

**Sustainable Community Impact Report  
Honolulu High-Capacity Transit Corridor Project  
Final**

**August 2011**

Prepared for:  
City and County of Honolulu



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# ***Acronyms and Abbreviations***

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City	City and County of Honolulu
HDOT	State of Hawai'i Department of Transportation
LEED-ND	Leadership in Energy and Environmental Design for Neighborhood Development
Project	Honolulu High-Capacity Transit Corridor Project
TOD	transit-oriented development
UH	University of Hawai'i
USGBC	U.S. Green Building Council

## *Leed Project Scorecard Abbreviations and Terms:*

Prereq/	Prerequisite/required precept
Credit	Optional precept

The Honolulu High-Capacity Transit Corridor Project (Project) Sustainable Community Impact Report provides direction on how neighborhoods surrounding rail transit stations could become more sustainable and energy-efficient using good neighborhood design principles. This report identifies precepts established by the U.S. Green Building Council (USGBC) Leadership in Energy and Environmental Design for Neighborhood Development (LEED-ND) program and assesses each transit station area based on the rating system for the following LEED-ND categories (each of which is described in more detail on the following two pages):

- Smart location and linkage
- Neighborhood pattern and design
- Green infrastructure and buildings
- Innovation and design process
- Regional priority

While LEED-ND is generally geared toward entire communities or neighborhoods, it also provides guidance to both the Project and the City and County of Honolulu (City) for how areas around stations could be redeveloped over time to become more sustainable and energy efficient.

This report is one of several documents that have been prepared or will be prepared to analyze the Project's integration with the larger Honolulu community, including the Final Environmental Impact Statement, various permit applications, neighborhood transit-oriented development plans, and documents in support of Preliminary Engineering. This report supports the overall effort by the City to create a successful rail transit system and to integrate it within the larger community. The City recognizes that what happens around stations is as important as the rail project itself.

## **Project Overview**

The Project will provide high-capacity rail rapid transit service in the highly congested east-west transportation corridor between East Kapolei and Ala Moana Center. The Project extends 20 miles from East Kapolei to Ala Moana Center on a primarily elevated guideway with 21 stations. Current land uses around the stations range from agricultural to dense urban. As shown in Figure 1, the narrow, geographically constrained study corridor is where most of Oahu's residents live and work. This corridor is currently served by the island's existing major transportation facilities.



**Figure 1: Study corridor and Alignment**

## LEED-ND Overview

LEED is an internationally recognized green building certification program developed by the USGBC. It is intended to improve quality of life by protecting open space, revitalizing communities, promoting affordable housing, and providing more transportation choices. LEED-ND differs from other LEED rating systems in that the primary focus is on location and land use while looking beyond individual buildings. The LEED-ND rating system integrates the principles of smart growth, new urbanism, and green building. It is intended to encourage sustainable development within and near existing communities and public transportation infrastructure.

There are five basic LEED-ND categories used to evaluate neighborhood development:

### Category 1—Smart Location and Linkage

This precept focuses on a community's ability to reduce sprawl and conserve resources; preserve imperiled species; conserve and preserve agriculture land, wetlands, and waterbodies; and avoid floodplains. Additional criteria include redeveloping brownfields; reducing auto dependence and encouraging sustainable modes of transportation; improving home, job, and school proximity to reduce auto trips; and protecting, conserving, and restoring natural habitat.

Some of the location features for each station area can be measured by proximity to existing development, goods and services, and existing infrastructure. Enhancements provided by the station areas may include preserving sensitive lands and providing bicycle amenities.

### Category 2—Neighborhood Pattern and Design

This precept encourages physical connectedness of communities and land conservation that promotes livable and walkable neighborhoods, as well as transportation efficiency. Additional criteria include compact development with a diversity of housing types and uses (i.e., mixed use), including affordability. Transportation-related items include dense

street networks (with small connected blocks rather than cul-de-sacs) that use transportation-demand management and traffic-calming processes while reducing parking footprints. Also considered are improving accessibility to public spaces and the surrounding vicinity, incorporating green space and other community aesthetic aspects, and supporting local food production with events, such as farmers markets or community gardens.

### **Category 3—Green Infrastructure and Buildings**

This precept promotes the design and construction of buildings and infrastructure that reduce energy and water use while promoting more sustainable use of materials, reuse of existing and historic structures, and other sustainable best practices. Construction activity pollution prevention is also included as a prerequisite requirement. Measures to be addressed include how pollution from construction activities can be reduced by controlling soil erosion, waterway sedimentation, and airborne dust through an erosion and sedimentation control plan, as well as the use of best management practices. All stations in the corridor will use renewable energy resources (the only definitively known variable in the Green Infrastructure and Buildings category at present), and therefore score one (1) point on the LEED Project Scorecard under Category 3. Other variables in each station's Green Infrastructure and Buildings overall score (including building energy efficiency, water efficiency, water-efficient landscaping, minimized site disturbance in design and construction, stormwater management, infrastructure energy efficiency, wastewater management, and light pollution reduction) are predicated on future station area development, which can only be speculated at present, and therefore given a default score of one (1) where applicable. As the exact nature of future station area development becomes better known, Green Infrastructure and Buildings scores will change for each station.

### **Category 4—Innovation and Design Process**

This precept addresses sustainable design and construction issues and measures that are not covered under the preceding three categories. It includes regional bonus credits, which acknowledge the importance of local conditions in determining the best environmental design and construction practices as well as social and health practices.

### **Category 5—Regional Priority**

This precept addresses geographically special environmental issues identified by local regional councils, chapters, and representatives of various organizations. The credit for this category is awarded during the evaluation phase once a project has been submitted for review.

## **Station Area Reports**

The reports on the following pages describe results of a preliminary assessment of sustainability in station areas using LEED-ND Categories 1, 2, and 3, as described above. Evaluation using Categories 4 and 5 is deferred until further information is available for projects that would be developed in station areas. Each report includes:

1. Station Area Map (Aerial Photo)
2. Station Area Description and Qualitative Assessment
3. LEED Scorecard (Quantitative Assessment)

The report includes a description of development in the station area now and what could be expected in the future. This is followed by a short qualitative evaluation of how the area could satisfy LEED-ND criteria. This evaluation is followed by the LEED-ND quantitative assessment (scorecard) sheets that have been completed based on what is known today.

## Summary and Conclusions

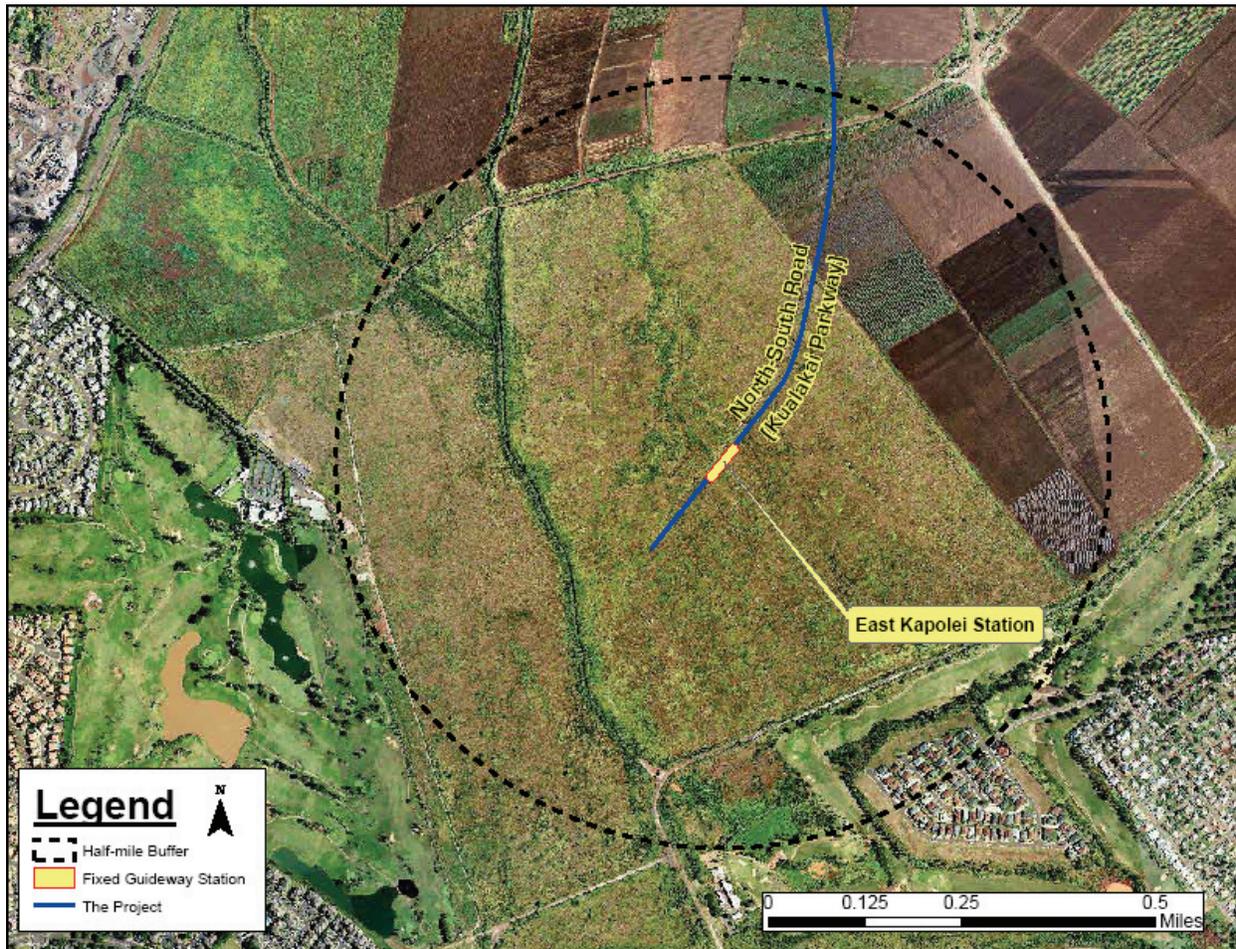
LEED-ND provides guidance on how neighborhoods can be more sustainable and a method to assess neighborhood-level sustainability using defined criteria. While implementation of the Honolulu Rail Project supports LEED-ND goals and overall sustainability, it is not applicable to a LEED assessment, and many of the LEED-ND categories do not apply specifically to a rail transit project. However, given the Project's expected benefits, it will allow communities that develop near the station to seek LEED-ND recognition. For example, future development near stations would automatically be awarded the maximum possible points for two LEED-ND categories: (1) locations with reduced automobile dependence and (2) transit facilities.

The results of the analysis indicate that many of the station areas would score quite well based on LEED-ND criteria. Even with Category 3 criteria largely unknown, 12 out of 21 station areas are estimated to meet the minimum score for LEED-ND Certified (40 points). Three station areas are estimated to meet LEED-ND Silver (50-59 points), while five are estimated to meet LEED-ND Gold (60-79 points). The highest scoring station areas tend to be near downtown or in existing higher density neighborhoods that have a mix of land uses, and a grid pattern of smaller streets allowing easier connections to the station. Areas that score less well tend to have fewer, busier streets with more auto-oriented, lower density land uses and a more difficult walking environment due to natural or man-made barriers.

Several station areas located in the West O'ahu/Farrington Highway and Airport Segments show good potential for meeting the requirements for LEED-ND certification (if pursued) in the future. These include East Kapolei, UH West O'ahu and Ho'opili stations, which although currently surrounded by wide open greenfields, are ripe for newly built green infrastructure/buildings and compact mixed-use development that could boost station area LEED-ND scores; West Loch, which has a critical mass of existing single and multi-family housing, and surface parking lots along Farrington Highway that may present an opportunity for compact, transit-oriented development (addressed in the December 2008 *Waipahu Neighborhood Transit-Oriented Development Plan*); Waipahu Transit Center, which although auto-oriented at present, also has a critical mass of existing housing (whose connections bike/ped connections to the station are worth improving) and surface parking lots that could be retrofitted with transit-supportive infill development; and Lagoon Drive, which is relatively dense with good sidewalks, but with development potential that is limited to low-rise industrial and commercial because of its proximity to the airport (improving bike/ped connections between the station and surrounding businesses, and incorporating Green building design and construction into new commercial and industrial buildings is key to achieving LEED-ND status at Lagoon Drive).

# Station Area Analysis

## East Kapolei Station



### Introduction

The East Kapolei Station area is located in a part of 'Ewa that is currently agricultural. However, nearby neighborhoods have already undergone major changes and are now predominantly suburban with a mix of residential and commercial development. The *'Ewa Development Plan* calls for this area to be developed, and the future University of Hawai'i (UH) West O'ahu campus will be located nearby.

### LEED-ND Assessment

#### ***Smart Location and Linkage (Category 1)***

Although the area surrounding the East Kapolei Station has been historically agricultural, it is changing with new housing developments and a community center (Kroc Center) being built nearby. Future plans call for mixed-use commercial development between the station and the new UH West O'ahu campus. The excellent transit service to be provided by the Project, combined with new walking/ biking trails and sidewalks being built as part of new development, will make this area very accessible. The degree to which the community will be walkable, connected, and open will depend on the location and design of future development and the roadway network.

## ***Neighborhood Pattern and Design (Category 2)***

New residential and commercial developments planned nearby will provide opportunities for walking to the station. The Kroc Center, now under construction adjacent to the station, will include recreation and performing arts facilities as well as job opportunities for the community. However, preliminary plans by the Department of Hawaiian Home Lands for proposed residential developments indicate low densities consisting of single-family housing and low-rise apartments. These densities will tend to limit the number of people living within walking distance of the station. Developers in the East Kapolei Station area should be encouraged to increase the density of proposed housing and to incorporate a mix of uses.

This station will include a major surface park-and-ride facility that could potentially create a barrier for pedestrians between transit station entrances and nearby land uses. The park-and-ride facility would be best located one block mauka of the station, as part of an urban street grid. This placement would allow developments and activities to be closer to the station and establish an urban grid pattern and pedestrian-scaled block size. Vehicular connectivity in the station area could also be maintained.

A large portion of riders using the East Kapolei Station will arrive by local bus routes. It will be important for sidewalks in the vicinity of the station to have adequate capacity to accommodate transferring passengers, particularly on the mauka side of North-South Road where rail passengers will transfer to buses.

North-South Road will have high vehicle volumes and speeds, which could result in an unfriendly pedestrian environment if steps are not taken to calm traffic or protect pedestrians from vehicular movements. Measures that calm traffic and improve safety for bicyclists and pedestrians should be explored in the area near the station. In addition to a potential elevated pedestrian walkway over North-South Road, the State of Hawai'i Department of Transportation (HDOT) and the City should work together to ensure that streets, sidewalks, and crosswalks are safe and efficient for all pedestrians.

## ***Green Infrastructure and Building (Category 3)***

Many LEED-ND criteria in this category are tied to future buildings and developments that are unknown at this time. The rail station will contain many sustainable elements, such as recycled materials and natural ventilation and lighting. For any new developments in the station area, the City should encourage the use of energy-efficient building techniques and resources if LEED-ND is pursued.

## **Summary**

The East Kapolei Station area could meet some criteria under the Category 1 and Category 2 precepts of LEED-ND. It has an estimated total LEED-ND score of 38, which is below the minimum score of 40 points for LEED-ND Certified. However, the final LEED-ND score, if LEED-ND is pursued, will ultimately depend on the location, design, and density of future developments near the station. Future development should be located and designed in a manner that will encourage use by pedestrians and bicyclists. Small, connected blocks, streets rather than cul-de-sacs, and a mix of uses located within one-half mile of station entrances should all be encouraged. While North-South Road itself presents a barrier to pedestrians and bicyclists, the parallel greenway (which includes a bicycle path) creates an opportunity for recreation and access. Green building design and materials should be incorporated in future construction. The LEED

scorecard on the next page provides a preliminary quantitative assessment based on what is known today.

East Kapolei Station Area LEED Project Scorecard

Yes	?	No		
14			<b>Smart Location and Linkage</b> 27 Points Possible	
Y			Prereq 1	<b>Smart Location</b> Required
Y			Prereq 2	<b>Imperiled Species and Ecological Communities</b> Required
Y			Prereq 3	<b>Wetland and Water Body Conservation</b> Required
Y			Prereq 4	<b>Agricultural Land Conservation</b> Required
Y			Prereq 5	<b>Floodplain Avoidance</b> Required
2			Credit 1	<b>Preferred Locations</b> 10
			Credit 2	<b>Brownfield Redevelopment</b> 2
7			Credit 3	<b>Locations with Reduced Automobile Dependence</b> 7
1			Credit 4	<b>Bicycle Network and Storage</b> 1
1			Credit 5	<b>Housing and Jobs Proximity</b> 3
			Credit 6	<b>Steep Slope Protection</b> 1
1			Credit 7	<b>Site Design for Habitat or Wetland and Water Body Conservation</b> 1
1			Credit 8	<b>Restoration of Habitat or Wetlands and Water Bodies</b> 1
1			Credit 9	<b>Long-Term Conservation Management of Habitat or Wetlands and Water Bodie</b> 1
23			<b>Neighborhood Pattern and Design</b> 44 Points Possible	
Y			Prereq 1	<b>Walkable Streets</b> Required
Y			Prereq 2	<b>Compact Development</b> Required
Y			Prereq 3	<b>Connected and Open Community</b> Required
7			Credit 1	<b>Walkable Streets</b> 12
2			Credit 2	<b>Compact Development</b> 6
2			Credit 3	<b>Mixed-Use Neighborhood Centers</b> 4
3			Credit 4	<b>Mixed-Income Diverse Communities</b> 7
			Credit 5	<b>Reduced Parking Footprint</b> 1
1			Credit 6	<b>Street Network</b> 2
1			Credit 7	<b>Transit Facilities</b> 1
1			Credit 8	<b>Transportation Demand Management</b> 2
1			Credit 9	<b>Access to Civic and Public Spaces</b> 1
1			Credit 10	<b>Access to Recreation Facilities</b> 1
1			Credit 11	<b>Visitability and Universal Design</b> 1
1			Credit 12	<b>Community Outreach and Involvement</b> 2
1			Credit 13	<b>Local Food Production</b> 1
1			Credit 14	<b>Tree-Lined and Shaded Streets</b> 2
1			Credit 15	<b>Neighborhood Schools</b> 1
1	8		<b>Green Infrastructure and Buildings</b> 29 Points Possible	
Y			Prereq 1	<b>Certified Green Building</b> Required
Y			Prereq 2	<b>Minimum Building Energy Efficiency</b> Required
Y			Prereq 3	<b>Minimum Building Water Efficiency</b> Required
Y			Prereq 4	<b>Construction Activity Pollution Prevention</b> Required
			Credit 1	<b>Certified Green Buildings</b> 5
			Credit 2	<b>Building Energy Efficiency</b> 2
			Credit 3	<b>Building Water Efficiency</b> 1
			Credit 4	<b>Water-Efficient Landscaping</b> 1
			Credit 5	<b>Existing Building Use</b> 1
			Credit 6	<b>Historic Resource Preservation and Adaptive Reuse</b> 1
			Credit 7	<b>Minimized Site Disturbance in Design and Construction</b> 1
			Credit 8	<b>Stormwater Management</b> 4
			Credit 9	<b>Heat Island Reduction</b> 1
			Credit 10	<b>Solar Orientation</b> 1
1			Credit 11	<b>On-Site Renewable Energy Sources</b> 3
			Credit 12	<b>District Heating and Cooling</b> 2
			Credit 13	<b>Infrastructure Energy Efficiency</b> 1
			Credit 14	<b>Wastewater Management</b> 2
			Credit 15	<b>Recycled Content in Infrastructure</b> 1
			Credit 16	<b>Solid Waste Management Infrastructure</b> 1
			Credit 17	<b>Light Pollution Reduction</b> 1
			<b>Innovation and Design Process</b> 6 Points	
			Credit 1.1	<b>Innovation and Exemplary Performance: Provide Specific Title</b> 1
			Credit 1.2	<b>Innovation and Exemplary Performance: Provide Specific Title</b> 1
			Credit 1.3	<b>Innovation and Exemplary Performance: Provide Specific Title</b> 1
			Credit 1.4	<b>Innovation and Exemplary Performance: Provide Specific Title</b> 1
			Credit 1.5	<b>Innovation and Exemplary Performance: Provide Specific Title</b> 1
			Credit 2	<b>LEED® Accredited Professional</b> 1
			<b>Regional Priority Credit</b> 4 Points	
			Credit 1.1	<b>Regional Priority Credit: Region Defined</b> 1
			Credit 1.2	<b>Regional Priority Credit: Region Defined</b> 1
			Credit 1.3	<b>Regional Priority Credit: Region Defined</b> 1
			Credit 1.4	<b>Regional Priority Credit: Region Defined</b> 1
38	8		<b>Project Totals (Certification estimates)</b> 110 Points	
Certified: 40-49 points, Silver: 50-59 points, Gold: 60-79 points, Platinum: 80+ points				

## UH West O'ahu Station



### Introduction

The UH West O'ahu Station area is primarily agricultural. However, nearby neighborhoods have undergone major land use development. In addition, this area is expected to continue to change with construction of the UH West O'ahu campus, which will be within one-half mile of the station. A mix of residential and commercial development is planned around the station.

### LEED-ND Assessment

#### **Smart Location and Linkage (Category 1)**

Access to and within the station area will include several travel modes, including rail transit, bus transit, walk, bicycle, and general auto traffic. There could be large pedestrian volumes on Campus Road near the station. These pedestrians include patrons transferring from buses and riders using the park-and-ride facility. Design should consider potential needs relating to these pedestrian volumes.

A future walking and biking trail will be built near the station, and bicycle parking facilities will be available at the rail station, the UH West O'ahu campus, and other locations. Anticipated mixed-use development will provide a balance of housing and jobs and will help reduce dependence on the automobile.

The UH West O'ahu campus will be linked to the surrounding community with generous sidewalks and pedestrian amenities. However, North-South Road, a busy six-lane

highway directly adjacent to the station area, will separate some commercial development from the campus.

### **Neighborhood Pattern and Design (Category 2)**

The area is planned to be pedestrian-friendly, with wide sidewalks, connected streets, bike and walking paths, and other amenities. The planned mixed-use development will include a diversity of housing types and options for either owning or renting. However, the degree to which the community will be walkable, compact, connected, and open will depend on the location, density and design of future development and the supporting roadway network.

North-South Road will have high vehicle volumes and speeds, which could result in an unfriendly pedestrian environment. Additionally, the station will include two large surface park-and-ride facilities that could potentially create barriers for pedestrians walking between transit services and nearby developments. Steps should be taken to calm traffic and protect pedestrians from vehicular movements. Measures that calm traffic and improve safety for bicyclists and pedestrians should be explored in the design of developments and road facilities. The City, HDOT, and developers should work together to ensure that streets, sidewalks, and crosswalks are safe and efficient for all pedestrians, including those using schools that will serve the area.

### **Green Infrastructure and Building (Category 3)**

Many LEED-ND criteria in this category are tied to future buildings and developments that are unknown at this time. The rail station will contain many sustainable elements, such as recycled materials and natural ventilation and lighting. The City should encourage the use of energy-efficient building techniques and resources if LEED-ND is pursued.

### **Summary**

The UH West O'ahu Station area could easily meet many criteria under the Category 1 and Category 2 precepts of the LEED-ND. It has an estimated total LEED-ND score of 42, which is above the minimum score for LEED-ND Certified. Although it is currently greenfields, the area is designated for urban growth and will have excellent transit access. Future development should be designed to encourage pedestrians and bicyclists through the use of small, connected blocks and a mix of uses in close proximity to the station. While North-South Road represents a potential barrier to pedestrians and bicyclists, enhanced connectivity between future residential, commercial, and university communities will create opportunities for Universal Design and Smart Growth. Green building design and materials should be incorporated in future construction. The LEED scorecard on the next page provides a preliminary quantitative assessment based on what is known today.

