# HALAWA AREA

## Transit-Oriented Development (TOD) Plan

### EXISTING CONDITIONS REPORT

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## EXISTING CONDITIONS REPORT


Prepared for the *City & County of Honolulu* by:

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# 1. INTRODUCTION

**This chapter explains the reasons for creating a transit-oriented development (TOD) plan in the Halawa area, summarizes the principles of TOD, and lays out the future planning process for the Halawa Area TOD Plan. Additionally, the chapter introduces to the reader the Halawa area, and reviews existing plans and policies that may affect the future of TOD in the Halawa area.**

## 1.1 PURPOSE & INTENT

*The City and County of Honolulu has a long history of public transit; streetcars served the City as early as the turn of the century, and the current bus system is one of the most successful in the nation. As rail transit is reintroduced, the City has engaged in neighborhood planning surrounding the system's rail stations, including Aloha Stadium Station, which is to serve the Halawa area. The intent is to make the most of the system for the benefit of the community, emphasizing the promotion of transit-oriented development that will support transit ridership, improve pedestrian access, and fund neighborhood improvements.*

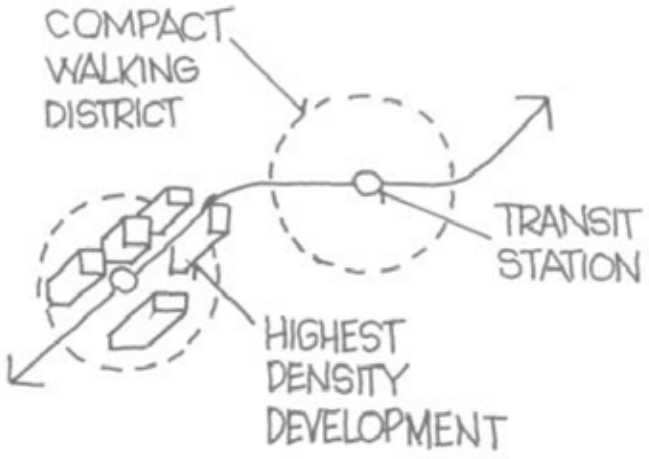
### 1.1.1 OVERVIEW

The City and County of Honolulu (the City), in partnership with the U.S. Department of Transportation Federal Transit Administration, is currently constructing the Honolulu Rail Transit (*HRT*) project that will bring rail transit service to the south shore of Oahu. The anticipated full completion date of the HRT project is 2020. This rail corridor is designed to connect employment and residential centers, throughout southern Oahu, starting ewa at East Kapolei and extending twenty miles diamond head to Ala Moana Center. An elevated fixed guideway system operating in an exclusive right-of-way will ensure speed and reliability and will avoid conflicts with vehicles and pedestrians. Feeder buses will link stations (located at approximately one mile intervals) with those areas not directly served by rail. Overall goals are to improve corridor mobility and reliability, increase access to existing and planned development, and promote transportation equity.

In conjunction with the HRT project, the City is preparing a series of neighborhood transit-oriented development (TOD) plans that integrate land use and transportation planning around the rail stations. The City's Land Use Ordinance's (LUO) provisions for TOD special districts, adopted by the Honolulu City Council in 2009, authorizes preparation of neighborhood TOD plans. These plans will serve as the basis for creation or amendment of a TOD Precinct, along with accompanying development regulations. The LUO specifies that each neighborhood TOD plan shall address the following:

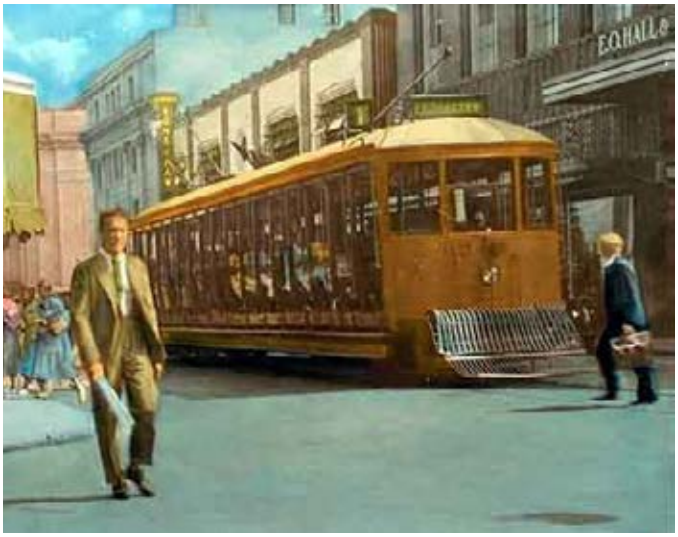
- General objectives supporting *economic revitalization and reinforcing neighborhood character*, including the desired mix of land uses, land use intensities, circulation strategies, urban design forms, and cultural and historic resources.
- *Recommended boundaries for the TOD zone* based on natural topographic barriers, redevelopment potential, and relation to the transit station and potential ridership, normally including properties within 2000 feet of the station.
- *Recommended zoning controls*, including architectural and community design principles, open space requirements, parking standards, and other modifications to existing zoning.
- A strategy for preservation and creation of *affordable housing.*
- A general program for *implementation*, covering phasing, as well as approximate cost and potential financing mechanisms.

The City is currently proceeding with preparation of the Halawa Area Transit-Oriented Development (TOD) Plan, which encompasses the area surrounding the proposed Aloha Stadium Station. With partial operation of the rail system anticipated in 2018 (initially terminating at Aloha Stadium Station), the station area offers the opportunity to capitalize on Honolulu's "Value Capture Strategy" intended to leverage public investment in the rail system. A great opportunity is the redevelopment of the station vicinity as well as Aloha Stadium itself,




*TOD concept diagram*

*Streetcar running along King Street*



*Honolulu Rapid Transit streetcar serving dense urban fabric*

creating a mixed-use, transit-oriented neighborhood catering to residents as well as visitors and employees of the Pearl Harbor Naval Base. Increased density at the stadium and station has considerable potential to increase property values and property tax revenues through transit-oriented development. The Halawa Area Transit-Oriented Development (TOD) Plan will guide development in a manner that optimizes value capture while ensuring community benefits.

### 1.1.2 TRANSIT-ORIENTED DEVELOPMENT (TOD)

Transit-oriented development (or TOD) typically refers to development within comfortable walking distance of a major transit stop. This is important because urban transit ridership relies heavily upon pedestrian access within a 5- to 10 minute walking distance, or a roughly ¼- to ½-mile radius from the station. Higher densities are an important characteristic of TOD and may be achieved through development of vacant land or redevelopment of low-density sites. Additionally, TOD should focus on the pedestrian scale and contribute to an urban environment that is safe and appealing to persons on foot. Ideally, this involves a vibrant mix of land uses, generally encompassing residential and commercial activities, while featuring ground floor uses that maintain street vitality. Moreover, improved pedestrian and bicycle connections should readily link the transit station with major destinations and activity centers such as shopping centers and schools. Collectively, these measures will promote efficient use of land, encourage transit ridership, as well as support a diverse mix of land uses that are easily accessible on foot and meet daily needs.

### 1.1.3 PUBLIC OUTREACH

The LUO requires that the process of drafting neighborhood TOD plans shall be "inclusive, open to residents, businesses, landowners, community organizations, government agencies and others." Therefore, public input through various outreach programs will be an

essential aspect of preparation of the Halawa Area Transit-Oriented Development (TOD) Plan. Key stakeholders and interested groups and individuals will have multiple

opportunities to interact with the planning team through a variety of forums as the plan develops. These will include stakeholder interviews, a needs assessment survey, advisory committee meetings, community workshops, as well as ongoing status updates provided through the City's project web page.

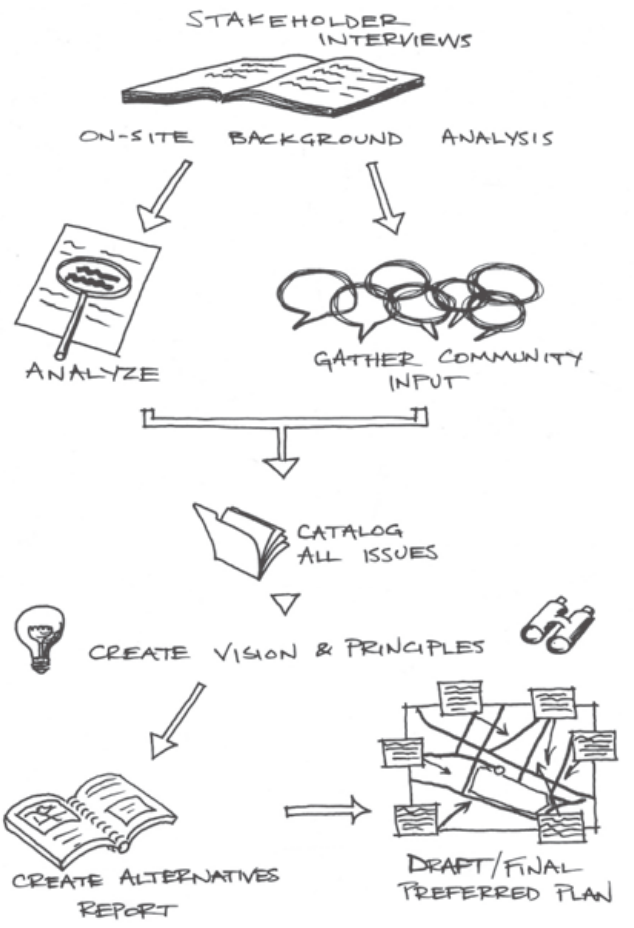
### 1.1.4 EXISTING CONDITIONS REPORT

The LUO also requires comprehensive background analysis for preparation of neighborhood TOD plans, including "population, economic, and market and infrastructure analysis." This Existing Conditions Report represents the initial step in the planning process as it summarizes site conditions and identifies opportunities and constraints related to land use, circulation, open space, infrastructure, and physical design, with an emphasis on exploring the potential for transit-oriented development. A further discussion on economic market conditions and transportation factors are provided as two appendices. This report is organized as follows:

- ***Chapter 1: Introduction*** includes an overview of the Halawa area and a review of existing plans, policies, and programs that pertain to this project.
- ***Chapter 2: Community Context*** describes the planning area and its surroundings according to 1) socioeconomics; 2) land use; 3) development intensity; 4) community character; 5) circulation and 6) environment. This chapter's analysis examines a one mile radius surrounding the proposed station.
- ***Chapter 3: Stakeholder Interviews*** discusses major themes relevant to development in the Halawa area, based on input received through this initial outreach effort.
- ***Chapter 4: Opportunities & Constraints*** identifies the key issues, opportunities and constraints revealed through the background document review, site analysis and initial outreach. These will be considered further as the planning process moves forward.
- ***Chapter 5: Appendices*** provides further insights on transportation issues and market opportunities.

### 1.1.5 NEXT STEPS

As noted, this document summarizes the research and analysis stage. The planning team will continue to work with the local community and the selected advisory committee to establish the vision and principles that will provide the basis for future development around Aloha Stadium and within the Halawa area as a whole. Consistent with this vision, the next step will explore alternative concepts and scenarios for development. Relying upon feedback received through on-going public outreach, a preferred plan will be prepared integrating the best ideas from several plan options. This will describe the overall vision, recommended land use mix, proposed circulation, open space, and infrastructure networks, and other key physical design characteristics. Zoning recommendations and implementation strategies will also be addressed. After the release of a Public Review Draft, the adopted Halawa Area Transit-Oriented Development (TOD) Plan will satisfy LUO requirements and provide a sound basis for preparation of TOD development regulations applicable to the Halawa area.



## 1.2 STATION LOCATION & PLANNING AREA

*The Planning area, referred to as the Halawa area in this TOD plan, is made of lands within one mile of the Aloha Stadium Station. This section identifies the Halawa area's context as well as identifies its major features, points of interest, and neighborhoods.*

### 1.2.1 ISLAND SETTING

The Aloha Stadium Station is one of 21 stations spanning the 20 mile length of the HRT project. This station will serve the surrounding employment centers, attractions, and neighborhoods in the Halawa area. Most significantly, the station is immediately adjacent to Pearl Harbor, its naval base, various naval landmarks, and the historic sites associated with the December 7th, 1941 attack that began US involvement in the Second World War. The station itself is located roughly halfway along the HRT line between East Kapolei and Ala Moana Center. Figure 1-1 depicts the island of Oahu and the Primary Urban Center, a designation referring to the island's densely populated area. To the north (mauka) are several residential neighborhoods and the Koolau Mountains; to the south (makai) is Honolulu International Airport and Joint Base Pearl Harbor-Hickham. To the east (diamond head) is central Honolulu; while to the west (ewa) is Pearl Harbor itself, Pearl City, and the Ewa/Kapolei neighborhoods.


**FIGURE 1-1: LOCATION WITHIN OAHU**

### 1.2.2 HALAWA AREA CONTEXT

Figure 1-2 depicts Aloha Stadium Station in its context, looking Diamond head. The site is a significant crossroads of Oahu; the station is located near major freeways that reach across the island to central Honolulu, Kaneohe Bay, Ewa, and Miliani, and several of these interchanges exist within a mile of the station. Joint Base Pearl Harbor-Hickham is a result of the 2010 merger of Naval Station Pearl Harbor and Hickham Air Force Base. The majority of Navy facilities, drydocks, and homeported vessels are located makai, approximately one mile from the station. A causeway, completed in 1998, connects other naval facilities and tourist attractions on Ford Island to the Pearl Harbor Visitor Center, adjacent to Aloha Stadium. Further makai is the Air Force component to the base, sharing its runway facilities with Honolulu International Airport. From Aloha Stadium Station, travelers will have a seven minute ride to the airport and a 21 minute ride past downtown to Ala Moana Center Station.


**FIGURE 1-2: HONOLULU CONTEXT**

### 1.2.3 THE HALAWA AREA

Figure 1-3 depicts the one mile radius surrounding Aloha Stadium Station that makes up the Halawa area. Further study on the Halawa Area TOD Plan will provide a final recommendation on applicable boundaries for planning based on a thorough understanding of site conditions. Major points of interest near or within this radius include:

- **Pearl Harbor:** The harbor itself was originally a lagoon, created by thousands of years of stream drainage and sea level rises and falls. It was opened to navigation by the native Hawaiians and became home to the naval base in 1899.
- **Ford Island:** Located in the center of Pearl Harbor and connected by the aforementioned causeway, Ford lsland is an integral part of the base, providing personnel housing, support facilities, and tourist attractions, such as the Pacific Aviation Museum.
- **Aloha Stadium:** Located just over ¼ mile from the rail station is Aloha Stadium, the largest sports and entertainment venue in Hawaii. Built in 1975, there is intense discussion on the stadium's future. See Section 2.5 for a further discussion of the immediate station area and Aloha Stadium.
- **Pearl Harbor Visitor Center:** Administered jointly by the Navy and the National Park Service, the visitor center and its associated monuments are the most-visited tourist attractions in Hawaii. Adjacent to the center is the USS *Bowfin* submarine, the USS *Arizona* Memorial, and the USS *Missouri*.
- **Stadium Mall/Stadium Marketplace:** These shopping centers service the neighborhood mauka and diamond head of the station site. Stadium Mall is home to the Ice Palace, the state's only indoor ice rink, and one of the study area's most popular attractions.
- **Pearlridge Center:** As Hawaii's second largest mall, it is located in the center of a cluster of commercial and high-density residential.

Additionally, Section 2.3.2 provides further detail on the aforementioned places of interest and other major attractions within the Halawa area. Figure 1-3 also provides locations of neighborhood schools, hospitals, parks, and bodies of water.

*Aloha Stadium*

*Pearl Harbor Visitor Center*

*Ice Palace*

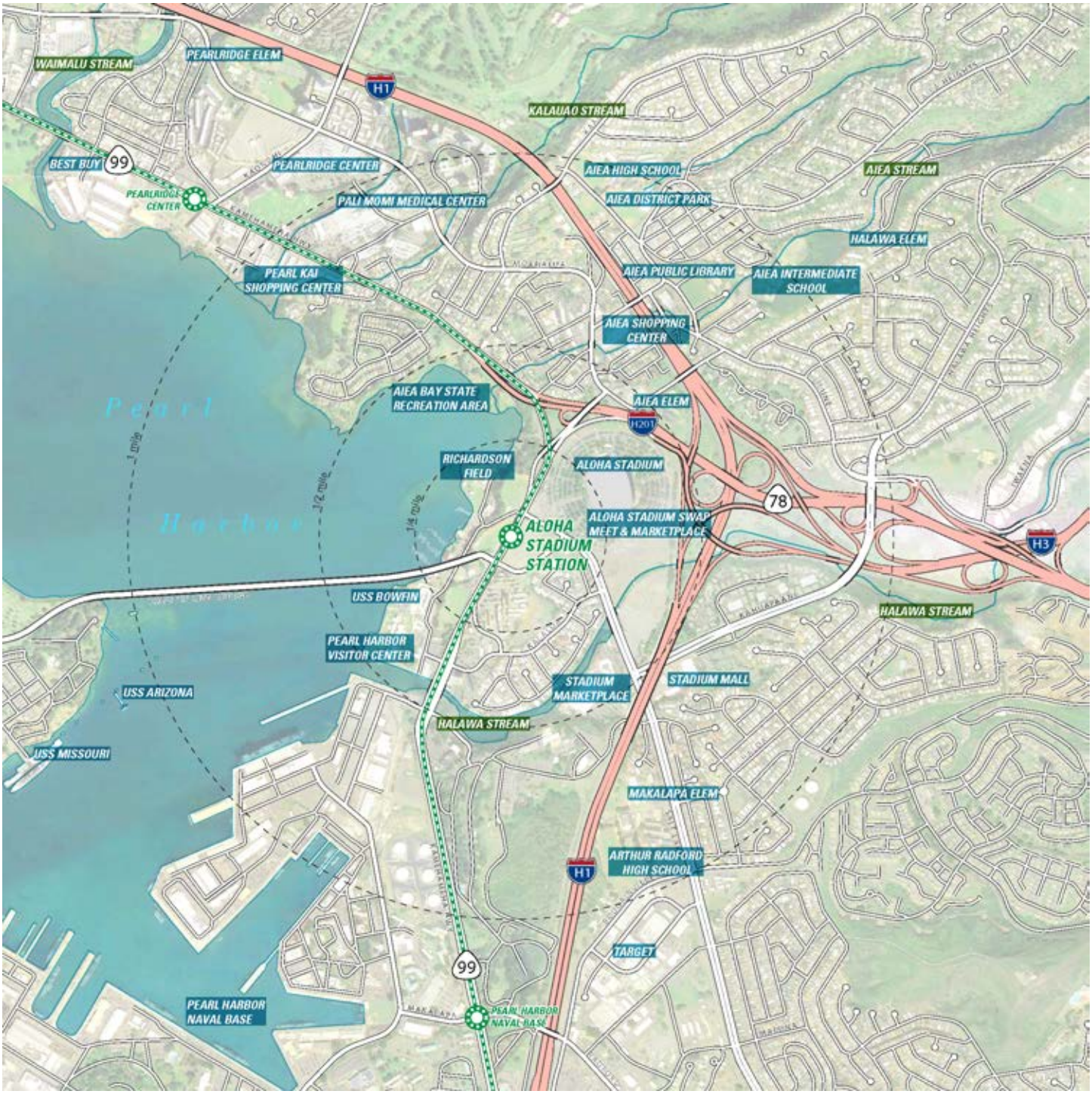



**FIGURE 1-3: PLANNING AREA**

1" = 2000'

0' 500' 1000' 2000' 4000'

Fixed Guideway
Rail Stations
Coastline



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### 1.2.4 NEIGHBORHOODS & EMPLOYMENT CENTERS

There are several neighborhoods and employment centers that make up the Halawa area. The districts found on Figure 1-4 are based on an analysis of land use patterns, military usage, and geographical barriers. Further explanation of community structure is found in Section 2.3.1.

*Neighborhoods* in the study area include:

- **Halawa Valley:** Largely consisting of the low-density Halawa Valley Homes subdivision.
- **Aiea:** The oldest neighborhood in the study area, it has an identifiable commercial district in its center.
- **Crosspointe:** a condominium community.
- Low-density tract housing developments include **Halawa Heights, Foster Village, Waimalu, and Salt Lake.**
- **Puuwai Momi:** A public housing development.
- **Pearlridge:** Consists of a high concentration of commercial, retail and high-density residential.
- Military Housing: usually limited access, these include developments in **Halawa, McGrew Point, Makalapa, Aliamanu Military Reserve, and on Ford Island.**

*Employment Centers* typically consist of commercial or military use:

- **Stadium Shopping:** Adjacent to the stadium, it consists of the Stadium Mall and Stadium Marketplace.
- **Bougainville:** Consists of light industrial and big box retail.
- **Pearl Harbor Naval Base:** Limited access to the base is located at the Ford Island Causeway and at two other locations along Kamehameha Highway, one of which is Makalapa Gate, the future location of the Pearl Harbor Naval Base Station.
- **Camp Smith:** A US Marine Corps base located mauka of Halawa, it is the home of the United States Pacific Command.

Other areas include:

- **Aloha Stadium:** This area consists of the station area itself, as well as the 50,000 seat Aloha Stadium and its parking lot.
- **Pearl Harbor Visitor Center:** This area consists of historic attractions and Navy recreation facilities.

*Aiea Neighborhood Center*

*Military Housing in Halawa*


*Stadium Mall*

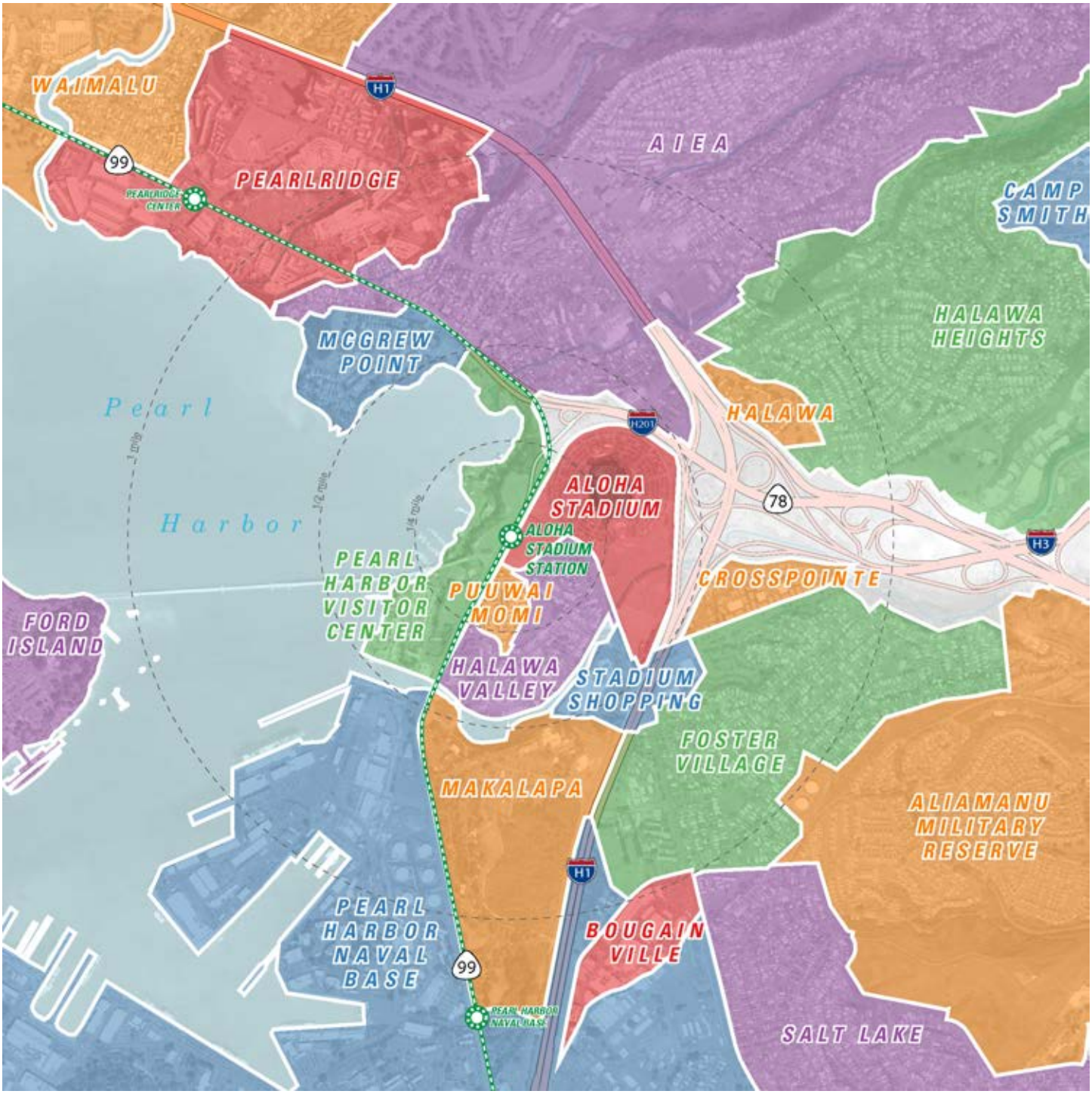



**FIGURE 1-4: DISTRICTS**

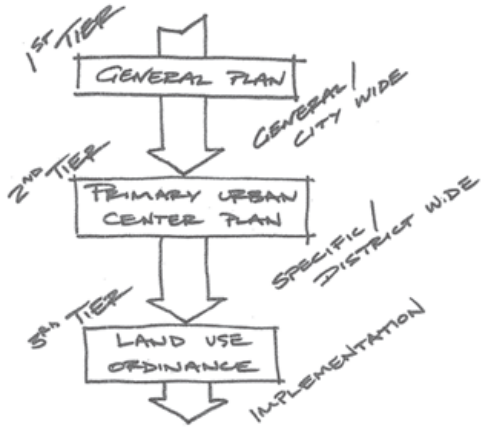
# 1.3 EXISTING PLANS & POLICIES

*The Halawa Area Transit-Oriented Development (TOD) Plan should respect current plans, as they reflect essential local values. Additionally, it is important that this maintain consistency with previously adopted plans, policies and programs. The following is a summary of existing plans, policies and programs, and their relationship to one another.*

## 1.3.1 THE THREE-TIER SYSTEM

The City and County of Honolulu guides and directs land use and growth through a Charter-mandated "three-tier" system, providing "objectives, policies, planning principles, guidelines and regulations island-wide." The General Plan forms the first tier of the system, establishing brief statements of objectives and policies that will guide development on Oahu.

The second tier encompasses Development Plans and Sustainable Community Plans addressing Oahu's eight geographic regions. The Halawa area is located in the Primary Urban Center (PUC) Development Plan.

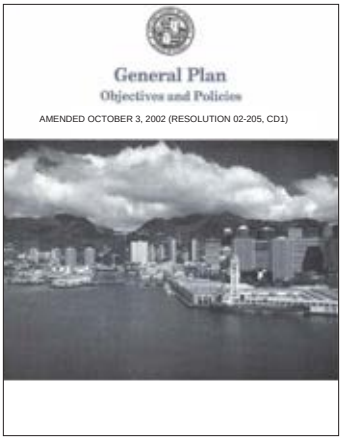



Implementing ordinances and regulations provide the third tier, including the Land Use Ordinance (LUO) and the City's Capital Improvement Programs (CIP). These ordinances constitute the principal means by which the City's General Plan and Development and Sustainable Communities Plans are implemented. They must maintain consistency with the General Plan and the regional Development Plans, and they must be internally consistent as well.

## 1.3.2 OAHU GENERAL PLAN: OBJECTIVES & POLICIES

*(Last amended October 2002)*

The General Plan for the City and County of Honolulu is "a comprehensive statement of objectives and policies which sets forth long-range aspirations of Oahu's residents and the strategies of actions to achieve them." Prepared by the Department of Planning & Permitting (DPP), the document establishes long range physical, social, economic, and environmental objectives, as well as supporting policies that will advance the general welfare and prosperity of the people of Oahu.




The General Plan is organized around eleven subject areas:

- *Population*
- *Economic activity*
- *The natural environment*
- *Housing*
- *Transportation and utilities*
- *Energy*
- *Physical development & urban design*
- *Public safety*
- *Health and education*
- *Culture and recreation*
- *Government operations & fiscal management*

Table 1-1 lists policies addressing transportation, as well as physical development and urban design that are especially applicable to TOD planning for the Halawa area.

The DPP is currently engaged in an update of the General Plan, utilizing a 2035 planning horizon. This update will focus on topics of growth and development, economic health, tourism, housing, agriculture and sustainability, issues that impact the quality of life and are of greatest concern to Oahu's residents. The movement toward adding sustainability as a fundamental policy will reinforce the emphasis on land use patterns that encourage compact, mixed-use development and multi-modal transportation networks.

### TABLE 1–1: Key General Plan Policies

***Develop and maintain an integrated ground-transportation system consisting of the following elements:*** a) public transportation; b) roads and highways; c) bikeways; and d) pedestrian walkways.

***Promote the use of public transportation*** as a means of moving people quickly and efficiently, of conserving energy, and of guiding urban development.

***Provide for more compact development and intensive use of urban lands*** where compatible with the physical and social character of existing communities.

***Encourage the establishment of mixed-use districts with appropriate design and development controls*** to insure an attractive living environment and compatibility with surrounding land uses.

***Provide special design standards and controls*** that will allow more compact development and intensive use of lands in the primary urban center.

### TABLE 1–2: Key Primary Urban Center Development Plan Policies

***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.

***Develop a system of collaborative neighborhood planning:*** Refine and further develop a stakeholder based process for continuing community-based neighborhood planning.

***Promote mixed land uses***: Encourage compatible mixtures of land use for in-town PUC neighborhoods and districts to support a variety of urban lifestyle choices and to create vibrant and convenient neighborhoods.

***Make streets pedestrian-friendly:*** Create inviting and attractive street-side environments that support and enhance convenient and safe pedestrian use.

***Provide incentives and cost savings for affordable housing:*** this policy promotes exemptions for regulations to make "affordable" housing available to those needing it.

***Provide for high-density housing options in mixed-use development around transit stations:*** Transit-oriented development facilitates transit use and allows for increased densities without generating increased vehicular congestion.

***Support attractions that are of interest to both residents and visitors:*** Develop commercial and cultural attractions and improvements to serve residents and visitor interests.

***Implement land use strategies to achieve a balanced transportation system:*** 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.

***Enhance and improve pedestrian mobility:*** *Create pedestrian districts, routes and a regional pedestrian network, and address pedestrian safety concerns.*

### TABLE 1–3: TOD Development Regulations – Minimum Requirements

***Allowances for a mix of land uses***, both vertically and horizontally, including affordable housing.

***Density and building height limits*** that may be tied to the provision of community amenities, such as public open space, affordable housing, and community meeting space.

***Design provisions that encourage use of rapid transit,*** buses, bicycling, walking, and other non-automobile forms of transport that are safe and convenient.

***Guidelines on building orientation and parking location***, including bicycle parking.

Identification of ***important neighborhood historic, scenic, and cultural landmarks,*** and controls to protect and enhance these resources.

***Design controls*** that require human-scale architectural elements at the ground and lower levels of buildings.

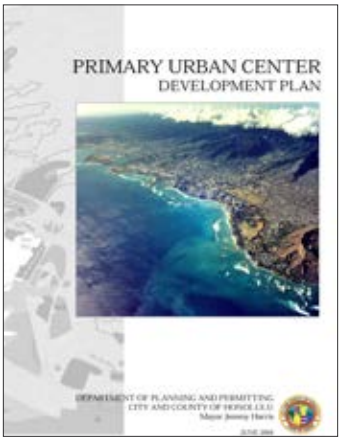
***Landscaping requirements*** that enhance the pedestrian experience, support station identity and complement adjacent structures.

***Incentives and accompanying procedures***, which may include minimum standards and financial incentives, to encourage appropriate and necessary transit-oriented development.

### 1.3.3 PRIMARY URBAN CENTER (PUC) DEVELOPMENT PLAN

***(Adopted June 2004)***

Prepared by DPP, this is one of eight regional plans prescribed by the City Charter and "intended to guide public policy, investment and decision-making through the 2025 planning horizon." The PUC (extending from Pearl City in the west and Waialae-Kahala in the east) is one of the two planning regions (along with Ewa) that will absorb major growth and economic activity.




There are 5 key aspects of this vision for Oahu's most populous region:

- *Protect and enhance Honolulu's natural, cultural and scenic resources*
- *Cultivate livable neighborhoods*
- *Provide a full range of in-town housing choices*
- *Establish Honolulu as the Pacific's leading city and travel destination*
- *Develop a balanced transportation system*

Although the PUC Development Plan was created in advance of the proposed rail project, it does promote development of a rapid transit component and supports transit-oriented development. In accordance with this overall vision, the PUC Development Plan enumerates numerous policies that are applicable to the Halawa Area TOD Plan; those most pertinent are summarized in Table 1-2 on the preceding page.

Figure 1-5 depicts the land use designations for the Halawa area and surroundings as depicted in the PUC Development Plan. These land uses and designations are illustrative of the overall policy direction and may not reflect the actual existing conditions present at the time of the drafting of this Existing Conditions Report. The designations found within one mile of the station primarily encompass Lower-Density Residential, Institutional, and Military. Lower-Density Residential is generally made up of single-family homes, along with light multifamily establishments that maintain a density between five and twelve dwelling units per acre. Military primarily consists of restricted-access bases and military support services. Institutional 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.

Additionally, the PUC Development Plan calls for the acknowledgment of existing and proposed town centers throughout the Aiea-Pearl City area. Three of these town centers, referred to in the document as Pearl Harbor "Pearlridge" Center, Aiea Center and Halawa Center, are found within one mile of Aloha Stadium Station. Halawa Center, which roughly corresponds to parcels that make up the Aloha Stadium Station and Aloha Stadium, is proof that the PUC Development Plan intends for more intensive uses in the Halawa Area.

### 1.3.4 LAND USE ORDINANCE (LUO)

***(Last amended 1990)***

Occupying the third tier in the planning system, the LUO regulates land use and encourages orderly development in accordance with adopted land use policies, including the General Plan and regional Development Plans. It is also referred to as the Zoning Code. Therefore, while the General Plan and PUC Development Plan are policy documents, the LUO is a regulatory tool that influences the use and character of development; it regulates the use of land within clearly demarcated zones, and sets detailed standards for the height, bulk, and location of buildings.

Figure 1-6 shows the zoning designations for properties within and surrounding the rail station. The majority of the planning area is zoned for low-density residential and military use. The designations in the area generally conform with traditional Euclidean zoning, segregating zones into general land use types, with some flexibility for a mix of uses. Ewa of the rail station, the Kamehameha Highway corridor is primarily zoned for commercial and industrial, and there are scatterings of commercial and industrial zoning mauka, makai, and diamond head of the station. Interestingly, Aloha Stadium and the station area itself are zoned for low-density residential land use.

