natural, scenic and cultural resources ... to serve as a policy guide for more detailed zoning maps and regulations and public and private sector investment decisions."

In response to the 1992 Charter amendments, the Planning Department launched a thorough review of the development plans. The goal of that review was the revision of all eight of the development plans to bring them into conformance with the Charter-mandated conceptual orientation. The revised plan presented in this document conforms to that mandate.

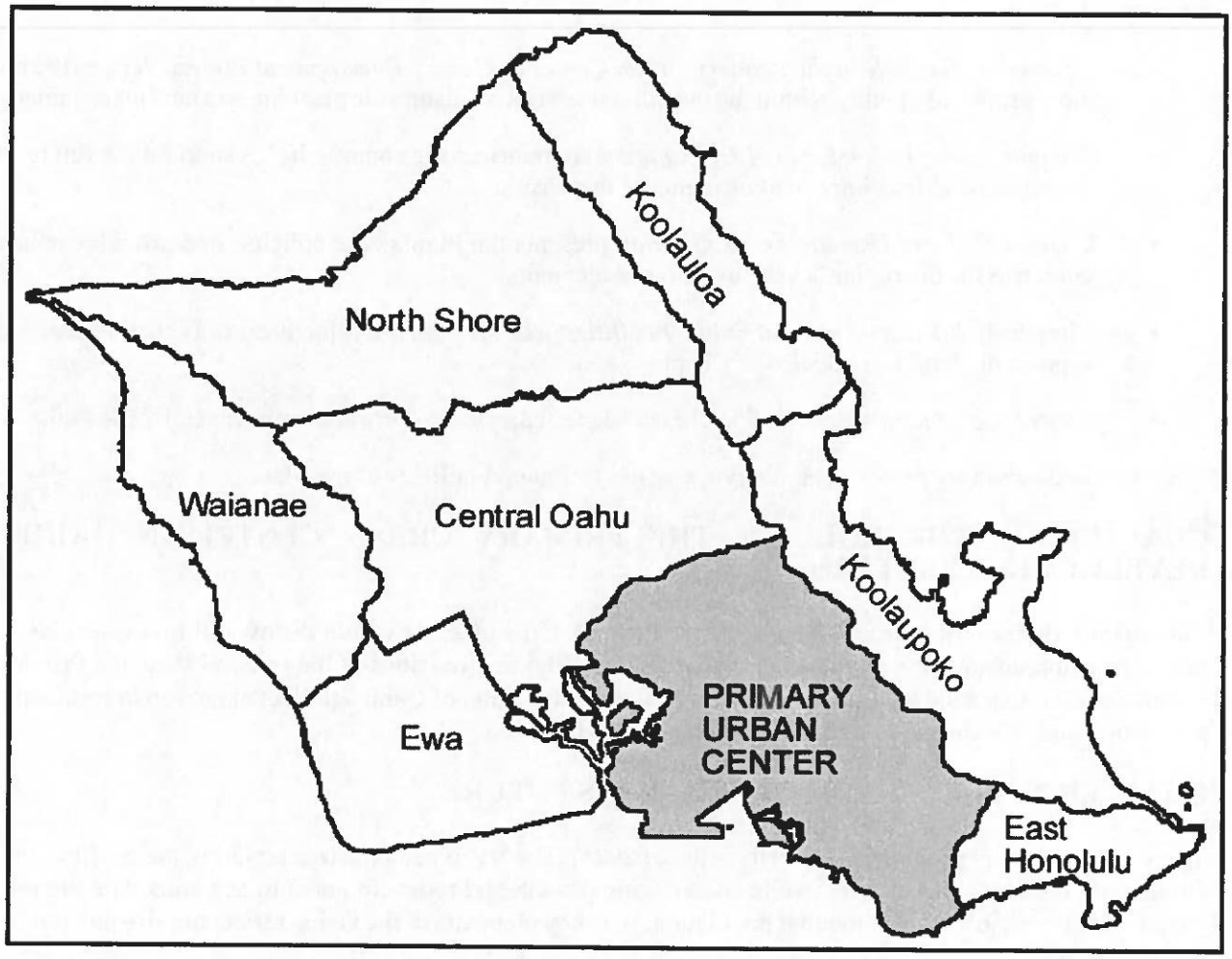


FIGURE P.1: DEVELOPMENT PLANS AND SUSTAINABLE COMMUNITIES PLAN AREAS FOR OAHU

Executive Summary

This plan, which is incorporated into Ordinance 04-14 by reference, is organized in five chapters and an appendix, as follows:

- Chapter 1: *The Role of the Primary Urban Center in Oahu's Development Pattern* defines the region's role and identity within the overall framework of islandwide planning and land management.
- Chapter 2: *The Vision for the PUC's Future* summarizes the community's vision for the future of the region and lists important elements of that vision.
- Chapter 3: *Land Use and Transportation* presents the Plan's core policies, and provides policy guidance for the region's various land use elements.
- Chapter 4: *Infrastructure and Public Facilities* outlines policies, principles, and actions needed to support the land use policies of Chapter 3.
- Chapter 5: *Implementation* addresses needs for carrying out provisions outlined by the Plan.

The following summary provides an overview to the vision and policies of the Plan.

CHAPTER 1: THE ROLE OF THE PRIMARY URBAN CENTER IN OAHU'S DEVELOPMENT PATTERN

This chapter defines the role and identity of the Primary Urban Center within the overall framework of islandwide planning and land management. Consistent with the provisions of the General Plan, the Primary Urban Center is expected to accommodate a significant proportion of Oahu's projected growth in residential population and jobs during the 20-year horizon of this Plan.

CHAPTER 2: THE VISION FOR THE PUC'S FUTURE

The Vision for the PUC describes the Honolulu of 2025. The Vision emphasizes retaining the qualities that attract both residents and visitors, while encouraging growth and redevelopment to accommodate the projected increases in jobs and residential population. The key elements of the vision reflect the size and importance of the PUC:

- Honolulu's natural, cultural and scenic resources are protected and enhanced.
- Livable neighborhoods have business districts, parks and plazas, and walkable streets.
- The PUC offers in-town housing choices for people of all ages and incomes.
- Honolulu is the Pacific's leading city and travel destination.
- A balanced transportation system provides excellent mobility.

CHAPTER 3: LAND USE AND TRANSPORTATION

Chapter 3 describes the policies and guidelines intended to promote and implement the Key Elements of the Vision Statement. The policies and guidelines are organized around the Key Elements to maintain a holistic focus on the Plan's vision and to encourage an integrated approach to implementation. A summary of the policies is presented below.

Protecting and Enhancing Natural, Cultural and Scenic Resources

Natural, cultural and scenic resources provide the context for the PUC and provide its unique identity as a world-class city in a spectacular Pacific island setting. They create the city's scenic backdrop, provide a balance to its buildings and homes, and define the unique settings for the PUC's many neighborhoods and districts. Policies to protect and enhance these resources include:

- **Preserve historic and cultural sites:** Special emphasis should be placed on sites and associated settings that are unique, of special significance, or are in good condition.
- **Preserve and protect natural resource and constraint areas:** Establish an urban community boundary to define urban development and protect areas outside the boundary for their open space, scenic, and resource values.
- **Preserve panoramic views of natural landmarks and the urban skyline:** This includes important vistas and focused views of significant natural and urban features and skyline profiles that make up or frame the PUC from publicly accessible places.
- **Improve access to shoreline and mountain areas:** This includes continuous public access along Oahu's southern shoreline as well as access to its *mauka* natural environments and features.
- **Develop stream greenbelts:** Keep or create *mauka-makai* connections and views up and down important streams and create public walkways where possible and appropriate.
- **Provide parks and active recreation areas:** Create or strengthen parks, plazas and other conveniences throughout the PUC, especially in more populated areas as a balance to the built environment, for recreation, social interaction and leisure interludes.

CULTIVATING LIVABLE NEIGHBORHOODS

Neighborhoods and districts throughout the PUC where people live, work, and play should be actively supported through neighborhood planning, public policies, regulations, and investment to enhance their attractiveness as places that are safe, comfortable, convenient, and attractive. Plan policies for promoting these conditions are:

- **Develop a system for collaborative neighborhood planning:** Refine and further develop a stakeholder-based process for continuing community-based neighborhood planning for areas requiring this attention.
- **Cultivate existing and new "neighborhood centers":** Develop neighborhood centers as the principal places for people in a neighborhood to gather, shop, dine or play, and to provide a source of community identity.
- **Promote mixed land uses:** Encourage compatible mixtures of land uses for in-town PUC neighborhoods and districts to support a variety of urban lifestyle choices and to create vibrant and convenient neighborhoods.
- **Create parks that draw people and activity:** Develop parks that invite people and promote positive social interaction and activity.
- **Make streets "pedestrian-friendly":** Create inviting and attractive streetside environments that support and enhance convenient and safe pedestrian use.

IN-TOWN HOUSING CHOICES

While other vision elements address the livability of communities, this element emphasizes the need to provide residential choices for in-town (urban) living that are affordable and meet the lifestyle needs and preferences of different population groups. Policies for housing options along the PUC's vibrant coastal plain include:

- **Promote people-scaled apartment and townhouse dwellings in low- or mid-rise buildings oriented to the street:** This policy encourages residential buildings that are modest in height and have ground-floor shopping and dining opportunities to create pedestrian-oriented neighborhoods that satisfy a range of lifestyle needs conveniently.
- **Improve the feasibility of redeveloping small lots:** Encourage housing variety and affordability by removing barriers for small-scale townhouse and low-rise apartment development on smaller apartment-zoned lots.
- **Reduce costs for apartment homes:** Promote affordable housing choices consistent with creating livable communities by reducing certain construction and development-related costs.
- **Provide adequate schools and parks for in-town neighborhoods:** Conveniently located schools and parks that can be reached safely are needed to meet the needs of young, active families.
- **Expand the capacity of infrastructure, including water supply, sewers, and storm drains:** This policy calls for government action and leadership in creating adequate infrastructure to meet present and future demands in order to support the strengthening or creation of livable in-town communities.
- **Preserve and expand the current inventory of affordable rental housing units:** The City should assure that the current inventory of affordable rental units, whether owned by the City or not, is preserved and retained as affordable, and that the inventory of affordable rental units is expanded as needed by the community.
- **Support the retention, rehabilitation and improvement of older, low-rent apartment buildings:** Maintain, rehabilitate and improve older apartment buildings to retain existing housing stock as viable in-town housing choices.
- **Provide for special needs housing: Allow housing for people with special needs and promote their integration into the larger PUC community.**
- **Provide incentives and cost savings for affordable housing:** This policy promotes exemptions from regulations, on a case-by-case basis, to make "affordable" housing available to those needing it.
- **Provide for high-density housing options in mixed-use developments around transit stations.** This type of "transit-oriented development" facilitates transit use and allows for increased densities without generating increased vehicular congestion.

THE PACIFIC'S LEADING CITY

The Plan recognizes the PUC as an economic center of importance to both Oahu and the State of Hawaii, and envisions Honolulu to be "the Pacific's leading city and travel destination." The following are key policies to help make this happen.

- **Create public open space along the Pearl Harbor waterfront and strengthen the physical and visual connections between the urban center and the water:** This recognizes the waterfront as a principal element in the PUC's setting and as an organizing reference point for the city, and supports development of an economic and social asset for the surrounding community.

- **Redevelop the Downtown/Iwilei waterfront:** This policy proposes to increase visual and physical access to the waterfront by re-routing traffic away from Nimitz Highway and introducing commercial activities such as restaurants, shops, offices, and entertainment, low to medium-rise residences, and areas capable of hosting recreational activities.

- **Stimulate the development of high technology and knowledge-based industries:** Attract high-technology businesses to Hawaii and provide in-town locations for them. Encourage investment in infrastructure within commercial buildings that will accommodate and attract high-technology and biotechnology businesses.

- **Develop and implement a plan for a vibrant and livable Waikiki:** This plan should address resident and visitor experiences, the street environment, the design of new buildings, and relationships with adjacent districts.

- **Support attractions that are of interest to both residents and visitors in the Ala Moana/Kakaako/Downtown corridor.** Develop commercial and cultural attractions and improvements to serve residents and visitor interests.

- **Provide opportunities for the development of visitor units in the Ala Moana/Kakaako/Downtown corridor:** Provide accommodation options for convention and business travelers conveniently located near downtown and the Hawaii Convention Center.

- **Provide opportunities for the development of village inns in existing commercial centers and allow bed and breakfast establishments in residential neighborhoods:** This policy encourages development of alternative visitor accommodations in contrast to the traditional resort enclaves of Waikiki.

- **Support continuation of military uses:** Support and coordinate with the military's long-range land planning activities to realize common employment, housing and recreation goals.

- **Enhance Honolulu Harbor and harbor-related uses:** Reserve lands adjacent to the harbor for harbor-related uses.

- **Support industrial uses in Kalihi-Palama industrial districts:** Support existing mixed-usages in the industrial districts of Kalihi-Kai and Kapalama, as well as existing commercial uses along the Nimitz, Dillingham, King, Kalihi, and Waiakamilo corridors.

- **Define the role of town centers and promote a mixture of land uses in Aiea-Pearl City:** Strengthen the functions and latent identities of town centers in Pearl City, Aiea, Waimalu and Halawa, and establish the Pearlridge area as a Pearl Harbor Regional Town Center.

- **Encourage the full use of existing private and public parking garages:** Encourage private parking garage owners to rent underused parking stalls within commercial buildings and large-scale residential projects.

DEVELOP A BALANCED TRANSPORTATION SYSTEM

A pleasant and efficient balance of travel choices that provide timely and convenient access to destinations throughout the PUC is essential to protect the region's natural assets, enhance the livability of its communities, and support a world-class city. Policies to promote a balanced transportation system include:

- **Implement land use strategies to achieve a balanced transportation system:** To achieve community livability and enable transportation choices, land use strategies that support alternative travel modes such as walking, bicycling, and transit should be adopted and implemented.

- **Improve the public transit system, including development of a rapid transit component:** A convenient and efficient public transit system aids in maintaining traffic flows at an acceptable level for an attractive and successful urban setting. An effective public transit system for the PUC could be created with an east-west rapid transit route supplemented by effective links to the PUC's valley communities.
- **Implement Transportation Demand Management (TDM) strategies:** Employ management strategies that encourage alternative travel models.
- **Review existing plans and establish priorities for roads and road improvements:** Conduct a comprehensive classification of roadways to identify prospective improvements (e.g., automobile, transit, bikeways, pedestrian routes), and prioritize the implementation of such improvements.
- **Implement the Honolulu Bicycle Master Plan:** Institutionalize a policy that all streets designated for bicycle travel should be maintained to accommodate shared bicycle and automobile use.
- **Enhance and improve pedestrian mobility:** Create pedestrian districts, routes and a regional pedestrian network, and address pedestrian safety concerns.
- **Encourage the full use of existing private and public parking garages:** Encourage private parking garage owners to rent underused parking stalls within commercial buildings and large-scale residential projects.

CHAPTER 4: INFRASTRUCTURE AND PUBLIC FACILITIES

This chapter addresses infrastructure and public facilities at the regional level, and identifies policies and planning principles to support the land use policies presented in Chapter 3. Functional areas include:

- Water Allocation and System Development
- Wastewater System
- Electrical Power
- Telecommunications Facilities
- Solid Waste
- Stormwater Systems
- School and Library Facilities
- Civic and Public Safety Facilities

CHAPTER 5: IMPLEMENTATION

This chapter discusses the various actions that will be necessary to ensure timely implementation of the plan, including measures that will minimize disruption during the transition into the plan. Measures addressed by this chapter include changes to the zoning maps, the Land Use Ordinance, and various other regulatory codes and standards necessary to achieve required consistency with the Development Plan. This chapter also addresses proactive measures, such as the planning and construction of infrastructure improvements, functional planning, and the development of Special Area Plans. Implementation of the Plan will be monitored via comprehensive reviews conducted at five-year intervals.

APPENDIX A

Appendix A consists of six conceptual maps and a glossary of land use designations used in the Plan. The conceptual maps (Map A.1, Significant Panoramic Views; Map A.2, Open Space Map; Map A.3, Land Use Key Map; Maps A.4, A.5 and A.6, Land Use Maps for PUC-West, PUC-Central and PUC-East) represent the vision elements and major land use and open space policies articulated in the Plan. The maps, which depict generalized categories or groups of land uses within the region, are intended to be illustrative of the Plan's text and are not parcel-specific.

APPENDIX B: IMPLEMENTATION STRATEGIES

Appendix B offers potential strategies, or options, that could be used to carry out the policies and guidelines discussed in the Plan. The strategies are intended as a resource for the development of Special Area Plans and for revisions to the Land Use Ordinance.

1. The Role of the Primary Urban Center in Oahu's Development Pattern

The *General Plan* and eight regional plans guide "the development and improvement of the City" as mandated by the Charter of the City and County of Honolulu. The *General Plan* is a relatively broad document, consisting primarily of one-sentence statements of "objectives" and "policies" that provide guidelines for shaping the future of Oahu. The two development plans and six sustainable communities plans cover eight geographical regions, encompassing the entire Island of Oahu.

The Primary Urban Center (PUC) extends from the core of historic downtown Honolulu to Pearl City in the west and Waialae-Kahala in the east. The undulating shorelines of East Mamala Bay and Pearl Harbor define the PUC's southern edge. To the north, the deep green of the Koolau Range frames the landscape. The busiest parts of the city lie along the coastal plain, while quieter residential communities cluster on ridges and in *mauka* valleys. The volcanic craters of Diamond Head, Punchbowl and Aliamanu rise above the coastal plain.

The Primary Urban Center is a lively, metropolitan city that is home to almost half the island's population and three-quarters of Oahu's jobs. At the turn of the millennium, the PUC is a mature urban center. While there are vacant lots, the PUC has no remaining "greenfields" – i.e., no large reservoir of open, developable land. The planning goal for the PUC is to enhance its livability while accommodating a moderate amount of growth.

As part of the City's overall strategy to "Keep the country, country" and to maintain a compact urban core, the *General Plan* directs most of the projected growth in residential population and jobs to the PUC and Ewa (the Secondary Urban Center), though some growth will also go to urban fringe areas such as Central Oahu. Objective C, Policy 1 of the General Plan states: "Facilitate the full development of the Primary Urban Center." Proportionately, Ewa will have the greatest amount of growth. While the PUC is projected to gain both residents and jobs, the *General Plan* calls for the PUC's share of Oahu's population and employment to decline over the next 20 years.

The *Primary Urban Center Development Plan* (PUC DP) establishes policy to shape the growth and development of the PUC over the next 20 years. Chapter 2 sets forth an overall vision for the year 2025. Chapter 3 presents policies regarding land use and transportation. Chapter 4 sets policies for infrastructure and public facilities. Chapter 5 addresses implementation of the plan.

This update of the *PUC Development Plan* reaffirms the region's role in Oahu's development pattern through the establishment of policies in the following areas:

- Natural, historic, cultural and scenic resources;
- Parks and recreation areas;
- Lower- and higher-density residential neighborhoods;
- Commercial and visitor industry facilities;
- Military installations, transportation centers and industrial areas;
- Design of streets and buildings;
- Neighborhood planning; and
- Transportation networks and systems.

The "Primary Urban Center" planning region is actually a large and diverse mix of neighborhoods, businesses, and industries, as well as health, education and cultural centers. Each neighborhood or district has its own special qualities as well as its own issues and opportunities. Some already have special area plans and/or special zoning districts – e.g., the Chinatown Special District and the Punchbowl Special District. Other neighborhoods are in the process of creating long-range plans. In response to this diversity, the PUC Development Plan establishes broad regional policy and provides a foundation for more specific planning at the neighborhood level.

2. The Vision for the PUC's Future

The vision for the future of the PUC looks forward to the Honolulu of 2025. It expresses the big ideas about what Honolulu will be in 20 years – our aspirations for the City of Honolulu. The vision provides a basis for the policies and guidelines discussed in Chapters 3 and 4.

The Primary Urban Center (PUC) stretches from Kahala to Pearl City. It is the capital of the State of Hawaii, the state's commercial and financial center, and the home of its premier educational and cultural institutions. It is the heart of Hawaii's economic, political and cultural life. The value created in the PUC nourishes the entire state.

The **Key Elements** of the vision for the PUC reflect the size and importance of Honolulu and its lead role in the state's business:

- Honolulu's natural, cultural and scenic resources are protected and enhanced.
- Livable neighborhoods have business districts, parks and plazas, and walkable streets.
- The PUC offers in-town housing choices for people of all ages and incomes.
- Honolulu is the Pacific's leading city and travel destination.
- A balanced transportation system provides excellent mobility for residents and visitors

2.1 HONOLULU'S NATURAL, CULTURAL AND SCENIC RESOURCES ARE PROTECTED AND ENHANCED

The mountain lands and shorelines that frame the city are protected and preserved, as are the natural, cultural and scenic areas and resources that lie within the urban area. Beaches and coastal waters, as well as historic sites and mountain lands, are actively managed and improved. Physical access to the mountains, the shoreline, streams and other resources is assured and continually enhanced.

Within the city, the open space network links *mauka* lands and shorelines to parks and open spaces within the urban area. Regional, beach and nature parks, the larger district parks, major campuses and golf courses provide green open space and recreational opportunities. The Civic Center, campuses and cemeteries also provide valuable open space. The public enjoys the Honolulu and Pearl Harbor waterfronts, with their promenades, bikeways and opportunities for entertainment. Stream greenbelts, numerous bikeways and pedestrian-friendly streets connect major parks and open spaces.

Culturally- and historically-important sites, landforms and structures continue to be preserved and enhanced. Historic and cultural districts are improved and interpreted for visitors.

People enjoy the panoramic views of Honolulu's mountain ridges, craters and coastlines from key vantage points. Within the city, view corridors are preserved through careful planning and design.

2.2 LIVABLE NEIGHBORHOODS HAVE BUSINESS DISTRICTS, PARKS AND PLAZAS, AND WALKABLE STREETS

The PUC is an interconnected network of vibrant, distinct neighborhoods. Each has qualities that make it a livable and enjoyable place to live, work or play. The City and County of Honolulu supports an ongoing program of neighborhood planning and improvement.

Livable neighborhoods include business and community services as well as residences. Key to livability is convenient access to work and to the many services and attractions found in an urban center. Rather than segregate residential from commercial uses, the goal is to integrate them in ways that provide greater convenience and bring activity to neighborhood streets.

Livable neighborhoods have centers where people meet. In some neighborhoods, the center is a business district. In others, it is a popular park that has sports activities. Some neighborhoods have more than one center. In neighborhood business districts, shaded sidewalks and district parking support small shops open to the street.

Mauka residential neighborhoods primarily consist of single-family homes and townhouses on the edges of the central city. They retain their historically residential character, with mostly one- and two-story buildings and plenty of yard space and trees. Shops, parks and schools are located within walking or bicycling distance of most residents. Churches, schools, and other uses coexist harmoniously.

In-town residential neighborhoods offer the greatest amenities for urban living. Consisting mostly of apartment dwellings, these neighborhoods are closest to employment centers, universities and cultural institutions. They are also close to grocery stores, shopping districts, and other government, health and commercial services. Proximity to rapid transit lines gives residents mobility and makes it possible to live with fewer automobiles. Newer apartment buildings are typically four to six stories tall, with shops and services on the ground floor. Small parks, plazas and "green streets" provide places for people to meet and for small children to play.

FIGURE 2.1: VISION OF A LIVABLE NEIGHBORHOOD WITH MID-RISE APARTMENTS. Illustrating the potential for a livable neighborhood in Kakaako, this photo-simulation shows new development on the blocks around Mother Waldron Park. Neighborhood families can walk to the water plaza and to stores from the surrounding apartment buildings. Shops and offices occupy the ground floor of each building, and parking is accessed from side streets.[1]

[1] To illustrate concepts discussed in community workshops, the Department of Planning and Permitting prepared several "before and after" photo-simulations showing new development of various sites. This "after" image is based on a photograph looking *makai* across Mother Waldron Park, with Cooke Street on the left intersecting Pohukaina Street. This and other illustrations are found in Chapter 3.

Shopping districts include "Main Street" corridors, shopping centers and neighborhood business districts. Served by transit and district parking, businesses in older commercial districts are freed from individual parking requirements.

Livability is cultivated through collaborative planning that involves residents, businesses and government at the neighborhood level. The City has adopted specific area plans for many PUC neighborhoods. The plans recognize and support diversity among the neighborhoods, enhance the special qualities of each neighborhood, and guide programmed improvements. City agencies work with the neighborhoods on an ongoing basis.

2.3 THE PUC OFFERS IN-TOWN HOUSING CHOICES FOR PEOPLE OF ALL AGES AND INCOMES

More and more households are attracted to in-town residential neighborhoods because of the convenience and amenities of the urban lifestyle. They include a growing number of elderly moving to smaller quarters but wanting to remain near their home neighborhoods. Young families are drawn to in-town neighborhoods with convenient elementary schools and parks. Living close to work is more popular than ever.

Mid-rise apartments and townhouses are the accommodation of choice because they are attractive, affordable and convenient. With storefronts and pedestrian entries facing the sidewalk, these buildings provide easy access to neighborhood shopping and services. Because they are similar in height and are generally built out to the sidewalk, they relate well to buildings around them and to the street. With street trees and a park or plaza nearby, these buildings form very desirable neighborhood environments.

Builders are enthusiastic about mid-rise apartments because they cost less to build than high-rise towers, and they can be built in smaller increments on smaller lots. Because development is less expensive and involves less risk, apartment units can be sold and rented at affordable prices.

Older walk-up apartments are being repaired and rehabilitated. Preserving the large supply of lower-priced rental units makes living in the PUC affordable for all income groups. The State and City contribute to the supply by preserving or causing to be preserved the existing inventory of affordable rental units and by supporting housing for the elderly, other special needs groups, and low- to moderate-income households with grants, tax credits and land use approvals.

2.4 HONOLULU IS THE PACIFIC'S LEADING CITY AND TRAVEL DESTINATION

The Primary Urban Center continues to be Oahu's primary employment center and the center for many commercial, industrial, transportation and government functions essential to the State of Hawaii.

An expanded Downtown continues to be the hub of government and financial activity. In Kakaako, the University of Hawaii Medical School is an internationally known research center. The adjoining biotechnology park houses the offices and laboratories of key American and overseas companies. A leading center in health research and technology development, the campus draws together researchers and medical innovators from the mainland United States, China and Japan.

With ongoing redevelopment and improvement, Waikiki remains the State's largest and most popular visitor destination. An ever-growing number of visitors are drawn to Honolulu for business reasons. Many organizations travel here for conferences and meetings at the City's highly rated Hawaii Convention Center. Newer hotels are located near the Convention Center and in Downtown. In addition, smaller hotels and inns are integrated into the commercial districts of several PUC neighborhoods, where local restaurants and businesses benefit from visitor spending.

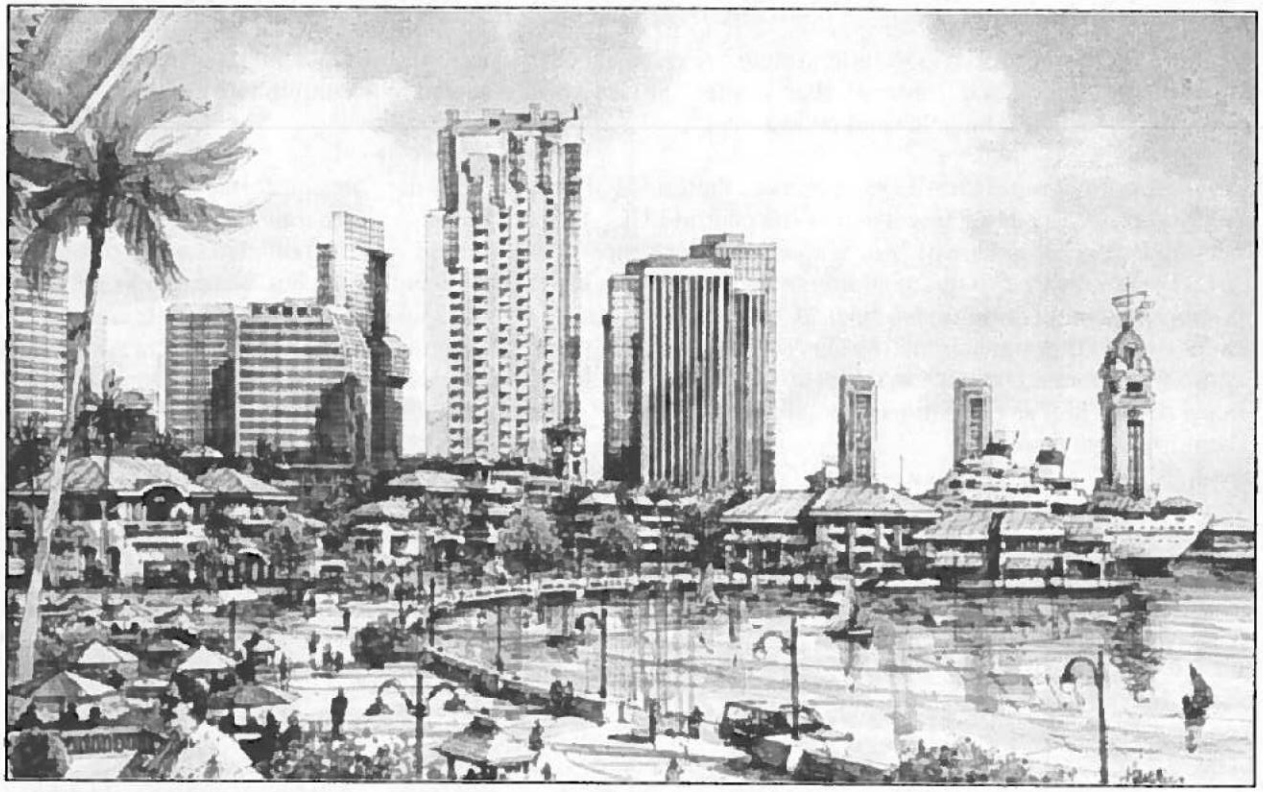


FIGURE 2.2: VISION OF THE HONOLULU WATERFRONT. In this vision of the future, Honolulu's waterfront is transformed into a "people place." By building a Sand Island-Kakaako bypass road, Nimitz Highway has been reduced in size and land has been recaptured for businesses and broad promenades next to the harbor.

Higher-spending vacationers are attracted to Oahu's unique historic and cultural attractions. Many of these attractions are located in the PUC – particularly the Ala Moana/Kakaako/Downtown corridor, where public agencies and private companies provide visitor services and interpretation. Visitors and residents stroll the harbor-front promenade along Nimitz Boulevard. Since through-traffic destined for Kakaako and Waikiki uses the Sand Island Parkway, Nimitz Highway is transformed into an urban boulevard, with a landscaped median and broad sidewalks.

With the Kalihi Channel restored, Honolulu Harbor is able to accommodate today's larger ships and increased commercial traffic with greater efficiency and safety. Expanded shore facilities handle growth in container freight as well as port calls by international and interisland cruise ships.

Residents and visitors also enjoy the broad waterfront of Pearl Harbor's East Loch. The historic OR&L bikeway and promenade links extensive parks, including Aiea Bay State Recreation Area, the new park at McGrew Point, and an expanded Neal S. Blaisdell Park. Restored historic sites on Ford Island, together with the U.S.S. Missouri and the U.S.S. Arizona Memorial, make Pearl Harbor the nation's most important site for World War II history.

The PUC continues to be home to the U.S. Pacific Armed Forces and several military bases, including Hickam Air Force Base and the Navy facilities surrounding Pearl Harbor. The more intensive military activities are located on the *makai* side of Nimitz Highway and Kamehameha Highway, with lands on the *mauka* side reserved for housing and community services.

2.5 A BALANCED TRANSPORTATION SYSTEM PROVIDES MOBILITY

Honolulu's balanced transportation system provides excellent mobility for residents, workers and visitors traveling throughout the Primary Urban Center. Streets are engineered to accommodate automobiles along with transit vehicles, bicycles and pedestrians.

A fully built-out rapid transit system serves thousands of people every day. Its comfortable vehicles ride on priority routes, speeding travel across the central PUC. High-capacity vehicles travel east-west routes connecting Pearl City to Downtown, Waikiki and the University of Hawaii. The system also speeds commuters from Ewa to the PUC without adding to congestion. An efficient hub-and-spoke bus system links neighborhoods to the main rapid transit lines. Community circulator routes (spokes) deliver riders to transit centers (hubs) where they transfer to high-service rapid transit routes. Connected to regional lines that serve outlying communities, rapid transit carries many residents to and from their workplaces in the PUC. During the day, many people hop on rapid transit to make in-town trips, finding it fast, reliable, convenient and less expensive than driving and parking.

Using highly-developed intelligent transportation systems, State and City transportation agencies monitor and manage traffic flow. Efficient management allows optimum utilization of existing roadway capacity. On-board navigation equipment aids both transit vehicles and private automobiles to select the best-flowing routes.

Well-planned bicycle routes make commuting by bicycle safe and convenient. Using Bike-Friendly Route One, cyclists can traverse the PUC from Pearl City to Kahala. Bike routes also contribute to increased recreational bicycling as well.

The PUC is known for being a pedestrian-friendly place, where tree-lined sidewalks attract people to walk for health and pleasure. Regional pedestrian networks along streets and stream corridors connect neighborhoods and *mauka* areas in both the Honolulu and Pearl Harbor regions. In Waikiki, Kakaako, McCully-Moiliili and other in-town neighborhoods, special pedestrian streets and districts connect residential blocks with parks and shopping areas. Streets with rapid transit system lines have shelters and specially-designed pedestrian crossings. Sidewalks and bus shelters are designed to assure that disabled individuals also have excellent mobility.

3. Land Use and Transportation

To achieve the vision for 2025, the City must organize and direct its future actions in the key areas of land use and transportation. This chapter sets forth policies and guidelines organized according to the Key Elements of the Vision (Chapter 2).

3.1 PROTECTING AND ENHANCING NATURAL, CULTURAL AND SCENIC RESOURCES

The first Key Element, "Honolulu's natural, cultural, and scenic resources are protected and enhanced," addresses the natural and cultural setting of the Primary Urban Center (PUC), the need for natural areas and open space, and the concept of an open space network that pervades urbanized areas and links them to the mountains and the shoreline.

Section 3.1.1 examines the existing conditions and issues that affect these "heritage" resources and the open space network. **Sections 3.1.2** and **3.1.3** set forth policies and guidelines, and **Section 3.1.4** discusses the relationship of the policies to the maps.