Yes ? No **15** **1** **Smart Location and Linkage** 27 Points Possible

Y			Prereq 1	<b>Smart Location</b>	Required
Y			Prereq 2	<b>Imperiled Species and Ecological Communities</b>	Required
Y			Prereq 3	<b>Wetland and Water Body Conservation</b>	Required
Y			Prereq 4	<b>Agricultural Land Conservation</b>	Required
Y			Prereq 5	<b>Floodplain Avoidance</b>	Required
2			Credit 1	<b>Preferred Locations</b>	10
			Credit 2	<b>Brownfield Redevelopment</b>	2
7			Credit 3	<b>Locations with Reduced Automobile Dependence</b>	7
1			Credit 4	<b>Bicycle Network and Storage</b>	1
3			Credit 5	<b>Housing and Jobs Proximity</b>	3
			Credit 6	<b>Steep Slope Protection</b>	1
1			Credit 7	<b>Site Design for Habitat or Wetland and Water Body Conservation</b>	1
1			Credit 8	<b>Restoration of Habitat or Wetlands and Water Bodies</b>	1
	1		Credit 9	<b>Long-Term Conservation Management of Habitat or Wetlands and Water Bodie</b>	1

Yes ? No **26** **1** **Neighborhood Pattern and Design** 44 Points Possible

Y			Prereq 1	<b>Walkable Streets</b>	Required
Y			Prereq 2	<b>Compact Development</b>	Required
Y			Prereq 3	<b>Connected and Open Community</b>	Required
7			Credit 1	<b>Walkable Streets</b>	12
4			Credit 2	<b>Compact Development</b>	6
3			Credit 3	<b>Mixed-Use Neighborhood Centers</b>	4
3			Credit 4	<b>Mixed-Income Diverse Communities</b>	7
			Credit 5	<b>Reduced Parking Footprint</b>	1
1			Credit 6	<b>Street Network</b>	2
1			Credit 7	<b>Transit Facilities</b>	1
1			Credit 8	<b>Transportation Demand Management</b>	2
1			Credit 9	<b>Access to Civic and Public Spaces</b>	1
1			Credit 10	<b>Access to Recreation Facilities</b>	1
1			Credit 11	<b>Visitability and Universal Design</b>	1
1			Credit 12	<b>Community Outreach and Involvement</b>	2
	1		Credit 13	<b>Local Food Production</b>	1
1			Credit 14	<b>Tree-Lined and Shaded Streets</b>	2
1			Credit 15	<b>Neighborhood Schools</b>	1

Yes ? No **1** **8** **Green Infrastructure and Buildings** 29 Points Possible

Y			Prereq 1	<b>Certified Green Building</b>	Required
Y			Prereq 2	<b>Minimum Building Energy Efficiency</b>	Required
Y			Prereq 3	<b>Minimum Building Water Efficiency</b>	Required
Y			Prereq 4	<b>Construction Activity Pollution Prevention</b>	Required
			Credit 1	<b>Certified Green Buildings</b>	5
	1		Credit 2	<b>Building Energy Efficiency</b>	2
	1		Credit 3	<b>Building Water Efficiency</b>	1
	1		Credit 4	<b>Water-Efficient Landscaping</b>	1
			Credit 5	<b>Existing Building Use</b>	1
	1		Credit 6	<b>Historic Resource Preservation and Adaptive Reuse</b>	1
	1		Credit 7	<b>Minimized Site Disturbance in Design and Construction</b>	1
	1		Credit 8	<b>Stormwater Management</b>	4
			Credit 9	<b>Heat Island Reduction</b>	1
			Credit 10	<b>Solar Orientation</b>	1
1			Credit 11	<b>On-Site Renewable Energy Sources</b>	3
	1		Credit 12	<b>District Heating and Cooling</b>	2
	1		Credit 13	<b>Infrastructure Energy Efficiency</b>	1
	1		Credit 14	<b>Wastewater Management</b>	2
			Credit 15	<b>Recycled Content in Infrastructure</b>	1
			Credit 16	<b>Solid Waste Management Infrastructure</b>	1
	1		Credit 17	<b>Light Pollution Reduction</b>	1

Yes ? No **1** **1** **Innovation and Design Process** 6 Points

			Credit 1.1	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.2	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.3	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.4	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.5	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 2	<b>LEED® Accredited Professional</b>	1

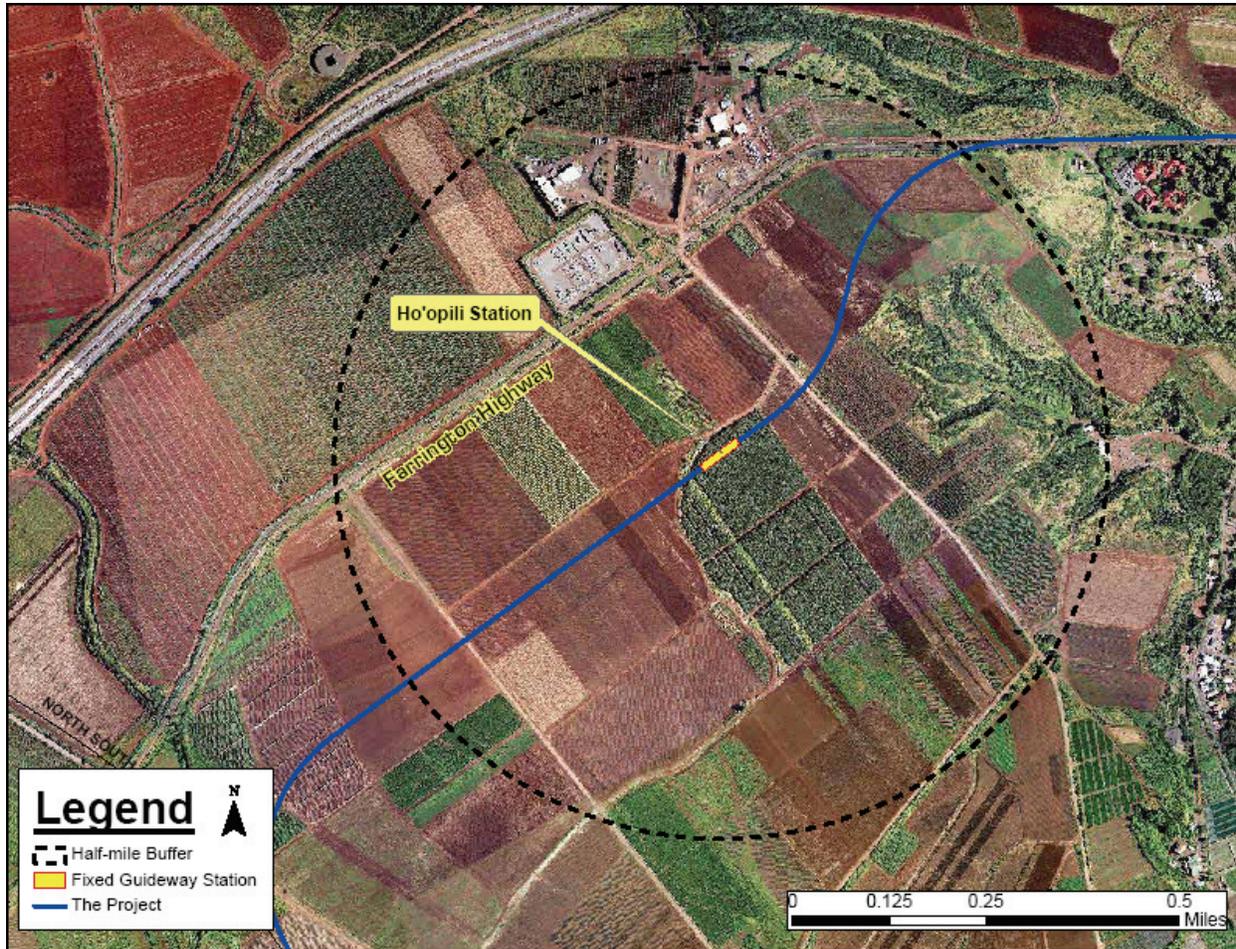
Yes ? No **1** **1** **Regional Priority Credit** 4 Points

			Credit 1.1	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.2	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.3	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.4	<b>Regional Priority Credit: Region Defined</b>	1

Yes ? No **42** **10** **Project Totals (Certification estimates)** 110 Points

Certified: 40-49 points, Silver: 50-59 points, Gold: 60-79 points, Platinum: 80+ points

## Ho'opili Station



### Introduction

Ho'opili Station will be located in an area that is currently agricultural. However, this part of 'Ewa is planned to include new mixed-use residential, commercial, and educational uses, with development proposed by DR Horton, the Department of Hawaiian Home Lands, and UH. The area around Ho'opili Station, in particular, is planned to be developed with a focus on higher densities and mixed uses nearest the station.

### LEED-ND Assessment

#### ***Smart Linkages and Location (Category 1)***

Although the area is currently agricultural and has not been previously developed, it has been identified as part of a larger “second city” of Kapolei with more intensive development. This type of development is being discouraged in more rural parts of O'ahu. Planned development will provide a wide variety of amenities, such as mixed uses, natural open spaces, parks, bike paths, and schools, as well as retail, business, and services. Convenient bicycle connections, such as the Pearl Harbor Historic Trail, will be integrated with Ho'opili's street and sidewalk design. This integration will encourage walk and bike travel, which will be the dominant mode of access to the Ho'opili Station. While new developments will generate auto travel, mixed-land uses in the station area and high-quality rail transit will encourage alternative modes.

New pedestrian linkages will promote non-motorized connections between communities, as well as compact and mixed-use developments within the rail station area. As discussed in the draft East Kapolei Neighborhood TOD Plan, the station area environment will be supported by wider-than-normal sidewalks, safe and convenient street crossings, and comfortable pedestrian facilities connecting adjacent communities.

### ***Neighborhood Pattern and Design (Category 2)***

Planned mixed-use developments in the Ho'opili Station area include a diversity of housing types as well as a mix of economic options involving ownership and rental units. Community services as well as open space will also be encouraged in the community. Pedestrian access and connections will be particularly important given the extent of riders who will be walking or biking to the rail station in this potentially compact and connected community. Signage will be provided in close proximity to the station area to guide pedestrians and bicyclists to transit facilities.

Community outreach efforts in the Ho'opili Station area will occur through workshops and information sessions. These activities will be coordinated with public and private partners to identify recommended transit-supportive developments and transportation facilities. Given the relatively small number of owners and developers involving large tracts of land, there will be a greater likelihood of achieving successful coordination results.

### ***Green Infrastructure and Building (Category 3)***

Many LEED-ND criteria in this category are tied to future buildings and developments that are unknown at this time. The rail station will contain many sustainable elements, such as recycled materials and natural ventilation and lighting. For future development in the station area, the City should encourage the use of energy-efficient building techniques and resources if LEED-ND is pursued.

### **Summary**

Based on current plans, the Ho'opili Station area could meet many criteria under the Category 1 and Category 2 precepts of LEED-ND. It has an estimated total LEED-ND score of 45, which is above the minimum score of 40 points for LEED-ND Certified. Future development should be designed to encourage pedestrians and bicyclists through small, connected blocks and a mix of uses close to the station. Connectivity between future residential, commercial, and university communities creates opportunities for Universal Design and Smart Growth. Green building design and materials should be incorporated in future construction. The LEED scorecard on the next page provides a preliminary quantitative assessment based on what is known today.

Hoopili Station Area LEED Project Scorecard

Yes	?	No		
16			<b>Smart Location and Linkage</b>	27 Points Possible
Y			Prereq 1	<b>Smart Location</b> Required
Y			Prereq 2	<b>Imperiled Species and Ecological Communities</b> Required
Y			Prereq 3	<b>Wetland and Water Body Conservation</b> Required
Y			Prereq 4	<b>Agricultural Land Conservation</b> Required
Y			Prereq 5	<b>Floodplain Avoidance</b> Required
2			Credit 1	<b>Preferred Locations</b> 10
			Credit 2	<b>Brownfield Redevelopment</b> 2
7			Credit 3	<b>Locations with Reduced Automobile Dependence</b> 7
1			Credit 4	<b>Bicycle Network and Storage</b> 1
3			Credit 5	<b>Housing and Jobs Proximity</b> 3
			Credit 6	<b>Steep Slope Protection</b> 1
1			Credit 7	<b>Site Design for Habitat or Wetland and Water Body Conservation</b> 1
1			Credit 8	<b>Restoration of Habitat or Wetlands and Water Bodies</b> 1
1			Credit 9	<b>Long-Term Conservation Management of Habitat or Wetlands and Water Bodie</b> 1
27			<b>Neighborhood Pattern and Design</b>	44 Points Possible
Y			Prereq 1	<b>Walkable Streets</b> Required
Y			Prereq 2	<b>Compact Development</b> Required
Y			Prereq 3	<b>Connected and Open Community</b> Required
8			Credit 1	<b>Walkable Streets</b> 12
4			Credit 2	<b>Compact Development</b> 6
3			Credit 3	<b>Mixed-Use Neighborhood Centers</b> 4
3			Credit 4	<b>Mixed-Income Diverse Communities</b> 7
1			Credit 5	<b>Reduced Parking Footprint</b> 1
1			Credit 6	<b>Street Network</b> 2
1			Credit 7	<b>Transit Facilities</b> 1
			Credit 8	<b>Transportation Demand Management</b> 2
1			Credit 9	<b>Access to Civic and Public Spaces</b> 1
1			Credit 10	<b>Access to Recreation Facilities</b> 1
1			Credit 11	<b>Visitability and Universal Design</b> 1
1			Credit 12	<b>Community Outreach and Involvement</b> 2
1			Credit 13	<b>Local Food Production</b> 1
1			Credit 14	<b>Tree-Lined and Shaded Streets</b> 2
1			Credit 15	<b>Neighborhood Schools</b> 1
1 8			<b>Green Infrastructure and Buildings</b>	29 Points Possible
Y			Prereq 1	<b>Certified Green Building</b> Required
Y			Prereq 2	<b>Minimum Building Energy Efficiency</b> Required
Y			Prereq 3	<b>Minimum Building Water Efficiency</b> Required
Y			Prereq 4	<b>Construction Activity Pollution Prevention</b> Required
			Credit 1	<b>Certified Green Buildings</b> 5
			Credit 2	<b>Building Energy Efficiency</b> 2
			Credit 3	<b>Building Water Efficiency</b> 1
			Credit 4	<b>Water-Efficient Landscaping</b> 1
			Credit 5	<b>Existing Building Use</b> 1
			Credit 6	<b>Historic Resource Preservation and Adaptive Reuse</b> 1
			Credit 7	<b>Minimized Site Disturbance in Design and Construction</b> 1
			Credit 8	<b>Stormwater Management</b> 4
			Credit 9	<b>Heat Island Reduction</b> 1
			Credit 10	<b>Solar Orientation</b> 1
1			Credit 11	<b>On-Site Renewable Energy Sources</b> 3
			Credit 12	<b>District Heating and Cooling</b> 2
			Credit 13	<b>Infrastructure Energy Efficiency</b> 1
			Credit 14	<b>Wastewater Management</b> 2
			Credit 15	<b>Recycled Content in Infrastructure</b> 1
			Credit 16	<b>Solid Waste Management Infrastructure</b> 1
			Credit 17	<b>Light Pollution Reduction</b> 1
1			<b>Innovation and Design Process</b>	6 Points
			Credit 1.1	<b>Innovation and Exemplary Performance: Provide Specific Title</b> 1
			Credit 1.2	<b>Innovation and Exemplary Performance: Provide Specific Title</b> 1
			Credit 1.3	<b>Innovation and Exemplary Performance: Provide Specific Title</b> 1
			Credit 1.4	<b>Innovation and Exemplary Performance: Provide Specific Title</b> 1
			Credit 1.5	<b>Innovation and Exemplary Performance: Provide Specific Title</b> 1
1			Credit 2	<b>LEED® Accredited Professional</b> 1
			<b>Regional Priority Credit</b>	4 Points
			Credit 1.1	<b>Regional Priority Credit: Region Defined</b> 1
			Credit 1.2	<b>Regional Priority Credit: Region Defined</b> 1
			Credit 1.3	<b>Regional Priority Credit: Region Defined</b> 1
			Credit 1.4	<b>Regional Priority Credit: Region Defined</b> 1
45 8			<b>Project Totals (Certification estimates)</b>	110 Points
Certified: 40-49 points, Silver: 50-59 points, Gold: 60-79 points, Platinum: 80+ points				

## West Loch Station



### Introduction

West Loch Station will be located on Farrington Highway, a wide, busy roadway characterized by strip commercial development and large surface parking lots. Residential areas are primarily mauka of Farrington Highway and consist of low-rise apartment buildings and single-family residences. The makai side of Farrington Highway is mostly light industrial. The area is an existing urban/suburban neighborhood, and most land around the station has been developed. The *Waipahu Neighborhood TOD Plan* was created in anticipation of the planned West Loch Station.

### LEED-ND Assessment

#### ***Smart Location and Linkage (Category 1)***

The TOD Planning process identified a future vision for this area that includes infill mixed-use development along Farrington Highway and multi-family housing throughout the station area. A new “main street” would be created along Leo’ole Street, connecting West Loch Station and the Pearl Harbor Historic Trail with mixed-use development in a walkable environment.

West Loch Station will provide high-quality rail transit service to Waipahu. Improved pedestrian connections with new development in the station area will provide a walkable environment over time. Future mixed-use development near this station, as envisioned in the *Waipahu Neighborhood TOD Plan*, would provide further incentives for enhanced

pedestrian connections within the station area. With expected high volumes of bus-train transfer demand, it will be important to identify convenient and safe walk connections between rail station entrances and nearby bus stops.

### ***Neighborhood Pattern and Design (Category 2)***

The West Loch area has poor to moderate walkability. Farrington Highway is busy, wide, and difficult to cross, while nearby side streets tend to be narrower and somewhat less busy. However, most streets have sidewalks, though long blocks and large parcels currently make pedestrian access difficult. Comfortable pedestrian crossings on Farrington Highway would provide safer and more convenient connections between nearby developments and the station. Most existing retail and commercial land uses tend to be auto-oriented, with front doors set back behind parking lots.

The TOD Plan calls for mixed-use development, housing, and additional parks and active open spaces within one-half mile of the station area.

Pedestrian access and connections should be given priority in any future developments. At a minimum, it will be important to provide comfortable, direct paths that connect the nearby Waipahu Transit Center Station with rail station entrances. Design of these paths should avoid conflicts with vehicle movements, such as buses and/or kiss-and-ride auto traffic. Additionally, measures to calm traffic and improve safety for bicyclists and pedestrians should be explored in designing future street improvements in the station area.

### ***Green Infrastructure and Building (Category 3)***

Existing infrastructure should be reused and restored in ways to encourage the implementation of sustainable principles. The rail station will contain many sustainable elements, such as recycled materials and natural ventilation and lighting. The City should encourage the use of energy-efficient building techniques and resources if LEED-ND is pursued.

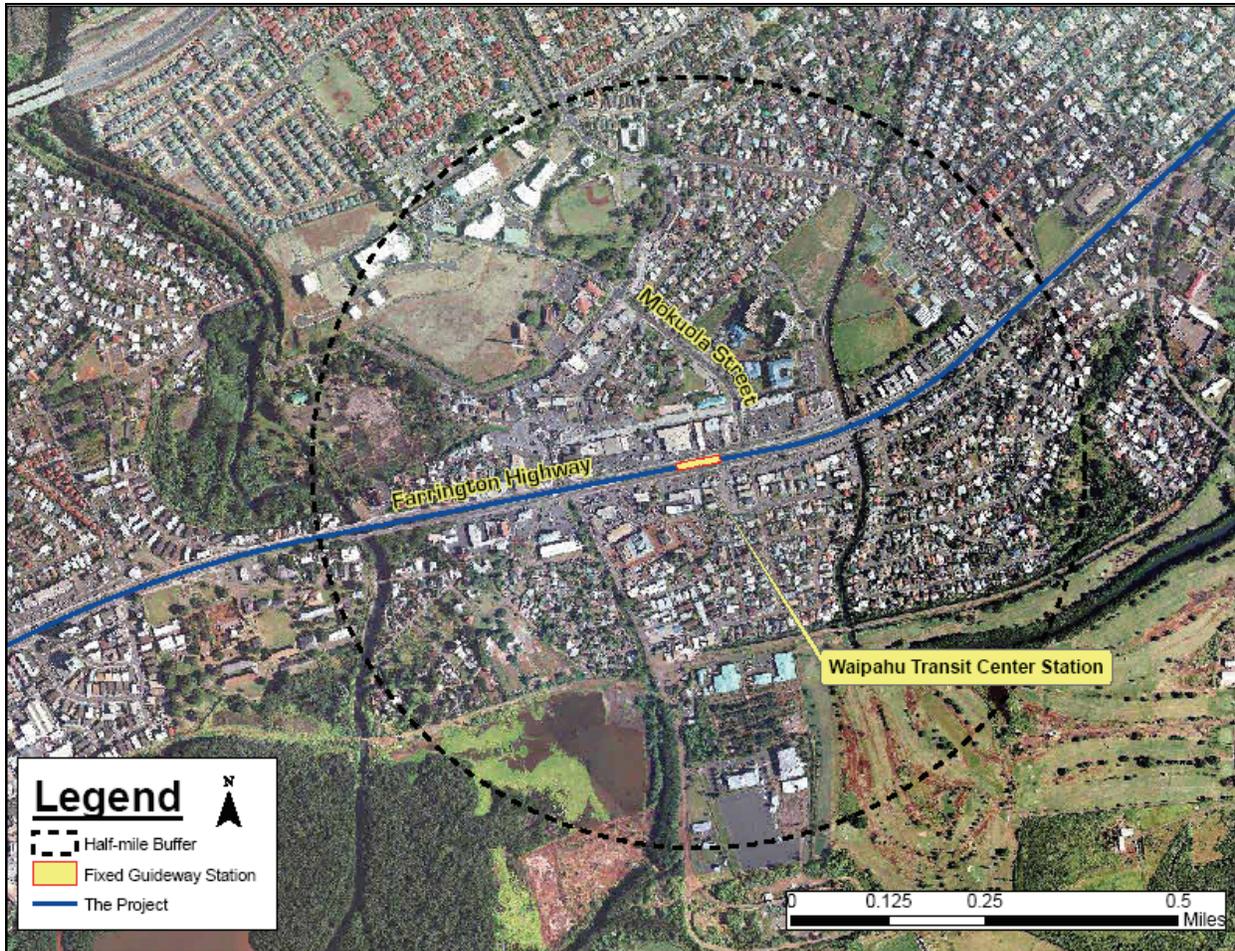
### **Summary**

The West Loch Station area could meet some of the LEED-ND criteria under the Category 1 and Category 2 precepts of LEED-ND. It has an estimated total LEED-ND score of 35, which is below the minimum score of 40 points for LEED-ND Certified. Future development, which may boost the West Loch Station area's LEED-ND score in the final analysis, should be designed to encourage pedestrians and bicyclists through the use of small, connected blocks and a mix of uses close to the station. With existing commercial street grids, schools, and major arterials within one-half mile of the station area, pedestrian and bicycle safety should be a priority. Green building design and materials should be incorporated in future construction. The LEED scorecard on the next page provides a preliminary quantitative assessment based on what is known today.

West Loch Station Area LEED Project Scorecard

Yes	?	No			27 Points Possible
17	3		<b>Smart Location and Linkage</b>		
Y			Prereq 1	<b>Smart Location</b>	Required
Y			Prereq 2	<b>Imperiled Species and Ecological Communities</b>	Required
			Prereq 3	<b>Wetland and Water Body Conservation</b>	Required
Y			Prereq 4	<b>Agricultural Land Conservation</b>	Required
			Prereq 5	<b>Floodplain Avoidance</b>	Required
5			Credit 1	<b>Preferred Locations</b>	10
1			Credit 2	<b>Brownfield Redevelopment</b>	2
7			Credit 3	<b>Locations with Reduced Automobile Dependence</b>	7
1			Credit 4	<b>Bicycle Network and Storage</b>	1
2			Credit 5	<b>Housing and Jobs Proximity</b>	3
1			Credit 6	<b>Steep Slope Protection</b>	1
	1		Credit 7	<b>Site Design for Habitat or Wetland and Water Body Conservation</b>	1
	1		Credit 8	<b>Restoration of Habitat or Wetlands and Water Bodies</b>	1
	1		Credit 9	<b>Long-Term Conservation Management of Habitat or Wetlands and Water Bodie</b>	1
17	13		<b>Neighborhood Pattern and Design</b>		44 Points Possible
Y			Prereq 1	<b>Walkable Streets</b>	Required
Y			Prereq 2	<b>Compact Development</b>	Required
Y			Prereq 3	<b>Connected and Open Community</b>	Required
4	8		Credit 1	<b>Walkable Streets</b>	12
2	4		Credit 2	<b>Compact Development</b>	6
2			Credit 3	<b>Mixed-Use Neighborhood Centers</b>	4
4			Credit 4	<b>Mixed-Income Diverse Communities</b>	7
			Credit 5	<b>Reduced Parking Footprint</b>	1
			Credit 6	<b>Street Network</b>	2
1			Credit 7	<b>Transit Facilities</b>	1
			Credit 8	<b>Transportation Demand Management</b>	2
1			Credit 9	<b>Access to Civic and Public Spaces</b>	1
1			Credit 10	<b>Access to Recreation Facilities</b>	1
			Credit 11	<b>Visitability and Universal Design</b>	1
1			Credit 12	<b>Community Outreach and Involvement</b>	2
			Credit 13	<b>Local Food Production</b>	1
	1		Credit 14	<b>Tree-Lined and Shaded Streets</b>	2
1			Credit 15	<b>Neighborhood Schools</b>	1
			<b>Green Infrastructure and Buildings</b>		29 Points Possible
10					
Y			Prereq 1	<b>Certified Green Building</b>	Required
Y			Prereq 2	<b>Minimum Building Energy Efficiency</b>	Required
Y			Prereq 3	<b>Minimum Building Water Efficiency</b>	Required
Y			Prereq 4	<b>Construction Activity Pollution Prevention</b>	Required
			Credit 1	<b>Certified Green Buildings</b>	5
	1		Credit 2	<b>Building Energy Efficiency</b>	2
	1		Credit 3	<b>Building Water Efficiency</b>	1
	1		Credit 4	<b>Water-Efficient Landscaping</b>	1
	1		Credit 5	<b>Existing Building Use</b>	1
	1		Credit 6	<b>Historic Resource Preservation and Adaptive Reuse</b>	1
	1		Credit 7	<b>Minimized Site Disturbance in Design and Construction</b>	1
	1		Credit 8	<b>Stormwater Management</b>	4
			Credit 9	<b>Heat Island Reduction</b>	1
			Credit 10	<b>Solar Orientation</b>	1
	1		Credit 11	<b>On-Site Renewable Energy Sources</b>	3
			Credit 12	<b>District Heating and Cooling</b>	2
	1		Credit 13	<b>Infrastructure Energy Efficiency</b>	1
	1		Credit 14	<b>Wastewater Management</b>	2
			Credit 15	<b>Recycled Content in Infrastructure</b>	1
			Credit 16	<b>Solid Waste Management Infrastructure</b>	1
	1		Credit 17	<b>Light Pollution Reduction</b>	1
1			<b>Innovation and Design Process</b>		6 Points
			Credit 1.1	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.2	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.3	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.4	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.5	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
1			Credit 2	<b>LEED® Accredited Professional</b>	1
			<b>Regional Priority Credit</b>		4 Points
			Credit 1.1	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.2	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.3	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.4	<b>Regional Priority Credit: Region Defined</b>	1
35	26		<b>Project Totals (Certification estimates)</b>		110 Points
Certified: 40-49 points, Silver: 50-59 points, Gold: 60-79 points, Platinum: 80+ points					

## Waipahu Transit Center Station



### Introduction

The Waipahu Transit Center Station will be located on Farrington Highway near Mokuola Street. The area includes a mix of low- and medium-density housing, commercial and light-industrial land uses, and vacant and underutilized parcels that could be redeveloped over time.

The *Waipahu Neighborhood TOD Plan* was developed in anticipation of the planned Waipahu Transit Center Station. The TOD Plan states that “the goal of Waipahu is to be a transit-oriented, connected community where residents can live, work, learn, shop and play.” The Plan process identified a future vision for this area that includes infill mixed-use development along Farrington Highway and multi-family housing throughout the station area. According to the TOD Plan, transit plazas are proposed along Farrington Highway with infill multi-family housing and mixed use and retail.