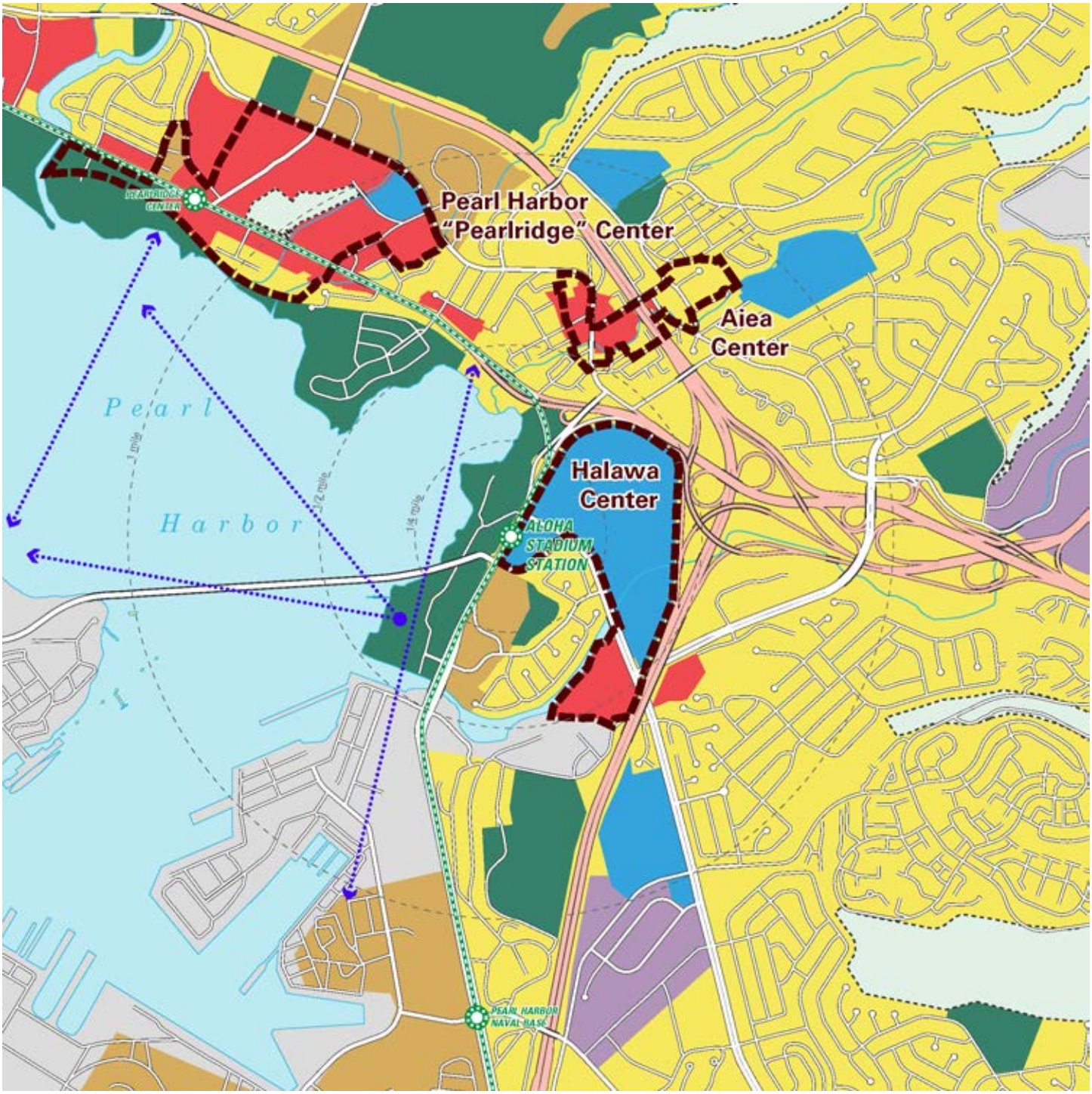



**FIGURE 1-5: PUC DEVELOPMENT PLAN - LAND USES & TOWN CENTERS**

*Source: Primary Urban Center Development Plan*

The intent and requirements of each applicable zoning designation are further summarized as follows:

- *Residential District (R-3.5, R-5, R-7.5):* These designations are designed to provide low-density housing for urban residential development. In addition to detached single-family dwellings, detached two-family dwellings and duplexes are permitted. Residential District (R-3.5) is based on a minimum 3500 SF lot area, Residential District (R-5) is based on a minimum 5000 SF lot area, and Residential District (R-7.5) is based on a minimum 7500 SF lot area.
- *Residential District (R-10)* is based on a minimum 10,000 SF lot area. These are designed to provide areas for large lot developments, typically located on the fringes of urban area, and act as a transitional designation between natural/agricultural areas and urban districts. Detached two-family dwellings and duplexes are permitted.
- *Low-Density Apartment District (A-1)* provides for lower density multifamily dwellings. This designation is designed to act as a buffer between single-family neighborhoods and more significant development. FAR requirements for the district are based on lot area with a maximum FAR of 0.9.
- *Medium-Density Apartment District (A-2)* provides for medium-density, multifamily dwellings within concentrated urban areas. Floor area ratio (FAR) requirements for the district are based on lot area with a maximum FAR of 1.9.
- *Restricted Agricultural (AG-1)* allows for conservation of farmlands, especially land that contains prime or unique soil. This designation, limited to parcels larger than five acres in size, only permits accessory units such as limited retail that complement the agricultural land.
- *Neighborhood Business District (B-1)* provides for the daily basic retail needs of the surrounding population, and as such, are typically located between residential neighborhoods. These are not commonly located along major corridors, though automobile service stations are permitted. FAR requirements for the district are based on lot area with a maximum FAR of 1.0.
- *Community Business District (B-2)* provides for community-wide business establishments, those serving several neighborhoods and offering a wide range of uses. Typically this zone is applied along major streets and in centrally located urban areas. The maximum FAR permitted within the district is 2.5; an open space bonus may increase the FAR to 3.5.
- *Federal and Military Preservation District (F-1)* allows for the full range of military and federal government usage; any type of military and federal structures are permitted.
- *Industrial Mixed-Use (IMX-1)* promotes a mix of commercial and industrial uses. Therefore, it allows some light industrial (ones that do not create unsafe conditions) land uses mixed with other businesses and employment activities. The maximum FAR permitted within this designation is between 1.5-2.5.
- *Intensive Industrial (I-2)* allows for a full range of industrial uses, and are commonly located along corridors with adequate utility and transportation infrastructure. Typical land uses include manufacturing, refining, sorting, processing and storage, but commercial use is also permitted. Intensive Industrial is to be located a distance away from residential communities. The maximum FAR permitted within this designation is 2.5.
- *Restricted Preservation (P-1)* typically refers to open spaces, and are specifically properties located within a State conservation district. All uses and standards within the P-1 designation are determined by State agencies.
- *General Preservation District (P-2)* is assigned to lands designated urban by the State, but well suited as outdoor space for the public's use and enjoyment. This zoning designation is applied to most public parks within the Halawa area.

Figure 1-7 depicts zoning height limits adjacent to the station area and within the Halawa area and its surroundings.

- Most of the site does not have an assigned height limit.
- No height limit designations exist for lower density residential, military, and preservation areas.
- Higher density apartments, commercial, and industrial areas have height limits ranging from 60-150 feet.

### 1.3.5 TOD ORDINANCE 09-4

***(Adopted 2009)***

Recently adopted zoning provisions allow for the establishment of special districts known as Transit-Oriented Development (TOD) Zones. These zones will

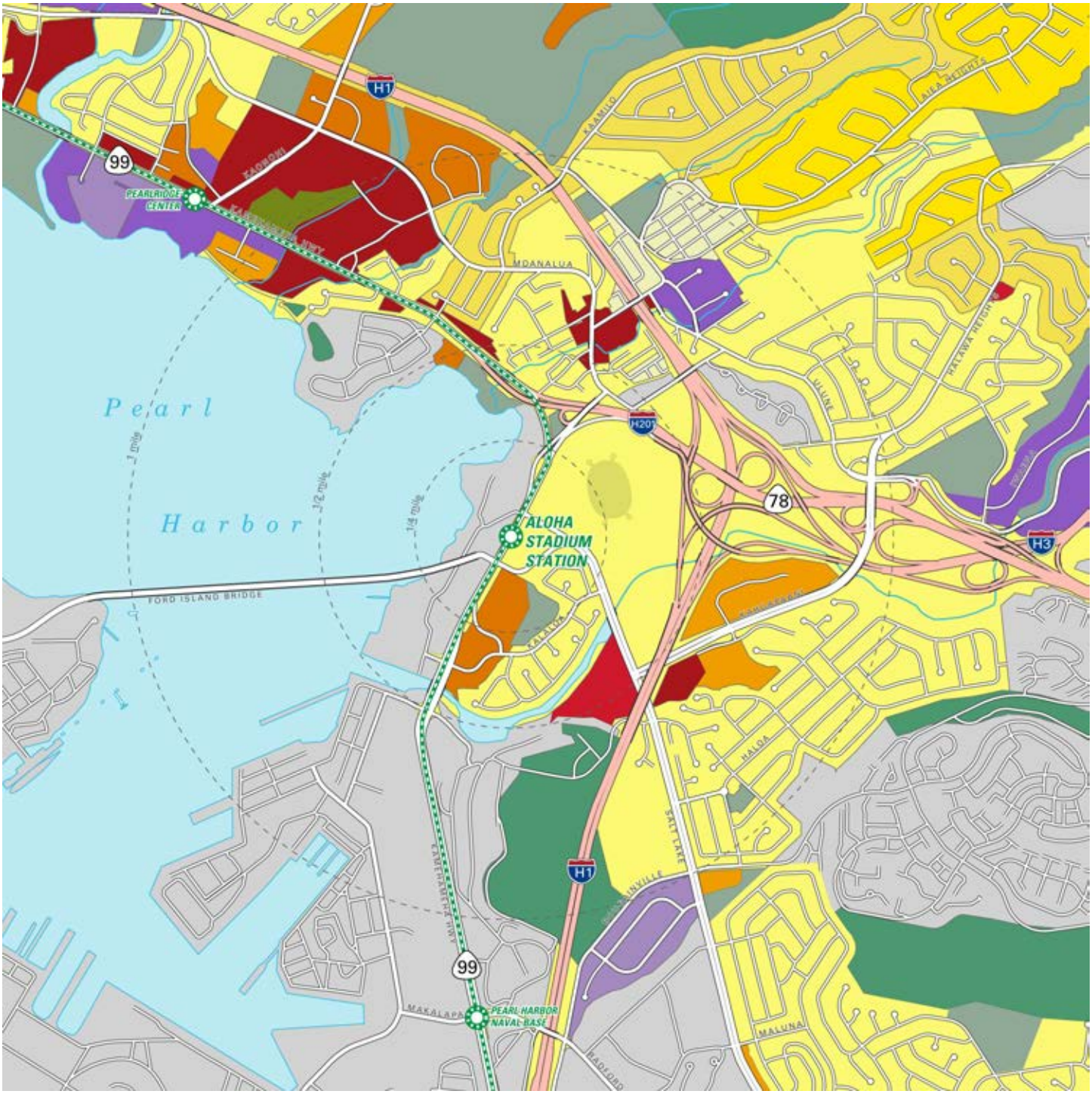



**FIGURE 1-6: ZONING DESIGNATIONS**

*Source: Dept of Planning & Permitting: Honolulu Land Information System*

be located around rapid transit stations to encourage appropriate transit-oriented development. The purpose is to develop and redevelop station areas to provide additional housing and work opportunities, while increasing ridership and providing livable, walkable communities.

Regulations applicable to a particular TOD zone may supplement and/or modify underlying zoning regulations. Creation of a TOD zone and the associated development regulations will typically follow preparation of a neighborhood TOD plan. Necessary components of the neighborhood TOD plan are specified in the LUO and listed in Table 1-1. Plan preparation shall be based on comprehensive background analysis (economic, infrastructure, physical character, etc.) and utilize an inclusive, participatory process. It shall be consistent with the regional development plan (i.e., the PUC Development Plan) and other applicable plans. The ordinance also lists minimum requirements for TOD development regulations; these requirements are listed in Table 1-3 and should be fully addressed in the Halawa Area Transit-Oriented Development (TOD) Plan.

In addition to the three Charter-mandated tiers, development plans may be supplemented by two additional planning mechanisms – the functional planning process and the special area plan. Functional planning provides long-range guidance for the development of public facilities; these may be mandated by state or federal regulations. Special area plans offer "specific guidance for neighborhoods, communities and specialized resources."

### 1.3.6 AIEA TOWN CENTER MASTER PLAN

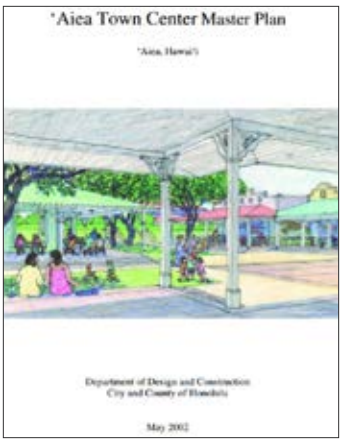
***(Adopted 2002)***

The Aiea Town Center Master Plan, prepared for the Department of Design & Construction, focuses on the partially vacant site formerly occupied by the former Aiea Sugar Mill, now home to the recently-completed Aiea Public Library. It proposes a future mixed-use neighborhood center on the site, catering to a mix of users of all age groups and economic backgrounds. Aiea Town Center attempts to recreate a semblance to the original character of Aiea, once home to the sugar mill's employees as well as the mill's supporting commercial establishments.

The plan's creation involved a large level of community input to determine the site's characteristics and principles.

Major themes for the Aiea Town Center Master Plan support the community's identity as well as the physical form of the proposed development. These include:

- *Old Community Center:* This theme harkens back to Aiea's role in maintaining community cohesiveness and pride. Pedestrian-only streets and an events plaza on the site are envisioned to facility community events and interactions.




- *Our Backyard/Our Front Porch:* This theme emphasizes informality, in that residents are encouraged to utilize public spaces in the town center as their own. The use of lanais in front of buildings and other traditional Hawaiian architectural elements will help to stimulate informal gathering and passive recreation.
- *Multi-Generational:* Aiea Town Center is intended to be a gathering place for all ages, and should promote activities for many age groups, in a variety of indoor and outdoor spaces.

The main recommendations in the Aiea Town Center Master Plan include a variety of community uses, as well as open passive, active, and natural open spaces. These include:

- *An assisted living facility of 140 units*
- *A 20,000 square foot public library (completed in 2014)*
- *A community center, consisting of art classrooms, meeting rooms, and a day care facility. This center serves as the 'heart' and focal point of the development.*
- *Residential uses compatible with the low-density character of the surrounding community*
- *Outdoor open spaces include a pedestrian plaza, a performance space, a pedestrian pathway, and a reserved natural space for the Aiea Stream.*

In the shorter term, it is recommended that the site be developed as a passive open space, in anticipation of future phases of development on the former Sugar Mill site. The space is currently utilized as an interim park.

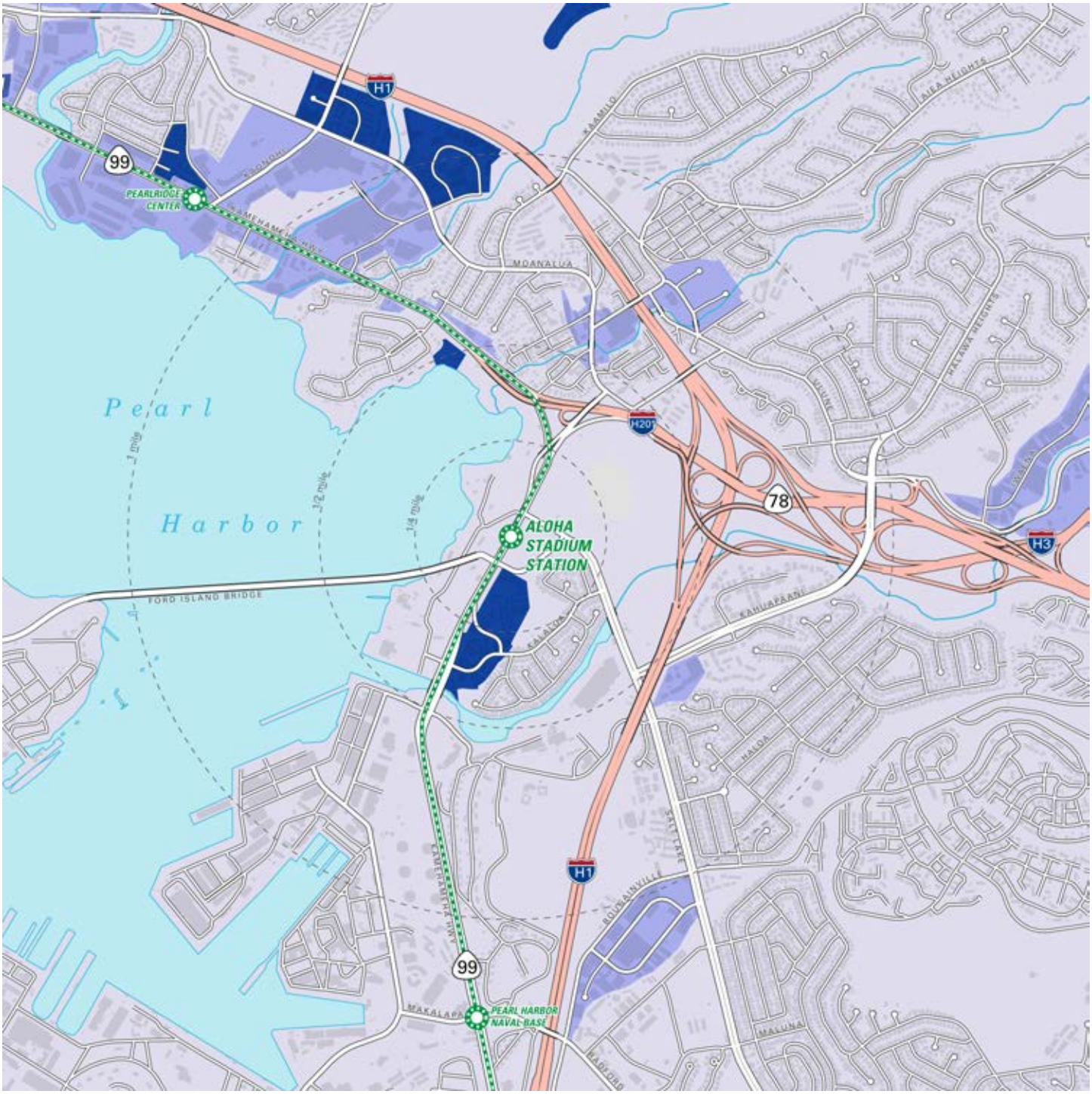



**FIGURE 1-7: ZONING HEIGHT LIMITS**

*Source: Dept of Planning & Permitting: Honolulu Land Information System*

### 1.3.7 JOINT BASE PEARL HARBOR-HICKAM MASTER PLAN

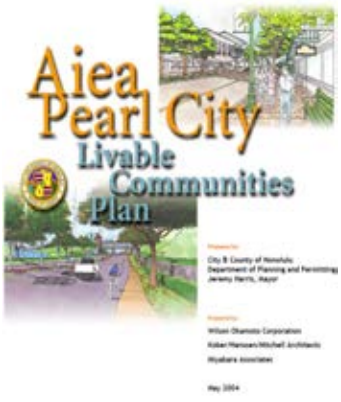
***(Completed August 2013)***

Joint Base Pearl Harbor-Hickham comprises 28,000 acres, and supports a population of 84,000 military and civilian personnel. Though not available to the public, the Joint Base Pearl Harbor-Hickam Master Plan organizes the combined Naval and Air Force facilities, guiding and shaping development across the entire installation, and outlying annexes. The Plan also exists to provide guidance on managing the thousands of cultural resources within the base.


### 1.3.8 AIEA-PEARL CITY LIVABLE COMMUNITIES PLAN

***(Completed May 2004)***

Part of a series of Livable Communities plans funded nationwide by the Federal Transit Administration, the Aiea-Pearl City Livable Communities Plan provides guidance on the planning and development of vehicular improvements, public transportation, community design, pedestrian and bicycle facilities, and land use. The also provided is an implementation plan, project timetable, and funding sources. The main recommendations in the document include:




- *Expanded open space and views to the Pearl Harbor shoreline*
- *Establishment of town districts in Aiea and Pearl City*
- *Enhanced mauka-makai and east-west roadway connections*
- *Beautification of Kamehameha Highway and other major intersections*
- *An Aiea shoreline connection*
- *Mauka-makai urban trails*

### 1.3.9 OAHU BIKE PLAN: A BICYCLE MASTER PLAN

***(Adopted August 2012)***

Prepared by the City and County Department of Transportation Services (DTS), the Oahu Bike Plan was adopted in 2012. It provides a strategy for integrating bicycling into Oahu's transportation system. In today's auto-dominated environment, island residents are hesitant to travel by bicycle for fear of excessive vehicular speeds and the lack of dedicated facilities. Investment in a comprehensive and continuous bicycle network will provide a sensible alternative travel mode that will "tread lightly on the natural environment, and yield health benefits."


Oahu's twenty year vision for bicycling is as follows: "Oahu is a bicycle-friendly community where bicycling is safe, viable and popular choice for residents and visitors of all ages." In support of this vision, the plan offers policies and programs based on the five "E's" approach used by bicycle planners to improve safety and increase trips:

1. *Encouragement for changing transportation habits, utilizing marketing, events, and information (e.g., maps)*
2. *Engineering that will support physical improvements, such as bike lanes, routes and signage*
3. *Education to make the community more aware of rules to safely share the road*
4. *Enforcement of traffic laws to ensure safety for all users of the transportation system*
5. *Evaluation of outcomes to improve the bicycle network*

The plan also describes a comprehensive network of bikeways and prioritizes proposed improvements. Figure 2-11 of this Existing Conditions Report summarizes and illustrates the proposed bicycle lanes, paths and routes that will serve the Halawa area, as depicted in the Oahu Bike Plan. It is important that bicycle network improvements in the neighborhood are integrated with the transit system, as well as the overall bicycle network for the island.

### 1.3.10 TRANSIT ORIENTED DEVELOPMENT (TOD) ECONOMIC & FINANCIAL STUDY - VALUE CAPTURE OPPORTUNITY ANALYSIS

***(Completed September 2010)***

Prepared by Jones Lang LaSalle (JLL), this economic and financial study supports the City's proposed "Value Capture Strategy" to leverage public investment in the rail system. The intent is to help fund additional programmatic needs, such as ancillary station area infrastructure enhancements, affordable housing, and other quality of life improvements. This value capture strategy aims to 1) identify the value of the rail project from the standpoint of environmental, social, and fiscal benefits; 2) quantify value, particularly in terms of the increase in property value and property tax revenue generated for the City through transit-oriented development; and 3) capture value by identifying creative mechanisms or "tools" that will allow the City to participate in value creation associated with transit-oriented development.


Tools commonly used by cities include tax abatement, community facilities districts (CFDs), tax increment financing (TIF), property acquisition, and joint development. According to this study, the City must develop a creative and strategic process by which these tools are used to harness the full potential of TOD. The study offers a phased approach whereby more immediate goals are funded through familiar tax abatement strategies and work toward building consensus around a long-term strategy. As development around stations catalyzes, more powerful, but politically volatile strategies such as TIF might be adopted.

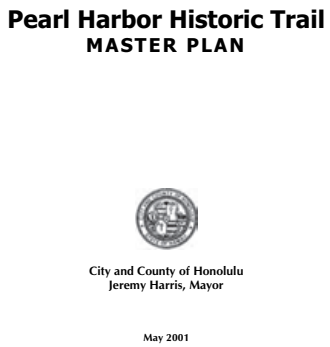
Though it is situated between a major employment zone, a significant tourist attraction, and several residential communities, Aloha Stadium Station is classified as a non-priority TOD location, in terms of its potential in directing neighborhood changes and catalyzing market-driven TOD. This is probably due to the current deed restriction preventing additional development at Aloha Stadium. However, the adjacent Pearlridge Station is classified as a critical priority station and is considered by the report as having great potential for TOD. There could conceivably be some potential impacts from Pearlridge that bleed into the Halawa area.

Given the possibility that additional development may occur at Aloha Stadium, value capture could be utilized to subsidize various community benefits, such as workforce housing, park space, vehicular parking, pedestrian enhancements and area amenities, and infrastructure to support further high-density development.

### 1.3.11 PEARL HARBOR HISTORIC TRAIL MASTER PLAN

***(Adopted May 2001)***

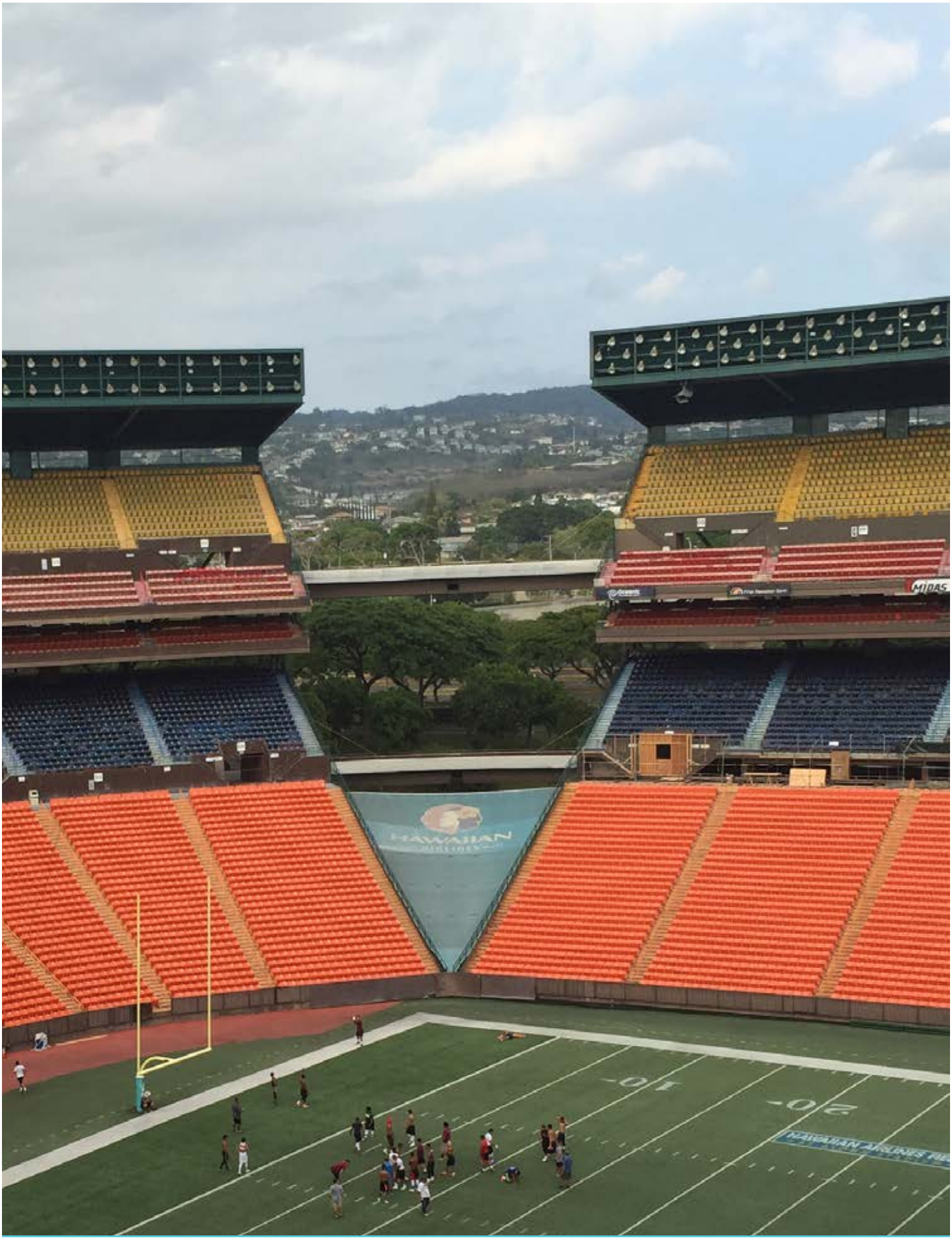
Prepared by the City and County of Honolulu, and championed by the Aiea and Pearl City communities, the Pearl Harbor Historic Trail Master Plan intended to create recreational facilities that connect Aiea (and by extension, Joint Base Pearl Harbor-Hickham to Nanakuli, on the leeward side of Oahu. This connection would be primarily manifested in a 18.6 mile shared-use path occupying the former right of way of the Oahu Railway and Land Company. Portions of this path will also be complemented by a heritage railway.




The goals and the objectives of the Plan focus on these key characteristics:

- *Outdoor Recreation/Physical Fitness Network*
- *Historic Preservation and Education*
- *Economic Revitalization*
- *Environmental Preservation and Education*

Planned improvements in the Halawa area portion of the trail include relocating the COMPACFLT Boathouse to connect the shared-use path to the Pearl Harbor Visitor Center, creating a cultural/interpretive center at a restored Pa'aiau Fishpond on McGrew Point, and providing ferry services from Pearl Harbor Visitor Center.


HAWAIIAN
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10
20
HAWAIIAN AIRLINES

# 2. COMMUNITY CONTEXT

**This chapter analyzes existing conditions surrounding the elevated guideway station, generally considering a one mile and a ½ mile planning radius. It also accounts for key factors and characteristics lying outside of that radius. It includes an assessment of land use, development intensity, community character, circulation, and the natural environment.**

## 2.1 DEMOGRAPHIC SUMMARY

*The Halawa area and its environs are known for its attractions of statewide and national significance, including the Aloha Stadium, the Pearl Harbor Visitor Center, and the USS Arizona Memorial. Residents of the Halawa area of all types enjoy the neighborhood's convenient access to numerous amenities.*

The Halawa area can also be characterized as heavily residential, featuring several stable single-family neighborhoods. Several local attractions, such as shopping centers and well known retail establishments are also located in the planning area. However, other areas adjacent to the Halawa area remain in flux from a demographic standpoint. Joint Base Pearl Harbor-Hickham features a transient population of servicemen, servicewomen, and their families. Though many of these individuals needs are met by on-base facilities, many also utilize housing and services found outside the base and within the Halawa area.

For the purposes of this study, basic demographic data has been compiled from six Census tracts (Figure 2-1) that have considerable land area within a one mile radius of the future Aloha Stadium Station. This includes most or all of the Aiea, Foster Village, and Halawa Valley neighborhoods, and significant portions of the Halawa area and Joint Base Pearl Harbor-Hickham. Within these Census tracts, data shows a roughly 9.5% increase in population between 2000 (population 25,688) and 2010 (population 26,988).

Some key demographic findings derived from the summary of census data in Table 2-1 are as follows:

- *Compared to the Oahu average, the Halawa Area has a slightly higher percentage of residents over 65 years of age, although it has the same smaller percentage of children) as the general population of Oahu.*
- *The median income is approximately 10% higher than the island average, indicating a middle-class population.*

*Aiea Community Association members*


*Students from Alvah Scott Elementary School*

- *Households within the study area features a larger family size compared to the island-wide average, though the proportion of those under 18 matches the Oahu average. This may indicate the greater prevalence of multi-generational households within the study area.*

- *Two thirds of the area's employed residents drive in order to commute (compared to the 34% for island). Only 12% of the employed residents walk or utilize transit.*

- *The racial/ethnic distribution of the planning area is generally comparable to the rest of the island, with people of primarily Asian descent making up almost a majority of the population.*

- *Most households are owners rather than renters, more so than the island-wide average, indicating the presence of well-established single-family neighborhoods.*

**TABLE 2–1: Demographics of the Halawa Area**

(Census tracts 74, 75.03, 75.04, 75.05, 77.01 and 77.02)

The following data was acquired from the 2010 Census Data and 2008-2012 American Community Survey 5-Year Estimates. It highlights different characteristics of the planning study area in comparison to Oahu (the City and County of Honolulu) in general.

| *Characteristic* | *Halawa Area* (~one mile from Station) | *Oahu* |
|---|---|---|
| **Population** | 26,988 | 953,207 |
| **Age (Median)** | 39 | 38 |
| Population under 18 years old | 22% | 22% |
| Population over 65 years old | 16% | 14% |
| Male / Female | 51% / 49% | 50% / 50% |
| **Race** | | |
| Asian | 48% | 45% |
| Japanese | 19% | 17% |
| Filipino | 17% | 15% |
| Chinese | 4% | 6% |
| Korean | 2% | 2% |
| Other | 6% | 5% |
| White | 21% | 21% |
| 2 or more | 19% | 22% |
| Native Hawaiian and Pacific Islander | 8% | 9% |
| Black | 2% | 2% |
| American Indian/Alaska Native & Other | 2% | 1% |
| Language spoken other than English | 25% | 28% |
| **Median Household Income** | $79,639 | $72,292 |
| **Workers 16 years and over** | 14,328 | 476,354 |
| **Housing** | | |
| Renter occupied | 37% | 45% |
| Average persons per household (Owned / Rented) | 3.42 / 3.14 | 3.1 / 2.7 |
| **Education Attainment** | | |
| % High school graduate or higher | 91 | 90 |
| % Bachelor's degree or higher | 31 | 31 |
| **Transportation** | | |
| Mean travel time to work (minutes) | 24 | 27 |
| **Commute to Work** | | |
| Drove alone | 66% | 64% |
| Carpool | 15% | 15% |
| Public transportation | 6% | 8% |
| Walked | 6% | 5% |
| Bicycle | 1% | 1% |
| Other means / worked at home | 6% | 7% |

*Source: US Census Bureau: 2010 Census Data, 2008-2012 American Community Survey 5-Year Estimates*

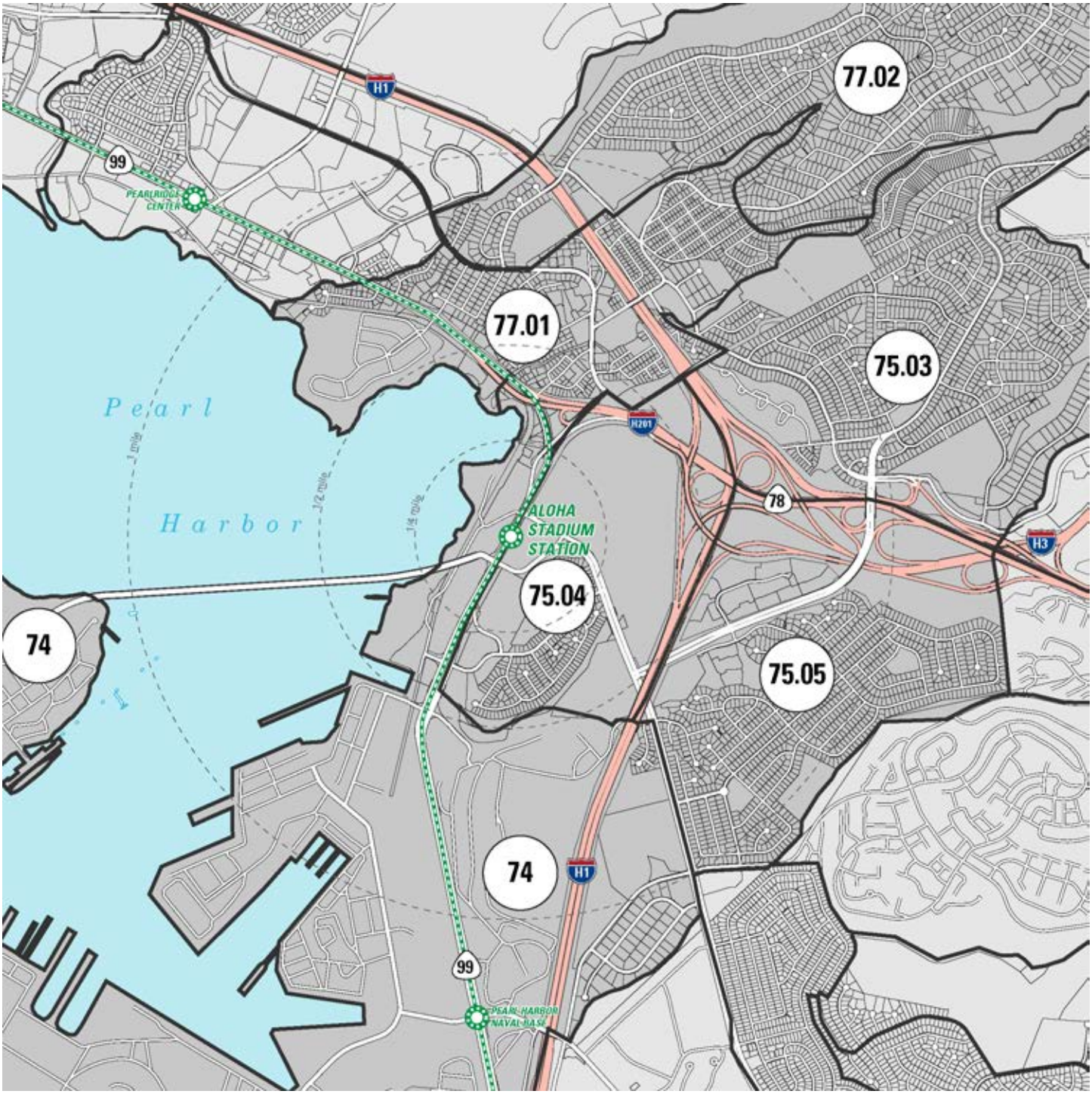


**FIGURE 2-1: PERTINENT CENSUS TRACTS**

*Source: Dept of Planning & Permitting: Honolulu Land Information System*



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# 2.2 LAND USE

*This section examines existing patterns of land use and the characteristics of the built environment in and around the planning area. An understanding of land use distribution and intensity will help the plan promote economic development, reinforce transit and pedestrian use, and enhance neighborhood livability. It also provides a baseline from which planners are able to assess impacts of future growth on local infrastructure.*

## 2.2.1 LAND USE CLASSIFICATIONS

The Halawa area is located at the edges of Oahu's densest urban fabric. It features a balance of commercial, residential, and military uses, which are well supported by an array of civic institutions, attractions that have a local and national importance, and community facilities. The site is highlighted by major and minor shopping centers, but also characterized by low-intensity, underutilized commercial corridors. There are a variety of neighborhoods throughout the study area, and most residents have a range of shopping and services that meet day-to-day needs. As the station is planned to be a node for local, military, and tourist users, commercial and institutional uses should be identified to help support these transit riders.

**Residential use** is concentrated mauka, ewa, and diamond head of the station area.

- *Low-density housing* (up to and including duplex units), consists of parcels with lot sizes between 3,500 and 10,000 square feet. Low-density neighborhoods within one mile of the station include Salt Lake, Foster Village, Halawa Heights, Aiea, and Waimalu.
- *High-density housing,* typically characterized by apartment complexes and mid to high-rise multifamily units, are located near the Pearlridge Center and in Halawa Valley. Smaller concentrations of multifamily uses are found in Aiea and in the Crosspointe community.
- *Military housing is* located on federally-owned land throughout the area, and is typically gated. These can be either low or high-density and accommodate (depending on the development) enlisted personnel, officers, and their families.

**Commercial activity,** which includes retail, office, and light industrial, occurs at select nodes:

- The most significant concentration of commercial use is the Pearlridge Center, near the Pearlridge Center Station, located just about one mile from the Aloha Stadium Station. As Hawaii's second largest shopping center, it encompasses over 1.1 million square feet. Tenants consist of national retailers, specialty shops, local retail and services, and a movie theater. As one of the largest economic drivers in the area, its users are primarily local.
- Adjacent to Pearlridge Center are several regional retail establishments. Located primarily along Kamehameha Highway, most of these are either in the strip mall or big box center format. There are also several office buildings located in this area.
- A shopping node, located at the H-1/Salt Lake Boulevard overcrossing, consists of the Stadium Mall strip mall and the Stadium Marketplace retail center.
- There is a traditional neighborhood center located in the center of Aiea, approximately ½ mile mauka and ewa of the station. This node includes primarily strip mall retail, as well as office use.
- A mixed-use center located at Salt Lake Boulevard and Bougainville Road consists of light industrial and big box retail.

**Military use** is characterized by limited access circulation and a variety of land uses, including military housing, offices, educational facilities, and light and heavy industrial, including manufacturing and shipbuilding. Due to the confidential nature of these facilities, their land uses are lumped into one designation. Military uses include:

- Pearl Harbor Naval Base: The Navy's component of Joint Base Pearl Harbor-Hickham. The proposed Pearl Harbor Naval Base rail station, approximately one mile from Aloha Stadium Station, is located at Makalapa Gate, the primary entrance into the base.
- Camp Smith: A Marine facility, home of the United States Pacific Command (PACOM), located just over a mile from the station in the heights of Halawa.

**Community facilities and civic institutions** in and around the neighborhood enhance livability, and are comprised of parks, schools, places of worship, hospitals, public venues, and government facilities. Community facilities will be further discussed in the next chapter.

**Area attractions** include tourist attractions such as museums, memorials, and community institutions, and will be discussed later in this chapter.