3.1.1 EXISTING CONDITIONS, ISSUES AND TRENDS

The mountains and shoreline that define the *mauka* and *makai* edges of the Primary Urban Center's continuous urban corridor are the dominant elements of the open space system. Within the corridor itself, the open space system consists of volcanic craters, streams, and other water bodies, as well as the larger parks and campuses:

***Mauka* edge:** The Koolau Mountain Range and its undeveloped foothills and slopes.

- ***Makai* edge:** The shorelines and waters of the Pacific Ocean, Pearl Harbor (East Loch), Keehi Lagoon, Kapalama Basin, Honolulu Harbor, Kewalo Basin, and Ala Wai Harbor.

- **Volcanic craters:** Leahi (Diamond Head), Puowaina (Punchbowl) and Aliamanu; also, a minor crater remnant in Kaimuki.

- **Perennial streams:** Kapakahi Stream, Palolo Stream, Manoa Stream, Makiki Stream, Nuuanu Stream, Kalihi Stream, Kapalama Stream, Moanalua Stream, Halawa Stream, Aiea Stream, Kalauao Stream, Waimalu Stream and Waiawa Stream and their tributaries.

- **Other important water bodies and wetlands:** Kalauao Springs (watercress farm in Pearlridge area), Salt Lake, Nuuanu Reservoir and Ala Wai Canal.

- **Major parks and campuses:** Regional, beach, and large district parks; golf courses; large cemeteries; college and high school campuses; and the Civic Center.

These elements combine to create the extraordinary scenic setting that Hawaii's – and the Pacific Basin's – greatest city enjoys. Residents and visitors enjoy striking vistas from many vantage points and convenient physical access to beaches, coastal waters, hiking trails and other recreational spots. Open space features are an integral part of daily urban life, not only for their scenic quality and recreational value, but also because they act as directional reference points when traveling through the city. For these reasons, it is very important that they remain visible and accessible.

In future years, as development in the Primary Urban Center continues and obsolete buildings are replaced, the urban form can be shaped to preserve and enhance the natural setting and to improve visual and physical access to open spaces.

3.1.1.1 Natural Resource And Development Constraint Areas

Most areas within the Primary Urban Center that have high natural resource value – such as habitats for native species, beaches, and water bodies – or that have unfavorable characteristics for urban development – such as steep slopes and unstable soils – are located within the State Conservation District and protected from urban encroachment. In general, protected areas include the mountains, the coastal waters and a few places within the State Urban District, such as Diamond Head, Punchbowl, Ala Wai Canal and Aliamanu/Salt Lake.

URBAN STREAMS AND WETLANDS

The State Urban District includes smaller-scale natural resource elements such as stream segments and wetlands. The few remaining wetlands in the Primary Urban Center are located near Pearl Harbor and are protected by Federal regulations. Most of the urban stream channels have been hardened with concrete and stone structures, and their banks are often devoid of vegetation. The degree of modification tends to be greater in downstream segments. Many of the upstream segments that run through single-family residential neighborhoods are still in relatively natural condition.

The purpose of stream modifications was to stabilize banks, provide flood protection for adjacent properties or accommodate bridges. While it is typically not feasible to return stream channels to their original state, it is possible in many cases to reintroduce natural elements such as shade trees along the banks, rip-rap lining and V-notched or unlined channel bottoms to the stream environment. Such measures mitigate impacts on biological habitat and improve the aesthetic quality and recreational value of urban streams. (See additional discussion in **Section 3.1.1.3**, Stream Corridors.)

STEEP SLOPES AND UNSTABLE SOILS

Development on steep slopes or unstable soils could result in adverse visual impacts or hazardous conditions. Most of the vacant lands in the State Urban District with these characteristics are located in valley and hillside neighborhoods. Where hillside locations have stable soil material, the primary impact is aesthetic, since structures built along slopes tend to be visually prominent and can interrupt the silhouette of the natural ridgeline when viewed from below. Building on the lower slopes of valley walls cannot only have a visual impact, but can also be potentially hazardous. Where these valley locations have deposits of unstable soils, slow-moving landslides can cause property damage, prompting claims against the City – as has happened in both Manoa and Moanalua Valleys.

Incremental build-out of hillsides and lower valley slopes can also affect both natural and urbanized drainage systems. Increased lot coverage by larger buildings and more extensive paving increases the volume and rate of stormwater discharge. This problem is exacerbated in the *mauka* reaches of the valleys and hillsides, where rainfall is higher.

Over the long term, the cumulative impact of greater lot coverage threatens to erode or convert natural stream banks downstream by requiring expensive, aesthetically and ecologically undesirable structural hardening of the drainage channel or by exceeding the capacity of the drainage system, resulting in flood conditions. To prevent inappropriate development, hillside lands should be placed in preservation or low-density residential zoning districts. Such lands should also be subject to stricter development standards – such as maximum lot coverage and structural stability – than those that apply to level land.

Where hillsides and drainage channels have already been adversely affected by inappropriate development, remediation should be pursued by removing or repairing damaged or threatened structures on unstable slopes and selectively modifying drainage channels to introduce more natural elements (e.g., streamside trees, rip-rap lining, and V-notched or unlined channel bottoms).

3.1.1.2 Scenic Views

PANORAMIC VIEWS OF NATURAL FEATURES AND LANDMARKS

Panoramic views are broad vistas from distant vantage points. **Map A.1, Significant Panoramic Views**, depicts the vantage points and orientation of major panoramic views of the following view objects within the Primary Urban Center:

- The Koolau and Waianae Mountain Ranges and their foothills (notably, Red Hill and Puu Ualakaa, or Round Top);
- The Pacific Ocean, Pearl Harbor's East Loch, Ford Island, Honolulu Harbor, Keehi Lagoon and Kewalo Basin, and their respective shorelines; and
- The craters of Leahi (Diamond Head), Puowaina (Punchbowl) and Aliamanu.

In some areas of the Primary Urban Center – especially within central Honolulu – building height limits have been adopted specifically to protect viewplanes. Nevertheless, there are public places along the shoreline – such as Ala Moana Beach Park, Kakaako Waterfront Park and Kewalo Basin – and along the Ala Wai Canal where panoramic *mauka* views of the Koolau Mountain Range and Punchbowl are gradually diminishing as high-rise buildings in the Kakaako, Ala Moana and McCully-Moiliili districts are developed to the height limits that are allowed there. Distant views of the Waianae Mountain Range and Pearl Harbor are less likely to be obstructed by intervening high-rise buildings, but there is no explicit regulatory mechanism to prevent the potential for loss of these views.

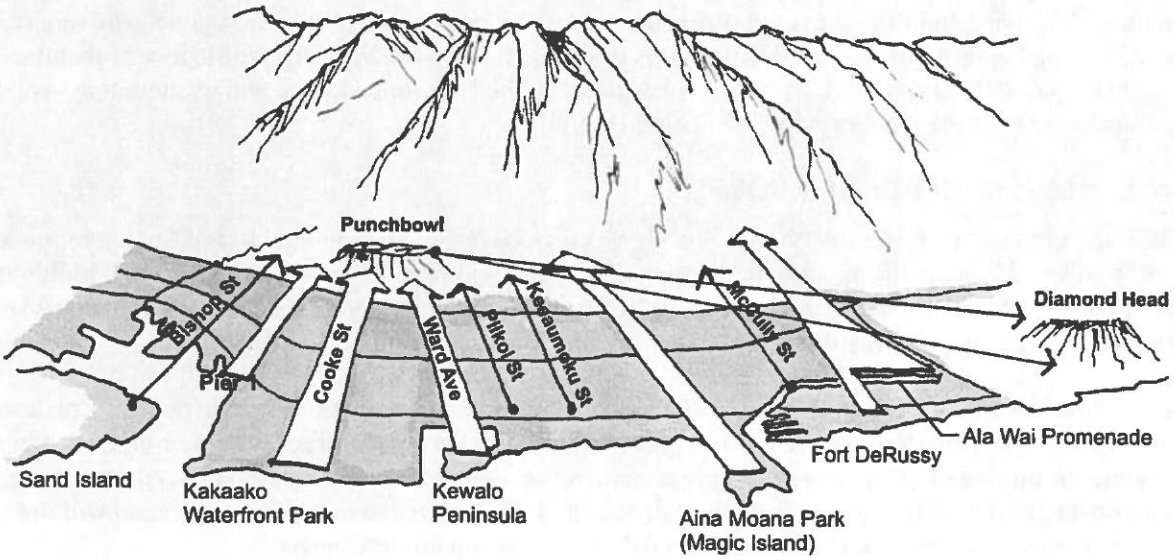


Figure 3.1: View Corridors. A diagram of *mauka* views from the shoreline and the view toward Diamond Head from Punchbowl Lookout.

PANORAMIC VIEWS OF THE URBAN SKYLINE

Panoramic views of the urban skyline between Diamond Head and Pearl Harbor's Middle Loch – from arrival points by air or sea, from above the Koolaus, and from outlying areas to the east and west – reveal the relationship between the city and its open space elements. The skyline is an important aspect of the city's image. It establishes a distinctive identity for Honolulu, defines subdistricts within it, and provides a directional orientation.

The lateral extent of Honolulu's skyline is defined by Nuuanu Stream on the west and Kapiolani Park and Diamond Head on the east. At present, Downtown, with its taller profile and denser clustering of buildings emphasized by the low-rise profiles of the Chinatown and Hawaii Capitol Special Districts, is a visually prominent element of the skyline. Recent high-rise developments in Kakaako have begun to weaken this prominence. Kakaako's development regulations allow buildings that are as tall or taller as those Downtown, but the towers are not as closely spaced. As a result, a high-rise "picket fence" is emerging on the Kakaako skyline, making the distinction between Downtown and other districts less clear.

Over the next few decades, there is not likely to be significant change to the western and eastern ends of the skyline, which are the respective locations of Downtown and Waikiki. In the Downtown financial district, there are few remaining sites available for new high-rises. In Waikiki, most of the high-rise buildings exceed present building height and density controls. While current regulations allow such "nonconforming" buildings to be redeveloped under limited circumstances, this will not result in appreciable changes to distant views of the skyline.

The Kakaako and Ala Moana districts, recognized as areas with substantial capacity for future urban development, are located in the central portion of the skyline. It is in these districts, as well as in McCully-Moiliili, where lower building height limits would not only help maintain the visual prominence of the Downtown skyline, but also promote a feasible and desirable building form.

The skyline in the western portion of the Primary Urban Center is less pronounced than in Honolulu. There is a cluster of high-rise buildings in the Pearlridge vicinity and an anomalous pair of apartment towers at Manana. Otherwise, buildings have a low profile. Redevelopment could affect the skyline in this area unless lower building height limits are established. It is desirable to keep the building profile low so that the Pearl Harbor skyline will continue to be visually subordinate to the Honolulu skyline and its mountain backdrop, which is lower than the Koolau ridgeline behind Honolulu.

MAUKA-MAKAI STREET CORRIDORS

Within the city, there are framed views – or view "corridors" – of the mountains and the shoreline along streets that are aligned in the *mauka-makai* orientation. The width of the street, combined with building setback requirements, create and retain these views. Unfortunately, streetscape elements such as overhead utility lines and signage significantly diminish the quality of the view in many instances.

Views of the mountains or shoreline along the street are important directional reference points for pedestrians and motorists, particularly for those who are not familiar with the City's street system or urban landmarks. The undergrounding of utility lines not only enhances the visibility of the mountain backdrop, but also removes obstacles (i.e., utility poles) from the sidewalk and allows street tree canopies to spread without interference. It may also improve utility system reliability in certain circumstances.

Due to the cost and disruptive effects of underground installation, priority should be given to burying utility lines on the major collector streets and where *mauka-makai* view corridors are indicated in **Figure 3.1**. Preferably, undergrounding would occur concurrently with other major construction within the right-of-way.

3.1.1.3 Access to the Shoreline, Mountains and Streams

STREAM CORRIDORS

Portions of important streams that flow through Honolulu – Manoa Stream, Nuuanu Stream, Moanalua Stream and Kapalama Stream – have landscaped greenbelts and/or parallel pathways already in place. Extension and improvement of these pathways and greenbelts would complement efforts to reintroduce natural elements to the stream environment and would make them more useful components of the open space network for recreational use and short walking trips.

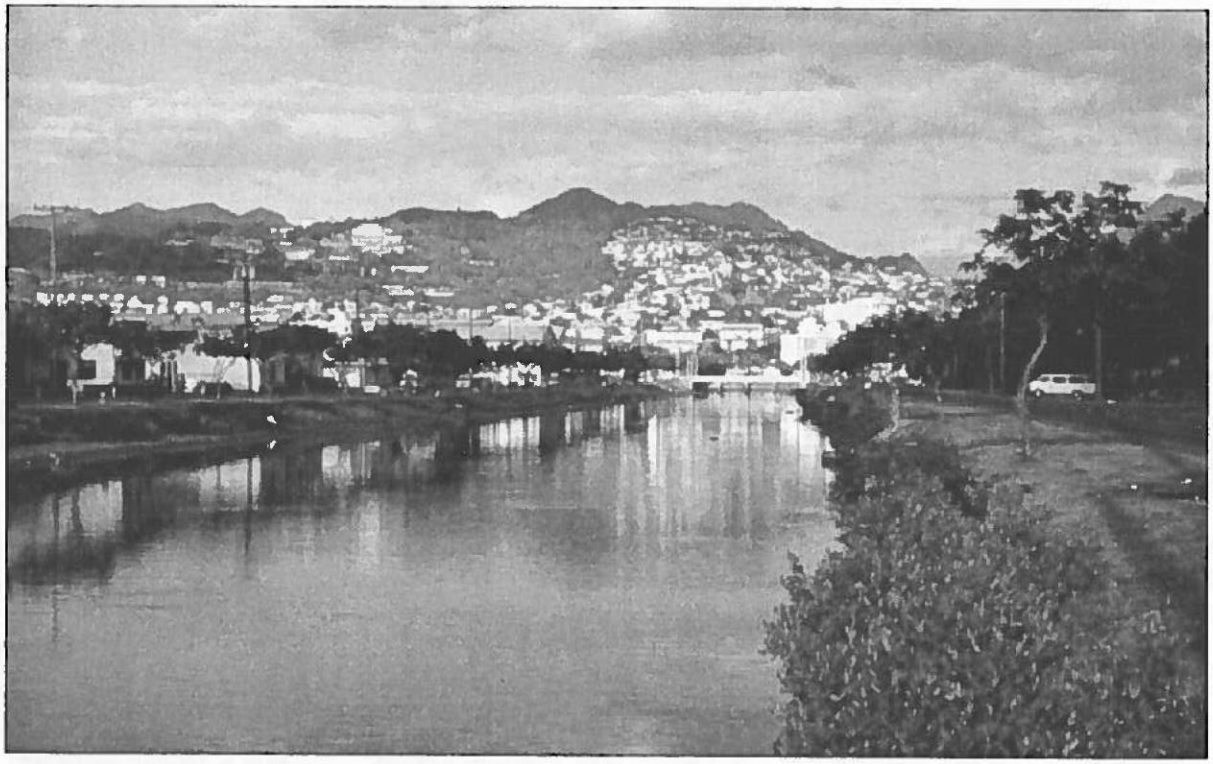


FIGURE 3.2. STREAM CORRIDORS. Stream corridors running through the Primary Urban Center offer potential for water recreation, such as outrigger canoe paddling, as well as for bicycle and pedestrian paths along the stream banks.

The design of greenbelts should vary along stream segments to respond to adjacent land uses and resolve security and maintenance issues. While a continuous *mauka-makai* pathway may not be achievable, priority should be given to the creation of streamside pathways where they would connect existing parks, hiking trails and bikeways, or provide a shorter, safer pedestrian route between neighborhoods or major land uses. Examples include Manoa Stream from Ala Wai Canal to Date Street and from the campus of University of Hawaii (UH) at Manoa to Woodlawn Drive.

SHORELINE ACCESS

Public access to the shoreline, which is located at intervals of one-quarter mile or less, is adequately provided. Two beach right-of-ways, one from Paoa Place and one from Kalia Road, increase access to Waikiki beaches. East of Diamond Head in the residential neighborhood of Kahala, shoreline access is available from Kahala Beach Park, six pedestrian rights-of-way along Kahala Avenue, and a right-of-way from Kaikoo Place.

From Nuuanu Stream westward to Aiea Bay, access to the shoreline is largely preempted or constrained by Honolulu Harbor, the Honolulu International Airport, Hickam Air Force Base, and Pearl Harbor Naval Base. The Keehi Lagoon shoreline will receive greater visual exposure with the development of the proposed Sand Island Parkway as a new through route from the Airport to Waikiki. The State of Hawaii Department of Transportation (DOT) envisions the development of Keehi Lagoon and its shoreline, including portions of Airport land, for recreational small-boat marinas and for viewing and competing in canoe and kayak paddling races. The State also proposes the development of a commercial "fishing village" at Pier 38, which would attract more people to a portion of the maritime industrial zone of Honolulu Harbor that presently receives little public exposure.

The need to enhance shoreline access is greatest in the more heavily developed portions of Honolulu and Pearl City, which are presently the centers of urban life and are expected to play an even more vital role in the future.

Within Honolulu, a continuous pedestrian route from Diamond Head to Downtown could be achieved by developing a beachfront promenade in Waikiki and by creating other relatively short connections between the chain of parks and promenades that now exist along the shoreline.

Lateral access in Waikiki would be more useful and feasible than additional pedestrian connections from Kalakaua Avenue and Kalia Road. Significant sections of a continuous beachfront walkway are already in place fronting Fort DeRussy, Halekulani Hotel, Sheraton Waikiki Hotel and portions of Hilton Hawaiian Village. The public sector should assume ultimate responsibility for the maintenance and security of such a highly public area because continuous, safe access for pedestrians and wheelchairs along the beach serves a clear public purpose.

Waterfront access should be a key component of any plan to redevelop Honolulu Harbor and the Kakaako district, revitalize Chinatown, and reconnect both Chinatown and Downtown to the historic waterfront. While the waterfront is within short walking distance of activity centers in Chinatown, Downtown and, increasingly, Kakaako, the design and operation of Ala Moana Boulevard – and especially Nimitz Highway – discourage pedestrians from crossing these thoroughfares. In addition, links need to be developed – especially in Kakaako – to fill gaps in the pedestrian route along the waterfront.

Within the Aiea-Pearl City area, continuous lateral public access to the Pearl Harbor shoreline would be greatly enhanced by acquiring lands *makai* of the OR&L right-of-way between Neal S. Blaisdell Park and Aiea Bay State Park, as identified in the *Pearl Harbor Historic Trail Master Plan*. While portions of this right-of-way are contiguous to the shoreline, intervening private lands and buildings at other points impair physical or visual access to Pearl Harbor.

MOUNTAIN ACCESS

There are several points of public access to forested mountain areas within the Primary Urban Center, and they are fairly well distributed. Access to many of these trails is from State parks, where public parking and rest rooms are available. At other trailheads, parking is usually quite limited, and rest rooms or other amenities are not available.

The State also maintains lookouts at the summits of Nuuanu Pali and Puu Ualakaa (Round Top) for enjoying scenic vistas toward the shoreline. Both of these State parks, like most other State park facilities, provide picnic areas, potable water and public rest rooms, and prohibit overnight camping.

3.1.1.4 Public Parks and Recreation Facilities

Public parks and outdoor recreational facilities fall into two general categories: (1) islandwide and regional parks and (2) community-based parks. Islandwide, regional, district parks and other major open spaces are shown in **Map A.2, Open Space**.

All of the community-based parks are maintained, if not owned in fee, by the City and County of Honolulu. Many of the islandwide and regional facilities are under State or military jurisdiction, or are privately owned. Some of the private golf courses are not available for public play, but make a visual contribution to the open space system.

For the most part, community-based parks and recreation facilities in the Primary Urban Center's *mauka* residential neighborhoods meet – or come close to meeting – the land-to-population standard. However, there is a shortage of comparable facilities in the more densely populated areas along the coastal plain, especially for organized sports and other active recreation. As a result, people from these areas must travel to use parks and recreation facilities in other neighborhoods.

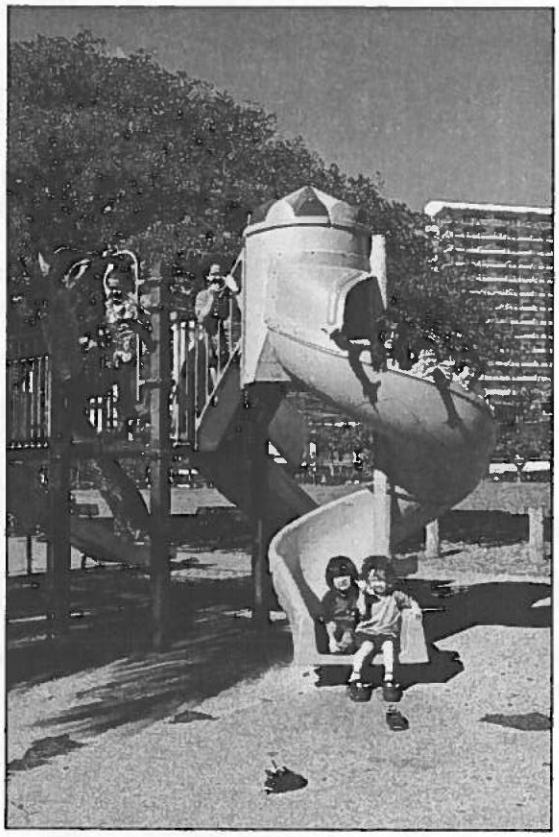


FIGURE 3.3: CHILDREN ENJOY NEW PLAY EQUIPMENT AT A HONOLULU PARK. Equipment like this provides exercise and entertainment for younger children, and is well suited to both large and small urban parks.

Due to the shortage of parkland in densely populated neighborhoods, much of the available space in community-based parks and regional parks such as Queen Kapiolani and Ala Moana is dedicated to facilities for intensive, active recreation. This often compromises the aesthetic and recreational value of parks as places for quiet enjoyment of the outdoors.

The design and programming of parks and recreation areas for the more intensively urbanized areas requires careful planning. Acquisition of significant additional park space is constrained by high real estate values, the limited number of vacant parcels with favorable characteristics for recreation use, and the cost and practical difficulties of alternatives such as the use of air rights over highways. With limited land area and high-rise apartment buildings nearby, the light and noise generated by outdoor recreational activities can cause disturbances to residential neighbors. Unsupervised and unlighted parks can also attract crime and other problems associated with urban areas.

On the other hand, Honolulu's urban setting offers some advantages for expanding recreational opportunities in a number of ways:

- The City can enter into partnerships with the State Department of Education (DOE) and private, non-profit organizations to jointly use, develop, or improve recreational facilities, including gymnasiums and other buildings designed for a variety of activities and programs.
- A large number of people can walk or ride transit to parks and recreation facilities, reducing the need for space-consuming parking lots and garages.
- The diversity of the population enables parks and recreational facilities to be designed and programmed for a variety of activities at different times of the day or simultaneously at different locations within a facility.
- The City's network of streets, shorelines, and streams can become linear extensions of parks by enhancing them with landscaping, special paving, and other features to support and promote recreational walking, jogging, and bicycling.

3.1.1.5 Other Urban Open Spaces

CEMETERIES

Cemeteries, with their landscaped, park-like settings, are part of the open space network within an urban environment. The cemeteries that make the most significant contribution to the open space within the Primary Urban Center, due to their size and high visibility from major thoroughfares and other urban areas, are shown on the Open Space Map (**Map A.2**).

CAMPUSES

The campuses of almost all of the Primary Urban Center's private and public academic institutions contribute in some degree to the urban open space network. In addition, many other institutions such as churches and hospitals are situated on landscaped grounds that add to urban open space. The effect is often more pronounced when such campuses are adjacent to each other, creating an open space "cluster." Institutions with sizable and visible landscaped grounds include the University of Hawaii at Manoa, Punahou School and Chaminade College-Saint Louis School. The Open Space Map also shows the Civic Center, including the broad landscaped areas around the State Capitol, Honolulu Hale, Iolani Palace and other government buildings, as a campus-type of open space.

PLAZAS

The Primary Urban Center's commercial districts, particularly Downtown Honolulu, contain landscaped plazas, which are situated on private property, and are accessible to the public. The plazas were created primarily by zoning code provisions that offer floor area bonuses for the development of public open space. As attractive venues for public events, informal meetings and quiet enjoyment, these plazas function as important elements of the urban open space system.

Successfully designed plazas typically include generous seating, shade and exposure to commercial activity. Such spaces are like an outdoor room, an open space enclosed by buildings. The best-used public open spaces are similar to the plaza behind Downtown's Dillingham Transportation Building. This plaza is a true "outdoor room" contained by building walls on three sides with people entering from three different directions – from Queen Street, from the neighboring office towers on Alakea Street, and from Bishop Street through the Dillingham Building arcades. Many more people actively use this plaza than use the much larger open space around the State Library or the Honolulu Municipal Building.

3.1.2 POLICIES

Establish and maintain an integrated open space network throughout the Primary Urban Center comprised of the following elements:

- **Preserve historic and cultural sites.** Preserve and protect sites that have high preservation value because of their good condition or unique features. Protection includes planning and design of adjacent uses to avoid conflicts or abrupt contrasts that detract from or destroy the physical integrity and historic or cultural value of the site. Retain, whenever possible, significant vistas associated with historic, natural and man-made features. Allow adaptive reuse of historic buildings to serve a new function and/or enhance interpretive value without destroying the historic value of a site.

- **Preserve and protect natural resource and constraint areas.** Establish an Urban Community Boundary to define the area for urban development. Place large contiguous areas of natural resource and constraint areas designated for Preservation, including all lands within the State Conservation District, outside of the Urban Community Boundary.

- **Preserve panoramic views of natural landmarks and the urban skyline.** Preserve views of the Koolau and Waianae Mountain Ranges, Punchbowl, Diamond Head, Pearl Harbor and other natural landmarks. Maintain important view corridors within and across urban Honolulu and keep Downtown as the most prominent feature of the urban skyline. Views along the Pearl Harbor shoreline and the Pearl Harbor Historic Trail toward the mountains, shoreline, significant landmarks, and adjacent communities should be created and maximized wherever possible and appropriate.

- **Improve access to shoreline and mountain areas.** Provide continuous lateral access along the Honolulu waterfront and around the East Loch of Pearl Harbor, where urban activity is most intense. Maintain access to mountain hiking trails and increase opportunities for nature education and camping.

- **Develop stream greenbelts.** Develop and maintain greenbelts and pathways along streams, especially those running from the mountains to the sea through central Honolulu, as visual and physical linkages between *mauka* and *makai* open spaces.

- **Provide parks and active recreation areas.** Develop and maintain parks and other outdoor public spaces in a manner that expands opportunities for both active and passive recreation. Increase and enhance recreational open space in the most densely settled parts of the PUC.

3.1.3 GUIDELINES

3.1.3.1 Historic and Cultural Sites

- Preserve the architectural character, landscape setting and visual context of historic landmarks through appropriate zoning standards and development controls, as necessary, and public outreach programs such as design guidelines for the maintenance, renovation or expansion of older dwellings.

- Preserve and enhance the significant historic and aesthetic features of institutional campuses and campus clusters through zoning permit reviews for campus expansions or modifications.

3.1.3.2 *Mauka* Conservation Areas

- Prevent development on properties with average slopes of 40 percent or more, and on lands with slopes of 20 percent or more where development of the site would have a significant adverse visual impact when viewed from parks, major public streets, and other public places.

- Maintain public access points and hiking trails on the slopes of the Koolau Range in the areas beyond the Urban Community Boundary, and improve amenities for hiking, camping and nature study.
- In Preservation areas, avoid disturbance to native species and prevent the visual intrusion of structures, including utility and telecommunications installations, when seen from below and from hiking trails.
- Ensure access for traditional and customary practices and gathering rights, consistent with the provisions of the Constitution of the State of Hawaii.

3.1.3.3 Urban Skyline and *Mauka-Makai* Views

- Maintain the visual prominence of important districts by allowing a greater height and massing of buildings, such as in the Downtown area.
- Apart from Downtown and other central Honolulu locations, promote mid-rise or low-rise scale for new buildings.
- Preserve the following panoramic views indicated schematically in **Figure 3.1** by establishing building height limits and setbacks that are based on viewplane analyses to determine the sight lines and desired view dimensions and characteristics:
  - From Ala Wai Canal Promenade toward the Koolau Range
  - From Ala Moana Beach Park toward the Koolau Range
  - From Kewalo Basin toward the Koolau Range and Punchbowl
  - From Kakaako Waterfront Park toward Punchbowl and the Koolau Range
  - From Punchbowl Lookout toward Diamond Head
- Preserve and enhance significant *mauka* or *makai* view corridors along major collector streets indicated in **Figure 3.1** through a combination of zoning controls and streetscape improvements.
- Increase line-of-sight opportunities towards Pearl Harbor – particularly the U.S.S. Missouri and the U.S.S. Arizona memorials.

3.1.3.4 *Makai* Access

- Provide continuous lateral shoreline access for pedestrians extending from Diamond Head to Nuuanu Stream, around Keehi Lagoon, and from Neal S. Blaisdell Park through Aiea Bay State Recreation Area.
  - Construct walkways along the Waikiki and Kakaako-Honolulu waterfronts.
  - Along the Pearl Harbor shoreline in Aiea and Pearl City, acquire privately owned properties and the Navy-owned McGrew Point *makai* of the Pearl Harbor bikeway for recreational use, and/or encourage complementary redevelopment with incentives for higher zoning in return for view corridors, extra open space, public amenities, and public access to the shoreline.

3.1.3.5 Stream Greenways and Drainage

- Establish riparian zones for all streams to prevent the encroachment of buildings and structures – other than those for drainage, flood control or recreational purposes – and to establish and enforce policies for the protection and enhancement of stream habitats and water quality.

- Develop streamside pathways to improve access to recreation sites and natural areas and provide safe, convenient pedestrian routes between neighborhoods. Stream segments to be considered for priority action include, but are not limited to, the following:

  — Aiea Stream: segment through former Aiea Sugar Mill site

  — Ala Wai Canal: both banks, entire length

  — Halawa Stream: segment near Aloha Stadium

  — Kalauao Stream: from Kamehameha Highway to Pearl Harbor's East Loch

  — Kalihi Stream: segment *makai* of H-1 Freeway

  — Kapalama Stream: segment *makai* of Kuakini Street

  — Makiki Stream: segment *makai* of Nehoa Street

  — Manoa/Palolo Streams: from Manoa Marketplace to Ala Wai Canal

  — Moanalua Stream: segment near Moanalua Gardens

  — Nuuanu Stream: from Kuakini Street to Honolulu Harbor

  — Nuuanu Stream: from Kuakini Street *mauka* to Kapena Falls

- In developing drainage and flood control, seek to limit stormwater velocity and reduce the transport of sediment and pollutants to coastal waters.

3.1.3.6 Parks and Recreational Open Spaces

- Recognizing that it is difficult to acquire additional park land in the PUC, develop innovative approaches to make optimum use of existing parks and recreation resources, such as:

  — Building partnerships between City, State and private, nonprofit organizations for joint use of facilities and complementary recreation programs.

  — Optimizing private sector contributions to open space through park dedication as properties are redeveloped.

  — Reassessing and reassigning, as appropriate, the use of existing park land.

- Promote linear connections in the recreational open space network by using existing public lands and rights-of-way, where possible.

3.1.3.7 Other Urban Open Spaces

- Maintain significant trees and landscaped open space within institutional campuses, cemeteries and other open-space uses that are visible from public right-of-ways.
- Enhance the entries and street frontages of cemeteries and campuses with trees and landscaping.
- Promote the development of plazas to fulfill park and open space requirements; provide floor area bonuses to encourage plazas in dense areas such as Downtown.

3.1.4 RELATION TO VIEWS AND OPEN SPACE MAPS (A.1 AND A.2)

Maps A.1 and A.2 show the Urban Community Boundary and the components of the regional open space system.

The ***Urban Community Boundary*** serves as a primary tool for the long-term organization and guidance of urban growth. To be fixed during the life of the plan (to the year 2025), the Urban Community Boundary is intended to define and contain the extent of urbanized or "built-up" areas designated "urban" by the General Plan. The purpose is twofold: (1) to provide adequate lands for facilities or other groupings of built uses needed to support established or developing communities; and (2) to protect lands outside of the Urban Community Boundary that have important natural, cultural, or scenic resource values.

Lands outside of the Urban Community Boundary include lands with important resource values – e.g., wildlife habitat, archaeological sites, significant landforms and landscapes critical to important viewplanes – as well as lands that may be hazardous for development of structures or whose development could lead to environmental degradation in surrounding or downstream areas.

The maps show the following components of the open space network:

- ***Mauka Conservation Areas.*** Lands within the State Conservation District, as well as some steep hillside areas and deep valley areas within the State Urban District are shown as outside of the Urban Community Boundary and are designated by the Preservation symbol on all of the maps.
- ***Mauka-Makai Views.*** Significant views are indicated on **Map A.1, Significant Panoramic Views**, by directional arrows originating from public vantage points.
- ***Makai Access.*** Existing and proposed lateral public easements along the waterfront are identified on **Map A.2, Open Space**.
- ***Stream Greenbelts.*** Major stream greenbelts are indicated on the map. However, the policies and guidelines concerning stream greenbelts apply to all perennial streams, even if they are not specifically shown on the map.
- ***Parks and Recreational Open Spaces.*** Larger land areas, such as golf courses, regional and district parks, botanical gardens and zoological parks are identified on the Open Space and Land Use maps. Community, neighborhood and miniparks are part of the open space system, but are too small to display on the map.
- ***Other Urban Open Spaces.*** Cemeteries and campuses or campus clusters consisting of over twenty contiguous acres are indicated on **Map A.2, Open Space**. Urban plazas are too small to display on the map.

3.2 NEIGHBORHOOD PLANNING AND IMPROVEMENT

The Vision states: "Livable neighborhoods have business districts, parks and plazas, and walkable streets." Key components of livability include residences within close proximity to employment, businesses, community services and recreational amenities, with facilities integrated in a manner that enhances accessibility and convenience, encourages walking and bicycling as alternative forms of mobility and promotes sidewalk activity. Livable neighborhoods need to be cultivated through neighborhood planning, appropriate zoning controls and incentives, and targeted capital improvements.

To cultivate livable neighborhoods, this section sets forth general land use policy for residential neighborhoods and the commercial districts that serve them. Land use policy for specialized economic functions – e.g., resort, office and industrial – is addressed in Section 3.4.
Section 3.2.1 examines existing conditions, issues and trends; **Section 3.2.2** outlines broad policies; and **Section 3.2.3** sets forth guidelines. Sections 3.2.1 and 3.2.2 are divided into four corresponding subsections, as follows:

- "Neighborhood planning" addresses the role of more detailed planning at the neighborhood level in the development of livable communities that respect and incorporate the characteristics and values unique to each neighborhood.

- "*Mauka* residential neighborhoods" refers to lower density residential areas comprised of single-family and townhouse dwellings, mostly located *mauka* of the coastal plains.