### LEED-ND Assessment

#### ***Smart Location and Linkage (Category 1)***

The station area is in an existing urban neighborhood, and most land around the station has been developed. Farrington Highway passes through the center of the neighborhood. It is a high-speed, heavily traveled roadway with mostly auto-oriented commercial developments on both sides. A substantial number of housing units are located nearby, and it is anticipated that a majority of rail transit riders will access the

station by walking or biking. Future mixed-use developments near this station will provide further incentives and reinforcement for enhanced pedestrian connections within the station area.

The station will provide high-quality rail transit service to Waipahu. With rail service and robust feeder bus service, local dependence on automobiles will decrease. Bike and pedestrian trails near the rail station, such as the Leeward Bikeway and the Pearl Harbor Historic Trail, will be additional potential contributors to reducing auto dependence.

### ***Neighborhood Pattern and Design (Category 2)***

The area has poor to moderate walkability; Farrington Highway is busy, wide, and difficult to cross. While side streets in the station area tend to be narrower and most have sidewalks, blocks are large and pedestrians face many natural and man-made impediments. There is substantial pedestrian activity in the area with many people walking to/from the existing Waipahu Bus Transit Center on Hikimoe Street. However, most businesses and commercial land uses tend to be auto-oriented, with entrances set back behind parking lots. Station designers should work with the Department of Transportation Services to designate a portion of Mokuola Street for a kiss-and-ride zone. There also should be recognition of potentially large pedestrian volumes at the mauka station entrance near the Waipahu Transit Center.

For new or enhanced street development in the station area, pedestrian access and connections should be given priority. The TOD Plan can provide important direction in identifying these connections. At a minimum, it will be important to provide comfortable, direct paths that connect the Waipahu Transit Center Station with rail station entrances. Design of these paths should avoid conflicts with vehicle movements, such as buses and/or kiss-and-ride auto traffic. Additionally, measures to calm traffic and improve safety for bicyclists and pedestrians should be explored in designing future street improvements in the station area.

### ***Green Construction and Technology (Category 3)***

Existing infrastructure should be reused and restored in ways to encourage the implementation of sustainable principles. The rail station will contain many sustainable elements, such as recycled materials and natural ventilation and lighting. The City should encourage the use of energy-efficient building techniques and resources if LEED-ND is pursued.

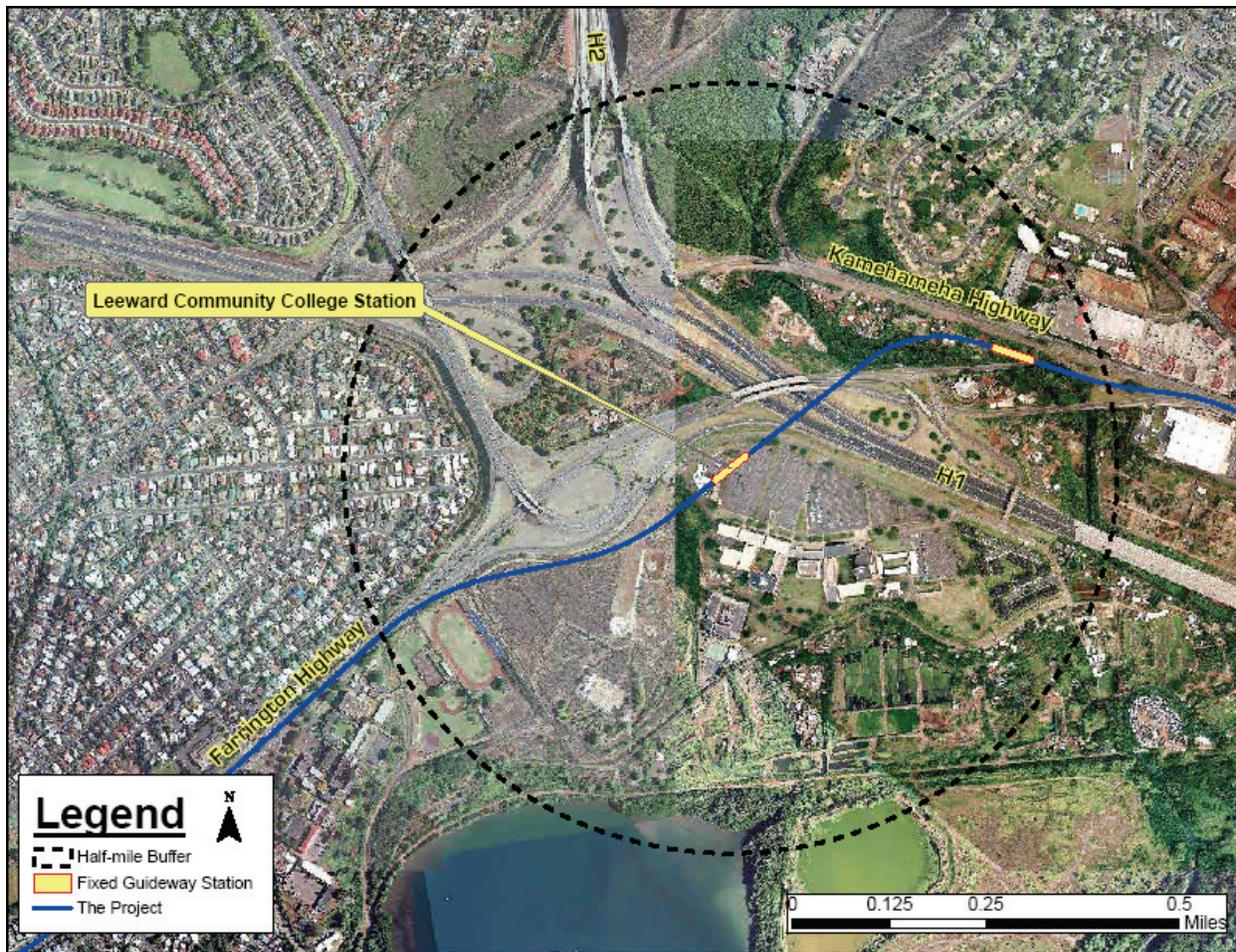
### **Summary**

The Waipahu Transit Center Station area could meet some criteria under the Category 1 and Category 2 precepts of LEED-ND. It has an estimated total LEED-ND score of 39, which is below the minimum score of 40 points for LEED-ND Certified. Using the Waipahu Neighborhood TOD Plan as a framework, future development should be designed to encourage pedestrians and bicyclists through the use of small, connected blocks and a mix of uses close to the station. Green building design and materials should be incorporated in future construction. The LEED scorecard on the next page provides a preliminary quantitative assessment based on what is known today.

Waipahu Transit Center Station Area LEED Project Scorecard

Yes	?	No			
18	3		<b>Smart Location and Linkage</b>		27 Points Possible
Y			Prereq 1	<b>Smart Location</b>	Required
Y			Prereq 2	<b>Imperiled Species and Ecological Communities</b>	Required
Y			Prereq 3	<b>Wetland and Water Body Conservation</b>	Required
Y			Prereq 4	<b>Agricultural Land Conservation</b>	Required
Y			Prereq 5	<b>Floodplain Avoidance</b>	Required
5			Credit 1	<b>Preferred Locations</b>	10
1			Credit 2	<b>Brownfield Redevelopment</b>	2
7			Credit 3	<b>Locations with Reduced Automobile Dependence</b>	7
1			Credit 4	<b>Bicycle Network and Storage</b>	1
3			Credit 5	<b>Housing and Jobs Proximity</b>	3
1			Credit 6	<b>Steep Slope Protection</b>	1
	1		Credit 7	<b>Site Design for Habitat or Wetland and Water Body Conservation</b>	1
	1		Credit 8	<b>Restoration of Habitat or Wetlands and Water Bodies</b>	1
	1		Credit 9	<b>Long-Term Conservation Management of Habitat or Wetlands and Water Bodies</b>	1
20	5		<b>Neighborhood Pattern and Design</b>		44 Points Possible
Y			Prereq 1	<b>Walkable Streets</b>	Required
Y			Prereq 2	<b>Compact Development</b>	Required
Y			Prereq 3	<b>Connected and Open Community</b>	Required
4	1		Credit 1	<b>Walkable Streets</b>	12
3	1		Credit 2	<b>Compact Development</b>	6
3			Credit 3	<b>Mixed-Use Neighborhood Centers</b>	4
5			Credit 4	<b>Mixed-Income Diverse Communities</b>	7
			Credit 5	<b>Reduced Parking Footprint</b>	1
			Credit 6	<b>Street Network</b>	2
1			Credit 7	<b>Transit Facilities</b>	1
	1		Credit 8	<b>Transportation Demand Management</b>	2
1			Credit 9	<b>Access to Civic and Public Spaces</b>	1
1			Credit 10	<b>Access to Recreation Facilities</b>	1
	1		Credit 11	<b>Visitability and Universal Design</b>	1
1			Credit 12	<b>Community Outreach and Involvement</b>	2
			Credit 13	<b>Local Food Production</b>	1
	1		Credit 14	<b>Tree-Lined and Shaded Streets</b>	2
1			Credit 15	<b>Neighborhood Schools</b>	1
1	10		<b>Green Infrastructure and Buildings</b>		29 Points Possible
Y			Prereq 1	<b>Certified Green Building</b>	Required
Y			Prereq 2	<b>Minimum Building Energy Efficiency</b>	Required
Y			Prereq 3	<b>Minimum Building Water Efficiency</b>	Required
Y			Prereq 4	<b>Construction Activity Pollution Prevention</b>	Required
			Credit 1	<b>Certified Green Buildings</b>	5
	1		Credit 2	<b>Building Energy Efficiency</b>	2
	1		Credit 3	<b>Building Water Efficiency</b>	1
	1		Credit 4	<b>Water-Efficient Landscaping</b>	1
	1		Credit 5	<b>Existing Building Use</b>	1
	1		Credit 6	<b>Historic Resource Preservation and Adaptive Reuse</b>	1
	1		Credit 7	<b>Minimized Site Disturbance in Design and Construction</b>	1
	1		Credit 8	<b>Stormwater Management</b>	4
	1		Credit 9	<b>Heat Island Reduction</b>	1
	1		Credit 10	<b>Solar Orientation</b>	1
1			Credit 11	<b>On-Site Renewable Energy Sources</b>	3
	1		Credit 12	<b>District Heating and Cooling</b>	2
	1		Credit 13	<b>Infrastructure Energy Efficiency</b>	1
	1		Credit 14	<b>Wastewater Management</b>	2
	1		Credit 15	<b>Recycled Content in Infrastructure</b>	1
	1		Credit 16	<b>Solid Waste Management Infrastructure</b>	1
	1		Credit 17	<b>Light Pollution Reduction</b>	1
			<b>Innovation and Design Process</b>		6 Points
			Credit 1.1	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.2	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.3	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.4	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.5	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 2	<b>LEED® Accredited Professional</b>	1
			<b>Regional Priority Credit</b>		4 Points
			Credit 1.1	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.2	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.3	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.4	<b>Regional Priority Credit: Region Defined</b>	1
39	18		<b>Project Totals (Certification estimates)</b>		110 Points
Certified: 40-49 points, Silver: 50-59 points, Gold: 60-79 points, Platinum: 80+ points					

## Leeward Community College Station



### Introduction

The Leeward Community College Station will be located in the mauka end of the main campus parking lot. The area is mostly surrounded by freeways and, apart from the campus and some apartments, there is little development within walking distance of the station. There are few viable parcels for new construction in the station area; however, potential TOD could occur as part of future expansion of Leeward Community College.

### LEED-ND Assessment

#### ***Smart Location and Linkage (Category 1)***

The rail station will serve the Leeward Community College campus, which is the major activity center in the area. Other existing uses in the station area, such as employment, residential, commercial, and community centers, are less accessible due to natural and man-made barriers. Future roadway and non-motorized plans could provide additional connections between the station and nearby uses.

With the rail station in place, students will be less dependent on automobiles. The large parking lot adjacent to the station could be redeveloped over time to take advantage of improved access. If that occurs, the area could become a mixed-use community oriented to both the campus and the rail station.

Mauka of the station, major roadways such as the H-1 Freeway and Farrington Highway will continue to be potential barriers for those walking between the station and existing development. Safer and more convenient pedestrian connections should be considered.

### ***Neighborhood Pattern and Design (Category 2)***

Leeward Community College is pedestrian-friendly and compact, but the surrounding area is not. There are no supporting land uses to create a neighborhood here. Additionally, the surrounding highways are barriers to pedestrian movement between surrounding development, the campus, and the station entrance. There is housing nearby, but very little commercial activity, unless the large parking lot is transformed into a mixed-use center that could support a true 24-hour community.

For new development near the campus, pedestrian access and connections should be given priority. Additionally, measures to calm traffic and improve safety for bicyclists and pedestrians should be explored for future streets. These measures should also be considered for those riders transferring between rail and bus service on Farrington Highway.

### ***Green Construction and Technology (Category 3)***

Existing infrastructure can be reused and restored in ways to encourage the implementation of sustainable principles. For example, the nearby former Navy drum site is identified as the location for a LEED-Silver-certified maintenance and storage facility for the new rail system. In addition, the rail station will contain many sustainable elements, such as recycled materials and natural ventilation and lighting. The City should encourage the use of this type of energy-efficient building techniques and resources if LEED-ND is pursued.

### **Summary**

The Leeward Community College Station area could meet some of the LEED-ND criteria under the Category 1 and Category 2 precepts of LEED-ND. It has an estimated total LEED-ND score of 42, which is above the minimum score of 40 points for LEED-ND Certified. The existing college campus is pedestrian-friendly, but it lacks a supporting mix of land uses. The H-1 Freeway is a barrier to areas mauka of the station. Future development should be mixed use and designed to connect to the station area and to encourage pedestrians and bicyclists. Green building design and materials should be incorporated in future construction. The LEED scorecard on the next page provides a preliminary quantitative assessment based on what is known today.

Leeward Community College Station Area LEED Project Scorecard

Yes	?	No			
15	4		<b>Smart Location and Linkage</b>		27 Points Possible

Y			Prereq 1	<b>Smart Location</b>	Required
Y			Prereq 2	<b>Imperiled Species and Ecological Communities</b>	Required
Y			Prereq 3	<b>Wetland and Water Body Conservation</b>	Required
Y			Prereq 4	<b>Agricultural Land Conservation</b>	Required
Y			Prereq 5	<b>Floodplain Avoidance</b>	Required
5			Credit 1	<b>Preferred Locations</b>	10
1			Credit 2	<b>Brownfield Redevelopment</b>	2
7			Credit 3	<b>Locations with Reduced Automobile Dependence</b>	7
1			Credit 4	<b>Bicycle Network and Storage</b>	1
1			Credit 5	<b>Housing and Jobs Proximity</b>	3
	1		Credit 6	<b>Steep Slope Protection</b>	1
	1		Credit 7	<b>Site Design for Habitat or Wetland and Water Body Conservation</b>	1
	1		Credit 8	<b>Restoration of Habitat or Wetlands and Water Bodies</b>	1
	1		Credit 9	<b>Long-Term Conservation Management of Habitat or Wetlands and Water Bodie</b>	1

Yes	?	No			
22			<b>Neighborhood Pattern and Design</b>		44 Points Possible

Y			Prereq 1	<b>Walkable Streets</b>	Required
Y			Prereq 2	<b>Compact Development</b>	Required
Y			Prereq 3	<b>Connected and Open Community</b>	Required
4			Credit 1	<b>Walkable Streets</b>	12
4			Credit 2	<b>Compact Development</b>	6
3			Credit 3	<b>Mixed-Use Neighborhood Centers</b>	4
5			Credit 4	<b>Mixed-Income Diverse Communities</b>	7
			Credit 5	<b>Reduced Parking Footprint</b>	1
			Credit 6	<b>Street Network</b>	2
1			Credit 7	<b>Transit Facilities</b>	1
1			Credit 8	<b>Transportation Demand Management</b>	2
1			Credit 9	<b>Access to Civic and Public Spaces</b>	1
1			Credit 10	<b>Access to Recreation Facilities</b>	1
1			Credit 11	<b>Visitability and Universal Design</b>	1
1			Credit 12	<b>Community Outreach and Involvement</b>	2
			Credit 13	<b>Local Food Production</b>	1
			Credit 14	<b>Tree-Lined and Shaded Streets</b>	2
			Credit 15	<b>Neighborhood Schools</b>	1

Yes	?	No			
5	7		<b>Green Infrastructure and Buildings</b>		29 Points Possible

Y			Prereq 1	<b>Certified Green Building</b>	Required
Y			Prereq 2	<b>Minimum Building Energy Efficiency</b>	Required
Y			Prereq 3	<b>Minimum Building Water Efficiency</b>	Required
Y			Prereq 4	<b>Construction Activity Pollution Prevention</b>	Required
1			Credit 1	<b>Certified Green Buildings</b>	5
1	1		Credit 2	<b>Building Energy Efficiency</b>	2
	1		Credit 3	<b>Building Water Efficiency</b>	1
	1		Credit 4	<b>Water-Efficient Landscaping</b>	1
1			Credit 5	<b>Existing Building Use</b>	1
			Credit 6	<b>Historic Resource Preservation and Adaptive Reuse</b>	1
	1		Credit 7	<b>Minimized Site Disturbance in Design and Construction</b>	1
	1		Credit 8	<b>Stormwater Management</b>	4
			Credit 9	<b>Heat Island Reduction</b>	1
			Credit 10	<b>Solar Orientation</b>	1
1			Credit 11	<b>On-Site Renewable Energy Sources</b>	3
			Credit 12	<b>District Heating and Cooling</b>	2
	1		Credit 13	<b>Infrastructure Energy Efficiency</b>	1
	1		Credit 14	<b>Wastewater Management</b>	2
			Credit 15	<b>Recycled Content in Infrastructure</b>	1
			Credit 16	<b>Solid Waste Management Infrastructure</b>	1
1			Credit 17	<b>Light Pollution Reduction</b>	1

Yes	?	No			
			<b>Innovation and Design Process</b>		6 Points

			Credit 1.1	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.2	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.3	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.4	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.5	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 2	<b>LEED® Accredited Professional</b>	1

Yes	?	No			
			<b>Regional Priority Credit</b>		4 Points

			Credit 1.1	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.2	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.3	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.4	<b>Regional Priority Credit: Region Defined</b>	1

Yes	?	No			
42	11		<b>Project Totals (Certification estimates)</b>		110 Points
Certified: 40-49 points, Silver: 50-59 points, Gold: 60-79 points, Platinum: 80+ points					

## Pearl Highlands Station



### Introduction

The Pearl Highlands Station area contains a variety of land uses, including detached single-family residences, apartment buildings, retail, and other services. However, major roadways, such as the H-1 and H-2 Freeways, and natural features, such as Waiawa Stream, pass through this area making access somewhat difficult. Streets and highways in the area tend to be wide with fast-moving traffic. Most roadways lack sidewalks or bicycle lanes, and development tends to be auto-oriented. To overcome these obstacles, the station will be designed with a variety of pedestrian and auto bridges, ramps, and other features to facilitate access.

### LEED-ND Assessment

#### ***Smart Location and Linkage (Category 1)***

The area is mostly developed with big-box retail and low-, medium-, and high-density housing. Single-family residences are located farther from the station. There is some undeveloped land near the station that could gradually become developed, and some of the existing suburban-style development is likely to change to a denser, more urban character over time. The roadway network is a mix of major highways and freeways and local streets that are mostly discontinuous. There is no grid pattern of streets, making pedestrian access extremely difficult.

The Pearl Highlands Station will provide high quality public transportation connections between Pearl City and other major locations on O'ahu. To complement this regional transit resource, station access to the community will be available mauka and makai with access to the nearby street network provided via pedestrian bridges, escalators, elevators, and stairways. Over time, additional connections should be added to the street network.

Planned pedestrian connections, such as an elevated pedestrian walkway across Kamehameha Highway, will allow residents and users of the station area convenient and safe access to station entrances. Future mixed-use developments near this station will provide incentives for enhanced pedestrian links between the community and station entrances.

### ***Neighborhood Pattern and Design (Category 2)***

Streets in the area are generally not walkable. Nearby development is oriented around parking lots or garages. Streets are not well connected and, although most streets have sidewalks, there are few crosswalks or intersections where a pedestrian would feel comfortable crossing the street. There is a mix of uses, including both retail and housing, but they are not well integrated, and the connections between them are not easily defined. Because of the street design, it is likely someone from the residential tower would drive, rather than walk, to the supermarket across the street even though it is only a few hundred feet away.

For new or enhanced street development in the station area, pedestrian access and connections should be given priority. At a minimum, it will be important to provide comfortable, direct paths that connect the mauka and makai station entrances with adjacent developments—both existing and planned. Design of these paths should avoid conflicts with vehicle movements, such as buses accessing the transit center and kiss-and-ride auto traffic. Additionally, measures to calm traffic and improve safety for bicyclists and pedestrians should be explored in designing future street changes in the station area.

### ***Green Construction and Technology (Category 3)***

Existing infrastructure should be reused and restored in ways to encourage the implementation of sustainable principles. The rail station will contain many sustainable elements, such as recycled materials and natural ventilation and lighting. The City should encourage the use of energy-efficient building techniques and resources if LEED-ND is pursued.

### **Summary**

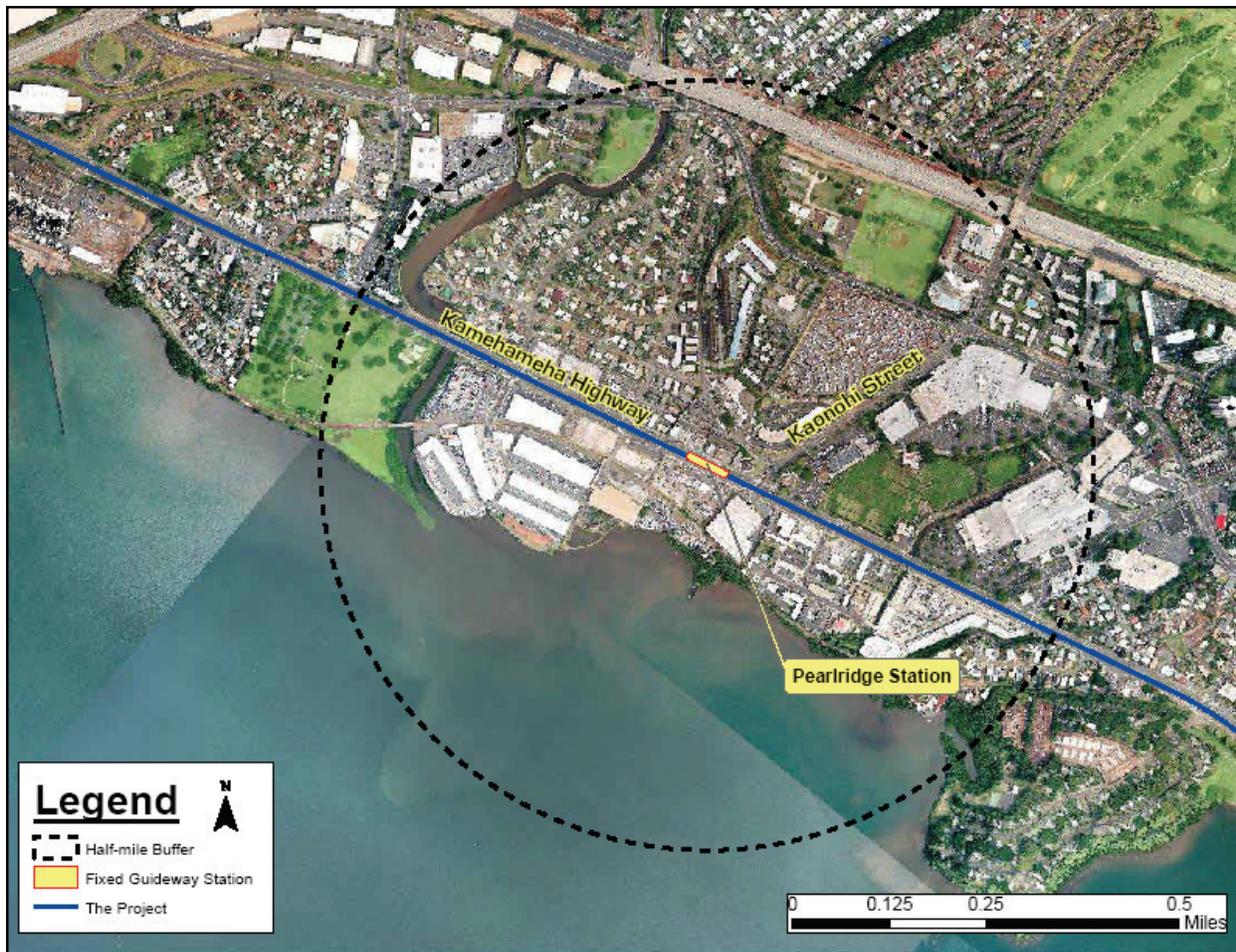
Under existing conditions, the Pearl Highlands Station area would have difficulty meeting many of the criteria under the Category 1 and Category 2 precepts of LEED-ND. It has an estimated total LEED-ND score of 32, which is well below the minimum score of 40 points for LEED-ND Certified. Due to a variety of natural and man-made constraints, the location is generally not conducive to good neighborhood development design. However, it is a good location for a transit station from an overall ridership perspective as it will serve many regional trips. Future development, which could boost Pearl Highlands Station area's LEED-ND score in the final analysis, should be designed to connect to the station, to facilitate pedestrian and bicyclist trips, and to provide a mix of uses close to the station. Green building design and materials should be incorporated

in future construction. The LEED scorecard on the next page provides a preliminary quantitative assessment based on what is known today.