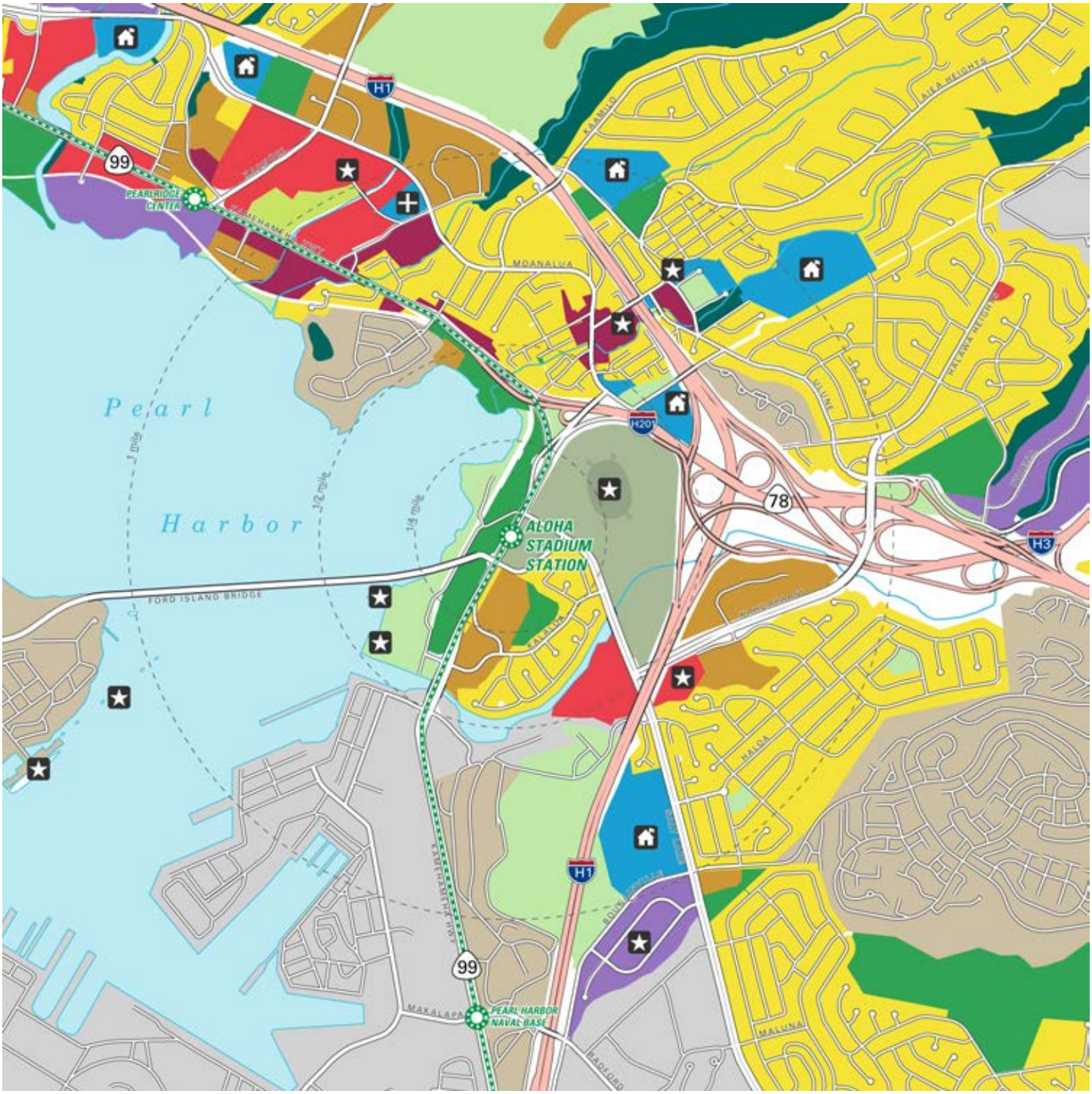


**FIGURE 2-2: EXISTING LAND USE**

*Source: Dept of Planning & Permitting: Honolulu Land Information System*



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### 2.2.2 BUILDING TYPOLOGIES

Building typologies generally correspond to their land use. Due to its high density and mix of uses, Pearlridge features the highest diversity of building types.

**High-Rise Residential:** The tallest buildings within the study area (~150 feet or higher) typically have a residential land use. Most high rises are located adjacent to the Pearlridge Center, though some residential towers are located in the Halawa Valley neighborhood and within Joint Base Pearl Harbor-Hickham. The residential towers found in these areas are of a moderate height.

**Commercial Buildings:** Commercial uses in the study area are primarily designed around accommodating automobiles. Buildings vary from multi-story indoor retail and the department store anchors that make up the Pearlridge Center, big box retail in Pearlridge, Bougainville, Stadium Marketplace, and Stadium Mall, and traditional neighborhood retail centers in Aiea and Pearlridge.

**Industrial Buildings:** Aside from large warehouses and other industrial facilities located within Joint Base Pearl Harbor-Hickham, Halawa Valley, Pearlridge, and Bougainville feature a small amount of industrial buildings. In many cases, these are often mixed with commercial and retail uses.

**Office Buildings:** These are generally of a moderate height and are located in and around Pearlridge, Aiea, and within Pearl Harbor Naval Base.

**Multifamily Residential:** Other than the previously-mentioned high-rises, multifamily residential typically features two to three stories and are found in small to large developments throughout the planning area. Multifamily residential community types include military housing, apartments, condominiums, and public housing.

**Schools:** Most schools in the study area were built in the postwar period and are arranged in campuses of rectangular, single-story or multi-story classroom buildings.

**Single Family Residential:** Found throughout the study area, especially in Aiea, Halawa Heights, and Foster Village. Most single-family residential ranges between one or two stories, with lot sizes between 3500 to 10,000 square feet.

### 2.2.3 BUILDING HEIGHTS

Figure 2-3 depicts existing building footprints and heights, with darker shades indicating taller buildings. In general, the heights of buildings within the Halawa area vary depending on the neighborhood as well as on the predominant land use. The tallest buildings within the study area (~150 feet or higher) typically have a residential land use.


**FIGURE 2-3: EXISTING BUILDING HEIGHTS**

*Source: Google Earth, Visual Analysis*

### 2.2.4 COMMUNITY FACILITIES & ESTABLISHMENTS

An array of civic and community-based facilities and establishments serve the Halawa area, as shown in Figure 2-4. While some of these institutions cater to a wide audience, including tourists, most serve a local clientele; this is a key factor in attracting residents to the area as they are able to meet many of their day-to-day needs.

***Community grocery stores and supermarkets:*** These typically concentrate basic neighborhood services within or adjacent to nearby retail. The closest supermarket to Aloha Stadium Station is located approximately ¼ away in Stadium Marketplace.

***Primary and Secondary Schools:*** There are public schools found throughout the study area.

- Radford High School serves 1,200 students. Since many students are the children of military personnel, this school suffers from a high turnover rate.
- Aiea High School serves 1,300 students and is located adjacent to the Aiea neighborhood center.
- Aiea Intermediate School serves approximately 600 students.
- Elementary Schools include Aiea Elementary, Makalapa Elementary, Webling Elementary, Alva Scott Elementary, Salt Lake Elementary, Pearl Ridge Elementary, and Waimalu Elementary.
- Private schools and preschools are typically found on the campuses of religious institutions.
- There are additional educational facilities located within Joint Base Pearl Harbor-Hickham.

***Higher Education:*** There are no major colleges or university campuses located within or immediately adjacent to the planning area, although there are some adult education establishments found in Aiea and Pearlridge. Additionally, Joint Base Pearl Harbor-Hickham has numerous education facilities for its personnel.

***Lodging Facilities:*** Lodging located in the study area primarily services neighboring military facilities. Military personnel and their families utilize hotels during short term assignments and longer-term extended stays. Two are located in the Pearlridge area and the Navy Lodge is located on Ford Island.

***Medical Facilities:*** The major medical facility in the study area is the Pali Momi Medical Center, operated by the Hawaii Pacific Health system. Founded in 1989, it is a full-service hospital with 126 beds and 400 physicians. In addition, there is a clinic-level medical facility located within an office building adjacent to the Pearlridge Center.

***Parks and Recreation Facilities:*** Parks in the study area are either city, state, or federally-owned. See Section 2.2.5 for a further discussion on open spaces in the Halawa area.

- Federally-owned open spaces often have limited access because they are attached to military facilities.
- Some federally-owned open spaces, as in the case of Richardson Field (located across Kamehameha Highway from Aloha Stadium Station) have some public access during certain events.
- The most significant city-owned park, Halawa District Park, features athletic fields and a full-service community center.

***Other Uses:*** The newly completed Aiea Public Library is the first completed phase of the Aiea Town Center Master Plan. Emergency services include a fire station in Aiea, and emergency shelters at most public schools and parks.

*Pali Momi Medical Center*

*Radford High School in Foster Village*


**FIGURE 2-4: COMMUNITY FACILITIES**

*Source: Dept of Planning & Permitting: Honolulu Land Information System*

### 2.2.5 PARKS & OPEN SPACE

Parks and other open spaces are shown on Figure 2-5.

**Federally-owned Public Open Spaces:** Richardson Field and Makalapa Park, located on either side of the mauka end of the Ford Island Bridge causeway, are contributing properties to the United States Naval Base, Pearl Harbor National Historic Landmark. It is for this reason that both spaces retain a natural state, as they were undeveloped at the time of the 1941 attack. Generally restricted for use by military personnel and their families, they are periodically opened to the public for events such as remembrances of the attack and for tailgating events at Aloha Stadium.

**State Recreation Area:** The State of Hawaii administers Aiea Bay State Recreation Area, which provides public access to the waterfront and passive recreation uses.

**Island-Wide Parks:** The City classifies its parks according to island-wide, district, and community facilities. There are no island wide facilities adjacent to the station. Neil Blaisdell Park, just over 1 mile from Aloha Stadium Stadium, provides waterfront access and passive recreation.

**District Parks:** These medium-sized open spaces are geared towards serving the recreational needs of densely-populated neighborhoods. They include athletic facilities, recreational programming, and a dedicated multipurpose community center. Aiea District Park and Halawa District Park are located within one mile of the rail station.

**Community or Neighborhood Parks:** These spaces act as smaller green 'lungs' for the single-family neighborhoods in the study area. There are two parks within the ½-mile planning radius: Makalapa Neighborhood Park, which includes a playground, basketball courts, and an informal grass lawn, and Ieie Mini Park.

**Agricultural Areas:** This includes the Sumida watercress farm, adjacent to the Pearlridge Center. As it is zoned P-1 (Restricted Preservation), it is protected as an open space.

**Waterfront Area:** This area refers to the federally-owned strip of land fronting Pearl Harbor adjacent to the rail station. It includes an assorted mix of uses related to the Pearl Harbor waterfront. These include the restricted Commander, U.S. Pacific Fleet (COMPACFLT) Boathouse, the Rainbow Bay Marina (a Navy recreation facility that includes a shop and picnic areas), Schooner's Restaurant (open to the general public), the USS Bowfin Museum, and the Pearl Harbor Visitor Center.

**School Athletic Fields:** The grounds of intermediate and high schools in the study area include significant athletic facilities.

**Golf Course:** The Pearl Country Club, located mauka of the Pearlridge Center, includes a restaurant, banqueting facilities and features panoramic views of Pearl Harbor.

**Stream Open Spaces:** These are natural or semi-natural spaces along streams, as well as the Halawa Stream and the Loko Pa`aiau fishpond (under restoration) on McGrew Point.

**Other Open Spaces:** These include undeveloped areas in Aiea, including the future Aiea Town Center and Aiea Cemetery, a wooded area adjacent to the Makalapa Navy housing, the Oahu Veteran's Center, and a community open space in Foster Village. Discussion of Pearl Harbor Historic Trail is found in Section 2.4.3.

*Halawa District Park*

*Rainbow Bay Marina and Pearl Harbor waterfront*

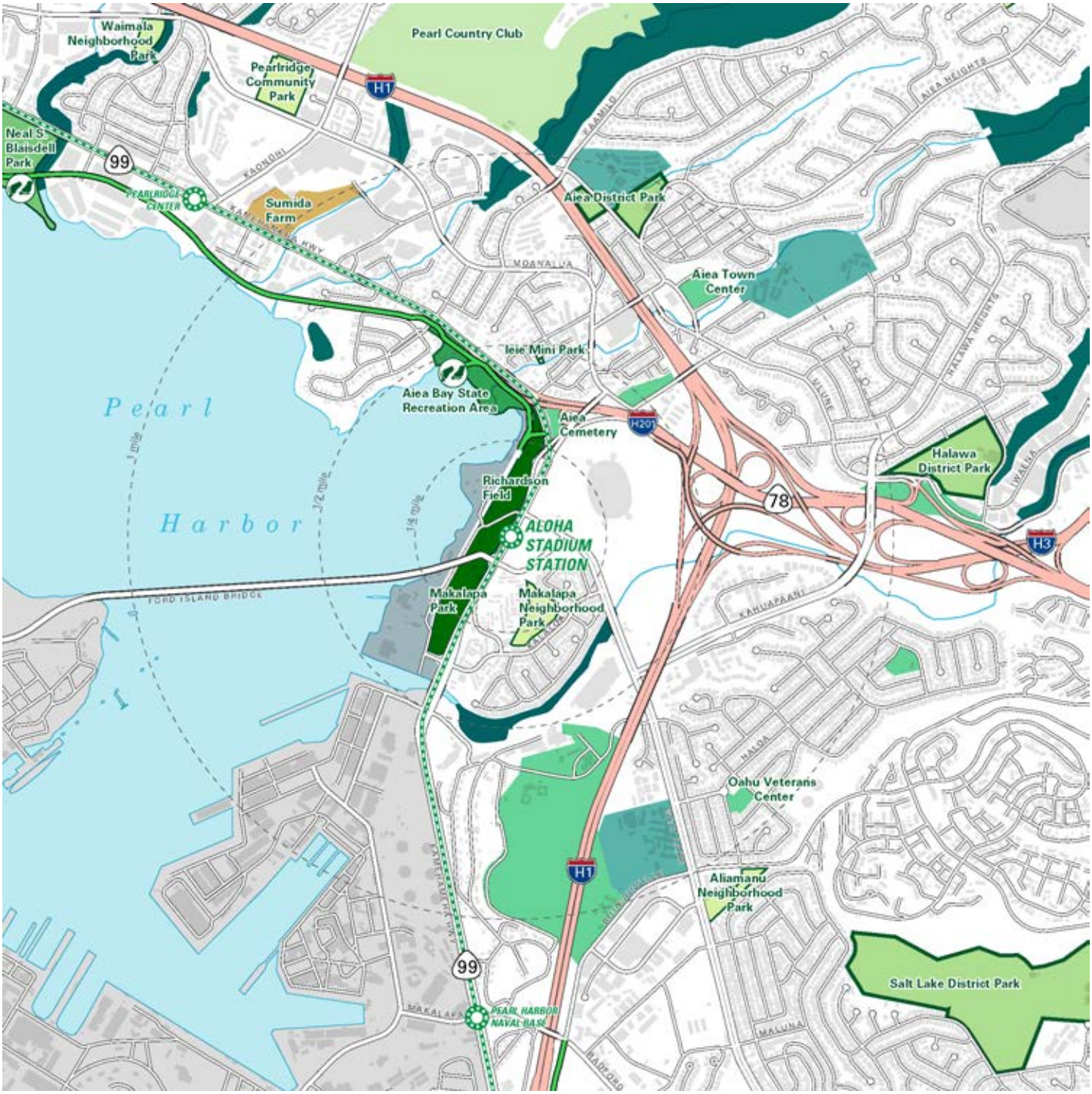


**FIGURE 2-5: PARKS & OPEN SPACE**

1" = 2000'

0' 500' 1000' 2000' 4000'

Fixed Guideway
Rail Stations

**Parks**
Federally-owned Public Open Space
State Recreation Area
Island-Wide Park
District Park
Community or Neighborhood Park

**Open Spaces**
Agricultural Area
Waterfront Area
School Athletic Field
Golf Course
Reserved Stream Area
Other Open Spaces

Joint Base Pearl Harbor
Pearl Harbor Historic Trail
Waterfront Access
Marina



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# 2.3 COMMUNITY CHARACTER

*The section further describes the physical character of the Halawa area. It analyzes the planning area's structure, and identifies site features and attractions, as well as historic and cultural resources.*

## 2.3.1 COMMUNITY STRUCTURE

The districts found in Figure 2-6 are based on an analysis of land use patterns, military usage, and geographical barriers, rather than jurisdictional boundaries. The study area can be divided into six general district types:

***Neighborhoods:*** Primarily residential in character, these are identified by their primarily residential land use.

- *Aiea* is the oldest community in the study area, as it was once the location of a sugarcane mill, which finally closed down in the 1990s. Many of the former mill workers continue to live in the community. Aiea has an identifiable neighborhood center at Moanalua Road and Aiea Heights Drive.
- *Halawa Heights* is a community that extends from the H-3 to just over ½-mile from the station area. The portion within the study area located has a low-density residential character, though there is a significant industrial park located just beyond the study area.
- *Halawa Valley* is located immediately adjacent to the study area, consisting of the single-family Halawa Valley Estates subdivision and a handful of higher density multifamily structures.
- *Puuwai Momi* is a 260-unit public housing development, located along Kamehameha Highway.
- *Waimalu* is located just outside of the one mile study area and acts as a buffer between the more intensive communities of Aiea and Pearl City. It is characterized by a roughly equal mix of single-family and multifamily homes.
- *Crosspointe* is a self-contained gated multifamily condominium neighborhood. Popular with military personnel, it was built in the mid-1980s.
- *Foster Village* is a residential subdivision characterized by primarily low-density housing and some multifamily housing along Kahuapaani Street.
- *Salt Lake* is a low-density residential neighborhood that fronts the makai side of the Aliamanu Crater.

***Mixed-Use Center:*** Pearlridge is a significant mixed-use node ewa of the rail station. Located along Kamehameha Highway, it is anchored by Pearlridge Center and is significant enough to warrant its own planned rail station. The Pearlridge Center is complimented by additional strip malls, big box stores, as well as professional offices. Some light industrial uses exist on the makai side of Kamehameha Highway. Residential is found at the highest density in the study area, in the form of mid-to high-rise apartment or condo towers.

***Commercial:*** These are commercial districts found within residential neighborhoods adjacent to Joint Base Pearl Harbor-Hickham. These include:

- *Stadium Shopping:* this consists of Stadium Marketplace anchored by Sack&Save and Kmart, and the older Stadium Mall, anchored by the Ice Palace.
- *Bougainville:* A primarily light industrial development, it features a Target store.

***Regional Attractions:*** These are venues that draw large numbers of tourists or spectators to the site. These include:

- *Pearl Harbor Visitor Center:* Composed of the main visitor's center complex, the Bowfin submarine museum, as well as other uses, including natural areas, along the Pearl Harbor shoreline.
- *Aloha Stadium:* This area, mostly covered by surface parking, is dominated by the Aloha Stadium, The rail station is slated to be located within this district along Kamehameha Highway.

***Military Housing:*** Housing is provided for Navy and Marine Corps personnel and their families within single-family, duplex, and apartment developments. Families enjoy the safety, convenience, as well as benefits that these government subsidized developments allow. Sites include:

- *McGrew Point:* Single-family homes for senior officers
- *Ford Island:* Single-family homes and bungalows for officers and senior enlisted
- *Halawa:* Non-gated apartment development for all military ranks
- *Makalapa:* Single-family and duplex units for senior and flag officers
- *Aliamanu Military Reserve:* A large, self contained community with amenities and a variety of housing choices for all ranks

***Military Bases:*** These include Joint Base Pearl Harbor-Hickham and Camp Smith, a Marine Corps installation.

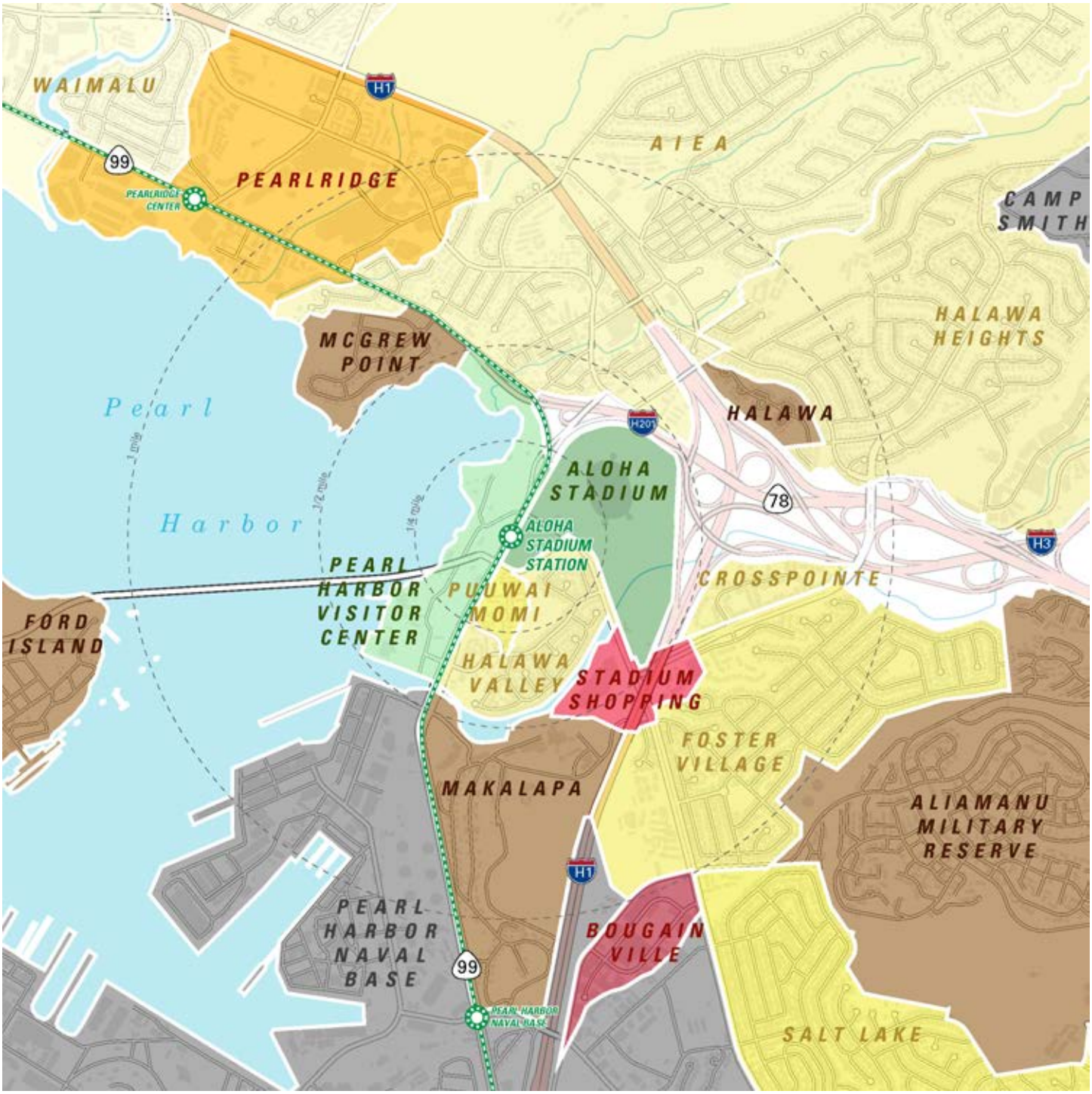


**FIGURE 2-6: COMMUNITY STRUCTURE**

### 2.3.2 MAJOR ATTRACTIONS

The Halawa area and its surroundings include a number of historical, recreational, civic and commercial attractions of local and nationwide significance, which draw a significant number of outside visits to the area. These are located in Figure 2-7.

1. **Aloha Stadium:** Located ¼ mile from the station is Aloha Stadium, the largest sports and entertainment venue in Hawaii. See Section 2.5 for a further discussion of the immediate station area and Aloha Stadium.
2. **Aloha Stadium Swap Meet & Marketplace:** Located on the Aloha Stadium parking lot, the Swap Meet has been in operation since 1979. The Swap Meet is currently in operation on Wednesdays, Saturdays, and Sundays, except on game days or when other events are happening at the stadium.
3. **Pearlridge Center:** The 1.1 million square foot mall is anchored by Sears, Macy's, and Toys R Us, along with around 170 other retail establishments and a cinema.
4. **Aiea Shopping Center:** Located in the heart of the Aiea community, it is anchored by a Times supermarket and a bowling alley, and is supported by numerous basic community retail services.
5. **Aiea Public Library:** Opened in 2014, the library is quickly becoming a community institution. Located on the site of the former Aiea Sugar Mill, it is the first completed phase of Aiea Town Center, a proposed civic space with community amenities.
6. **Richardson Field:** A federally-owned open space, it is typically only utilized during game days or planned events. It is kept in a semi-natural state as to preserve open spaces surrounding the Pearl Harbor National Historic Landmark.
7. **Stadium Mall:** Built in 1982, this strip mall services the Crosspointe, Foster Village, and Halawa neighborhoods. Its anchor, the Ice Palace, is the only ice rink in Hawaii and a beloved community institution.
8. **Valor in the Pacific National Monument:** Administered jointly by the Navy and the National Park Service, the visitor center and its associated monuments, including the USS Arizona Memorial, are the most-visited tourist attractions in Hawaii, drawing over 1.8 million visitors a year. The visitor center was expanded in 2010.
9. **USS Arizona Memorial:** During the attack on Pearl Harbor, a bomb detonated the USS Arizona's ammunition magazines and the battleship exploded with a heavy loss of life. A memorial built in 1962 has been placed over the sunken hull of the ship. The memorial is accessible from the Pearl Harbor Visitor Center via shuttle boats operated by the Navy.
10. **USS Missouri:** In 1945, the battleship was the venue for the Japanese surrender that marked the end of the Second World War. She was decommissioned for the final time in 1992, after service in the Gulf War. In 1999, the ship reopened as a non-profit museum, accessible to visitors on shuttle buses via the gated causeway to Ford Island.
11. **USS Bowfin:** This submarine served in the Pacific during the Second World War, and has been retained as a representative example of the Navy's submarine fleet during that conflict. The museum, located on federally-owned land, is operated by a non-profit organization.

*Aloha Stadium Swap Meet & Marketplace*

*USS Missouri*

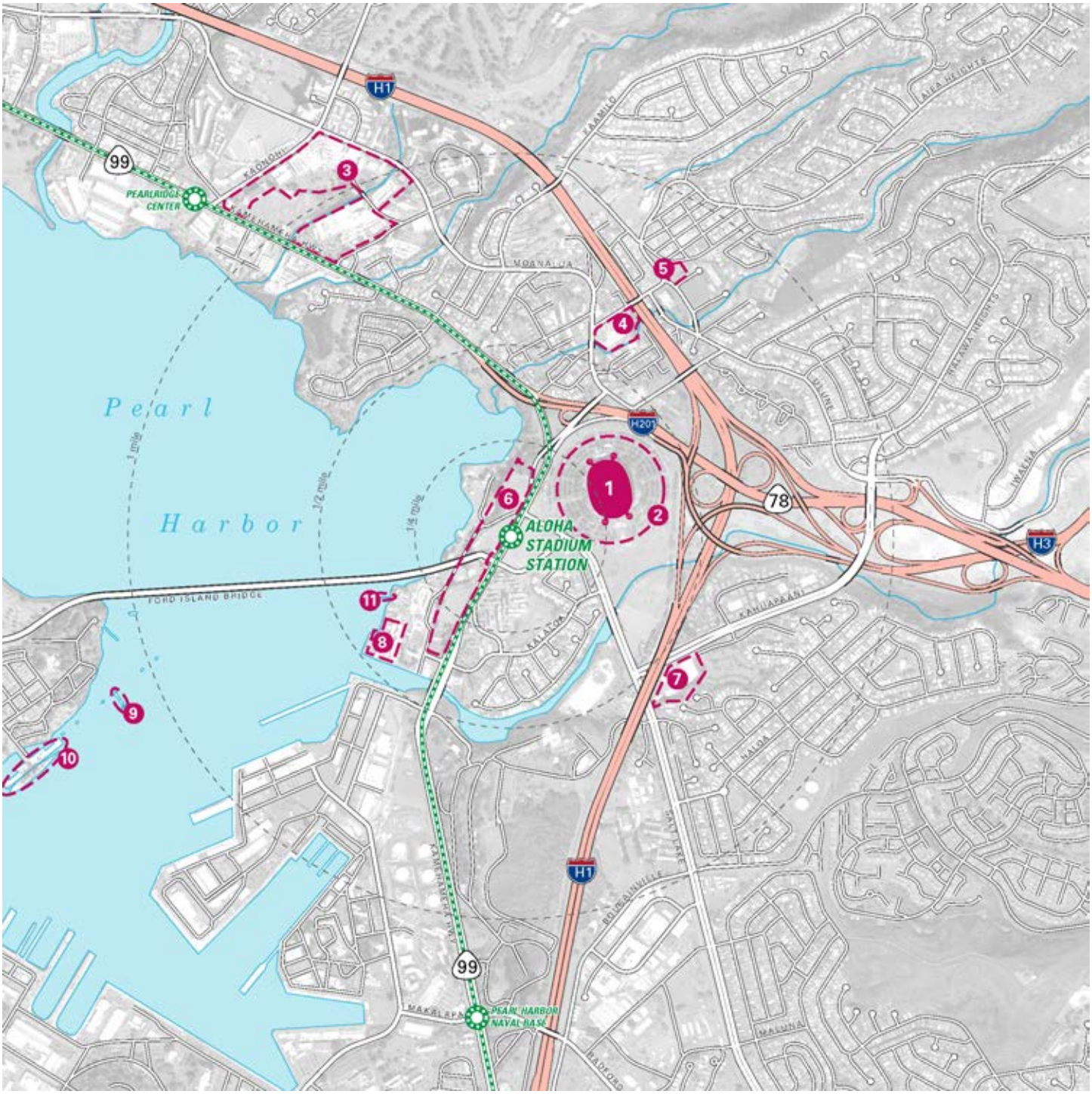


**FIGURE 2-7: MAJOR ATTRACTIONS**

### 2.3.3 HISTORIC & CULTURAL SITES

A considerable number of historically, architecturally, or culturally significant resources are found in Figure 2-8. The following sites are listed according to their level of protection. Neighborhood planning must respect their presence, and moreover, respond favorably to local history and culture.

***National Monument:*** This is the highest degree of protection offered by the federal government. The Halawa area hosts portions of the **Valor in the Pacific National Monument**, which is made up of sites elsewhere in Hawaii, Alaska, and California. These portions include:

- The **USS *Arizona* Memorial**
- **Pearl Harbor Visitor Center**
- **Six Chief Petty Officer bungalows** on Ford Island
- **Mooring Quays** for battleships that were present during the Pearl Harbor attack

***National Historic Landmark:*** This designation recognizes and protects structures, districts, and objects of a national significance. Landmarks in the study area include:

- **United States Naval Base, Pearl Harbor:** Along with the base, most of the harbor itself and bordering lands that are associated with the base's 1941 appearance.
- The sunken wreck of the **USS *Arizona***
- **USS *Bowfin***
- **CINCPAC Headquarters:** Served as headquarters of the US Pacific Fleet during the Second World War

***Listed on National Register of Historic Places:*** Properties on this list include *all the aforementioned monuments and landmarks*, as well as the **USS *Missouri***, which is not officially protected but is eligible for tax credits and other programs to preserve its historic character.

***Listed on State Register of Historic Places:*** The state register includes the following that are located within the study area:

- **Forty Niner Restaurant** along Kamehameha Highway
- **Honolulu Plantation Manager's Residence** in Aiea

***Eligible for listing on National or State Register:*** These properties are depicted in Figure 2-8 as having enough historic or cultural significance to warrant listing on either list.

- **Sumida Watercress Farm:** A patch of agricultural land that has been preserved as agriculture since 1929
- **Makalapa Navy Housing:** Constructed in the early 1940s, they have accommodated the Pacific Fleet's most senior officers through WW2 to present day
- **Aiea Cemetery:** Located within the interchange of Kamehameha Highway and H-201, it consists of 475 graves built predominantly by Japanese immigrants in the early 20th century
- **Bridges and Infrastructure** along Kamehameha Highway

***Other Resources:*** These sites either retain some cultural significance or formerly had an influential role in the community:

- **Site of Kamehameha Drive-In:** The 14-acre site is slated to be the site of Live, Work, Play Aiea, a TOD development adjacent to the Pearlridge Center Station
- **Aiea Elementary School:** One of the oldest schools on Oahu, some historic buildings remain on the campus
- **Site of Aiea Sugar Mill:** The sugar mill was once the heart of Aiea, and will be the new home of the Aiea Town Center.
- **Aloha Stadium:** The Stadium needs to be evaluated for its cultural significance, and a determination needs to be made for its eligibility for listing.

*USS Bowfin Museum and Regulus I cruise missile*

*USS Arizona Memorial and the Arizona's mooring quays*


**FIGURE 2-8: HISTORIC / CULTURAL SITES**

1" = 2000'

0' 500' 1000' 2000' 4000'

- Fixed Guideway Rail Stations
- Valor in the Pacific National Monument
- National Historic Landmark
- United States Naval Base, Pearl Harbor (National Historic Landmark)
- Listed on National Register of Historic Places
- Hawaii Register of Historic Places
- Eligible for Listing on National or State Register
- Other Resources

*Source: Honolulu Rail Transit Historic Properties; National Park Service; Historic Hawaii Foundation*

# 2.4 CIRCULATION

*This section reviews mobility conditions within the Halawa area, including roadways, the transit network, and bikeways. The inventory focuses on conditions within the one mile planning radius, however, major components of the transportation network outside of this area are referenced when they play a significant role in the area's overall circulation. For further information concerning transportation issues, please refer to Appendix A: Existing Transportation Conditions Supplement.*

## 2.4.1 VEHICULAR CIRCULATION

The streets within the Halawa area may be functionally classified into five general categories based on roadway geometries and traffic characteristics, which are shown in Figure 2-9:

1. *Interstate/freeway/expressways (±6 lanes),* refer to the H-1, H-201, and H-3 freeways. The **H-1 freeway**, connecting central Honolulu to Kapolei, proceeds approximately ½ mile parallel to the shoreline of Pearl Harbor. The **H-201 auxiliary freeway**, originating at Fort Shafter, terminates just mauka of Aloha Stadium. The cross-island **H-3 freeway** originates approximately one mile diamond head of the station, proceeding across Oahu to Kaneohe Bay. Related freeway interchange ramps take up a significant amount of space diamond head of the station.
2. *Highways (±6 lanes),* identified as **Kamehameha Highway (Route 99)**, is a high-volume roadway that connects many parts of the island. The highway services Honolulu International Airport and Joint Base Pearl Harbor-Hickham, and proceeds past the rail station towards Pearlridge, acting as a backbone of the Halawa area. Maintaining a good level of vehicular service on Kamehameha Highway within the study area is crucial for the efficient and safe operation of Joint Base Pearl Harbor-Hickham.
3. *Urban arterials (±4 lanes),* are identified as **Moanalua Road**, **Salt Lake Boulevard**, and **Kahuapaani Street**. These links provide primary connections between the neighborhoods that make up the study area. Salt Lake Boulevard terminates at Kamehameha Highway, immediately adjacent to Aloha Stadium Station.
4. *Urban collectors (±2-4 lanes),* are through streets that connect local roads with arterials, and often act as the backbone for residential neighborhoods.
5. *Local roads (±2 lanes),* encompassing minor roadways that primarily serve local residential neighborhoods and businesses rather than thru-traffic. Many local roads terminate in cul-de-sacs within neighborhoods.
6. *Restricted Roads (±2-4 lanes),* refer to through streets and internal roads within military facilities. Roads that interface with the site's vehicular circulation are gated and restricted to public access.

The street pattern of the study area is indicative of postwar suburban development. Kamehameha Highway and Aiea, existing before the Pearl Harbor attack, have been supplemented by freeways and tract housing subdivisions. These subdivisions suffer from limited connectivity, although this is sometimes due to geographic barriers and other constraints.

*Kamehameha Highway near Joint Base Pearl Harbor*

*The widened portion of Salt Lake Boulevard*


**FIGURE 2-9: VEHICULAR CIRCULATION**

*Source: Dept of Planning & Permitting: Honolulu Land Information System*

### 2.4.2 TRANSIT NETWORK

The Halawa area's transit network is currently in flux, as residents, workers, and visitors anticipate the completion of rail service in 2020, with partial service scheduled to open in 2018. Figure 2-10 identifies the rail's stations and fixed guideway, as well as bus and shuttle services. Further discussion of transit services are provided in Appendix A.

***Honolulu Rail Transit (HRT):*** Transit options will greatly expand with the introduction of rail service. Upon completion in 2020, the automated fixed guideway rail system will connect urban Oahu's main employment and residential centers between East Kapolei and Ala Moana.

The **Aloha Stadium Station** is to be located at the intersection of Kamehameha Highway and Salt Lake Boulevard, within walking distance of Aloha Stadium. The station is projected to have between 1,000 and 2,000 daily boardings and alightings on normal days by 2030. Due to games and other events at Aloha Stadium, it is expected that ridership figures would increase on these days. The integration of rail transit with bus and other vehicular connections will be critical. For this reason, the station will also incorporate a bus transfer station and a park-and-ride of approximately 600 spaces.

Other rail stations within the planning area include:

- **Pearlridge Center Station:** Located at Kamehameha Highway and Kaonohi Street; approximately 1,500 and 4,000 boardings and alightings expected by 2030.
- **Pearl Harbor Station:** Located at Kamehameha Highway and Radford Drive; approximately 2,000 and 3,000 boardings and alightings expected by 2030.

***The Bus:*** Honolulu's "The Bus" network, with routes covering most of the area's major thoroughfares, allows frequent service to local employment centers such as Pearlridge and Joint Base Pearl Harbor-Hickham and more distant employment areas such as Downtown and Waikiki. Bus routes serve local and regional attractions and residential communities. Prior to completion of the rail system, many bus routes will need to be reevaluated. For maximum efficiency, redundant bus routes may be converted to feeder routes, providing expanded service in a mauka-makai direction, perpendicular to the predominantly ewa-diamond head direction of the rail line

***Handi-Van:*** Provided by the City and County of Honolulu, this system provides transit services for persons with disabilities. Twenty-four hour service is provided to individuals who place reservations and are located within about a ½ mile of Kamehameha Highway.