- "In-town residential neighborhoods" refers to areas on the centrally located coastal plains of Honolulu and Pearl City-Aiea that are generally planned to include higher-density residential use. These neighborhoods often include a mix of apartment and single-family residences, and are closely related to major commercial districts and corridors.

- "Shopping and retail business districts" includes regional shopping centers, commercial districts and corridors, and neighborhood shopping areas.

Section 3.2.4 discusses the relationship of the policies to the Land Use Maps and describes the meaning of the Land Use Map designations.

3.2.1 EXISTING CONDITIONS, ISSUES AND TRENDS

Urban development in the Primary Urban Center began with Honolulu Harbor and the surrounding Downtown area and gradually spread across the coastal plain, into the valleys and atop the broad faces of the coastal ridges. The smaller communities of Aiea and Pearl City grew up around plantation agriculture and the military bases near Pearl Harbor. Growth in the decades following Statehood brought the development of apartments and greater density to Honolulu neighborhoods from Kahala to Kalihi, and the creation of many new communities to the west, including Salt Lake, Moanalua, Aiea Heights, Waimalu and Pearl City Heights. Shopping and industrial districts grew, as did Waikiki and the Civic Center.

Nearly all of the commercial and industrial development, as well as high-density residential development, settled in the flat coastal plain close to the main east-west highways and arterial roads.

In the eastern part of the PUC, most of the higher-density development is located between Middle Street and Kapahulu Avenue, *makai* of a line delineated by School and Prospect Streets, Nehoa Avenue and the H-1 Freeway. A "main street" corridor extends east along Waialae Avenue to Kahala Mall. The State's major cultural, educational, recreational, shopping and entertainment centers lie along Honolulu's coastal plain.

In the western part of the PUC, a high-density node occupies the east side of Salt Lake, while higher-intensity military, airport, and industrial uses are located *makai* of Salt Lake Boulevard. In the Aiea-Pearl City area, the higher-density commercial, industrial and residential buildings developed on the coastal plain, mostly *makai* of the H-1 Freeway. Manana, a former Navy installation, is centrally located in Pearl City. Now owned by the City, it will be redeveloped for a mix of uses that will serve the community. Finally, the site now occupied by the State Department of Health's Waimano Training School and Hospital is being studied by the State Department of Land and Natural Resources for its potential for other uses.

Several older, central Honolulu neighborhoods have a mix of uses and housing types. In Kakaako, the State government has established a special redevelopment district and has invested over $125 million in upgrading street, water, sewer, drainage and utility infrastructure. As a result, Kakaako is gradually transitioning from industrial uses to apartment, office and retail development. In Iwilei, west of Downtown, older industrial activities are being succeeded by new, large-scale retail and entertainment uses. Nearby Kapalama, with its Dillingham Boulevard and King Street commercial corridors, continues to support a vital mixture of retail, service and industrial businesses.

The primarily residential areas of Makiki and McCully-Moiliili each have a mixture of high- and mid-rise apartments, older walk-up apartments and single-family residences. McCully-Moiliili also has important commercial and transportation corridors along King Street, Beretania Street, McCully Street and University Avenue. Development has slowed following the concentrated period of mid- and high-rise apartment development in the 1970s and 1980s.

Lower Kalihi and Kalihi-Kai were historically residential neighborhoods, developed with houses and walk-up apartments. More recent planning and zoning policy designated Kalihi-Kai for industrial use and Lower Kalihi for a mixture of industrial, commercial and residential uses. Due to market forces, commercial activity along Dillingham Boulevard, Kalihi Street and other major streets has increased. Kalihi-Kai now has a diverse mixture of businesses and residences.

These older neighborhoods demonstrate that residential uses can coexist with commercial and even light industrial uses in the same neighborhood. In McCully-Moiliili, for example, commercial businesses along King and Beretania Streets serve the needs of surrounding residential neighborhoods. Exemplifying mixed-use development, some newer apartment buildings rent ground floor spaces to small businesses.

Trends in development over the past 30 years have given rise to a number of "livability issues" that affect PUC neighborhoods to varying degrees. These issues range from not knowing your neighbors to needing motorized transportation to shop for groceries or go to a park. One measure of livability is having a coffee shop or a grocery store or other needed conveniences within walking distance of residences. Feeling safe to walk on the streets is another measure of livability.

Cultivating livable neighborhoods involves reintegrating commercial and residential uses within neighborhoods; making streets safe and pedestrian-friendly; redeveloping certain streets to attract pedestrian-oriented commercial activity; and creating parks and urban open spaces that attract people for informal recreation and socializing.

3.2.1.1 Neighborhood Planning

Neighborhood Boards, Community Vision Teams (CVTs) and community associations throughout Oahu are actively planning for their neighborhoods. Community leaders continually request recognition and endorsement of neighborhood planning processes and plan documents.

The City Charter mandates an islandwide *General Plan* and a system of regional Development Plans, of which this is one of eight. As such, the role of the PUC Development Plan is to establish a clear regional policy framework that will support neighborhood-level planning within the region's many diverse communities. Neighborhood- or community-level plans would act as more detailed, tactical elaborations of the more general, strategic policy framework established by the PUC Development Plan. This more detailed level of planning is critical because citizens identify most closely with and have the greatest investment in their specific neighborhood or community.

City governments in other states typically have some form of neighborhood planning. Seattle has a system of Neighborhood Plans that covers 31 neighborhoods. The City of Portland, Oregon prepares Community Plans covering specific areas within its jurisdiction. Both Seattle and Portland center their planning processes around broad community participation and representative advisory groups.

In the 1990s, the City and County of Honolulu recognized this need and began to support various forms of neighborhood planning. The Planning Department's 1993 report, *General Plan and Development Plans Revision Program,* proposed the creation of "Special Area Plans" as a new element in the City's planning system. The *Waipahu Town Plan,* the first community-based effort to be funded by the City, was accepted by the City Council in 1999.

At the turn of the millennium, the City funded a wide variety of community-based, community-level planning efforts. Community Vision Teams planned a variety of community improvements. Many undertook multiyear Capital Improvement Projects. Some of these teams initiated formal neighborhood planning projects.

Learning from these experiences, the City needs to establish a clear and consistent path for neighborhood-level planning – one that clarifies the City's role and the neighborhood's role in a collaborative process.

3.2.1.2 *Mauka* Residential Neighborhoods

"*Mauka* residential neighborhoods" refers to lower-density residential areas consisting of single-family and townhouse neighborhoods, mostly located *mauka* of the coastal plain. *Mauka* valley and ridge areas are predominantly developed with single-family residences. Single-family neighborhoods are also located in older parts of Aiea and Pearl City, Foster Village, Salt Lake, Kaimuki, Kapahulu and Waialae-Kahala. Townhouse neighborhoods are located in Waiau, Newtown, Pearlridge and Waialae-Kahala. Small enclaves of higher-density use are located within lower-density areas, such as the tall apartment buildings along Nuuanu Avenue.

Key livability issues include the following:

- **Overdevelopment of single-family house lots.** The principal elements of building scale and design for single-family residential and townhouse development are: (a) low building height profile, generally one or two stories; (b) a low ratio of building coverage on the lot, with landscaped yards on all sides; and (c) pitched roof design, varied facades and other architectural features that reduce the apparent structural bulk.

    - In many single-family residential areas, there is a trend towards increased density and larger dwelling unit size. In some cases, properties are subdivided into multiple small lots. In other cases, larger new dwellings replace smaller old ones, houses are expanded, or *ohana* units are added. This results in increasingly large dwellings covering a greater portion of the lot on which they are located.

    - Often, depending on the occupancy of the dwelling, there is increased demand for off-street parking which results in additional paving, particularly in the front yard. In addition, there is a greater tendency towards lots enclosed within a solid wall, usually because the larger building is located closer to the street.

- **Overdevelopment of nonresidential uses.** Building design standards for residential districts apply not only to dwellings but also to other types of uses that are permitted on residential-zoned lots, such as churches, day-care facilities, private schools and community centers. While these uses are generally consistent with the purpose of a residential zone and provide a service to the neighborhood, they tend to be less compatible with surrounding uses as their building scale becomes larger and the level of use intensifies.

- **Planning and design of residential streets overemphasizes the rapid movement of automobile traffic.** Many single-family residential neighborhoods were developed prior to the automobile age and have narrower streets than are required by modern public works standards. Often canopy trees shade the streets, creating a pleasant ambience for residents, motorists and pedestrians. While formal sidewalks may not be present, safe pedestrian passage is usually available along grassed areas on either side of the road pavement, or even within the roadway itself where the vehicular traffic volumes and speeds are relatively low.

  Following a nationwide trend, Honolulu adopted public works standards in the late 1960s that sized and configured roads to enhance the flow of automobile traffic. The road standards applied to residential subdivisions were based on highway design featuring wide travel lanes and broad curve radiuses. This had two results. First, new subdivisions were built with overly wide roadways that encourage speeding and detract from the sense of community. Secondly, many older roads were rated "substandard." Subsequently, many older streets have been designated for widening by the City's Department of Transportation Services (DTS). While there is no comprehensive City-funded program to accomplish planned widenings, parties redeveloping or subdividing properties are required to dedicate street improvements built to current standards. In this way, segments are widened or acquire sidewalks while the remainder of the street remains in the preexisting configuration.

  The small amount of additional growth that is anticipated in these neighborhoods does not warrant an aggressive program to reconstruct older right-of-ways to current public works standards. Doing so would not only be prohibitively expensive, but also environmentally disruptive. In many instances, street widening would require the taking of private residential lots and dwellings. Presently, many residential lots are encumbered by setbacks for future street-widening projects that may never occur.

  Moreover, present street conditions in older neighborhoods tend to calm traffic and promote a quieter, cooler environment. It would be more cost-effective and environmentally desirable to direct the City's financial resources towards safety improvements for vehicular, bicycle and pedestrian routes along older streets where needed.

  Conversely, some of the wider streets in newer neighborhoods are potential candidates for traffic calming measures such as pavement narrowing, more effective pedestrian and bicycle routes, and street tree planting. Where traffic is calmed, there is less reason to build high, solid walls at the front property line for privacy and screening out headlight glare and traffic noise.

- **Building on steep slopes.** *Mauka* valley and ridge neighborhoods include sites with steep topography where development may result in adverse visual impacts or hazardous conditions. For the most part, hillside locations have stable soils, so the primary impact is aesthetic as structures built too high on steep slopes tend to be visually obtrusive, especially when they interrupt the silhouette of a ridgeline. Hazardous building conditions are more prevalent on the lower slopes of valley walls, where deposits of unstable soils are susceptible to slow-moving landslides.

  Incremental build-out of hillsides and lower valley slopes affects both natural and urbanized drainage systems. Increased lot coverage by larger buildings and more extensive paving has increased the volume and rate of stormwater discharge. The problem is exacerbated in the *mauka* reaches of the valleys and hillsides, where rainfall is higher.

  Over the long term, the cumulative impact of greater lot coverage threatens to erode natural stream banks downstream. This typically leads to structural hardening of the drainage channel with concrete – an expensive, aesthetically and ecologically undesirable result. In some areas, the increased level of stormwater runoff has exceeded the capacity of the drainage system and resulted in flood conditions.

3.2.1.3 In-Town Residential Neighborhoods

"In-town residential neighborhoods" refers to areas on the centrally located coastal plains of Honolulu and Aiea-Pearl City that are planned for higher-density residential use. Ranging from older two- to four-story walk-up buildings to 40-story high-rise towers, higher-density residential buildings take a variety of forms and are often mixed with or located close to office and retail uses. Higher-density residential areas vary widely in terms of the height and volume of the buildings, the mix of uses in the neighborhood, and connections to the street and neighboring properties.

In-town housing is near jobs, shopping districts, hospitals, parks and entertainment. Residents of these areas enjoy excellent access to all of the opportunities of the city, without having to rely exclusively on costly automobile transportation. Mixed-use is an essential component of the most livable in-town neighborhoods, and residents of these neighborhoods find parks and shopping in easy walking distance. Bicycling on the flat coastal plain is a practical mode of transportation, and transit provides a comfortable ride with fast connections.

Key livability issues include the following:

- **Single-use zoning.** Segregation of residential, industrial and commercial uses into separate zoning districts means that many neighborhoods lack essential services within walking distance. Residents are forced to use their cars to go shopping or find recreation.

- **Unneighborly building relationships.** In Makiki and other areas planned for and in transition to apartment use, high- and mid-rise towers are physically isolated from other buildings. Many are also isolated from the public street, with lobbies accessible only from the parking garage or across a parking lot. These larger buildings are juxtaposed with older, walk-up apartments and single-family lots occupied by older houses or redeveloped in two-story "adaptive residential" configurations. Typically, the walk-up apartment lots are completely paved, with no trees or landscaping. Many blocks are a jumble of different building styles and different scales of height and bulk. Often, there is little to unify the apartments visually and little in terms of shared public space where neighbors might become acquainted. Because of the juxtaposition of different uses and buildings of dramatically different scales, many blocks within the transitional neighborhoods lack a consistent character. Often, buildings bear little or no relationship to their neighbors, and open space between buildings typically consists of service yards and parking lots.

- **Declining commercial districts.** Increasing concentration of retail establishments in shopping centers and the advent of supermarkets and "big-box" retailers have displaced smaller neighborhood stores and left older commercial districts at a competitive disadvantage. In addition, increased street widths and changed zoning standards have rendered older properties nonconforming. Existing zoning regulations preclude improvements and/or render building rehabilitation infeasible.

- **Automobile dominance.** Widening and conversion of key streets to one-way arterials, such as along King and Beretania Streets, has resulted in reduced sidewalk widths, reduced on-street parking, and reduced pedestrian activity. In the Aiea-Pearl City area, walking distances between destinations are generally too long for most pedestrians. Parking lots and garages typically separate bus stops and public sidewalks from entrances to commercial establishments and apartment buildings. Adverse street and traffic conditions further discourage walking.

- **Insufficient parks and open space.** The older and more intensively developed parts of the PUC lack sufficient parks, recreation facilities and open space. Particularly impacted are Makiki, Nuuanu, Downtown, Liliha and Kalihi-Palama.

3.2.1.4 Shopping and Retail Business Districts

Retail shopping is concentrated in four regional shopping centers: Ala Moana, the Victoria Ward Centers, Pearlridge and Kahala Mall. These shopping enclaves dominate the market, while older street-oriented business communities – e.g., the Waialae Avenue corridor in Kaimuki and the King Street corridor in Kalihi – have declined. Regional shopping centers have been designed as massive building forms primarily accessible by automobile, with expansive parking lots or large parking structures separating stores from their surrounding neighborhoods. Smaller shopping centers, such as Pearl Kai, are similarly cut off from the street and the surrounding community. Throughout the Aiea-Pearl City area, shoppers typically drive from center to center, and pedestrian use of the streets is practically nonexistent.

The Downtown-Chinatown area contrasts the shopping centers. With its large employee population, Downtown-Chinatown supports many small and large retail businesses accessible from the sidewalk. Parking is generally available in structures above the street level. With its retail storefronts, pedestrian-oriented Fort Street Mall, and commercial plaza spaces (e.g., Maunakea Marketplace), Downtown-Chinatown offers a wide variety of experiences quite different from the homogeneity of the shopping mall.

Older commercial buildings along major streets are typically built up to the front and side property lines creating a street-wall composed of interesting storefronts such as those found in Chinatown, Kaimuki and in parts of McCully-Moiliili. Under current zoning regulations, many of these older buildings lack sufficient off-street parking. Due to the lack of parking, a new business tenant often faces difficulty and delay in obtaining a building permit for store or restaurant improvements.

Figure 3.4: Lehua Avenue, Pearl City – 2001. Community members identified the old heart of Pearl City as a place with potential for revitalization. The photograph looks *mauka* along Lehua Avenue, which – at four lanes – is wider than needed.

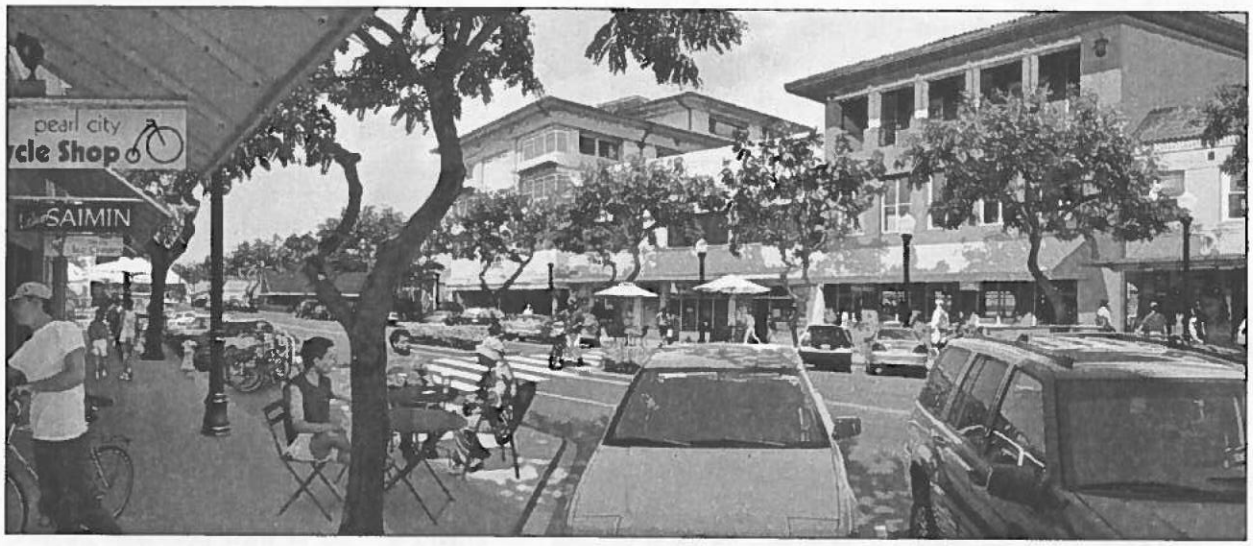


FIGURE 3.5: LEHUA AVENUE, PEARL CITY – IN THE FUTURE. A vision of the future shows the potential of streets like this, given active business investment, and a modest amount of street improvements. Lehua Street is transformed into a boulevard with wide sidewalks, trees, a center median, and head-in parking. Responding to the improvements and increased parking, owners have renovated buildings and storefronts. In the foreground, coffee shop customers chat over a cup of java, and the bike shop caters to cyclists using the nearby Pearl Harbor Historic Trail.

In older areas, a combination of small lot size and the location of the building footprint often makes it impossible to provide on-site parking to meet current zoning requirements. This in turn hinders owners from changing commercial tenants and expanding or improving the building. Consequently, lots with older commercial buildings oriented towards the street are often redeveloped with new buildings that are set back from the street and parking lots adjacent to the sidewalk, or assembled with adjacent lots and redeveloped as small shopping centers.

In addition to the major commercial districts located in the more intensively developed coastal plain, there are also community-level shopping areas located within the *mauka* residential neighborhoods. Smaller commercial enclaves, such as Kamehameha Shopping Center and Manoa Marketplace, provide grocery stores and other important services in convenient proximity to residences. The grocery store often functions as a *de facto* neighborhood center, a place where people meet their neighbors in casual encounters. In other neighborhoods, such as Palolo and Pauoa, groupings of stores are situated along collector roads. The issues discussed above relating to parking requirements, small lot size, and the street-wall of older storefronts are also prevalent in neighborhood commercial areas.

3.2.2 POLICIES

Cultivating livable neighborhoods demands a broad set of policies addressing an array of topics, including the design of residential, commercial, and industrial development; the design of parks, streets, and other public spaces; priorities for public investment; and planning at the neighborhood level. Following are key policies. Additional policies relating to multifamily housing may be found in **Section 3.3**. Others relating to transportation may be found in **Section 3.5**.

3.2.2.1 Neighborhood Planning

This set of policies can be applied to different types of neighborhoods and business districts, including both lower-density and higher-density residential areas. Applications will differ according to the particular character of the community.

- ***Develop a system for collaborative neighborhood planning.*** Planning for neighborhood improvement must be undertaken at the neighborhood level. Neighborhood planning is a collaborative enterprise involving residents, business and property owners, government agencies, and others who have a stake in the neighborhood.

  Special Area Plans are intended to be developed in accordance with the overall policy planning guidance of the PUC Development Plan and to elaborate on it at the local level. Special Area Plans should respond to the specific issues of their communities. They may address issues such as neighborhood character (this may apply to building, streetscape, or open space character), special features, types of facilities or uses, specific opportunities or constraints to neighborhood improvement or enhancement, economic direction, safety, lifestyle opportunities, access, and circulation.

  While it already engages in this type of community-based planning, the City Department of Planning and Permitting should take the lead in developing a *formalized* process for initiating, staffing, funding, and preparing Special Area Plans.

- ***Cultivate existing and new "neighborhood centers."*** Neighborhoods need central places where people gather for shopping, entertainment, and/or recreation. The center of a neighborhood could be a public plaza or a recreation complex, or a commercial town center, with a grocery store and other shops and services. It could have a public park or a plaza linked to shops. Cultivating neighborhood centers entails investment in parks and pedestrian street improvements.

- ***Promote mixed land uses.*** Office, retail, and community service uses can coexist with residential uses; and there are a number of opportunities for them to support each other. In traditional single-family neighborhoods, groupings of small stores provide convenient service and a place to meet neighbors. In the PUC's in-town neighborhoods, both residential and office development support retail and other services. Neighborhoods with a strong mix of uses have activity 24 hours a day. Residences providing "eyes on the street" contribute to neighborhood safety.

- ***Create parks that draw people and activity.*** The PUC should have a range of parks. While all provide open space and relief from buildings and traffic, some should provide for organized sports and fitness activities, and others should function more as neighborhood gathering places. In the PUC, development of one or two large sports complexes with substantial parking could provide for league play of all kinds, while smaller parks could be used in inventive ways to meet the needs of their surrounding neighborhoods. Like other cities throughout the world, plazas and open spaces that attract people and activity are integrated with churches, shops, and other buildings.

- ***Make streets "pedestrian-friendly."*** There are many opportunities to create street environments that invite pedestrian use, such as widening sidewalks, planting trees to provide shade and buffer pedestrians from vehicular traffic, and narrowing intersections to provide shorter and safer pedestrian crossings. The Land Use Maps (Maps A.4, A.5 and A.6) show primary pedestrian routes. These streets and others identified through neighborhood planning should be given high priority for pedestrian improvement.

- ***Make major streets which connect communities convey neighborhood identity.*** The identifying characteristics that give neighborhoods their unique visual signatures or identities should be emphasized and conveyed by the streets that connect them to other places. To help accomplish this, landscape and other streetscape design for major streets which serve as *principal routes* connecting two or more neighborhoods should reflect the unique identities of each neighborhood and, where possible, should provide open spaces between them which create significant public views or access to *mauka* or shoreline resources.

3.2.2.2 *Mauka* Residential Neighborhoods

- ***Density.*** Lower-density residential areas may have single-family residences and townhouse apartments at a density of five to 12 dwelling units per acre, with predominantly two-story building heights. Areas zoned for apartment use may have higher densities.

- ***Appropriate Building Design.*** For institutional and other nonresidential uses allowed within lower-density residential areas, provide guidelines for the location and design of buildings, service areas, and pedestrian and vehicular access. In general, street-facing building elements should be attractive, designed for human scale, and have clear points of entry. Service and utility elements should be located out of sight from the street and away from residences.

3.2.2.3 In-Town Residential Neighborhoods

- ***Density.*** Areas close to transit lines and the major east-west arterials should be zoned for medium-density residential, which may range from 13 to 90 units per acre, or high-density residential mixed use, which may range up to 140 units per acre. Neighborhoods in these zones would also include reinforcing uses which support resident lifestyle and livelihood choices, such as convenience or neighborhood stores, dining establishments, professional and/or business services, or other similar activities. (See **Section 3.3** for more discussion of higher-density residential design.)

- ***Building Heights.*** Establish maximum desired building heights in apartment-zoned districts on the basis of viewplane studies to preserve views of natural landmarks as indicated in **Section 3.1**. Otherwise, the maximum building height for districts zoned low-density apartment should be approximately four stories or 40 feet. For areas zoned medium-density apartment, the maximum desired building height should be either 60 feet or the present height of the building occupying the lot. It is expected that with these criteria, building heights for most in-town residential neighborhoods, including Moiliili, McCully, and other established neighborhoods between Ala Moana and the University of Hawaii would not exceed currently allowed heights. Given market conditions, development feasibility, and future incentives and standards encouraging the enhancement and development of livable neighborhoods, such districts may experience lower than currently sanctioned building heights.

- ***Building Design and the Streetscape Environment.*** Neighborhood plans should distinguish between principal or "front door" streets that give a neighborhood the opportunity to "put on its best face," and secondary or local streets where a variety of activities are appropriate or where service is the main function. Utilitarian elements such as service yards, parking lots, or utilities should be located on nonprincipal streets in ways that support efficient patterns of circulation.

  Along principal streets, buildings should be designed to reflect human scale, to create pleasant walking conditions, and to provide attractive front entrances. Monolithic building faces and blank walls should be avoided. A generally consistent building line (i.e., "build-to" line) should govern the street front placement of building faces. Courtyards or other recessed open spaces may be placed along the street in order to provide strategic open space relief and opportunities for social activity or respite.

3.2.2.4 Shopping and Retail Business Districts

- ***Community/Neighborhood Commercial.*** These commercial areas should be located within and should primarily serve lower-density residential neighborhoods. Generally 10 acres or less in land area, these districts or clusters of establishments typically have service stations, grocery and sundry stores, and other small businesses serving residential customers. Buildings are generally one or two stories in height. While they vary greatly in total size and number of business establishments, a Community/Neighborhood Commercial area typically has no more than 200,000 square feet of commercial floor area.

- ***District Commercial.*** District Commercial includes a wide variety of commercial uses located in the core areas of the Primary Urban Center. These districts typically have larger facilities and serve larger populations than community/neighborhood commercial districts. They may include major office buildings, shopping centers, and older commercial streets that serve a district-wide, regional or islandwide population. Mixed uses, including medium to higher density residential uses where appropriate, and higher densities are encouraged in these areas. Downtown should have the tallest buildings on Oahu. In other areas, maximum building heights should be established on the basis of viewplane studies to preserve views of natural landmarks.

- ***Commercial streets.*** Enliven commercial streets by providing wide sidewalks and trees for shade, and encouraging property owners to build to the sidewalk edge. Vital urban neighborhoods rely on high pedestrian activity. Storefronts create interest and stimulate pedestrian activity along the street, especially when they are built to the property line and meet the public sidewalk.

- ***District-wide parking.*** Support older commercial districts and the continued use and rehabilitation of small commercial lots by providing conveniently located municipal parking. In the past, the City organized parking improvement districts and built centralized parking in Downtown and Kaimuki.

- ***Integration of shopping centers with adjacent neighborhoods.*** Ensure that all shopping areas integrate well with adjacent residential neighborhoods. Require safe, pleasant, pedestrian connections between shopping establishments and their host neighborhoods. Encourage the planning and development of centers or clusters of shopping establishments to have their shops rather than parking lots face and be adjacent to abutting neighborhoods. Wherever possible and appropriate, encourage compatible or seamless design and landscape treatment of public routes and thoroughfares between residential and shopping areas. To the greatest extent possible, avoid placing service uses adjacent to resident areas and major frontages. Efforts should be made to appropriately locate and distinguish between front door and service zones.

  Require good pedestrian connections within shopping center parking lots. Encourage retail complexes and small centers to reduce or eliminate physical barriers to pedestrian access between facilities within the complex and from adjacent neighborhoods. Develop agreements for shared parking. Regulate large centers in order to reduce traffic and parking impacts on the surrounding neighborhood. Encourage redevelopment of shopping centers as shopping districts by developing commercial buildings along street frontages and by redeveloping driveways as shop-lined streets.

3.2.3 RELATION TO LAND USE MAPS (A.4-A.6) AND ZONING

The following summarizes the land uses within the Primary Urban Center, as shown on **Land Use Maps A.4 to A.6** in the Appendix of this document. The Land Use Maps, which illustrate generalized categories of land use within the region, are conceptual in nature. The land use designations are broad classifications that refer to the desired character of the area and not the specific use of the individual parcels.

- ***Lower-Density Residential.*** Areas designated Lower-Density Residential are shown as yellow on the maps. They include neighborhoods in valleys and on ridges, such as Manoa Valley and Aiea Heights; neighborhoods around Aliamanu Crater and Salt Lake, including military housing; older portions of Aiea and Pearl City; and the neighborhoods surrounding Diamond Head. Areas designated Lower-Density Residential encompass most of the established single-family residential neighborhoods in Honolulu and Pearl City.

- ***Medium- and Higher-Density Residential/Mixed Use.*** Shown on the maps as light brown, the Medium- and Higher-Density Residential/Mixed Use designation is generally applied to centrally located neighborhoods that are served by major east-west highways and arterials, as well as by express public transit. They include apartment areas in the Pearl City region *makai* of the H–1 Freeway; apartment areas in Salt Lake, Red Hill, and nearby military reservations; areas of Kalihi-Palama between the H-1 Freeway and Dillingham Boulevard; and areas across the coastal plain of central Honolulu – i.e., Liliha, Vineyard, Punchbowl, Makiki, Kakaako, McCully-Moiliili, Waikiki, and Date Street. Because of their central location, predominantly single-family residential areas in lower Manoa, McCully, and Kaimuki that lie near the H-1 Freeway should be considered for Higher-Density Residential use in the future.

  It should be kept in mind that building height does not necessarily increase with density. Medium or higher density residential complexes which employ efficient site usage and creative clustering or groupings of units can result in medium- to high-density residential areas that may be low- to medium-rise in height, that relate harmoniously to people and to adjacent streetscapes, that reflect residential character, and that can provide courtyards or private, semipublic, or completely public and usable active or passive open spaces that can serve as conveniences to residents, visitors, or passersby.

- ***District Commercial.*** Indicated by red on the maps, areas designated for District Commercial include the PUC's primary retail and office complexes. They consist of central in-town areas, including Downtown Honolulu, shopping centers, and commercial areas located along arterial streets such as Kamehameha Highway, King Street, Dillingham Boulevard, Ala Moana Boulevard, Ward Avenue, Kapiolani Boulevard, Keeaumoku Street, Kapahulu Avenue, and Waialae Avenue.

- ***Community/Neighborhood Commercial.*** Indicated on the maps by a red dot, Community/Neighborhood Commercial districts are primarily located within the lower-density residential areas that they serve. These districts take a variety of forms: small clusters of stores such as in Kalihi Valley; business streets like Lehua Avenue in Pearl City and School Street in Kapalama; and small centers like Salt Lake Shopping Center, Stadium Mall, Kamehameha Shopping Center, and Manoa Marketplace.

- ***Resort.*** Intended as a mixed-use designation, Resort districts consist primarily of resort hotels, timeshares and other apartments used as transient visitor units (TVUs); and supporting commercial uses, such as shops, restaurants and entertainment. This designation only applies to the Waikiki, Marina, Hobron and Fort DeRussy neighborhoods that are colored pink on the Land Use Maps (See Maps A.5 and A.6).

- ***Industrial.*** Shown on the maps as purple, this designation includes not only industrial districts but also the major transportation facilities – Honolulu Harbor and Honolulu International Airport (HIA). The mostly State-owned lands around Honolulu Harbor and on Sand Island support cargo handling and port facilities. Also State-owned, HIA consists of airfields linked to Hickam Air Force Base, aircraft maintenance facilities, and terminals for passengers and cargo.

FIGURE 3.6: KUAKINI STREET, LILIHA – 2001. Community members identified the commercial areas in lower Liliha as having potential for revitalization. The photograph shows existing shops and apartments along Kuakini Street, looking Diamond Head to the Liliha intersection.

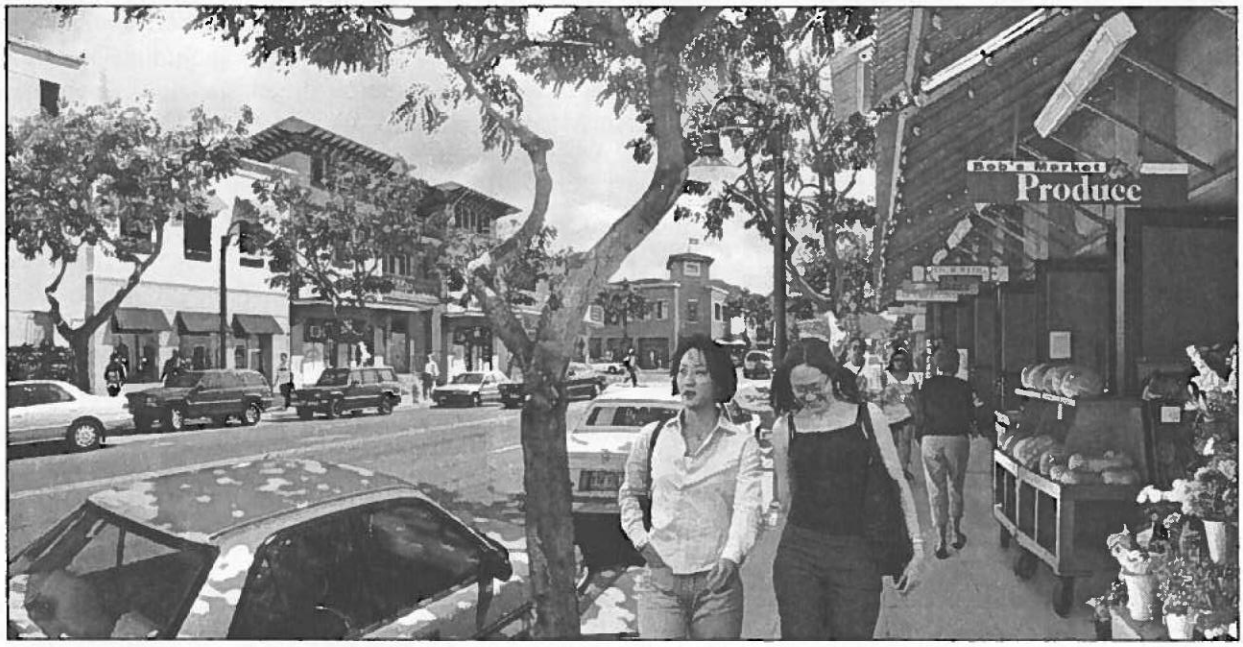


Figure 3.7: Kuakini Street, Liliha – In the Future. In a vision of the future, Liliha residents and visitors enjoy a lively mix of shops and small restaurants. This block and nearby Liliha Street have become a neighborhood center. New buildings filling in the block and trees shading the sidewalks provide an interesting and comfortable ambience for pedestrians. Above the shops are apartments and businesses. More parking is found in a midblock municipal lot.