Pearl Highlands Station Area LEED Project Scorecard

Yes	?	No			
14		3	<b>Smart Location and Linkage</b>		27 Points Possible
Y			Prereq 1	<b>Smart Location</b>	Required
Y			Prereq 2	<b>Imperiled Species and Ecological Communities</b>	Required
Y			Prereq 3	<b>Wetland and Water Body Conservation</b>	Required
Y			Prereq 4	<b>Agricultural Land Conservation</b>	Required
Y			Prereq 5	<b>Floodplain Avoidance</b>	Required
3			Credit 1	<b>Preferred Locations</b>	10
1			Credit 2	<b>Brownfield Redevelopment</b>	2
7			Credit 3	<b>Locations with Reduced Automobile Dependence</b>	7
1			Credit 4	<b>Bicycle Network and Storage</b>	1
1			Credit 5	<b>Housing and Jobs Proximity</b>	3
1			Credit 6	<b>Steep Slope Protection</b>	1
	1		Credit 7	<b>Site Design for Habitat or Wetland and Water Body Conservation</b>	1
	1		Credit 8	<b>Restoration of Habitat or Wetlands and Water Bodies</b>	1
	1		Credit 9	<b>Long-Term Conservation Management of Habitat or Wetlands and Water Bodie</b>	1
16		1	<b>Neighborhood Pattern and Design</b>		44 Points Possible
Y			Prereq 1	<b>Walkable Streets</b>	Required
Y			Prereq 2	<b>Compact Development</b>	Required
Y			Prereq 3	<b>Connected and Open Community</b>	Required
2			Credit 1	<b>Walkable Streets</b>	12
2	1		Credit 2	<b>Compact Development</b>	6
2			Credit 3	<b>Mixed-Use Neighborhood Centers</b>	4
4			Credit 4	<b>Mixed-Income Diverse Communities</b>	7
			Credit 5	<b>Reduced Parking Footprint</b>	1
			Credit 6	<b>Street Network</b>	2
1			Credit 7	<b>Transit Facilities</b>	1
1			Credit 8	<b>Transportation Demand Management</b>	2
1			Credit 9	<b>Access to Civic and Public Spaces</b>	1
1			Credit 10	<b>Access to Recreation Facilities</b>	1
			Credit 11	<b>Visitability and Universal Design</b>	1
1			Credit 12	<b>Community Outreach and Involvement</b>	2
			Credit 13	<b>Local Food Production</b>	1
			Credit 14	<b>Tree-Lined and Shaded Streets</b>	2
1			Credit 15	<b>Neighborhood Schools</b>	1
2		8	<b>Green Infrastructure and Buildings</b>		29 Points Possible
Y			Prereq 1	<b>Certified Green Building</b>	Required
Y			Prereq 2	<b>Minimum Building Energy Efficiency</b>	Required
Y			Prereq 3	<b>Minimum Building Water Efficiency</b>	Required
Y			Prereq 4	<b>Construction Activity Pollution Prevention</b>	Required
			Credit 1	<b>Certified Green Buildings</b>	5
	1		Credit 2	<b>Building Energy Efficiency</b>	2
	1		Credit 3	<b>Building Water Efficiency</b>	1
	1		Credit 4	<b>Water-Efficient Landscaping</b>	1
1			Credit 5	<b>Existing Building Use</b>	1
			Credit 6	<b>Historic Resource Preservation and Adaptive Reuse</b>	1
	1		Credit 7	<b>Minimized Site Disturbance in Design and Construction</b>	1
	1		Credit 8	<b>Stormwater Management</b>	4
			Credit 9	<b>Heat Island Reduction</b>	1
			Credit 10	<b>Solar Orientation</b>	1
1			Credit 11	<b>On-Site Renewable Energy Sources</b>	3
			Credit 12	<b>District Heating and Cooling</b>	2
	1		Credit 13	<b>Infrastructure Energy Efficiency</b>	1
	1		Credit 14	<b>Wastewater Management</b>	2
			Credit 15	<b>Recycled Content in Infrastructure</b>	1
			Credit 16	<b>Solid Waste Management Infrastructure</b>	1
	1		Credit 17	<b>Light Pollution Reduction</b>	1
			<b>Innovation and Design Process</b>		6 Points
			Credit 1.1	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.2	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.3	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.4	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.5	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 2	<b>LEED® Accredited Professional</b>	1
			<b>Regional Priority Credit</b>		4 Points
			Credit 1.1	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.2	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.3	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.4	<b>Regional Priority Credit: Region Defined</b>	1
32		12	<b>Project Totals (Certification estimates)</b>		110 Points
Certified: 40-49 points, Silver: 50-59 points, Gold: 60-79 points, Platinum: 80+ points					

## Pearlridge Station



### Introduction

The Pearlridge Station area includes major retail centers, industrial uses, and medium- to high-rise apartment complexes. Pearlridge Center, home to large retail stores and restaurants, is the main attraction. Vacant and underutilized parcels will experience infill as the area changes over time to more dense and transit-supportive developments. With potential redevelopment, there will be opportunities for enhanced pedestrian and bicycle connections to station entrances.

### LEED-ND Assessment

#### ***Smart Location and Linkage (Category 1)***

The area contains a mix of suburban-oriented land uses. Most streets have sidewalks and, while there is significant pedestrian activity, these streets are generally wide. Traffic volumes are both heavy and fast moving; however, the area is well-served by heavily used bus routes. Vacant parcels, such as the former movie drive-in site, will be developed over time, and older underutilized properties are being redeveloped. This provides an opportunity to create a more connected street network that will serve pedestrians, bicyclists, and transit riders in addition to drivers. With bus and rail transit service, as well as potential new transit-supportive development in the station area, dependence on automobiles will decrease over time.

### ***Neighborhood Pattern and Design (Category 2)***

While past development in the area has tended to be auto-oriented, there is the potential for mixed-use developments in the future that include a diversity of housing types, as well as commercial and retail activity. With the rail station in place, higher densities and mixed uses are likely to follow, with a reduced dependence on automobiles.

### ***Green Construction and Technology (Category 3)***

Existing infrastructure should be reused and restored in ways to encourage the implementation of sustainable principles. The rail station will contain many sustainable elements, such as recycled materials and natural ventilation and lighting. The City should encourage the use of energy-efficient building techniques and resources if LEED-ND is pursued.

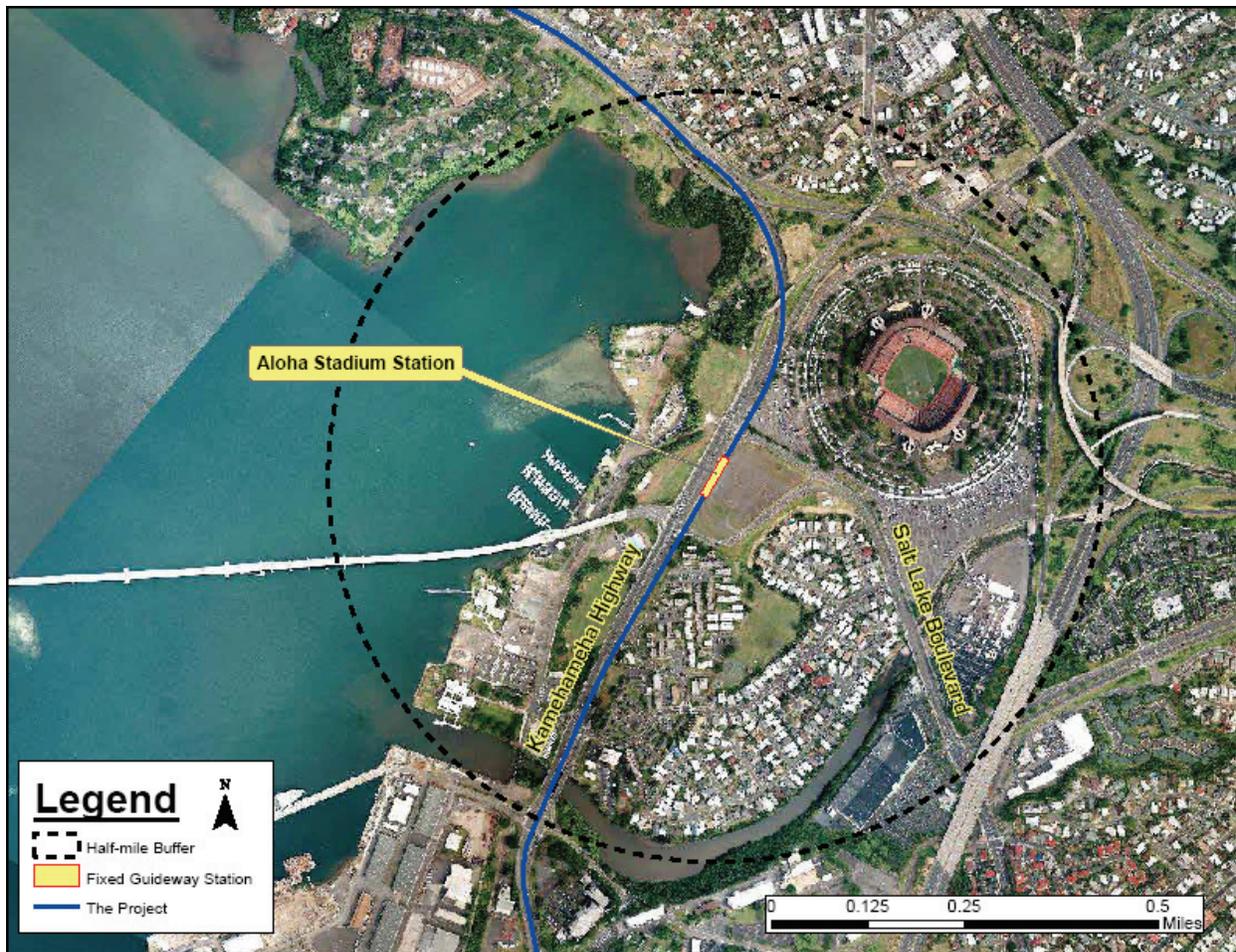
### **Summary**

The Pearlridge Station area, which already contains a mix of medium- and high-density housing, plus commercial, industrial, and retail land uses, could meet many of the criteria under the Category 1 and Category 2 precepts of LEED-ND. It has an estimated total LEED-ND score of 54, which is above the minimum score of 50 points for LEED-ND Silver. Although currently built in a suburban, auto-oriented manner, the land uses are likely to change over time to be more urban and pedestrian-oriented. Green building design and materials should be incorporated in future construction. The LEED scorecard on the next page provides a preliminary quantitative assessment based on what is known today.

Pearlridge Station Area LEED Project Scorecard

Yes	?	No			
24			<b>Smart Location and Linkage</b>		27 Points Possible
Y			Prereq 1	<b>Smart Location</b>	Required
Y			Prereq 2	<b>Imperiled Species and Ecological Communities</b>	Required
Y			Prereq 3	<b>Wetland and Water Body Conservation</b>	Required
Y			Prereq 4	<b>Agricultural Land Conservation</b>	Required
Y			Prereq 5	<b>Floodplain Avoidance</b>	Required
7			Credit 1	<b>Preferred Locations</b>	10
2			Credit 2	<b>Brownfield Redevelopment</b>	2
7			Credit 3	<b>Locations with Reduced Automobile Dependence</b>	7
1			Credit 4	<b>Bicycle Network and Storage</b>	1
3			Credit 5	<b>Housing and Jobs Proximity</b>	3
1			Credit 6	<b>Steep Slope Protection</b>	1
1			Credit 7	<b>Site Design for Habitat or Wetland and Water Body Conservation</b>	1
1			Credit 8	<b>Restoration of Habitat or Wetlands and Water Bodies</b>	1
1			Credit 9	<b>Long-Term Conservation Management of Habitat or Wetlands and Water Bodie</b>	1
28			<b>Neighborhood Pattern and Design</b>		44 Points Possible
Y			Prereq 1	<b>Walkable Streets</b>	Required
Y			Prereq 2	<b>Compact Development</b>	Required
Y			Prereq 3	<b>Connected and Open Community</b>	Required
7			Credit 1	<b>Walkable Streets</b>	12
5			Credit 2	<b>Compact Development</b>	6
3			Credit 3	<b>Mixed-Use Neighborhood Centers</b>	4
5			Credit 4	<b>Mixed-Income Diverse Communities</b>	7
			Credit 5	<b>Reduced Parking Footprint</b>	1
1			Credit 6	<b>Street Network</b>	2
1			Credit 7	<b>Transit Facilities</b>	1
1			Credit 8	<b>Transportation Demand Management</b>	2
1			Credit 9	<b>Access to Civic and Public Spaces</b>	1
1			Credit 10	<b>Access to Recreation Facilities</b>	1
1			Credit 11	<b>Visitability and Universal Design</b>	1
1			Credit 12	<b>Community Outreach and Involvement</b>	2
1			Credit 13	<b>Local Food Production</b>	1
1			Credit 14	<b>Tree-Lined and Shaded Streets</b>	2
1			Credit 15	<b>Neighborhood Schools</b>	1
2	9		<b>Green Infrastructure and Buildings</b>		29 Points Possible
Y			Prereq 1	<b>Certified Green Building</b>	Required
Y			Prereq 2	<b>Minimum Building Energy Efficiency</b>	Required
Y			Prereq 3	<b>Minimum Building Water Efficiency</b>	Required
Y			Prereq 4	<b>Construction Activity Pollution Prevention</b>	Required
	1		Credit 1	<b>Certified Green Buildings</b>	5
	1		Credit 2	<b>Building Energy Efficiency</b>	2
	1		Credit 3	<b>Building Water Efficiency</b>	1
	1		Credit 4	<b>Water-Efficient Landscaping</b>	1
1			Credit 5	<b>Existing Building Use</b>	1
	1		Credit 6	<b>Historic Resource Preservation and Adaptive Reuse</b>	1
	1		Credit 7	<b>Minimized Site Disturbance in Design and Construction</b>	1
	1		Credit 8	<b>Stormwater Management</b>	4
			Credit 9	<b>Heat Island Reduction</b>	1
			Credit 10	<b>Solar Orientation</b>	1
1			Credit 11	<b>On-Site Renewable Energy Sources</b>	3
			Credit 12	<b>District Heating and Cooling</b>	2
	1		Credit 13	<b>Infrastructure Energy Efficiency</b>	1
	1		Credit 14	<b>Wastewater Management</b>	2
			Credit 15	<b>Recycled Content in Infrastructure</b>	1
			Credit 16	<b>Solid Waste Management Infrastructure</b>	1
	1		Credit 17	<b>Light Pollution Reduction</b>	1
			<b>Innovation and Design Process</b>		6 Points
			Credit 1.1	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.2	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.3	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.4	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.5	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 2	<b>LEED® Accredited Professional</b>	1
			<b>Regional Priority Credit</b>		4 Points
			Credit 1.1	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.2	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.3	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.4	<b>Regional Priority Credit: Region Defined</b>	1
54	9		<b>Project Totals (Certification estimates)</b>		110 Points
Certified: 40-49 points, Silver: 50-59 points, Gold: 60-79 points, Platinum: 80+ points					

## Aloha Stadium Station



### Introduction

The Aloha Stadium Station will be located on Kamehameha Highway at Salt Lake Boulevard. Within one-half mile of the station site there is single-family and apartment housing, a community park, and Aloha Stadium—a major sports facility that hosts a variety of year-round activities. The station area is generally characterized by auto-dominated uses, including surface parking lots that serve Aloha Stadium. Parcels makai of Kamehameha Highway are owned by the U.S. government and will not likely be redeveloped.

### LEED-ND Assessment

#### ***Smart Location and Linkage (Category 1)***

The Aloha Stadium Station area is near a major sports and recreation center as well as moderate-density communities and single-family residences. Existing development tends to be auto-oriented and of suburban density. Most land has been developed, providing opportunity for reuse. With future rail service and a network of local bus routes, high-quality access to the station area will be provided. In addition to residential locations, two major attractions in the station area include Aloha Stadium and the Pearl Harbor Visitors Center. Given the availability of bus and rail transit service, as well as potential new transit-supportive development in the station area, dependence on automobiles for access to the area could decrease in the future.

Significant pedestrian and bicycle traffic near the station will require enhanced sidewalks, better street-crossing opportunities, and adequately designed station plazas.

### ***Neighborhood Pattern and Design (Category 2)***

The area is designed for automobiles, not pedestrians. There are few sidewalks, street crossings, or other walkways. Streets are wide and have high volumes of fast-moving traffic. Existing development is low to medium density. While there is a general mix of uses in the area—some commercial, residential, and employment—they are not well connected. There is a variety of housing opportunities, from single family to apartments.

### ***Green Construction and Technology (Category 3)***

Existing infrastructure should be reused and restored in ways to encourage the implementation of sustainable principles. The rail station will contain many sustainable elements, such as recycled materials and natural ventilation and lighting. The City should encourage the use of energy-efficient building techniques and resources if LEED-ND is pursued.

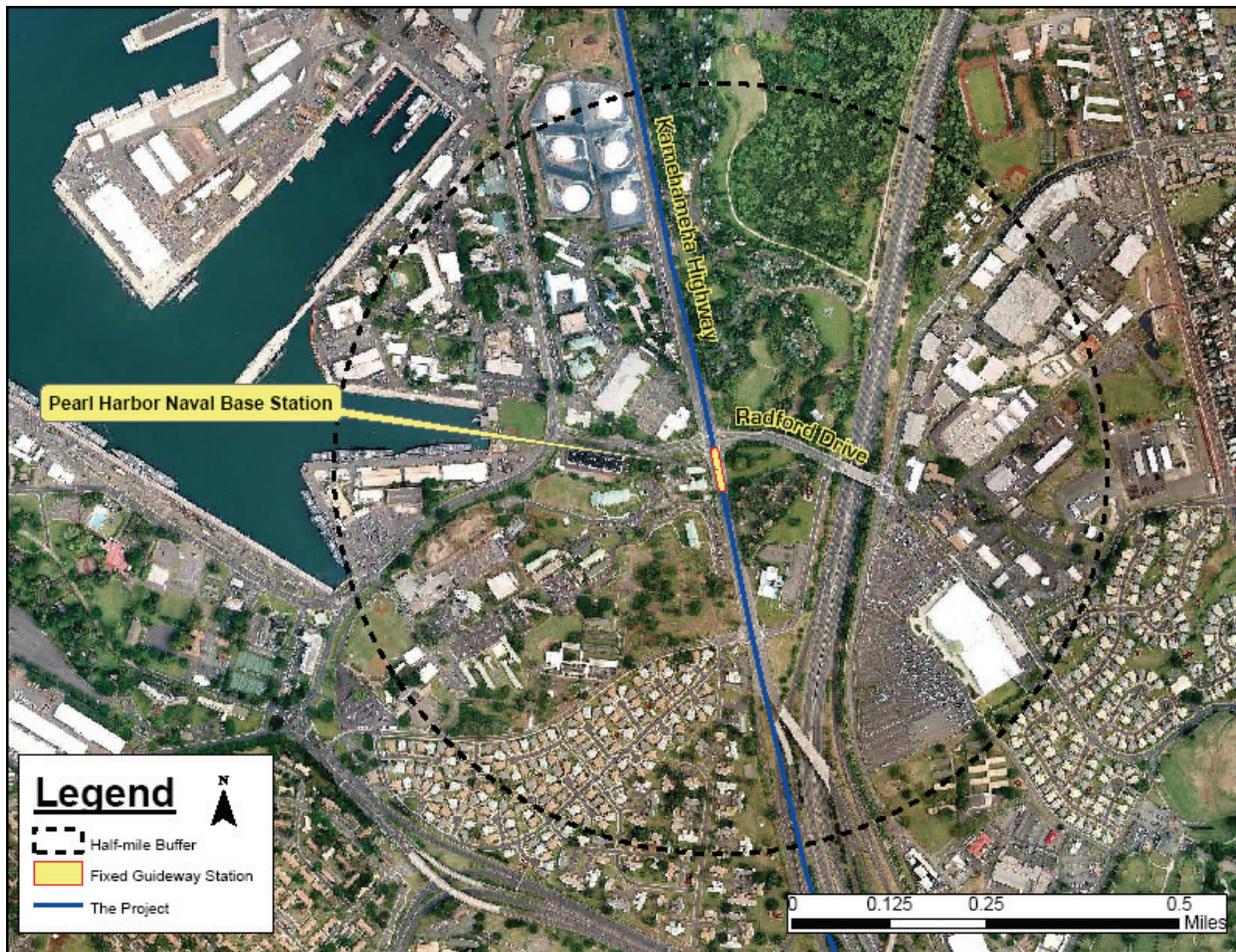
### **Summary**

The Aloha Stadium Station area could meet some of the criteria under the Category 1 and Category 2 precepts of LEED-ND. It has an estimated total LEED-ND score of 33, which is below the minimum score of 40 points for LEED-ND Certification. There is a diversity of uses in the area, but they are not well connected. The area contains wide, busy roadways and is not pedestrian-friendly. Future redevelopment could provide opportunities for improving accessibility, and could ultimately boost the Aloha Stadium Station area score. Green building design and materials should be incorporated in future construction. The LEED scorecard on the next page provides a preliminary quantitative assessment based on what is known today.

Aloha Stadium Station Area LEED Project Scorecard

Yes	?	No			
15	3		<b>Smart Location and Linkage</b>		27 Points Possible
Y			Prereq 1	<b>Smart Location</b>	Required
Y			Prereq 2	<b>Imperiled Species and Ecological Communities</b>	Required
Y			Prereq 3	<b>Wetland and Water Body Conservation</b>	Required
Y			Prereq 4	<b>Agricultural Land Conservation</b>	Required
Y			Prereq 5	<b>Floodplain Avoidance</b>	Required
4			Credit 1	<b>Preferred Locations</b>	10
1			Credit 2	<b>Brownfield Redevelopment</b>	2
7			Credit 3	<b>Locations with Reduced Automobile Dependence</b>	7
1			Credit 4	<b>Bicycle Network and Storage</b>	1
1			Credit 5	<b>Housing and Jobs Proximity</b>	3
1			Credit 6	<b>Steep Slope Protection</b>	1
	1		Credit 7	<b>Site Design for Habitat or Wetland and Water Body Conservation</b>	1
	1		Credit 8	<b>Restoration of Habitat or Wetlands and Water Bodies</b>	1
	1		Credit 9	<b>Long-Term Conservation Management of Habitat or Wetlands and Water Bodie</b>	1
16			<b>Neighborhood Pattern and Design</b>		44 Points Possible
			Prereq 1	<b>Walkable Streets</b>	Required
			Prereq 2	<b>Compact Development</b>	Required
			Prereq 3	<b>Connected and Open Community</b>	Required
2			Credit 1	<b>Walkable Streets</b>	12
2			Credit 2	<b>Compact Development</b>	6
2			Credit 3	<b>Mixed-Use Neighborhood Centers</b>	4
4			Credit 4	<b>Mixed-Income Diverse Communities</b>	7
			Credit 5	<b>Reduced Parking Footprint</b>	1
			Credit 6	<b>Street Network</b>	2
1			Credit 7	<b>Transit Facilities</b>	1
1			Credit 8	<b>Transportation Demand Management</b>	2
1			Credit 9	<b>Access to Civic and Public Spaces</b>	1
1			Credit 10	<b>Access to Recreation Facilities</b>	1
			Credit 11	<b>Visitability and Universal Design</b>	1
1			Credit 12	<b>Community Outreach and Involvement</b>	2
			Credit 13	<b>Local Food Production</b>	1
			Credit 14	<b>Tree-Lined and Shaded Streets</b>	2
1			Credit 15	<b>Neighborhood Schools</b>	1
2	9		<b>Green Infrastructure and Buildings</b>		29 Points Possible
Y			Prereq 1	<b>Certified Green Building</b>	Required
Y			Prereq 2	<b>Minimum Building Energy Efficiency</b>	Required
Y			Prereq 3	<b>Minimum Building Water Efficiency</b>	Required
Y			Prereq 4	<b>Construction Activity Pollution Prevention</b>	Required
			Credit 1	<b>Certified Green Buildings</b>	5
	1		Credit 2	<b>Building Energy Efficiency</b>	2
	1		Credit 3	<b>Building Water Efficiency</b>	1
	1		Credit 4	<b>Water-Efficient Landscaping</b>	1
1			Credit 5	<b>Existing Building Use</b>	1
	1		Credit 6	<b>Historic Resource Preservation and Adaptive Reuse</b>	1
	1		Credit 7	<b>Minimized Site Disturbance in Design and Construction</b>	1
	1		Credit 8	<b>Stormwater Management</b>	4
			Credit 9	<b>Heat Island Reduction</b>	1
			Credit 10	<b>Solar Orientation</b>	1
1			Credit 11	<b>On-Site Renewable Energy Sources</b>	3
			Credit 12	<b>District Heating and Cooling</b>	2
	1		Credit 13	<b>Infrastructure Energy Efficiency</b>	1
	1		Credit 14	<b>Wastewater Management</b>	2
			Credit 15	<b>Recycled Content in Infrastructure</b>	1
			Credit 16	<b>Solid Waste Management Infrastructure</b>	1
	1		Credit 17	<b>Light Pollution Reduction</b>	1
			<b>Innovation and Design Process</b>		6 Points
			Credit 1.1	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.2	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.3	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.4	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.5	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 2	<b>LEED® Accredited Professional</b>	1
			<b>Regional Priority Credit</b>		4 Points
			Credit 1.1	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.2	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.3	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.4	<b>Regional Priority Credit: Region Defined</b>	1
33	12		<b>Project Totals (Certification estimates)</b>		110 Points
Certified: 40-49 points, Silver: 50-59 points, Gold: 60-79 points, Platinum: 80+ points					

## Pearl Harbor Naval Base Station



### Introduction

The Pearl Harbor Naval Base Station will be located on Kamehameha Highway near Radford Drive. The station area includes employment facilities on the Navy base and Navy housing within one-half mile of the station. Rider demand at the station will primarily involve walking from the base and transfers from local bus service.

There are few developable parcels in the station area. This is due to the dominance of military-owned land on both sides of Kamehameha Highway. The H-1 Freeway also presents a barrier for access to locations mauka of the station. Pedestrian links to nearby employment should be improved, including paths between station entrances and the Navy base along Makalapa Gate Road.

### LEED-ND Assessment

#### ***Smart Location and Linkage (Category 1)***

The Pearl Harbor Naval Base Station area is surrounded by military and government lands and infrastructure. This includes low-density military housing and employment. Most of the demand at the station will be from those walking or biking, with some bus transfers. A majority of station users walking to and from the station will be employees at the Navy base.

Because of control by the Federal government, land use is not expected to change dramatically in the future, and significant redevelopment is unlikely. Connections

between land uses are limited by factors such as security, the H-1 Freeway, and Kamehameha Highway. These barriers limit the potential walkability of the neighborhood.

### ***Neighborhood Pattern and Design (Category 2)***

The Navy base, plus some commercial and residential development, is within walking distance of the Pearl Harbor Naval Base Station. However, due to topography and land-use patterns, adjacent neighborhoods have limited connectivity, and direct, safe connections to local destinations are not easily made in the area around the station. Measures to calm traffic and improve safety for bicyclists and pedestrians should be explored in any future street design for the station area. The density and street patterns are not likely to change dramatically in the future.