***NEX Shuttle:*** This service, operated by the Navy Exchange, is a complementary shuttle service for military personnel and families. Routes connect important facilities to housing areas within Joint Base Pearl Harbor-Hickham, as well service to the massive Navy Exchange complex just diamond head of the study area. Shuttle routes may be adjusted upon completion of the HRT system.

***Other Shuttle Services:*** A variety of private shuttle services originate within and/or provide service to the planning area. These include services such as:

- Waikiki to Aloha Stadium Swap Meet
- Services to Aloha Stadium on game days
- Services from multiple locations (mostly from Waikiki) to Pearl Harbor Visitor Center
- Services from multiple locations (mostly from Waikiki) to Pearlridge Center

*Fixed guideway under construction in Waipahu*

*Future location of Aloha Stadium HRT Station*


**FIGURE 2-10: TRANSIT NETWORK**

*Source: The Bus; Dept of Planning & Permitting: Honolulu Land Information System; Navy Installations Command*

### 2.4.3 BICYCLE NETWORK

Figure 2-11 depicts existing and proposed bicycle facilities within the planning area. Most of the existing and proposed facilities seen in Figure 2-11 are indentified in the Oahu Bike Plan. Many of the facilities proposed in the Oahu Bike Plan were delineated in the Primary Urban Center (PUC) Development Plan, as part of a regional pedestrian network linking key districts and major parks. Bicycle and pedestrian circulation around the future station site and Aloha Stadium is addressed in greater detail in Section 2.5.

Bicycle facilities are typically designated as such:

- **Bike paths:** Also referred to as a shared use paths, they are typically dedicated facilities located off-street. Their physical separation from vehicular traffic makes them family-friendly. These facilities also may double as pedestrian paths.
- **Bike lanes:** These are on-street demarcations delineated by a wide, white line. Typically five- to six-feet wide, they contain pavement stencils indicating bicycle use only.
- **Bike routes:** These facilities, also known as "sharrows", use pavement markings and street signage to indicate where bicyclists are expected to share the road with vehicles.

***Existing Bicycle Facilities:*** There are a handful of existing bicycle facilities identified within the Halawa area. These include:

- *Pearl Harbor Historic Trail:* The yet to be completed trail was designed to encircle Pearl Harbor, connecting ewa to the Pearl Harbor Visitor Center. Completed portions are in the study area are located along a former rail right of way. The DTS is currently conducting a study to connect the Historic Trail to the Pearl Harbor Visitor Center, as well as to Aloha Stadium Station.
- A bike path parallel to Bougainville Drive; diamond head of the Bougainville commercial area, which connects to the Navy Exchange and Honolulu International Airport
- Portions of Kamehameha Highway and Salt Lake Boulevard currently have bike lane facilities

There are other existing, non-official bicycle facilities in identified in the Oahu Bike plan, located on federal property. These include:

- Bike paths adjacent to Makalapa Navy housing
- Bike routes along the Ford Island Bridge

***Proposed Bicycle Facilities:*** As indicated in Figure 2-11, The Oahu Bike Plan proposes a comprehensive network of bike paths, lanes and routes that will service the Halawa area. These will provide a continuous network of lanes or routes along many of the area's arterial and collector roadways, including linkages to Aloha Stadium Station. Additionally, each station along the rail line is to include bicycle storage facilities and other services depending on station boardings and the final station design. Such measures are intended to promote cycling as a safe and convenient mode of travel in the near future. Other facilities linking Joint Base Pearl Harbor-Hickham to existing as well as proposed facilities should be considered in the planning process.

*Pearl Harbor Historic Trail in Aiea*

*Ford Island Bridge, commonly utilized by military personnel on bicycle*

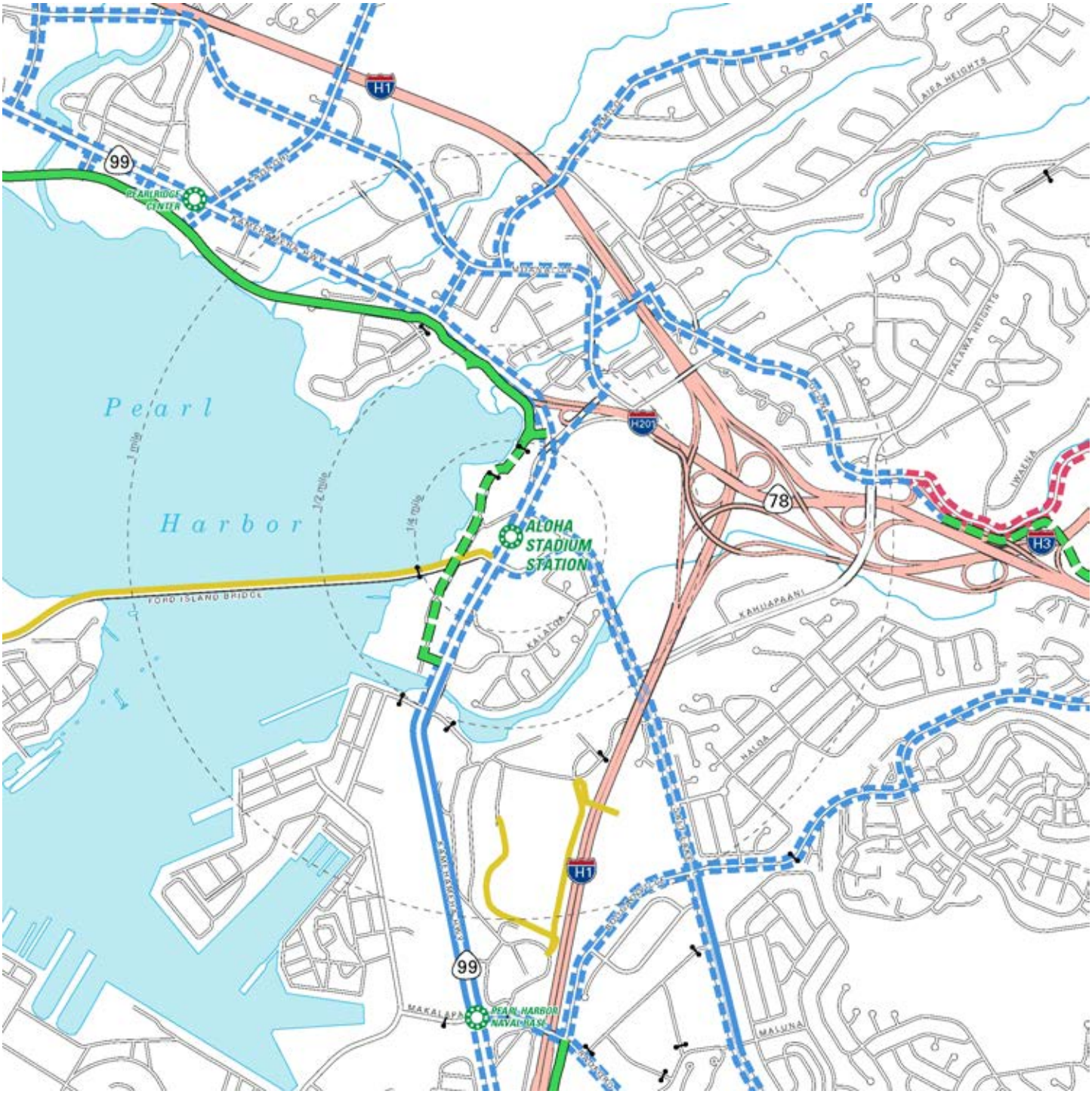


**FIGURE 2-11: EXISTING BICYCLE CIRCULATION**

*Source: Dept of Planning & Permitting: Honolulu Land Information System; Oahu Bike Plan*

# 2.5 STATION AREA

*This section examines existing characteristics of the built and natural environment, as well as infrastructure within a ½ mile radius of Aloha Stadium Station. An understanding of issues adjacent to the rail station will allow the formulation of plans that promote economic development, reinforce transit and pedestrian use, and enhance neighborhood livability. It also provides a baseline from which planners are able to assess the impacts of future growth on local infrastructure.*

## 2.5.1 KEY CHARACTERISTICS

Key characteristics of the Station area are described below and depicted on Figure 2-12.

1. **Aloha Stadium Station:** Within the Halawa area, the fixed guideway will be located diamond head of Kamehameha Highway. The station itself will be located on a trapezoid-shaped piece of land between the one-way couplets of Salt Lake Boulevard. In addition to the concourse, the station will consist of a bus transfer station, a HandiVan drop-off, a Kiss & Ride, and 600 park-and-ride spaces. The configuration of the station and its parking facilities are likely to be modified with additional development.

2. **Aloha Stadium:** The facility will celebrate 40 years of operation in 2015. The stadium and its grounds hold up to 300 events a year; however the State is looking towards significantly modifying or replacing Aloha Stadium in the future. Issues with the stadium include:
   - *Building Capacity:* At 50,000 seats, it is commonly accepted that Aloha Stadium is too large a venue, and that capacity should be reduced to 30,000-40,000 seats.
   - *Deferred Maintenance:* The age of the building means that minor improvements and ongoing maintenance have become more expensive.
   - *Lack of Modern Facilities:* Though it remains the most significant sports and entertainment venue in Hawaii, Aloha Stadium suffers from outdated seating, athlete facilities, poor sightlines, a lack of club facilities, and few food and beverage venues. As a result of this, its has become more difficult for Aloha Stadium to attract major events.

3. **Aloha Stadium Parking Lot:** Currently consisting of 7,476 spaces, the parking lot radiates from Aloha Stadium, extending diamond head across Halawa Stream along Salt Lake Boulevard. In addition to the Swap Meet, the parking lot hosts over events, such as the Hawaii State Fair, car shows, and auto/motorcycle racing. Other considerations include:
   - *Lot Configuration:* The parking lot is not conducive to multi-modal connectivity; rather it is geared towards the quick ingress and egress of vehicles.
   - *Pedestrian Connections:* Pedestrians traveling to the Stadium face poor conditions within the parking lot and along and across nearby arterials and highways, and one pedestrian connection across Interstate H-201 is only open during game days.
   - *Reduced On-site Parking:* With the ongoing construction of the Aloha Stadium Station, the number of spaces available in the stadium parking lot has decreased from 7,916 to the current total.
   - *Off-site Parking:* Aloha Stadium utilizes 1,600 off-site spaces during game days, for a overall total of just over 9,100 spaces.

4. **Aloha Stadium Swap Meet & Marketplace:** Located within the concentric drive aisles of the Aloha Stadium parking lot, the Swap Meet is operational around 150 days a year. With a year-round attendance of almost one million people, it is a major source of revenue for Aloha Stadium. Transit-oriented development in the Halawa area may affect the configuration and operation of the Swap Meet.

5. **Underutilized Open Spaces:** Two open spaces are recognized as underutilized:
   - *Richardson Field:* As part of Joint Base Pearl Harbor-Hickham, it is occasionally accessible to the public. Its pedestrian accessibility is limited by poor conditions along Kamehameha Highway.
   - *Makalapa Neighborhood Park:* This open space suffers from poor pedestrian accessibility and a high crime rate. An adjoining parcel of land fronting Salt Lake Boulevard is also considered underutilized.

6. **Puuwai Momi Housing:** This public housing development consists of 260 units ranging from one to four bedrooms. Built in the early 1970s, the complex is home to a largely Pacific Basin immigrant population. However, the development suffers from a variety of issues. The Hawaii Public Housing Authority is in the early stages of planning its eventual replacement.

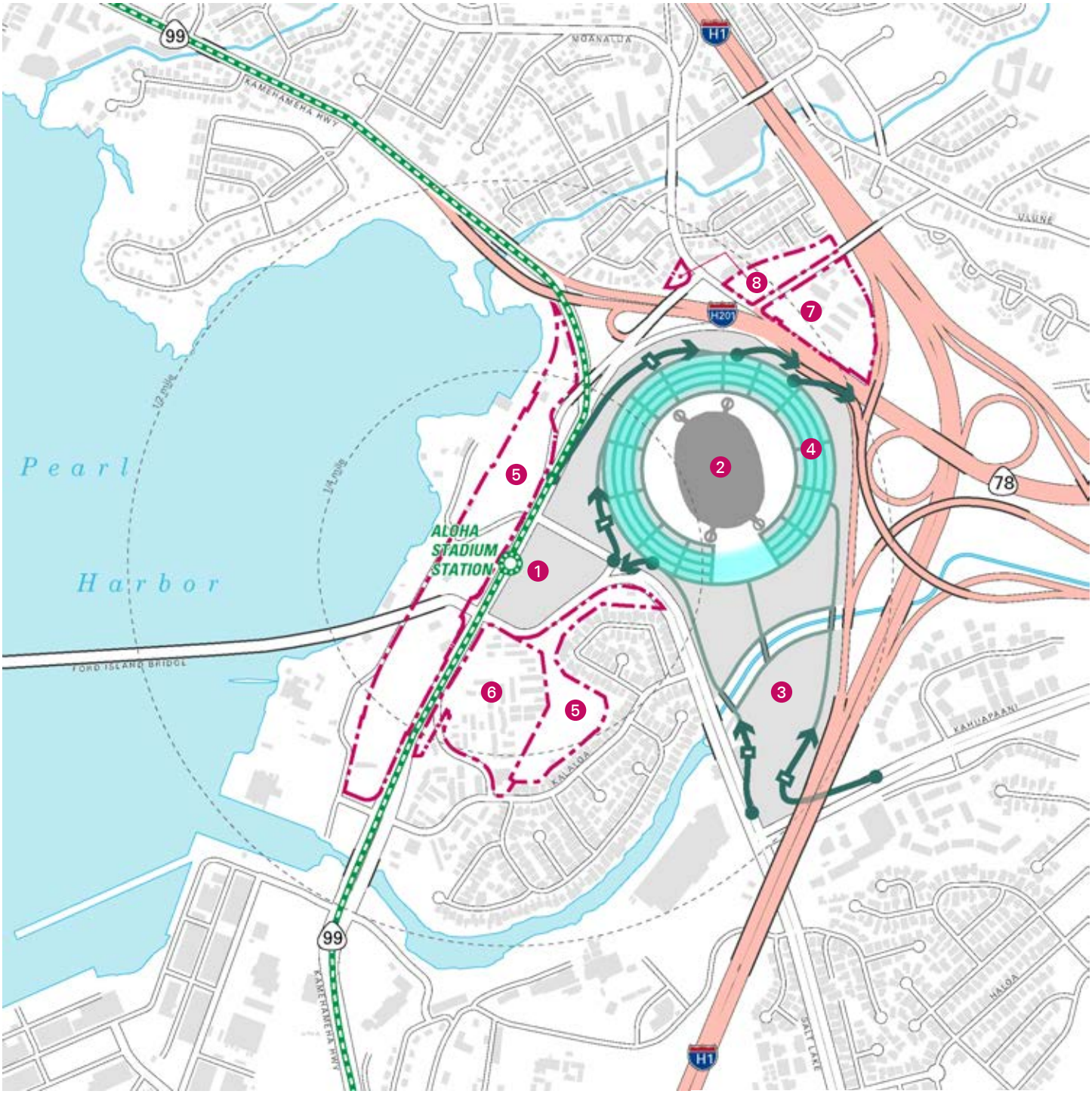


**FIGURE 2-12: STATION AREA CHARACTERISTICS**

1" = 1000'

0' 250' 500' 1000' 2000'

Fixed Guideway
Aloha Stadium Station
Surface Parking Lot
Swap Meet Footprint
Aloha Stadium Internal Circulation
Aloha Stadium Ingress/Egress

1 Aloha Stadium Station
2 Aloha Stadium
3 Aloha Stadium Parking Lot
4 Aloha Stadium Swap Meet & Marketplace
5 Underutilized Open Spaces
6 Puuwai Momi Housing
7 Aiea Elementary School
8 "Moanalua" Vacant Sites:



RTKL AN ARCADIS COMPANY

7 **Aiea Elementary School:** One of the earliest public schools on Oahu, Aiea Elementary School serves kindergarten to sixth grade with a total enrollment of 356 students. The vast majority of the student body comes from the Puuwai Momi Housing development. As a result many students utilize the sidewalks along Kamehameha Highway to get to the school. Its large campus is situated just mauka of Aloha Stadium, and may play a part in future transit-oriented development in the Halawa area.

8 **"Moanalua" Vacant Sites:** Two small parcels are located mauka of H-201, both of which are federally-owned. The larger of these two sites is utilized as overflow parking by Aloha Stadium and was once the site of the former Aiea Laundry.

### 2.5.2 PROPERTY OWNERSHIP

Figure 2-13 shows public and private ownership within the Halawa area. There is a large amount of federal and state-owned land in the immediate vicinity of the future Aloha Stadium Station. A high degree of cooperation with these public entities will be necessary not only to maximize the "value capture" associated with transit-oriented development, but to also meet the needs of the entire neighborhood. Working with all stakeholders, both public and but also private land owners in the planning area will be essential to success. The Stakeholder Interviews as described in Chapter 3 involved representatives from many of the entities that own or maintain property in the Halawa area.

***Federal Government:*** Federally-owned lands primarily consist of Joint Base Pearl Harbor-Hickham and the nearby military communities, such as McGrew Point, Makalapa, and the multifamily Halawa development. In addition, the federal government has ownership of the lands between Kamehameha Highway and the Pearl Harbor waterfront, which includes the Pearl Harbor Visitor Center.

***State of Hawaii:*** The State of Hawaii retains ownership of some of the most significant portions of the Halawa area, including the site of the future Aloha Stadium Station and Aloha Stadium itself. The Aloha Stadium parcel is administered by the state Department of Accounting and General Services (DAGS) Other significant state-owned parcels within the planning area include:

- Aiea State Recreation Area (administered by the DLNR State Park Division)
- Puuwai Momi Housing (administered by the Hawaii Public Housing Authority)
- Aiea Elementary School (administered by the Hawaii Department of Education)

***City and County of Honolulu:*** The City maintains ownership of two areas that are of note: Makalapa Neighborhood Park, located within ¼ mile of the rail station, and the vacant parcels that will make up the future Aiea Town Center. In addition, the city owns large portions of the Halawa Stream makai of Salt Lake Boulevard.

***Private land owners*** are divided into two categories for the purposes of this report:

- Multifamily/commercial include owners of commercial properties, such as Stadium Mall, and multifamily developments, such as the Crosspointe condominiums.
- Single-family homeowners, or miscellaneous land uses such as small retail establishments or places of worship.

*Navy warships and auxiliaries dock at federally-owned land near the station*

*Aloha Stadium and its parking lot is located on State-owned land*

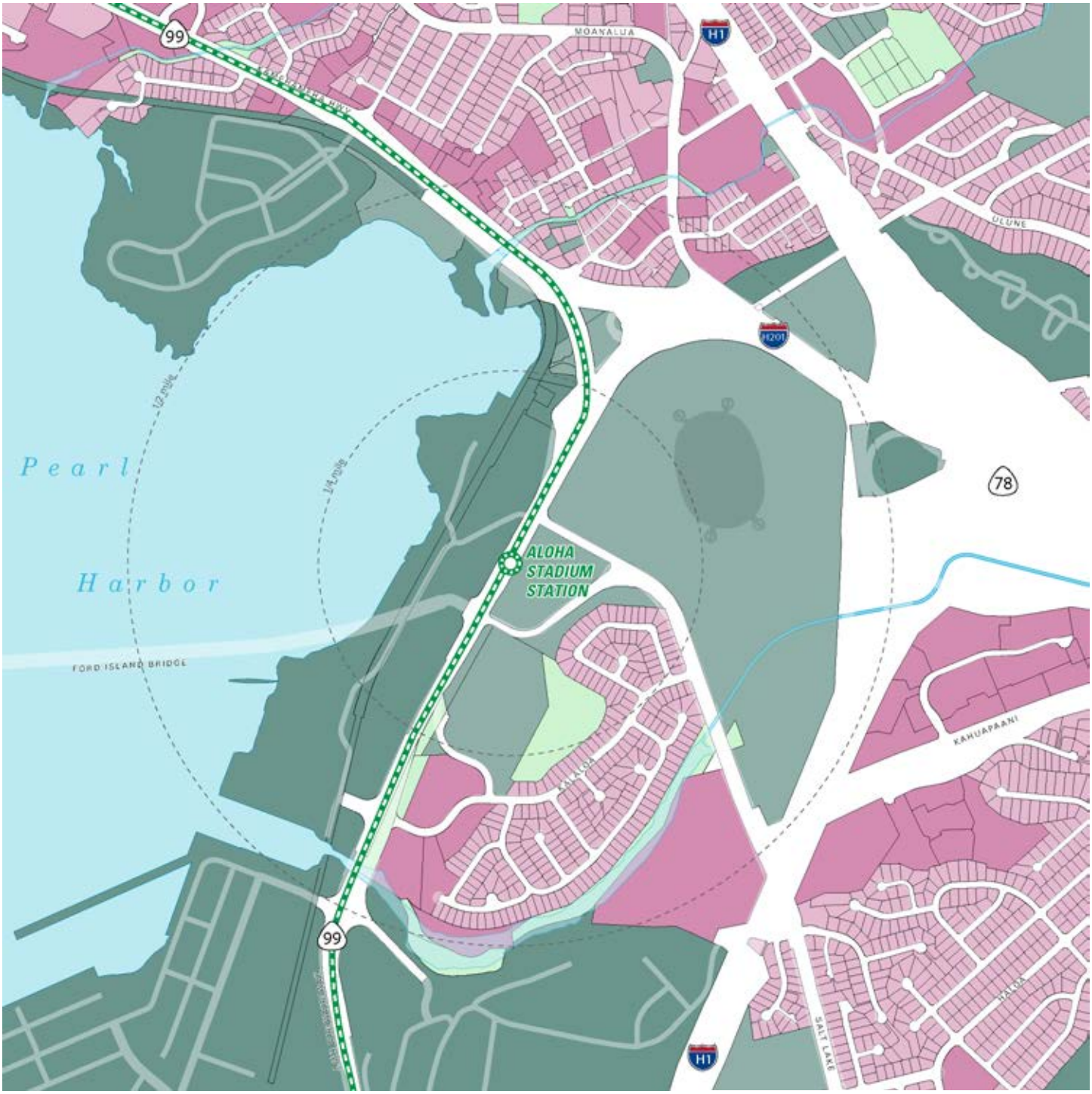


**FIGURE 2-13: PROPERTY OWNERSHIP (PUBLIC/PRIVATE)**

*Source: Dept of Planning & Permitting: Honolulu Land Information System*

### 2.5.3 BLOCK STRUCTURE / SIDEWALK

The block structure of the Halawa area reflects the practices prevalent in postwar suburban growth, in that residential neighborhoods are organized around looped streets and cul-de-sacs. These patterns also feature a lack of regular intersections and through streets. Significant issues are as follows:

- *Contrary to traditional street grid patterns, the block structure in the planning area reduces connectivity and increases congestion. The existing conditions eliminate alternative routes not only for motorists, but for pedestrians and cyclists as well.*
- *The planning area is interrupted by multiple superblocks, further forcing traffic onto the arterial streets.*
- *The largest superblock, covering 85 acres, is occupied by Aloha Stadium and its parking lot.*
- *Due to the presence of military facilities in the Halawa area, through streets that access Joint Base Pearl Harbor-Hickham are gated to prevent access from the general public.*
- *The Halawa area is bisected by the convergence of several interstate highways.*

One way to solve the connectivity problem is to identify missing links in the street network. Superblocks such as the Aloha Stadium site should be 'broken up', to allow greater vehicular connectivity as well as extending pedestrian and bicycle access at strategic locations through these sites. If pedestrians and cyclists are currently forced on to congested collector and arterial streets due to insufficient connectivity, it is also imperative that these streets and crossings be redesigned. In those cases where freeways or geographical features present barriers to pedestrian circulation, new or reinforced connections should be made.

Figure 2-14 depicts sidewalks throughout the Halawa area. Pedestrians that utilize sidewalks, especially along the planning area's arterials, must contend with significant quality and safety issues, including inconsistent width, lack of shade, lack of protection from speeding vehicles, incomplete segments along blocks, and lack of safe crosswalk conditions. Specific issues with existing pedestrian connections in the Halawa area include:

1. **Blocked direct access** to Pearl Harbor waterfront due to lack of sidewalk connection and security gates
2. Unsafe sidewalk conditions along the interchange of Kamehameha Highway and H-201, especially for children walking to Aiea Elementary School from the Puuwai Momi housing development
3. **Kahuapaani Street**, as it passes beneath the H-1 overpass, features difficult sidewalk conditions
4. **Missing sidewalk segments** along Kamehameha Highway mauka of the proposed rail station
5. **Sidewalks along arterials** adjacent to anticipated transit-oriented development may be too narrow to accommodate the potential pedestrian volumes.
6. **The pedestrian crossing over H-201**, which directly connects Aiea to Aloha Stadium, is only open during game days.
7. **Lack of sidewalks in neighborhoods** such as Aiea.

Transit-oriented development and transformation toward mixed-use corridors will require "complete streets" featuring more generous sidewalk widths, especially in proximity to the station. A more complete and interconnected bike network is also an important part this strategy. The dearth of street trees is another significant issue along the streets of the planning area, and is addressed in the next section.

*Kamehameha Highway and Salt Lake Boulevard during a UH game day*

*Students walking home from school in Aiea*

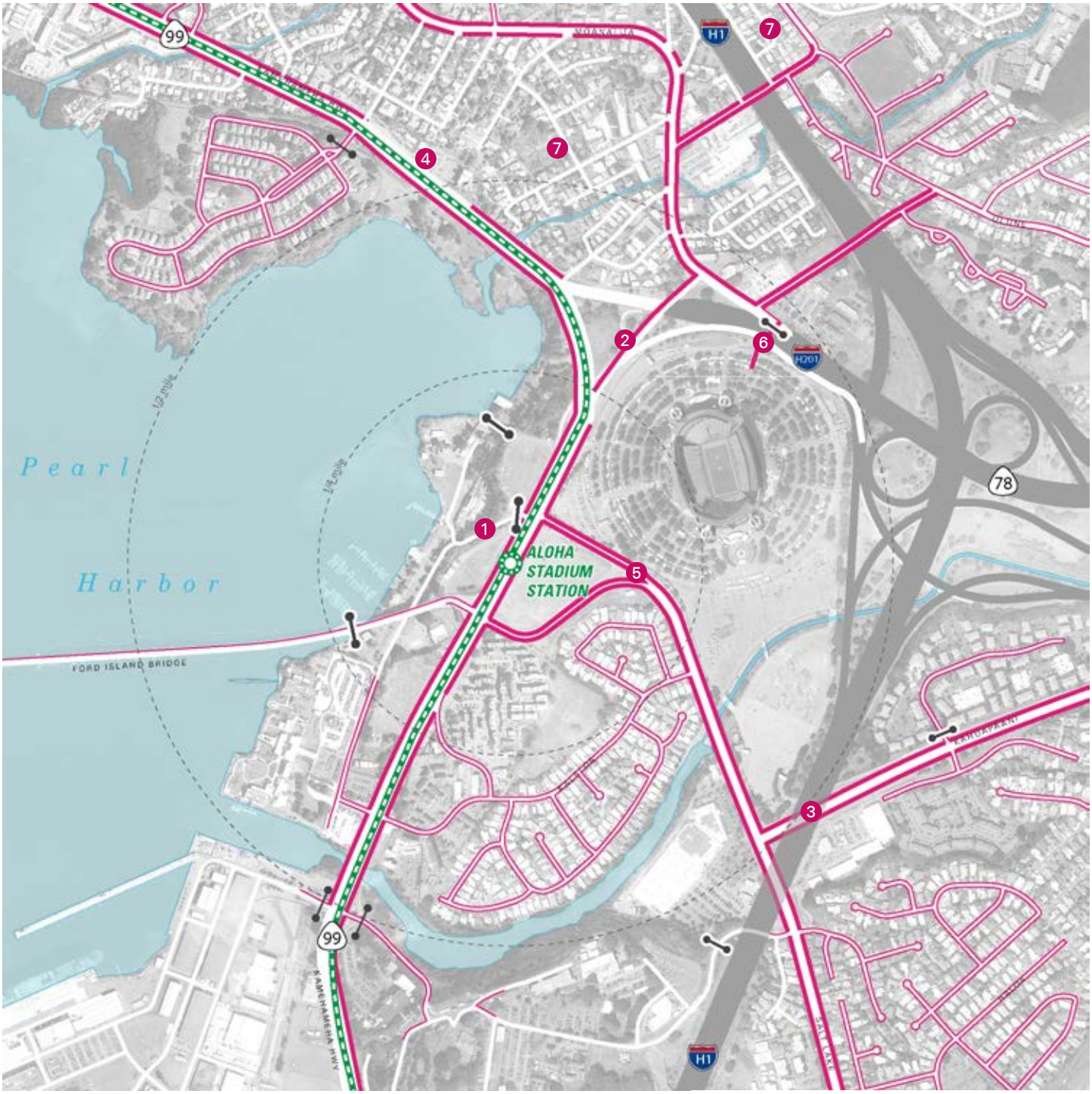


**FIGURE 2-14: EXISTING SIDEWALKS**

1" = 1000'

0' 250' 500' 1000' 2000'

Fixed Guideway
Aloha Stadium Station

**Sidewalks**
Arterial Sidewalk
Neighborhood Sidewalk

**Pedestrian Connectivity Issues**
1 Blocked direct access
2 Unsafe sidewalk conditions
3 Kahuapaani street / H-1 overpass
4 Missing sidewalk segments
5 Existing Sidewalks along arterials
6 Pedestrian crossing over H-201
1 Lack of sidewalks in neighborhoods

*Source: Google Earth, Visual Analysis*



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## 2.5.4 TREE CANOPY

Tree canopy, especially along streets, is designed to provide visual relief and promote pedestrian comfort. Likewise, a lack of consistent tree canopy can contribute to a rather unfriendly pedestrian environment. Notably, the absence of urban street trees may exacerbate the heat island effect throughout the entire Halawa area. The difference in ambient temperature between Kamehameha Highway and any of the local residential streets may rise as much as 10-15 degrees. Pedestrians benefit from a comfortable sense of enclosure offered by a healthy and continuous tree canopy, as well as the physical and psychological separation from passing automobiles established by consistent curb-side tree planting. The location of existing tree canopies in the Halawa area are shown in Figure 2-15. Specific characteristics of the tree canopy, which are also identified on Figure 2-15, include:

1. *Lack of arterial tree canopy:* A definite lack of a consistant canopy of street trees along Kamehameha Highway, as well as along other major arterials and connectors, such as Salt Lake Boulevard, Kahuapaani Street, and Moanalua Road.

2. *Lack of neighborhood street trees:* Local residential streets in particular are generally devoid of street trees, while the collector and arterial streets tend to be dotted by an irregular or inconsistent planting,

3. *Groves of trees:* Open spaces, particularly parks, feature groves of trees lining grassy meadows or athletic fields.

4. *Parking lot monkeypod trees:* The Aloha Stadium parking lot features a characteristic 'orchard' of mature monkeypod trees, planted in concentric circles radiating from the Stadium. This helps to provide shade and some relief from the heat island effect during swap meet days.

5. *Wooded areas:* Natural growth is found along the less man-made features of the site, such as along Halawa Stream, McGrew Point, and along some of the more dramatic elevation changes found within the planning area.

*Tree canopy at Aloha Stadium parking lot*

*Street trees adjacent to Radford High School*

*Lack of tree canopy along Kamehameha Highway*


**FIGURE 2-15: TREE CANOPY**

*Source: Google Earth, Visual Analysis*

## 2.5.5 TOPOGRAPHY

The Halawa area offers a variety of terrains. From Pearl Harbor, the land slowly and gently undulates but nonetheless inclines towards the Koolau Mountains on the mauka side. Within the ½ mile radius, the land gradually rises to 80 feet in the Aiea and Makalapa neighborhoods. The following topography sections* (Figures 2-16, 2-17, and 2-18) and contour map (Figure 2-19) attempt to illustrate the characteristics of the land.

**FIGURE 2-16: TOPOGRAPHY SECTION A**


This section illustrates the condition from Aiea State Recreation Area, through Aiea Town Center. Here the land gently rises mauka of Interstate H-201 to Moanalua Road, and rapidly rises beyond the road cut created for the Interstate H-1.

**FIGURE 2-17: TOPOGRAPHY SECTION B**


This section illustrates the generally flat condition from Richardson Field to Aloha Stadium as well as the undulating characteristic of the parking lot diamond head of the stadium.

**FIGURE 2-18: TOPOGRAPHY SECTION C**


This section shows how Halawa Valley is in actuality, located on a peninsula bounded by Pearl Harbor and the small valley that is formed by the delta of Halawa Stream. Diamond head of Interstate H-1, the land begins to rapidly rise to the Foster Village neighborhood.

** Sections are not drawn to scale.*

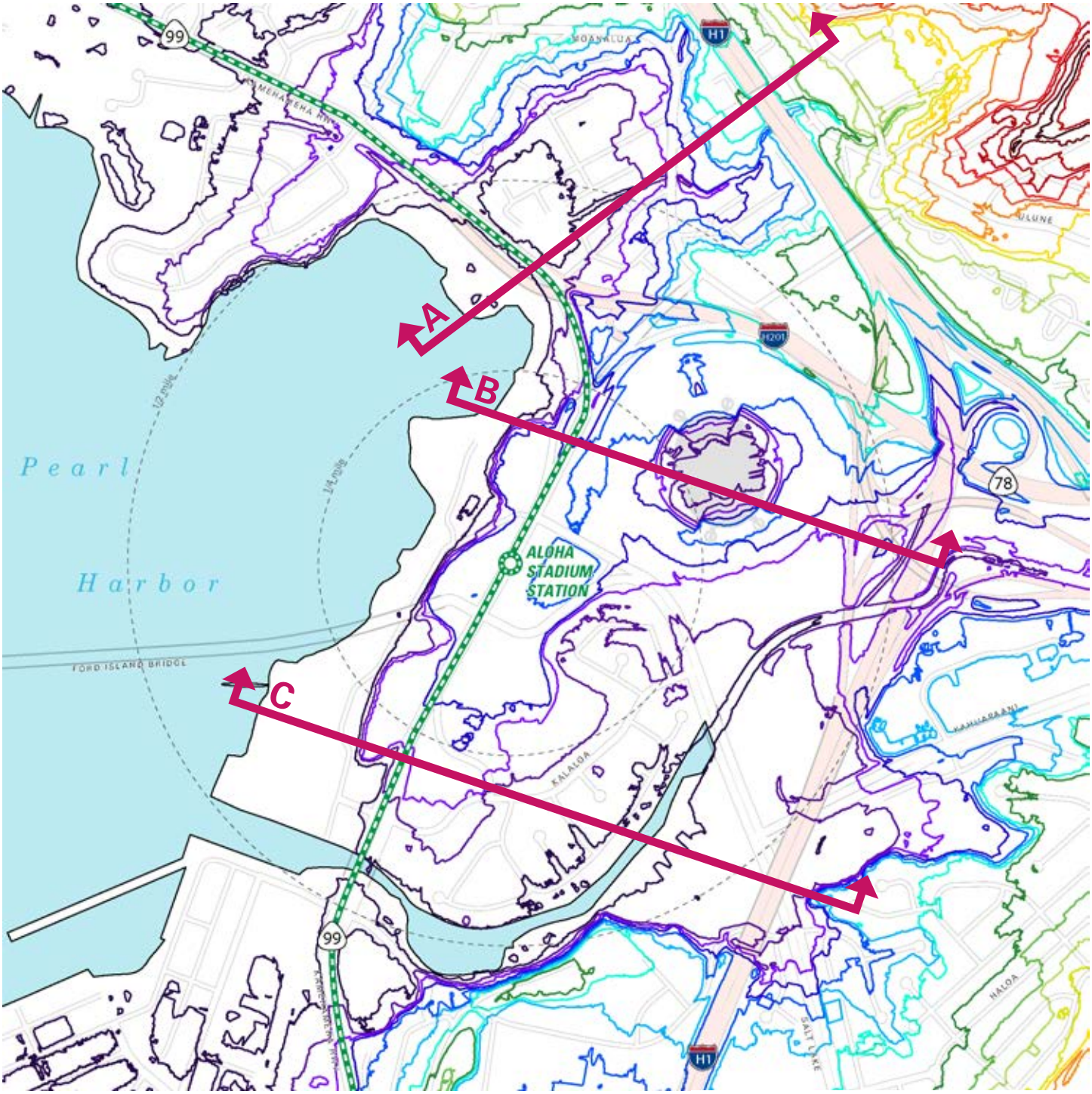


**FIGURE 2-19: CONTOUR MAP**

*Source: Dept of Planning & Permitting: Honolulu Land Information System*

# 3. STAKEHOLDER INTERVIEWS

**This chapter summarizes the initial outreach effort for the Halawa Area Transit-Oriented Development (TOD) Plan. In order to gather necessary background information about the area, a series of "stakeholder interviews" soliciting input from key community representatives were conducted.**

## 3.1 INTRODUCTION

*The primary purpose of these interviews was to get a preliminary take on major issues, ideas, and concerns related to development of the neighborhood, particularly as it relates to the planned transit station. In turn, this will allow the consultants to engage the broader community in a more informed manner with a more comprehensive community outreach program.*

### 3.1.1 PROCESS

This effort targeted individuals representing a variety of community interests and organizations; representatives from pertinent public agencies and community organizations, as well as business and property owners from the neighborhood were interviewed in one-on-one or small group settings. The personal, small-scaled nature of these discussions enabled individuals to be more candid than they otherwise might be in a larger community forum. Moreover, discussions could be focused on topics and issues pertinent to each individual and their organization. Participants were also provided the opportunity to supplement their verbal responses by completing a brief written questionnaire. Interviews were conducted in person by Department of Planning and Permitting staff and consultants from RTKL Associates on August 27th and 28th, 2014, as well as over the phone in September 2014.

*Halawa Community Center*

### 3.1.2 PARTICIPANTS

A total of 30 individuals participated in 20 interview sessions; some of them completed the supplementary questionnaire and returned it to City staff. Stakeholders are identified in Table 3-1 on the following page.