- ***Institutional.*** The location of the Civic Center and major institutional campuses – including public and private secondary schools, colleges, hospitals and other large institutions – are indicated by a blue color on the Land Use Maps. Smaller institutional uses – such as churches, elementary schools, and community centers – are generally not shown, but are allowed in most zoning districts subject to appropriate zoning controls to assure compatibility with surrounding uses.

- ***Military.*** Military uses other than residential, parks and open space, and commercial functions are shown in gray. Areas designated for military use include Pearl City Peninsula, Pearl Harbor Naval Base, Hickam Air Force Base, Camp Smith, Tripler Army Medical Center, and Fort Shafter Military Reservation. Ford Island, which is shown as military, is projected for a mixture of military, residential, commercial, and community uses. Military bases are exempt from local planning and zoning. Nevertheless, it is important to recognize that military residential communities often abut nonmilitary neighborhoods.

- ***Parks and Open Space.*** Larger land areas such as golf courses, regional and district parks, botanical gardens and zoological parks are identified as Parks and Open Space on the Land Use Maps. Community, neighborhood and miniparks are part of the open space system, but are too small to display on the maps.

- ***Preservation.*** Shown on the Land Use Maps as light green, lands designated Preservation lie primarily in the State Conservation District, outside of the Urban Community Boundary. Also included in this designation are the few PUC lands that are zoned for Agriculture, including areas along the edge of Waiawa Stream, Kalauao Springs, and at the back of Palolo Valley.

3.3 IN-TOWN HOUSING CHOICES

The PUC of the future "offers in-town housing choices for people of all ages and incomes." This third element of the Vision addresses the need for affordable housing, both rental and for sale, in the PUC to serve families with young children as well as young adults, elderly residents, and multigenerational households.

Section 3.3.1 examines the issues relating to the housing stock and impediments to new housing development. **Sections 3.3.2 and 3.3.3** set forth policies and guidelines.

3.3.1 EXISTING CONDITIONS, ISSUES AND TRENDS

In the year 2000, the PUC had a population of 419,000. The General Plan calls for the PUC to accommodate 47 percent of Oahu's population. Based on the City's long-range population projections, this would yield a 2025 PUC population of 486,000 people – a potential population increase of 67,000 people over 25 years.

3.3.1.1 Housing Stock and Occupancy

In 2000, the PUC had 172,000 housing units, or approximately 55 percent of Oahu's total housing stock. Compared to the rest of Oahu, the PUC housing stock is older and has a higher proportion of multifamily (apartment) units. Almost 50 percent of the PUC's housing is occupied by renters, compared to 41 percent for the rest of Oahu.

A little more than one-fourth of all housing units in the PUC were built prior to 1959, the year of Statehood. As of 2000, the PUC had 89,000 units over 30 years old – sixty percent more than the rest of Oahu. Most of the older units found in the PUC are single-family residences located between Kalihi and Kaimuki.

According to 2000 census data, over 60 percent of PUC housing consists of multifamily units. Renters occupy over 70 percent of PUC apartment units, while owners occupy about 73 percent of single-family units.

Renters are concentrated in the urban core of Honolulu. With the exception of the *mauka* residential areas, census tracts from Kalihi to Kaimuki had at least 40 percent renters. Renters occupied more than 55 percent of the available housing units in Kalihi-Palama, Downtown Honolulu, and Ala Moana-McCully. The same areas had high proportions of low- and moderate-income households. Pre-1969 walk-up apartments located in these neighborhoods comprise an important reservoir of affordable, in-town housing units.

In the 1980s and early '90s, the City and the State carried out aggressive low-moderate income housing development not only in Ewa but also in Downtown and Kakaako. As of 2000, however, most of the government-owned in-town sites have been developed, and funding for new housing has been drastically reduced, making preservation and retention of existing affordable units an integral and essential component of fulfilling the housing needs of PUC residents.

3.3.1.2 Development of New Housing

The PUC is essentially "built-out" – i.e., there is no reservoir of vacant land designated for future urban use. New housing is developed on lands which are underutilized or where it is not economical to maintain the existing uses or structures. This occurs primarily in older in-town districts where land values are relatively high, and there is a strong market demand for higher use.

One key redeveloping area is Kakaako, which is zoned and regulated by the State's Hawaii Community Development Authority (HCDA). HCDA has invested in improving infrastructure in order to support higher-density residential and mixed-use development. Based on plans developed in the late 1970s, more than $125 million has been spent on infrastructure improvements in four improvement districts. The comprehensive program has included improvements to roadways, drainage facilities, sewers, water lines, and electrical and communications lines. The State of Hawaii underwrote 80 percent of the cost, with the remainder paid by property owners and utility companies.

With large blocks of land controlled by large landowners, infrastructure already in place, and relatively, generous floor area ratios (FAR) available for larger projects, Kakaako is projected to absorb about 30 percent of the PUC's future residential growth and a large portion of the region's projected commercial growth. Kakaako regulations provide for a maximum floor area ratio of 3.5 to 3.8 for "Planned Developments," compared to 1.9 FAR for A-2 Medium Density Apartment zoning, and 2.8 FAR for A-3 High Density Apartment zoning under the City's *Land Use Ordinance (LUO)*.

Floor Area Ratio, or the ratio of the floor area of a building to the legally defined area of the land it stands on, governs how much building may be built on any given parcel of land. The higher the FAR, the more floor area a building can contain. Greater FARs allow greater intensities of land use, and may influence the character of development that results from it. However, because a building can be shaped and arranged in many different ways on the land it uses, greater intensity of land use may not always result in taller buildings or feelings of congestion. Skillfully planned and designed developments using generous FARs can create buildings and building groupings of moderate heights which relate comfortably to the size and needs of people, with pleasant, usable open spaces and senses of spaciousness that provide comfortable balances with the built environment.

Other PUC neighborhoods, such as Makiki and McCully-Moiliili, already have substantial amounts of medium- and high-density housing. Several important factors, however, hinder the development of new residences, especially new multifamily dwellings. These factors may be briefly summarized as follows:

- **Higher Prices.** Prices for all types of housing – both sale and rental prices – are extremely high in the PUC, with single-family houses clearly beyond the affordable range. Prices for apartments are generally high because of higher costs for land and for construction of high-rise structures.

- **Housing Preferences.** Due to the high price of real estate in the PUC, homebuyers seeking affordable housing are typically limited to apartment dwellings in the PUC. (Most new housing, and practically all of the new single-family housing, is being built in Ewa and Central Oahu.) Living in multifamily housing in the PUC is readily accepted by elderly and other households without children but is viewed as less desirable by families who can afford to buy. In addition to resistance to apartment-type housing, families are also concerned about the lack of schools and parks in PUC apartment neighborhoods.

- **Rental Unit Development.** Market conditions also discourage development of rental units. For many years, pure rental projects were developed only when heavily subsidized by government. Indirectly, rental units have become available as investors purchased individual condominium units and then rented them out.

- **Higher Risks.** Development of a multifamily, high-rise structure carries more developer risk than lower-density housing because the structure must be completed (and the investors fully extended) before any sales are closed. Honolulu's *Uniform Building Code* requires "Type 1" construction for large apartment buildings. Type 1 standards essentially demand a reinforced concrete structure, which is very expensive. With the high carrying costs of a completed building, slow absorption can cut into or eliminate profits. The higher risk makes it more difficult and costly to obtain development financing.

- **Infrastructure Deficiencies.** Infrastructure deficiencies are found in most of the older, in-town neighborhoods. Some affect broad areas and are costly to correct, such as insufficient capacity of a sewer trunk line or a pump station. In such cases, development cannot occur until the City makes improvements to expand capacity. For upgrading local water, sewer, or drainage lines, the developer typically bears the full cost of the required improvement (even though other properties may benefit as well). The cost of required infrastructure improvements can make a project infeasible.

- **Zoning Regulations.** Zoning regulations strictly limit the floor area and the lot coverage of apartment buildings. High minimum parking requirements, combined with limitations on lot coverage, force the development of costly structured parking. In addition to substantially increasing project design and construction costs, existing regulations force apartment buildings into a tower configuration with a parking pedestal.

These factors limit the availability of affordable housing for middle- and lower-income families in the PUC. While the City and County of Honolulu cannot directly affect market factors, it can support new housing development by modifying zoning and building regulations, and upgrading infrastructure.

3.3.1.3 Design of Multifamily Housing

As discussed above, existing regulations in the *Land Use Ordinance*, as well as in HCDA's *Kakaako Community Development District Administrative Rules*, favor tower-type apartment buildings with large parking pedestals. With blank garage walls on the parking pedestal and a visually prominent tower above, such buildings typically relate poorly to the street and to the buildings around them. Driveways and garage entrances dominate the street frontage, making the area uninteresting and unattractive to pedestrians. While the main housing element may be a slender tower, the building appears massive from the ground because of the large parking pedestal. The *LUO* regulations have promoted the construction of towers in several ways: by limiting building footprints (which in turn promotes tall buildings); by requiring yard setbacks; and by allowing unlimited floor area within parking structures (which in turn promotes massive parking structures).

An alternative type of housing design is shown in a future vision of Kakaako. "Before-and-after" illustrations, **Figures 3.8 and 3.9**, show how the warehouse district around Mother Waldron Park could be transformed into a residential neighborhood. Residential buildings of up to six stories have pedestrian entrances and ground-floor shops. Parking is accessed from side or rear driveways. If Pohukaina Elementary School were rebuilt next to the park (the site is to the right of the picture), this townhouse and apartment neighborhood could provide a welcome in-town alternative for young families.

The housing design represented in **Figure 3.9** creates a cohesive neighborhood environment. All of the buildings are built up to the sidewalk, have entries and commercial uses on the ground floor, and have similar cornice (roof) heights. While similar building types and scale create a sense of cohesion, architectural detailing can give each building a distinctive character. Together, the buildings create four walls that frame the park and make it "an outdoor room" similar to the urban parks and plazas discussed in Section 3.1.3.5.

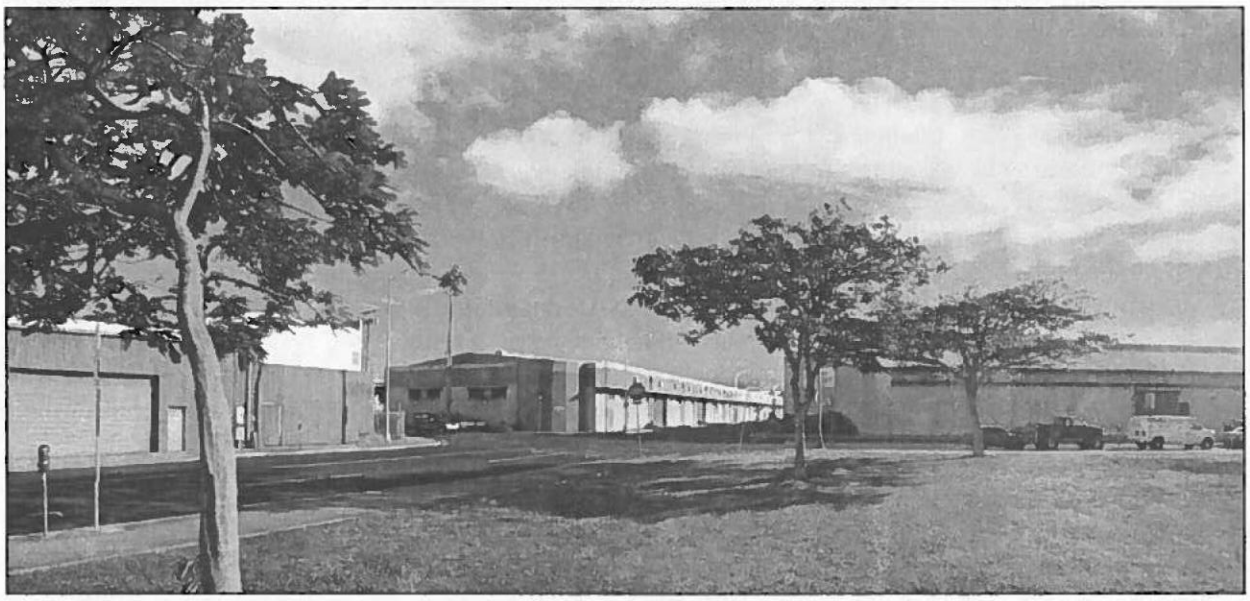


FIGURE 3.8: KAKAAKO – COOKE AND POHUKAINA STREETS – 2001. This view *makai* along Cooke Street shows warehouse buildings occupying the blocks near Mother Waldron Park. Based on plans to redevelop the area with residential and commercial uses, the State has upgraded roads and utilities and has built a new drainage system for the area. With the existing park and a proposal to construct a new public elementary school, this part of Kakaako has excellent potential for in-town residential development.

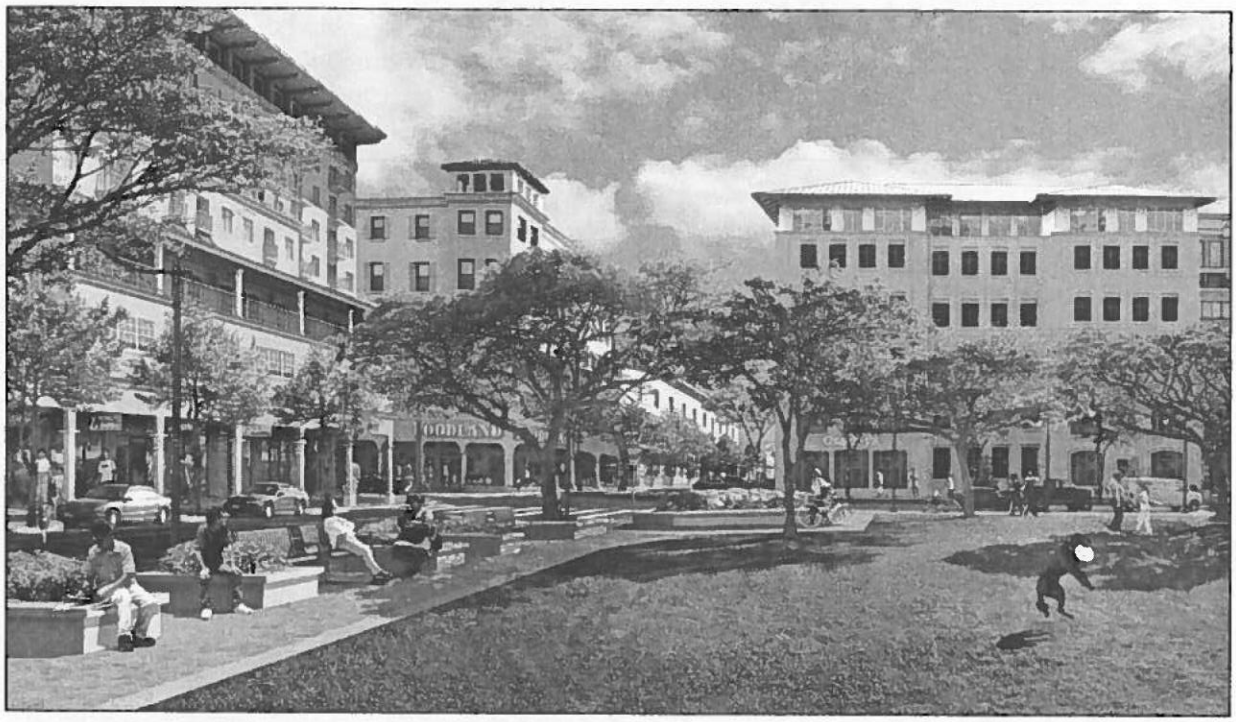


FIGURE 3.9: KAKAAKO – FUTURE IN-TOWN RESIDENTIAL NEIGHBORHOOD. In this vision of the future, mid-rise apartment buildings ring Mother Waldron Park. Families living in the area enjoy a revitalized Mother Waldron Park. They browse and have coffee in the shopping arcade along Cooke Street. Food and other necessities are available at the full-sized grocery store on the corner. Residents can walk to Downtown offices or commute to work using rapid transit.

3.3.2 POLICIES

The following policies are intended to promote housing choices in livable in-town neighborhoods that are planned for higher-density residential and mixed uses. The first two policies entail changing development standards for apartment zoned districts and other zoning districts that allow multifamily dwellings.

- ***Promote people-scaled apartment and townhouse dwellings in low- or mid-rise buildings oriented to the street.*** Promote buildings that are modest in height and have a pedestrian entrance facing the street. Encourage the use of ground-floor space for shops that will serve residents and contribute to a pedestrian-oriented neighborhood. This policy entails revising zoning regulations.

- ***Improve the feasibility of redeveloping small lots.*** Remove disincentives for townhouse and low-rise apartment development on smaller lots zoned for multi-family dwellings. This policy entails revising zoning regulations.

- ***Reduce costs for apartment homes.*** Reduce construction costs and promote low-rise buildings by allowing less expensive building construction types while maintaining health and safety. Reduce land costs by allowing greater dwelling unit density while limiting building volume consistent with promoting livable neighborhoods. This policy entails revising building and zoning regulations.

- ***Provide adequate parks and schools for in-town neighborhoods.*** Community parks and recreation facilities should be provided in and near residential neighborhoods. To attract young families, access to elementary schools must be assured.

- ***Expand the capacity of infrastructure, including water supply, sewers, and storm drains.*** Government needs to lead both planning and investment in renewing and expanding infrastructure. To remedy district- or neighborhood-scale infrastructure constraints is beyond the capability of individual landowners. Likewise, paying for relief lines and larger-scale projects that will benefit multiple landowners requires government leadership in providing long-term financing and apportioning costs.

- ***Support the retention, rehabilitation, and improvement of older, low-rent apartment buildings.*** Many older, walk-up apartment buildings constructed prior to the *1969 Comprehensive Zoning Code* do not conform to current zoning or building standards but collectively comprise a valuable reservoir of low-cost rental housing. The City should relax zoning requirements to encourage the rehabilitation and improvement of these buildings.

- ***Preserve the current inventory of affordable rental housing units.*** The City should assure that the current inventory of affordable rental units, whether owned by the city or not, is preserved and retained as affordable rentals.

- ***Provide for special needs housing.*** Allow housing for people with special needs, such as group homes for the disabled or congregate living and care homes for the elderly, subject to special development standards or permit review. Promote the dispersal of special needs housing among various neighborhoods and avoid over-concentrating facilities in just a few areas.

- ***Provide incentives and cost savings for affordable housing.*** Provide exemptions from zoning and building codes for housing projects that meet established standards of affordability, on a case-by-case basis.

- ***Provide for high-density housing options in mixed-use developments around transit stations.*** This type of "transit-oriented development" facilitates transit use and allows for increased densities without generating increased vehicular congestion.

3.3.3 GUIDELINES

- In order to implement Development Plan policies, review and revise zoning regulations for apartment districts and other zoning districts that allow multifamily dwellings.

- Review and revise zoning and building regulations to allow more flexibility in design and reduce the cost of multifamily structures.

- Review and revise zoning regulations and permitting processes to encourage innovative forms of housing and group living accommodations for people with special needs, such as the elderly or disabled, in all zoning districts that allow dwellings.

- Promote the location of grocery stores and other service businesses in higher-density neighborhoods. Having shops and services within walking distance is an important amenity of in-town living. In addition to promoting retail stores on the ground level of apartment buildings, zoning regulations should provide incentives for locating full-service grocery stores in high-density residential neighborhoods. An essential element of the higher-density livable neighborhood, grocery stores require much more floor area and service facilities than the typical retail use and therefore warrant special incentives.

3.4 THE PACIFIC'S LEADING CITY

According to the Vision, the Honolulu of 2025 will be "the Pacific's leading city and travel destination." This section addresses the importance of the PUC to the economy of Oahu and the state as a whole, and sets policy relating to the central business and industrial areas of the PUC.

Section 3.4.1 examines economic issues relevant to the PUC, especially as they relate to planning and land use. **Section 3.4.2** sets forth policies.

3.4.1 EXISTING CONDITIONS, ISSUES AND TRENDS

In 2000, the PUC had approximately 380,000 nonconstruction jobs, or almost 78 percent of Oahu's total jobs. The City's 2025 projections show the number of PUC jobs increasing by 20 percent. By comparison, jobs in Ewa are projected to increase by over 200 percent. While the PUC's share of Oahu employment will decline to about 70 percent by 2025, the PUC will remain by far the most important center of economic activity in the state.

In general, the PUC is zoned to permit the expansion of office and retail functions in and around existing commercial nodes and corridors. Although there is an adequate supply of land to support future expansion, provisions need to be made for moderate expansion of visitor facilities and for the continued viability of military, transportation, and industrial districts.

The major job centers of the PUC can be divided into two general areas:

- The **Pearl Harbor area**, reaching from Aliamanu to Pearl City. This area includes the various military bases and functions centered around Pearl Harbor, Fort Shafter, and Hickam Air Force Base. It also includes Aloha Stadium, the regional commercial activities centered around Kamehameha Highway, and the industrial areas at Waiawa, Waiau, Bougainville, and Halawa.

- The **Honolulu** area, reaching from Honolulu International Airport to Waikiki. This area includes the state's major commercial harbor and airport, Downtown Honolulu, the Civic Center, Ala Moana, Waikiki and the University of Hawaii at Manoa. Major industrial activities are located around Honolulu Harbor, stretching west to Mapunapuna.

3.4.1.1 The Urban Waterfront

As demonstrated in leading cities throughout the world, recapturing visual and physical access to the urban waterfront can stimulate economic renewal and be a source of civic pride. Waterfront redevelopment can bring vitality and business to commercial centers. There are opportunities for waterfront renewal around both Honolulu Harbor and Pearl Harbor.

The development of Aloha Tower Marketplace opened an avenue to the Honolulu waterfront and demonstrated the potential of the harbor to attract commercial and recreational activity. Lands fronting the harbor are a prime site for new commercial, hotel, and residential development. Increased entertainment and recreational opportunities along the waterfront will benefit from the patronage of Downtown workers and residents. Revitalization of the waterfront will in turn lend impetus to redevelopment in Iwilei.

The major impediment to revitalizing the Honolulu waterfront is Nimitz Highway. Carrying a large volume of traffic on six through lanes, Nimitz effectively acts as a physical and visual barrier cutting off the waterfront from *mauka* pedestrian travel. To address increasing traffic volumes in this corridor, there is a current State proposal to extend the H-1 viaduct over Nimitz from Middle Street into Downtown. Given that this would create a virtual wall and would severely detract from, if not forever preclude, renewal of the Honolulu waterfront, as an alternative, it may be desirable to have a bypass highway that would serve Sand Island and the Nimitz industrial corridor and route Waikiki-bound through-traffic away from Downtown.

In the Aiea-Pearl City region, Pearl Harbor's East Loch is a major visual feature and potential recreational asset for the region, but the types of urban development that currently occupy the lands *makai* of Kamehameha Highway obstruct visual and physical access to the shoreline. In some locations along the shoreline, perimeter fencing and walls surround large industrial and commercial buildings. Reopening physical and visual access to the East Loch shoreline provides an important opportunity to revitalize and enrich the Aiea-Pearl City area.

3.4.1.2 Visitor Industry

The visitor industry is expected to continue to be the primary income generator through the year 2025. Directly or indirectly, the visitor industry influences the lives of nearly all Oahu residents. Policies affecting the industry must take into consideration the needs of residents as well as the quality of the visitor's experience.

The visitor industry in Hawaii is greatly affected by economic conditions in overseas markets, especially the Japanese and U.S. West Coast markets. While economic conditions tend to be cyclical, the State and City 2025 visitor projections are premised on a long-term average rate of growth of one to two percent per year.

Issues currently affecting the industry and facilities in the PUC include:

- **Changing objectives and expectations of visitors.** Recent surveys indicate that the majority of visitors are no longer coming to Hawaii primarily for sun and surf, but are now more interested in shopping, cultural, and environmental experiences.

- **The impact of the Convention Center on visitor units.** The Convention Center is expected to attract larger numbers of visitors to Honolulu. As both western and Asian travelers will favor Honolulu as their destination, the increased numbers of visitors will create demand for additional visitor accommodations.

- **The need to upgrade Waikiki.** Waikiki is competing in the global marketplace and, as a mature destination, needs to be refurbished and improved. In addition to upgrading streets and public spaces, the City and State need to adopt policies that will elicit private reinvestment in Waikiki's physical plant.

- **Market acceptance of Oahu's secondary resort areas.** City policies direct growth in the visitor industry to Makaha, Kuilima, and Ko Olina, but these areas have been slow to develop. Unless development of these resort areas accelerates, there may be additional demand for new visitor units in the PUC.

Existing zoning allows hotel uses in the following parts of the PUC:

- The Resort Mixed Use Precinct of the Waikiki Special District – generally, the *makai* portions of the District. In addition, the *mauka* portions of the District have numerous older hotel and resort condominium units in use as visitor accommodations.

- The City's Central Business Mixed Use District, which applies to the Downtown business district.

- Industrial districts near Honolulu International Airport, *makai* of Nimitz Highway.

The number of visitor units in the PUC is projected to grow from approximately 34,600 units in the year 2000 to approximately 37,800 units in 2025[2]. This represents approximately 28 percent of the projected islandwide increase in visitor units between 2000 and 2025. About 70 percent of the islandwide increase is projected to occur at two planned major resort areas outside of Waikiki – at Ko Olina in the Ewa region and at Kuilima in the Koolauloa region. While the projection follows the City's official growth policy and reflects build-out of lands zoned for resort development, a strong demand for Oahu resort destinations outside of Waikiki is as yet unproven.

Given that Waikiki is substantially built out, other PUC sites outside Waikiki will be needed for new hotels. The preferred approach for additional visitor accommodations is to provide new hotels near the Convention Center and the Downtown waterfront for both business travelers and visitors attending conventions, and to allow smaller facilities (i.e., inns and lodges) within other "town center" areas in the PUC for visitors who prefer alternatives to the typical hotel properties found in Waikiki. In addition, the demand for bed-and-breakfast (B&B) establishments should be recognized. B&Bs are not only popular with visitors, but they also generate income directly to local families. Unlike houses that are rented directly to visitors (known as transient vacation rentals or TVUs), a B&B is an accessory unit within a residence, and the B&B owner is present to assist and supervise the visiting party. The proposal to allow B&Bs under specific standards and permitting procedures should be reexamined in consultation with interested communities.

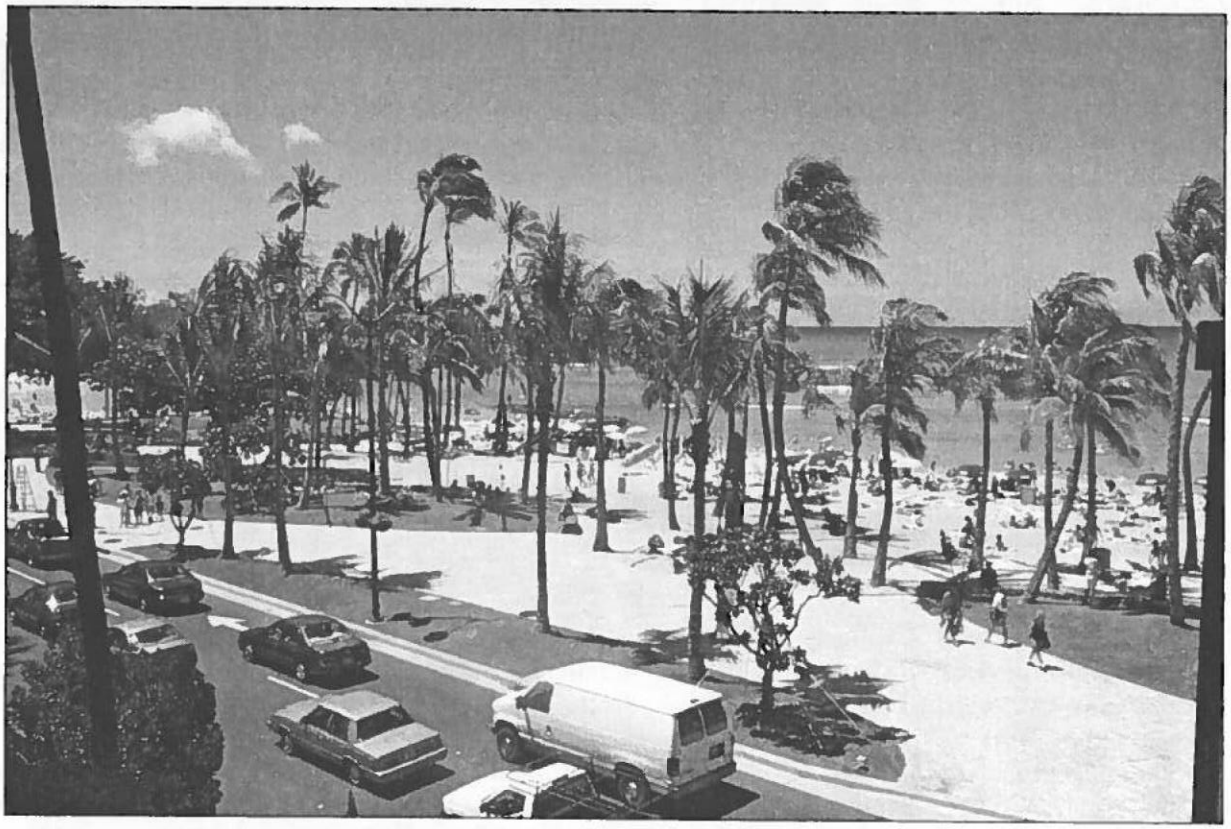


FIGURE 3.10: WAIKIKI. Visitors and residents alike enjoy the widened promenade along Kuhio Beach in Waikiki. Vitalized through ongoing physical improvements, Waikiki continues to be a world-leading urban beach resort and Hawaii's most popular visitor destination.

[2] From "Department of Planning and Permitting 2025 Land Use Forecast," Department of Planning and Permitting, City & County of Honolulu, 2000.

3.4.1.3 Technology Businesses, Office Facilities

The PUC is the economic center of the state. State and City policies call for diversifying the economic base by attracting businesses in scientific and technological fields – knowledge-based industries that provide higher paying jobs. The fields include telecommunications, marine resources, natural energy, and health sciences. Stimulating particular types of economic activity may require incentives and subsidies typically delivered through the State of Hawaii. Existing land use policy and zoning provides an adequate supply of land to accommodate potential new development.

New manufacturing and industrial activities associated with technology-based businesses should locate in districts planned for industrial use. Many of these new businesses will migrate to Ewa, where there is a substantial amount of land available for lease at lower rates than in Honolulu or Pearl City.

Leading-edge research enterprises and the business operations of technology-based businesses, however, may wish to locate in central Honolulu near the University of Hawaii's Manoa campus, other universities, and the leading hospitals. Enterprises combining laboratories and offices may want to locate near other office facilities. The UH Medical School is building a new campus in Kakaako with the specific intent of collaborating with hospitals and other research institutes in order to attract research projects and funding. Kamehameha Schools is considering the development of a private high-technology campus on adjacent properties.

Between 1975 and 1995, Honolulu added new office buildings totaling over four million square feet of rentable space. Combined with the economic slowdown, this resulted in a surplus of office space through the 1990s. Based on projected increases in office employment for the next 20-25 years, there will be demand for an additional 1.2 million square feet of floor area. The existing supply of vacant and underutilized land zoned for business use – principally in Kakaako, Downtown, and other parts of central Honolulu – will be more than sufficient to meet future needs.

3.4.1.4 Military, Airport, Harbor and Industrial Uses

MILITARY INSTALLATIONS

Military installations within the Primary Urban Center include the Pearl Harbor Naval Base, Hickam Air Force Base, and Fort Shafter Military Reservation (Army). For the most part, land use patterns on military bases are compatible with adjacent civilian uses. For example, Hickam's airfield shares runways with the Honolulu International Airport. At Pearl Harbor, the Rainbow Bay Marina, which is the Navy's recreational marina, is located next to the Aiea Bay State Recreation Area and provides a visual and functional transition from the industrial Pearl Harbor Naval Shipyard.

The largest housing areas for military families – Aliamanu Crater, Fort Shafter, and Moanalua Terrace – contain community services similar to those of nearby civilian residential neighborhoods, such as elementary schools, child care centers, community shopping centers, and a variety of recreational facilities.

A better integration of military and civilian land uses and circulation routes could be achieved by relocating the Navy Public Works Center to an area within Pearl Harbor Naval Base closer to the Shipyard. The current site could be redeveloped for housing, linking the adjacent Moanalua Terrace and Aliamanu residential neighborhoods.

HONOLULU HARBOR AND ENVIRONS

The land areas most directly influenced by Honolulu Harbor are *makai* of Nimitz Highway, including the *mauka* portions of Sand Island (Anuenue). Maritime industrial uses are concentrated in the portion of the Harborfront between Pier 15 and Sand Island Access Road.
Due to new efficiencies in retailing and shipping, the demand for warehousing near Honolulu Harbor has decreased. This trend enables the conversion of the Diamond Head portions of the harbor, between Piers 1 and 15, for expanded recreational and commercial uses and maritime passenger travel, as envisioned in the 1989 *Honolulu Waterfront Master Plan*. A prerequisite to full development of the waterfront for commercial and recreation activities, however, will be the prior development and modernization of maritime support facilities.

HONOLULU INTERNATIONAL AIRPORT AND ENVIRONS

Since there is typically high turnover in air freight storage and the items stored are less bulky, aviation warehouse needs are even lighter than in the harbor area. The industrial-type uses associated with the operation of the airport (e.g., aircraft storage and repair and cargo handling) are mostly contained within the grounds of the airport itself.

The airport vicinity attracts a wide range of uses, including hotel accommodations for transiting passengers and crew, businesses offering services related to air travel, and other businesses that prefer to locate their administrative offices near their operation centers and storage facilities rather than in the financial or retail districts. As a result, a mix of commercial and industrial uses is appropriate in this area.

3.4.1.5 Aiea-Pearl City Town Centers

While there are pockets of older neighborhoods in Pearl City and Aiea, most of the region's urban development occurred since the early 1950s. As a result, the land use pattern and circulation system are oriented to the automobile as the primary mode of transportation. Retail stores, services and commercial entertainment have self-contained parking and are located within shopping centers and on automobile-dominated highway frontages rather than along commercial streets with a pedestrian and transit orientation. Nevertheless, the development pattern differs from the typical post-1950s suburb in that it contains five significant clusters of commercial, institutional and high-density residential development, referred to below as "town centers" (see **Figure 3.11**):

- **Halawa Town Center**, the focus of which is Aloha Stadium, also contains several apartment complexes and two shopping centers – one entertainment-oriented and the other neighborhood-oriented.

- **Aiea Town Center** consists of a neighborhood-oriented commercial center, the former site of the Aiea Sugar Mill (which is being redeveloped as a community center), schools and other community facilities.