### ***Green Construction and Technology (Category 3)***

Existing infrastructure should be reused and restored in ways to encourage the implementation of sustainable principles. The rail station will contain many sustainable elements, such as recycled materials and natural ventilation and lighting. The City should encourage the use of energy-efficient building techniques and resources if LEED-ND is pursued.

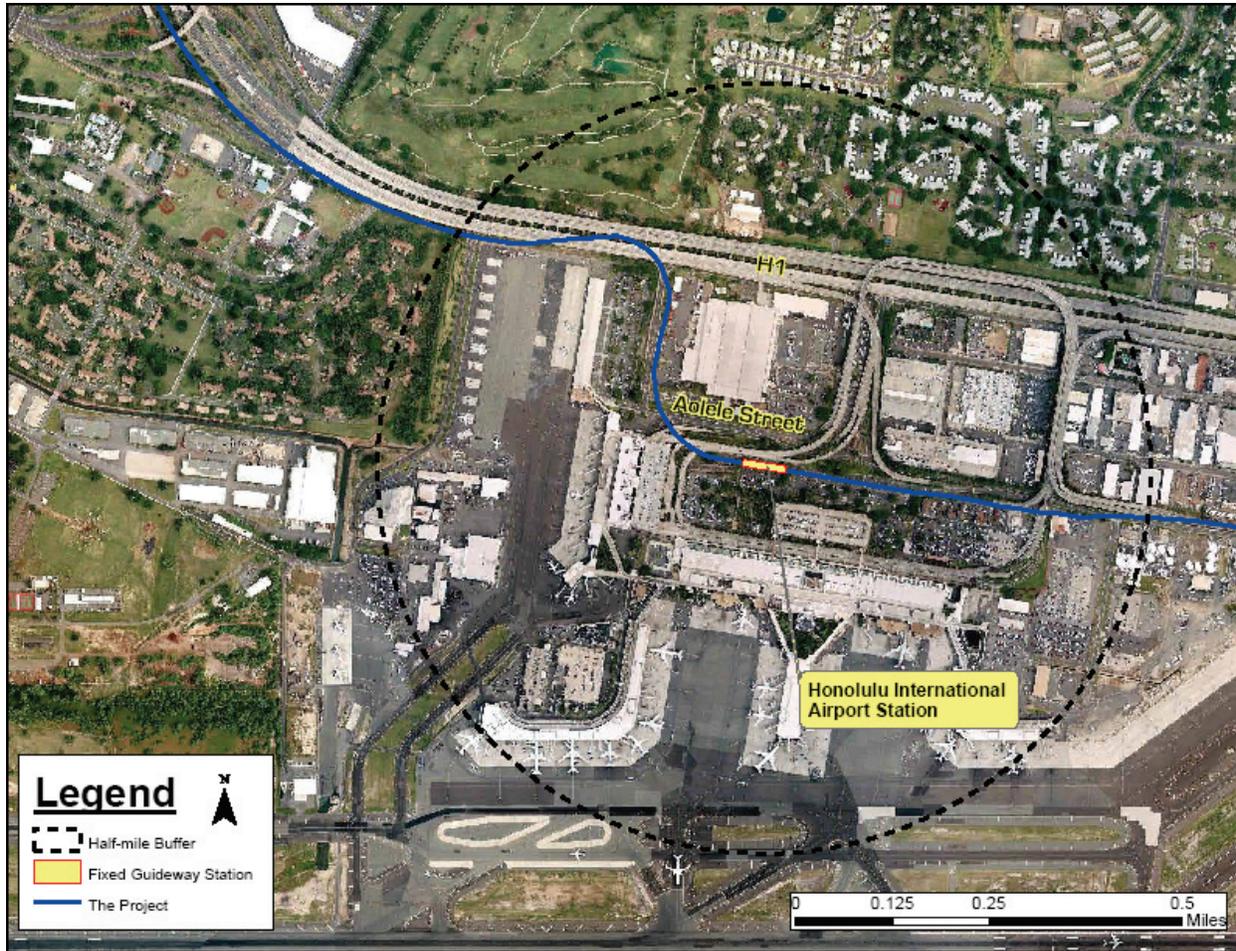
### **Summary**

The Pearl Harbor Naval Base Station area could meet some of the criteria under the Category 1 and Category 2 precepts of LEED-ND. It has an estimated total LEED-ND score of 29, which is well below the minimum score of 40 points for LEED-ND Certification. The Navy base is an important employment destination and there is existing housing nearby. However, there are few through streets and the environment is not conducive to walking or bicycling. Access restrictions and major highways further reduce the ability to walk in the area. Green building design and materials should be incorporated in future construction, and could ultimately boost the LEED-ND score of the Pearl Harbor Naval Base Station area. The LEED scorecard on the next page provides a preliminary quantitative assessment based on what is known today.

Pearl Harbor Naval Base Station Area LEED Project Scorecard

Yes	?	No			27 Points Possible
15	3		<b>Smart Location and Linkage</b>		
Y			Prereq 1	<b>Smart Location</b>	Required
Y			Prereq 2	<b>Imperiled Species and Ecological Communities</b>	Required
Y			Prereq 3	<b>Wetland and Water Body Conservation</b>	Required
Y			Prereq 4	<b>Agricultural Land Conservation</b>	Required
Y			Prereq 5	<b>Floodplain Avoidance</b>	Required
3			Credit 1	<b>Preferred Locations</b>	10
1			Credit 2	<b>Brownfield Redevelopment</b>	2
7			Credit 3	<b>Locations with Reduced Automobile Dependence</b>	7
1			Credit 4	<b>Bicycle Network and Storage</b>	1
2			Credit 5	<b>Housing and Jobs Proximity</b>	3
1			Credit 6	<b>Steep Slope Protection</b>	1
	1		Credit 7	<b>Site Design for Habitat or Wetland and Water Body Conservation</b>	1
	1		Credit 8	<b>Restoration of Habitat or Wetlands and Water Bodies</b>	1
	1		Credit 9	<b>Long-Term Conservation Management of Habitat or Wetlands and Water Bodie</b>	1
12	1		<b>Neighborhood Pattern and Design</b>		44 Points Possible
Y			Prereq 1	<b>Walkable Streets</b>	Required
Y			Prereq 2	<b>Compact Development</b>	Required
Y			Prereq 3	<b>Connected and Open Community</b>	Required
2			Credit 1	<b>Walkable Streets</b>	12
1			Credit 2	<b>Compact Development</b>	6
1			Credit 3	<b>Mixed-Use Neighborhood Centers</b>	4
3			Credit 4	<b>Mixed-Income Diverse Communities</b>	7
			Credit 5	<b>Reduced Parking Footprint</b>	1
			Credit 6	<b>Street Network</b>	2
1			Credit 7	<b>Transit Facilities</b>	1
1			Credit 8	<b>Transportation Demand Management</b>	2
1			Credit 9	<b>Access to Civic and Public Spaces</b>	1
1			Credit 10	<b>Access to Recreation Facilities</b>	1
1			Credit 11	<b>Visitability and Universal Design</b>	1
	1		Credit 12	<b>Community Outreach and Involvement</b>	2
			Credit 13	<b>Local Food Production</b>	1
			Credit 14	<b>Tree-Lined and Shaded Streets</b>	2
			Credit 15	<b>Neighborhood Schools</b>	1
2	9		<b>Green Infrastructure and Buildings</b>		29 Points Possible
Y			Prereq 1	<b>Certified Green Building</b>	Required
Y			Prereq 2	<b>Minimum Building Energy Efficiency</b>	Required
Y			Prereq 3	<b>Minimum Building Water Efficiency</b>	Required
Y			Prereq 4	<b>Construction Activity Pollution Prevention</b>	Required
			Credit 1	<b>Certified Green Buildings</b>	5
	1		Credit 2	<b>Building Energy Efficiency</b>	2
	1		Credit 3	<b>Building Water Efficiency</b>	1
	1		Credit 4	<b>Water-Efficient Landscaping</b>	1
1			Credit 5	<b>Existing Building Use</b>	1
	1		Credit 6	<b>Historic Resource Preservation and Adaptive Reuse</b>	1
	1		Credit 7	<b>Minimized Site Disturbance in Design and Construction</b>	1
	1		Credit 8	<b>Stormwater Management</b>	4
			Credit 9	<b>Heat Island Reduction</b>	1
			Credit 10	<b>Solar Orientation</b>	1
1			Credit 11	<b>On-Site Renewable Energy Sources</b>	3
			Credit 12	<b>District Heating and Cooling</b>	2
	1		Credit 13	<b>Infrastructure Energy Efficiency</b>	1
	1		Credit 14	<b>Wastewater Management</b>	2
			Credit 15	<b>Recycled Content in Infrastructure</b>	1
			Credit 16	<b>Solid Waste Management Infrastructure</b>	1
	1		Credit 17	<b>Light Pollution Reduction</b>	1
			<b>Innovation and Design Process</b>		6 Points
			Credit 1.1	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.2	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.3	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.4	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.5	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 2	<b>LEED® Accredited Professional</b>	1
			<b>Regional Priority Credit</b>		4 Points
			Credit 1.1	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.2	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.3	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.4	<b>Regional Priority Credit: Region Defined</b>	1
29	13		<b>Project Totals (Certification estimates)</b>		110 Points
Certified: 40-49 points, Silver: 50-59 points, Gold: 60-79 points, Platinum: 80+ points					

## Honolulu International Airport Station



### Introduction

The Honolulu International Airport Station will be located near the Overseas and Interisland terminals, adjacent to the lei stands. The station will serve airport patrons and employees as well as nearby airport-related employment centers, including a large postal facility. The station area is dominated by surface and structured parking, access ramps to and from the H-1 Freeway, and airport terminals. There is substantial employment but very little housing in the area.

### LEED-ND Assessment

#### ***Smart Location and Linkage (Category 1)***

The area around the station is heavily developed with the airport and related support facilities, including light industrial, cargo shipping, and other similar land uses. A major U.S. Post Office facility is located near the station as are airport parking garages, rental car facilities, and other similar uses. There is no housing within a short walk of the station, and land uses are not likely to change significantly in the future.

#### ***Neighborhood Pattern and Design (Category 2)***

The station area is dominated by surface streets and elevated roadways, which make pedestrian access difficult. With the rail station, pedestrian connections to the airport terminals will be improved. But the area as a whole will tend to remain auto-oriented unless steps are taken to construct more sidewalks and bike paths that could connect

land uses to each other and to the station. The area already has a high density of jobs, and it is likely many employees are interested in using transit.

### ***Green Construction and Technology (Category 3)***

Existing infrastructure should be reused and restored in ways to encourage the implementation of sustainable principles. The rail station will contain many sustainable elements, such as recycled materials and natural ventilation and lighting. The City should encourage the use of energy-efficient building techniques and resources if LEED-ND is pursued.

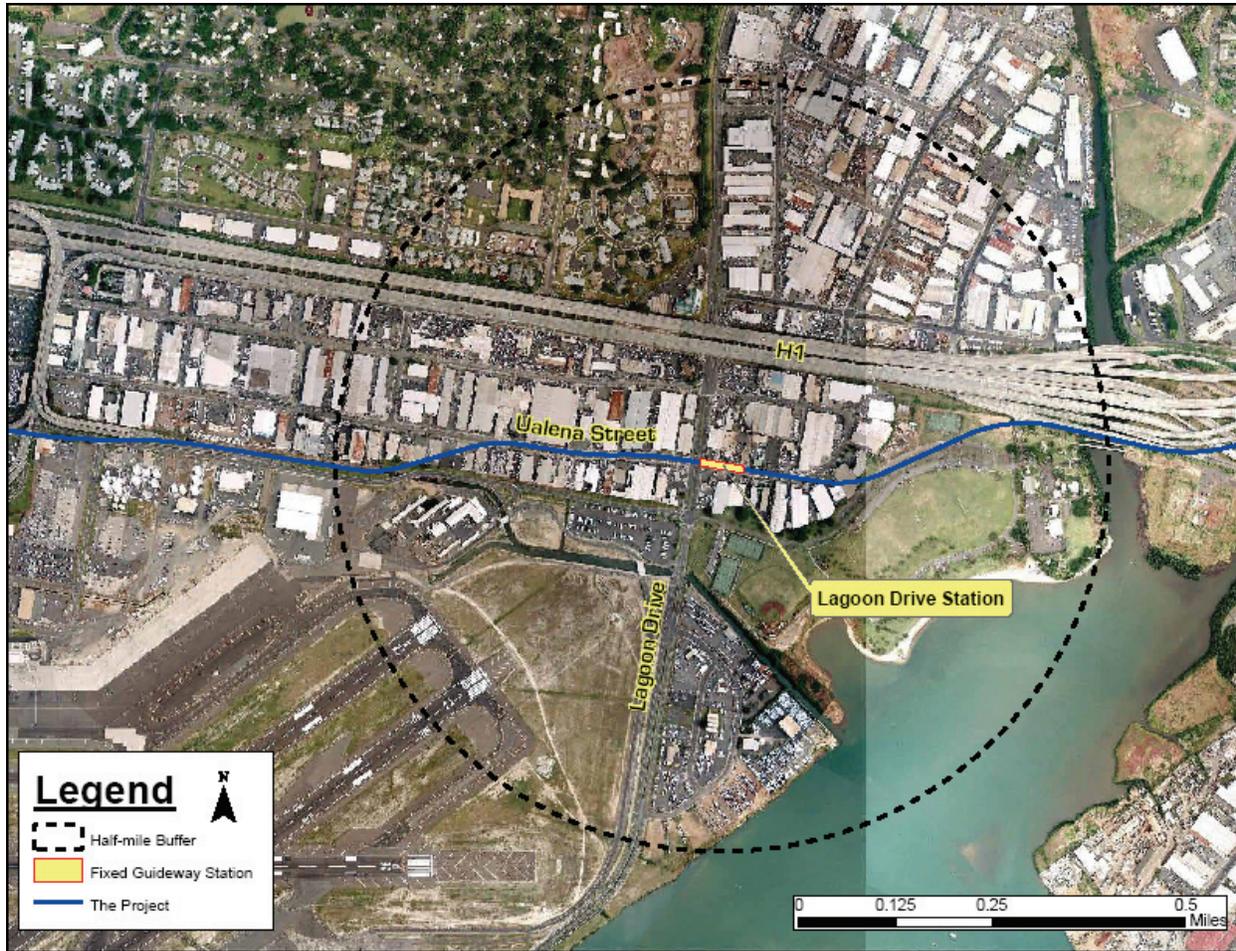
### **Summary**

Due to the lack of housing, the Honolulu International Airport Station area would not meet many of the criteria under the Category 1 and Category 2 precepts of LEED-ND. It has an estimated total LEED-ND score of 26, which is well below the minimum score of 40 points for LEED-ND Certification. However, there is a high number of workers and visitors, many of whom are likely to use transit. The lack of pedestrian infrastructure could be an impediment to significant shifts to walking and bicycling in the area. Green building design and materials should be incorporated in future construction, and could ultimately boost the Honolulu International Airport Station area's LEED-ND score. The LEED scorecard on the next page provides a preliminary quantitative assessment based on what is known today.

Honolulu International Airport Station Area LEED Project Scorecard

Yes	?	No			27 Points Possible
15	3		<b>Smart Location and Linkage</b>		
Y			Prereq 1	<b>Smart Location</b>	Required
Y			Prereq 2	<b>Imperiled Species and Ecological Communities</b>	Required
Y			Prereq 3	<b>Wetland and Water Body Conservation</b>	Required
Y			Prereq 4	<b>Agricultural Land Conservation</b>	Required
Y			Prereq 5	<b>Floodplain Avoidance</b>	Required
5			Credit 1	<b>Preferred Locations</b>	10
1			Credit 2	<b>Brownfield Redevelopment</b>	2
7			Credit 3	<b>Locations with Reduced Automobile Dependence</b>	7
1			Credit 4	<b>Bicycle Network and Storage</b>	1
			Credit 5	<b>Housing and Jobs Proximity</b>	3
1			Credit 6	<b>Steep Slope Protection</b>	1
	1		Credit 7	<b>Site Design for Habitat or Wetland and Water Body Conservation</b>	1
	1		Credit 8	<b>Restoration of Habitat or Wetlands and Water Bodies</b>	1
	1		Credit 9	<b>Long-Term Conservation Management of Habitat or Wetlands and Water Bodie</b>	1
9	1		<b>Neighborhood Pattern and Design</b>		44 Points Possible
Y			Prereq 1	<b>Walkable Streets</b>	Required
Y			Prereq 2	<b>Compact Development</b>	Required
Y			Prereq 3	<b>Connected and Open Community</b>	Required
3			Credit 1	<b>Walkable Streets</b>	12
3			Credit 2	<b>Compact Development</b>	6
			Credit 3	<b>Mixed-Use Neighborhood Centers</b>	4
			Credit 4	<b>Mixed-Income Diverse Communities</b>	7
			Credit 5	<b>Reduced Parking Footprint</b>	1
			Credit 6	<b>Street Network</b>	2
1			Credit 7	<b>Transit Facilities</b>	1
1			Credit 8	<b>Transportation Demand Management</b>	2
			Credit 9	<b>Access to Civic and Public Spaces</b>	1
			Credit 10	<b>Access to Recreation Facilities</b>	1
1			Credit 11	<b>Visitability and Universal Design</b>	1
	1		Credit 12	<b>Community Outreach and Involvement</b>	2
			Credit 13	<b>Local Food Production</b>	1
			Credit 14	<b>Tree-Lined and Shaded Streets</b>	2
			Credit 15	<b>Neighborhood Schools</b>	1
2	9		<b>Green Infrastructure and Buildings</b>		29 Points Possible
Y			Prereq 1	<b>Certified Green Building</b>	Required
Y			Prereq 2	<b>Minimum Building Energy Efficiency</b>	Required
Y			Prereq 3	<b>Minimum Building Water Efficiency</b>	Required
Y			Prereq 4	<b>Construction Activity Pollution Prevention</b>	Required
			Credit 1	<b>Certified Green Buildings</b>	5
	1		Credit 2	<b>Building Energy Efficiency</b>	2
	1		Credit 3	<b>Building Water Efficiency</b>	1
	1		Credit 4	<b>Water-Efficient Landscaping</b>	1
1			Credit 5	<b>Existing Building Use</b>	1
	1		Credit 6	<b>Historic Resource Preservation and Adaptive Reuse</b>	1
	1		Credit 7	<b>Minimized Site Disturbance in Design and Construction</b>	1
	1		Credit 8	<b>Stormwater Management</b>	4
			Credit 9	<b>Heat Island Reduction</b>	1
			Credit 10	<b>Solar Orientation</b>	1
1			Credit 11	<b>On-Site Renewable Energy Sources</b>	3
			Credit 12	<b>District Heating and Cooling</b>	2
	1		Credit 13	<b>Infrastructure Energy Efficiency</b>	1
	1		Credit 14	<b>Wastewater Management</b>	2
			Credit 15	<b>Recycled Content in Infrastructure</b>	1
			Credit 16	<b>Solid Waste Management Infrastructure</b>	1
	1		Credit 17	<b>Light Pollution Reduction</b>	1
			<b>Innovation and Design Process</b>		6 Points
			Credit 1.1	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.2	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.3	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.4	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.5	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 2	<b>LEED® Accredited Professional</b>	1
			<b>Regional Priority Credit</b>		4 Points
			Credit 1.1	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.2	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.3	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.4	<b>Regional Priority Credit: Region Defined</b>	1
26	13		<b>Project Totals (Certification estimates)</b>		110 Points
Certified: 40-49 points, Silver: 50-59 points, Gold: 60-79 points, Platinum: 80+ points					

## Lagoon Drive Station



### Introduction

The Lagoon Drive Station will be located on Lagoon Drive at Ualena Street. The area is dominated by densely developed industrial uses with supporting commercial development. Ke'ehi Lagoon Beach Park is within walking distance of the station, and housing is located mauka of Nimitz Highway.

### LEED-ND Assessment

#### ***Smart Location and Linkage (Category 1)***

The area is currently developed with primarily industrial uses. There are vacant and underutilized properties, many of which are brownfields that will likely redevelop over time. Some nearby property is state-owned while much is private. However, due to proximity to the end of two airport runways, and their associated height and use restrictions, this area is not likely to develop into a mixed-use, high-density neighborhood. For example, since housing would not likely be allowed in the station area, it limits the overall potential for meeting LEED-ND goals.

However, rail service will provide a high-quality transit alternative, thereby reducing dependence on automobiles for employees and visitors. The rail station could become a catalyst for improving pedestrian links to nearby recreation, employment, and commercial activity.

### ***Neighborhood Pattern and Design (Category 2)***

The area is industrial and, as a result, is not particularly enticing to pedestrians. Most streets have sidewalks, however, and a nearby park offers potential for pedestrian activity. In addition, density is relatively high for industrial land. Commercial development that is supportive of the industrial zoning is likely to expand in the future. With the enhanced access provided by rail transit, it is likely many employees would take advantage of the service.

### ***Green Construction and Technology (Category 3)***

Existing infrastructure should be reused and restored in ways to encourage the implementation of sustainable principles. The rail station will contain many sustainable elements, such as recycled materials and natural ventilation and lighting. The City should encourage the use of energy-efficient building techniques and resources if LEED-ND is pursued.

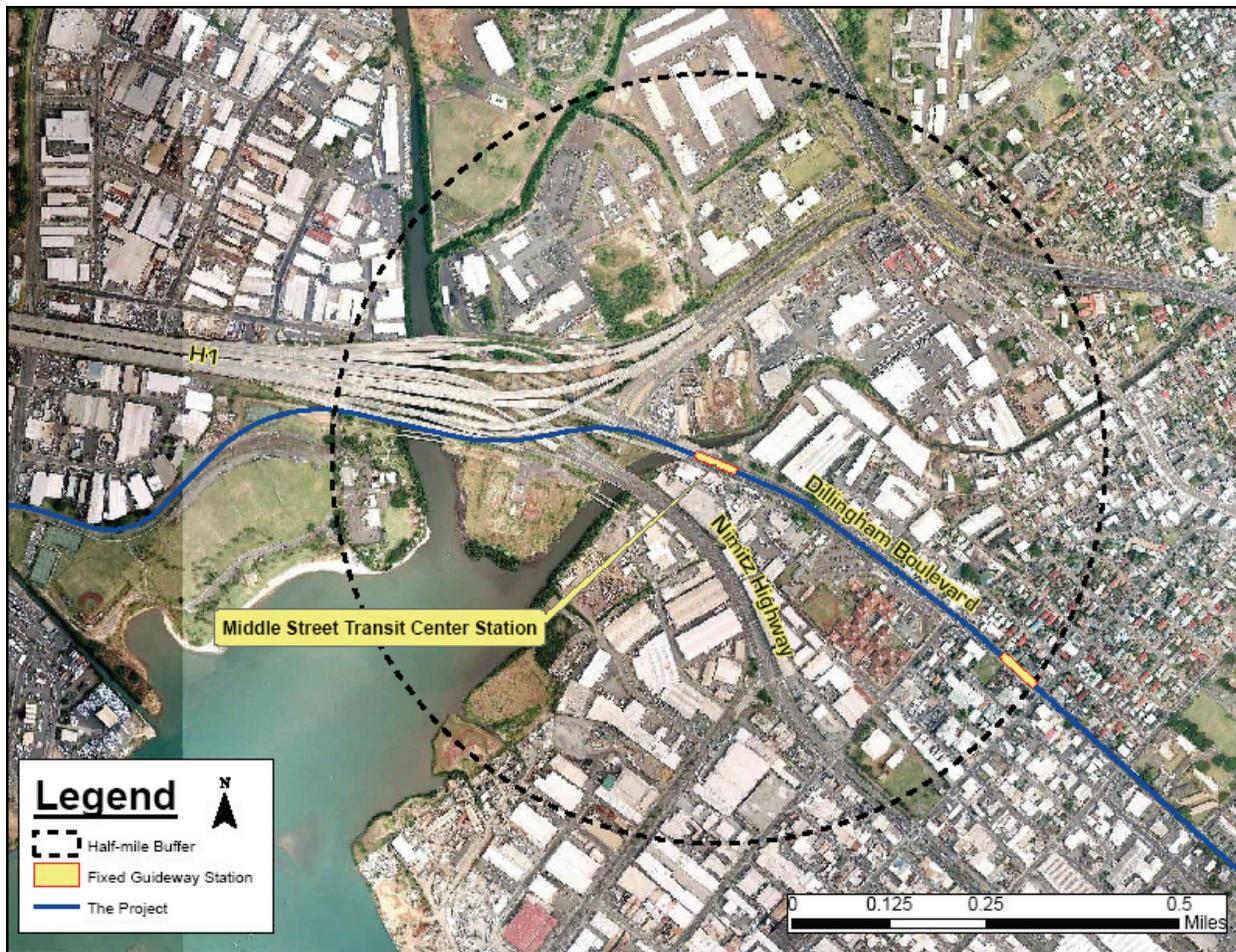
### **Summary**

The Lagoon Drive Station area could meet some of the criteria under the Category 1 and Category 2 precepts of LEED-ND. It has an estimated total LEED-ND score of 38, which is slightly below the minimum score of 40 points for LEED-ND Certification. The area is relatively dense, with sidewalks and good transit service. However, future development is limited to low-rise industrial and commercial uses due to the proximity of the airport. Green building design and materials should be incorporated in future construction, and could ultimately boost the Lagoon Drive Station area's LEED-ND score. The LEED scorecard on the next page provides a preliminary quantitative assessment based on what is known today.