**TABLE 3–1: List of Stakeholders**

The following organizations were interviewed as part of an initial community outreach event. While all neighborhood residents, employees, and visitors are "stakeholders" in the area, these initial meetings targeted individuals representing a variety of interests and organizations to facilitate focused discussions on a range of issues and needs.

| *Stakeholders* | *Representatives* |
|---|---|
| Aiea Community Association | Claire Tamamoto, Kapiolani Silva, Frederick Silva |
| Aiea Shopping Center | Annette Distiso |
| Aloha Stadium | Scott Chan |
| Crosspointe Community Association | Samantha Kawelo |
| Forest City Military Communities | William Boudra, April Nicosia |
| Hawaii Department of Education | Roy Ikeda |
| Hawaii Department of Land and Natural Resources | Barry Cheung |
| Hawaii Lodging and Tourism Association | George Szigeti |
| Hawaii Public Housing Authority | Hakim Ouansafi |
| Hawaii State Department of Accounting and General Services | Chris Kinimaka, David Deponte |
| Hawaii State Senate | Glenn Wakai |
| Historic Hawaii Foundation | Kiersten Faulkner |
| Honolulu City Council | Breene Harimoto, District 8 (now State Senator) |
| Honolulu City Council | Joey Manahan, District 7, Mitchel Cabreros |
| Honolulu Community Action Program | Robert Naniole |
| Honolulu Department of Transportation Services | Mark Garrity |
| Naval Facilities Engineering Command (NAVFAC) Hawaii | Jeff Dodge, John Lohr, Charlene Oka-Wong, Wesley Choy, Gary Tasato |
| Neighborhood Board No. 18, Salt Lake/Foster Village | David Yomes |
| Neighborhood Board No. 20, Aiea | William Clark |
| Queen Emma Land Company | Stuart Lau, Bruce Nakaoka |
| Stadium Mall | Mika Short |

## 3.2 MAJOR THEMES & DISCUSSION

*The following section discusses in a general manner, the major topics addressed by these stakeholders. In order to keep the comments anonymous, specific comments are not assigned to any one participant. These key points are around the major themes encountered during the stakeholder interviews.*

### 3.2.1 COMMUNITY CHARACTERISTICS

- The community is proud of the fact they live near such an important historical area
- The community enjoys proximity to the proposed rail station, the Aloha Stadium Swap Meet, Stadium Mall, Ice Palace
- The study area has a central location and closeness to central Honolulu, and the acceptable vehicular commute times into the city
- A good feature is the lower-density scale of Aiea and station area, unlike the rest of urban Honolulu
- The rail network can help to tell the story of the neighborhoods and the overall Pearl Harbor area
- The greatest issues for the neighborhood are traffic, crime, the cost of living, housing prices
- There is a lack of social events in area, other than the Swap Meet
- The area is missing convenience retail, restaurants, discount stores, community-oriented (mom and pop) stores; these are especially needed in Halawa Valley
- The physical environment of the study area is not friendly to or safe for children
- The area is missing adult care centers (senior citizens), Adult education (computer classes), affordable housing, convenience shopping
- The younger, immigrant population have problems, many cannot afford to have families and have to work more than one job

### 3.2.2 HOUSING MIX & AFFORDABLE HOUSING

- The site serves as largely a bedroom community for middle age couples and families, with a high percentage of retired military personnel
- Affordable housing is also a very important requirement for many families in the community
- A majority believes that with TOD, greater housing choices (affordable housing) should be offered with additional development within the study area
- High demand in community for new housing integrated with retail
- Housing near the station area would be well received by military personnel who would appreciate low-medium-density housing
- Issues for public housing tenants include need for reduced rents, low transportation allowances, long work commute times, poor security at night, lack of nearby retail, and lack of parking
- The public housing complex could be removed in the long-term, and the tenants could be relocated or integrated into a mixed-use/mixed income development
- New residential development around the airport area is not expected, though new development in Pearlridge is expected with Live-Work-Play Aiea

### 3.2.3 STATION IMPACTS & OPERATION

- Rail transit will benefit the site with greater accessibility, reliability, more choices, and reduced congestion on game days
- Rail service is greatly looked forward to; most residents will eventually take rail on weekend trips to central Honolulu or Pearlridge
- A kiss and ride area adjacent to the rail station will allow people to drop off commuters
- Some stakeholders believe that the elevated guideway and the station will be an eyesore and will add congestion rather than improve it
- Some stakeholders would like to keep things the way they were before rail was introduced
- The Navy is concerned about backups at main gate entrances during rail construction
- Rail could adopt some historically themed public art, concrete reliefs on the fixed guideway columns (column wraps) telling the history of Pearl Harbor
- How will historic properties and the Pearl Harbor National Historic Landmark be affected by the rail system?
- How will train operation and noise affect housing directly adjacent to the fixed guideway?

### 3.2.4 MULTI-MODAL CONNECTIONS

- Transit will allow greater connectivity to the neighborhoods, including improved bus services throughout the entire project site
- Transit will help people with accessibility, especially for those who do not own cars

- The rail and TOD will help low income people and families to better connect to the community
- Connectivity between transit nodes will be very important once the rail is completed
- The rail station will help to facilitate alternative connections (shuttle, bus, bike) to nearby tourist areas
- The site must improve connections through redevelopment, enhance connections to rail station and the Pearl Harbor bike path, as well as create off-street pedestrian and bike connections when possible
- Additional express bus services could help connect area to downtown Honolulu, complementing the rail system
- Rail transit could be complemented further with car sharing and bike sharing at the station
- At the station, there could additional shuttle services from station to area nodes, shopping centers, or other attractions
- Additionally, there should be improvements in all nearby bus routes further increasing accessibility and options
- Connectivity can be improved by permanently opening the pedestrian pathway over the H-1 Freeway near Aloha Stadium
- Elevated pedestrian crossings across Kamehameha Highway will solve pedestrian/vehicle conflicts, but may need to be sensitive to the Joint Base Pearl Harbor-Hickham and the National Historic Landmark
- Will the introduction of rail service encourage people to voluntarily give up their cars?
- A lack of lighting at bus stops along certain areas may attract crime

### 3.2.5 PEDESTRIAN & BICYCLE MOBILITY

- Conflicts between vehicles, pedestrians, and bicyclists should be reduced
- Easy wayfinding is required, multiple languages near station and attractions, for Pearl Harbor visitors from different countries
- Very few in community currently use bicycles because of safety concerns
- There is a lack of bicycle facilities throughout site; and the Pearl Harbor Historic Trail is broken, its current terminus opens into terrible traffic conditions
- Neighborhood needs to improve walking and bicycling connections, especially along Kamehameha Highway and Salt Lake Boulevard
- The study area could benefit from a comprehensive bikeshare network; bike shares at station, shopping centers, and military communities
- A very important issue is pedestrian safety, especially how it relates to children walking to and from school
- Kamehameha Highway is the route to school for many students traveling by foot from Halawa Valley and Puuwai Momi; very dangerous condition
- High speed limits on arterials encourage speeding and running traffic signals, making pedestrian travel dangerous
- An off-street pedestrian/bike path along Salt Lake Boulevard could provide a more direct and safe route from the Stadium Mall to the station
- Youth on skateboards and bicycles create pedestrian conflicts on sidewalks
- Crosswalk wait times are overly long on Kamehameha Highway

### 3.2.6 INFRASTRUCTURE & STREETSCAPE IMPROVEMENTS

- Traffic is the #1 issue in the community
- Residents concerned about traffic congestion, especially during school peak hours
- Stakeholders are interested in the tangible things that TOD will bring, such as improved streetscapes (complete streets)
- Many neighborhood streets are in bad condition; poor condition of streets and speeding cars make crossing streets dangerous
- Make existing intersections by station better providing safe choices such as wider crosswalks, bollards, traffic slowing elements
- Streetscape improvements should help to tell the story of area, create interpretive trails, and integrate Richardson Field
- Vehicular circulation improvements such as street widening should not be ignored
- If TOD comes to the station area, then Salt Lake and Kamehameha Highway widening should be a priority to facilitate pedestrian activity
- Salt Lake Boulevard requires widening diamond head of Maluna Street in Salt Lake, and is a major cause of traffic congestion
- Navy interested in widening Kamehameha Highway to accommodate more vehicular traffic
- The street pattern in the study area is very unfriendly, development should introduce a much more connective street grid


*Key words from the Stakeholder Interviews describing current conditions*


*Key words from the Stakeholder interviews describing future opportunities*

### 3.2.7 TRANSIT-ORIENTED DEVELOPMENT (TOD)

- The majority of the community will welcome TOD, as it would increase redevelopment opportunities in the area and generate income for the state
- TOD will help expand tourist offerings to tourists (hotel, retail, restaurants), give them something else to do and a reason to stay in the study area
- There should be a primary consideration for supporting commercial and retail support directly adjacent to the station
- More stores, boutiques, events will help to fill up stadium on game days
- Station area and surrounding neighborhoods not currently considered a hotspot for new development
- A hotel may be attractive adjacent to the stadium; this will cater primarily to military families temporarily staying near base
- A central meeting space or square could provide focus and centrality surrounding neighborhoods, and could be a venue for the Swap Meet
- Redevelopment of the stadium area can create a new land use pattern onsite with interconnected spaces, reorganized and compact swap meet space for example
- Land uses for the stadium area would be hotel, retail, housing, playfield, soccer, as well as the possibility of a big box store
- Many would like to see a development like Live, Work, Play Aiea at the stadium, but not as high-density
- If TOD is inevitable, the area adjacent to the stadium has the highest potential for transit-oriented development
- New high-rises not likely because of visual impacts at National Historic Landmark

### 3.2.8 ALOHA STADIUM PRESENCE

- The stadium should be refurbished to become a more attractive venue
- Aloha Stadium cannot attract many large events because there is a capacity and resource issue on the island
- The Swap Meet is an economic engine, a good attraction, and stadium management would like to keep them onsite in the future
- Much interest in combining and concentrating event programming into single organization or association
- The stadium should combine resources with other major Oahu venues (Blaisdell, Hawaii Convention Center, Stan Sheriff Center, Waikiki hotels) to better organize event programming in the island
- New development could open the door for smaller entertainment venues and therefore a well-balanced event programming schedule within the study area
- Long-term improvements could include the removal and replacement the stadium in another location
- Several stakeholders would like to see more jobs, entertainment choices concentrated within a renovated or reconstructed stadium
- Continued stadium presence but with a 30,000-40,000 person capacity and 10,000 parking spaces and/or rebuilt to a smaller footprint
- Increased numbers of visitors to the stadium following post-rail completion may attract a professional sports team
- The tailgating traditions at Aloha Stadium should be preserved
- There should be a central space near the stadium for performances and community events
- A consolidated events programmer for venues throughout Oahu may be able to attract more stadium events

### 3.2.9 SCHOOLS

- Schools provide social services for the neighborhood, homeless, autism, special education
- The school system as a whole is generally regarded as well beyond capacity
- Schools are running out of space in the study area, however, this can usually be countered by shifting student populations to other schools or constructing temporary structures
- A costly option is to build extensions to schools, but this is difficult and takes up even more space due to design issues such as gender equality guidelines
- The last case scenario would be to build a new school, due to the budget issues this would entail

### 3.2.10 SAFETY & SECURITY

- Crime within the study is not especially violent but it is present (theft, assault, graffiti)
- Safest neighborhoods are gated communities (like Crosspointe) and military housing with Navy sentries
- Other safety issues include graffiti and trespassing on shopping centers or park grounds

- Homeless is also an issue, several live in the H-1 underpasses between the stadium shopping centers
- Address homeless situation by improving public space areas and increase security where homeless tend to congregate
- Safe neighborhoods, especially with gated communities with Navy sentries
- Increase police presence in Halawa Valley neighborhoods and Puuwai Momi homes, negotiate and dialogue with homeless population
- Larger volumes of people walking to and from station can help with 'eyes on the street'
- At stadium area, work on reducing crime, by introducing locally oriented shops and basic community amenities
- Youth boredom and lack of access to recreation and employment, adds to crime; there should be more programming for disadvantaged youth
- Large numbers of youth congregate at the shopping centers and fast food establishments after school; presents safety issue, no place else for them to go

### 3.2.11 LOCALS VERSUS TOURISTS

- The retail in the neighborhood is well used by locals and tourists, and there are a lot of community events for locals
- Tourists come to the area in large numbers but leave quickly
- Nearby shopping is affected by game days, greater numbers of shoppers but also parking issues

### 3.2.12 JOINT BASE PEARL HARBOR-HICKHAM

- Primary issues near the site area include access conflicts with security gates, potential traffic impacts of rail system, potential shuttle bus at station to Naval facilities
- Navy is concerned about public interfaces with base; Entries into/out of base should not be congested
- The Navy would be interested in an office campus near the station for contractors, and the GSA
- Few service personnel will take the rail if base shuttle service does not connect to station
- Greater initial cooperation with the Navy will allow greater dialogue, thus opening up future development opportunities
- The district could attract military systems contractors or other miscellaneous defense contractors

### 3.2.13 PARKS & OPEN SPACES

- Stakeholders recognize a key opportunity to improve open spaces in the Halawa area with the introduction of TOD.
- Richardson Field is very underutilized and could be programmed for greater use
- Recreation within the station area should include both active and passive spaces
- Wetlands areas, fish ponds, and natural springs should also be preserved, but how does this affect runoff?
- Tourists may be attracted to the Pearl Harbor Historic Trail; If reopened, both locals and tourists may find it as a great amenity
- Open spaces can build upon the heritage of the site, the bike trail, and provide activities in park across from station
- Community gardens within the study area would help with access to healthy food and encourage outdoor activity
- View corridors also important, connect natural views and vistas and the historic character of Pearl Harbor

### 3.2.14 LONGER-TERM IMPROVEMENTS

- Long-term improvements would include the completion of the Pearl Harbor Historic Trail, better connectivity in all forms and modes, and hopefully a significant TOD development near Aloha Stadium
- Other improvements include the street environment, improved educational facilities, a new major employment center nearby (on stadium site) and more parking
- Further improvements include housing (high and medium-density) as close to the station as possible, an improved bike path, and a pedestrian friendly Salt Lake Boulevard and Kamehameha Highway


ALOHA STADIUM

# 4. OPPORTUNITIES & CONSTRAINTS

**This chapter identifies key issues, opportunities and constraints associated with future development in the Halawa area, with a more precise focus on transit-oriented development (TOD) potential around the rail station, including Aloha Stadium. This discussion is based on the background document review, site analysis and observations, and stakeholder interviews. Diagrams of key linkages and redevelopment opportunity sites are included, supplemented by a summary discussion of important issues, opportunities and constraints that will guide the planning process as it moves forward. Any diagrams are preliminary and conceptual and intended to facilitate discussion regarding future planning direction.**

## 4.1 MARKET ASSUMPTIONS

*The Aloha Stadium Station has the opportunity to stimulate transit-oriented development (TOD) in the Halawa area. Market trends indicate potential for signficant development at the station and within a ½ mile radius, capitalizing on existing significant attractions such as the Aloha Stadium and the Pearl Harbor Visitor Center.*

Market Assumptions Include:

- A **new, state-of-the-art sports facility** to replace Aloha Stadium would attract new events, increase attendance, and create the central draw for a new mixed-use sports and entertainment district on the Aloha Stadium site.
- In general **the Halawa area is well-situated to capitalize on future growth** in Honolulu due to its central waterfront location, the presence of the new rail transit station, and accessibility by the regional freeway system.
- Most **residential growth** in Oahu is planned to occur in the Primary Urban Center (PUC) and Ewa planning areas, with emphasis on **opportunities close to the new rail line**.
- The retail market in the region is dominated by large shopping centers such as Pearlridge Mall and big-box stores such as Target, but **there is a market opportunity to expand quality eating and drinking establishments such as sit-down restaurants, cafes, and themed establishments such as sports bars.** Demand for additional convenience retail and personal services such as groceries, pharmacies, beauty salons, and banks would also be created by new residential development in the area.
- The **synergies** that can be created through the close proximity of the Pearl Harbor Visitor Center and historic sites **provides additional support for a destination, mixed-use project** on the Aloha Stadium site.
- The Aloha Stadium site is well-situated to **capitalize on future office employment growth** in the Aiea, Airport, and Aliamanu/Salt Lake/Foster Village areas. Given the possibilities to create a unique office branding opportunity within **a new sports and entertainment district**, this **will be the first of its kind in Hawaii.**
- Continued **long-term growth** in the Oahu tourism industry **will create new demand for hotel rooms** as well as provide support for arts, entertainment, and cultural facilities.

For further findings regarding market trends and opportunities within the Halawa area, please refer to the Market Opportunities Study, provided in Appendix B of this document.

# 4.2 ANALYSIS

*The following section describes opportunities and barriers to enhance corridors and multimodal connectivity, and identify areas that will redevelop lower-intensity parcels into opportunities for transit-oriented development (TOD).*

## 4.2.1 OPPORTUNITIES & CONSTRAINTS

Figure 4-1 illustrates the Halawa area's physical design character. It pinpoints key places and important linkages, but also those areas of the neighborhood that lack sufficient identity and where connections break down. As such, this diagram provides a preliminary visual assessment of development opportunities and constraints, and it begins to suggest appropriate locations for design intervention.

***Opportunities:*** Within the ½ mile planning area, there are many, including:

- The Halawa area offers a broad range of attractions serving both tourists and locals, including major regional draws and economic drivers (Aloha Stadium, the Pearl Harbor Visitor Center, and farther afield, Pearlridge Center), as well as vital neighborhood destinations (Stadium Mall and Stadium Marketplace, Aiea Town Center, and Aiea Library). In general, arterial and collector streets link these **important nodes**.

- Certain districts within or adjacent to the planning area have a strong and distinct identity. **"Strong" districts** include Aiea Town Center, Pearl Harbor Visitor Center, and Stadium Mall.

- Dedicated **pedestrian and bicycle facillities** are limited in the Halawa area. Existing significant facilities include the partially completed Pearl Harbor Historic Trail. **Pedestrian/bicycle path opportunities** should better connect area attractions and interface with the rail station and Aloha Stadium.

- **TOD opportunity sites** refer to areas that may be suitable for transit-oriented development. Typically underdeveloped and adjacent to the rail station, these sites are further explained in Section 4.2.3.

- Transit-oriented development is anticipated to occur in its highest intensities in a **mixed-use core** between the rail station and Aloha Stadium.

- With the introduction of TOD, the site's existing open spaces have the opportunity to be activated and reprogrammed into publicly accessible parks or multifunctional spaces. **Natural open spaces**, such as the Halawa Stream, have the opportunity to be a valued community asset.

- With potential development sites identified, wayfinding and **district gateways** can be utilized to better reinforce the identity of the planning area. A **wayfinding opportunity**, connecting Stadium Mall/Marketplace and Pearl Harbor Visitor Center, with the rail station and Aloha Stadium in the center, may act as a pedestrian spine.

***Constraints:*** The Halawa area presents multiple constraints, primarily related to vehicular circulation.

- While some arterial roads act as s**trong vehicular paths** (such as portions of Kamehameha Highway and Moanalua Road), most arterials within the ½ mile area tend toward weaker, **unclear vehicular paths**, that could be described as “formless” or lacking in character.

- "**Weak" districts**, such as Puuwai Momi, Stadium Marketplace, and auto-centric multifamily developments may be strengthened by multimodal connections to improve overall mobility and accessibility.

- Arterials also do not adequately encourage safe, convenient and comfortable pedestrian flows. This is also especially true of the major intersections in the planning area. Linkages are further interrupted at major intersections. These **dangerous intersections** where wide pedestrian crossings are unfriendly and unsafe.

- In general, the Pearl Harbor waterfront is disconnected from its context in the Halawa area. This **disconnected waterfront** is due to both current security considerations, blocked views to the waterfront from the road, **restricted areas** in Joint Base Pearl Harbor-Hickham, as well as potential danger crossing Kamehameha Highway.

- Further interruptions in connectivity are due to **gates** that prevent access to restricted areas, including the main campus of Joint Base Pearl Harbor-Hickham and McGrew Point military housing.

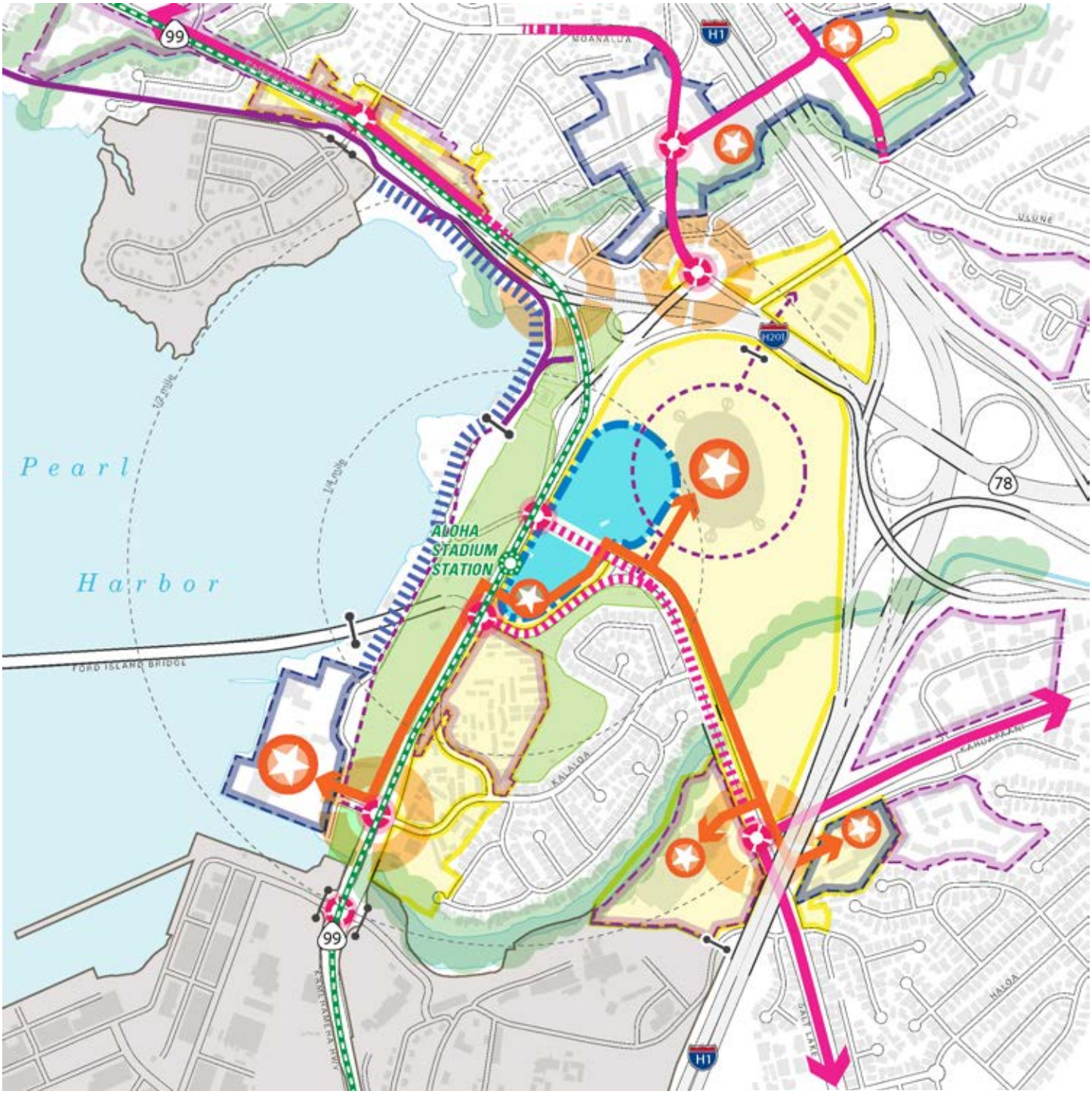


**FIGURE 4-1: OPPORTUNITIES & CONSTRAINTS**

### 4.2.2 LINKAGE OPPORTUNITIES

Balanced multi-modal movement that supports transit-oriented development (TOD) would be strengthened through streetscape enhancements along key arterial roadways and intersections, as well an improved street network within Aloha Stadium. This requires a sidewalk environment with a consistent level of quality, including suitable sidewalk width and a level of amenity that matches anticipated pedestrian flows, In addition, other considerations should include improved bicycle lanes, and provisions for alternative modes such as car sharing and bikeshare. Figure 4-2 presents intital ideas for vehicular, bicycle, and pedestrian enhancements that would help to create key linkages between nodes of activity.

***Kamehameha Highway:*** The potential for the transformation of this vital arterial is limited by the Navy's requirements. However, wider sidewalks and a consistent planting of canopy street trees along each of these streets can support increased pedestrian activity. A challenge will exist in designing safe crossings that encourage wayfinding to better connect the Pearl Harbor Visitor Center to the Aloha Stadium Station.

***Salt Lake Boulevard:*** The transformation of Salt Lake Boulevard into an active mixed-use corridor is fundamental to promoting transit-oriented development. Salt Lake Boulevard will continue to play a fundamental role in facilitating stadium access, and will play a new role in accessing the rail station and future TOD development.

***Stadium Circulation:*** To encourage transit-oriented development, and greater connectivity for all transportation nodes, it is recommended that a publicly accessible grid of streets be introduced within the Aloha Stadium site. This provides provision for more efficient surface parking in the short term, as well as potential for additional development in the longer term.

***Pedestrian and Bicycle Connections:*** It is essential for the long-term attractiveness of the Halawa area that the Pearl Harbor Historic Trail be completed. A comprehensive network of bicycle and pedestrian paths, some on-street, others integrated with open spaces, will further increase connectivity and decrease conflicts with vehicles. Pedestrian and bicycle circulation must also overcome barriers created by the surrounding highways.

*Kamehameha Highway should introduce safe pedestrian crossings*

*Salt Lake Boulevard should accommodate other transportation modes*


*Pedestrian connections should overcome barriers such as highways*

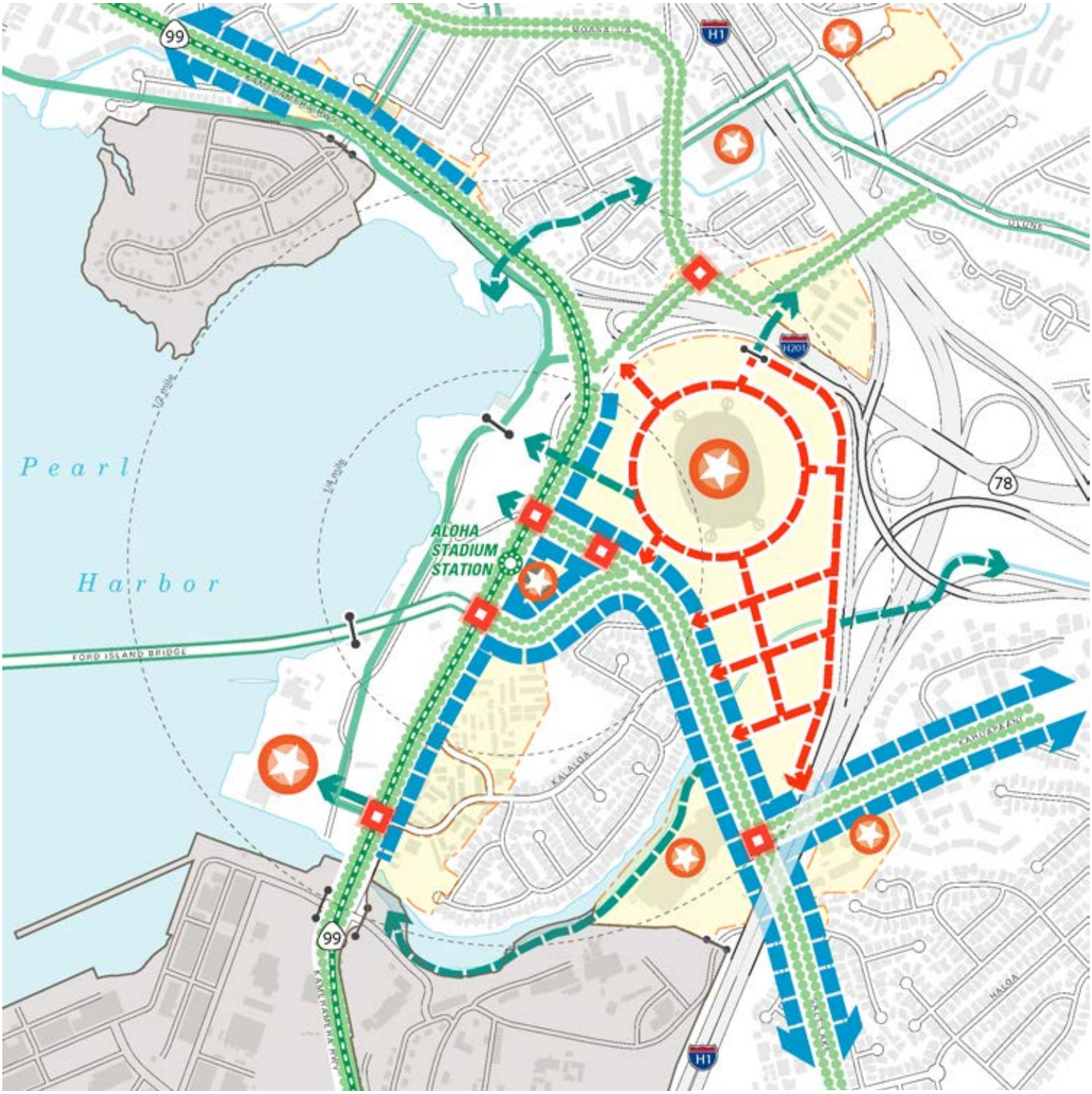


**FIGURE 4-2: LINKAGE OPPORTUNITIES**

### 4.2.3 HARD / SOFT ANALYSIS

Figure 4.3 presents the results of a building-by-building visual analysis of redevelopment potential. This is an informal assessment based upon building quality, density of development, and character of the surroundings. Based on this assessment, it is apparent that the highest redevelopment potential is found at or near Aloha Stadium Station. A summary of the analysis follows:

*Sites with **low redevelopment potential** include:*

- **Landmarks/Significant Buildings** have little potential for redevelopment due to their nature as major tourist attractions. These include the Ice Palace within Stadium Mall, and Aiea Shopping Center.
- **High-value** refers to buildings and structures that generally pose a great challenge to redevelopment. These include public facilities such as schools, buildings within Joint Base Pearl Harbor-Hickham, commercial buildings within the established neighborhood of Aiea, and the gated community of Crosspointe.
- **Medium-Low value** buildings generally refer to lower quality, low-density buildings that are not considered appropriate for development. These include single-family homes and small commercial buildings.

***Moderate redevelopment potential*** includes multifamily and commercial properties that may provide potential after transit-oriented development has taken place. For example, Stadium Mall and Stadium Marketplace, although currently well-performing properties, may warrant more intensive land uses in the future.

*Sites with **high redevelopment potential** include:*

- Buildings **adjacent to Aloha Stadium Station** present great opportunity for redevelopment, despite their perceived value. These include Aloha Stadium, due to its current condition and State interest in upgrading the facility, the Puuwai Momi housing development, and Aiea Elementary School.
- **Significant parking lots**, such as the almost 100 acres of surface parking located on non-federal land within the ½ mile radius. Parking lots within shopping centers such as Stadium Mall may have development potential.
- **Vacant lots** located outside the ½ mile radius in Aiea and Foster Village.

*Joint Base Pearl Harbor-Hickham obviously poses low redevelopment potential*

*Stadium Mall may have redevelopment potential in the future*

*The Puuwai Momi housing development poses redevelopment potential*

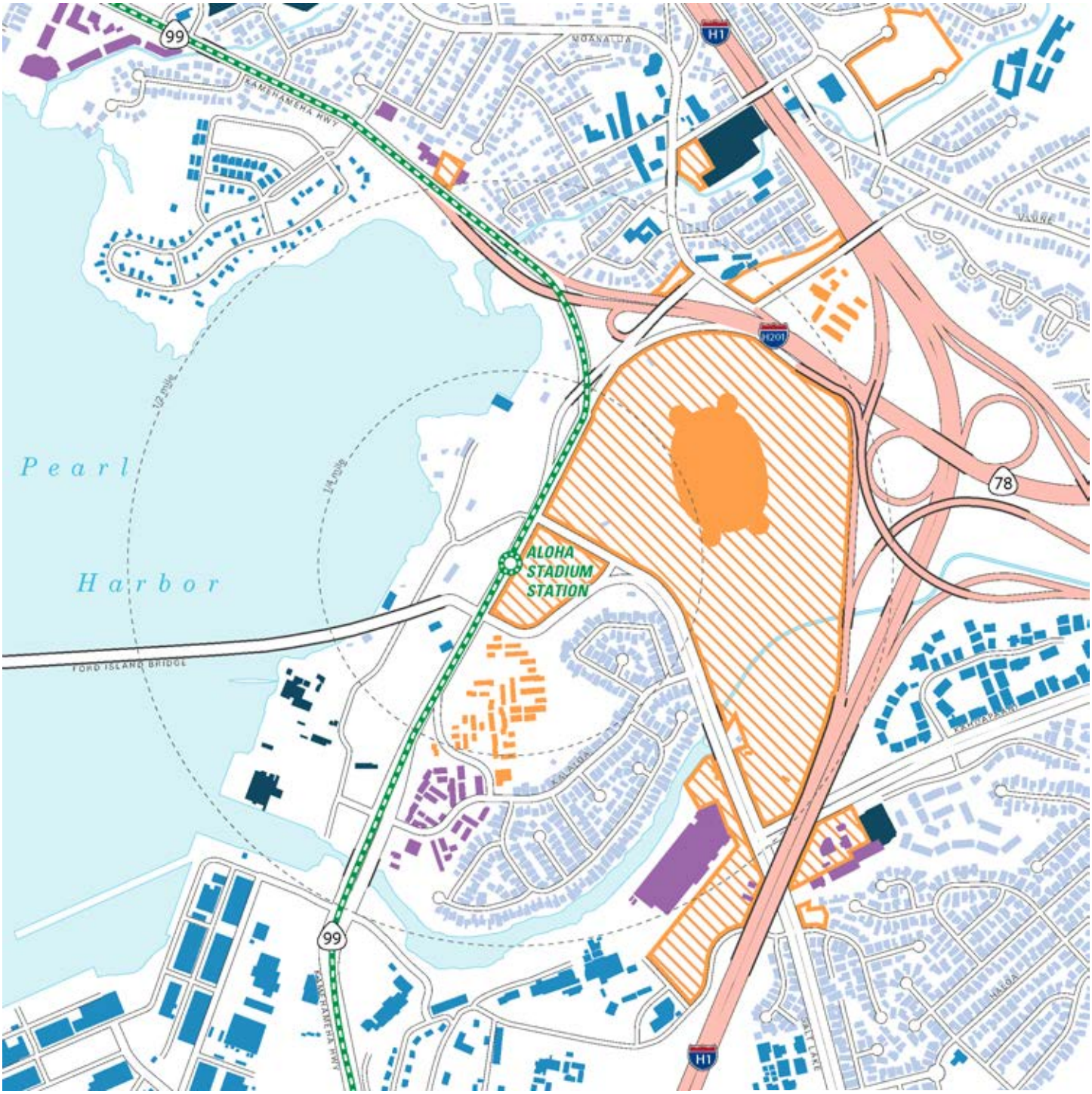


**FIGURE 4-3: HARD / SOFT ANALYSIS**

*Source: On-site Observations; Visual Analysis*

### 4.2.4 REVITALIZATION PRIORITY SITES

Figure 4-4 and Table 4-1 identify and prioritize, in a preliminary and conceptual manner, potential development sites at or adjacent to Aloha Stadium Station. These revitalization sites were determined based on visual surveys, background mapping, and stakeholder interviews. The largest opportunity area is the Stadium Site itself. Other properties or open spaces near the rail station or abutting the Stadium area may be considered for redevelopment in the long-term.

***High Priority-Stadium Site:*** Redevelopment of the Aloha Stadium and Station parcels provides the best opportunity for transit-oriented development (TOD) in the Halawa area in the shorter term. This consists of the Aloha Stadium parcel, as well as the southern parcel that will serve as the future site of Aloha Stadium Station and its park-n-ride. Both sites are owned by the State of Hawaii. The total area of these two parcels, separated by the Salt Lake Boulevard, is 95.5 acres, but for the purposes of this study, is rounded to 100 acres.

***Long-Term Development Sites:*** These sites are located across major arterials or freeways from Aloha Stadium, and may be considered for development in the longer-term (20+ years). These include the publicly owned Aiea Elementary School property, the adjacent Moanalua vacant sites, Puuwai Momi, as well as Stadium Marketplace and Stadium Mall, both privately-owned retail centers.

***Other Opportunity Sites:*** These sites refer to privately-owned parcels that are located just within or beyond the ½ mile radius. Redevelopment of these parcels to a higher intensity use may be envisioned in a longer term time horizon, and may be developed based on the success to TOD in the Stadium Site. These sites include Lower Halawa, which is composed of medium- to high-density multifamily, and the proposed Aiea Town Center. In addition, underperforming parcels along Kamehameha Highway in Aiea may be considered.

***Open Space Opportunity:*** These areas refer to existing open spaces, typically of a passive nature, that may not be considered for development but rather present potential for more intensively programmed recreational facilities, or opportunities to experience the natural environment within an urban context, such as Halawa Stream.