- **Pearl Harbor Regional Town Center**, commonly called "Pearlridge" after the name of the large regional shopping center that is located there, encompasses intensive retail and office commercial developments, high-density apartment buildings, light-industrial uses, a medical complex and various community facilities. Central open space features of this area include a large watercress farm and shoreline frontage along Pearl Harbor's East Loch.

- **Waimalu Town Center** is a smaller, neighborhood-oriented commercial center that includes some community facilities. The Newtown Business Park, consisting primarily of light industrial uses, lies on the *mauka* edge.

- **Pearl City Town Center** contains a mix of neighborhood-oriented (Pearl City Shopping Center) and regional (Pearl Highlands Center) commercial uses, apartment buildings, a residential subdivision, and civic and community facilities. The Navy's former Manana storage area is adjacent and planned for redevelopment and conversion to industrial-commercial mixed-use.

Some of the older, "town center" sections of Aiea and Pearl City exhibit the characteristics of a traditional commercial street, with storefronts facing the sidewalk and civic buildings, schools and a community park clustered near the commercial center. However, the sense of a community-oriented center is relatively lacking in areas that developed or redeveloped after the 1950s. The Pearlridge Shopping Center, for example, is a vibrant center, but its activity is focused inward, out of view from the concentration of high-density residential uses and other commercial developments that surround it. A commercial development pattern that mixes residential, commercial and institutional uses within relatively short distances and exposes building entrances and activity areas to the street, sidewalks and other public places to invite passers-by is much more likely to be recognized as a "community-oriented center."

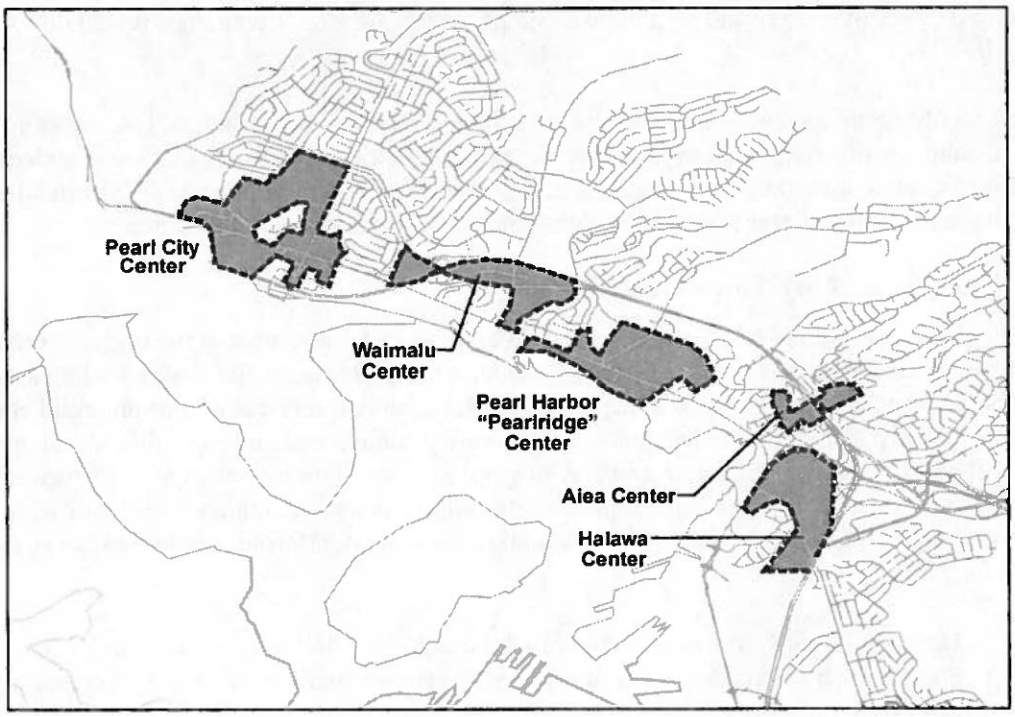


Figure 3.11: Location of Town Centers in Aiea-Pearl City.

3.4.2 POLICIES

To be the Pacific's leading city and to attract high-technology businesses as well as conventions and visitors, the PUC needs to enhance those qualities that make it an attractive place to do business. Following are policies for enhancing the PUC's commercial centers while providing for moderate growth and maintaining essential military, industrial and transportation functions.

3.4.2.1 Honolulu and Pearl Harbor Waterfronts

Reconnecting the PUC's main commercial centers to the Honolulu and Pearl Harbor waterfronts would enhance livability, create new residential and commercial opportunities, and enliven the PUC. The following policies have this common purpose:

- ***Create public open space along the Pearl Harbor waterfront and strengthen the physical and visual connections between the urban center and the water.*** As shown on the Open Space and Land Use Maps, the *Development Plan* calls for converting lands along the East Loch shoreline to park use. Areas to be converted include (a) McGrew Point, at such time as the Navy carries out plans to decommission housing there; and (b) the area currently in industrial use *makai* of Kamehameha Highway between Neal S. Blaisdell Park and Lipoa Place, which the City could acquire through eminent domain. Where conversion to park use is not feasible, encourage complementary redevelopment with incentives for higher zoning in return for view corridors, extra open space, public amenities, and public access to the shoreline.

- ***Improve mauka-makai pedestrian and bicycle circulation across Kamehameha Highway.*** Developing physical access to the Pearl Harbor waterfront demands substantial improvements to pedestrian and bicycle access across Kamehameha Highway.

- ***Redevelop the Downtown/Iwilei waterfront.*** Reroute through traffic to a new Sand Island parkway and harbor tunnel thoroughfare, and replace the *makai* portion of Nimitz Highway with a new shoreline pedestrian promenade and mixed-use commercial/recreational/residential complexes. Adopt appropriate measures to enhance the attractiveness of the Nimitz corridor and public and private responsibilities to implement and maintain such improvements. By creating a new parkway across Sand Island and a tunnel beneath the Harbor entrance, Airport-to-Waikiki traffic (and all other through-traffic not destined for the Iwilei/Downtown area) will bypass this unsightly industrial section and significantly reduce the traffic demand on Nimitz Highway through town. This will enable the Ewa-bound *mauka* section of the highway to be converted to a two-way local access street. It will also allow the Waikiki-bound *makai* section to be converted to a major shoreline promenade and waterfront activity area, providing space for restaurants, shops, indoor and outdoor entertainment, and recreation areas. This area would also hold potential for development of low- to mid-rise housing.

3.4.2.2 Visitor Facilities

The following policies are intended to guide the development of visitor facilities within the PUC.

- ***Adopt and implement a plan for a vibrant and livable Waikiki.*** This plan needs to address the quality of the resident experience as well as the quality of the visitor experience. Based on development parameters set by the Waikiki Special District, the plan should encompass mobility, the quality of the street environment for pedestrians, public spaces, the scale and design of new buildings, and Waikiki's relationship to the Convention Center and neighboring districts.

- ***Support attractions that are of interest to both residents and visitors in the Ala Moana/Kakaako/Downtown corridor.*** Opportunities include State-sponsored waterfront commercial and cultural attractions around the Kewalo Basin area; retail/entertainment facilities around Ala Moana Center, Victoria Ward Centers and Kamehameha Schools properties; and improvements to serve visitors in the Capitol District, Aloha Tower, and Chinatown.

- ***Provide opportunities for the development of visitor units in the Ala Moana/Kakaako/Downtown corridor.*** Hotels serving the Convention Center should be within a 5-minute walk (one-quarter mile) and located on commercially zoned parcels along major thoroughfares. Those in the Downtown area should be in the area zoned BMX-4 or the Aloha Tower complex.

- ***Provide a transit link along the Ala Moana/Kakaako/Downtown corridor.*** The City should assure that there is convenient transit service between visitor accommodations and the visitor attractions along the corridor. Visitor-oriented transit should utilize at-grade trolley types of vehicles and could be publicly or privately operated.

- ***Provide opportunities for the development of smaller-scale visitor accommodations (i.e., inns and lodges) in existing commercial centers.*** These could serve resident and business needs (visiting family, friends and business associates) as well as visitors looking for an alternative to the resort enclave. Potential areas include Kapahulu, Kaimuki, the King/Beretania corridor, Kapalama, Pearlridge, and Pearl City. Development of such facilities should consider the community's preferences and be integrated with the surrounding neighborhood.

- ***Allow Bed & Breakfast establishments (but not transient vacation units or TVU's) in residential neighborhoods.*** With adequate parking, community involvement, and other regulatory controls, B&Bs provide a highly integrated, well-supervised, low-impact form of visitor accommodation. For residents, operating a B&B is a viable home occupation and a means to retain and reuse homes in older neighborhoods.

3.4.2.3 Technology Businesses, Office Facilities

The following policies are intended to guide the development of office and related uses in the PUC.

- ***Stimulate development of high technology and knowledge-based industries.*** Take advantage of Honolulu's active urban ambience to attract high-technology businesses. Use State lands in Kakaako for a campus dedicated to biomedical research and other high-technology businesses. Encourage investment in infrastructure in commercial buildings to accommodate and attract high-technology and biotechnology businesses.

- ***Encourage street-front retail.*** Office buildings should have retail stores, entrances, and windows fronting the principal street.

- ***Provide usable open space.*** Zoning requirements and bonus provisions for open space associated with larger office buildings should specify design guidelines for usable plazas, parks, and arcades. Key elements of usable open space are enclosure, shade, seating, and location at street level.

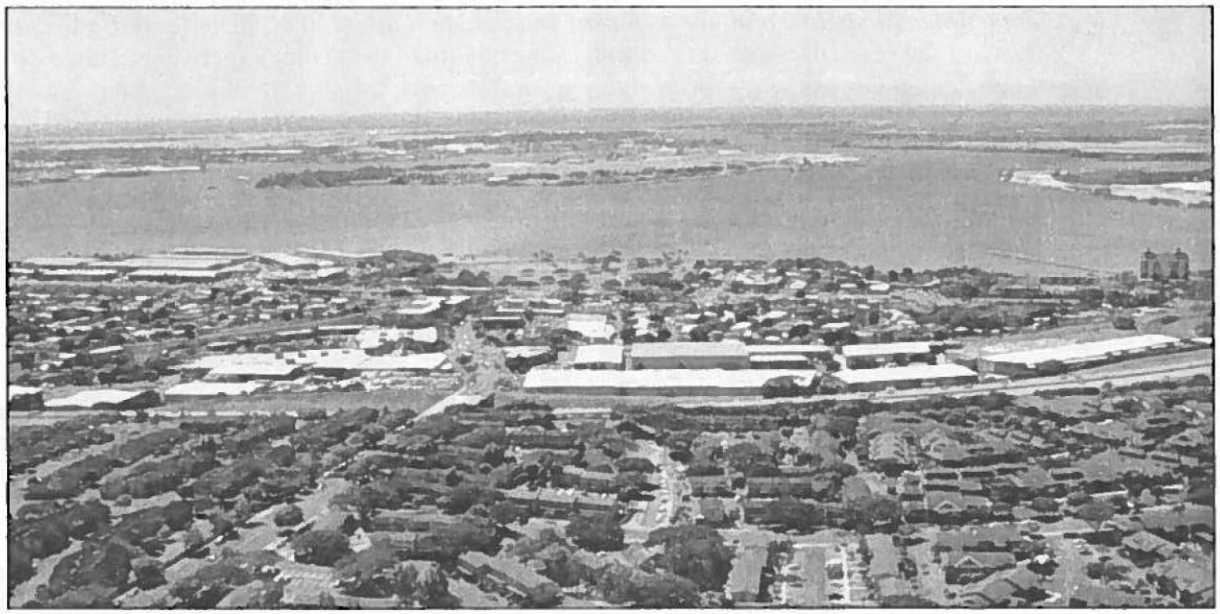


Figure 3.12: AIEA-Pearl City Region. The vision of the region's future calls for reinforcing town centers and opening visual and physical access to the Pearl Harbor waterfront.

3.4.2.4 Military, Airport, Harbor, and Industrial Areas

The following policies are intended to assure the long-term viability of military, transportation, and industrial functions:

- ***Support continuation of military uses.*** National defense objectives and budget priorities determine the military bases and functions located in the Primary Urban Center and the state as a whole. The City should support long-range land use planning by the military services and coordinate with them to achieve common goals of employment, housing, and recreation.

- ***Integrate civilian and military residential communities.*** The City should work with the military services to link adjacent residential communities through the use of connecting roadways, bikeways, walkways, landscape features, and/or architectural scale and character.

- ***Allow a mix of industrial and commercial uses.*** Allow a broader mix of commercial uses in the Airport and Bougainville industrial districts. The Airport district should include office, hotel, and retail uses that are compatible with airport operations, as well as existing light industrial uses. The Bougainville district should include uses that support surrounding residential neighborhoods.

- ***Enhance Honolulu Harbor and harbor-related uses.*** Reserve areas around Honolulu Harbor, particularly around Kapalama Basin and the Sand Island container yards, for harbor-related uses.

- ***Support industrial uses in Kalihi-Palama industrial districts.*** Commercial uses along the Nimitz, Dillingham, King, Kalihi, and Waiakamilo corridors should be recognized and encouraged. In industrial districts where residential uses have endured for many years – i.e., Kalihi Kai and Kapalama – such uses should be allowed to continue, and should be rehabilitated and improved.

- ***Promote compatibility with the surrounding urban and natural environment.*** Where industrial uses are mixed with or adjacent to residential communities or natural areas, mitigate visual, noise, and other environmental impacts by adopting performance standards.

- ***Support development of adequate warehousing facilities to support increased economic activity.*** Encourage development and maintenance of warehouse space of sufficient quality to prevent shortages and support growing businesses.

3.4.2.5 Aiea-Pearl City Town Centers

A separate set of policies is needed to address the problems of the shopping center-based urban pattern in this region. Following are policies for stimulating the evolution of vibrant, people-oriented town centers that provide a strong sense of community.

- ***Define the role of town centers.*** Establish the "Pearlridge" area as the Pearl Harbor Regional Town Center, and strengthen the physical and visual connection between this urban activity center and the Pearl Harbor waterfront. Other town centers at Pearl City, Waimalu, Aiea, and Halawa should serve as more localized or specialized activity and service areas.

- ***Promote mixed land use.*** Town centers should support some form of mixed land use to respond more flexibly to market needs and to reduce dependency on the private automobile for local travel. The Pearl Harbor Regional Town Center should be designated for a greater diversity of uses than the other town centers, emphasizing an integration of medium- or higher-density residential and commercial development. Land use designations and design standards should be oriented toward assuring compatibility of building forms and uses, creating street connections, and providing a smooth transition between town centers and adjacent residential neighborhoods.

- ***Facilitate pedestrian, transit, and bicycle improvements.*** There should be major improvements to transportation facilities and services, with particular emphasis on pedestrian, bicycle, and public transit modes along Kamehameha Highway, and commuter travel on the H-1 Freeway and in the Aloha Stadium vicinity (see Figure 3.17: Pedestrian Network Concept for Pearl Harbor). Design standards for new development in the town centers – especially the Pearl Harbor Regional Town Center – should encourage pedestrian and transit travel.

3.5 DEVELOP A BALANCED TRANSPORTATION SYSTEM

The fifth Key Element is to "develop a balanced transportation system that reduces reliance on cars and improves alternate modes connecting neighborhoods and activity centers." Full development of the Primary Urban Center, as called for in the General Plan, can only be achieved with the support of a well-conceived transportation system that is tightly integrated with land use policies and regulations.

Section 3.5.1 reviews the existing conditions, issues, and trends that shape the Primary Urban Center's transportation system. **Sections 3.5.2** and **3.5.3** set forth policies and guidelines.

3.5.1 EXISTING CONDITIONS, ISSUES AND TRENDS

3.5.1.1 Current Transportation Policy

OAHU REGIONAL TRANSPORTATION PLAN

Oahu's official long-range surface transportation strategy is documented in the *Oahu Regional Transportation Plan*, a federally mandated document that is updated every five years by the Oahu Metropolitan Planning Organization (OMPO). OMPO includes representation from the City Council, the State Legislature, and the City and State transportation agencies. The most recent update – titled *Transportation for Oahu Plan 2025* (TOP 2025) – was adopted by OMPO in April 2001.

The land transportation strategy set forth in *TOP 2025* is to minimize the increase in automobile congestion by making selective improvements to roadway and intersection capacities, implementing intelligent transportation systems and travel demand management (TDM) strategies, and developing a bus rapid transit (BRT) system for urban Honolulu and the Leeward commuter corridor. *TOP 2025* lists transportation improvement projects to be funded in the next couple of decades, and most of this investment is designated for the Primary Urban Center. The in-town portion of the BRT by itself represents almost one-quarter of the proposed islandwide expenditures.

ISLANDWIDE MOBILITY CONCEPT PLAN

Prior to the preparation of *TOP 2025*, the City and State transportation agencies launched "Oahu Trans 2K: A Community-Based Transportation Vision for the 21st Century." Following several rounds of community workshops held throughout Oahu, the City Department of Transportation Services published the *Islandwide Mobility Concept Plan* (March 1999). While not formally adopted, this document described the conceptual framework for the major transportation projects later incorporated into *TOP 2025*. In the Primary Urban Center, the most significant projects were the BRT and its components and the Sand Island Bypass Road/Nimitz Parkway. In addition, the *Concept Plan* addressed several neighborhood-level initiatives that were already in early stages, such as the traffic-calming program and localized transit service using community circulator routes.

3.5.1.2 Automobiles

The automobile dominates Oahu's and the Primary Urban Center's transportation system. In the post WWII era, the automobile profoundly shaped urban development, stimulating the creation of bedroom communities and a distinct separation of residential and employment-related land uses. With its major employment and commercial centers, the Primary Urban Center attracts many more vehicle trips than it generates. Automobile dependency therefore raises a number of issues and concerns about the quality of life within the Primary Urban Center over the next two to three decades.

TRAFFIC CONGESTION

The prevalently dispersed pattern of land uses makes people dependent on the automobile for an increasing share of daily trips. Along with commuting, this places great stress on the traffic capacity of the road infrastructure. About 80 percent of all trips are not work related – i.e., for social, recreational, and utilitarian (school, shopping, dentist) purposes. Although commuting to work represents a small percentage of the total number of trips, peak-hour congestion is a major problem because over 60 percent of Honolulu commuters drive alone to work. In 1998, the average occupancy rate for vehicle trips during the peak morning commute (between 6 and 9 am), was 1.24 persons per car.

Most of Oahu's households have access to a car, and an increasing number have access to two or more cars. Following national trends, the number of licensed drivers on Oahu is increasing at over twice the rate of population growth. This rate of growth is likely to increase in the next couple of decades as the "Y" generation cohort begins to drive. As a conservative estimate, there will be 22 percent more drivers on Oahu by the year 2020, exclusive of visitors who rent cars during their stay. If alternative modes of transportation are not made more convenient and practicable, more drivers will stimulate demand for more vehicles and generate more roadway congestion.

As highways become more congested, commuters try to find alternate routes by "shortcutting" through residential neighborhoods, essentially trying to bypass the bottleneck much like water flowing around an obstruction. Primary Urban Center neighborhoods bear the brunt of this impact, which is particularly acute in the Aiea-Pearl City area and in the Diamond Head-Kaimuki area.

DEVELOPMENT OF ROADS AND PARKING

City and State transportation agencies find it ever more challenging to increase roadway capacity to accommodate the high rate of growth in automobile traffic within the Primary Urban Center. Acquisition of right-of-ways to build new or widen existing thoroughfares is severely constrained by high costs and limited space. Proposals to "double-deck" the H-1 Freeway and Nimitz Highway have encountered strong political opposition and have been shelved.

Most of the attempts to add roadway capacity are confined to existing right-of-ways. Many of Honolulu's major streets were converted to one-way traffic in the 1970's. More recent initiatives to improve traffic flow include adjustments to traffic signals, modifications to intersections, and conversion of parking lanes to traffic lanes.

However, roadway capacity improvements come at a cost to other modes of travel and to the quality of life in the affected neighborhoods. Several of the major roadways within the PUC, principally the major east-west highways and arterials, act as substantial barriers to *mauka-makai* access and interneighborhood mobility. The following are examples of such improvements:

- Construction of the H-1 Freeway cut through many old neighborhoods and exposed adjacent areas to significant noise, visual and air quality impacts. Many major roadways – including collector streets as well as highways – are inhospitable to bicyclists and pedestrian crossings, particularly for children and the elderly.

- Kamehameha Highway in the Pearl City-Aiea area cuts most of the residential community off from the Pearl Harbor waterfront and its important scenic and recreational amenities.

- The multilane Nimitz Highway isolates the Downtown area from the Honolulu waterfront. Diverting through-traffic on Nimitz Highway to a new Sand Island bypass route would enable the reconnection of Downtown Honolulu to the waterfront and more efficient travel between the Airport and Waikiki.

In addition, several streets in the Downtown/Chinatown area currently have road widening designations that were imposed years ago, which, if implemented, would severely impact the buildings which front them.

While several thousand acres of the Primary Urban Center are committed to streets, several thousand more are consumed by automobile parking. Based on vehicle ownership figures, the estimated space required to park all vehicles registered to residents of the PUC is more than twice the total amount of existing park acreage in the Primary Urban Center. This does not include parking for commercial, industrial and institutional uses, which accommodates vehicles from both within and outside of the Primary Urban Center.

Current City land use policy promotes the construction of private parking facilities. The *Land Use Ordinance* exempts structured parking within buildings from floor area calculations and allows freestanding commercial parking garages in most zoning districts. It also requires new residential projects to provide an average of two off-street parking stalls per housing unit plus provisions for guest stalls in multifamily projects, except in Waikiki and Downtown where only one stall per multifamily dwelling is required. This requirement raises housing costs, since the average construction cost per stall in a parking garage is about $25,000. Work-based parking is generally required at a ratio of one stall per 400 square feet of space. Employer-subsidized parking stimulates single-occupant vehicle commuting and masks the true cost of parking stalls in Downtown and other commercial areas.

ECONOMIC, SAFETY AND PUBLIC HEALTH IMPACTS

Hundreds of millions of dollars are spent each year by the State and the City to operate and maintain Oahu's roadways ($17.9 billion projected between 1995 and 2020). At the consumer level, cars are expensive to operate and maintain compared to the cost of an annual City bus pass.

The Federal National Mortgage Association has recognized the cost of owning a car and is now experimenting with a "Location Efficient Mortgage" product where homeowners purchasing homes close to transit lines are able to qualify for a higher loan-to-earning ratio. This mortgage product results in increasing the number of people qualifying to purchase a home and makes residing in the PUC more attractive.

Automobiles also have societal costs such as public health hazards, lost time, and productivity from sitting in congested traffic, "hidden" subsidies, and environmental and thermal pollution. An average of 60 persons have been killed in Oahu roadway accidents each year between 1997 and 2000, and thousands more have been injured. Many pedestrian accidents occur along neighborhood streets that are designed more for motorist than for pedestrian safety. Roads designed to highway standards disproportionately endanger children and the elderly. Anecdotal reports indicate a general increase in road-related stress (road rage) due to increasing roadway congestion.

Finally, overreliance on the automobile promotes a sedentary lifestyle, which in turn adversely affects longevity and quality of life. Thousands of acres throughout the region are blighted by elevated noise levels generated by the automobile. Engine emissions from the automobile are responsible for a range of pulmonary disorders. The combustion of motor fuel produces thousands of tons of particulate matter and spot concentrations of toxic gases such as carbon monoxide. Studies have shown that per capita fuel consumption drops with increases in urban density and mix of uses, as public transit, walking, and bicycling become more desirable modes of transportation.

3.5.1.3 Public Transit

MUNICIPAL BUS SYSTEM

Honolulu's municipal bus system – TheBus – has over 200.000 passenger boardings per day, and ridership has remained relatively stable over the past several years. The 2000 U.S. Census found that 8.0 percent of Oahu commuters use the bus to get to and from work. The most heavily used routes are within the Primary Urban Center, and the routes that follow Honolulu's main east-west arterials account for more than half the daily ridership islandwide. Fare box receipts cover 27 percent of total costs to operate TheBus system, with the remaining cost paid primarily out of the City's General Fund.

Much has been done over the years to improve TheBus by building modern vehicle maintenance and baseyards; continually expanding the size of the fleet; adding vehicle design features for passenger comfort and convenience, such as lift entries and bicycle racks; acquiring quieter buses with better emission controls; adjusting and adding routes and schedules; and providing bus shelters. Currently, the City is implementing a "hub-and-spoke" system that is designed to improve circulation within neighborhoods while connecting neighborhoods to "transit centers" along major east-west transit routes.

The potential for improving the service provided by TheBus within the Primary Urban Center is constrained by its technology. Sharing increasingly congested street and highway lanes with automobiles, buses cannot move any faster than other traffic. Only through the center of Downtown – along Hotel Street Bus Mall – is there a dedicated transit lane.

RAPID TRANSIT SYSTEM

To reduce automobile dependency and elevate quality of life, the Primary Urban Center needs a higher-capacity higher-speed public transit system that can move efficiently through the urban core.

The City is presently pursuing the development of a Bus Rapid Transit System (BRT) that would employ high-capacity vehicles traveling at grade on city streets within central Honolulu and along the H-1 Freeway on a semiexclusive lane with dedicated access ramps from Middle Street to Kapolei. In the future, all or a portion of the BRT system may be convertible to a fixed-rail or elevated monorail system.

To attract ridership, proposed rapid transit routes will be within a five-minute walk from central Honolulu's major activity centers, higher-density neighborhoods, and redevelopment areas. This service area is illustrated conceptually as a "transit corridor" in **Figure 3.13**. Transit service to the neighborhoods outside the five-minute zone will be supplemented by circulator buses to connect passengers to the rapid transit system at transit centers.

3.5.1.4 Walking

Walking is the oldest and most basic form of transportation. It is also the most affordable and accessible of all transportation modes. Almost every trip includes a pedestrian phase, even if it only involves walking to and from the parking garage.

In the PUC, particularly on the relatively dry, flat coastal plain of Honolulu, natural conditions are excellent for walking, though shade from the sun is needed during the summer months. The 2000 U.S. Census estimates that 5.6 percent of Oahu commuters walk to work, compared to the national average of 2.9 percent. The City's few promenades and pedestrian paths are well used in the evenings and on the weekends, indicating strong demand for these types of facilities, not only for destination travel, but also for recreation and fitness.

The distance of the trip and its purpose are the principal determinants in an individual's choice to walk or use some other transport mode. Physical and environmental conditions are also important determinants of mode choice. National research shows that people are willing to walk about one-quarter of a mile to work and up to one-eighth of a mile for shopping.

While central Honolulu's climate and topography are ideal for walking, the relatively large physical separation between walking destinations and poor pedestrian infrastructure discourage people from walking. Sidewalks are often narrow, lacking in shade or interrupted by numerous driveways. In many locations, it is unsafe or inconvenient to cross streets and highways. Several public streets have been closed and sold to adjacent owners for the assembly of large "superblocks." This loss of public thoroughfare makes pedestrian routes longer, less direct, and less convenient.

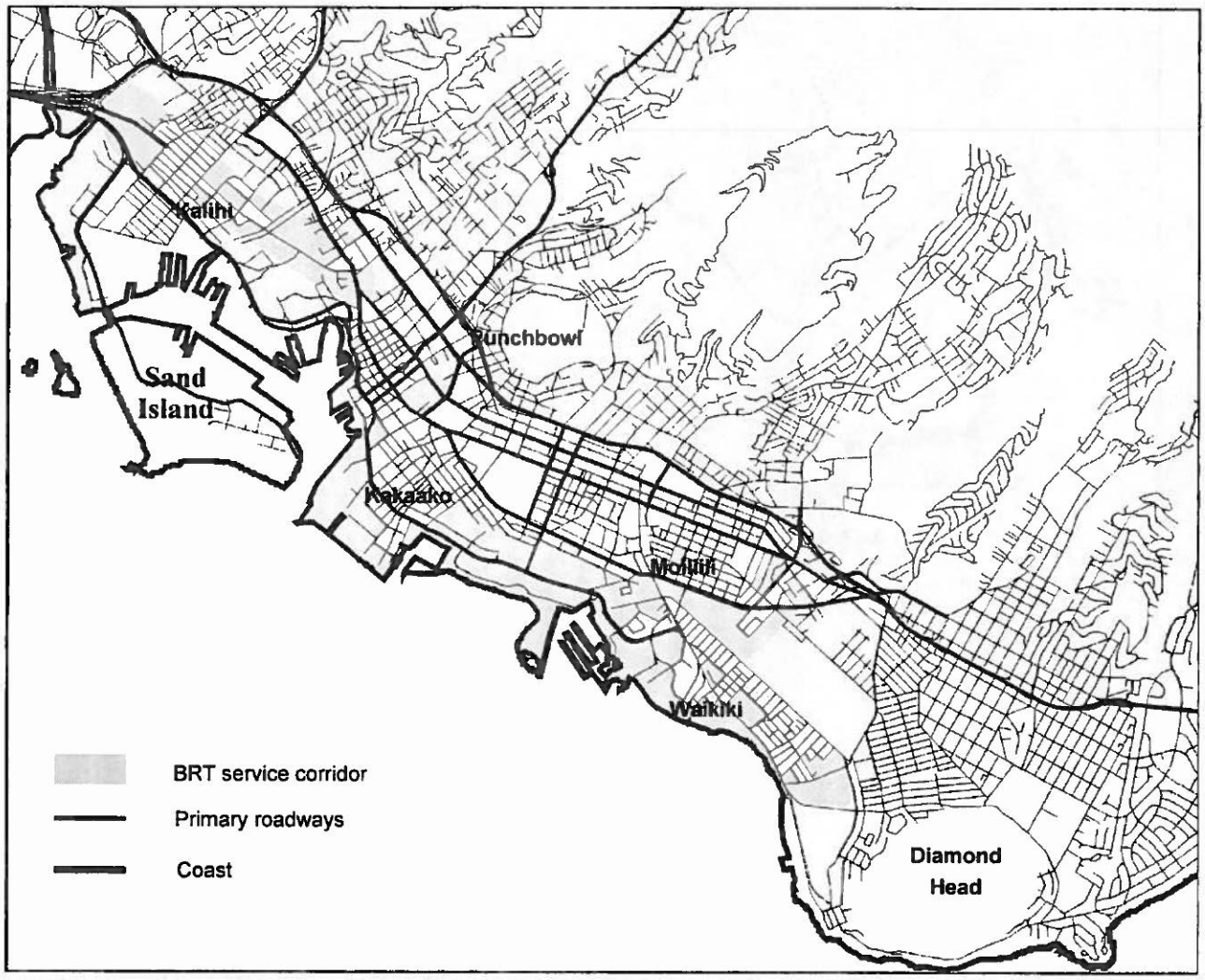


Figure 3.13: Rapid Transit Corridor.

To facilitate pedestrian travel, the Primary Urban Center needs a regional pedestrian network of trails and districts. The purpose of the network is to link neighborhoods and enhance pedestrian mobility within neighborhoods. The network should extend *mauka* to the Koolau Mountain Trail System and *makai* to the shoreline.

Designating pedestrian districts and routes through design features and traffic control measures would establish priority for pedestrians over other transportation modes. Design features might include raised and midblock crosswalks, corner bulb-outs, landscaped medians and traffic islands for pedestrian refuge, broad promenades, public squares, pocket parks, shade trees, and street furniture. Traffic control measures may include adjustment to traffic signal phasing, enforcement of "pedestrian rights" laws, and the use of streets for events such as parades, fairs, and other entertainment.

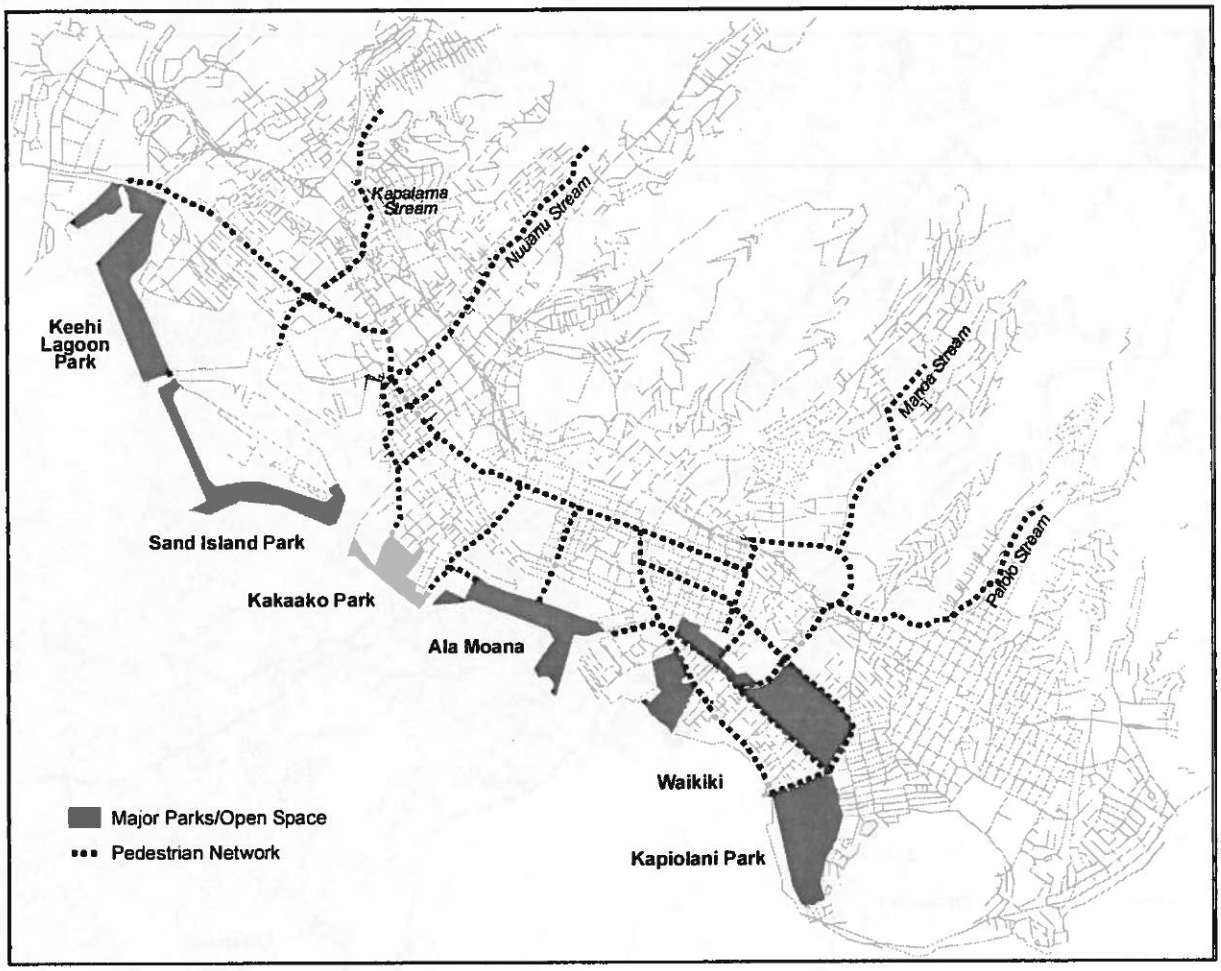


Figure 3.14: Pedestrian Network Concept For Honolulu.