Lagoon Drive Station Area LEED Project Scorecard

Yes	?	No			Points Possible
17	3		<b>Smart Location and Linkage</b>		27 Points Possible
Y			Prereq 1	<b>Smart Location</b>	Required
Y			Prereq 2	<b>Imperiled Species and Ecological Communities</b>	Required
Y			Prereq 3	<b>Wetland and Water Body Conservation</b>	Required
Y			Prereq 4	<b>Agricultural Land Conservation</b>	Required
Y			Prereq 5	<b>Floodplain Avoidance</b>	Required
5			Credit 1	<b>Preferred Locations</b>	10
2			Credit 2	<b>Brownfield Redevelopment</b>	2
7			Credit 3	<b>Locations with Reduced Automobile Dependence</b>	7
1			Credit 4	<b>Bicycle Network and Storage</b>	1
1			Credit 5	<b>Housing and Jobs Proximity</b>	3
1			Credit 6	<b>Steep Slope Protection</b>	1
	1		Credit 7	<b>Site Design for Habitat or Wetland and Water Body Conservation</b>	1
	1		Credit 8	<b>Restoration of Habitat or Wetlands and Water Bodies</b>	1
	1		Credit 9	<b>Long-Term Conservation Management of Habitat or Wetlands and Water Bodie</b>	1
19			<b>Neighborhood Pattern and Design</b>		44 Points Possible
Y			Prereq 1	<b>Walkable Streets</b>	Required
Y			Prereq 2	<b>Compact Development</b>	Required
Y			Prereq 3	<b>Connected and Open Community</b>	Required
4			Credit 1	<b>Walkable Streets</b>	12
4			Credit 2	<b>Compact Development</b>	6
1			Credit 3	<b>Mixed-Use Neighborhood Centers</b>	4
2			Credit 4	<b>Mixed-Income Diverse Communities</b>	7
1			Credit 5	<b>Reduced Parking Footprint</b>	1
1			Credit 6	<b>Street Network</b>	2
1			Credit 7	<b>Transit Facilities</b>	1
1			Credit 8	<b>Transportation Demand Management</b>	2
1			Credit 9	<b>Access to Civic and Public Spaces</b>	1
1			Credit 10	<b>Access to Recreation Facilities</b>	1
			Credit 11	<b>Visitability and Universal Design</b>	1
1			Credit 12	<b>Community Outreach and Involvement</b>	2
			Credit 13	<b>Local Food Production</b>	1
			Credit 14	<b>Tree-Lined and Shaded Streets</b>	2
1			Credit 15	<b>Neighborhood Schools</b>	1
2	8		<b>Green Infrastructure and Buildings</b>		29 Points Possible
Y			Prereq 1	<b>Certified Green Building</b>	Required
Y			Prereq 2	<b>Minimum Building Energy Efficiency</b>	Required
Y			Prereq 3	<b>Minimum Building Water Efficiency</b>	Required
Y			Prereq 4	<b>Construction Activity Pollution Prevention</b>	Required
	1		Credit 1	<b>Certified Green Buildings</b>	5
	1		Credit 2	<b>Building Energy Efficiency</b>	2
	1		Credit 3	<b>Building Water Efficiency</b>	1
	1		Credit 4	<b>Water-Efficient Landscaping</b>	1
1			Credit 5	<b>Existing Building Use</b>	1
	1		Credit 6	<b>Historic Resource Preservation and Adaptive Reuse</b>	1
	1		Credit 7	<b>Minimized Site Disturbance in Design and Construction</b>	1
	1		Credit 8	<b>Stormwater Management</b>	4
	1		Credit 9	<b>Heat Island Reduction</b>	1
	1		Credit 10	<b>Solar Orientation</b>	1
1			Credit 11	<b>On-Site Renewable Energy Sources</b>	3
	1		Credit 12	<b>District Heating and Cooling</b>	2
	1		Credit 13	<b>Infrastructure Energy Efficiency</b>	1
	1		Credit 14	<b>Wastewater Management</b>	2
	1		Credit 15	<b>Recycled Content in Infrastructure</b>	1
	1		Credit 16	<b>Solid Waste Management Infrastructure</b>	1
	1		Credit 17	<b>Light Pollution Reduction</b>	1
			<b>Innovation and Design Process</b>		6 Points
			Credit 1.1	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.2	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.3	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.4	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.5	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 2	<b>LEED® Accredited Professional</b>	1
			<b>Regional Priority Credit</b>		4 Points
			Credit 1.1	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.2	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.3	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.4	<b>Regional Priority Credit: Region Defined</b>	1
38	11		<b>Project Totals (Certification estimates)</b>		110 Points
Certified: 40-49 points, Silver: 50-59 points, Gold: 60-79 points, Platinum: 80+ points					

## Middle Street Transit Center Station



### Introduction

The Middle Street Transit Center Station will serve the west end of Kalihi near the junction of Kamehameha Highway and the H-1 Freeway (Ke'ehi Interchange). The station will be adjacent to and serve the new Middle Street Transit Center. This transit center will be a hub for several major bus routes and will include a parking garage with a capacity of 1,000 cars.

The potential for new development in the station area is limited due to the proliferation of highways and Kalihi Stream. However, the station could provide a catalyst for improving pedestrian links along major streets and between parcels. Pedestrian enhancements should also be considered along Kamehameha Highway to provide safe and comfortable connections between the station and nearby employment locations.

### LEED-ND Assessment

#### ***Smart Location and Linkage (Category 1)***

The station is surrounded by highway on-ramps, Kalihi Stream, and industrial and commercial uses. A bus transit center and park-and-ride will be located adjacent to the station. With local bus being the dominant access mode to the station, it will be important to have convenient and safe pedestrian links between the transit center and the station entrance unimpeded by buses, general traffic, or kiss-and-ride vehicles. Nearby land uses are all industrial and commercial, and many properties are

inaccessible from the station due to the highways and the stream. Sidewalks exist in some areas; however, much of the station area is not friendly to pedestrians because of heavy traffic volumes, difficult street crossings, and street frontages designed for cars and trucks rather than pedestrians.

### ***Neighborhood Pattern and Design (Category 2)***

The area is not well suited to pedestrians. Streets are wide and busy with traffic while sidewalks are either narrow or non-existent. Many nearby roads do not allow pedestrian or bicycle access, as they are part of the freeway system. There is no grid pattern of streets, making pedestrian access difficult. As the area is redeveloped in the future, it will be important to ensure that safe and comfortable routes leading to the station are installed.

### ***Green Construction and Technology (Category 3)***

Existing infrastructure should be reused and restored in ways to encourage the implementation of sustainable principles. The rail station will contain many sustainable elements, such as recycled materials and natural ventilation and lighting. The City should encourage the use of energy-efficient building techniques and resources if LEED-ND is pursued.

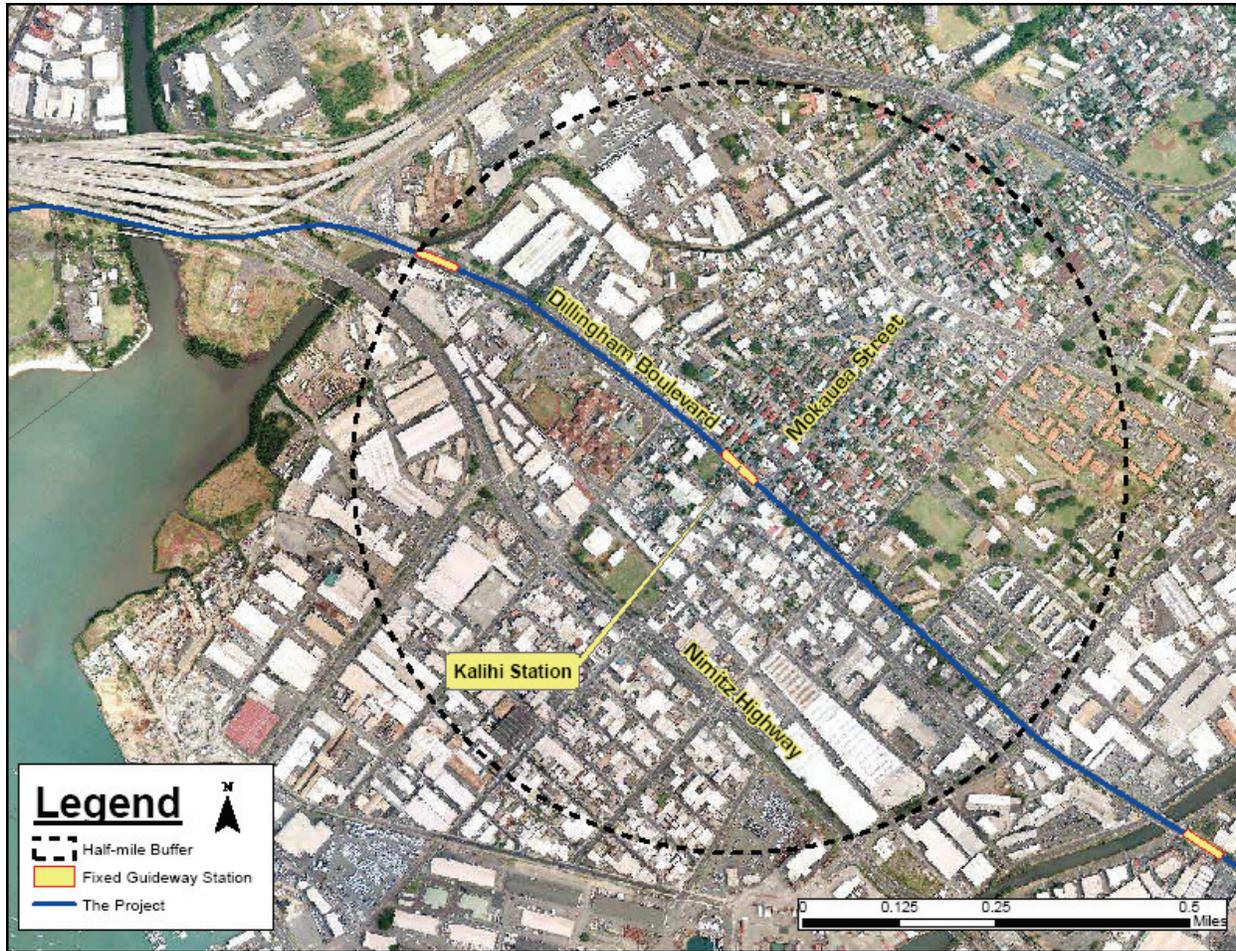
### **Summary**

With a variety of man-made and natural impediments, the Middle Street Transit Center Station area is not well suited for pedestrians and would meet only some of the criteria under the Category 1 and Category 2 precepts of LEED-ND. It has an estimated total LEED-ND score of 32, which is below the minimum score of 40 points for LEED-ND Certification. However, nearby underutilized industrial properties, many of which are brownfields, are likely to be redeveloped over time. These could be redeveloped into uses that would take advantage of the presence of rail transit. The key will be to build direct connections to the rail station into the design of these new developments, which could ultimately boost the overall LEED-ND score of the Middle Street Transit Center Station area. Green building design and materials should be incorporated in future construction, which may also boost the overall LEED-ND score in the final analysis. The LEED scorecard on the next page provides a preliminary quantitative assessment based on what is known today.

Middle Street Transit Center Station Area LEED Project Scorecard

Yes	?	No			27 Points Possible
15	3		<b>Smart Location and Linkage</b>		
Y			Prereq 1	<b>Smart Location</b>	Required
Y			Prereq 2	<b>Imperiled Species and Ecological Communities</b>	Required
Y			Prereq 3	<b>Wetland and Water Body Conservation</b>	Required
Y			Prereq 4	<b>Agricultural Land Conservation</b>	Required
Y			Prereq 5	<b>Floodplain Avoidance</b>	Required
3			Credit 1	<b>Preferred Locations</b>	10
1			Credit 2	<b>Brownfield Redevelopment</b>	2
7			Credit 3	<b>Locations with Reduced Automobile Dependence</b>	7
1			Credit 4	<b>Bicycle Network and Storage</b>	1
1			Credit 5	<b>Housing and Jobs Proximity</b>	3
1			Credit 6	<b>Steep Slope Protection</b>	1
1	1		Credit 7	<b>Site Design for Habitat or Wetland and Water Body Conservation</b>	1
	1		Credit 8	<b>Restoration of Habitat or Wetlands and Water Bodies</b>	1
	1		Credit 9	<b>Long-Term Conservation Management of Habitat or Wetlands and Water Bodie</b>	1
15			<b>Neighborhood Pattern and Design</b>		44 Points Possible
Y			Prereq 1	<b>Walkable Streets</b>	Required
Y			Prereq 2	<b>Compact Development</b>	Required
Y			Prereq 3	<b>Connected and Open Community</b>	Required
2			Credit 1	<b>Walkable Streets</b>	12
3			Credit 2	<b>Compact Development</b>	6
1			Credit 3	<b>Mixed-Use Neighborhood Centers</b>	4
3			Credit 4	<b>Mixed-Income Diverse Communities</b>	7
			Credit 5	<b>Reduced Parking Footprint</b>	1
			Credit 6	<b>Street Network</b>	2
1			Credit 7	<b>Transit Facilities</b>	1
1			Credit 8	<b>Transportation Demand Management</b>	2
1			Credit 9	<b>Access to Civic and Public Spaces</b>	1
1			Credit 10	<b>Access to Recreation Facilities</b>	1
			Credit 11	<b>Visitability and Universal Design</b>	1
1			Credit 12	<b>Community Outreach and Involvement</b>	2
			Credit 13	<b>Local Food Production</b>	1
			Credit 14	<b>Tree-Lined and Shaded Streets</b>	2
1			Credit 15	<b>Neighborhood Schools</b>	1
2	8		<b>Green Infrastructure and Buildings</b>		29 Points Possible
Y			Prereq 1	<b>Certified Green Building</b>	Required
Y			Prereq 2	<b>Minimum Building Energy Efficiency</b>	Required
Y			Prereq 3	<b>Minimum Building Water Efficiency</b>	Required
Y			Prereq 4	<b>Construction Activity Pollution Prevention</b>	Required
			Credit 1	<b>Certified Green Buildings</b>	5
	1		Credit 2	<b>Building Energy Efficiency</b>	2
	1		Credit 3	<b>Building Water Efficiency</b>	1
	1		Credit 4	<b>Water-Efficient Landscaping</b>	1
1			Credit 5	<b>Existing Building Use</b>	1
			Credit 6	<b>Historic Resource Preservation and Adaptive Reuse</b>	1
	1		Credit 7	<b>Minimized Site Disturbance in Design and Construction</b>	1
	1		Credit 8	<b>Stormwater Management</b>	4
			Credit 9	<b>Heat Island Reduction</b>	1
			Credit 10	<b>Solar Orientation</b>	1
1			Credit 11	<b>On-Site Renewable Energy Sources</b>	3
			Credit 12	<b>District Heating and Cooling</b>	2
	1		Credit 13	<b>Infrastructure Energy Efficiency</b>	1
	1		Credit 14	<b>Wastewater Management</b>	2
			Credit 15	<b>Recycled Content in Infrastructure</b>	1
			Credit 16	<b>Solid Waste Management Infrastructure</b>	1
	1		Credit 17	<b>Light Pollution Reduction</b>	1
			<b>Innovation and Design Process</b>		6 Points
			Credit 1.1	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.2	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.3	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.4	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.5	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 2	<b>LEED® Accredited Professional</b>	1
			<b>Regional Priority Credit</b>		4 Points
			Credit 1.1	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.2	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.3	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.4	<b>Regional Priority Credit: Region Defined</b>	1
32	11		<b>Project Totals (Certification estimates)</b>		110 Points
Certified: 40-49 points, Silver: 50-59 points, Gold: 60-79 points, Platinum: 80+ points					

## Kalihi Station



### Introduction

Kalihi Station will be located on Dillingham Boulevard at Mokauea Street. Access to the station will be dominated by transfers from local bus and walking. The area is primarily industrial and commercial with single- and multi-family housing mauka of the station. There is potential for improving pedestrian links between residential and industrial areas. However, there are several constraints relating to non-motorized access, including heavy auto traffic volumes, narrow sidewalks, and street frontages that are designed more for cars than pedestrians.

### LEED-ND Assessment

#### ***Smart Location and Linkages (Category 1)***

Kalihi is an older urban neighborhood with relatively small blocks and narrow streets that offer the potential for easy pedestrian connections to the station. The introduction of high-quality regional rail transit along with a mix of land uses and relatively high-density housing provides an opportunity for reduced dependence on the automobile. To accommodate pedestrian and bicycle access, some improvements to existing sidewalks will be needed as well as calming of traffic, particularly along Dillingham Boulevard. With these improvements, overall linkages in the Kalihi Station area will be enhanced, including connections between various land uses. Future development is likely to be in the form of urban infill and redevelopment of underutilized parcels, some of which could be brownfields.

### ***Neighborhood Pattern and Design (Category 2)***

A complete street network provides the potential for good pedestrian accessibility. However, sidewalks in the station area tend to be narrow and discontinuous. Dillingham Boulevard is a busy, heavily travelled road with narrow lanes, making conditions difficult for bicyclists.

With a mix of land uses, small blocks, and a variety of relatively affordable medium-density housing options, Kalihi is ideally situated for high-quality rail service. As properties are redeveloped, improved pedestrian and bicycle links in the station area will help address current constraints.

### ***Green Construction and Technology (Category 3)***

Existing infrastructure should be reused and restored in ways to encourage the implementation of sustainable principles. The rail station will contain many sustainable elements, such as recycled materials and natural ventilation and lighting. The City should encourage the use of energy-efficient building techniques and resources if LEED-ND is pursued.

### **Summary**

The Kalihi Station area could meet many of the criteria under the Category 1 and Category 2 precepts of LEED-ND. It has an estimated total LEED-ND score of 56, which is above the minimum score of 50 points for LEED-ND Silver. Future development is likely to be in the form of urban infill and redevelopment of brownfields. Streets and sidewalks should be improved to encourage pedestrians and bicyclists. Green building design and materials should be incorporated in future construction. The LEED scorecard on the next page provides a preliminary quantitative assessment based on what is known today.

Kalihi Station Area LEED Project Scorecard

Yes	?	No	<b>22</b>	<b>3</b>	<b>Smart Location and Linkage</b>	<b>27 Points Possible</b>
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Y			Prereq 1	<b>Smart Location</b>	Required
Y			Prereq 2	<b>Imperiled Species and Ecological Communities</b>	Required
Y			Prereq 3	<b>Wetland and Water Body Conservation</b>	Required
Y			Prereq 4	<b>Agricultural Land Conservation</b>	Required
Y			Prereq 5	<b>Floodplain Avoidance</b>	Required
9			Credit 1	<b>Preferred Locations</b>	10
1			Credit 2	<b>Brownfield Redevelopment</b>	2
7			Credit 3	<b>Locations with Reduced Automobile Dependence</b>	7
1			Credit 4	<b>Bicycle Network and Storage</b>	1
3			Credit 5	<b>Housing and Jobs Proximity</b>	3
1			Credit 6	<b>Steep Slope Protection</b>	1
	1		Credit 7	<b>Site Design for Habitat or Wetland and Water Body Conservation</b>	1
	1		Credit 8	<b>Restoration of Habitat or Wetlands and Water Bodies</b>	1
	1		Credit 9	<b>Long-Term Conservation Management of Habitat or Wetlands and Water Bodie</b>	1

Yes	?	No	<b>32</b>	<b>Neighborhood Pattern and Design</b>	<b>44 Points Possible</b>
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Y			Prereq 1	<b>Walkable Streets</b>	Required
Y			Prereq 2	<b>Compact Development</b>	Required
Y			Prereq 3	<b>Connected and Open Community</b>	Required
8			Credit 1	<b>Walkable Streets</b>	12
5			Credit 2	<b>Compact Development</b>	6
3			Credit 3	<b>Mixed-Use Neighborhood Centers</b>	4
6			Credit 4	<b>Mixed-Income Diverse Communities</b>	7
1			Credit 5	<b>Reduced Parking Footprint</b>	1
2			Credit 6	<b>Street Network</b>	2
1			Credit 7	<b>Transit Facilities</b>	1
1			Credit 8	<b>Transportation Demand Management</b>	2
1			Credit 9	<b>Access to Civic and Public Spaces</b>	1
1			Credit 10	<b>Access to Recreation Facilities</b>	1
1			Credit 11	<b>Visitability and Universal Design</b>	1
1			Credit 12	<b>Community Outreach and Involvement</b>	2
1			Credit 13	<b>Local Food Production</b>	1
1			Credit 14	<b>Tree-Lined and Shaded Streets</b>	2
1			Credit 15	<b>Neighborhood Schools</b>	1

Yes	?	No	<b>2</b>	<b>8</b>	<b>Green Infrastructure and Buildings</b>	<b>29 Points Possible</b>
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Y			Prereq 1	<b>Certified Green Building</b>	Required
Y			Prereq 2	<b>Minimum Building Energy Efficiency</b>	Required
Y			Prereq 3	<b>Minimum Building Water Efficiency</b>	Required
Y			Prereq 4	<b>Construction Activity Pollution Prevention</b>	Required
			Credit 1	<b>Certified Green Buildings</b>	5
	1		Credit 2	<b>Building Energy Efficiency</b>	2
	1		Credit 3	<b>Building Water Efficiency</b>	1
	1		Credit 4	<b>Water-Efficient Landscaping</b>	1
1			Credit 5	<b>Existing Building Use</b>	1
	1		Credit 6	<b>Historic Resource Preservation and Adaptive Reuse</b>	1
	1		Credit 7	<b>Minimized Site Disturbance in Design and Construction</b>	1
	1		Credit 8	<b>Stormwater Management</b>	4
	1		Credit 9	<b>Heat Island Reduction</b>	1
	1		Credit 10	<b>Solar Orientation</b>	1
1			Credit 11	<b>On-Site Renewable Energy Sources</b>	3
	1		Credit 12	<b>District Heating and Cooling</b>	2
	1		Credit 13	<b>Infrastructure Energy Efficiency</b>	1
	1		Credit 14	<b>Wastewater Management</b>	2
	1		Credit 15	<b>Recycled Content in Infrastructure</b>	1
	1		Credit 16	<b>Solid Waste Management Infrastructure</b>	1
	1		Credit 17	<b>Light Pollution Reduction</b>	1

Yes	?	No			<b>Innovation and Design Process</b>	<b>6 Points</b>
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			Credit 1.1	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.2	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.3	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.4	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.5	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 2	<b>LEED® Accredited Professional</b>	1

Yes	?	No			<b>Regional Priority Credit</b>	<b>4 Points</b>
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			Credit 1.1	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.2	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.3	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.4	<b>Regional Priority Credit: Region Defined</b>	1

Yes	?	No	<b>56</b>	<b>11</b>	<b>Project Totals (Certification estimates)</b>	<b>110 Points</b>
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Certified: 40-49 points, Silver: 50-59 points, Gold: 60-79 points, Platinum: 80+ points

## Kapālama Station



### Introduction

Kapālama Station is located on Dillingham Boulevard at Kōkea Street. The area mauka of the station includes Honolulu Community College, retail centers, moderate-density housing, and some industrial uses. Makai of the station there is a mix of commercial and industrial uses, including retail activities and several big-box stores. Access to the station will be dominated by walking, with some transfers from local bus.

### LEED-ND Assessment

#### **Smart Location and Linkage (Category 1)**

A mix of land uses is located within one-half mile of the Kapālama Station, including Honolulu Community College. The rail station will provide an opportunity to strengthen linkages within the community through Honolulu Community College, the trail along Kapālama Canal, surrounding businesses, and residences.

The station area is characterized by an urban environment with moderate pedestrian connectivity. Large blocks and busy streets tend to make walking difficult. Nearby underutilized commercial property provides opportunities for infill and redevelopment, including on former brownfields. The availability of high-quality rail service and the potential for enhanced pedestrian and bike connections within the station area will result in reduced reliance on auto travel.

### ***Neighborhood Pattern and Design (Category 2)***

There is limited pedestrian accessibility in existing industrial and commercial locations near the station area. Implementation of sidewalk and pathway improvements could increase pedestrian and bicycle usage of the station area. Therefore, it will be important to ensure safe and comfortable paths leading to the station. Measures to calm traffic and improve safety for bicyclists and pedestrians should be explored near Dillingham Highway, Kōkea Street, and adjacent streets.

### ***Green Construction and Technology (Category 3)***

Existing infrastructure should be redeveloped in ways to encourage the implementation of sustainable principles. The rail station will contain many sustainable elements, such as recycled materials and natural ventilation and lighting. The City should encourage the use of energy-efficient building techniques and resources if LEED-ND is pursued.

### **Summary**

The Kapālama Station area could meet many of the criteria under the Category 1 and Category 2 precepts of LEED-ND. It has an estimated total LEED-ND score of 45, which is above the minimum score of 40 points for LEED-ND Silver. It is an existing urban environment with mixed land uses and has a major attraction in Honolulu Community College. New development near the station will likely be in the form of infill and redevelopment. Enhanced pedestrian connections will further improve accessibility. Green building design and materials should be incorporated in future construction. The LEED scorecard on the next page provides a preliminary quantitative assessment based on what is known today.