**TABLE 4–1: Revitalization Priority Sites**

| | TMK number | area (acres) | ownership |
|---|---|---|---|
| **High Priority - Stadium Site** | | | |
| 1 **Aloha Stadium** | | | |
| | 99003061 | 87.88 | State of Hawaii |
| | 99003062 | 0.33 | City & County of Honolulu |
| | | **88.21** | **acres** |
| 2 **Aloha Stadium Station/Park-N-Ride** | | | |
| | 99003071 | 7.29 | State of Hawaii |
| | | **7.29** | **acres** |
| **Long-Term Development Sites** | | | |
| 3 **Aiea Elementary School** | | | |
| | 99003056 | 11.54 | State of Hawaii |
| | 99003070 | 0.87 | State of Hawaii |
| | 99003068 | 0.74 | City & County of Honolulu |
| | | **13.15** | **acres** |
| 4 **Puuwai Momi Site** | | | |
| | 99005004 | 8.18 | State of Hawaii |
| | 99005005 | 3.18 | Federal Government |
| | 99012045 | 0.38 | State of Hawaii |
| | | **11.74** | **acres** |
| 5 **Stadium Marketplace** | | | |
| | 99002035 | 16.26 | Private Owner |
| | | **16.26** | **acres** |
| 6 **Stadium Mall** | | | |
| | 99076007 | 6.50 | Private Owner |
| | 99048098 | 0.67 | Private Owner |
| | | **7.17** | **acres** |
| **Other Opportunity Sites** | | | |
| 7 **Aiea Town Center** | | | |
| | 99078006; 99078007; 99078008; 99078009; 99078010; 99078011; 99078012; 99078013; 99078014 | 6.87 | City & County of Honolulu |
| | | **6.87** | **acres** |
| 8 **Lower Halawa Multi-family** | | | |
| | 99003064 | 0.28 | State of Hawaii |
| | 99003058 | 4.02 | Private Owner |
| | 99003057 | 0.84 | City & County of Honolulu |
| | 99003059 | 1.59 | Private Owner |
| | 99064025 | 1.90 | Private Owner |
| | 99003026 | 3.11 | Private Owner |
| | | **11.74** | **acres** |
| 9 **Kamehameha Corridor** | | | |
| | 98015003; 98015002; 98015001; 98018039; 98018038; 98018097; 98018029; 98018024; 98018023; 98018021; 99041012; 99041053 | 8.81 | Private owners |
| | 98019001; 98018027 | 0.23 | State of Hawaii |
| | | **8.81** | **acres** |
| **Open Space Opportunity Sites** | | | |
| 10 **Richardson Field** | | | |
| | 99012004; 99012046; 99012005; 99012047; 99003035; 99003038; 99003029 | 27.55 | Federal Government; State of Hawaii; State of Hawaii; State of Hawaii; State of Hawaii; Federal Government; Federal Government |
| | 99012001 | 0.23 | State of Hawaii |
| | 99012006 | 1.57 | State of Hawaii |
| | | **29.35** | **acres** |
| 11 **Makalapa Neighborhood Park** | | | |
| | 99003055 | 2.57 | State of Hawaii |
| | 99003039 | 5.97 | City & County of Honolulu |
| | | **8.54** | **acres** |
| 12 **Halawa Stream** | | | |
| | 99003051 | 0.47 | City & County of Honolulu |
| | 99003072 | 0.19 | City & County of Honolulu |
| | 99003024 | 4.05 | Private Owner |
| | 99003023 | 4.42 | City & County of Honolulu |
| | | **9.13** | **acres** |
| **OVERALL TOTAL:** | | **218.25** | **acres** |

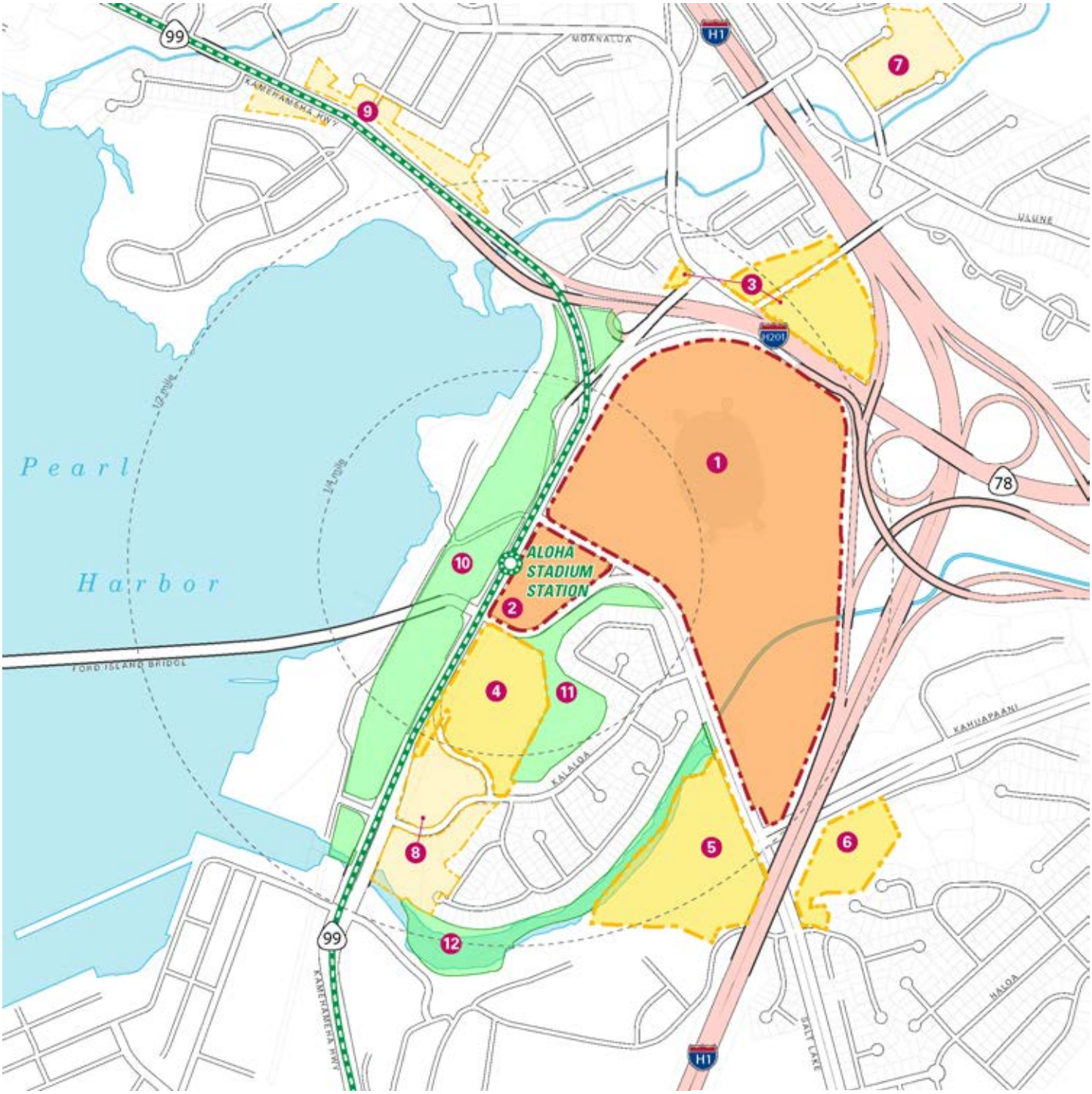


**FIGURE 4-4: REVITALIZATION PRIORITY SITES**

1" = 1000'

0' 250' 500' 1000' 2000'

Fixed Guideway
Aloha Stadium Station

**Redevelopment Potential**

High Priority - Stadium Site
Long-Term Development Sites
Other Opportunity Sites
Open Space Opportunity Sites



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## 4.3 DEVELOPMENT POTENTIAL

*After ascertaining the market attractiveness for transit-oriented development (TOD) in the Halawa area and identifying potential redevelopment priority sites, one can make basic assumptions on land allocations.*

Table 4-2 divides the 100 acre Stadium Site and 48 acre long-term redevelopment sites (located at or within a ½ mile radius of Aloha Stadium Station) into parking, recreation, and development categories. Table 4-3 provides assumptions on potential yields on the Stadium Site. It is assumed in a ten-year time horizon, the market can support at least 2.4 to 2.9 million square feet of development. Yield assumptions are also provided for each major land use category. For further rationale and explanation of these acreage and yield assumptions, please refer to the Market Opportunities Study, provided in Appendix B of this document.

**TABLE 4–2: Halawa Area Acreage Assumptions**

| | |
|---|---|
| STADIUM FOOTPRINT | 12 acres |
| SURFACE PARKING<br>Including Swap Meet, tailgating | 45 acres |
| GREAT LAWN<br>Landscaped plaza at or near Station or Stadium | 5 acres |
| STRUCTURED PARKING | 6 acres |
| RAIL STATION<br>Including park-and-ride, bus transfer station | 9 acres |
| MIXED-USE CORE | 23 acres |
| OTHER AREAS<br>Long-term development sites | 48 acres |

HALAWA AREA

**~150 acres***

of developable land

** Assuming 100 acres in the Stadium Site and 48 acres in Long-Term Development Sites, at or within a ½ mile radius of Aloha Stadium Station.*

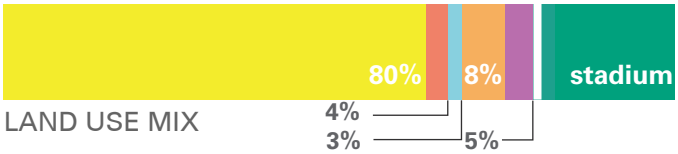
**TABLE 4–3: Stadium Site Land Use Assumptions**

| | |
|---|---|
| RESIDENTIAL<br>Mix of market rate & affordable housing | ~1500-2000 units |
| RETAIL/ RESTAURANT | ~75,000 square feet |
| OFFICE/ INSTITUTIONAL | ~50,000 square feet |
| HOTEL<br>Caters to sports, tourism, business, or military travelers | ~150-200 rooms |
| ENTERTAINMENT/ CULTURAL | ~100,000 square feet |
| ALOHA STADIUM<br>Refurbished or rebuilt facility | ~30,000-40,000 seats |

HALAWA AREA

**~1.9 - 2.4 million square feet***

of potential development




** Refers to developable area in the Stadium Site, and assumes 1000 square feet per residential unit and hotel room and 12 acre footprint for Aloha Stadium.*

# 5. APPENDICES

**The following three supplements document existing transportation, infrastructure, and market conditions in the Halawa area.**

# 5.1 EXISTING TRANSPORTATION CONDITIONS SUPPLEMENT

***Prepared by Fehr and Peers***

*This memorandum summarizes our findings of the existing circulation and mobility facilities and services within the Halawa Area Transit-Oriented Development (TOD) Plan study area. The study area focuses on the area within a ½-mile radius of the site of the future Honolulu Rapid Transportation (HRT) rail station (named Aloha Stadium Station), planned on Kamehameha Highway at the Salt Lake Boulevard intersection adjacent to Aloha Stadium. The focus of the Halawa study area is generally bounded by Pearl Harbor in the ewa direction, the H-1 Freeway (Queen Liliuokalani Freeway) in the diamond head direction, the H-201 Freeway (Moanalua Freeway) in the mauka direction, and Arizona Street -Luapele Road in the makai direction.*

## 5.1.1 BUS TRANSIT

Although bus transit plays a major role in the area's transportation system, it still faces a number of challenges. Primarily, buses must share space with other private cars and vehicle's on Oahu's streets, which can contribute to congestion as buses block a lane of traffic when they stop. Conversely, buses are subject to overall traffic congestion that affects scheduling and reduces competitiveness from a travel time perspective. The following 14 bus routes, provided below in Table 5-1, stop in the Halawa area at a total of 21 bus stop locations, as shown in Figure 5-1.

| | | | |
|---|---|---|---|
| 11 | 20 | 32 | 40 |
| 42 | 54 | 62 | 74 |
| 88A | PH1 | PH2 | PH3 |
| PH5 | A | | |

**TABLE 5–1: TheBus Routes in the Halawa Area**

While regular peak period traffic congestion is not extensive in the immediate vicinity of the future Aloha Stadium Station, streets can be congested: 1) during special events at Aloha Stadium, and 2) when Salt Lake Boulevard and Kamehameha Highway are used as alternate routes when delays on H-1 and H-201 Freeways are excessive. Some stops do include amenities such as shelters and benches but additional comfort features would benefit existing and future transit riders. Midday temperatures and sun exposure in this area can be high, and tree canopy and shelter shade would provide welcome relief from the heat island effects of the roadways and stadium/parking areas. In some cases, existing shelters impede through pedestrian travel on sidewalks as shown in the photo at right. Bus service will be adjusted with the opening of the rail transit system and existing stop locations may be modified through this process.

*Bus shelters, such as this one on Kamehameha Highway, should not impede pedestrian travel*

## 5.1.2 VEHICLE TRAFFIC VOLUMES

Automobiles are the primary form of transportation within the Halawa study area because of the commercial and residential land use densities. The study area is defined by three freeways, one highway, and three urban arterials all of which are carrying substantial traffic volumes, especially during the morning and afternoon peak commute periods. These facilities include:

- *H-1 Freeway (HDOT)*
- *H-201 Freeway (HDOT)*
- *H-3 Freeway (HDOT)*
- *Kamehameha Highway (HDOT)*
- *Moanalua Road (City & County of Honolulu)*
- *Salt Lake Boulevard (City & County of Honolulu)*
- *Kahuapaani Street (City & County of Honolulu)*


**FIGURE 5-1: EXISTING BUS ROUTES AND STOPS**

Bus Stop

Bus Route

1" = 1400'

0' 325' 750' 1400' 2800'



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Historic 2011 and 2012 HDOT traffic counts indicate the peak direction of travel is diamond head-bound in the morning and ewa-bound in the evening. On Kamehameha Highway, adjacent to the future rail station, 2011 and 2012 traffic counts show approximately 1,800 vehicles in the morning peak hour and 1,500 vehicles in the evening peak hour traveling diamond head-bound. In the ewa-bound direction, counts show approximately 300 vehicles in the morning peak hour and 1,800 vehicles in the evening peak hour. At this location, Kamehameha Highway is three lanes diamond head bound and four lanes ewa-bound, and volumes are still within the capacity. Typical weekday (i.e., Tuesday, Wednesday and Thursday) vehicle flows show that Kamehameha Highway experiences generally good operations during the morning peak hour, but some slowing and congestion during the PM peak hour in both directions.

Salt Lake Boulevard is a six-lane facility which terminates at Kamehameha Highway. North of Kahuapaani Street, Salt Lake Boulevard carries approximately 700 vehicles in the morning peak, and 900 vehicles in the evening peak, diamond head bound. The counts show approximately 500 vehicles during both peak hours in the ewa-bound direction. South of Kahuapaani Street, the roadway volumes increase to 1,300 vehicles in the morning and 850 in the evening diamond head-bound, and 1,000 vehicles in the morning and 1,900 vehicles in the evening ewa-bound. These volumes indicate Salt Lake Boulevard is operating within its capacity. Kahuapaani Street connects Salt Lake Boulevard and Ulune Street and HDOT traffic counts on this segment show about 900 vehicles in the morning and 800 vehicles in the evening makai-bound, and 700 vehicles in the morning and 1,200 vehicles in the evening mauka-bound. Typical weekday (i.e., Tuesday, Wednesday and Thursday) vehicle flows from Google Maps shows that Salt Lake Boulevard experiences some queuing and congestion at the Kahuapaani Street intersection during the morning peak hour. During the PM peak hour, congestion occurs to a greater degree in both directions but is not excessive.

The 2011 and 2012 traffic counts indicate that traffic volumes are well distributed throughout the roadway network due to the many access points for the surrounding freeways. All roadway facilities are expected to operate within their capacity but the available capacity is limited, especially in the PM peak hour. The addition of traffic from new development would reduce traffic operations, but would also incentivize the use of transit including the proposed rail system.

### 5.1.3 BICYCLE NETWORK

The Halawa area is served by a limited number of designated bicycle facilities. The Pearl Harbor Historic Trail provides a separate walking and bike path makai of Kamehameha Highway on the former right of way of the Oahu Rail and Land Company, along the edge of Pearl Harbor. An existing bike lane is provided on Kamehameha Highway makai of Kalaloa Street.

The Oahu Bike Plan (2012) identifies and prioritizes future bicycle facilities in the area. The plan identifies projects as Priority One, Priority Two, or Priority Three based on the importance of the facility and the anticipated construction date. Priority One projects are expected within the next 5-10 years, while Priority Two and Three projects are expected beyond that timeframe. The following projects are identified in the Oahu Bike Plan:

***Priority One***

- *Moanalua Road, proposed bike lane, Ka'ahumanu Street to 'Aiea Heights Drive*
- *Honomanu Street, proposed bike lane, Moanalua Road to Kamehameha Highway*

***Priority Two***

- *Kamehameha Highway, proposed bike lane, Waihona Street (near the Pearl Highlands station) to Arizona Memorial*
- *Salt Lake Boulevard, proposed bike lane, Kameham ha Highway to Ala Lilikoi Street (near the Salt Lake Shopping Center)*

***Priority Three***

- *Ulune Street, proposed bike lane, 'Aiea Heights Drive to Halawa Valley Road*
- *'Aiea Heights Drive, proposed bike lane, Moanalua Road to Ulune Street*

***Challenges***

While extensive bicycle facilities are planned to improve the bicycle network around the planned Aloha Stadium Station, there are still areas lacking a planned bicycle facility which would serve to complete the network. Bicycle lanes are planned on Salt Lake Boulevard and Ulune Street as Priority Two and Priority Three projects; however, the system lacks a connection between these two facilities. A separate bike lane on Kahuapaani Street would provide

this mauka-makai connection and would provide a safe crossing over the H-1 Freeway, the H-3 Freeway, and the H-201 Freeway for bicyclists. Mauka of the Aloha Stadium, Kaimakani Street presents an opportunity to provide a mauka-makai connection between Moanalua Road and Ulune Street. A possible bike lane on Kaimakani Street would provide a safe crossing over the H-1 Freeway and allow bicyclists to access the existing bridge connection to the Aloha Stadium. This bridge connection is currently only open when there is an event at Aloha Stadium, and providing full access would increase the benefit to bicyclists from the surrounding neighborhoods to access the future rail station and new development in the area via a dedicated path or lane.

### 5.1.4 PEDESTRIAN NETWORK

Similar to bicycling, the weather conditions in Honolulu and the topography within the study area are generally ideal for walking. However, the distance between destinations and insufficient pedestrian infrastructure can make walking a less favorable mode of travel. The intersection between Kohomua Street and Kalaloa Street located south of Aloha Stadium, is a prime example of desirable pedestrian enhancements. The intersection provides marked crosswalks and raised median island refuge areas on all three legs increasing visibility of pedestrians. Furthermore, curb extensions on three out of the four corners serve to minimize pedestrian crossing distances. These are examples of infrastructure improvements which enhance the pedestrian environment.

In many places surrounding the planned Aloha Stadium Station, sidewalks are narrow, include gaps, or are missing entirely. Portions of the streets and intersections were identified as having insufficient or missing pedestrian sidewalks/path and infrastructure (see Figure 5-5). These locations include:

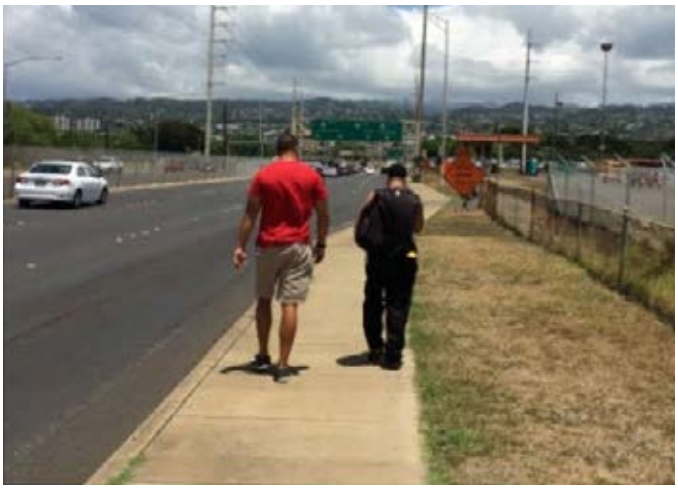
- *Access road between Kamehameha Highway and Moanalua Road*
- *Aloha Stadium internal roadway*

***Challenges***

Major arterials and intersections can make crossing the street intimidating or feel unsafe. Several key locations were identified within the Halawa study area which present challenges for pedestrians. Mauka of Aloha Stadium is a residential neighborhood bounded by the H-201 Freeway, Moanalua Road, and Laulima Street, and Uahi Street bisects the neighborhood. There are existing sidewalks on Moanalua Road and the H-201 Freeway, ewa of Luaulima Street where it becomes Kamehameha Highway. However, there are no existing sidewalks within the neighborhood, nor on the mauka-side of the H-201 Freeway bordering the neighborhood. This prevents pedestrians from making a direct connection to Kamehameha Highway and destinations such as the Aiea Bay State Recreation Area. The area on the mauka-side of the H-201 Freeway presents an opportunity for a new sidewalk connection to Moanalua Road.

*The Kohomua St/Kalaloa St intersection provides a good example of pedestrian infrastructure.*

Sidewalks are currently provided on Kamehameha Highway until the point where the road splits between Kamehameha Highway ewa-bound, Aiea Access Road, and the Aloha Stadium Access Road. The ramp continuing to Aiea



*Pedestrians using sidewalks along Kamehameha Highway*

*Continuous sidewalks or formalized paths are not provided the full length into or around Aloha Stadium.*

*This slanted driveway creates challenges for ADA accessibility*

Access Road lacks sidewalks on both sides of the road until it terminates at Moanalua Road. The sidewalk continues partially along the ramp to access the Aloha Stadium and terminates approximately 300 feet after the split. From this point there is no pedestrian connection to the Aloha Stadium, nor are there sidewalks provided along the internal circulation system of the stadium.

On Kamehameha Highway, diamond head of the Ford Island Bridge-Salt Lake Boulevard intersection, an existing driveway intersects the makai side of Kamehameha Highway. Turning movements are restricted at this location by a raised median island making the driveway right- turn in and out only. While marked crosswalks are provided across both the inbound and outbound lanes, the driveway includes a steep slope that begins in the crosswalk. This presents challenges for ADA access at this location.

The intersection of Kamehameha Highway and Arizona Street-Halawa Drive also presents challenges for pedestrians. Diamond head of the intersection, there is no paved sidewalk on the makai side of Kamehameha Highway, nor is there a paved sidewalk on the diamond head side of Arizona Street. As a result, pedestrians are left to congregate in the shoulder while waiting to cross either Arizona Street or Kamehameha Highway. This could cr ate conflicts with vehicles turning right from Arizona Street onto Kamehameha Highway as drivers may try to make a tighter right turn and cross the shoulder. All other corners of the intersection provide a raised refuge for pedestrians. On the diamond head leg of the intersection, the raised median provides a refuge area in the form of a pedestrian path connecting the two marked crosswalks. However, the pedestrian path has a narrow width of six feet and could be widened to match the 10 foot width of the marked crosswalks. On the ewa leg of the intersection there is a center median which is partially raised and partially striped so that the area in which pedestrians cross the median is striped. There are marked crosswalks on either side of the median, and a pedestrian push button within the striped area, however the lack of clearly defined pedestrian path through the median is cause for confusion for both pedestrians and drivers. Without a raised refuge area in the center, the perception for pedestrians waiting in the middle of the road is one of vulnerability to vehicles turning left from Arizona Street onto Kamehameha Highway. The hatched striping within the median is confusing to pedestrians who do not clearly understand where they should wait to cross in either direction.

*Higher travel speeds at these free-right turns make this uncontrolled crosswalk a potential safety concern for pedestrians.*


**FIGURE 5-2: INSUFFICIENT PEDESTRIAN INFRASTRUCTURE**

Mauka of Kamehameha Highway there is a signalized intersection between Salt Lake Boulevard and a Stadium access point. There are marked crosswalks providing connections from the Aloha Stadium to the planned Aloha Stadium Station area. The configuration of the intersection is such that vehicles traveling diamond-head bound on Salt Lake Boulevard have a channelized free-right turn before forming the three diamond-head bound lanes on Salt Lake Boulevard. There is an existing uncontrolled crosswalk for pedestrians crossing the right-turn lanes, which creates concern due to higher speeds. Since vehicles do not need to merge with on-coming traffic, they feel more comfortable taking the right-turn at a higher speed creating a potential safety hazard for pedestrians in the crosswalk.

The intersection between Salt Lake Boulevard and Kahuapaani Street also presents minor challenges for pedestrians due to the long crossings across each leg of the intersection. This is a signalized intersection with some painted islands and some raised medians. However, only the raised median on the ewa leg provides a pedestrian refuge area in the center. This is beneficial to pedestrians because it increases visibility and it breaks up the long crosswalk. The other three legs of the intersection do not provide this safety element and could be modified to enhance the pedestrian environment.

Diamond-head of the Salt Lake Boulevard/Kahuapaani Street intersection is a right-turn in-and- out only driveway to a commercial shopping center. Marked crosswalks across each leg of the driveway help to alert drivers to the presence of pedestrians. However, there is a line of sight concern for outbound vehicles turning right. The location of an existing lighting pole and existing landscaping make it challenging for pedestrians to remain clearly visible to outbound vehicles, particularly as drivers are looking towards on-coming traffic.

# 5.2 EXISTING INFRASTRUCTURE CONDITIONS SUPPLEMENT

***Prepared by Belt Collins Hawaii***

*The following infrastructure analysis encompasses the Aloha Stadium property and non-military lands within a ½-mile radius from the Aloha Stadium Station.*

## 5.2.1 FLOODING

As shown in Figure 2-20, portions of the study area are located in flood hazard areas as identified by the Federal Emergency Management Agency (FEMA) November 5, 2014, Flood Insurance Rate Maps (FIRMs) adopted by the City and County of Honolulu (City). The Aloha Stadium Station parcel and adjacent parcels were identified as being in Zone D, defined as "areas in which flood hazards are undetermined, but possible." Portions of the study area within ½ mile of the station are located in identified flood plains, including Zones VE and AE requiring floodproofing if developed. Purchase of flood insurance may be required, depending on lease or lending/mortgage terms. Zone VE encompasses parcels adjacent to the coastline and is defined as a coastal flood zone with velocity hazard (wave action) with a Base Flood Elevation (BFE) that has been determined. Within the study area, the Zone VE BFE was determined to be 3 feet. Zone AE encompasses parcels adjacent to Aiea Stream and Halawa Stream, where BFEs range from 2 feet near the mouths of Halawa and Aiea Streams to 40 feet at the study area boundary adjacent to Aiea Stream. Parcels adjacent to Zone AE are classified as Zone X, which are areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile, and areas protected by levees from 1% annual chance flood. All other parcels within the study area are classified as Zone X, which are areas determined to be outside the 0.2% annual chance flood and do not require purchase of flood insurance or floodproofing.

***Special Management Areas:*** Portions of the study area are located within a special management area (SMA), which is defined as land extending inland from the shoreline as delineated on maps established by the City and pursuant to Hawaii Revised Statutes Section 205A-23. Within the study area, lands that are makai of Kamehameha Highway, which includes Richardson Field and Aiea Bay State Recreation Area, are located within the SMA as shown on Figure 2-20.

The SMA was created to manage development on or near coastal lands in order to protect coastal resources under the Coastal Zone Management law. Development in this area requires permits obtained from the City's Department of Planning and Permitting (DPP).

## 5.2.2 DRAINAGE SYSTEM

Figure 2-21 depicts the drainage system and major bodies of water in the Halawa area. Two municipal stormwater systems are within the study area—one maintained and owned by the State of Hawaii Department of Transportation (HDOT), Highways Division; and the other owned and maintained by the City. The HDOT and City drainage systems discharge to Pearl Harbor at various locations along the shore.

*View of Pearl Harbor from Arizona Memorial Place*

*Halawa Stream is channelized as it bisects the Aloha Stadium parking lot*

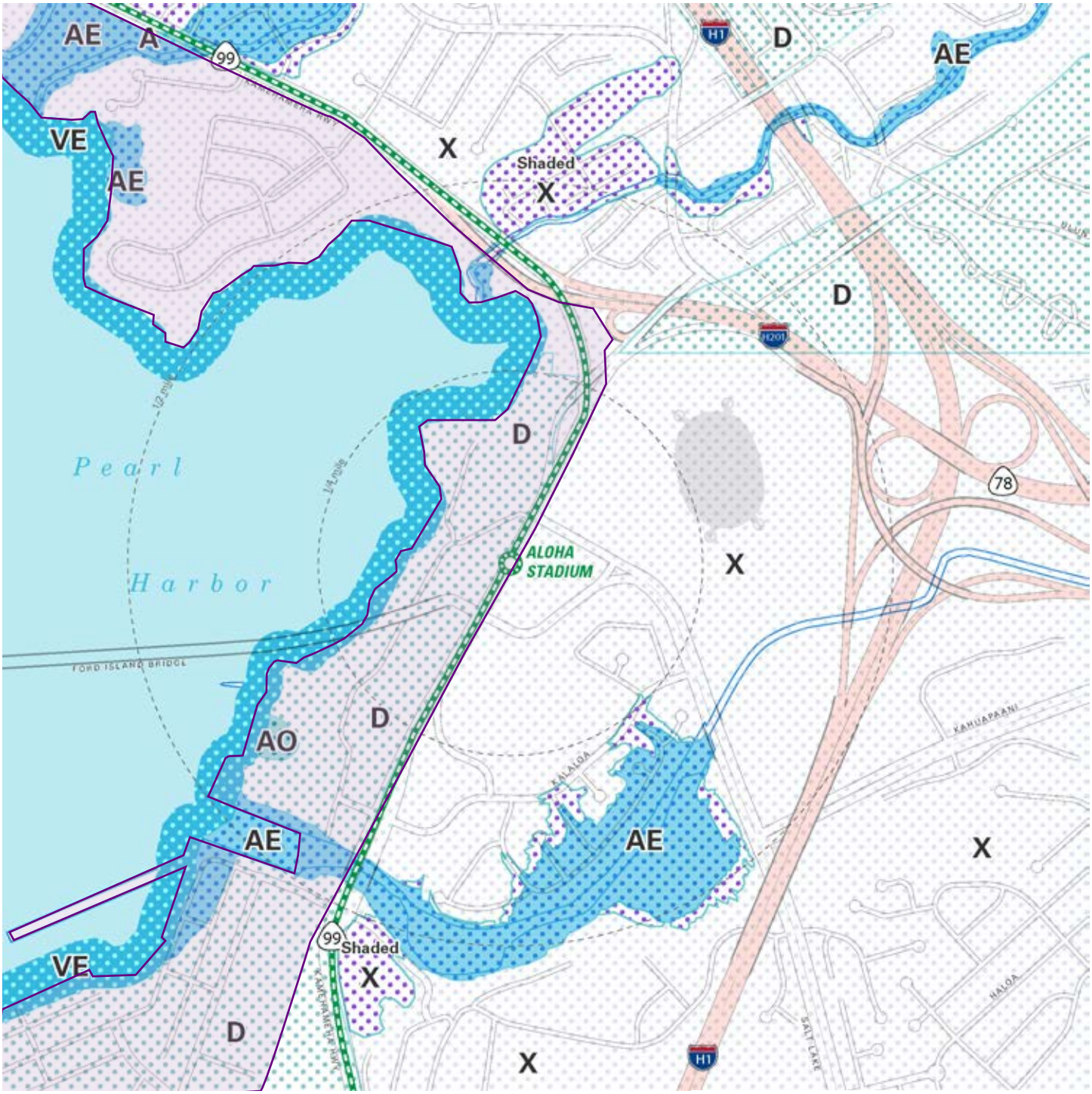



**FIGURE 5-3: FLOOD ZONES**

*Source: Dept of Planning & Permitting: Honolulu Land Information System; State of Hawaii Flood Hazard Assessment Tool*

HDOT's drainage system consists of open drainage channels and underground drainage conduits, discharging into Halawa Stream which then discharges into Pearl Harbor. Currently, the HDOT drainage system within the study area does not have any known issues. Its capacity is adequate for the existing condition. A planned HDOT drainage project in the study area is an outfall repair project in Halawa Stream near the eastern edge of the Stadium's Lower Halawa Parking Lot. Any future development discharging stormwater into HDOT's drainage system will not be allowed if there is an increase in runoff from its site, without adequate containment. In addition, permanent best management practices (BMPs) will need to be installed as part of the development to treat the quality of stormwater prior to discharge to the HDOT drainage system. Examples of permanent BMPs include vegetated swales, infiltration trenches/basins, constructed wetlands, catch basin inserts, and manufactured treatment devices. A drainage connection application must be submitted to HDOT for approval prior to any connection or discharge into HDOT's drainage system.

The City's drainage system consists of open drainage channels and underground drainage conduits which discharge into either Aiea Stream or Halawa Stream which then discharges into Pearl Harbor. The capacity of the City drainage system is adequate for the existing condition per conversations with the City DPP's Civil Engineering Branch (CEB).

The DPP CEB reviews proposed developments to ensure that neighboring properties are not adversely impacted by runoff generated by the improvements and environmental impacts due to runoff are minimized. Post-construction runoff quantity must be equal to or less than pre-construction runoff volumes. In addition, City storm drainage rules require on-site infiltration and implementation of low impact development (LID) management practices (unless determined to be infeasible). Permanent BMPs also must be implemented to treat stormwater runoff prior to discharge from the development site. Examples of LID and permanent BMP implementation include the use of green roofs, vegetated swales, detention basins, and manufactured treatment devices.

### 5.2.3 WATER SYSTEM

In the Halawa area, the public water system is owned and maintained by the Honolulu Board of Water Supply (HBWS), a semi-autonomous City agency. Raw water is drawn from underground aquifers, treated, and pumped to reservoirs.

From the reservoir, water is delivered to service areas via transmission mains. Distribution mains and service mains deliver the water to customers. Within the study area, transmission mains range from 16 inches to 36 inches in diameter with 8-inch to 12-inch diameter distribution mains and 2-inch to 6-inch diameter service laterals. The water distribution system is extensive with distribution lines on virtually every street and a transmission main within a block or two.

The water system within the study area is designed to have sufficient capacity to support an intensive urban environment, typically sized to provide for the maximum density allowed by zoning. The study area is largely zoned with variations of commercial, medium and high-density apartments, and commercial/residential mixed-use, characterized by high water consumption rates. The water infrastructure will deliver a maximum fire flow demand required by code of 2,000 gallons per minutes. The fire hydrant network is well-developed with hydrants spaced at a maximum of 250 feet based on zoning.

HBWS must verify that adequate water resources are available to serve new developments. A general request for water availability may be made early in the development's planning phase; however, this request is not a binding commitment. HBWS will make a determination if the area water system is adequate to support the proposed development. Commitment of water resources will be made at the time of a building permit submittal.

A water system facilities charge (WSFC) will be assessed for connecting the development to the existing area water system and will be based on the total number and types of plumbing fixture units. The WSFC is authorized by City Council Resolution No. 780, 2007.

### 5.2.4 WASTEWATER SYSTEM

Wastewater in the study area is collected and transported by gravity mains and sewage pump stations to the Honouliuli Wastewater Treatment Plant, located in Ewa Beach. The sewer system is maintained by the City's Department of Environmental Services (ENV). Planning and design of the sewer system and connection requests are


**FIGURE 5-4: DRAINAGE SYSTEM**

1" = 1000'

0' 250' 500' 1000' 2000'

Fixed Guideway
Aloha Stadium Station
Drainage Channel or Conduit
Streams
Pearl Harbor
1 Halawa Stream
2 Aiea Stream
3 Kalauao Stream

*Source: Dept of Planning & Permitting: Honolulu Land Information System*



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managed by DPP's Wastewater Branch (WWB).

The sewer system within the study area, as shown in Figure 2-22, consists of gravity lines up to 36 inches in diameter. Pressurized mains, called force mains, 21 to 30 inches in diameter originate at the Halawa Pump Station, located along Salt Lake Boulevard and adjacent to Aloha Stadium's Lower Halawa Parking Lot. Existing system capacity is adequate with no known trouble spots per conversations with the City's DPP WWB. The capacity of the wastewater collection system lines should be re-assessed for the various development scenarios.

Future developments will need to submit an application for sewer connection to DPP WWB. If the existing sewer capacity is insufficient, the developer may be required to construct off-site sewer improvements (i.e. upsizing lines) in the area prior to connecting to the collection system. A Wastewater System Facility Charge (WWSFC) will be assessed for all new connections and will be based on the equivalent single-family dwelling unit (ESDU). The WWSFC is authorized by the Revised Ordinances of Honolulu (ROH) Chapter 14, Article 10. The construction of off-site sewer improvements may be credited against the WWSFC provided that the improvement will be a benefit to the general population and not just to the individual development.

### 5.2.5 OTHER UTILITIES

***Electrical:*** Hawaiian Electric Company (HECO) is the sole electric utility on Oahu. Underground and overhead electric service is widely available within the study area.

***Telecommunication Services:*** Two major providers of telecommunication services are within the study area, Oceanic Time Warner Cable and Hawaiian Telcom. Both utilities provide telephone, internet, and television service.

Hawaiian Telcom has a trunk line located along Kamehameha Highway which could provide service to future developments. Service within the study area is especially good due to the close proximity of Hawaiian Telcom's central hub, located near the intersection of Kamehameha Highway and Honomanu Street. No projects within the study area are planned at this time.

Oceanic Time Warner Cable's system in the study area consists of fiber optic cable. The current system capacity is sufficient for the existing condition. Future expansion of the cable system is limited because the Kamehameha Highway portion of the network is located in Hawaiian Telcom ductwork.

***Gas:*** Hawaii Gas is the sole provider of natural gas service on Oahu. Gas service can be provided via cylinder delivery or piped to the property. A 16-inch diameter underground transmission main is located in Kamehameha Highway and 4-inch diameter underground distribution lines are located throughout the study area. The Aloha Stadium parcel is serviced by 2-inch diameter laterals. The current capacity of the underground gas lines is good with no known trouble spots or deficiencies. No projects within the study area are planned at this time.

Future development can be supported through construction of a new regulator line which will tap off of the existing 16-inch diameter transmission line. One regulator line typically can service an entire subdivision.