Regional pedestrian networks are appropriate for the central Honolulu and Pearl Harbor areas. Districts with existing high levels of pedestrian activity include Waikiki and Downtown. As shown in **Figure 3.14**, the Honolulu pedestrian network concept incorporates shared-use paths along the Kapalama, Nuuanu, Manoa, and Palolo Streams, and the Ala Wai Canal. It also incorporates the *Honolulu Bicycle Master Plan's* "Lei of Parks" concept, a series of shared-use paths linking the City's major regional parks (Keehi Lagoon Park, Kakaako Waterfront Park, Ala Moana Beach Park, Kapiolani Park and Diamond Head Monument). Additional elements of the network are new promenades and other pedestrian improvements to city streets (e.g., Punchbowl Street, Nimitz Highway in the Downtown area, Ward Avenue, Young Street, Keeaumoku Street and Kalakaua Avenue).

The network concept for the Pearl Harbor area (see **Figure 3.15**) focuses on improving pedestrian mobility within and between the town centers of Aiea, Pearlridge, Waimalu, and Pearl City. Improvements along the Pearl Harbor Historic Trail will link a number of shoreline parks, including the Aiea Bay State Recreation Area, Neal S. Blaisdell Park and the West Loch Shoreline Park. The addition of "gateways," as discussed in the *Honolulu Bicycle Master Plan*, will create marked entrances to the Pearl Harbor Historic Trail along Kamehameha Highway. Similar to the Honolulu pedestrian network, shared-use paths along the Waiau, Waimalu, Kalauao and Aiea Streams will increase *maukamakai* pedestrian access. Finally, pedestrian crossing improvements at Kamehameha Highway will increase access to the commercial areas on either side of the highway.

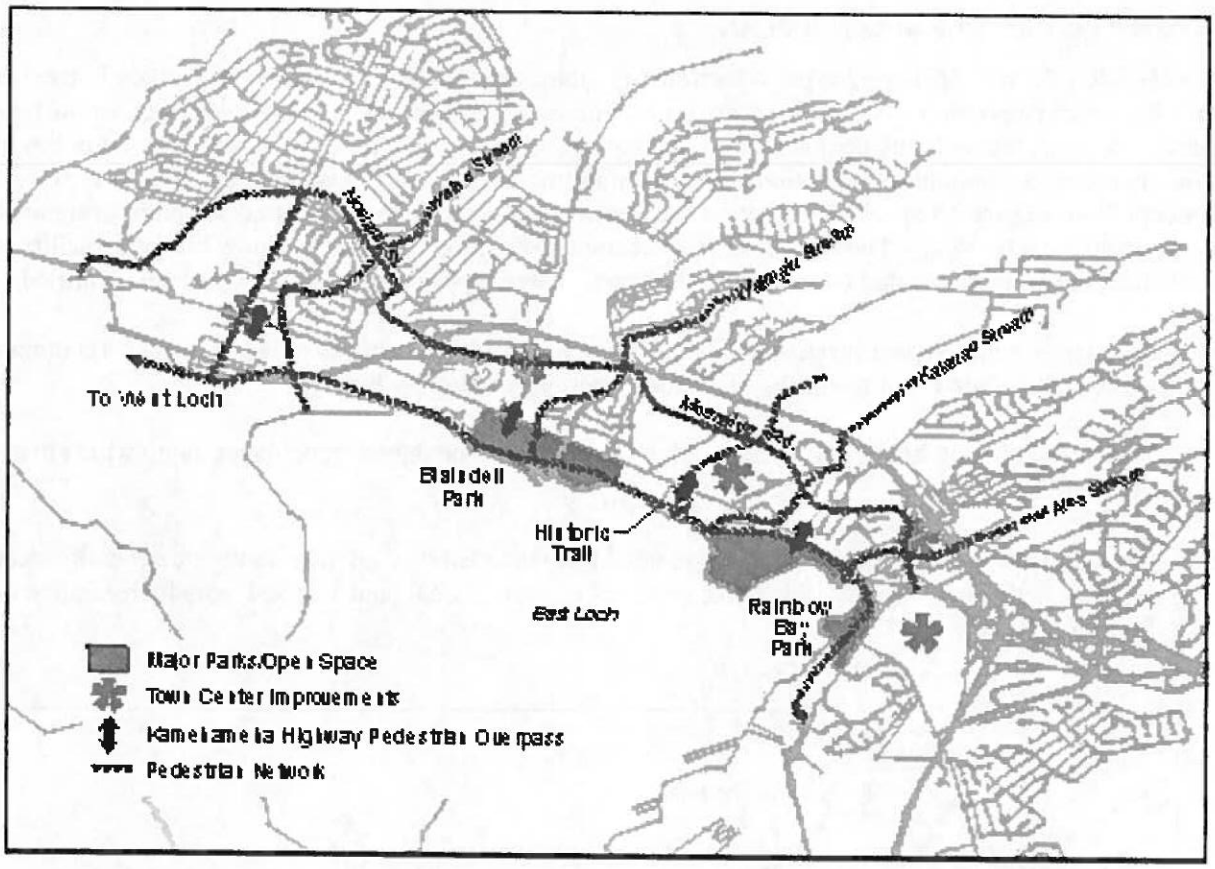


Figure 3.15: Pedestrian Network Concept for Pearl Harbor.

In addition to the regional pedestrian networks, there is an opportunity to create small "pedestrian districts" through focused improvements within existing in-town neighborhoods. Rights-of-way for minor streets in medium- and high-density residential neighborhoods could be redeveloped to give more space to trees, sidewalks, and even small park spaces.

3.5.1.5 Bicycles

Bicycle transportation is gaining popularity on Oahu. According to an October 1997 telephone survey, approximately one in four Oahu residents rode a bike within a 30-day period. The 2000 U.S. Census found that 1.0 percent of employees in the City and County of Honolulu biked to work. This is above the national average of 0.4 percent, but well behind "bicycle-friendly" cities such as Portland and Seattle.

Like walking, the choice to use a bicycle over another mode is a function of the distance to be traveled, barriers during the trip (e.g., lack of designated bikeways), and the lack of appropriate facilities such as secure bike parking, lockers, and shower facilities at the destination.

To encourage bicycle ridership, the City has employed a Bicycle Coordinator, installed bike racks on all its buses and on many of Honolulu's streets, and has planned and partially developed a system of bikeways. There is currently a total of 24.8 miles of bikeways within the Primary Urban Center. The longest is the Pearl Harbor Bike Path, a shared-use pathway that extends from near Aloha Stadium to Waipio Peninsula, also referred to as the Pearl Harbor Historic Trail (refer to **Figure 3.15**).

HONOLULU BICYCLE MASTER PLAN

The *Honolulu Bicycle Master Plan* provides a strategy for the bicycle component in the Primary Urban Center's future transportation system. It identifies an integrated network of on-road bike lanes and off-road shared-use paths that will link people with their favorite destinations. It also provides an array of policy and program recommendations to institutionalize the commitment at all levels of government. The "Lei of Parks" Concept Plan **(Figure 3.16)** calls for creating links between parks by means of shared-use paths designed for recreational bicycle riding. The Plan describes a network of almost 100 miles of new bikeway facility improvements to be implemented over the next 20 years. Three types of bikeway facilities are identified:

- Bike lanes, which typically occupy the outside/curb lane of the street and are identified by a continuous white stripe placed four to six feet from the gutter pan or parking lane
- Bike routes, which are posted streets with wide curb lanes or shared travel lanes along which there is less traffic
- Shared-use paths, which are typically separated from the road right-of-way. Paths are generally located adjacent to the roadway or within parks or other open space areas, and are used more for recreation than for daily travel.

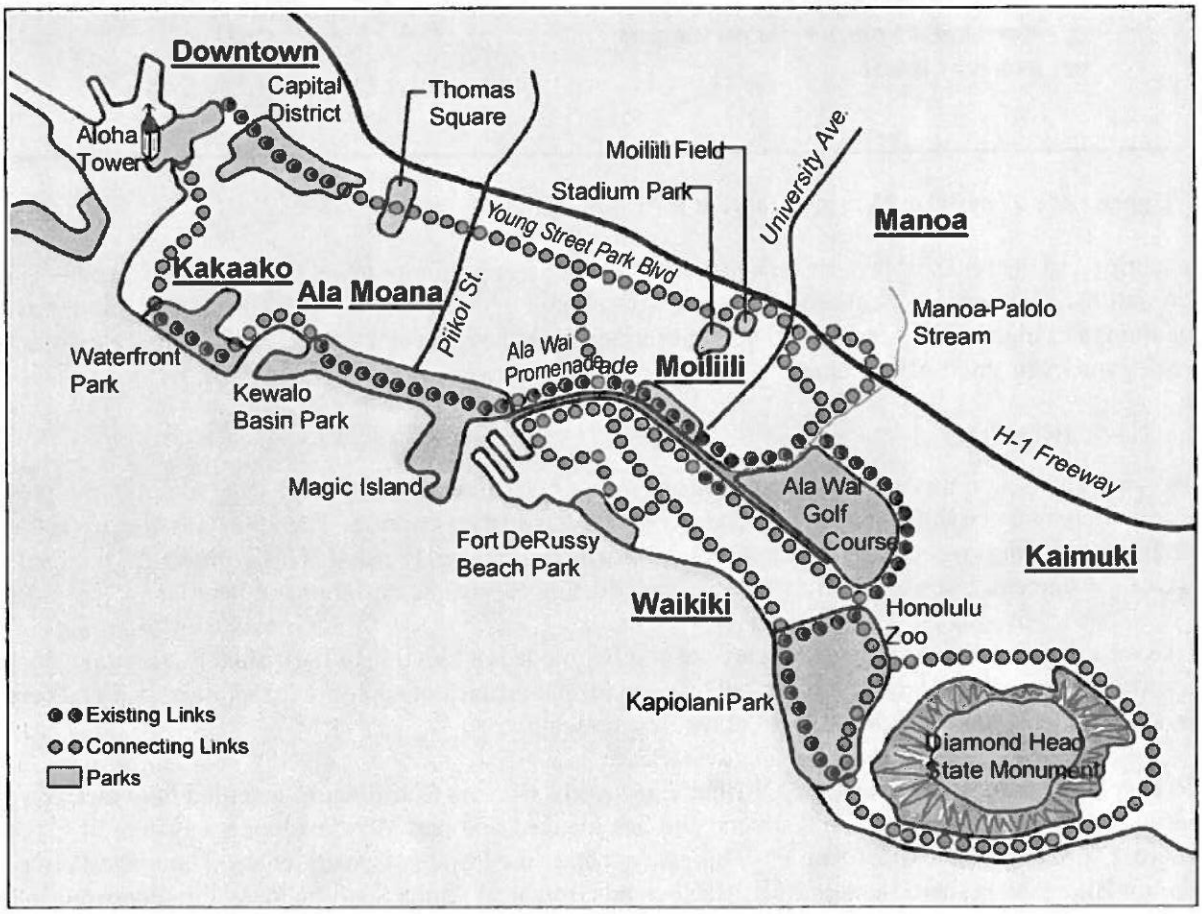


Figure 3.16: Bicycle Links in "Lei of Parks" Concept Plan.

3.5.1.6 Water Transportation

The Primary Urban Center hosts Hawaii's principal commercial port facilities at Honolulu Harbor in addition to facilities at Kewalo Basin, Keehi Lagoon, and Ala Wai Harbor. All are under the jurisdiction of the State Department of Transportation Harbors Division (DOT).

OAHU COMMERCIAL HARBORS 2020 MASTER PLAN

The *Oahu Commercial Harbors 2020 Master Plan*, prepared by the DOT, sets the direction for the Primary Urban Center's commercial harbors. It envisions Honolulu Harbor having a second entrance channel; four container terminals; an interisland cargo terminal; liquid and dry bulk cargo facilities; neo-bulk and break-bulk cargo facilities; backlands and pier facilities for automobile shipments; a domestic fishing village; four cruise ship terminals; two ferry terminals; an excursion vessel terminal; a maritime office building; the Foreign Trade Zone "One-Stop Shop"; adequate berthing for the anticipated number and types of vessels; and the necessary roadways to support these operations.

Plans for Kewalo Basin reflect a gradual transition to ocean-based tourist activities, with commercial fishing being relocated to Honolulu Harbor and Keehi Lagoon. The Hawaii Community Development Authority, with private sector participation, will develop shoreside land uses.

Commercial maritime activity is planned for both Ala Wai Boat Harbor and Keehi Lagoon. At Ala Wai, the "front row" is targeted for offshore activity boats. At Keehi, plans call for two marinas for recreational vessels, commercial fishing boats, and mega-yachts, as well as other berths for larger commercial fishing boats and oil spill response vessels.

Planned land transportation improvements include the development of a perimeter roadway around Honolulu Harbor to alleviate traffic on Nimitz Highway and a new vehicle tunnel under Kalihi Channel to replace the existing Sand Island Bridge.

The *2020 Master Plan* proposes to combine the Inter-Island Ferry Terminal with the new Excursion Vessel Terminal at Piers 26 and 27 in Honolulu Harbor. DOT has conducted several interisland and intraisland ferry projects that failed due to lack of demand. There may be future potential for an interisland passenger and vehicle ferry service with the additional possibility of carrying perishables and high-value freight. DOT's experiments with an intraisland ferry have focused on service between Honolulu and Ewa. Community-based proposals for ferry service between the airport and Waikiki, and along the Ala Wai Canal connecting Waikiki hotels to the Hawaii Convention Center, have not been able to demonstrate economic feasibility. Moreover, ferry or water taxi service along the Ala Wai Canal is constrained by low bridge clearances, the lack of boarding/debarking facilities, and competition with existing recreational uses.

3.5.2 POLICIES

- ***Implement land use strategies to achieve a balanced transportation system.*** To improve the quality of life in the Primary Urban Center and to accommodate growth, development initiatives and regulatory controls should promote the growth of sustainable and appropriate alternative urban travel modes such as transit, walking, and bicycling.

- ***Improve the public transit system, including development of a rapid transit component.*** Improvements to the transit system should be targeted to accommodating trans-PUC travel and making neighborhood service more convenient. A rapid transit component is needed to serve the high-volume east-west corridor, connect activity centers, and provide transportation capacity in place of increased roadways.

- ***Implement Transportation Demand Management strategies.*** Due to limited land area and high costs, it is increasingly necessary to shift from increasing roadway and parking capacity to policies and practices that reward use of transit and other alternative modes.

- ***Review existing plans and establish priorities for roads and road improvements.*** Conduct a comprehensive review of roads and designate those which should receive priority treatment for transit, bike routes, and pedestrian routes, as well as the principal arterial and collector network for automobile travel.

- ***Implement the Honolulu Bicycle Master Plan.*** Institutionalize the policy that every street and highway on which bicycles are permitted to operate is a "bicycle street," designated and maintained to accommodate shared use by bicycles and motor vehicles.

- ***Enhance and improve pedestrian mobility.*** Create special pedestrian districts and corridors and a regional network of pedestrian facilities. Comprehensively address pedestrian safety concerns related to vehicle speeding and excessive volumes on local streets and neighborhood collector streets.

- ***Encourage the full use of existing private and public parking garages.*** Encourage private parking garage owners to rent underused parking stalls within commercial buildings and large-scale residential projects.

3.5.3 GUIDELINES

- Identify and stimulate transit-oriented development on potential infill and redevelopment properties within the rapid transit corridor. Examples of development stimulators include tax incentives, development code amendments, and public infrastructure investments.

- Undertake a comprehensive review of the City's street widening plans and reevaluate the use of ROH Chapter 14, Article 21, on streets that the City does not intend to commit funds for street widening. Eliminate travel-way widenings that are not necessary, degrade neighborhood character, or are unlikely to be achieved. In older, built-out neighborhoods, consider alternatives for improving safety or pedestrian comfort, but do not involve substantial widening and acquisition of land.

- Implement the Honolulu Bicycle Master Plan's three priority projects: (1) "Lei of Parks," a shared-use path connecting the City's major parks and open spaces (**see Figure 3.16**); (2) Bike Friendly Route No. 1, a continuous, cross town bicycle lane, connecting to the Kalanianaole Highway Bikeway in the east and the Pearl Harbor Bike Path in the west; and (3) a series of bicycle access improvements around the various colleges and universities.

- Establish pedestrian districts where walking is intended to be a primary mode of travel, such as within Downtown and Waikiki. Develop specific facility standards for these districts; encourage midblock pathways or arcades; and implement sidewalk improvements, such as widening, paving, and landscaping.

- Work with residents and school organizations to improve pedestrian safety through planning and education efforts, including the development of traffic management plans, construction of traffic calming devices, and the improvement of neighborhood sidewalks and crosswalks.

4. Infrastructure and Public Facilities

This chapter addresses the support systems that are vital to all PUC communities. It is intended to give direction to the long-range functional and facility plans that should be prepared by each of the respective service agencies. Agencies should coordinate the planning and construction of infrastructure improvements so that: (1) services are available when needed; and (2) construction impacts to neighborhoods are minimized.

Many of the PUC's support facilities are part of islandwide or interregional systems –(e.g., water supply and wastewater management). Issues relating to sustainability of islandwide or interregional systems cannot be resolved in the context of a single regional plan like this one, but rather need to be addressed in long-range functional plans and – as need be – in the City's *General Plan*.

4.1 WATER ALLOCATION AND SYSTEM DEVELOPMENT

4.1.1 EXISTING CONDITIONS, ISSUES AND TRENDS

The Honolulu Board of Water Supply (BWS) is responsible for the management, control and operation of Oahu's municipal water system that serves the entire Primary Urban Center Development Plan area. The BWS system is an integrated, islandwide system with interconnections between water sources and service areas. Water is exported from areas of available supply to areas of municipal demand.

The East and Central sections of the Primary Urban Center overlie the Honolulu aquifer. The western Primary Urban Center area overlies the Pearl Harbor aquifer, the largest supplier of groundwater on Oahu and the source of most of the PUC's municipal supply. Pursuant to the *State Water Code, Chapter 174C, Hawaii Revised Statutes*, the State Commission on Water Resource Management (CWRM) has determined that water resources from the Honolulu and Pearl Harbor aquifers may be threatened by existing or proposed withdrawals or diversions of water. Accordingly, the aquifers have been designated as Water Management Areas (WMAs) under the control of CWRM.

INTEGRATED RESOURCE PLANNING

Under the *State Water Code*, each county must prepare a long-range "water use and development plan" and submit it to the Commission on Water Resource Management for approval and inclusion as an element of the *Hawaii Water Plan*. The *Oahu Water Management Plan*, prepared by the City Department of Planning and Permitting with the assistance of the BWS, was adopted by the CWRM and the City Council in 1990. More recently, the BWS has undertaken preparation of an "integrated resource plan" that addresses all facets of water resource management, including stream flow.

The BWS will be conducting integrated resources planning by preparing individual Development Plan area watershed management plans that will identify watershed protection projects as well as inventory and develop plans for water use and development. This will meet the State Water Code requirement for preparing County Water Use and Development Plans that are consistent with County land use plans.

PROJECTED WATER DEMANDS FOR PUC, YEAR 2000 - 2025

Per Capita Day Demand for Years 2000 to 2025 is estimated at 173 gallons per capita per day. The per capita day demand in the PUC shows a decreasing trend from 1990 – 180 gpcd, a decrease that may be attributed to increasing density and water conservation measures. Today's best estimated current year use is the year 2000 average day demand of 78.00 million gallons per day (mgd).

Projected residential population growth from Year 2000 (419,333 persons) to year 2025 (485,849 persons) results in a 71,008-person increase of BWS served population. The resultant year 2025 water demand is expected to be 90.25 mgd, an increase of 12.25 mgd.

PUC DP AREA POPULATION AND WATER DEMAND

Year	Resident Population	BWS Served Population	Demand (mgd)	Per Capita Day Demand (gpcd)
2000	419,333	450,690	78.00	173
2025	485,849	521,698	90.25	173
Net Increase	66,516	71,008	12.25	

STRATEGIES TO MEET ADDITIONAL WATER DEMAND IN THE PUC

The BWS is planning to meet additional water demand in the PUC with the long-range integration of multiple water resource strategies consisting of:

- More efficient water system operation and reduced customer water use
- Additional groundwater development and redirecting existing sources in the Pearl Harbor basin
- Desalination of seawater
- Nonpotable water from brackish sources, recycled wastewater, existing surface reservoirs and drainage channels
- Aquifer storage and recovery
- Additional booster pumping, transmission main, and storage facilities

The BWS is planning to meet additional water demand in the Primary Urban Center by developing new sources in Waipahu and Waiawa, and constructing new trunk lines in central Honolulu. The BWS is aware of the need to integrate water resource planning for urban development, in-stream uses, agricultural uses, possible use of reclaimed water, and the sustainability of groundwater aquifers. Toward this end, the BWS is engaged in a long-range integrated water resources planning effort, in coordination with the State Commission on Water Resource Management.

4.1.2 POLICIES

- Integrate resource management of all potable and nonpotable water sources, including groundwater, stream water, storm water, and wastewater effluent.
- Adapt water conservation practices in the design of new developments and modification of existing uses, including landscaped areas.
- Implement upgrades and capacity improvements to serve projected population increases.
- Protect and maintain watersheds to ensure an adequate supply of high quality water with sufficient infiltration recharge into groundwater aquifers.

4.1.3 GUIDELINES

- Conserve the use of potable water by implementing the following measures, as feasible and appropriate:

  — Install low-flush toilets, flow restrictors rain catchment barrels, plumbing fixture meters, and other water conserving devices in commercial and residential developments.

  — Promote xeriscaping techniques to reduce water use in landscaping by using various ground cover, drought-tolerant plant material and efficient irrigation systems in landscaped areas.

  — Conduct extensive leak detection and repair for all public and private water infrastructure systems and residential, commercial and industrial plumbing. Conduct public education programs on awareness of water conservation.

  — Reuse tertiary treated wastewater effluent, brackish water sources, storm runoff and surface reservoirs for the irrigation of golf courses, parks, other open landscaped areas, and industrial use.

- Develop additional potable groundwater sources in the Pearl Harbor and Honolulu Basin, redirect existing groundwater sources from Central Oahu to the Primary Urban Center, and develop a desalination plant in Honolulu to meet future demands, maintain sustainability of aquifers, and provide relief from drought periods.

- Create public watershed management partnerships to restore and manage watershed areas and conduct water conservation programs in conjunction with the BWS watershed management and water conservation programs.

Refer to the following table of potential sources to develop additional potable and nonpotable water capacity for the PUC:

POTENTIAL SOURCES OF POTABLE AND NONPOTABLE WATER FOR THE PRIMARY URBAN CENTER	
POTABLE WATER SOURCES	
Ground Water Source	Estimated Source Yield (Million Gallons per Day)
1. Waipahu Wells III	3.00
2. Waiau Wells (existing redirected source)	2.50
3. Manana Well	1.00
4. Waipahu Wells IV	3.00
5. Waialae Nui Valley Well	0.70
6. Waialae Nui Ridge Well	0.50
7. Kapakahi Well	0.60
8. Waialae West Well	0.25

POTENTIAL SOURCES OF POTABLE AND NONPOTABLE WATER FOR THE PRIMARY URBAN CENTER	
POTABLE WATER SOURCES	
Ground Water Source	Estimated Source Yield (Million Gallons per Day)
9. Hoaeae Wells	2.50
10. Ewa Shaft	4.60
11. Honolulu Desalination Plant	5.00
Total Additional Potable Source Capacity	23.65
NONPOTABLE WATER SOURCES	
Nonpotable Source	Estimated Source Yield (Million Gallons per Day)
1. Recycled Wastewater	2.00
2. Nuuanu Open Reservoir Rain Catchment	1.00
3. Ala Wai Canal Stormwater	0.37
Total Additional Nonpotable Source Capacity	3.37

4.2 WASTEWATER SYSTEM

4.2.1 EXISTING CONDITIONS, ISSUES AND TRENDS

The City's Department of Environmental Services manages the municipal wastewater collection, treatment, and disposal system and provides almost complete service coverage for the Primary Urban Center through the Mamala Bay Sewerage District. Most of the Primary Urban Center is within the East Mamala Bay service area, with outflows processed through the Sand Island Wastewater Treatment Plant. The western portion of the Primary Urban Center, from Halawa through Pearl City, is within the West Mamala Bay service area, with outflows processed through the Honouliuli Wastewater Treatment Plant.

The East Mamala collection system, which is much older than the West Mamala system, experiences significant water infiltration. In some areas of the East Mamala subdistrict, the age of sewer lines is approaching 100 years old.

The Primary Urban Center's aging collection system is recognized as a major obstacle to the orderly development of the city. In large parts of central Honolulu, new development is restricted due to inadequate sewer capacity. Current wastewater policy requires new developments to pay for the correction of existing system deficiencies, in addition to improvements directly related to the project. In many cases, high costs for off-site wastewater facilities make development economically infeasible.

4.2.2 POLICIES

- Implement wastewater collection system improvements to provide adequate service and sound facilities to existing neighborhoods and timely increases in system capacity to areas planned to undergo improvement or change in use.

- Implement adequate and timely upgrades/expansion of wastewater treatment facilities to meet the growth demands of the PUC.

4.2.3 GUIDELINES

- Complete current projects needed to correct currently identified service or facility inadequacies for neighborhoods where change in service demand is not anticipated.

- In consultation with adjacent communities, implement the recommendations of the *East and West Mamala Bay Wastewater Facilities Plans* to upgrade treatment and collection systems to serve projected increases in service demands on a timely basis, as such demand increases become identified.

4.3 ELECTRICAL POWER

4.3.1 EXISTING CONDITIONS, ISSUES AND TRENDS

Hawaiian Electric Company (HECO) operates the electrical utility serving Oahu, subject to regulation by the State Public Utilities Commission. HECO provides electrical power through an integrated islandwide system. While most of the electrical power generated by HECO comes from power plants in the Ewa Development Plan area, HECO maintains two power plants within the Primary Urban Center, in Waiau and central Honolulu. Power is delivered to customers by a system of transmission and distribution lines.

In 1983, HECO initiated an investigation into the reliability of its transmission and distribution systems. As a result of this investigation, as well as in response to a series of power outages and irregularities, HECO has accelerated its efforts to increase redundancy in the 138 kV transmission system on Oahu. The plan proposes a backup system consisting of several transmission line loops, connecting the various generating facilities and substations over alternative routes.

4.3.2 POLICIES

- Support retention and upgrade of the Waiau and Honolulu Power Plants as part of a strategic plan to improve the reliability of the Primary Urban Center's electrical power system.

- Promote and implement energy conservation measures and integrated resource planning.

- Planning and building of new or relocated transmission lines should take into consideration system and cost concerns, and the impacts on the environment. Options to place utility lines underground should be considered, and priorities should be established.

4.3.3 GUIDELINES

- In planning new or relocated substations or transmission lines, the selection of the site or route of such facilities should avoid or mitigate adverse impacts on scenic and natural resources.

4.4 TELECOMMUNICATIONS FACILITIES

4.4.1 EXISTING CONDITIONS, ISSUES AND TRENDS

Telecommunications facilities are defined as broadcasting and receiving structures associated with telecommunications services. Telecommunications facilities generally fall into three categories:

- Broadcast: Generally high power, with potentially hazardous exposure to radio frequency (RF) radiation, such as AM radio stations and broadcast television. These should be located away from population centers, in order to avoid radiation hazard.

- Point-to-Point Microwave: Generally high-power, but focused beam for line-of- sight transmissions reduces radiation hazards. These may be located in populated areas with little risk. Because they employ a highly directional beam to transmit from one point to another point, RF radiation risk in the surrounding environment is minimal. Typically, microwave antennas are placed on towers, at some distance from human activity.

- Telecommunications: Generally low-power antennas, serving mobile radio, cellular, personal communications service (PCS) and other "wireless" communications technologies. These are powered at 100-200 watts for intermittent use, which is far below the level of any possible health impact. (By comparison, a broadcast antenna may be powered at 50,000 watts or more).

Broadcast towers are regulated under the City's *Land Use Ordinance* according to a national standard for radio frequency protection. This standard forces new broadcast antennas to locate in remote areas.

With the proliferation of wireless communications companies over the past several years, there is a strong demand for antenna sites both in preservation areas and in heavily built-up urban areas. A site may have multiple antennas, especially in built-up areas where coverage is more difficult to achieve. The antennas are generally small and can be camouflaged. Equipment is housed in cabinets or toolshed-like structures, which can also be camouflaged, but because the equipment requires 24-hour air conditioning, it can create noise problems when sited near residences or other uses sensitive to noise.

4.4.2 POLICIES

- Minimize the visual impacts and potential health hazard of new facilities.

4.4.3 GUIDELINES

- In general, antennas and other facilities should be required to "blend in" with the surrounding environment. Visually obtrusive installations, such as locating in the middle of an open area or silhouetting antennas on top of ridges, should be avoided.

- In granting land use permits for antennas, observe the following general principles:

  — Wherever possible, antennas should be sited on existing structures, such as tall buildings, athletic field light standards, water reservoirs, or existing towers. Antennas should be flush-mounted when possible.

  — Minimize the number of new towers (towers include lattice structures, as well as monopoles). New towers should be capable of accommodating more than one provider, with clear rules for sharing of costs.

  — Where more than one tower is required, they should be clustered rather than dispersed.

4.5 SOLID WASTE

4.5.1 EXISTING CONDITIONS, ISSUES AND TRENDS

The City's Department of Environmental Services manages Honolulu's municipal solid waste system, including the H-POWER resource recovery facility and one sanitary landfill. The military operates two landfills on Oahu, and a private company operates a construction debris landfill in Nanakuli. There are no sanitary landfills within the Primary Urban Center.

The 1995 *Solid Waste Integrated Management Plan* addresses the need for expanded sanitary landfill capacity. Options include expanding existing landfills and developing new landfills in both Leeward and Windward Oahu. The City is considering opening the Primary Urban Center's first refuse convenience center at the Keehi/Middle Street Transfer Station to serve residents of the region.

4.5.2 POLICIES

- Reduce the solid waste stream by encouraging recycling and reuse.
- Reduce dependence on landfills by encouraging alternative waste disposal technologies.

4.5.3 GUIDELINES

- Promote waste recycling by expanding collection facilities and services, and public outreach and education programs.
- Expand the use of automated refuse collection in residential areas.
- Implement new technologies that more efficiently convert solid waste to green energy, thereby reducing the need for landfills.
- In planning new public facilities, include neighborhood recycling convenience centers where feasible.

4.6 STORMWATER SYSTEMS

4.6.1 EXISTING CONDITIONS, ISSUES AND TRENDS

Management of stormwater within the City and County of Honolulu is shared among Federal, State, and City agencies. City responsibilities are shared among the Departments of Planning and Permitting, Design and Construction, and Environmental Services.

Polluted stormwater runoff from agriculture, urban development, recreational boating and marinas, and wetlands activities are the leading cause of water pollution in waters across the country and in Hawaii.

The Primary Urban Center is highly urbanized and relies heavily on the attractiveness of its coastal waters and beaches for tourism, and recreational and cultural uses. Recent studies of Mamala Bay have determined that urban runoff (nonpoint sources) entering Mamala Bay from subembayments such as Pearl Harbor, Keehi Lagoon-Honolulu Harbor, Kewalo Basin, and the Ala Wai Canal is the most significant contributor to the pollution of nearshore waters. The control and management of urban watersheds and protection of its coastal water quality are the leading stormwater management issues in the Primary Urban Center.

The *mauka*, upland areas of the Primary Urban Center are drained via natural drainageways and streams that ultimately empty into Mamala Bay. In the east and central sections of the Primary Urban Center, Moanalua Stream and Kalihi Stream flow into Keehi Lagoon; Kapalama Canal and Nuuanu Stream empty into Honolulu Harbor; and the Manoa, Palolo, and Makiki Streams drain to Mamala Bay via the Ala Wai Canal. In the western section, the major drainageways are Waiawa, Waimalu, and Halawa Streams, which flow into the East Loch of Pearl Harbor. The lower reaches of most of the Primary Urban Center's major streams have been channelized to facilitate the rapid transport and disposal of runoff from urbanized areas.

The Ala Wai Canal watershed covers a significant portion of the central and eastern portion of the Primary Urban Center, including most of Waikiki. The Ala Wai Canal is a significant contributor of pollutants to the beaches and nearshore waters of Waikiki. The State Department of Health, in cooperation with City agencies, is implementing a community-based watershed management plan that included the dredging and cleanup of the canal.

4.6.2 POLICIES

- Require methods of retaining or detaining stormwater for gradual release into the ground as the preferred strategy for the management of stormwater. Where feasible, utilize open spaces including parking lots, landscaped areas, parks, and golf courses to detain or infiltrate stormwater flows to reduce their volume and runoff rates. (*City Council Resolution No. 94-296*).

- Manage stormwater flows through best management practices to minimize stormwater runoff and peak discharge rates.

- Preserve stream and estuarine habitats.

4.6.3 GUIDELINES

- Revise flood control design criteria to recognize important aesthetic and ecological factors in the design process. Streams should not be channelized except when absolutely necessary to protect existing urban development from flooding.

- Integrate planned improvements to the drainage system into the open space network by emphasizing the use of retention basins, the creation of passive recreational areas, and recreational access for pedestrians and bicycles without jeopardizing public safety. Support development of shared-use paths and parks along Manoa and Palolo Streams, Nuuanu Stream and Kapalama Canal.

- Establish best management practices to guide stormwater management within the Primary Urban Center.

- Encourage community-based watershed planning, recognizing the array of stakeholders in the Primary Urban Center's urban watersheds and the important role of education and community involvement in urban watershed management.

- Support the establishment of short- and long-term ecological monitoring programs, particularly those that measure pollutant loading and are directed at improving water quality and quantity in order to conserve, protect, and restore the natural resources of the Primary Urban Center.

- Maintain and increase permeable surfaces within public right-of-ways to facilitate bio-filtration and groundwater recharge.

- Design and construct stormwater infrastructure in areas that contribute to high inflow and infiltration into the wastewater collection system.

4.7 SCHOOL AND LIBRARY FACILITIES

4.7.1 EXISTING CONDITIONS, ISSUES AND TRENDS

4.7.1.1 Schools

The Primary Urban Center encompasses three public school districts – Honolulu, Leeward (portion) and Central Oahu (portion) – that consist of over 70 schools, including nine high schools (Kalani, Kaimuki, Roosevelt, McKinley, Farrington, Radford, Moanalua, Aiea, and Pearl City). The Primary Urban Center also includes a similar number of private and parochial schools.