Kapalama Station Area LEED Project Scorecard

Yes	?	No			27 Points Possible
18	3		<b>Smart Location and Linkage</b>		
Y			Prereq 1	<b>Smart Location</b>	Required
Y			Prereq 2	<b>Imperiled Species and Ecological Communities</b>	Required
Y			Prereq 3	<b>Wetland and Water Body Conservation</b>	Required
Y			Prereq 4	<b>Agricultural Land Conservation</b>	Required
Y			Prereq 5	<b>Floodplain Avoidance</b>	Required
5			Credit 1	<b>Preferred Locations</b>	10
1			Credit 2	<b>Brownfield Redevelopment</b>	2
7			Credit 3	<b>Locations with Reduced Automobile Dependence</b>	7
1			Credit 4	<b>Bicycle Network and Storage</b>	1
3			Credit 5	<b>Housing and Jobs Proximity</b>	3
1			Credit 6	<b>Steep Slope Protection</b>	1
	1		Credit 7	<b>Site Design for Habitat or Wetland and Water Body Conservation</b>	1
	1		Credit 8	<b>Restoration of Habitat or Wetlands and Water Bodies</b>	1
	1		Credit 9	<b>Long-Term Conservation Management of Habitat or Wetlands and Water Bodie</b>	1
25			<b>Neighborhood Pattern and Design</b>		44 Points Possible
Y			Prereq 1	<b>Walkable Streets</b>	Required
Y			Prereq 2	<b>Compact Development</b>	Required
Y			Prereq 3	<b>Connected and Open Community</b>	Required
7			Credit 1	<b>Walkable Streets</b>	12
3			Credit 2	<b>Compact Development</b>	6
3			Credit 3	<b>Mixed-Use Neighborhood Centers</b>	4
5			Credit 4	<b>Mixed-Income Diverse Communities</b>	7
			Credit 5	<b>Reduced Parking Footprint</b>	1
1			Credit 6	<b>Street Network</b>	2
1			Credit 7	<b>Transit Facilities</b>	1
1			Credit 8	<b>Transportation Demand Management</b>	2
1			Credit 9	<b>Access to Civic and Public Spaces</b>	1
1			Credit 10	<b>Access to Recreation Facilities</b>	1
			Credit 11	<b>Visitability and Universal Design</b>	1
1			Credit 12	<b>Community Outreach and Involvement</b>	2
			Credit 13	<b>Local Food Production</b>	1
			Credit 14	<b>Tree-Lined and Shaded Streets</b>	2
1			Credit 15	<b>Neighborhood Schools</b>	1
2	8		<b>Green Infrastructure and Buildings</b>		29 Points Possible
Y			Prereq 1	<b>Certified Green Building</b>	Required
Y			Prereq 2	<b>Minimum Building Energy Efficiency</b>	Required
Y			Prereq 3	<b>Minimum Building Water Efficiency</b>	Required
Y			Prereq 4	<b>Construction Activity Pollution Prevention</b>	Required
			Credit 1	<b>Certified Green Buildings</b>	5
	1		Credit 2	<b>Building Energy Efficiency</b>	2
	1		Credit 3	<b>Building Water Efficiency</b>	1
	1		Credit 4	<b>Water-Efficient Landscaping</b>	1
1			Credit 5	<b>Existing Building Use</b>	1
			Credit 6	<b>Historic Resource Preservation and Adaptive Reuse</b>	1
	1		Credit 7	<b>Minimized Site Disturbance in Design and Construction</b>	1
	1		Credit 8	<b>Stormwater Management</b>	4
			Credit 9	<b>Heat Island Reduction</b>	1
			Credit 10	<b>Solar Orientation</b>	1
1			Credit 11	<b>On-Site Renewable Energy Sources</b>	3
			Credit 12	<b>District Heating and Cooling</b>	2
	1		Credit 13	<b>Infrastructure Energy Efficiency</b>	1
	1		Credit 14	<b>Wastewater Management</b>	2
			Credit 15	<b>Recycled Content in Infrastructure</b>	1
			Credit 16	<b>Solid Waste Management Infrastructure</b>	1
	1		Credit 17	<b>Light Pollution Reduction</b>	1
			<b>Innovation and Design Process</b>		6 Points
			Credit 1.1	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.2	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.3	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.4	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.5	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 2	<b>LEED® Accredited Professional</b>	1
			<b>Regional Priority Credit</b>		4 Points
			Credit 1.1	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.2	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.3	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.4	<b>Regional Priority Credit: Region Defined</b>	1
45	11		<b>Project Totals (Certification estimates)</b>		110 Points
Certified: 40-49 points, Silver: 50-59 points, Gold: 60-79 points, Platinum: 80+ points					

## Iwilei Station



### Introduction

Iwilei Station will be located 'Ewa of Downtown Honolulu, between Kapālama Street and Chinatown. The area includes a mix of commercial, industrial, and residential uses. Access to the station will be dominated by bus transfers as well as walking and passenger drop-offs.

### LEED-ND Assessment

#### ***Smart Location and Linkage (Category 1)***

The Iwilei Station area is primarily industrial with retail and residential uses located mauka. The commercial and industrial uses in the station area are similar to those in the Kalihi and Kapālama Station areas, but residential uses are more extensive and include Major Wright Homes and Kukui Gardens, both U.S. Housing and Urban Development low-rise residences. In addition, mid-rise senior and low-income housing is planned near the station, and services for the homeless, including a shelter, are located nearby.

Nearby vacant and underutilized parcels, including some brownfields, provide an opportunity for redevelopment and new infill development. Redevelopment should focus on activating the station area throughout the day, improving safety and security, and providing aesthetic enhancements.

In addition to the future rail station, several bus routes serve this area. Bus and rail transfers will take place adjacent to the station entrance on both Dillingham Boulevard

and Ka'aahi Street. Although not a complete grid street network, there are many intersections in the area and most streets have sidewalks. The current bike plan for the general area supports bike routes along Nimitz Highway. The plan also proposes additional bike routes along King and Beretania Streets to better connect to neighborhoods on the mauka and 'Ewa sides of the rail station. The bike plan would also provide an opportunity to address traffic operations and speeds in a manner compatible with bicycling and walking. The Project and improved pedestrian access to the station will attract riders and reduce dependency on auto travel.

### ***Neighborhood Pattern and Design (Category 2)***

The future Kalihi-Palama Action Plan identifies a planned pedestrian promenade along the makai side of Nimitz Highway, from Middle Street to Iwilei. Additionally, existing and planned mixed-uses in the Iwilei Station area include rental and owner-occupied housing. Heavily traveled streets in the station area, such as King Street and Dillingham Boulevard, are difficult for pedestrians and bicyclists to traverse. However, with potential high volumes of bicycle and pedestrian users of the station, there will be substantial demand on sidewalk and street capacity.

Measures to calm traffic and improve safety for bicyclists and pedestrians should be explored as part of new development planning and design surrounding the transit station along with street and sidewalk improvements. The Kalihi-Palama Action Plan, future new housing developments in the station area, and the current bike plan for the community can provide opportunities for implementing these improvements.

### ***Green Construction and Technology (Category 3)***

Existing infrastructure should be reused and restored in ways to encourage the implementation of sustainable principles. The rail station will contain many sustainable elements, such as recycled materials and natural ventilation and lighting. The City should encourage the use of energy-efficient building techniques and resources if LEED-ND is pursued.

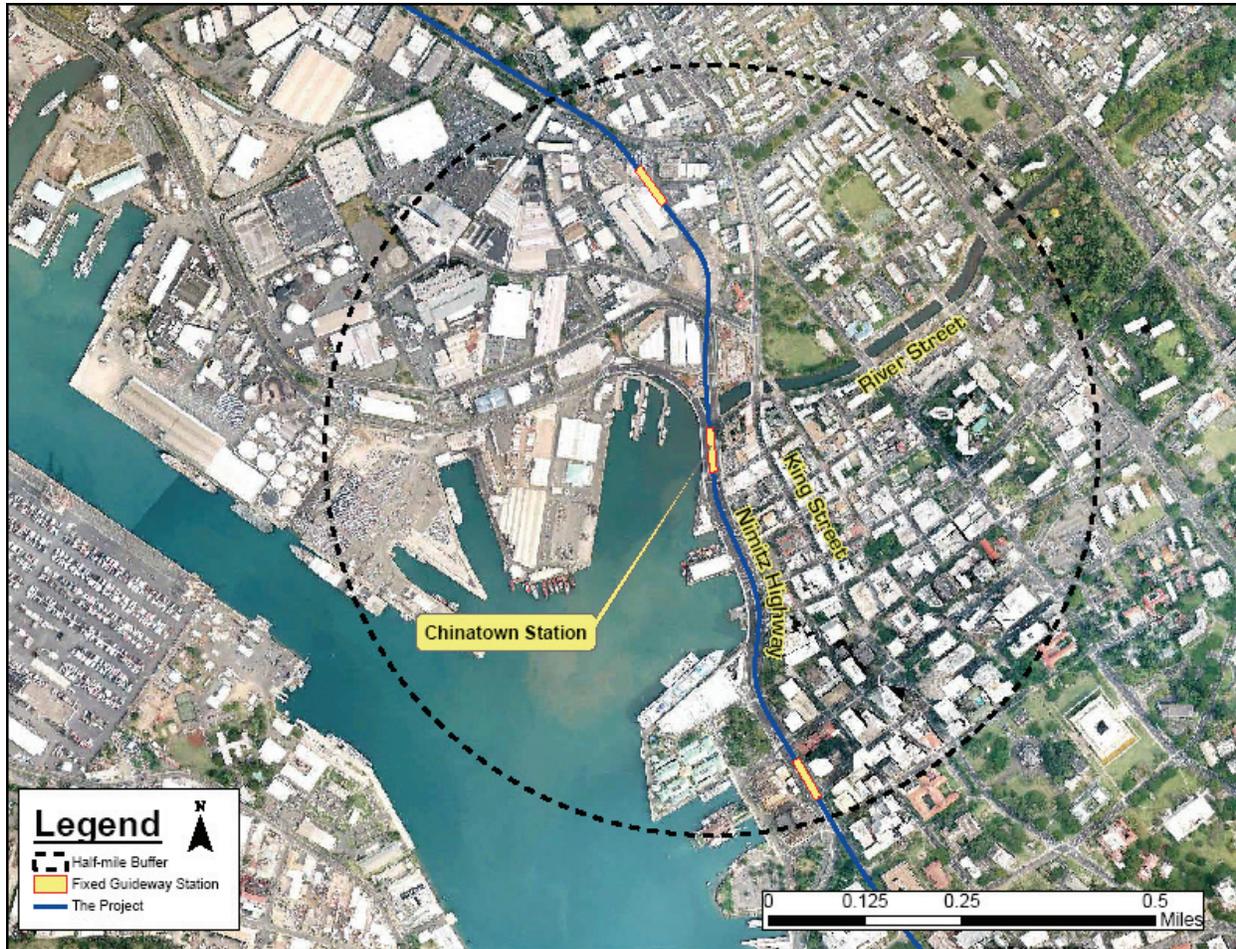
### **Summary**

The Iwilei Station area could meet many of the criteria under the Category 1 and Category 2 precepts of LEED-ND. It has an estimated total LEED-ND score of 50, which meets the minimum score for LEED-ND Silver. Underutilized properties, many of which are brownfields, are likely to be redeveloped as this area is very close to Downtown. The location of the transit station will benefit nearby employment centers and neighborhoods by introducing quick and reliable transportation. Green building design and materials should be incorporated in future construction. The LEED scorecard on the next page provides a preliminary quantitative assessment based on what is known today.

Iwilei Station Area LEED Project Scorecard

Yes	?	No			27 Points Possible
21	3		<b>Smart Location and Linkage</b>		
Y			Prereq 1	<b>Smart Location</b>	Required
Y			Prereq 2	<b>Imperiled Species and Ecological Communities</b>	Required
Y			Prereq 3	<b>Wetland and Water Body Conservation</b>	Required
Y			Prereq 4	<b>Agricultural Land Conservation</b>	Required
Y			Prereq 5	<b>Floodplain Avoidance</b>	Required
8			Credit 1	<b>Preferred Locations</b>	10
1			Credit 2	<b>Brownfield Redevelopment</b>	2
7			Credit 3	<b>Locations with Reduced Automobile Dependence</b>	7
1			Credit 4	<b>Bicycle Network and Storage</b>	1
3			Credit 5	<b>Housing and Jobs Proximity</b>	3
1			Credit 6	<b>Steep Slope Protection</b>	1
	1		Credit 7	<b>Site Design for Habitat or Wetland and Water Body Conservation</b>	1
	1		Credit 8	<b>Restoration of Habitat or Wetlands and Water Bodies</b>	1
	1		Credit 9	<b>Long-Term Conservation Management of Habitat or Wetlands and Water Bodie</b>	1
27			<b>Neighborhood Pattern and Design</b>		44 Points Possible
Y			Prereq 1	<b>Walkable Streets</b>	Required
Y			Prereq 2	<b>Compact Development</b>	Required
Y			Prereq 3	<b>Connected and Open Community</b>	Required
4			Credit 1	<b>Walkable Streets</b>	12
5			Credit 2	<b>Compact Development</b>	6
4			Credit 3	<b>Mixed-Use Neighborhood Centers</b>	4
6			Credit 4	<b>Mixed-Income Diverse Communities</b>	7
1			Credit 5	<b>Reduced Parking Footprint</b>	1
1			Credit 6	<b>Street Network</b>	2
1			Credit 7	<b>Transit Facilities</b>	1
1			Credit 8	<b>Transportation Demand Management</b>	2
1			Credit 9	<b>Access to Civic and Public Spaces</b>	1
1			Credit 10	<b>Access to Recreation Facilities</b>	1
			Credit 11	<b>Visitability and Universal Design</b>	1
1			Credit 12	<b>Community Outreach and Involvement</b>	2
			Credit 13	<b>Local Food Production</b>	1
			Credit 14	<b>Tree-Lined and Shaded Streets</b>	2
1			Credit 15	<b>Neighborhood Schools</b>	1
2	8		<b>Green Infrastructure and Buildings</b>		29 Points Possible
Y			Prereq 1	<b>Certified Green Building</b>	Required
Y			Prereq 2	<b>Minimum Building Energy Efficiency</b>	Required
Y			Prereq 3	<b>Minimum Building Water Efficiency</b>	Required
Y			Prereq 4	<b>Construction Activity Pollution Prevention</b>	Required
			Credit 1	<b>Certified Green Buildings</b>	5
	1		Credit 2	<b>Building Energy Efficiency</b>	2
	1		Credit 3	<b>Building Water Efficiency</b>	1
	1		Credit 4	<b>Water-Efficient Landscaping</b>	1
1			Credit 5	<b>Existing Building Use</b>	1
1			Credit 6	<b>Historic Resource Preservation and Adaptive Reuse</b>	1
	1		Credit 7	<b>Minimized Site Disturbance in Design and Construction</b>	1
	1		Credit 8	<b>Stormwater Management</b>	4
			Credit 9	<b>Heat Island Reduction</b>	1
			Credit 10	<b>Solar Orientation</b>	1
			Credit 11	<b>On-Site Renewable Energy Sources</b>	3
			Credit 12	<b>District Heating and Cooling</b>	2
	1		Credit 13	<b>Infrastructure Energy Efficiency</b>	1
	1		Credit 14	<b>Wastewater Management</b>	2
			Credit 15	<b>Recycled Content in Infrastructure</b>	1
			Credit 16	<b>Solid Waste Management Infrastructure</b>	1
	1		Credit 17	<b>Light Pollution Reduction</b>	1
			<b>Innovation and Design Process</b>		6 Points
			Credit 1.1	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.2	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.3	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.4	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.5	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 2	<b>LEED® Accredited Professional</b>	1
			<b>Regional Priority Credit</b>		4 Points
			Credit 1.1	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.2	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.3	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.4	<b>Regional Priority Credit: Region Defined</b>	1
50	11		<b>Project Totals (Certification estimates)</b>		110 Points
Certified: 40-49 points, Silver: 50-59 points, Gold: 60-79 points, Platinum: 80+ points					

## Chinatown Station



### Introduction

The Chinatown Station will be located on Nimitz Highway between River and Kekaulike Streets. The station area is characterized by a variety of uses, including commercial, housing, and retail. This station is in the Chinatown Special District, which is heavily frequented by both tourists and residents. Access to the station will be dominated by walking, with some transfers from local buses operating on King and Hotel Streets.

The rail transit service and local walk and bicycle improvements will improve overall access to Chinatown and reduce reliance on auto travel. Any new development in the station area will conform to existing historic overlay districts in Chinatown that preserve cultural, historic, and other resources.

### LEED-ND Assessment

#### ***Smart Location and Linkage (Category 1)***

The Chinatown Station will be approximately two blocks from Hotel and King Streets, the main transit streets in the area. Numerous bus routes are available along these streets. The station area includes diverse uses, such as restaurants, art galleries, and small low-rise historic commercial buildings with offices and some housing above. In addition to being in a historic commercial area visited by local residents and tourists, the Chinatown Station is also located near major residential and employment concentrations at the 'Ewa end of Downtown Honolulu. The Project and improved

pedestrian access to the station will attract riders and reduce dependency on auto travel.

### ***Neighborhood Pattern and Design (Category 2)***

Chinatown has a traditional block-grid pattern of streets that provides connectivity throughout the area. Mixed-use development in the area is very compact and includes ownership and rental housing. There are existing sidewalks in the station area.

A large number of pedestrians and bicyclists use the sidewalk and roadway network. However, heavy automobile traffic and narrow sidewalks restrict non-motorized traffic in the area and detract from the pedestrian street environment. Bike route improvements are needed along Kekaulike, King, and River Streets and Nimitz Highway.

At a minimum, it will be important to provide comfortable, direct paths to the Chinatown Station entrance, with a minimum of interference from vehicle activity. Additionally, measures to calm traffic and improve safety for bicyclists and pedestrians should be explored in future street changes in the station area.

Through application of architectural and other design guidelines and standards for developments, the City has implemented zoning “overlay districts” to preserve individual and groupings of historic and cultural resources. Such overlay districts are already established for Chinatown. The establishment of controls to protect and enhance important historic and cultural resources affects station area design.

### ***Green Construction and Technology (Category 3)***

Existing infrastructure should be reused and restored in ways to encourage the implementation of sustainable principles. The rail station will contain many sustainable elements, such as recycled materials and natural ventilation and lighting. The City should encourage the use of energy-efficient building techniques and resources if LEED-ND is pursued.

### **Summary**

The Chinatown Station area could meet many of the criteria under the Category 1 and Category 2 precepts of LEED-ND. It has an estimated total LEED-ND score of 60, which meets the minimum score for LEED-ND Silver. Development around the station area is controlled by the design guidelines of the Chinatown Special District, which regulate architectural character, signs, lighting, parking, courtyards, and public improvements<sup>1</sup>. Key guidelines include:

- New buildings in the Mauka and Makai Precincts (located in the northern and southern extremes of the district) should be stepped back in height above the 40-foot elevation to maintain and reinforce the typical Chinatown streetscape of older two and three story buildings
- Buildings should be aligned at the property line (i.e. no setback) to reinforce the existing street edge
- Additions to existing buildings should be set back from the street façade to minimize visual impact

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<sup>1</sup> City and County of Honolulu Department of Land Utilization. *Chinatown Special District Guidelines*. April 1991.

- New buildings next to architecturally or historically significant buildings should be no more than one story higher than adjacent buildings
- For new designs, façade treatment should incorporate traditional components seen elsewhere in the district
- Doors and windows should be traditional
- Canopies are encouraged
- Signs should use serif fonts and be limited to the appearance of those from the turn of the century through the 1940s
- Subdued, pendant style lighting fixtures
- Screened parking and loading areas
- Landscaped interior courtyards are encouraged
- Ballast block curbing and sidewalks using the same materials as those on the Hotel Street Transit Mall
- Use of special district light fixtures, street signs, and bus shelters
- Traditional street furniture (e.g., wrought iron)

Section 21.9.60 of the Land Use Ordinance (LUO) reiterates many of the guidelines shown above, but also provides the following key objectives and development standards for the historic core precinct located in the heart of Chinatown Special District:

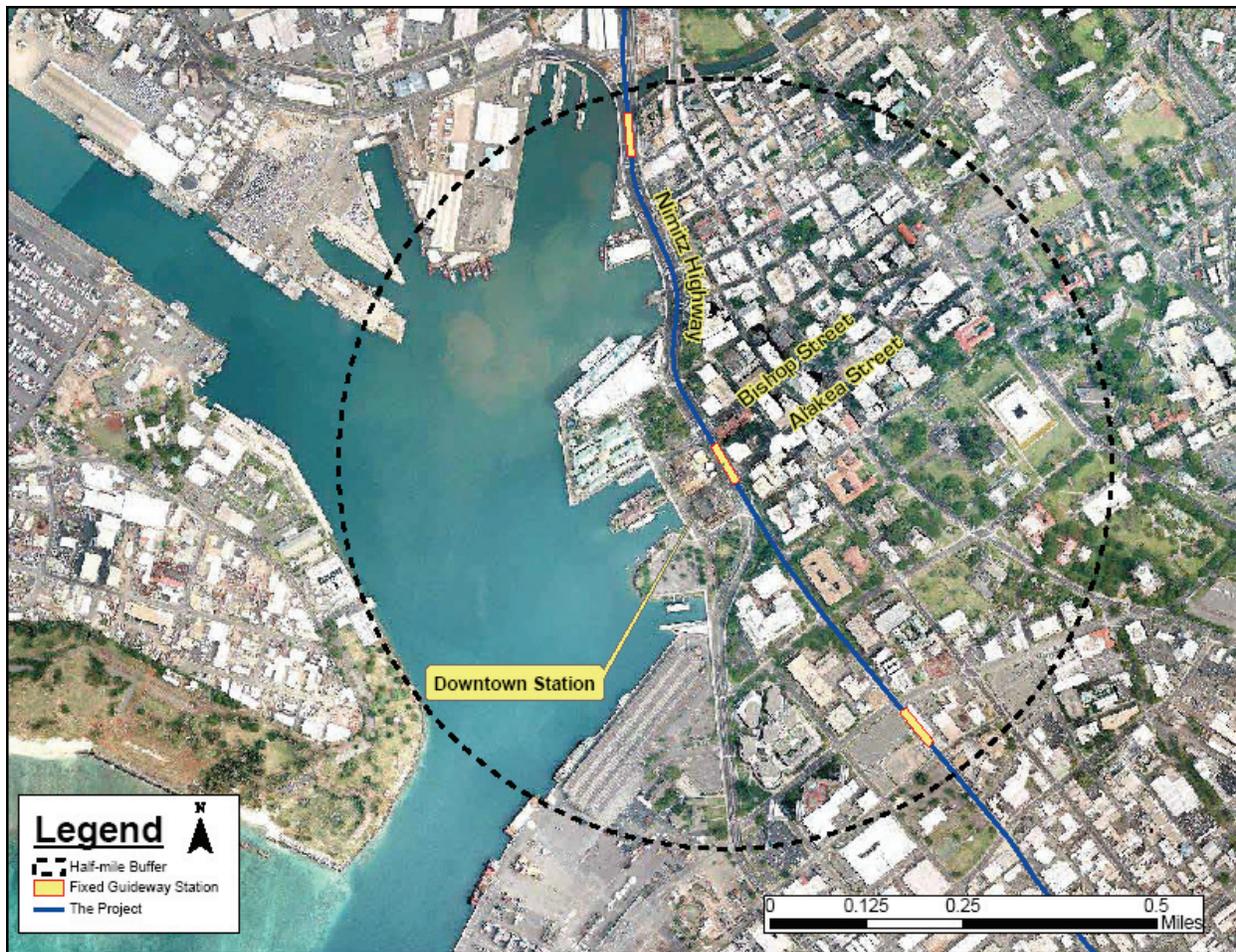
- Encourage one- and two-family dwelling use to provide a variety of compatible uses which would contribute to the precinct's social and economic vitality [Sec. 21-9.60-8 (d)]
- Within the historic core precinct, new structures shall not exceed 40 feet [Sec. 21-9.60-9 (a)]
- Ground floor spaces should be used exclusively for retail commercial uses, or light food manufacturing of an ethnic nature [Sec. 21-9.60-9 (d)]
- Dwelling units within the 40-foot height limit shall be exempt from off-street parking requirements [Sec. 21-9.60.9 (e)]

In addition, any redevelopment should be designed to support pedestrian and bicycle access to the station. Multiple land ownership in the station area could make coordinated redevelopment challenging, and continued coordination with the City's TOD planning efforts will be required. Green building design and materials should be incorporated in future construction. The LEED scorecard on the next page provides a preliminary quantitative assessment based on what is known today.

Chinatown Station Area LEED Project Scorecard

Yes	?	No			27 Points Possible
20	3		<b>Smart Location and Linkage</b>		
Y			Prereq 1	<b>Smart Location</b>	Required
Y			Prereq 2	<b>Imperiled Species and Ecological Communities</b>	Required
Y			Prereq 3	<b>Wetland and Water Body Conservation</b>	Required
Y			Prereq 4	<b>Agricultural Land Conservation</b>	Required
Y			Prereq 5	<b>Floodplain Avoidance</b>	Required
8			Credit 1	<b>Preferred Locations</b>	10
1			Credit 2	<b>Brownfield Redevelopment</b>	2
6			Credit 3	<b>Locations with Reduced Automobile Dependence</b>	7
1			Credit 4	<b>Bicycle Network and Storage</b>	1
3			Credit 5	<b>Housing and Jobs Proximity</b>	3
1			Credit 6	<b>Steep Slope Protection</b>	1
	1		Credit 7	<b>Site Design for Habitat or Wetland and Water Body Conservation</b>	1
	1		Credit 8	<b>Restoration of Habitat or Wetlands and Water Bodies</b>	1
	1		Credit 9	<b>Long-Term Conservation Management of Habitat or Wetlands and Water Bodie</b>	1
37			<b>Neighborhood Pattern and Design</b>		44 Points Possible
Y			Prereq 1	<b>Walkable Streets</b>	Required
Y			Prereq 2	<b>Compact Development</b>	Required
Y			Prereq 3	<b>Connected and Open Community</b>	Required
11			Credit 1	<b>Walkable Streets</b>	12
6			Credit 2	<b>Compact Development</b>	6
3			Credit 3	<b>Mixed-Use Neighborhood Centers</b>	4
6			Credit 4	<b>Mixed-Income Diverse Communities</b>	7
1			Credit 5	<b>Reduced Parking Footprint</b>	1
2			Credit 6	<b>Street Network</b>	2
1			Credit 7	<b>Transit Facilities</b>	1
1			Credit 8	<b>Transportation Demand Management</b>	2
1			Credit 9	<b>Access to Civic and Public Spaces</b>	1
1			Credit 10	<b>Access to Recreation Facilities</b>	1
1			Credit 11	<b>Visitability and Universal Design</b>	1
1			Credit 12	<b>Community Outreach and Involvement</b>	2
1			Credit 13	<b>Local Food Production</b>	1
1			Credit 14	<b>Tree-Lined and Shaded Streets</b>	2
1			Credit 15	<b>Neighborhood Schools</b>	1
3	8		<b>Green Infrastructure and Buildings</b>		29 Points Possible
Y			Prereq 1	<b>Certified Green Building</b>	Required
Y			Prereq 2	<b>Minimum Building Energy Efficiency</b>	Required
Y			Prereq 3	<b>Minimum Building Water Efficiency</b>	Required
Y			Prereq 4	<b>Construction Activity Pollution Prevention</b>	Required
	1		Credit 1	<b>Certified Green Buildings</b>	5
	1		Credit 2	<b>Building Energy Efficiency</b>	2
	1		Credit 3	<b>Building Water Efficiency</b>	1
	1		Credit 4	<b>Water-Efficient Landscaping</b>	1
1			Credit 5	<b>Existing Building Use</b>	1
1			Credit 6	<b>Historic Resource Preservation and Adaptive Reuse</b>	1
	1		Credit 7	<b>Minimized Site Disturbance in Design and Construction</b>	1
	1		Credit 8	<b>Stormwater Management</b>	4
	1		Credit 9	<b>Heat Island Reduction</b>	1
	1		Credit 10	<b>Solar Orientation</b>	1
1			Credit 11	<b>On-Site Renewable Energy Sources</b>	3
	1		Credit 12	<b>District Heating and Cooling</b>	2
	1		Credit 13	<b>Infrastructure Energy Efficiency</b>	1
	1		Credit 14	<b>Wastewater Management</b>	2
	1		Credit 15	<b>Recycled Content in Infrastructure</b>	1
	1		Credit 16	<b>Solid Waste Management Infrastructure</b>	1
	1		Credit 17	<b>Light Pollution Reduction</b>	1
			<b>Innovation and Design Process</b>		6 Points
			Credit 1.1	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.2	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.3	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.4	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.5	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 2	<b>LEED® Accredited Professional</b>	1
			<b>Regional Priority Credit</b>		4 Points
			Credit 1.1	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.2	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.3	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.4	<b>Regional Priority Credit: Region Defined</b>	1
60	11		<b>Project Totals (Certification estimates)</b>		110 Points
Certified: 40-49 points, Silver: 50-59 points, Gold: 60-79 points, Platinum: 80+ points					

## Downtown Station



### Introduction

The Downtown Station will be located on Nimitz Highway near Bishop Street. The station area is in the central business district of Honolulu that includes high-density office and residential buildings as well as major retail centers. In addition, the Fort Street pedestrian mall, Aloha Tower Marketplace, and O'ahu's main cruise ship terminal are near the station. Access to the station will be dominated by walking, biking, and bus service.