*Wastewater pipeline at Aiea Stream and Kamehameha Highway*

*Hawaiian Telecom central hub along Kamehameha Highway*

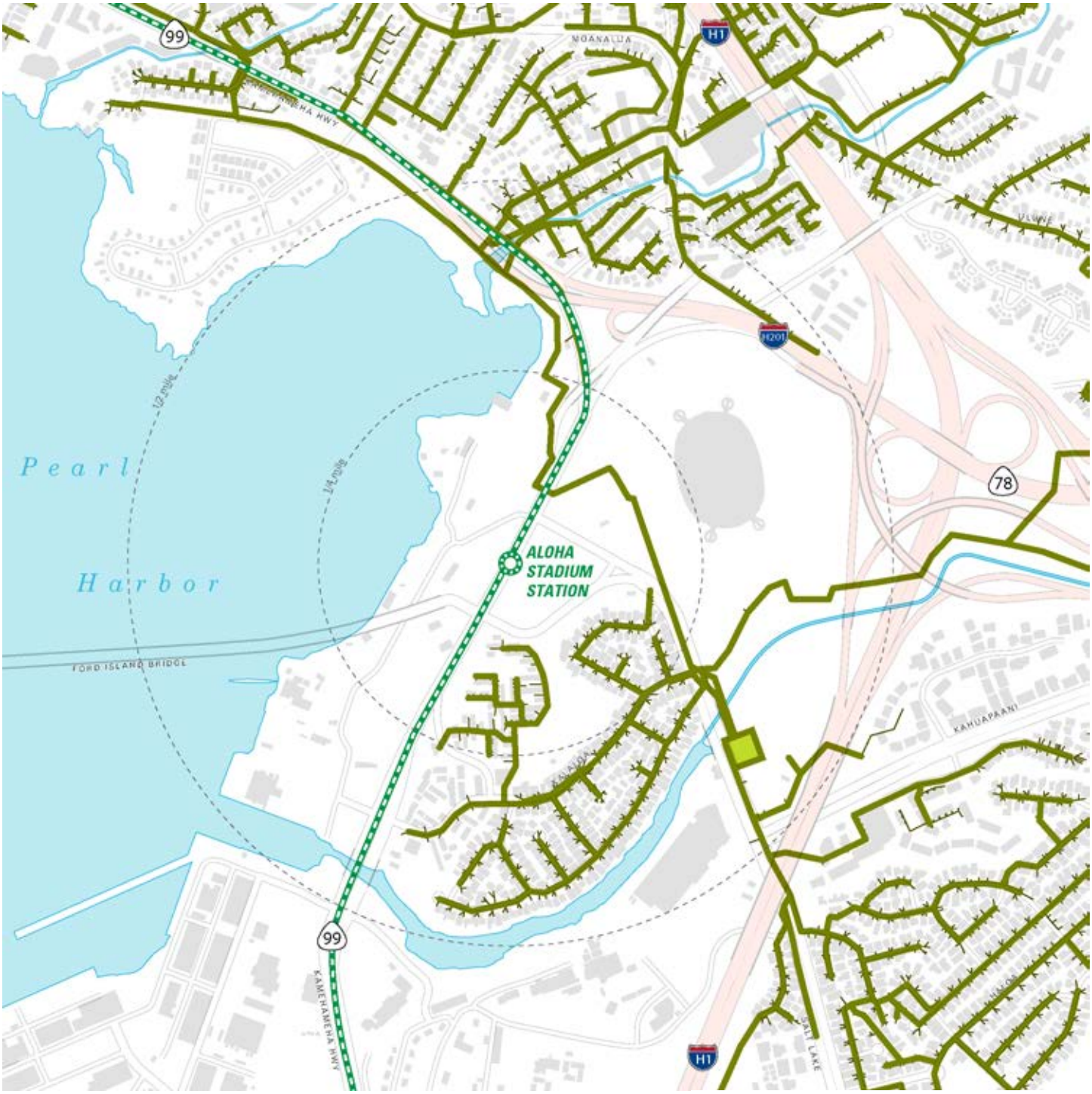


**FIGURE 5-5: WASTEWATER SYSTEM**

*Source: Dept of Planning & Permitting: Honolulu Land Information System*

# 5.3 MARKET OPPORTUNITIES SUPPLEMENT

***Prepared by Keyser Marston Associates***

*Keyser Marston Associates, Inc. (KMA), in association with RTKL, has prepared this real estate market opportunities report related to potential development in the area encompassing the Halawa Area Transit-Oriented Development (TOD) Plan. The planning area is generally defined as the area within a ½ mile radius of the future transit station. Aloha Stadium Station is one of 21 transit stations being built for the new rail line being built in Honolulu. In the future, the City and County of Honolulu anticipates that development around the stations will be at higher densities than is generally the case today and will be consistent with transit oriented development (TOD) and "smart growth" principles. As part of the City's TOD planning activities around the future Aloha Stadium Station, this market opportunities study is intended to help inform a future mix of land uses that is conducive to the surrounding areas and will be supported by the real estate market.*

## 5.3.1 INTRODUCTION

The planned Aloha Stadium Station is located along Kamehameha Highway adjacent to Aloha Stadium. The station is roughly at the mid-point of the new rail line running from East Kapolei on the west to Ala Moana on the east. Land uses in close proximity to the site include Joint Base Pearl Harbor-Hickam to the southwest, the immediately adjacent Pearl Harbor Visitor Center, also to the southwest, and the Aiea, Halawa, and Salt Lake communities to the north and east. The station is roughly four miles north of the Honolulu International Airport and nine miles northwest of Waikiki.

***Existing Conditions***

The primary development opportunity within the station area is the stadium site itself, which is owned by the State of Hawaii and is approximately 100 acres in size (the "Stadium Site"). There are portions of the ½-mile planning area that lie beyond the Stadium Site; however, given the primarily built-out nature of the surrounding neighbo hoods, KMA has focused attention on the Stadium Site for purposes of this analysis (key opportunities beyond the Stadium Site are briefly addressed in Section IV of this


*Aerial showing Stadium Site*

report). Today, the 100-acre Stadium Site consists of Aloha Stadium sports and surrounding surface parking lots.

Aloha Stadium is home to a number of sporting events including the NFL Pro Bowl, the Sheraton Hawaii Bowl, and University of Hawaii and local high school football games. It also hosts a number of non-sporting events including high school graduations and marching band competitions. One of the major uses of the Aloha Stadium site is the popular Aloha Stadium Swap Meet, which takes place three times a week outside the entrance to the stadium.

Aloha Stadium, which opened in 1975, is reaching the end of its useful economic life. At 50,000 seats, the stadium is too large for most events that are held there today, it lacks many of the modern amenities, such as private suites and premium seating, that are needed to attract major events, and it is suffering from deferred maintenance that will require significant investment to correct. A recent study conducted for the state titled Aloha Stadium Comprehensive Site Summary by Foley & Lardner LLP recommended the state consider replacing the current stadium with a smaller, state-of-the-art stadium in the range of 30,000 to 40,000 seats. Discussions regarding replacing Aloha Stadium with a new, smaller facility are at a very early stage; thus it is undetermined at this time when or even if a new stadium will eventually be built.

In addition to the study analyzing the future of Aloha Stadium, the state also recently circulated a Request for Interest (RFI) to private developers to solicit ideas for how the stadium site might be redeveloped. Although KMA has not seen the responses to the state's RFI, we understand that, as a generality, they contemplate mixed-use development with varying mixes and intensities of uses.

***Key Study Assumptions***

There are three key assumptions that underlie this market demand study relating to the future of Aloha Stadium, the parking solution, and deed restrictions that currently encumber the site:

- ***Aloha Stadium.*** *Given the current condition of Aloha Stadium and given the stadium's dominant presence in the station area, the future success of TOD at the Aloha Stadium Station will likely depend upon either complete replacement of Aloha Stadium with a smaller, state-of-the-art facility, or a major renovation of the existing stadium1. In addition to the need to upgrade the facility's physical conditions and for a new and appealing design, successful mixed-use development of the type contemplated in this report will also depend upon the ability of the stadium to draw a more complete roster of events, and the increased overall attendance that would come with it. Therefore, one of the key assumptions of this study is that Aloha Stadium will be replaced with a smaller, state-of-the-art stadium with capacity for 30,000 to 40,000 seats.*

- ***Structured Parking.*** *A second major assumption of this study relates to parking. Rather than all of the stadium's parking being provided in surface lots as is currently the case, this study assumes that some of the parking will be provided in multi-level parking structures in order to free up land area for ancillary mixed-use development2. It is assumed, however, that a significant proportion of parking be preserved in surface lots for purposes of the stadium event tailgating and for continued operation of the swap meet. While the cost of building structured parking is significant, the substantial land value that could be achieved from ancillary private development on the site would represent one source for funding those costs.*

- ***Deed Restrictions.*** *A final key assumption of this study is that deed restrictions currently restricting how the site can be used should be modified to allow for mixed use development on portions of the site. As we understand it, these deed restrictions limit use of the site for "recreation" uses only, which would preclude private development uses such as housing, retail, offices, or a hotel.*

***Study Approach***

As discussed in this report, this study postulates a mixed-use "sports and entertainment district" development that would build upon the site's adjacency to both the future transit station and a newly built, state-of-the-art stadium. Successful implementation of these types of projects relies upon a set of conditions regarding a new stadium's operations that have not been studied in detail at this stage. For example, event programming for the new stadium and projections for how much current attendance numbers can be increased do not yet exist.

Mixed use sports and entertainment districts adjacent to sports stadiums require a threshold level of development, or "critical mass", in order to be successful. Retail and restaurant businesses depend upon a sufficient amount of foot

traffic throughout the year and tend to be more successful when co-located with like businesses. Other uses within the project (including entertainment/cultural uses, housing, office, hotel) will also rely upon the ability to create a vibrant, lively environment that a broad array of locals and visitors will be drawn to. Successful districts of this type must be large enough, and have the right mix of uses, to foster this environment.

Given the fact that a number of critical demand-related factors relating to the future replacement of Aloha Stadium are largely unknown today (timing, event programming, project design, etc.), this study takes a somewhat different approach to assessing market demand. Rather than the standard approach of utilizing projections of future market demand to calculate the square footage of various uses that can be supported, this study starts with an assumption regarding the size and mix of uses that are needed for a successful sports and entertainment district and tests whether the required demand factors (population growth, job growth, retail expenditures, visitor and tourism capture, etc.) are within a range that could reasonably be expected given what is known today.

It is noted that the development concept discussed in this report is assumed to be a fairly long term project (i.e. 10+ years). Most major sports stadiums take many years of pre-development planning even before construction can begin. Since the stadium development would precede construction of the sports and entertainment district, it could easily be over ten years before private development on the Stadium Site could be initiated.

### 5.3.2 DEVELOPMENT CONCEPT – ALOHA STADIUM SITE

Replacement of the current Aloha Stadium with a contemporary, first-class stadium presents exciting opportunities for ancillary development around the stadium and the new rail station. The new stadium will be more attractive to both sports and non-sports event promoters, as the new facility would be expected to have all of the state-of-the-art technology systems and amenities that are desired by major events today. With a new and contemporary facility, it would be expected that the current events would draw larger crowds and new events would be secured that are not present today. Examples of new events would include MLS soccer games, international exhibition soccer games, and major outdoor music concerts. Many modern stadiums today also have meeting spaces within the facility which can host numerous meetings, parties, and smaller events throughout the year.

The concept of a new stadium to replace Aloha Stadium is still in its very preliminary stages and it is uncertain if or when a new stadium will ultimately be built. At this early stage, building plans at even a conceptual level have not been developed and market analysis of potential event programming has yet to be performed. Therefore, at this time it is difficult to predict how the number of events or how the attendance might increase from that which is being achieved today. Nonetheless, the expectation would be that the new stadium would draw larger attendance, and the larger number of visitors will help dictate what could be developed within the sports and entertainment district.

Assuming the new stadium would be successful in attracting more events and more visitors, the Stadium Site could be viewed as an opportunity to create an exciting year-round destination for sports and entertainment. New opportunities could build off of the larger number of events and visitors such as the development of other entertainment and cultural venues as well as retail and food and beverage businesses. These types of "sports and entertainment districts" are increasingly becoming popular in locations throughout the country. One example is "L.A. Live" in Downtown Los Angeles. L.A. Live is adjacent to the Staples Center sports arena and the L.A convention center. Features of L.A. Live include the Nokia Theater concert venue, a 14-screen movie theater, numerous restaurants and retail shops, a Lucky Strike bowling alley, the Grammy Museum, ballrooms and event space, office space, and 1,000 hotel rooms. Since the opening of the first phase of L.A. Live in 2007, the surrounding areas have also seen development of thousands of higher density housing units, thus resulting in a true mixed use environment.

While the market context for Aloha Stadium certainly differs in some ways from that which exists for L.A. Live, it does illustrate the type of vibrant, sports and entertainment-themed environment that can be achieved under the right circumstances. Based on KMA's experience working on other sports and entertainment projects in California we see present in Honolulu some of the key ingredients that could make such a project successful. The following are some of the attributes of the Stadium Site and surrounding areas that lend themselves to the creation of a successful sports and entertainment district:

- *As discussed, a new state-of-the-art stadium has the potential to significantly increase the number of events and total attendance (as of 2013, total attendance was about 1.5 million annually);*
- *The existing swap meet is already a popular destination or both locals and visitors alike, drawing about one million visitors annually;*
- *The site is within walking distance of the Pearl Harbor Visitor Center and historic sites, which draw close to two million visitors a year;*
- *The new rail station will make the site easily accessible by transit from high population centers including Kapolei, Waipahu, Downtown, and Ala Moana;*
- *The site is centrally located relative to Honolulu's population centers and is readily accessible by an established regional freeway system;*
- *The site's proximity to the waterfront and central location, paired with continued population growth pressures makes the site attractive for residential development and other land use development opportunities.*

A sports and entertainment district in Honolulu would present a unique destination experience that does not exist elsewhere on the island today. The project would cater to a market niche that new to Honolulu and would appeal to locals and visitors alike.

The overall size of the Stadium Site is approximately 100 acres. In very round numbers, an ancillary development site of roughly 23 acres could potentially be made available with the following assumptions:

| | |
|---|---|
| New stadium footprint | 12 acres |
| Surface parking/swap meet/tailgating | 45 acres |
| New landscaped plaza at stadium entrance | 5 acres |
| Structured parking | 6 acres |
| Transit station & parking | 9 acres |
| TOD development site | 23 acres |
| Total | 100 acres |

**TABLE 5–2: Site Acreage Assumptions**

A new sports and entertainment district would be expected to include a combination of sports uses (primarily the stadium itself), arts/cultural/entertainment uses, restaurants and other eating/drinking establishments, retail, housing, and possibly office and a hotel. The key to ensuring long-term success of sports and entertainment districts is the ability to create a unique "experience" through a critical mass of complementary uses. Today's sophisticated consumers of entertainment, shopping, dining, and sports are increasingly looking for a more multifaceted experience that is not easily replicated in more traditional single-use venues in the marketplace. By combining a range of high quality sports, entertainment, dining, and shopping experiences there is the opportunity to create a popular year-round destination.

While the specific mix of uses is to be determined, KMA could foresee a development that could eventually include in the range of 1,500 to 2,000 high density housing units, in the range of 75,000 square feet of eating and drinking and retail uses (depending upon the ability to attract "anchor" tenants), and an element of arts, culture, and entertainment uses. Office and hotel uses could also be included. Overall, in the range of 2-3 million square feet of development could represent the magnitude of development achievable by the project.

In addition to the new state-of-the-art stadium, a sports and entertainment district on the Stadium Site would also benefit from the presence of another major sports/entertainment/cultural facility in order to generate larger overall attendance numbers. As one hypothetical possibility, one or more of the aging facilities that comprise the Neal Blaisdell Center near Ala Moana (multi-purpose arena, concert hall, exhibition center, galleria), could potentially find a new home as part of the sports and entertainment district. While the future of Blaisdell Center is the subject of a separate study currently being undertaken for the City, the sports, entertainment, and cultural uses that are housed there would represent the types of uses that would work very well within the overall development concept at the Stadium Site.

It is noted that the size and specific land use mix of the project is dependent upon factors that are difficult to predict at the present time, such as the potential for event programming in the stadium or the specific arts and entertainment venues that could be secured for the project over the long term. As such, this report postulates an overall concept for future development rather than a specific development recommendation. As events unfold and as further planning of the site continues, more detailed economic, market, and site capacity analyses would be recommended.

### 5.3.3 ANALYSIS OF POTENTIAL PROJECT ELEMENTS – STADIUM SITE

***Stadium Sports, Entertainment, Recreation***
Aloha Stadium currently hosts about 300 events per year. The only major sporting events, however, are UH college football games, the NFL Pro Bowl, and the Sheraton Hawaii Bowl. Smaller events include high school football games and high school graduations. The stadium does not currently draw major music concerts or other major sporting events. Reportedly, the stadium management receives inquiries for other sporting events and concerts but is unable to secure those events because the stadium is too large and/or does not have a equate facilities or fan amenities.

A new 30,000 to 40,000 seat stadium presents the opportunity to modernize the facility and draw events that are not present today. A detailed event programming study would be required in order to determine the number and types of events that could likely be attracted to a new stadium, however some of the new types of events that might be attracted include:

- *MLS and international soccer matches;*
- *Major outdoor music concerts and music festivals;*
- *Youth sports academies;*
- *Motocross, monster truck shows;*
- *Professional wrestling;*
- *Expansion of current antiques fairs, festivals, car shows, etc. (parking lot events)*

In addition, it would be expected that, despite its smaller size, a new stadium with modern amenities would be able to attract larger crowds than is currently the case for Aloha Stadium, and the events currently being held in the stadium would be more successful overall. It is increasingly the case in major sport facilitie throughout the country that fans expect a high quality experience beyond the sporting event itself. For example, many fans seek higher quality food options including ancillary sit-down restaurants and bars, comfor able seating with optimal sight-lines, state-of-the-art sound and video systems, spacious concourses, private suites and luxury boxes, retail stores, children's play areas, technology options such as Wi-Fi, etc. A newly built stadium to replace Aloha Stadium would be expected to include these features.

As noted, discussions regarding a new facility to replace Aloha Stadium are in their very preliminary stages. It would be expected that more a vanced stages of project planning would include detailed analysis of facility design, infrastructure, and traffic and parking.

***Arts, Culture, Other Entertainment Venues***
Arts, culture, entertainment, and community-based uses are also good candidates to be included in a sports and entertainment district at the Stadium Site. As mentioned, the site's close proximity to the Pearl Harbor Visitor Center presents opportunities to capture the close to two million annual visitors that visit the historic sites there. Given those visitors' interest in history, it could be a natural fit to include a historical or cultural museum within the project. This type of use fits well in the overall entertainment theme and would work well in conjunction with other entertainment and dining options. The ability of a new mixed use development to capitalize on visitors to Pearl Harbor, ho ever, would be improved significantly by creating stronger connections between the transit station and the Pearl Harbor Visitor Center. KMA would recommend that the City continue to work with the Navy to create a safe, pedestrian friendly "waterfront promenade" leading from the Visitor Center to the Aloha Stadium Station. Strengthening the connections to the adjoining neighborhoods would also be important so that the project does not feel isolated from the surrounding areas. Finally, the project would benefit by connecting with the existing historic Pearl Harbor Historic Trail that runs along the waterfront west to Waipahu.

Arts, culture, and entertainment type uses that would be conducive to a mixed-use sports and entertainment district include a broad array of uses that would appeal to both visitors and locals alike, such as:

- *Movie theaters;*
- *Recreational activities such as upscale bowling alleys, billiards, ice skating rinks, dance venues;*
- *Live entertainment venues such as concert halls, jazz clubs, comedy clubs, playhouses;*
- *Other arts and cultural facilities such as art and history museums and cultural centers;*
- *Entertainment-themed eating and drinking establishments such as karaoke bars, sports bars;*
- *Fitness centers, yoga studios, and the like;*
- *"Pop up" outdoor sports viewing events available for free to the community for large events as soccer's World Cup or the Olympics.*

Most of these types of uses are already present in other

locations of Honolulu, and it would not be the intent of a new development on the subject site to displace successful businesses or venues in other locations. However, in many cases the critical mass, identity, and synergies that can be created when individual uses are clustered together can provide strong benefits that may not currently exist. As the long term plan that this sports and entertainment district concept is, it is possible that in the future the new development could attract some of the existing venues that currently occupy aging or outdated facilities in other locations.

Secondly, the site's central location makes it well suited to capitalize on future growth patterns in Honolulu. The site is located close to the growing population base on the western and central portions of the island, while still being accessible to Waikiki, downtown, and other parts of the island via the future rail station and the existing freeway network.

The Pearl Harbor Visitor Center and historic sites (USS Arizona, USS Bowfin, Battleship Missouri, Pacific Aviation Museum) present another opportunity. According to the National Park Service (NPS), the Pearl Harbor historic sites currently draw about 1.8 million visitors a year, which numbers continue to grow. According to NPS, visitors to Pearl Harbor typically spend 1-2 hours at the sites. Given the close proximity of these attractions to Aloha Stadium, one could envision Pearl Harbor visitors also frequenting a new mixed-use development on the subject site - attending the swap meet, patronizing restaurants and other eating and drinking establishments, or partaking in other arts, culture, or entertainment options.

***Retail & Dining***

Currently, the dominant retail presence in the region is Pearlridge Mall, approximately one mile northwest from the subject site. At 1.14 million square feet, Pearlridge is a major regional mall with major anchors including Macy's, Sears, Ross, and Bed Bath & Beyond. Other major retailers in immediate proximity of the site include Target and K-Mart. Retail sales leakage data tracked by data firm Nielson indicate that the area is already well-served by many categories of comparison and convenience retail goods. Consequently, retail and dining opportunities for the subject site would be designed to complement rather than compete with Pearlridge and other existing centers. Retail and dining opportunities within the sports and entertainment district would be expected to capitalize on new demand created by the visitors, residents, and workers within the new project, as well as by strengthening connection with existing demand generators in the surrounding areas, principally visitors to Pearl Harbor and the Swap Meet.

A dining component is a key element of most sports and entertainment districts given that many entertainment outings are paired with dinner or lunch, in addition to the fact that many food and beverage establishments, such as sports bars, are entertainment destinations among themselves. When considering the existing millions of visitors to Aloha Stadium and Pearl Harbor, in addition to growth in visitors with a new stadium and with demand created by housing, office, and other uses within the project, it would appear that the demand will exist for a significant food and beverage component within the project. It is noted that, currently, dining options at the Pearl Harbor historic sites are limited to snacks and "fast food" type offerings.

In order to test the amount of retail and food/beverage space that could be supported in the project, KMA analyzed current retail expenditure data in Honolulu for residents, workers, and visitors. Based on a set of assumptions regarding the overall mix of uses within the project, the number of visitors to the stadium, and capture rates for comparison retail, convenience retail, and eating and drinking establishments, we believe that a retail/dining component in the range of 75,000 square feet is a reasonable assumption for preliminary planning purposes. A 75,000 square foot retail/dining element would require a roughly 7.5% overall market capture rate for these types of retail uses (see attached Table 5-4 for detail).

***Housing***

New housing in the project would be anticipated to be in higher density formats and targeted to demographic groups that are likely to be interested in living in a lively, mixed-use environment. These groups include young professionals as well as empty nesters, who often do not desire to live in larger homes with the upkeep needs and prefer restaurants, amenities, and cultural options within close proximity. The adjacency to the transit station also reduces the need for cars and provides easy access to employment centers.

The Stadium Site is adjacent to several established residential communities including Aiea, Halawa, and Salt Lake. Median home prices in the zip codes encompassing these communities fall in the middle to lower end of values island wide. Most housing unit growth in Honolulu is expected to be concentrated in the Primary Urban Center

(PUC) and Ewa planning areas, with emphasis on opportunities in close proximity to the new rail line. Between 2020 and 2030, the City projects that the PUC, Ewa, and Central Oahu planning areas of Oahu will grow by approximately 28,000 housing units (or roughly 10%). A similar rate of growth is projected between 2025 and 2035. It is noted that the City's housing unit projections may be somewhat conservative if the projections did not take into account the potential for development of the Stadium Site.

New housing opportunities located within the Halawa area represents an opportunity to capture a higher proportion of islandwide growth, as residents desire to live in convenient proximity to mass transit. Train rides from the Aloha Stadium Station to Downtown are estimated to take 17 minutes, as compared to twice that from the East Kapolei station. In addition, housing within the project would present a unique opportunity to live within an exciting mixed-use environment with restaurants, cafes, retail shops, and entertainment venues close by.

In order to support a housing component of 1,500 to 2,000 units, the project would need to capture a 10-year market share of roughly 5% to 7% of future growth in the PUC, Ewa, and Central planning areas. This does not appear to be an unreasonable assumption based on the site's proximity to the transit station, its centralized location, and the unique opportunities presented by the sports and entertainment district. It is noted that another major housing project in the area, Live-Work-Play Aiea, will likely be built many years earlier than the subject site and therefore may not compete at all in marketing of housing units.

***Office***

Experience with sports and entertainment districts in other parts of the country demonstrates that office uses can also contribute to the vitality and economic support of these projects. L.A. Live, for example, houses offices for ESPN as well as Herbalife, a health food/nutrient company. In San Francisco, numerous high tech firms such as Dropbox and Salesforce have office space in the South of Market area (SOMA) in close proximity to AT&T Park. Office space within sports and entertainment districts are often appealing to companies that want to project a young, edgy, or creative image and many employees of these types of companies like the energy that comes with these types of mixed use urban environments.

Office space can be an ideal use within sports and entertainment districts because they bring a daytime population that creates demand for the retail and restaurants and also helps maintain the constant activity that is so important to the success of these projects. Offices are also ideal candidates for shared parking arrangements since peak office parking demand is during weekdays, while the parking need for other uses within the project - restaurants, retail, sports -tend to be during evenings and weekends.

In order to support an office component within the project of, say 50,000 square feet, KMA estimates that the project would need to capture a roughly 20% market share of future office space demand within the Aiea, Airport, and Aliamanu/Salt Lake/Foster Village sub-areas of the island (see Table 5-13). The 50,000 square foot assumption is not much more than a "plug" number in this analysis in order to test for the required market capture rate. It would not seem unreasonable to assume that a larger office component could potentially be supported when it is considered that the project would present a unique branding opportunity that does not exist elsewhere in Honolulu today. Another opportunity would be for the State to locate office space within the project.

***Hotel***

A hotel is a final land use that might be supported within the project. It is not envisioned that a hotel as part of the project would cater to the resort market but rather to the market segment targeting business travelers, neighbor island visitors, or tourists seeking a non-resort locale. Potential demand generators for a hotel would include:

- *Sports and entertainment events at the stadium;*
- *Other entertainment venues within the project;*
- *Pearl Harbor visitors;*
- *Business travelers who may wish to have closer proximity to the airport than Waikiki or Ko Olina area hotels or who have business in other parts of the island, such as dealings with the military at Joint Base Pearl Harbor-Hickam; and*
- *Visitors who desire an alternative to Waikiki and Ko Olina with more affordable rates*

Overall, the State of Hawaii has experienced a rise in the number of annual visitors in the last several years. Data from the University of Hawaii Economic Research Organization (UHERO) indicates that total statewide visitorship was up about 16% between 2010 and 2013,

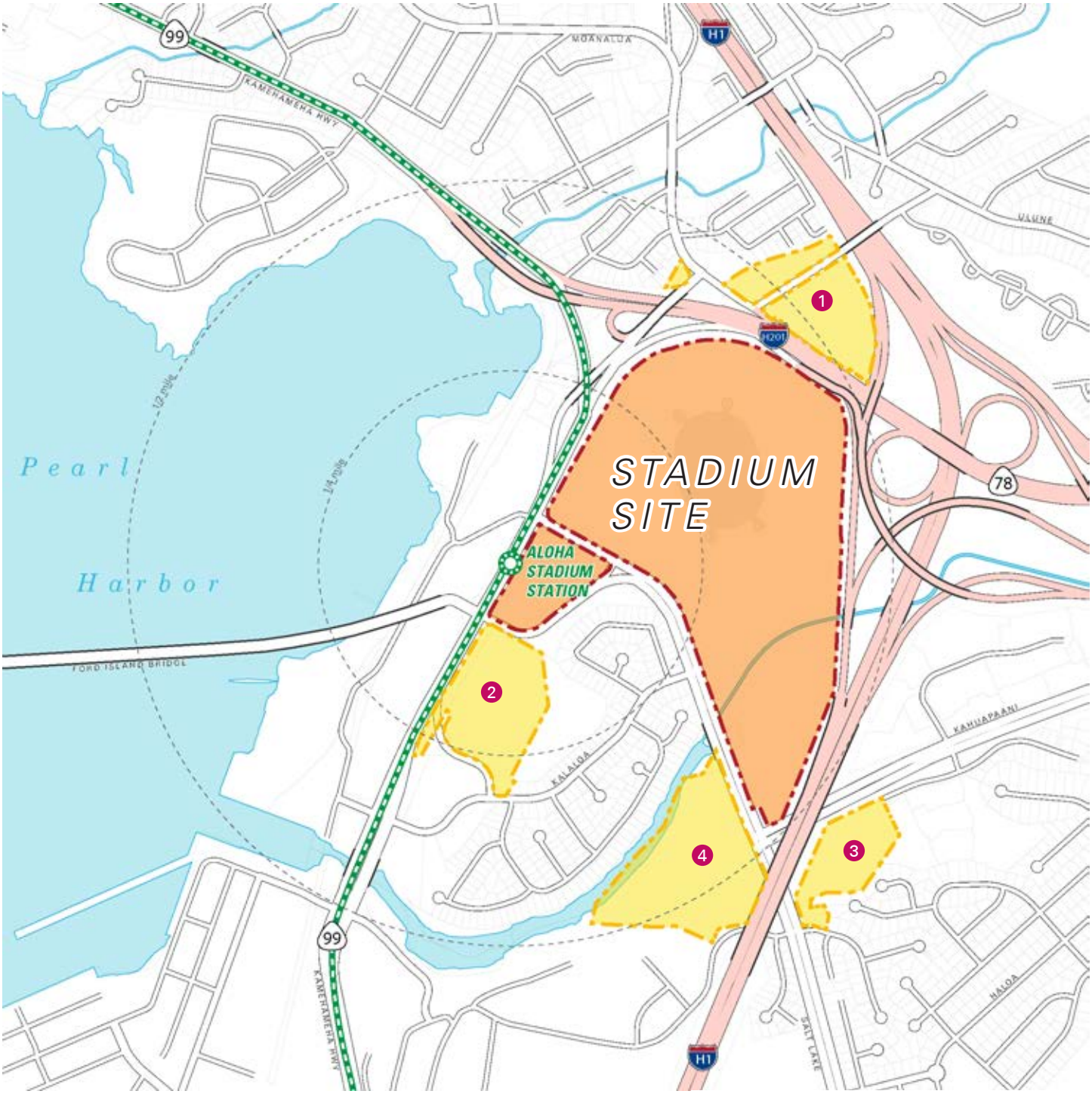


**FIGURE 5-6: OTHER DEVELOPMENT OPPORTUNITIES**

1. Aiea Elementary Site
2. Puuwai Momi Site
3. Stadium Mall Site
4. Stadium Marketplace Site

Fixed Guideway
Aloha Stadium Station



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hotel room rates were up about 31%, and total visitor expenditures were also up about 31%. In addition, between 2010 and 2013, island-wide hotel occupancy rates increased from 70% to 76% (see Table 5-14). For the island of Oahu, data from the Hawaii Tourism Authority indicates that total visitors rose at a similar rate as the statewide average, a proximately 16%, between 2010 and 2013. As the tourism industry continues to grow in Hawaii and in Honolulu, the increasing demand for hotel rooms will need to be accommodated through new hotel development.

One idea that has been floated for a new stadium in Honolulu is a youth sports academy similar to the ESPN/Disney sports complex near Orlando, FL4. These academies host thousands of young athletes from around the country for sports camps and tournaments in a variety of outdoor sports including football, baseball, softball, soccer, lacrosse, and track and field. The ESPN/Disney complex also includes indoor facilities for basketball, volleyball, and gymnastics. Since these camps take place over multiple days and even weeks, demand is created for hotel rooms to house these athletes.

Given the lack of high quality hotels in the vicinity of the station area, we could see the potential for a 150 to 200-room hotel within a new sports and entertainment district. Furthermore, given the site's convenient proximity to the airport and the projected future growth in the area, a hotel within the project could very well be supported by the market even if a separate hotel in the area were built first, such as in the Live-Work-Play Aiea project.

### 5.3.4 OTHER DEVELOPMENT OPPORTUNITIES

In addition to the Stadium Site, there are four other sites within the ½-mile TOD planning area which present key opportunities for future development. The first site is the Puuwai Momi public housing project, located immediately south of the Aloha Stadium station (#3 on the map below). The Puuwai Momi public housing project is comprised of 260 low-rise multi-family apartment units on approximately 12 acres. This is an older development and it appears likely that it is in need of redevelopment in the relative near-term. In fact, KMA understands that the Hawaii Public Housing Authority (HPHA) is currently considering redevelopment options that would involve expanding the overall number of housing units on site and creating a mixed-income and mixed-use environment.

Given the high cost of living in Honolulu and the resulting high demand for affordable housing, there would seem to be more than enough market demand for a significant increase in below market rate (BMR) units on this site. The number of BMR units supported is likely to be limited more by the availability of public financial resources (subsidies) rather than market demand. As far as market rate apartment units in the project, it is likely that a significant number can be supported given the lack of quality rental units in the market as well. In addition, we would anticipate that a redeveloped Puuwai Momi project could support a component, though on a relatively small scale, of neighborhood serving retail. Such retail uses would benefit from improved connectivity to adjacent neighborhoods.

The second site is immediately north of the Aloha Stadium site and the H-201 freeway (#4 on the map). This roughly 13-acre site is mostly comprised of the Aiea Elementary School site. As we understand it, the site is considered a future development opportunity because there is the potential that the school could be relocated to another location or reconfigured in a manner that would free up a development site. Given the location and size of this site, a number of different land use opportunities could be pursued, each of which would likely have market support within the 10-year+ time horizon of this study. The site could be well positioned for a shopping center in the rough range of 100,000 to 150,000 square feet, taking advantage of its location at the junction of the H-201 and H-1 freeways from both an accessibility and signage visibility point of view. Office, residential, and hotel uses are also possibilities, although it would appear that in all cases traffic ingress/egress improvements would need to be considered along both the H-201 and Kaimakani Street frontages.

The third and fourth sites are the Stadium Mall and Stadium Marketplace Sites, both of which are retail/commercial developments on the southerly edge of the planning area. Both projects are characterized by their lower density, auto-oriented formats and both are likely candidates for future redevelopment as time goes on. From a market demand perspective, both sites would likely be an opportunity for mixed use, higher intensity development. The potential timing for redevelopment of these sites will depend upon factors such as the physical condition of the existing buildings, evolving market conditions, land values, and the long term goals of the property owners.

**TABLE 5–3: Demographic Trends and Projections**

| 0.5-Mile Radius | | | | |
|---|---|---|---|---|
| **Demographic Statistics** | **2015** | | **2020** | |
| Population | 4,355 | | 4,552 | |
| Households | 1,092 | | 1,138 | |
| Families | 875 | | 910 | |
| Housing Units | 1,129 | | 1,175 | |
| Group Quarters Population | 39 | | 40 | |
| **Households By Income** | **2015** | **%** | **2020** | **%** |
| Less than $34,999 | 347 | 31.7% | 3,530 | 38.5% |
| $35,000-$49,999 | 147 | 13.4% | 1,171 | 12.8% |
| $50,000-$74,999 | 176 | 16.1% | 1,370 | 15.0% |
| $74,000-99,999 | 100 | 9.1% | 1,091 | 11.9% |
| $100,000 or more | 323 | 29.6% | 2,001 | 21.8% |
| | 1,093 | 100.0% | 9,163 | 100.0% |
| **Average Household Income** | $84,448 | | $95,642 | |
| **Median Household Income** | $57,414 | | $64,042 | |

| 1.0-Mile Radius | | | | |
|---|---|---|---|---|
| **Demographic Statistics** | **2015** | | **2020** | |
| Population | 16,902 | | 17,254 | |
| Households | 5,376 | | 5,525 | |
| Families | 3,806 | | 3,897 | |
| Housing Units | 5,612 | | 5,774 | |
| Group Quarters Population | 301 | | 304 | |
| **Households By Income** | **2015** | **%** | **2020** | **%** |
| Less than $34,999 | 1,079 | 20.1% | 1,037 | 18.8% |
| $35,000-$49,999 | 706 | 13.1% | 643 | 11.6% |
| $50,000-$74,999 | 953 | 17.7% | 938 | 17.0% |
| $74,000-99,999 | 849 | 15.8% | 849 | 15.4% |
| $100,000 or more | 1,789 | 33.3% | 2,057 | 37.2% |
| | 5,376 | 100.0% | 5,524 | 100.0% |
| **Average Household Income** | $92,183 | | $100,837 | |
| **Median Household Income** | $73,693 | | $79,245 | |

*Continued*

**TABLE 5–3: Demographic Trends and Projections (continued)**

| 5.0-Mile Radius | | | | |
|---|---|---|---|---|
| **Demographic Statistics** | **2015** | | **2020** | |
| Population | 217,112 | | 224,449 | |
| Households | 62,858 | | 65,295 | |
| Families | 48,626 | | 50,478 | |
| Housing Units | 65,929 | | 68,470 | |
| Group Quarters Population | 10,852 | | 11,085 | |
| **Households By Income** | **2015** | **%** | **2020** | **%** |
| Less than $34,999 | 11,907 | 18.9% | 11,326 | 17.3% |
| $35,000-$49,999 | 7,507 | 11.9% | 7,078 | 10.8% |
| $50,000-$74,999 | 11,884 | 18.9% | 11,590 | 17.8% |
| $74,000-99,999 | 10,193 | 16.2% | 10,254 | 15.7% |
| $100,000 or more | 21,369 | 34.0% | 25,046 | 38.4% |
| | 62,860 | 100.0% | 65,294 | 100.0% |
| **Average Household Income** | $90,979 | | $98,879 | |
| **Median Household Income** | $75,323 | | $81,468 | |

Source: Nielson

**TABLE 5–4: Retail Market Trends by Retail Type, City and County of Honolulu**

| | Total Inventory (SF) | | | Vacancy Rate | | | Net Absorption (SF) | | |
|---|---|---|---|---|---|---|---|---|---|
| | **2008** | **2011** | **2014** | **2008** | **2011** | **2014** | **2008** | **2011** | **2014** |
| Community/Power Center | 2,398,255 | 2,717,693 | 3,381,852 | 6.41% | 5.60% | 3.34% | (34,101) | (28,997) | 28,935 |
| Neighborhood | 3,426,066 | 3,689,831 | 4,725,648 | 2.10% | 3.09% | 3.93% | 78,762 | 9,779 | 22,010 |
| Regional | 4,367,911 | 4,418,985 | 4,533,388 | 0.89% | 2.33% | 1.36% | 433,539 | (31,932) | 2,845 |
| Resort/Specialty | 1,399,912 | 1,441,454 | 1,451,718 | 6.98% | 8.18% | 5.95% | (6,405) | 74,026 | (36,440) |
| Strip | 177,188 | 177,188 | 1,619,526 | 9.95% | 16.47% | 12.12% | 37,716 | 3,417 | (4,378) |
| Totals | 11,769,332 | 12,445,151 | 15,712,132 | 3.23% | 4.15% | 4.09% | 509,511 | 26,293 | 12,972 |

| | Avg. Low NNN Asking Rents | | | Avg. High NNN Asking Rents | | | Avg. CAM Expenses | | |
|---|---|---|---|---|---|---|---|---|---|
| | **2008** | **2011** | **2014** | **2008** | **2011** | **2014** | **2008** | **2011** | **2014** |
| Community/Power Center | $3.78 | $3.24 | $3.52 | $4.71 | $4.25 | $4.57 | $1.05 | $1.14 | $0.97 |
| Neighborhood | $2.84 | $2.78 | $3.26 | $3.59 | $3.59 | $4.06 | $0.88 | $1.00 | $1.52 |
| Regional | $2.92 | $2.77 | $3.17 | $10.10 | $9.40 | $9.70 | $1.64 | $6.08 | $1.37 |
| Resort/Specialty | $4.56 | $4.45 | $6.94 | $13.84 | $12.98 | $17.98 | $1.89 | $1.89 | $1.10 |
| Strip | $3.00 | $3.04 | $3.17 | $4.04 | $4.29 | $3.98 | $1.02 | $1.19 | $1.36 |
| Totals | $3.05 | $2.87 | $3.23 | $3.90 | $3.88 | $4.05 | $1.10 | $1.10 | $1.25 |

Source: Colliers Monroe Friedlander, Colliers International.