4.7.1.2 Colleges and Universities

The Primary Urban Center hosts the State's largest concentration of public and private post-secondary institutions, including the University of Hawaii at Manoa. Other major campuses include the University of Hawaii's community colleges (Kapiolani and Honolulu), Chaminade University, Hawaii Pacific University's downtown campus and a number of smaller private colleges. The University of Hawaii also operates research and teaching facilities at Kakaako, Honolulu Harbor, Sand Island, and the Waikiki Aquarium.

4.7.1.3 Libraries

The Primary Urban Center is served by the State's Main Library located in the Capitol District, two regional libraries in Kaimuki and Pearl City, and branch libraries in Aiea, Kalihi-Palama, Liliha, Manoa, McCully-Moiliili, Salt Lake-Moanalua, and Waikiki-Kapahulu. Also located in the Primary Urban Center is the Library for the Blind and Physically Handicapped.

4.7.1.4 Trends

State and City capital improvement budgets are focused on the new growth areas in the State, including development of new facilities in Kapolei. Within the Primary Urban Center, the general strategy is to maintain existing, usually aging, educational and library facilities.

Public schools in the Primary Urban Center are some of the oldest in the State, and several, such as McKinley High School, have historic status. Some schools have experienced enrollment declines, reflecting the aging population profile of most Primary Urban Center neighborhoods. In response, the State Department of Education (DOE) adjusts facility requirements by shifting school service boundaries and/or removing portable classrooms. If there is an increase in school-age children in the Primary Urban Center, the DOE plans to either readjust service boundaries or implement year-round, multitrack school schedules. The only new facility being considered is a new elementary school at the former Pohukaina School site to serve the expected growth in population in the Kakaako redevelopment district.

One option for schools with declining enrollments is to reuse the facilities for other community needs such as day or senior care, special needs housing, or parks. However, this alternative is sometimes complicated because, while the Department of Education owns the facilities, the land may be either ceded land, leased from the City, or be a fee-owned lot held by the State's Department of Land and Natural Resources. It is also politically unpopular to close schools.

The DOE and the City's Department of Parks and Recreation have had a joint use agreement for many years. Several elementary schools are adjacent to City parks and are used as school playgrounds, but there are sometimes conflicts over scheduling or maintenance responsibilities. The Department of Education prefers to keep secondary school facilities dedicated solely for school use to avoid scheduling problems for its athletic programs, but this would not necessarily preclude community use on weekends, holidays, semester breaks, or late evenings.

University of Hawaii's Manoa campus enrollments are projected to remain stable over the foreseeable future, with undergraduate growth projected for the planned West Oahu campus. UH's current major facility plans within the Primary Urban Center are redevelopment around Honolulu Community College, and relocation of the Pier 41 Snug Harbor research facility and Marine Mammal Laboratory at Kewalo Basin. Also under consideration for the Kakaako *Makai* Area are a new medical school campus and a new aquarium that would replace the Waikiki Aquarium.

4.7.2 POLICIES

- Support the development of a high quality educational system of schools and post-secondary institutions that increase the attractiveness of the Primary Urban Center as a place to live and work.
- Work with the Department of Education to develop innovative shared-use facilities, particularly on City-owned school properties.

4.7.3 GUIDELINES

- Identify ways for the City and the general community to improve conditions within and near school and college campuses. For example, the City could take a lead role in enhancing street appearance, security, and traffic and pedestrian safety near campuses.

- The City Department of Parks and Recreation should coordinate with the DOE regarding the development and use of athletic facilities such as playgrounds, playfields and courts, swimming pools, and gymnasiums, where joint use of such facilities would maximize use and reduce duplication of function without compromising the schools' athletic programs.

4.8 CIVIC AND PUBLIC SAFETY FACILITIES

4.8.1 EXISTING CONDITIONS, ISSUES AND TRENDS

The Primary Urban Center is served by four satellite city halls located at Ala Moana Center, Downtown, Kapalama, and Pearlridge Center. They offer many basic services, including bus pass sales, bicycle registration, and driver's license renewals. The State Department of Accounting and General Services proposes to develop a site in Liliha as a one-stop regional service center to consolidate State agencies that offer social services and business assistance, collect fees and taxes, and issue licenses and registrations.

The Honolulu Police Department serves the Primary Urban Center out of its Capitol District Headquarters and substations in Downtown-Chinatown, Waikiki, Kalihi, and Pearl City. The Honolulu Fire Department serves the Primary Urban Center from 21 fire stations. It also maintains a training facility on military land near the airport that is to be relocated once a new site is identified and secured. Ambulance service, provided by the City's Emergency Medical Services Division, is currently delivered from each of the fire stations. In general, existing facilities are adequate to serve expected future growth in the Primary Urban Center.

4.8.2 POLICIES

- Provide adequate staffing and facilities to ensure effective and efficient delivery of basic governmental service and protection of public safety.

4.8.3 GUIDELINES

- As population increases, provide support for civil defense building shelters and improved technology, equipment and training for fire fighting, police protection and paramedical services.
- Establish new Satellite City Halls within neighborhood commercial complexes or community centers if there is an opportunity to do so with little or no capital expense or modest rent.

5. Implementation

Implementation of the *Primary Urban Center Development Plan* will be a major challenge for City government, concerned State agencies, and the residents and businesses of Honolulu. In contrast to previous Development Plans that functioned primarily as regulatory guides and were prerequisites for the zoning of each parcel, this revised Plan is oriented towards implementation on a broader scale. To implement the vision for the future, it provides broad guidance for neighborhood planning, zoning matters, and actions relating to land use, public facilities and infrastructure. Many of the DP provisions reflect consultations that occurred throughout the planning process with government agencies and community representatives.

Many other city, county, and town jurisdictions on the U.S. mainland have instituted comprehensive planning programs that emphasize a proactive community-based planning and implementation process. These local governments seek to establish a strong link between planning policies and guidelines, and the specific organization, funding and actions needed to implement a variety of public and private projects and programs. This Chapter is intended to strengthen the linkage to implementation, so that the vision presented in this plan can be realized.

Implementation of the *Primary Urban Center Development Plan* will be accomplished by a variety of means, including:

- Initiating zoning map and development code amendments to achieve consistency with the policies and guidelines of the Development Plan;
- Guiding public investment in infrastructure through functional planning activities in support of the vision of the Development Plan;
- Recommending approval, approval with modifications, or denial of developments seeking zoning and other development approvals based on how well they support the vision for the Primary Urban Center's development;
- Incorporating Development Plan priorities through the Public Infrastructure Map and the City's annual budget process;
- Evaluating progress in fulfilling the vision of the *Primary Urban Center Development Plan* every two years and presenting the results of the evaluation in the Biennial Report; and
- Conducting a review of the vision, policies, guidelines, and CIP priority investments of the *Primary Urban Center Development Plan* every five years and recommending revisions as necessary.

5.1 PUBLIC FACILITY INVESTMENT PRIORITIES

The vision for the Primary Urban Center requires the cooperation of both public and private agencies in planning, financing, and improving infrastructure. The City must take an active role in planning infrastructure improvements, such as land acquisition and site improvements for proposed parks; provision of adequate public access to the shoreline and mountain areas; provision of pedestrian, bicycle, and other transportation options; and improvements to wastewater and stormwater management systems. Of particular importance is the need to achieve a balanced transportation system and upgrade the wastewater system in older, in-town Honolulu neighborhoods. These improvements are needed in order to accommodate new housing and other needed facilities.

5.2 DEVELOPMENT PRIORITIES

Projects to receive priority in the approval process are those that:

- Involve land acquisition and improvements for public projects which are consistent with the Development Plan vision, policies and guidelines; and

- Involve applications for zoning and other land use permits that are consistent with the Development Plan vision, policies, and guidelines.

5.3 SPECIAL AREA PLANS

Special Area Plan is a title given to a plan that covers a particular neighborhood or district. A Special Area Plan provides more detailed policies, principles, and guidelines than the Development Plan. The form and content of a Special Area Plan depends on what characteristics and issues need to be addressed in greater detail in planning and guiding development or use of the Special Area.

Special Area Plans can be used to guide land use development and infrastructure investment in areas throughout the PUC and, where they exist, shall be consulted when reviewing applications for zone changes and other applicable development approvals. Special Area Plans may address a Special District, special natural or cultural resource areas or issues, or the objectives and needs of a specific neighborhood, activity center, or corridor.

Special Area Plans provide a vehicle for the neighborhood planning discussed in Chapter 3. Because the PUC is so large and diverse in area, population, and activities, this Development Plan must necessarily be general in content. However, communities may develop Special Area Plans, which shall be reviewed and may be accepted by the City Council by resolution, with or without amendments as the Council deems appropriate, for the purpose of guidance in establishing specific policies and an implementation program for the affected area.

The Special Districts previously established within the Primary Urban Center are generally consistent with the policies and guidelines of this Development Plan. They should be revised as necessary in keeping with the five key elements of the PUC vision and the policies and guidelines for each key element. Special Area Plans for specific neighborhoods will be essential in establishing action programs, capital improvements, and regulatory changes. The geographic boundaries and content of these plans will be determined by interested communities working in partnership with the City.

5.4 FUNCTIONAL PLANNING

Functional planning is the process through which various City agencies determine needs, assign priorities, phase projects, and propose project financing to implement the vision articulated in the Development Plan. This process may take a variety of forms, depending upon the missions of the various agencies involved, as well as upon requirements imposed from outside the City structure, such as federal requirements for wastewater management planning. Typically, functional planning occurs as a continual or iterative activity within each agency.

Through the functional planning process, City agencies responsible for development and maintenance of infrastructure and public facilities, and the provision of City services review existing functional planning documents and programs. As a result of these reviews, the agencies then update existing plans or prepare new long-range functional plans that address facilities and service system needs. Updates of functional planning documents are also conducted to assure that agency plans will serve to implement the Development Plan as well as to provide for coordination of plans and programs among the various agencies.

The number and types of functional planning documents will vary from agency to agency, as will the emphases and contents of those documents. A typical agency may develop a set of core documents such as:

- A resource-constrained long-range capital improvement program. A "resource-constrained" program is one that identifies the fiscal resources that can be reasonably expected to be available to finance the improvements.
- A long-range financing plan, with identification of necessary new revenue measures or opportunities.
- A development schedule with top priorities for areas designated for earliest development.
- Service and facility design standards, including level of service guidelines for determining adequacy.

Other documents may also be developed as part of an agency's functional planning activities, such as master plans for provision of services to a specific region of the island. In some cases, functional planning activities will be undertaken in cooperation with agencies outside the City structure, such as the transportation planning activities that are conducted in association with the Oahu Metropolitan Planning Organization.

Functional planning is intended to be a proactive public involvement process that provides public access to information about infrastructure and public facility needs assessments, alternatives evaluations, and financing. Outreach activities should involve Neighborhood Boards, community organizations, landowners, and others who may be significantly affected by the public facilities and infrastructure projects or programs being developed to further implement the policies of the Development Plan.

The functional planning process should be characterized by opportunities for early and continuing involvement, timely public notice, public access to information used in the evaluation of priorities, and the opportunity to suggest alternatives and to express preferences. The functional planning process provides the technical background for the Capital Improvement Program and public policy proposals that are subject to review and approval by the City Council.

5.5 REVIEW OF ZONING AND OTHER DEVELOPMENT APPLICATIONS

One way in which the vision of the *Primary Urban Center Development Plan* will guide land use will be through the review of applications for zone changes and other development approvals. Approval for all development projects should be based on the extent to which the project supports the policies, principles, and guidelines of the Development Plan.

Projects that do not involve significant zone changes will be reviewed by the Department of Planning and Permitting for consistency with the policies, principles, and guidelines of the *Primary Urban Center Development Plan* during the Zone Change Application process.

Projects involving significant zone changes will require an Environmental Assessment which must include a Project Master Plan. This is submitted to the Department of Planning and Permitting for review prior to initiation of the first Zone Change Application. (See definitions of "significant zone change" and "project master plan" in Section 24-2.1 of the adopting ordinance.)

5.5.1 ADEQUATE FACILITIES REQUIREMENT

All projects requesting zone changes shall be reviewed to determine if adequate public facilities and infrastructure will be available to meet the needs created as a result of the development. Level of Service Guidelines to define adequate public facilities and infrastructure requirements will be established during the Capital Improvement Program.

In order to guide development and growth in an orderly manner as required by the City's *General Plan*, zoning and other development approvals for new developments should be approved only if the responsible City and State agencies indicate that adequate public facilities and utilities will be available at the time of occupancy or if conditions the functional agency indicates are necessary to assure adequacy are otherwise sufficiently addressed.

The Department of Planning and Permitting, as part of its report on the consistency of the project with the *Primary Urban Center Development Plan's* vision, will review and summarize any individual agency's findings regarding public facilities and utilities adequacy which are raised as part of the environmental assessment/environmental impact statement (EA/EIS) process. The Department of Planning and Permitting will address these findings and any additional agency comments submitted as part of the agency review of the zone change application, and recommend conditions that should be included in the Unilateral Agreement or Development Agreement to insure adequacy of facilities.

5.6 FIVE-YEAR DEVELOPMENT PLAN REVIEW

The Department of Planning and Permitting shall conduct a comprehensive review of the *Primary Urban Center Development Plan* and shall report its findings and recommended revisions to the Planning Commission and the City Council five years after adoption and every five years thereafter.

5.6.1 URBAN COMMUNITY BOUNDARY

The Urban Community Boundary (UCB) is intended to remain fixed through the year 2025 planning horizon. All future growth in the PUC should be primarily in-fill and redevelopment.

5.7 TRANSITION FROM THE CURRENT SYSTEM

This section discusses the transition from the former Development Plan to this revised Development Plan, including its independence from Development Plan Common Provisions, its relationship to the *General Plan* guidelines, and the need for review and revision of development codes, standards, and regulations.

5.7.1 DEVELOPMENT PLAN COMMON PROVISIONS AND EXISTING LAND USE APPROVALS

This Development Plan will go into effect upon adoption by ordinance. At that time, the revised Development Plan will become a self-contained document, not reliant on the Development Plan Common Provisions that formerly applied to the *Primary Urban Center Development Plan* as well as all the other Development Plans.

Land use approvals granted under existing zoning, Unilateral Agreements, and approved Urban Design Plans will remain in force and guide entitlement decisions until any zoning action to further implement the vision and policies of the *Primary Urban Center Development Plan* is initiated. If an environmental assessment or environmental impact statement is accepted in the course of a Development Plan land use approval for a project, it should be acceptable to meet the requirement for an initial project EA/EIS when zone change applications are submitted for subsequent phases of the project unless the project scope and land uses are being significantly changed from that described in the initial EA/EIS.

5.7.2 REVIEW AND REVISION OF DEVELOPMENT CODES

Upon completion of the Development Plan Revision Program, current regulatory codes and standards should be reviewed and revised, as necessary, to maintain their consistency and effectiveness as standards to guide attainment of the objectives and policies envisioned for all Development Plan and *Sustainable* Communities Plan areas. At the time such reviews are conducted, the following regulatory codes and standards may warrant further review and revision to ensure achievement of the vision for the Primary Urban Center region, as identified in this plan, as well as consistency with the *Primary Urban Center Development Plan:*

- ***Land Use Ordinance*** (Chapter 21, Revised Ordinances of Honolulu).
- ***Subdivision Rules and Regulations*** (Department of Planning and Permitting, pursuant to Chapter 22, Revised Ordinances of Honolulu).
- ***Building Code*** (Department of Planning and Permitting).
- ***Traffic Standard Manual*** (Department of Transportation Services, July 1976, as revised).
- ***State Highways Division Procedures Manual***, Vol. 8, Chapter 5, Section 4 (State Department of Transportation, Highways Division).
- ***Standard Details for Public Works Construction*** (Department of Planning and Permitting).
- ***Storm Drainage Standards*** (Department of Design and Construction, March 1986).
- ***Park Dedication Rules and Regulations*** (Department of Planning and Permitting, pursuant to Chapter 22, Article 7, Revised Ordinances of Honolulu).
- ***Wastewater Management Design Standards*** (Department of Design and Construction Design Standards, Volumes I and II, and the 1990 Revised Ordinances of Honolulu, Chapter 14, Relating to Sewer Services).

Appendix A: Maps

The PUC DP includes six foldout maps:

- Significant Panoramic Views (**Map A.1**)
- Open Space Map (**Map A.2**)
- Land Use Key Map (**Map A.3**)
- Land Use Maps for PUC-West, PUC-Central and PUC-East (**Maps A.4, A.5, A.6**)

These maps illustrate the long-range vision of the future of the plan area and the major land use and open space policies that are articulated in the plan. In using these maps, the reader should keep in mind that:

(1) These maps are general and conceptual.

(2) The maps are illustrative of the plan's policy statements, presented in the text of this report.

The policy and guideline statements are considered to be the most important elements of the plan. The maps are considered illustrations of the policies.

The maps present the Urban Community Boundary, generalized views, open space designations, and general land use designations. The land use maps are not parcel-specific, and illustrate generalized categories or groups of land uses within the region.

Because they are not parcel-specific, the lines depicted by these boundaries do not indicate precise demarcations. The extent of permissible or appropriate uses within land use categories should be evaluated in concert with relevant sections of the plan's text and specific site characteristics. The plan is intended to guide the zoning district regulations contained in the *Land Use Ordinance* and the mapping of zoning districts. Recognizing that the maps may be more accessible and more interesting than the written policies, the following section presents a summary description of the organizing boundaries and land use designations common to all the maps, and a brief explanation of the contents of each of the maps followed by a glossary of the land use designations.

URBAN COMMUNITY BOUNDARY

The Urban Community Boundary defines and contains the intended extent of developed or "built-up" areas of urban and urban fringe communities. Its purpose is to define the land area that is appropriate for urban development while protecting lands outside this boundary for agriculture or open space values. The Urban Community Boundary is intended to remain fixed through the year 2025 planning horizon. Areas within this boundary are generally characterized by extensive tracts of residential, commercial, industrial, or mixed-use development clearly distinguishable from undeveloped, agricultural or more "natural" portions of the region.

PRESERVATION BOUNDARY

For the purposes of this region, the Preservation Boundary can be considered the reverse side of the Urban Community Boundary. The primary purpose of the preservation boundary is to protect lands which are not valued primarily for agriculture, but which form an important part of the region's open space fabric for their natural, cultural, unique agricultural, or scenic resource values. The boundary generally circumscribes undeveloped lands designated "preservation" on the Open Space and Land Use maps. Preservation Boundaries that are located within the PUC's Urban Community Boundary are intended to remain fixed.

URBAN AREAS

Urban lands include those lands that have been developed or are planned for development for residential, commercial, and industrial uses.

PRESERVATION AREAS

Preservation areas include lands valued primarily for their natural, cultural, or scenic resource values. These lands generally include important wildlife habitat, cultural sites, significant landforms, views, or hazard areas, such as:

- Lands necessary for protecting watersheds, water resources, and water supplies.
- Lands necessary for the conservation, preservation, and enhancement of sites with scenic, historic, archaeological, or ecologic significance.
- Lands necessary for providing and preserving park lands, wilderness and beach reserves, and for conserving natural ecosystems of endemic plants, fish and wildlife, for forestry, and other related activities to these uses.
- All offshore and outlying islands of Oahu unless otherwise classified.
- Lands with topography, soils, climate, or other related environmental factors that may not be normally adaptable or presently needed for urban, rural, or agricultural use.
- Lands with general slopes of 20 percent or more that provide for open space amenities and/or scenic values.
- Lands susceptible to floods and soil erosion, lands undergoing major erosion damage and requiring corrective attention by the State or Federal government, and lands necessary to the protection of the health, safety and welfare of the public by reason of soil instability or the lands' susceptibility to landslides and/or inundation by tsunami and flooding.
- Lands used for national, state, or city parks.
- Lands suitable for growing of commercial timber, grazing, hunting, and recreation uses, including facilities accessory to such uses when said facilities are compatible with the natural physical environment.

VIEWS MAP

The Significant Panoramic Views Map (**Map A.1**) is intended to illustrate the region's major views and indicate major view features, such as mountain preservation areas and the three volcanic craters along the coastal plain – Aliamanu, Punchbowl (Puowaina), and Diamond Head (Leahi).

OPEN SPACE MAP

The Open Space Map (**Map A.2**) is intended to illustrate the region's major open space patterns and resources as outlined in **Section 3.1**. It highlights major open space elements and resources, including preservation and agricultural lands, major parks and recreational facilities, harbors and waterfront promenades, stream greenbelts, and areas such as major institutional campuses, golf courses, and cemeteries that contribute to open space but are not used by the general public.

LAND USE MAPS

The Land Use Key Map (**Map A.3**) shows how the Land Use Map is divided into three sections – PUC-West, PUC-Central and PUC-East (**Maps A.4, A.5, A.6**). The three colored Land Use Maps illustrate the desired long-range land use pattern for the entire Primary Urban Center. (Note that the maps overlap in order to provide context on the edges of each area.)

While the land use designations displayed on the map are intended to denote the predominant land use pattern, minor occurrences of other uses may also be present to the extent that the use is compatible with the predominant land use, and the character and intensity of the intended land use designation is maintained. For instance, areas designated for "lower-density residential" may also contain pockets of "higher-density residential/mixed use" areas where higher-density housing areas are integrated with retail and commercial services and with recreation and community facilities serving the surrounding neighborhood.

The land use maps illustrate the following land use designations within the Urban Community Boundary:

Lower-Density Residential

These uses are depicted as a single tone yellow color. Lower-Density Residential generally refers to single-family detached residences, attached houses, and low-density, low-rise multifamily residences that maintain a density between five and 12 dwelling units per acre. Areas zoned for apartment use within the lower-density residential designation may have higher densities and land uses consistent with that zoning classification.

Commercial services are an integral part of livable communities such as these. Therefore, the yellow color which indicates lower density residential uses may also accept clusters of community and neighborhood-level commercial establishments where appropriate. In some cases, particularly where such clusters signify higher levels of development or neighborhood use, such clusters, may be indicated by a red dot.

Medium and Higher-Density Residential/Mixed Use

Areas identified for medium and higher-density residential/mixed use designations are shown as light brown on the maps. This designation refers to a broad range of medium and higher-density residential uses that vary in density from 13 to 140 units per acre. Medium density residential may range from 13 to 90 units per acre, while high density residential may range from 90 to 140 units per acre. Building types are intended to include low-rise multifamily residences such as townhouses or low-density apartments to mid-rise and high-rise multifamily buildings. The integration or close location of residential buildings with office and retail services or recreation and community facilities should be encouraged as mixed-use is an essential component of this designation.

Community/Neighborhood Commercial

These centers generally consist of clusters of commercial establishments intended for neighborhood service within lower-density residential neighborhoods. While they may not be mapped, certain more intensely developed clusters may be indicated by red dots. Uses typically include service stations, grocery and sundry stores, and other services and shops catering to common household- or neighborhood-level convenience items. While they vary greatly in total size and number of business establishments, a community/neighborhood commercial area is typically comprised of less than 200,000 square feet of commercial floor area.

District Commercial

District commercial areas, which are shaded in red on the maps, refer to a wide variety of commercial uses and related activities intended to serve district, regional and/or islandwide populations. Uses typically include major office buildings, shopping centers, professional and business services, municipal services, and commercial activities located along major streets. Mixed uses, including appropriately integrated medium or higher-density residential facilities, and higher densities are encouraged in these areas.

Industrial

Areas identified for industrial use designation are shaded in purple. It includes the major transportation facilities, and facilities for light- and service-related industrial uses associated with repair, processing, construction, manufacturing, transportation, wholesaling, distribution, storage, or similar economic activities, and supporting facilities that directly enhance their viability. Industrial areas also include a range of compatible commercial activities, except where otherwise specified within the text of the Development Plan. Areas intended primarily for more intensive, noxious industrial uses are also specified in the text of the plan.

Resort

Areas designated for resort use are depicted in pink. This designation consists primarily of full-service or specialty hotels, timeshares, and apartments to support the visitor industry, as well as accessory and supporting commercial uses such as retail, food and entertainment establishments intended to enhance the viability of the principal use. Mixed-use concept is an essential component of this designation, and the integration of visitor accommodations in close proximity to related support services should be encouraged.

Institutional

The institutional designation includes facilities for public use or benefit, including schools, churches, hospitals, group living establishments, utilities and infrastructure production or support facilities, civic, public, and social services facilities, and government facilities. These areas are depicted as blue shapes.

Major Parks and Open Space

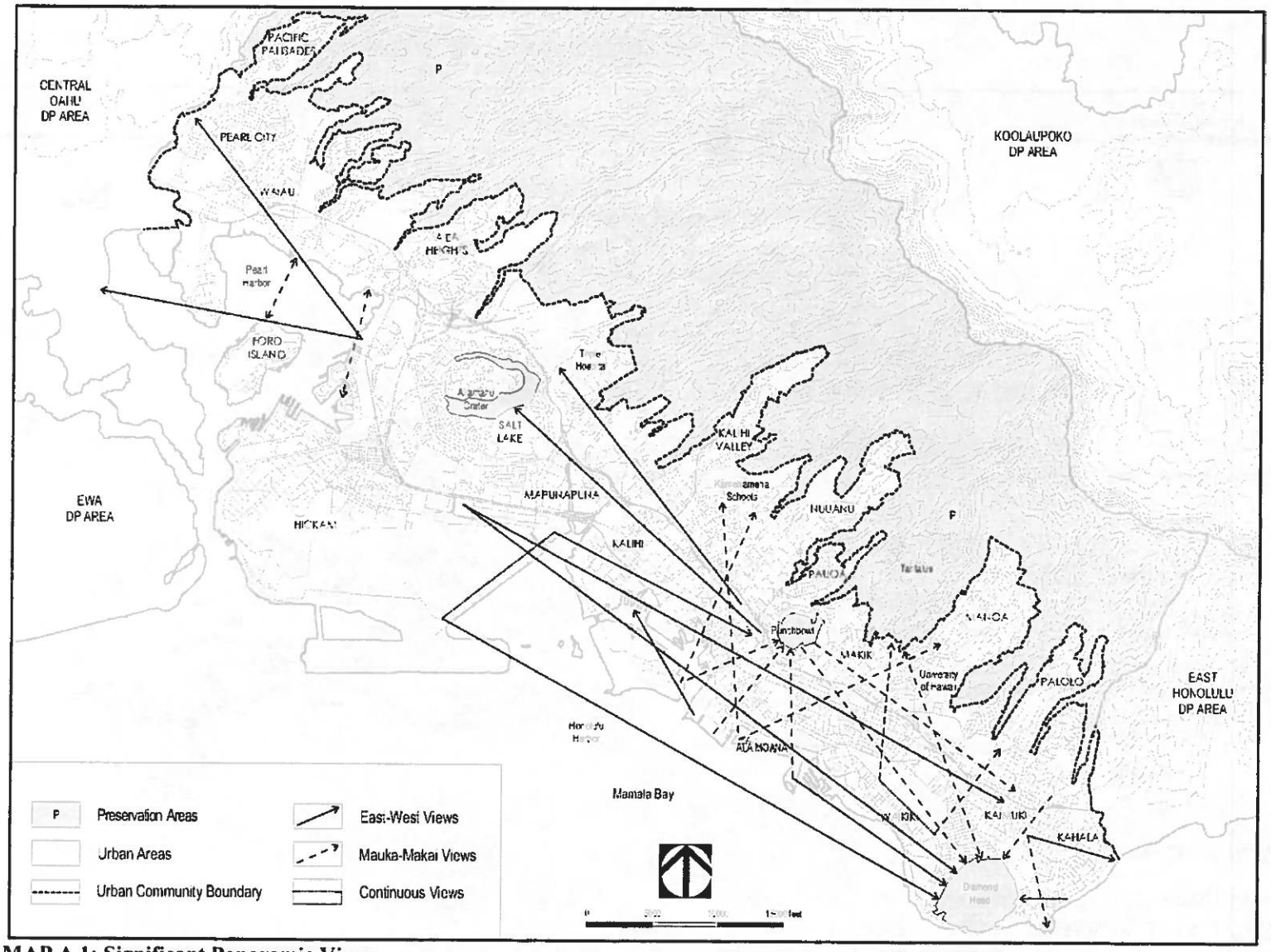
Parks and Open Space features are depicted by a dark green color. This designation refers to larger land areas and recreational facilities that contribute to the region's open space network, including regional and district parks, botanical gardens, zoological parks, golf courses and cemeteries. Community, neighborhood, and miniparks are part of the open space system, but are too small to display on the map.

Military

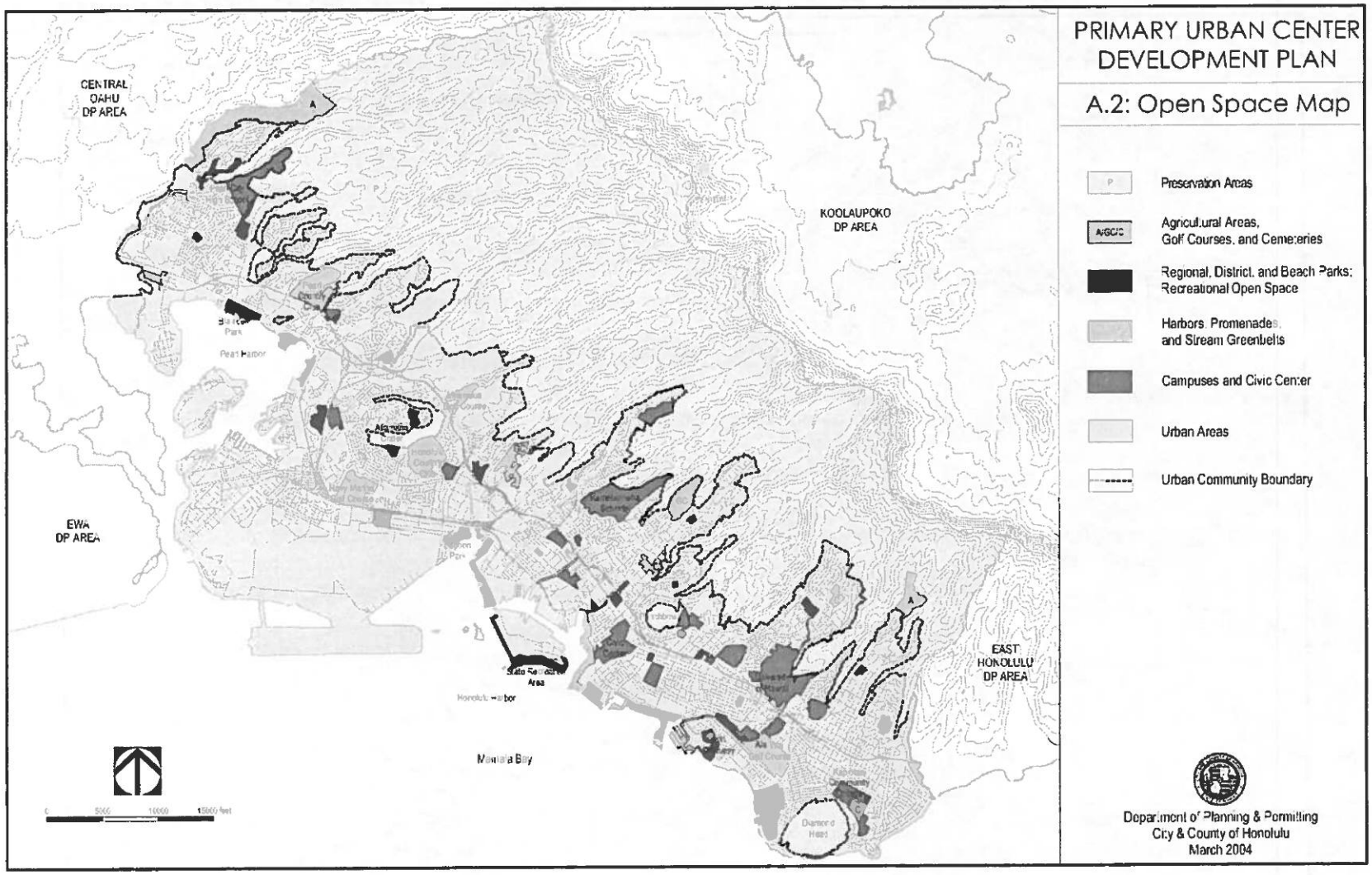
These uses, which are depicted on the maps by a gray color, include lands for military and military support purposes.

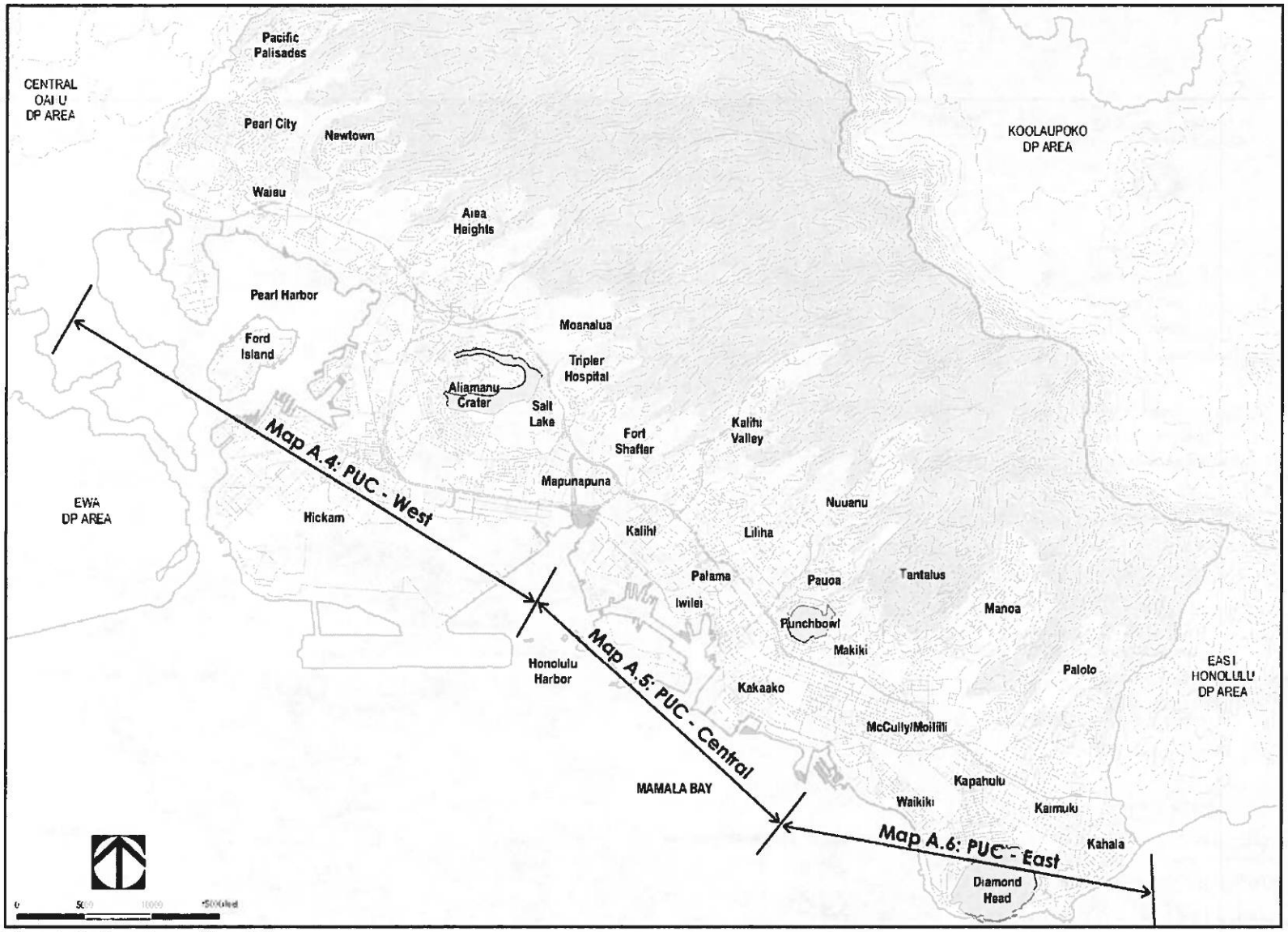
Pedestrian Network

A regional system of pedestrian facilities intended to enhance pedestrian mobility within and between neighborhoods.