## TABLE 5–5: Household Spending Patterns and Opportunity Gap Analysis

### Retail Space Supported by Visitors

| | Current | Post Stadium Rebuild | Notes |
|---|---|---|---|
| Visitors to Stadium | 1,500,000 | 1,800,000 | assumes return to attendance from 2007 |
| Visitors to Pearl Harbor Historic Sites | 1,800,000 | 1,988,000 | assumes 1% annual growth for 10 years |
| Visitors to Other Venues TBD | | 380,000 | KMA assumption |
| | 3,300,000 | 4,168,000 | |

| | Expenditures per Visitor (daily) [1] | Capture Rate | Sales/ Sq. Ft. [2] | Retail Sq. Ft. Supported |
|---|---|---|---|---|
| Comparison Retail | $42.00 | 2.0% | $310 | 11,300 |
| Convenience Retail | $9.00 | 5.0% | $470 | 4,000 |
| Restaurants and Drinking Places | $33.00 | 10.0% | $500 | 27,500 |
| Total / Weighted Average | | 4.7% | | 42,800 |

### Retail Space Supported by Residents

| | |
|---|---|
| Total New Households | 2,000 |

| | Expenditures per HH (annual) [3] | Capture Rate | Sales/ Sq. Ft. | Retail Sq. Ft. Supported |
|---|---|---|---|---|
| Comparison Retail | $4,730 | 20.0% | $310 | 6,100 |
| Convenience Retail | $8,710 | 45.0% | $470 | 16,700 |
| Restaurants and Drinking Places | $5,080 | 50.0% | $500 | 10,200 |
| Total / Weighted Average | | 37.5% | | 33,000 |

### Retail Space Supported by Office Workers

| | |
|---|---|
| Total New Workers [4] | 206 |

| | Expenditures per Worker (annual) [5] | Capture Rate | Sales/ Sq. Ft. | Retail Sq. Ft. Supported |
|---|---|---|---|---|
| Comparison Retail | $595 | 0.0% | $310 | 0 |
| Convenience Retail | $779 | 20.0% | $470 | 100 |
| Restaurants and Drinking Places | $1,021 | 40.0% | $500 | 200 |
| Total / Weighted Average | | 25.9% | | 300 |

### Total Retail Space Supported

| | | | | |
|---|---|---|---|---|
| Comparison Retail | | 2.9% | | 17,400 |
| Convenience Retail | | 17.7% | | 20,800 |
| Restaurants and Drinking Places | | 12.8% | | 37,900 |
| Total / Weighted Average | | 7.5% | | 76,100 |

[1] Retail expenditures from visitors based on Hawaii Tourism Authority (2013 Annual Visitor Research Report).

[2] Retail sales per square foot based on ULI/ICSC data.

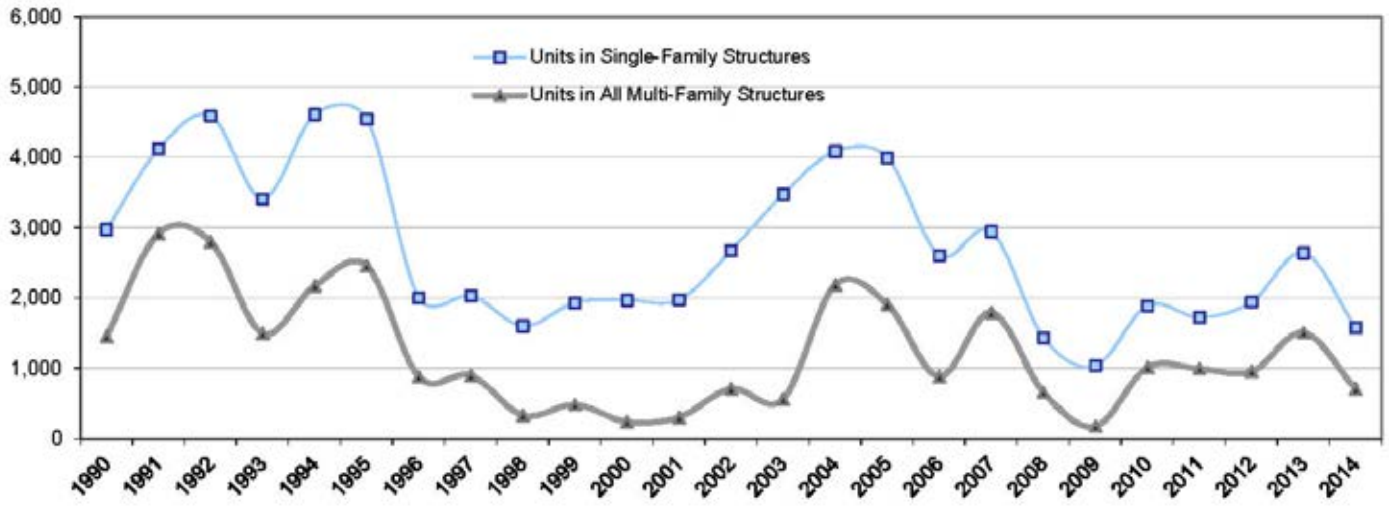
[3] Retail expenditures from residents based on per capita sales data from Nielson.

[4] See Table 12.

[5] Worker expenditures in local shopping centers; data from ULI.

**TABLE 5–6: Residential Building Permits 1980-2014 - City and County of Honolulu**

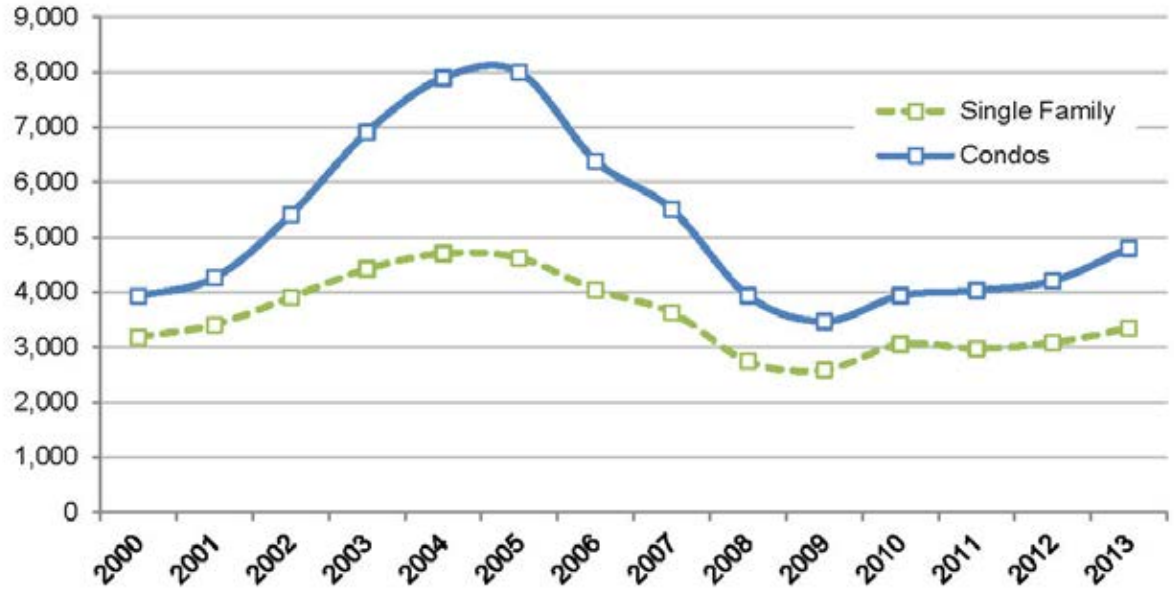
| Year | Total Units | Units in Single-Family Structures | Units in All Multi-Family Structures | Units in 2-unit Multi-Family Structures | Units in 3- and 4-unit Multi-Family Structures | Units in 5+ Unit Multi-Family Structures |
|---|---|---|---|---|---|---|
| **1990** | 2,977 | 1,524 | 1,453 | 126 | 85 | 1,242 |
| **1991** | 4,118 | 1,203 | 2,915 | 50 | 116 | 2,749 |
| **1992** | 4,588 | 1,793 | 2,795 | 42 | 148 | 2,605 |
| **1993** | 3,411 | 1,916 | 1,495 | 62 | 59 | 1,374 |
| **1994** | 4,612 | 2,440 | 2,172 | 76 | 66 | 2,030 |
| **1995** | 4,544 | 2,090 | 2,454 | 64 | 76 | 2,314 |
| **1996** | 2,000 | 1,125 | 875 | 34 | 0 | 841 |
| **1997** | 2,035 | 1,141 | 894 | 38 | 23 | 833 |
| **1998** | 1,601 | 1,272 | 329 | 20 | 16 | 293 |
| **1999** | 1,928 | 1,449 | 479 | 0 | 21 | 458 |
| **2000** | 1,969 | 1,732 | 237 | 4 | 0 | 233 |
| **2001** | 1,975 | 1,673 | 302 | 10 | 39 | 253 |
| **2002** | 2,673 | 1,964 | 709 | 12 | 67 | 630 |
| **2003** | 3,473 | 2,910 | 563 | 84 | 12 | 467 |
| **2004** | 4,084 | 1,898 | 2,186 | 8 | 108 | 2,070 |
| **2005** | 3,988 | 2,079 | 1,909 | 0 | 160 | 1,749 |
| **2006** | 2,606 | 1,727 | 879 | 0 | 0 | 879 |
| **2007** | 2,944 | 1,152 | 1,792 | 0 | 148 | 1,644 |
| **2008** | 1,438 | 780 | 658 | 2 | 21 | 635 |
| **2009** | 1,036 | 862 | 174 | 8 | 20 | 146 |
| **2010** | 1,891 | 879 | 1012 | 10 | 0 | 1002 |
| **2011** | 1,724 | 734 | 990 | 0 | 9 | 981 |
| **2012** | 1,941 | 990 | 951 | 4 | 35 | 912 |
| **2013** | 2,641 | 1,137 | 1,504 | 2 | 18 | 1,484 |
| **2014** | 1,578 | 875 | 703 | 12 | 0 | 691 |



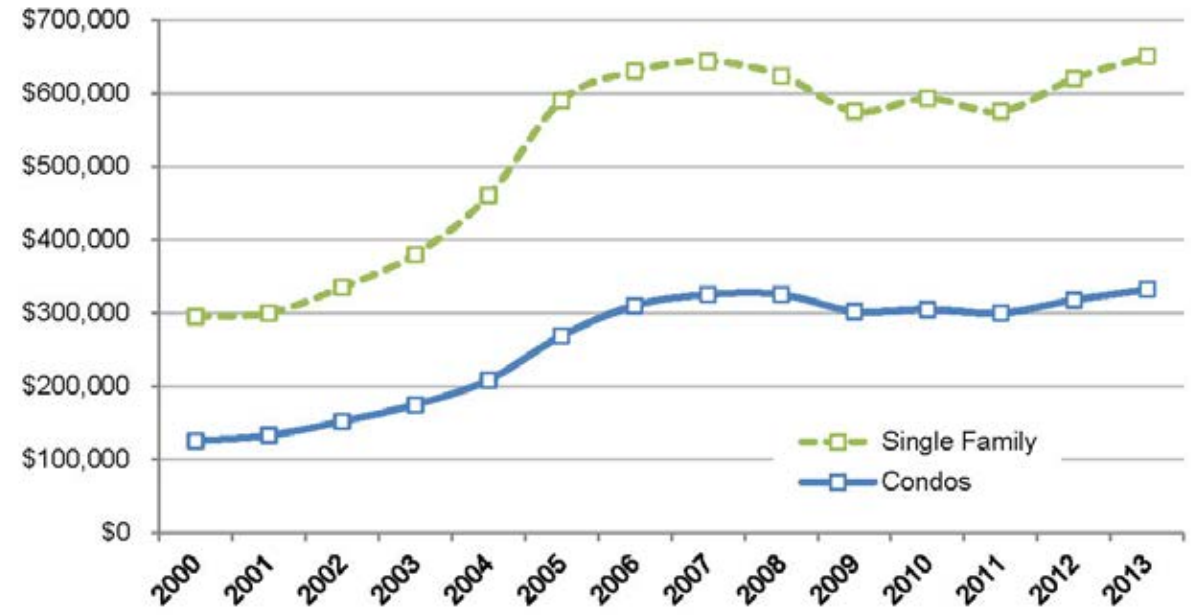

Source: State of the Cities Data System, HUD

**TABLE 5–7: Residential For-Sale Market Trends - City and County of Honolulu**

**Annual Unit Sales**




**Median Sales Price of Residential Properties**

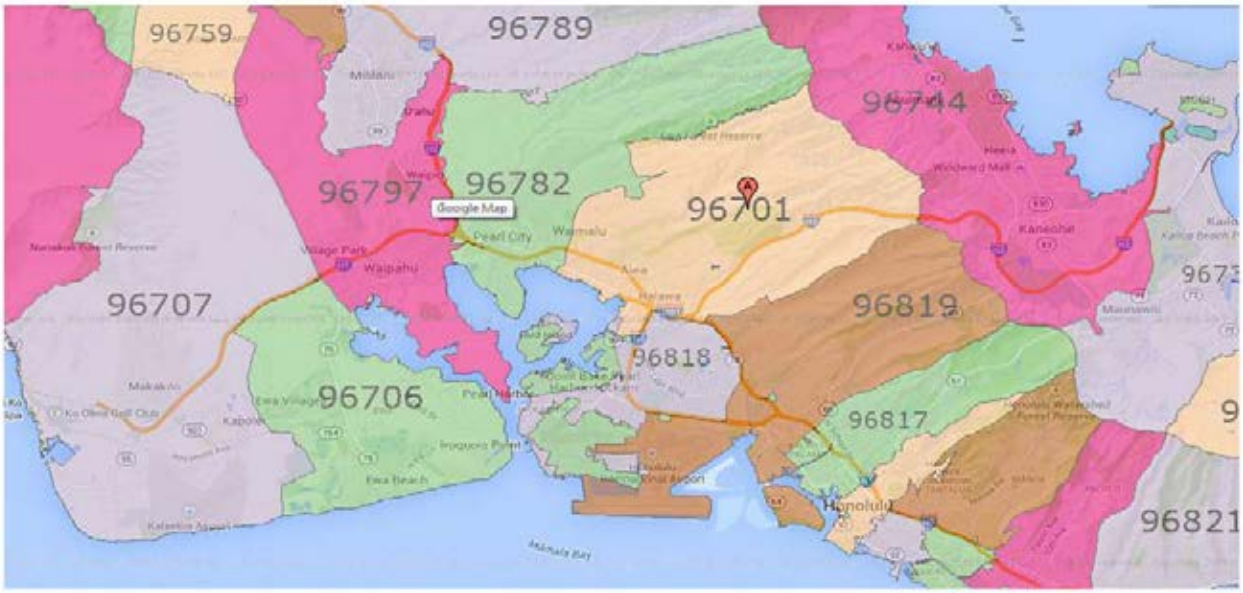



Source: Honolulu Board of Realtors

**TABLE 5–8: Honolulu Median House Prices**

*Sorted by Unit Price*

| Honolulu | | Median Price | | | Sales Volume | |
|---|---|---|---|---|---|---|
| Community | Zip Code | 4Q2014 | % Chg* | $/SqFt | 4Q2014 | % Chg* |
| **All homes** | | **$455,000** | **5.80%** | **$432** | **3,294** | **18.40%** |
| HONOLULU | 96821 | $1,225,000 | 3.30% | $586 | 39 | -9.30% |
| HONOLULU | 96816 | $930,000 | 9.40% | $653 | 90 | -34.30% |
| KAILUA | 96734 | $835,000 | 4.40% | $505 | 107 | 1.90% |
| HONOLULU | 96814 | $792,210 | 105.80% | $618 | 296 | 97.30% |
| HALEIWA | 96712 | $780,000 | -25.90% | $517 | 17 | -15.00% |
| HONOLULU | 96825 | $762,000 | 9.10% | $504 | 96 | -20.00% |
| LAIE | 96762 | $725,000 | 14.60% | $398 | 5 | 150.00% |
| KANEOHE | 96744 | $624,500 | 0.70% | $469 | 126 | 4.10% |
| HONOLULU | 96819 | $621,250 | -1.40% | $367 | 31 | -29.50% |
| WAIALUA | 96791 | $575,000 | 4.50% | $557 | 29 | 93.30% |
| KAPOLEI | 96707 | $544,500 | 8.40% | $370 | 677 | 383.60% |
| EWA BEACH | 96706 | $515,050 | 8.80% | $363 | 272 | 3.40% |
| HAUULA | 96717 | $492,500 | 3.50% | $407 | 9 | -10.00% |
| WAHIAWA | 96786 | $459,500 | 6.90% | $305 | 28 | -42.90% |
| HONOLULU | 96817 | $450,000 | 13.90% | $484 | 108 | -9.20% |
| MILILANI | 96789 | $417,000 | 13.50% | $379 | 151 | -11.20% |
| AIEA | 96701 | $415,000 | 22.10% | $408 | 88 | -25.40% |
| HONOLULU | 96813 | $410,000 | -18.80% | $526 | 63 | -39.40% |
| HONOLULU | 96815 | $400,000 | 14.30% | $621 | 314 | -4.30% |
| PEARL CITY | 96782 | $393,000 | 26.80% | $341 | 72 | 41.20% |
| WAIPAHU | 96797 | $392,500 | 0.90% | $397 | 138 | -9.80% |
| HONOLULU | 96826 | $345,850 | 5.90% | $496 | 95 | -19.50% |
| KAAAWA | 96730 | $345,000 | -42.00% | $429 | 6 | -14.30% |
| HONOLULU | 96822 | $344,000 | 5.80% | $498 | 114 | -16.20% |
| HONOLULU | 96818 | $310,000 | -3.90% | $429 | 80 | -15.80% |
| WAIANAE | 96792 | $298,500 | 2.80% | $246 | 130 | -3.00% |
| KAHUKU | 96731 | $58,717 | -84.70% | $128 | 18 | 38.50% |




Source: Dataquick

**TABLE 5–9: Projected Honolulu Housing Unit Growth**

| Housing Units | 2010 | 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|---|
| Primary Urban Center | 178,805 | 184,935 | 190,539 | 196,197 | 201,805 | 207,218 |
| Ewa | 29,883 | 34,341 | 40,140 | 45,669 | 51,012 | 56,344 |
| Central Oahu | 51,456 | 53,121 | 55,473 | 58,343 | 61,241 | 63,784 |
| East Honolulu | 18,744 | 19,745 | 20,141 | 20,141 | 20,141 | 20,141 |
| Koolaupoku | 37,237 | 38,185 | 39,037 | 39,280 | 39,280 | 39,280 |
| Koolauloa | 4,532 | 4,737 | 4,927 | 5,098 | 5,246 | 5,372 |
| North Shore | 6,677 | 6,994 | 7,293 | 7,563 | 7,784 | 7,966 |
| Waianae | 13,572 | 14,060 | 14,706 | 15,298 | 15,812 | 16,242 |
| | 340,906 | 356,118 | 372,256 | 387,589 | 402,321 | 416,347 |

| Growth in Housing Units | 2010-20 | 2015-25 | 2020-30 | 2025-35 |
|---|---|---|---|---|
| Primary Urban Center | 11,734 | 11,262 | 11,266 | 11,021 |
| Ewa | 10,257 | 11,328 | 10,872 | 10,675 |
| Central Oahu | 4,017 | 5,222 | 5,768 | 5,441 |
| | 26,008 | 27,812 | 27,906 | 27,137 |

Source: City and County of Honolulu (DPP)

**TABLE 5–10: Employment (Jobs) Trends and Projections - City and County of Honolulu**

| | 2000 | 2005 | 2010 | 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|---|---|---|
| Primary Urban Center | | | | | | | | |
| Project Area[1] | 75,919 | 76,074 | 76,719 | 77,610 | 78,450 | 79,258 | 80,126 | 81,087 |
| Rest of PUC | 286,921 | 304,771 | 311,365 | 321,615 | 329,893 | 336,864 | 344,188 | 352,252 |
| Total Primary Urban Center | 362,840 | 380,845 | 388,084 | 399,225 | 408,343 | 416,122 | 424,314 | 433,339 |
| Rest of Honolulu City and Co. | 138,289 | 168,963 | 173,600 | 197,958 | 212,772 | 227,841 | 241,880 | 255,041 |
| Total City and County | 501,129 | 549,808 | 561,684 | 597,183 | 621,115 | 643,963 | 666,194 | 688,380 |
| As % of Total Primary Urban Center | | | | | | | | |
| Project Area[1] | 20.9% | 20.0% | 19.8% | 19.4% | 19.2% | 19.0% | 18.9% | 18.7% |
| Rest of PUC | 79.1% | 80.0% | 80.2% | 80.6% | 80.8% | 81.0% | 81.1% | 81.3% |
| As % of Total City and County | | | | | | | | |
| Project Area[1] | 15.1% | 13.8% | 13.7% | 13.0% | 12.6% | 12.3% | 12.0% | 11.8% |
| Rest of PUC | 57.3% | 55.4% | 55.4% | 53.9% | 53.1% | 52.3% | 51.7% | 51.2% |
| | 72.4% | 69.3% | 69.1% | 66.9% | 65.7% | 64.6% | 63.7% | 63.0% |

[1] Project area defined as Aiea, Airport, and Aliamanu/Salt Lake/Foster Village sub-areas.

Source: City and County of Honolulu (DPP)

**TABLE 5–11: Employment (Jobs) Trends and Projections by Industry - Primary Urban Center**

| | 2010 | 2020 | 2030 | 2010-2020 Change Total | 2010-2020 Change % | 2010-2030 Change Total | 2010-2030 Change % |
|---|---|---|---|---|---|---|---|
| **Project Area[1]** | | | | | | | |
| Armed Forces | 10,541 | 10,492 | 10,492 | -49 | 0% | -49 | 0% |
| Public Admin | 8,496 | 8,627 | 8,782 | 131 | 2% | 286 | 3% |
| Hotel | 306 | 504 | 507 | 198 | 65% | 201 | 40% |
| Agriculture | 69 | 73 | 74 | 4 | 6% | 5 | 7% |
| Transportation and Utilities | 13,532 | 14,027 | 14,336 | 495 | 4% | 804 | 6% |
| Industrial | 7,854 | 7,854 | 7,854 | 0 | 0% | 0 | 0% |
| Fin. Ins. & RE | 2,445 | 2,456 | 2,472 | 11 | 0% | 27 | 1% |
| Services | 17,937 | 18,942 | 19,977 | 1,005 | 6% | 2,040 | 11% |
| Retail | 13,934 | 14,077 | 14,171 | 143 | 1% | 237 | 2% |
| Construction | 1,605 | 1,398 | 1,461 | -207 | -13% | -144 | -10% |
| Total | 76,719 | 78,450 | 80,126 | 1,731 | 2% | 3,407 | 4% |
| **Rest of PUC** | | | | | | | |
| Armed Forces | 4,702 | 4,745 | 4,745 | 43 | 1% | 43 | 1% |
| Public Admin | 19,880 | 20,642 | 21,550 | 762 | 4% | 1,670 | 8% |
| Hotel | 14,992 | 15,135 | 15,180 | 143 | 1% | 188 | 1% |
| Agriculture | 554 | 573 | 579 | 19 | 3% | 25 | 4% |
| Transportation ad Utilities | 23,587 | 27,042 | 29,181 | 3,455 | 15% | 5,594 | 21% |
| Industrial | 16,748 | 16,748 | 16,748 | 0 | 0% | 0 | 0% |
| Fin. Ins. & RE | 22,708 | 22,818 | 22,916 | 110 | 0% | 208 | 1% |
| Services | 134,025 | 145,405 | 154,097 | 11,380 | 8% | 20,072 | 14% |
| Retail | 60,285 | 63,259 | 64,611 | 2,974 | 5% | 4,326 | 7% |
| Construction | 13,884 | 13,526 | 14,581 | -358 | -3% | 697 | 5% |
| Total | 311,365 | 329,893 | 344,188 | 18,528 | 6% | 32,823 | 10% |
| **Primary Urban Center (PUC)** | | | | | | | |
| Armed Forces | 15,243 | 15,237 | 15,237 | -6 | 0% | -6 | 0% |
| Public Admin | 28,376 | 29,269 | 30,332 | 893 | 3% | 1,956 | 7% |
| Hotel | 15,298 | 15,639 | 15,687 | 341 | 2% | 389 | 2% |
| Agriculture | 623 | 646 | 653 | 23 | 4% | 30 | 5% |
| Transportation ad Utilities | 37,119 | 41,069 | 43,517 | 3,950 | 11% | 6,398 | 16% |
| Industrial | 24,602 | 24,602 | 24,602 | 0 | 0% | 0 | 0% |
| Fin. Ins. & RE | 25,153 | 25,274 | 25,388 | 121 | 0% | 235 | 1% |
| Services | 151,962 | 164,347 | 174,074 | 12,385 | 8% | 22,112 | 13% |
| Retail | 74,219 | 77,336 | 78,782 | 3,117 | 4% | 4,563 | 6% |
| Construction | 15,489 | 14,924 | 16,042 | -565 | -4% | 553 | 4% |
| Total | 388,084 | 408,343 | 424,314 | 20,259 | 5% | 36,230 | 9% |

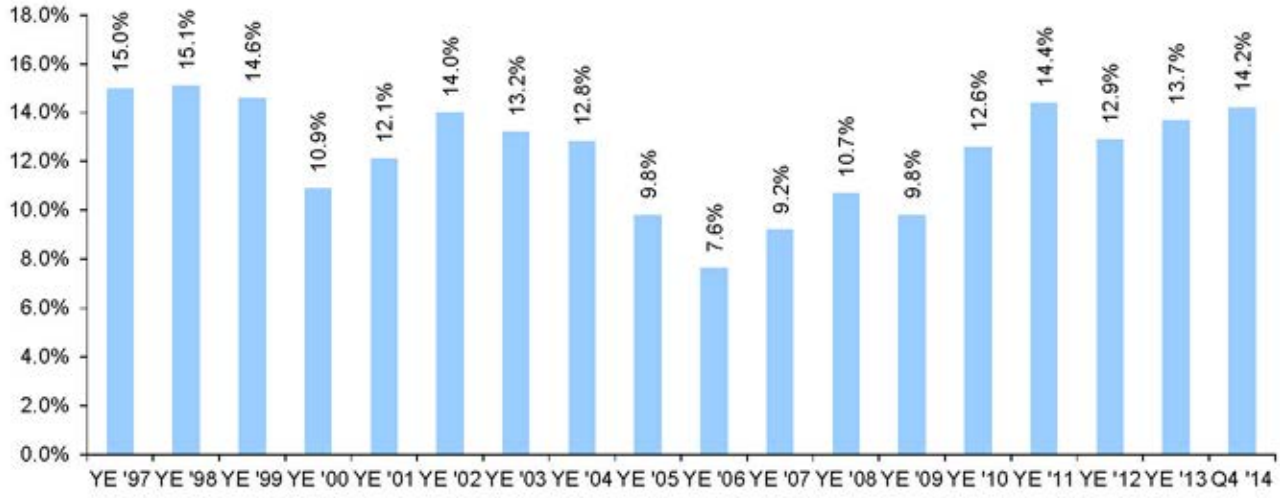
[1] Project area defined as Aiea, Airport, and Aliamanu/Salt Lake/Foster Village sub-areas.

Source: City and County of Honolulu (DPP)

**TABLE 5–12: Class A Office Market Snapshot - Central Business District - Q4 2014**

| | Building SF | Asking FSG Rents Low $/SF/Mo. | Asking FSG Rents High $/SF/Mo. | Operating Expenses $/SF/Mo. | Vacancy |
|---|---|---|---|---|---|
| Alii Place | 316,040 | $2.90 | $2.90 | $1.35 | 32.1% |
| Bishop Place | 462,072 | $2.76 | $2.91 | $1.51 | 11.9% |
| Bishop Square / ASB Tower | 483,455 | $2.62 | $2.77 | $1.37 | 12.4% |
| Bishop Square / Pauahi Tower | 438,596 | $2.75 | $2.85 | $1.40 | 15.8% |
| Central Pacific Plaza | 209,821 | $2.92 | $2.92 | $1.42 | 4.4% |
| City Financial Tower | 180,563 | $2.64 | $2.87 | $1.44 | 11.9% |
| Davies Pacific Center | 354,322 | $3.03 | $3.03 | $1.48 | 20.5% |
| First Hawaiian Center | 379,336 | $2.92 | $2.92 | $1.37 | 3.4% |
| Harbour Court - Office Tower | 186,138 | $2.85 | $3.00 | $1.55 | 11.4% |
| Pacific Guardian Center | 632,136 | $2.77 | $3.17 | $1.42 | 12.0% |
| Pioneer Plaza | 245,000 | $2.00 | $2.69 | $1.39 | 13.8% |
| TOPA Financial Center | 483,776 | $2.92 | $3.05 | $1.50 | 13.2% |
| Waterfront Plaza (Office Portion) | 455,600 | $3.01 | $3.01 | $1.51 | 20.0% |
| | 4,826,855 | | | | |
| | Average | $2.78 | $2.93 | $1.44 | 14.2% |
| | Range | $2.00 | $3.17 | | |

**CBD Class A Office Vacancy Rate**



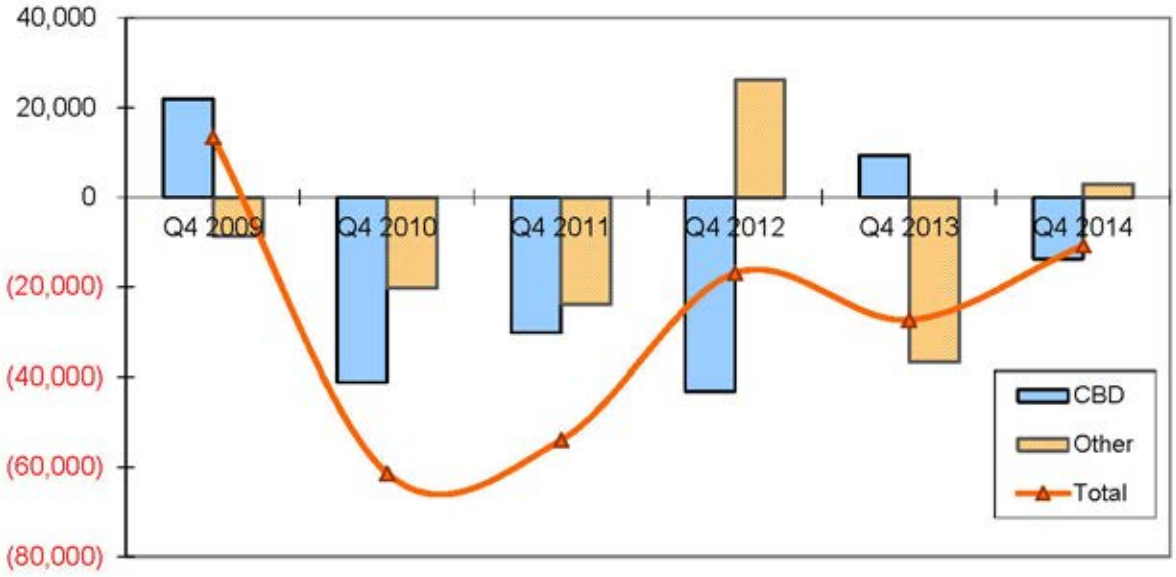

Source: Hawaii Commercial Real Estate, LLC

**TABLE 5–13: Office Market Trends - City and County of Honolulu**

**Vacancy & Lease Rate Trends (Q4 2014)**

| | Total SF | No. Bldg. | Vacancy | Lease Rate | YTD Absorption |
|---|---|---|---|---|---|
| Airport | 575,042 | 4 | 17.7% | $2.21 | (27,211) |
| CBD | 5,727,241 | 24 | 15.3% | $2.83 | (43,924) |
| East Oahu | 257,586 | 6 | 5.4% | $3.82 | (834) |
| Kakaako | 1,338,687 | 6 | 9.8% | $2.88 | (41,873) |
| Kalihi/Iwilei | 569,529 | 4 | 11.5% | $2.61 | (913) |
| Kapiolani | 1,249,565 | 9 | 18.4% | $3.58 | (83,666) |
| King | 78,547 | 2 | 19.4% | $2.52 | 0 |
| Leeward | 603,712 | 8 | 7.3% | $3.95 | 23,054 |
| Waikiki | 782,395 | 7 | 19.0% | $4.25 | 14,628 |
| Windward Oahu | 110,165 | 3 | 6.2% | $3.12 | 3,675 |
| Total | 11,292,469 | 73 | 14.5% | $3.18 | (157,064) |

**Net Absorption Q4 2009 - Q4 2014**




Source: Hawaii Commercial Real Estate, LLC

**TABLE 5–14: Project Area Potential Space Demand**

| | Project Area[1] | | | Project Area | |
|---|---|---|---|---|---|
| | Projected Job Growth[2] | Projected Office Employment | | Office Employment | |
| **Industry** | 2010-2030 | Share[3] | 2010-2030 | Capture[4] | 2010-2030 |
| Armed Forces | -49 | 0% | 0 | 0% | 0 |
| Public Admin | 286 | 80% | 229 | 0% | 0 |
| Hotel | 201 | 7% | 14 | 0% | 0 |
| Agriculture | 5 | 0% | 0 | 0% | 0 |
| Transportation and Utilities | 804 | 10% | 80 | 0% | 0 |
| Industrial | 0 | 10% | 0 | 0% | 0 |
| Fin. Ins. & RE | 27 | 100% | 27 | 0% | 0 |
| Services | 2,040 | 50% | 1,020 | 20% | 204 |
| Retail | 237 | 5% | 12 | 20% | 2 |
| Construction | -144 | 0% | 0 | 0% | 0 |
| **Total** | 3,407 | | 1,382 | | 206 |

| | **2010-2030** |
|---|---|
| Total Office Space Demand (@250SF/Employee)[4] | 51,600 |
| Plus Normal Vacancy (@ 10%)[4] | 5,200 |
| **Station Area Office Space Demand** | 56,800 |

[1] Project area defined as Aiea, Airport, and Aliamanu/Salt Lake/Foster Village sub-areas.

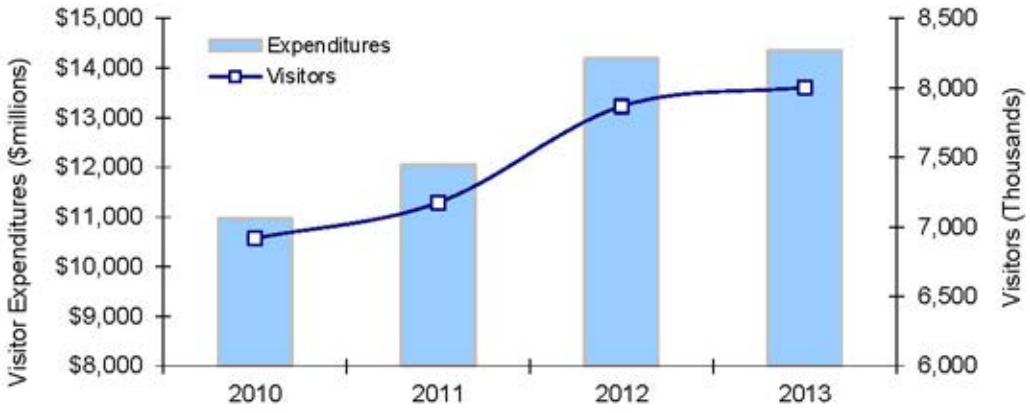
[2] City and County of Honolulu (DPP)

[3] Represents the percentage of employment in each industry that is likely to occupy office space. KMA assumption based on data from the 2008-18 National Employment Matrix by the Bureau of Labor Statistics.

[4] KMA estimate.

**TABLE 5–15: Tourism Industry Trends - City and County of Honolulu**

| | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|
| Total Hawaii Visitors (thousands) | 6,917 | 7,174 | 7,867 | 8,004 |
| Average Days of Stay (Domestic) | 10.1 | 10.1 | 10.1 | 10.1 |
| Average Days of Stay (International) | 7.7 | 7.8 | 7.8 | 7.5 |
| Visitor Expenditures ($millions, current) | $10,967 | $12,047 | $14,193 | $14,352 |
| Average Occupancy Rate | 70.7% | 73.3% | 76.9% | 76.5% |
| Average Room Rate | $175 | $190 | $205 | $229 |




Source: University of Hawaii Economic Reseach Organization (UHERO).