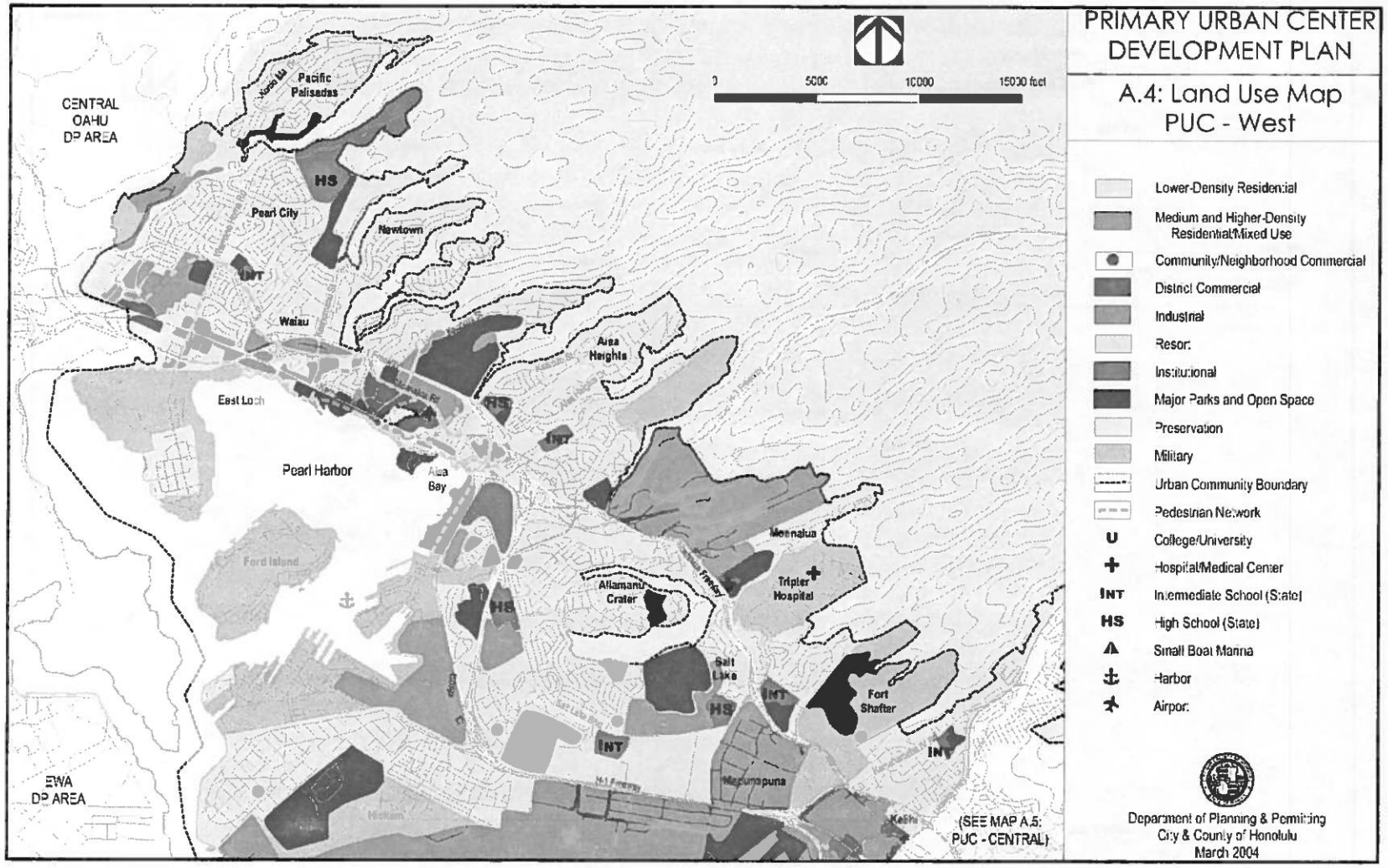


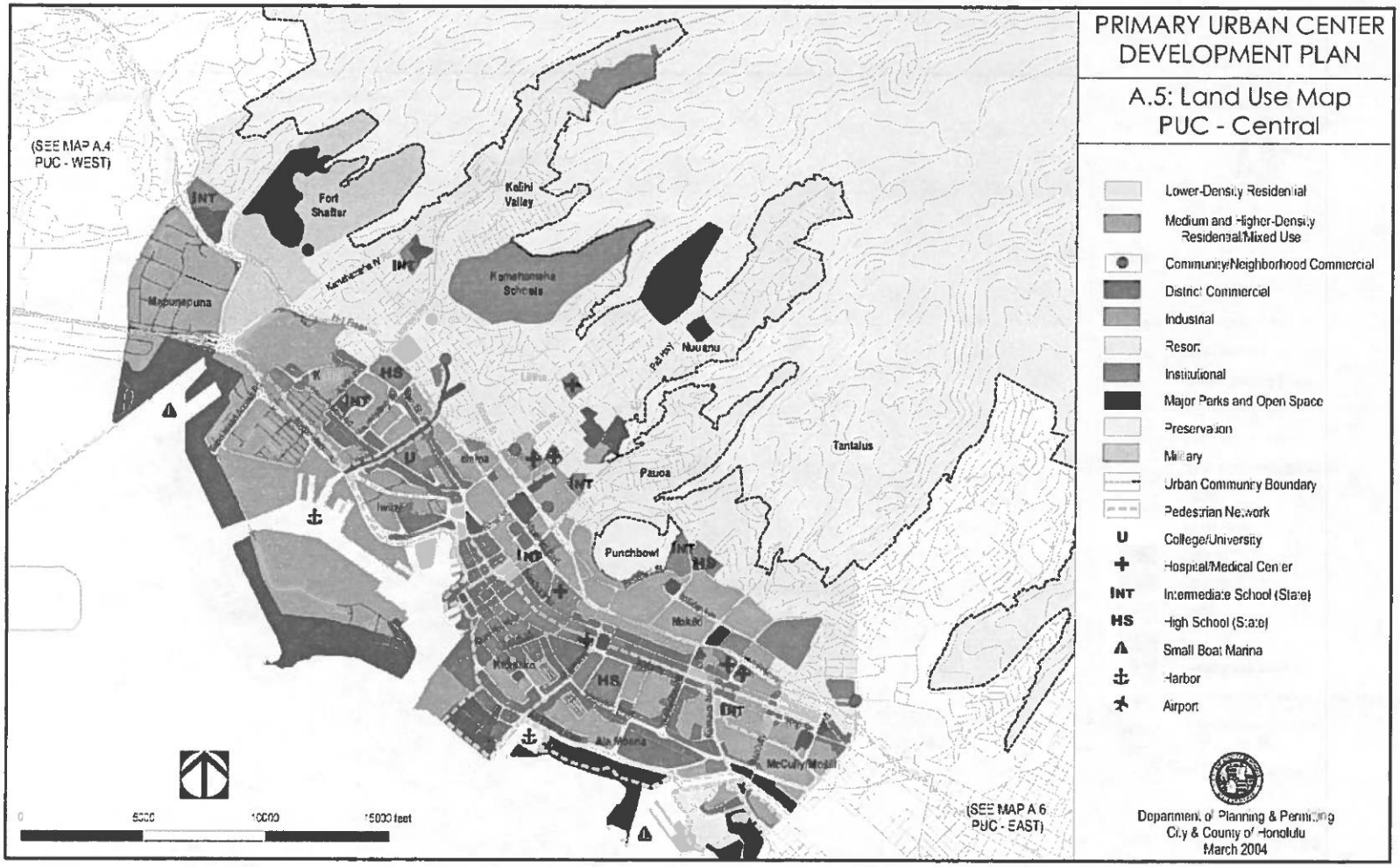
MAP A.1: Significant Panoramic Views

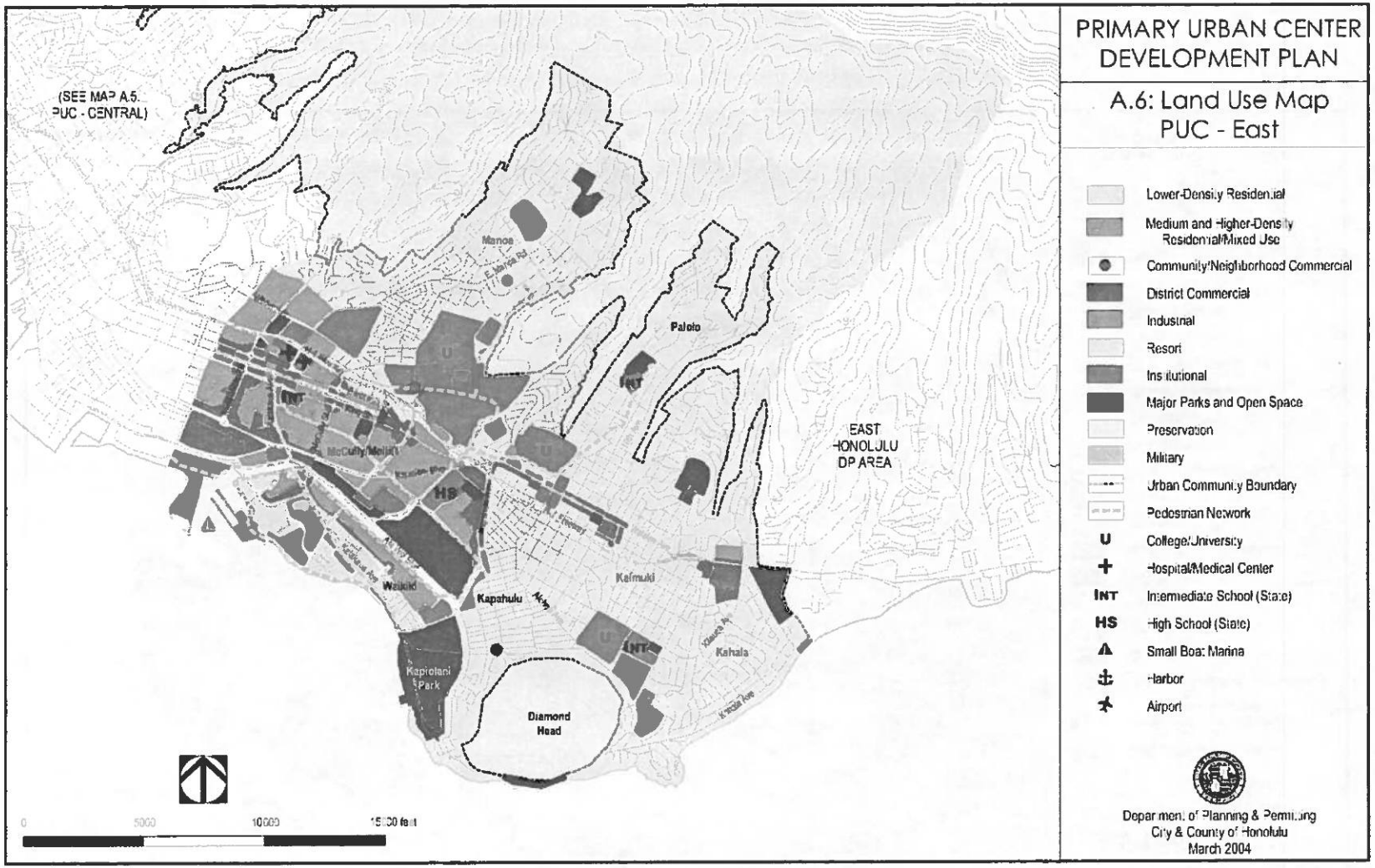

PRIMARY URBAN CENTER DEVELOPMENT PLAN
A.2: Open Space Map
Preservation Areas
Agricultural Areas, Golf Courses, and Cemeteries
Regional, District, and Beach Parks; Recreational Open Space
Harbors, Promenades, and Stream Greenbelts
Campuses and Civic Center
Urban Areas
Urban Community Boundary
CENTRAL OAHU DP AREA
KOOLAUPOKO DP AREA
EWA DP AREA
EAST HONOLULU DP AREA
Pearl Harbor
Honolulu Harbor
Mamala Bay
Department of Planning & Permitting
City & County of Honolulu
March 2004



Map A.3: Land use Key Map


PRIMARY URBAN CENTER DEVELOPMENT PLAN
A.4: Land Use Map
PUC - West
0
5000
10000
15000 feet
Lower-Density Residential
Medium and Higher-Density Residential/Mixed Use
Community/Neighborhood Commercial
District Commercial
Industrial
Resort
Institutional
Major Parks and Open Space
Preservation
Military
Urban Community Boundary
Pedestrian Network
College/University
Hospital/Medical Center
Intermediate School (State)
High School (State)
Small Boat Marina
Harbor
Airport
Department of Planning & Permitting
City & County of Honolulu
March 2004
CENTRAL OAHU DP AREA
EWA DP AREA
Pacific Palisades
Pearl City
Newtown
Waiau
East Loch
Pearl Harbor
Aiea Bay
Ford Island
Aiea Heights
Moanalua
Tripler Hospital
Alamani Crater
Salt Lake
Fort Shafter
Mapunapuna
Kalihi
Hickam
(SEE MAP A.5: PUC - CENTRAL)


PRIMARY URBAN CENTER DEVELOPMENT PLAN
A.5: Land Use Map
PUC - Central
Lower-Density Residential
Medium and Higher-Density Residential/Mixed Use
Community/Neighborhood Commercial
District Commercial
Industrial
Resort
Institutional
Major Parks and Open Space
Preservation
Military
Urban Community Boundary
Pedestrian Network
U College/University
Hospital/Medical Center
INT Intermediate School (State)
HS High School (State)
Small Boat Marina
Harbor
Airport
Department of Planning & Permitting
City & County of Honolulu
March 2004
(SEE MAP A.4 PUC - WEST)
(SEE MAP A.6 PUC - EAST)
Fort Shafter
Kalihi Valley
Kamehameha Schools
Mapunapuna
Nuuanu
Pauoa
Tantalus
Punchbowl
Iwilei
Ala Moana
McCully/Moiliili
0
5000
10000
15000 feet


PRIMARY URBAN CENTER DEVELOPMENT PLAN
A.6: Land Use Map
PUC - East
(SEE MAP A.5. PUC - CENTRAL)
Manoa
Palolo
EAST HONOLULU DP AREA
McCully/Moiliili
Waikiki
Kapahulu
Kaimuki
Kahala
Kapiolani Park
Diamond Head
Lower-Density Residential
Medium and Higher-Density Residential/Mixed Use
Community/Neighborhood Commercial
District Commercial
Industrial
Resort
Institutional
Major Parks and Open Space
Preservation
Military
Urban Community Boundary
Pedestrian Network
College/University
Hospital/Medical Center
Intermediate School (State)
High School (State)
Small Boat Marina
Harbor
Airport
Department of Planning & Permitting
City & County of Honolulu
March 2004
0
5000
10000
15000 feet

Appendix B: Implementation Strategies

This appendix is like a tool box. It sets forth some potential strategies, or options, that can be studied further, used, adopted, or otherwise modified when considering how to implement the policies and guidelines of **Chapter 3** of the *Primary Urban Center Development Plan* or when considering what kinds of specific implementation-oriented planning instruments to use in developing neighborhood plans. They are generally more specific and detailed than the guidelines. In some cases, more study may be needed to establish the efficacy and understand the possible disadvantages of a particular option. Some options may be best suited to more detailed community- or neighborhood-level plans. This appendix is intended as a resource for the making of neighborhood plans and for revisions to the *Land Use Ordinance (LUO)*. The implementation strategies are organized according to the five major headings of **Chapter 3**. Strategies are listed for **Sections 3.1, 3.2, 3.3,** and **3.5**. There are none listed for **Section 3.4**, which relates to visitor, office, military and industrial centers.

3.1 POTENTIAL IMPLEMENTATION STRATEGIES FOR PROTECTION OF NATURAL, CULTURAL, SCENIC RESOURCES

Following are potential implementation strategies relating to natural, cultural, and scenic resources, organized by subject area.

Historic Sites and Districts

- Adopt a property tax abatement program that bases assessments of land value for eligible historic sites on existing use rather than highest and best use.
- Develop flexible development standards for historic sites and landmarks.
- Allow adaptive reuse of historic dwellings and sites compatible in type and scale with the residential neighborhood.
- Promote private reinvestment in historic districts by making public investments that upgrade services and improve security and enhance the appearance of the area, consistent with the historic design theme of the district.

Native Hawaiian Cultural and Archaeological Sites

- Require preservation in-situ where recommended by the State Historic Preservation Officer.
- Determine the appropriate preservation methods on a site-by-site basis in consultation with the State Historic Preservation Officer.
- Determine appropriate delineation of site boundaries and setbacks and restrictions for adjacent uses on a site-by-site basis in consultation with the State Historic Preservation Officer, taking into consideration sight lines that are significant to the original purpose and value of the site.

Stream Greenways and Drainage

- Where possible, retain and restore natural vegetation along stream channels.
- Use athletic fields and other natural areas as stormwater retention basins.
- Where modification of a stream channel is necessary for flood control or to stabilize the channel, use rip-rap armoring and vegetation on the upper banks in lieu of a concrete box design.

Parks and Recreational Open Spaces

- Locate areas designed for sporting events that attract high numbers of people near major collector streets and transit stops.
- Avoid the placement of lighted playfields and outdoor courts near apartments or other residential areas where excessive glare and noise would cause disturbances during the evening and night.
- Promote the joint development, use and maintenance of facilities under the jurisdiction of the City Department of Parks and Recreation, the State Department of Education and private, nonprofit recreational organizations.
- Maintain a significant amount of open space and area dedicated to passive recreation on all park lands, especially the regional and islandwide parks.
- Minimize the visibility of large recreation buildings or structures, lighting, parking lots, perimeter fencing, and other utilitarian elements through plantings or other appropriate visual screening adjacent to residential areas and major streets.

3.2 POTENTIAL IMPLEMENTATION STRATEGIES FOR CULTIVATING LIVABLE NEIGHBORHOODS

The following implementation strategies relate to planning for neighborhoods and specific areas, commercial corridors, and the areas around transit stations. They are organized into categories for "Tools for Livable Communities," with strategies specific to Shopping and Retail Business Districts, In-Town Residential Neighborhoods and *Mauka* Residential Neighborhoods.

TOOLS FOR LIVABLE COMMUNITIES

Maintain existing zoning where appropriate

- Apply existing zoning where warranted by neighborhood character or community objectives.
- Strengthen existing zoning provisions where needed to clarify or implement zoning intent.

Improve the pedestrian network

- Retain public roads and right-of-ways.
- Avoid superblock developments.
- Create midblock pathways.

Allow "build-to lines" rather than yard setbacks

- Along key "main street" corridors.
- Fronting or bordering parks.
- At "neighborhood corner" commercial areas.
- Exceptions include civic and educational institutions.

Create buildings that turn their "eyes on the street":

- No blank walls, parking garage facades or lots along key streets.
- Place usable entry doors and windows at street level.

Require usable parks rather than "buffers"

- Create usable open space – plazas, parks, and courtyards (eliminate unusable building setbacks and "buffers").
- Increase safety by using adjacent buildings to help supervise parks.
- Revise Park Dedication rules for in-town multifamily projects to favor usable public open spaces.

Review and evaluate existing parking regulations and requirements

- Consider creating "Park-Once Districts" where appropriate.
- Consider counting all parking in a given district.
- Evaluate parking requirements based on actual use and needs within 1/4 mile of transit stops.

Develop "healthy streetscape" standards

- Provide wider sidewalks on key streets.
- Plant shade trees in planter strips between curbs and sidewalks.
- Develop safer pedestrian crossings using curb extensions and median crossings.
- Incorporate bike lanes.

Foster mixed-use zoning and apply where appropriate

- Promote residential apartments in commercial districts.
- Create Workplace Zoning Districts where a combination of "clean" lifestyle support uses are allowed subject to performance standards for compatibility.

SHOPPING AND RETAIL BUSINESS DISTRICTS

IN-TOWN COMMERCIAL DISTRICTS

- Revitalize older commercial streets by providing municipal parking lots or additional on-street parking instead of requiring parking on each lot, and by making visual improvements such as street trees, special signage, and fixtures.
- Locate and design municipal parking to be convenient for business customers and clients. Parking lots should be no farther than a five-minute walking distance from any business establishment, which may mean several small lots at dispersed points along a commercial street rather than a single, large lot.

- Require that buildings on specified streets build to the sidewalk.

- Support older commercial centers by providing public parking, possibly using parking improvement districts and by reducing or eliminating parking requirements for small, older commercial buildings in targeted neighborhood business districts.

- Preserve street-wall building forms along older commercial streets by establishing "build-to" lines and requiring display windows and pedestrian entries along street frontages for new construction. Allow canopies to project into the sidewalk area and plant street trees in the sidewalk area instead of landscaped setbacks from the front property line.

COMMUNITY/NEIGHBORHOOD COMMERCIAL AREAS

- Require parking lots, service areas, and loading zones to be screened from view of the street and adjacent residential lots.

- Require new commercial buildings located directly adjacent to residential dwellings to achieve effective transition in scale, if necessary, and to utilize building and roof treatments that are sympathetic to residential character.

- Allow only low-level lighting for parking and service areas.

- Reduce or waive off-street parking requirements for neighborhood stores.

SHOPPING CENTERS

- Develop performance standards for shopping centers requiring: (1) clearly-defined pedestrian walkways between the sidewalk and building entrances; (2) placement of stores along a portion of the street frontage; (3) convenient access to public transit; and (4) mitigation of vehicular traffic impacts. Standards could be implemented by requiring a conditional use or similar permit for shopping centers over a certain size.

IN-TOWN RESIDENTIAL NEIGHBORHOODS

- Redevelop minor streets within in-town, higher-density residential neighborhoods to create open space "green streets." A green street may have limited one-way vehicular traffic and should employ traffic calming design. Reclaimed portions of the right-of-way could accommodate wider sidewalks, trees and plantings, and seating areas. **Figure A** is one example of how a green street might be designed.

MAUKA RESIDENTIAL NEIGHBORHOODS

Residential Street Character

- Adopt revised standards for streets and front yards that maintain or enhance the visual openness and landscaped quality of streets and front yards and emphasize pedestrian and bicycle safety and convenience.

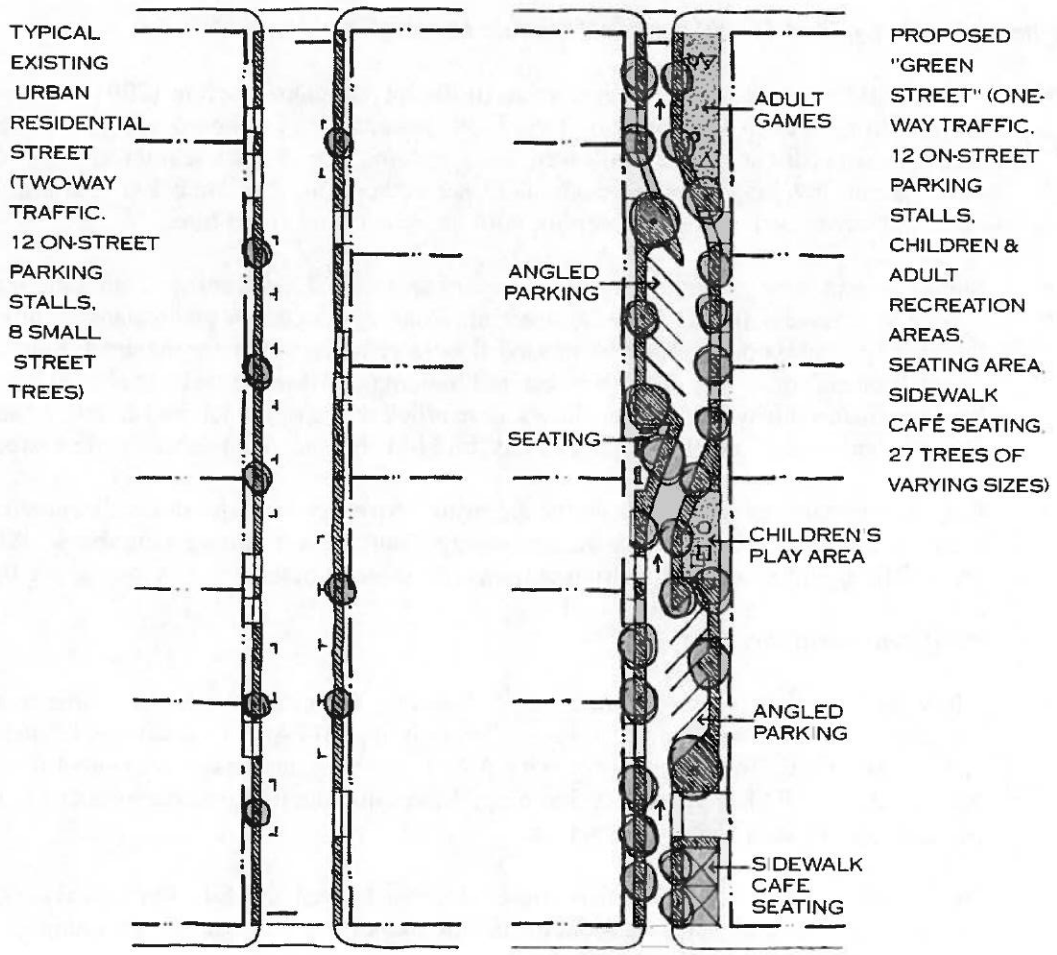
- Widen the automobile travelway only where clearly needed for public health and safety.

- Implement traffic calming measures in conjunction with community-based efforts to improve neighborhood quality of life.

Commercial Uses and Parking

- Encourage the development and continuation of commercial uses that have a pedestrian orientation and a predominantly neighborhood service area.
- Alleviate traffic and parking impacts of commercial and institutional uses.

FIGURE A: URBAN GREEN STREET



3.3 POTENTIAL IMPLEMENTATION STRATEGIES FOR DEVELOPING IN-TOWN HOUSING CHOICES

Policies in **Section 3.3** of the plan call for developing in-town housing opportunities that are affordable and that contribute to livable neighborhoods. Zoning and building regulations are among the key factors affecting the design and cost of housing. Below are some potential options for revising zoning and building regulations.

These options could be used to thoroughly revise apartment development standards citywide; or they could be applied to specific neighborhoods or districts of the PUC. At a minimum, the *LUO* development standards for Apartment districts should be thoroughly reviewed in light of current best practices. Neighborhood and special area plans should also consider alternative zoning and building standards for apartment housing.

Promote people-scaled, pedestrian-friendly multifamily housing

- Allow buildings to cover a larger portion of the lot. Because current (2001) *LUO* standards limit building area to 40 percent on larger lots, tower type of building design is rewarded. If, instead, greater lot coverage is allowed, then building heights can be reduced. Buildings that have similar, low heights bring residents closer to the ground, relate better to adjoining buildings, and have a scale more in keeping with the streets and street trees.

- Reduce or eliminate required front and side yard setbacks. Front yards provide little usable open space and remove buildings from the street and from easy access by pedestrians. Eliminating the front yard provides opportunities for ground-floor storefronts, enlivening the street. Side yards often create "tunnels" of wasted space between tall buildings. Allowing walls to abut at side property lines eliminates this wasted space, allows more efficient use of the lot, and creates a "street wall" along the sidewalk. Establishing a required "build-to" line is often used to create a street wall.

- Require a pedestrian entrance from the sidewalk. An entry from the sidewalk encourages residents to do errands by walking and encourages interaction among neighbors. Along with ground-floor storefronts, pedestrian entries contribute to activity and safety along the street.

Reduce the cost of apartment dwellings

- Allow additional floor area for multifamily housing. Existing floor-to-land-area ratios (FAR) are relatively low. For example, it is possible to build 1.0 FAR in a residential district, but the A-1 Apartment District allows only 0.9 FAR. Some very successful apartment projects have been built at 3.5 FAR under BMX-3 zoning. Increasing the FAR has the effect of reducing the per-unit cost of land and infrastructure.

- Evaluate minimum parking requirements. Since the typical cost for a multilevel parking structure averages $25,000 per stall, reducing the number of required spaces where appropriate could make apartment housing less costly.

- Count parking as floor area and increase FAR commensurately. Although aboveground parking structures contribute substantially to building mass, parking is not counted as floor area under current *LUO* regulations. (Parking structures can add as much as 3.0 FAR in building mass.) Under this flexible, market-based option, the developer would choose how much FAR to use for apartments and how much to use for parking stalls.

- Change building regulations to encourage less costly types of construction while maintaining existing health and safety standards.

Improve the feasibility of building on small lots

- Eliminate disincentives for building on small lots. Current *LUO* regulations have a sliding scale that reduces the maximum FAR for lots of less than 40,000 square feet. Eliminating or modifying this disincentive, and eliminating or reducing development standards for setbacks and site coverage may improve development feasibility for smaller lots.

Encourage rehabilitation of older apartment housing

- Develop separate building code provisions for rehabilitation of older apartment buildings, while maintaining health and safety standards. A more flexible code would encourage reinvestment and maintenance of low-rent housing.

Augment schools and services to serve higher-density residential areas

- Establish after-hours use of school fields and recreational facilities for neighborhood residents. Residents should contribute to care and maintenance of the facilities. The school campus should be integrated into the neighborhood and should have multiple points of pedestrian entry.

Expand the supply of affordable housing

Expand the inventory of affordable housing units as needed by the community.

3.4 POTENTIAL IMPLEMENTATION STRATEGIES FOR DEVELOPING A BALANCED TRANSPORTATION SYSTEM

Policies in **Section 3.5** of the Development Plan call for developing a balanced transportation system that will provide mobility and improve the quality of life in the Primary Urban Center without major roadway expansions. Below are some potential options that could be used to carry out specific policies and guidelines.

Coordinate land use policies and regulations with transit development

- To promote the development of higher-density, mixed-use (i.e., residential-commercial) projects within the rapid transit corridor, provide incentives in the zoning code, such as floor area bonuses, use allocation ratios, and shared use of parking and loading.

- To promote pedestrian activity and facilitate transit ridership, establish special land use, design, and development standards for frontage properties along transit-oriented streets, with particular attention to the areas around transit centers and stops. Development standards may include reduced off-street parking; pedestrian entries close to the sidewalk, façade treatments that provide interest and amenities for pedestrians, and uses at ground level that generate pedestrian traffic.

Support transit and manage transportation demand

- Develop strategically located public parking facilities to support transit ridership.

- To promote transit ridership and increase housing affordability, reduce off-street parking requirements in the transit corridor and consider establishing maximum parking ratios rather than minimum ratios in selected areas.

- Provide incentives for developers and employers to prepare and implement trip reduction plans. Density bonuses may be appropriate for new development projects that demonstrate reductions in the number of external trips through provision of mixed uses and transit-oriented design.
- Encourage Downtown employers to implement work behavior changes such as telecommuting, flexible hours, and four-day workweeks.

Improve roadway planning and design

- Classify the major traffic streets, transit streets, pedestrian routes, bikeways, truck routes, and streets that serve multiple functions. Develop design and traffic operation guidelines for each street type, including appropriate land use and design treatment for frontage properties.
- Develop guidelines and initiatives to retrofit those streets that have a distinctive identity or whose identity has been degraded but could be restored. Examples of streets with a strong identity include Kapahulu Avenue, Waialae Avenue, Kahala Avenue, Bishop Street, and Oahu Avenue.
- Redefine the primary purpose of street setback lines and right-of-way acquisition to widen sidewalks, provide landscaping, and develop transit facilities. Priority should be given to major streets within the rapid transit corridor that are fronted by properties with significant development potential. Examples are Kalakaua Avenue between King Street and Ala Wai Bridge; Keeaumoku Street between Kinau Street and Kapiolani Boulevard; and Pensacola Street between King Street and Kapiolani Boulevard.
- Identify neighborhoods experiencing "shortcutting" to determine where to implement traffic calming and enforcement measures to minimize the impact.

Improve bicycling facilities

- Implement other policies and programs recommended in the Honolulu Bicycle Master Plan, giving priority to the following: (1) amending the Land Use Ordinance to require minimum short- and long-term bicycle parking by land use type; (2) providing incentives for developers to provide secure bicycle storage facilities and showers; and (3) undertaking educational, promotional and enforcement programs to institutionalize the concepts of bicycle-friendliness.

Appendix C: Glossary of Terms

B&B	Bed and Breakfast Establishment
BRT	Bus Rapid Transit
BWS	Board of Water Supply
CIP	Capital Improvement Program
CVT	Community Vision Team
CWRM	State Commission on Water Resource Management
DOE	State Department of Education
DOT	State Department of Transportation
EA	Environmental Assessment
EIS	Environmental Impact Statement
FAR	Floor Area Ratio
HCDA	Hawaii Community Development Authority
HECO	Hawaiian Electric Company
HIA	Honolulu International Airport
LUO	Land Use Ordinance
Mauka	*towards the mountain; upland or inland*
Makai	*towards the sea*
Ohana unit	*an attached home of limited size on a lot where the underlying zoning normally allows only one house that must be occupied by relatives of the family living in the main house*
OMPO	Oahu Metropolitan Planning Organization
OR&L	Oahu Railway and Land Company
PCS	Personal Communications Systems
PUC	Primary Urban Center
PUC DP	Primary Urban Center Development Plan
RF	Radio Frequency
TDM	Transportation Demand Management
TOP 2025	Transportation for Oahu Plan 2025
TVU	Transient Vacation Unit
UH	University of Hawaii
USS	United States Ship
WMA	Water Management Areas