### LEED-ND Assessment

#### ***Smart Location and Linkage (Category 1)***

The Downtown Station will be near the densest concentration of jobs in the study corridor. High-density office and residential buildings are near the site, providing opportunities for many people to walk to the station. Additional office and residential uses can be reached within a short bus ride. For those working in Downtown Honolulu, daily parking rates, which are among the highest in the nation, will provide ample incentive to take the train.

With rail service, the large number of bus routes serving the Downtown area, the high costs for parking, and a network of pedestrian links within Downtown Honolulu, there is substantial potential to reduce automobile dependency in Downtown Honolulu.

Redevelopment potential is limited due to existing density; however, several potential brownfield sites nearby have good redevelopment opportunities.

### ***Neighborhood Pattern and Design (Category 2)***

The Downtown Station area is characterized by a block-grid pattern of streets, which provides a high degree of connectivity. Development in the area is very compact with a diversity of land uses, including office and residential buildings, retail, restaurants, government buildings, and tourist attractions.

The sidewalk system is heavily used; however, parts of the station area are unfriendly to pedestrians due to heavy traffic volumes and difficult street crossings. This includes Nimitz Highway, which is wide and heavily traveled. The Downtown Station will include an elevated concourse over Nimitz Highway. This concourse could be designed so as to allow pedestrians to reach makai and mauka sides of Nimitz Highway without being delayed by traffic. Additional measures to calm traffic and improve safety for bicyclists and pedestrians should be explored in designing future street improvements in the station area.

Irwin Memorial Park and Kaka'ako Waterfront Park are within walking distance of the station site and provide some green space in an otherwise densely developed area. Aloha Tower Marketplace, the Hawai'i State Capitol, 'Iolani Palace, and the Fort Street pedestrian mall also provide public spaces for those living, working, and visiting the Downtown Station area.

### ***Green Construction and Technology (Category 3)***

Existing infrastructure should be reused and restored in ways to encourage the implementation of sustainable principles. The rail station will contain many sustainable elements, such as recycled materials and natural ventilation and lighting. The City should encourage the use of energy-efficient building techniques and resources if LEED-ND is pursued.

### **Summary**

The Downtown Station area could meet many of the criteria under the Category 1 and Category 2 precepts of LEED-ND. It has an estimated total LEED-ND score of 61, which is above the minimum score of 60 points for LEED-ND Gold. Future rail service and other factors, such as high parking costs (typically \$30–\$45 per day according to an October 2010 survey of 47 downtown parking facilities), provide a strong incentive for reducing automobile use in Downtown Honolulu.<sup>2</sup>

In addition, redevelopment of the area should be designed to encourage pedestrians and bicyclists in close proximity to the station. Multiple land ownership in the station area could make coordinated redevelopment challenging, and continued coordination with the City's TOD planning efforts will be required. Green building design and materials should be incorporated in future construction. The LEED scorecard on the

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<sup>2</sup> Source: Mellor, Mariah. "Downtown Honolulu Parking Rates". October 2010. <<http://hawaiiibusiness.com/pdfs/parking2010.pdf>>.

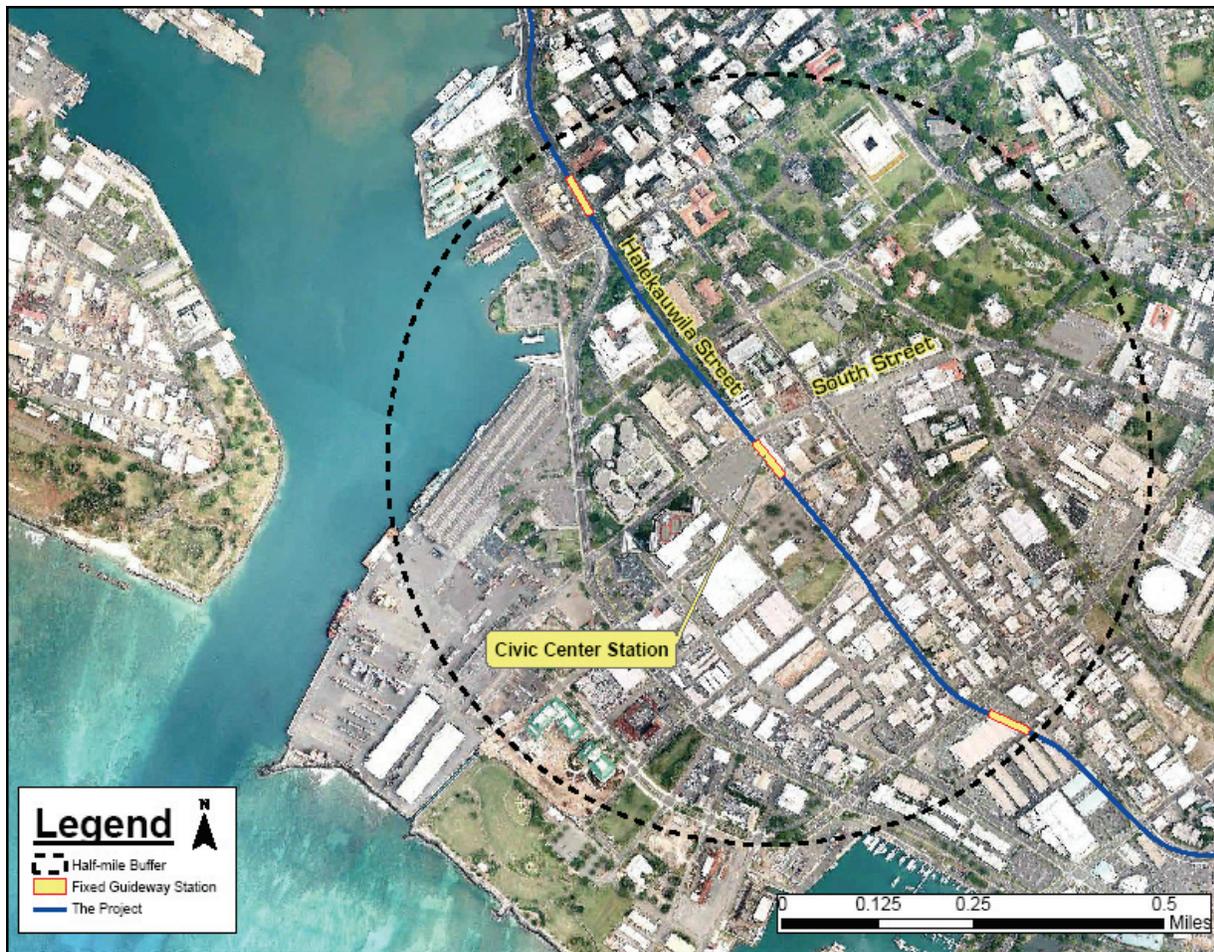
According to a July 2010 survey by Pacific Business News and Colliers International, the median price of parking for one day in Honolulu is \$32.75, ranking the city as the second most expensive place to park in the United States after New York. [Source: Pacific Business News. "Honolulu parking among nation's priciest". July 16, 2010. <<http://www.bizjournals.com/pacific/stories/2010/07/12/daily30.html>>.]

next page provides a preliminary quantitative assessment based on what is known today.

Downtown Station Area LEED Project Scorecard

Yes	?	No			
21	3		<b>Smart Location and Linkage</b>		27 Points Possible
Y			Prereq 1	<b>Smart Location</b>	Required
Y			Prereq 2	<b>Imperiled Species and Ecological Communities</b>	Required
Y			Prereq 3	<b>Wetland and Water Body Conservation</b>	Required
Y			Prereq 4	<b>Agricultural Land Conservation</b>	Required
Y			Prereq 5	<b>Floodplain Avoidance</b>	Required
9			Credit 1	<b>Preferred Locations</b>	10
1			Credit 2	<b>Brownfield Redevelopment</b>	2
6			Credit 3	<b>Locations with Reduced Automobile Dependence</b>	7
1			Credit 4	<b>Bicycle Network and Storage</b>	1
3			Credit 5	<b>Housing and Jobs Proximity</b>	3
1			Credit 6	<b>Steep Slope Protection</b>	1
	1		Credit 7	<b>Site Design for Habitat or Wetland and Water Body Conservation</b>	1
	1		Credit 8	<b>Restoration of Habitat or Wetlands and Water Bodies</b>	1
	1		Credit 9	<b>Long-Term Conservation Management of Habitat or Wetlands and Water Bodie</b>	1
37			<b>Neighborhood Pattern and Design</b>		44 Points Possible
Y			Prereq 1	<b>Walkable Streets</b>	Required
Y			Prereq 2	<b>Compact Development</b>	Required
Y			Prereq 3	<b>Connected and Open Community</b>	Required
11			Credit 1	<b>Walkable Streets</b>	12
6			Credit 2	<b>Compact Development</b>	6
3			Credit 3	<b>Mixed-Use Neighborhood Centers</b>	4
6			Credit 4	<b>Mixed-Income Diverse Communities</b>	7
1			Credit 5	<b>Reduced Parking Footprint</b>	1
2			Credit 6	<b>Street Network</b>	2
1			Credit 7	<b>Transit Facilities</b>	1
1			Credit 8	<b>Transportation Demand Management</b>	2
1			Credit 9	<b>Access to Civic and Public Spaces</b>	1
1			Credit 10	<b>Access to Recreation Facilities</b>	1
1			Credit 11	<b>Visitability and Universal Design</b>	1
1			Credit 12	<b>Community Outreach and Involvement</b>	2
1			Credit 13	<b>Local Food Production</b>	1
1			Credit 14	<b>Tree-Lined and Shaded Streets</b>	2
1			Credit 15	<b>Neighborhood Schools</b>	1
3	8		<b>Green Infrastructure and Buildings</b>		29 Points Possible
Y			Prereq 1	<b>Certified Green Building</b>	Required
Y			Prereq 2	<b>Minimum Building Energy Efficiency</b>	Required
Y			Prereq 3	<b>Minimum Building Water Efficiency</b>	Required
Y			Prereq 4	<b>Construction Activity Pollution Prevention</b>	Required
			Credit 1	<b>Certified Green Buildings</b>	5
	1		Credit 2	<b>Building Energy Efficiency</b>	2
	1		Credit 3	<b>Building Water Efficiency</b>	1
	1		Credit 4	<b>Water-Efficient Landscaping</b>	1
1			Credit 5	<b>Existing Building Use</b>	1
1			Credit 6	<b>Historic Resource Preservation and Adaptive Reuse</b>	1
	1		Credit 7	<b>Minimized Site Disturbance in Design and Construction</b>	1
	1		Credit 8	<b>Stormwater Management</b>	4
	1		Credit 9	<b>Heat Island Reduction</b>	1
	1		Credit 10	<b>Solar Orientation</b>	1
1			Credit 11	<b>On-Site Renewable Energy Sources</b>	3
	1		Credit 12	<b>District Heating and Cooling</b>	2
	1		Credit 13	<b>Infrastructure Energy Efficiency</b>	1
	1		Credit 14	<b>Wastewater Management</b>	2
	1		Credit 15	<b>Recycled Content in Infrastructure</b>	1
	1		Credit 16	<b>Solid Waste Management Infrastructure</b>	1
	1		Credit 17	<b>Light Pollution Reduction</b>	1
			<b>Innovation and Design Process</b>		6 Points
			Credit 1.1	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.2	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.3	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.4	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.5	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 2	<b>LEED® Accredited Professional</b>	1
			<b>Regional Priority Credit</b>		4 Points
			Credit 1.1	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.2	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.3	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.4	<b>Regional Priority Credit: Region Defined</b>	1
61	11		<b>Project Totals (Certification estimates)</b>		110 Points
Certified: 40-49 points, Silver: 50-59 points, Gold: 60-79 points, Platinum: 80+ points					

## Civic Center Station



### Introduction

The Civic Center Station will be on the fringe of the central business district of Honolulu and within the Kaka'ako Community Development District. The station area is currently characterized by mid-rise government buildings, high-density housing, and retail uses. Access to the station will be dominated by walking, with some transfers from local buses. Future high-quality rail transit service along with current and future transit-supportive land uses will result in less dependence on auto travel.

### LEED-ND Assessment

#### ***Smart Location and Linkage (Category 1)***

The Civic Center Station is in an area dominated by high-density offices and residential buildings, although some retail and restaurant activities are also within walking distance of the station. These land uses provide opportunities for people to live near their place of employment and a catalyst to reduce auto dependence. Several bus routes currently operate in this area.

The area is transitioning to very high-density residential and office uses. Existing government buildings are primarily six stories tall but still densely populated. An 18-story affordable housing building is planned for an existing surface parking lot near the station site. The station area was once primarily characterized by commercial and

industrial activities and, consequently, brownfield sites are present. These sites could be remediated and redeveloped.

Mother Waldron Neighborhood Park and Kaka'ako Waterfront Park provide open and active space within walking distance of the Civic Center Station. The Aloha Tower Marketplace, 'Iolani Palace, and the Hawai'i State Capitol also provide public spaces for those living and working near the station. Additional open and active spaces would be included as part of redevelopment.

The area around the station is being planned by the State as part of the Kaka'ako Community Development District. The draft plan calls for more transit-supportive land uses include a mix of high-density office, residential buildings, retail activities, and open space. High-quality rail service, along with existing and future land uses in the station area, will provide a major incentive for reducing auto travel in the Civic Center Station area.

### ***Neighborhood Pattern and Design (Category 2)***

Bicycle and pedestrian access will make up about 75 percent of total demand at the Civic Center Station. This usage will place a heavy demand on the sidewalk and local street network. With future redevelopment in the station area, sidewalks and streetscapes will improve over current conditions, thereby providing opportunities for enhanced transit station access to pedestrians and bicyclists. Improvements should include wide sidewalks, bold crosswalk striping, "count-down" timers, and enhanced signage. Future bicycle facilities should connect to existing ones on Ala Moana Boulevard and King Street.

### ***Green Infrastructure and Building (Category 3)***

Existing infrastructure should be reused and restored in ways to encourage the implementation of sustainable principles. The rail station will contain many sustainable elements, such as recycled materials and natural ventilation and lighting. The City should encourage the use of energy-efficient building techniques and resources if LEED-ND is pursued.

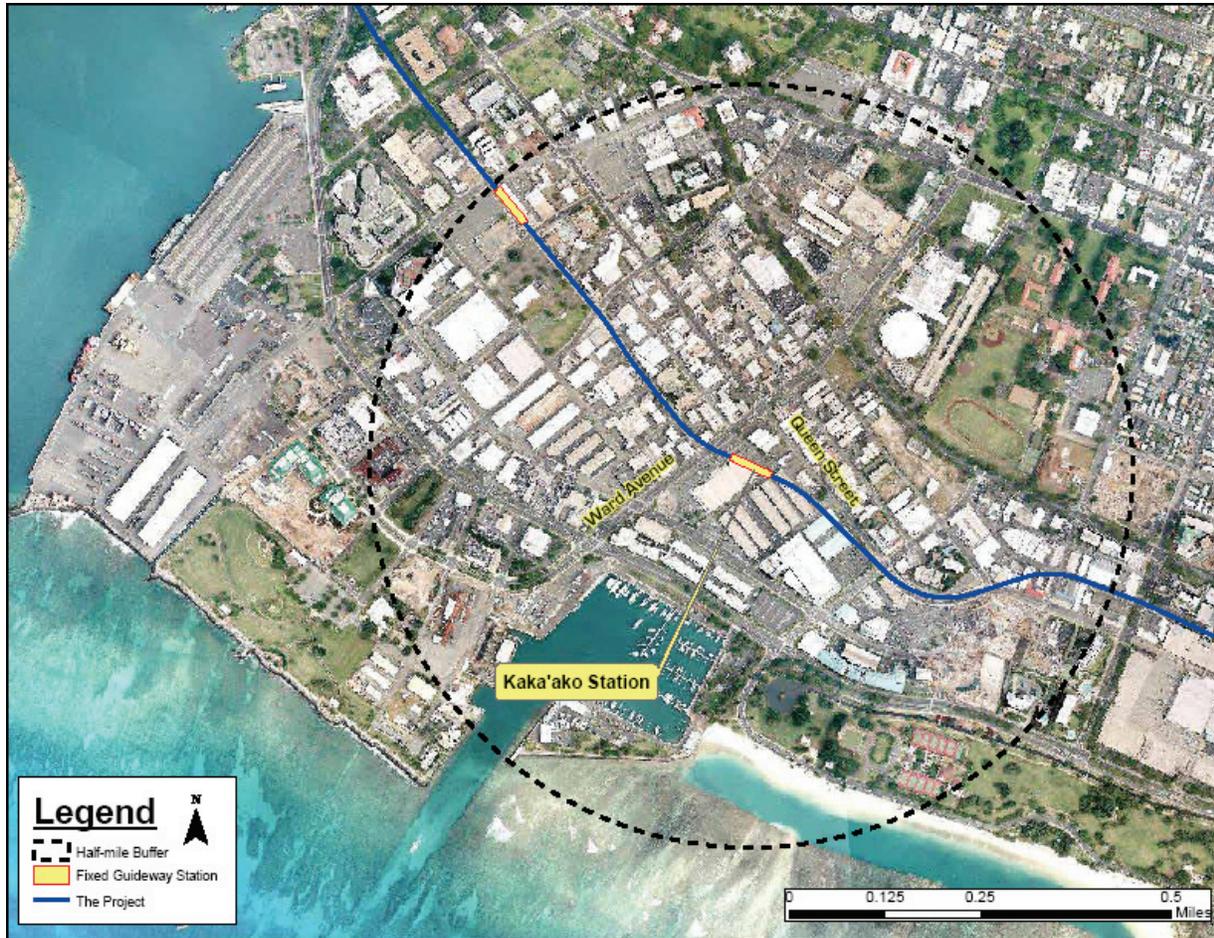
### **Summary**

The Civic Center Station area could meet many of the criteria under the Category 1 and Category 2 precepts of LEED-ND. It has an estimated total LEED-ND score of 61, which is above the minimum score of 60 points for LEED-ND Gold. The area is transitioning to very high-density uses and existing brownfield sites may be remediated and redeveloped over time. Since the station is located within the Kaka'ako Community Development District, there is potential for more transit-supportive land uses in the station area. Green building design and materials should be incorporated in future construction. The LEED scorecard on the next page provides a preliminary quantitative assessment based on what is known today.

Civic Center Station Area LEED Project Scorecard

Yes	?	No			27 Points Possible
21	3		<b>Smart Location and Linkage</b>		
Y			Prereq 1	<b>Smart Location</b>	Required
Y			Prereq 2	<b>Imperiled Species and Ecological Communities</b>	Required
Y			Prereq 3	<b>Wetland and Water Body Conservation</b>	Required
Y			Prereq 4	<b>Agricultural Land Conservation</b>	Required
Y			Prereq 5	<b>Floodplain Avoidance</b>	Required
9			Credit 1	<b>Preferred Locations</b>	10
1			Credit 2	<b>Brownfield Redevelopment</b>	2
6			Credit 3	<b>Locations with Reduced Automobile Dependence</b>	7
1			Credit 4	<b>Bicycle Network and Storage</b>	1
3			Credit 5	<b>Housing and Jobs Proximity</b>	3
1			Credit 6	<b>Steep Slope Protection</b>	1
	1		Credit 7	<b>Site Design for Habitat or Wetland and Water Body Conservation</b>	1
	1		Credit 8	<b>Restoration of Habitat or Wetlands and Water Bodies</b>	1
	1		Credit 9	<b>Long-Term Conservation Management of Habitat or Wetlands and Water Bodie</b>	1
37			<b>Neighborhood Pattern and Design</b>		44 Points Possible
Y			Prereq 1	<b>Walkable Streets</b>	Required
Y			Prereq 2	<b>Compact Development</b>	Required
Y			Prereq 3	<b>Connected and Open Community</b>	Required
11			Credit 1	<b>Walkable Streets</b>	12
6			Credit 2	<b>Compact Development</b>	6
3			Credit 3	<b>Mixed-Use Neighborhood Centers</b>	4
6			Credit 4	<b>Mixed-Income Diverse Communities</b>	7
1			Credit 5	<b>Reduced Parking Footprint</b>	1
2			Credit 6	<b>Street Network</b>	2
1			Credit 7	<b>Transit Facilities</b>	1
1			Credit 8	<b>Transportation Demand Management</b>	2
1			Credit 9	<b>Access to Civic and Public Spaces</b>	1
1			Credit 10	<b>Access to Recreation Facilities</b>	1
1			Credit 11	<b>Visitability and Universal Design</b>	1
1			Credit 12	<b>Community Outreach and Involvement</b>	2
1			Credit 13	<b>Local Food Production</b>	1
1			Credit 14	<b>Tree-Lined and Shaded Streets</b>	2
1			Credit 15	<b>Neighborhood Schools</b>	1
3	8		<b>Green Infrastructure and Buildings</b>		29 Points Possible
Y			Prereq 1	<b>Certified Green Building</b>	Required
Y			Prereq 2	<b>Minimum Building Energy Efficiency</b>	Required
Y			Prereq 3	<b>Minimum Building Water Efficiency</b>	Required
Y			Prereq 4	<b>Construction Activity Pollution Prevention</b>	Required
	1		Credit 1	<b>Certified Green Buildings</b>	5
	1		Credit 2	<b>Building Energy Efficiency</b>	2
	1		Credit 3	<b>Building Water Efficiency</b>	1
	1		Credit 4	<b>Water-Efficient Landscaping</b>	1
1			Credit 5	<b>Existing Building Use</b>	1
1			Credit 6	<b>Historic Resource Preservation and Adaptive Reuse</b>	1
	1		Credit 7	<b>Minimized Site Disturbance in Design and Construction</b>	1
	1		Credit 8	<b>Stormwater Management</b>	4
	1		Credit 9	<b>Heat Island Reduction</b>	1
	1		Credit 10	<b>Solar Orientation</b>	1
1			Credit 11	<b>On-Site Renewable Energy Sources</b>	3
	1		Credit 12	<b>District Heating and Cooling</b>	2
	1		Credit 13	<b>Infrastructure Energy Efficiency</b>	1
	1		Credit 14	<b>Wastewater Management</b>	2
	1		Credit 15	<b>Recycled Content in Infrastructure</b>	1
	1		Credit 16	<b>Solid Waste Management Infrastructure</b>	1
	1		Credit 17	<b>Light Pollution Reduction</b>	1
			<b>Innovation and Design Process</b>		6 Points
			Credit 1.1	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.2	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.3	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.4	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.5	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 2	<b>LEED® Accredited Professional</b>	1
			<b>Regional Priority Credit</b>		4 Points
			Credit 1.1	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.2	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.3	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.4	<b>Regional Priority Credit: Region Defined</b>	1
61	11		<b>Project Totals (Certification estimates)</b>		110 Points
Certified: 40-49 points, Silver: 50-59 points, Gold: 60-79 points, Platinum: 80+ points					

## Kaka'ako Station



### Introduction

The Kaka'ako Station will be located at Ward Avenue and Halekauwila Street serving the area between Downtown Honolulu and Ala Moana Center. The station is within the Kaka'ako Community Development District, which has undergone major redevelopment since the late 1980s. With an extensive amount of low-density uses and surface parking lots in the station area, even more development could occur. Future rail service, new mixed-use development, and improved pedestrian connections will help reduce auto dependency.

### LEED-ND Assessment

#### ***Smart Location and Linkage (Category 1)***

The Kaka'ako Station area has a diversity of land uses, including a mix of retail, small industrial and business uses, restaurants, entertainment complexes (a movie theater, and Neal S. Blaisdell Center), and residential development. The area around the station is being planned by the State as part of the Kaka'ako Community Development District. The draft plan calls for more transit-supportive land uses include a mix of high-density office, residential buildings, retail activities, and open space. Mother Waldron Neighborhood Park, Kaka'ako Waterfront Park, Ala Moana Beach Park, and Blaisdell Center are all near the station and provide open and active spaces for the community. Future development could add other types of open space. High-quality transit service

along with supportive land uses in the station area will provide a major incentive for reducing auto travel in the Kaka'ako Station area.

### ***Neighborhood Pattern and Design (Category 2)***

Bicycle facilities such as shared-lane markings, full on-street bike lanes, and bike parking are generally lacking in the immediate station area, except for a bike path in Ala Moana Beach Park and a bike lane on Ala Moana Boulevard. Ward Avenue has high levels of vehicular traffic and speeds that make the area somewhat unfriendly to pedestrians. With future redevelopment in the station area, sidewalks and streetscapes will improve, thereby providing the opportunity for enhanced transit station access for pedestrians and bicyclists.

### ***Green Infrastructure and Building (Category 3)***

Existing infrastructure should be reused and restored in ways to encourage the implementation of sustainable principles. The rail station will contain many sustainable elements, such as recycled materials and natural ventilation and lighting. The City should encourage the use of energy-efficient building techniques and resources if LEED-ND is pursued.

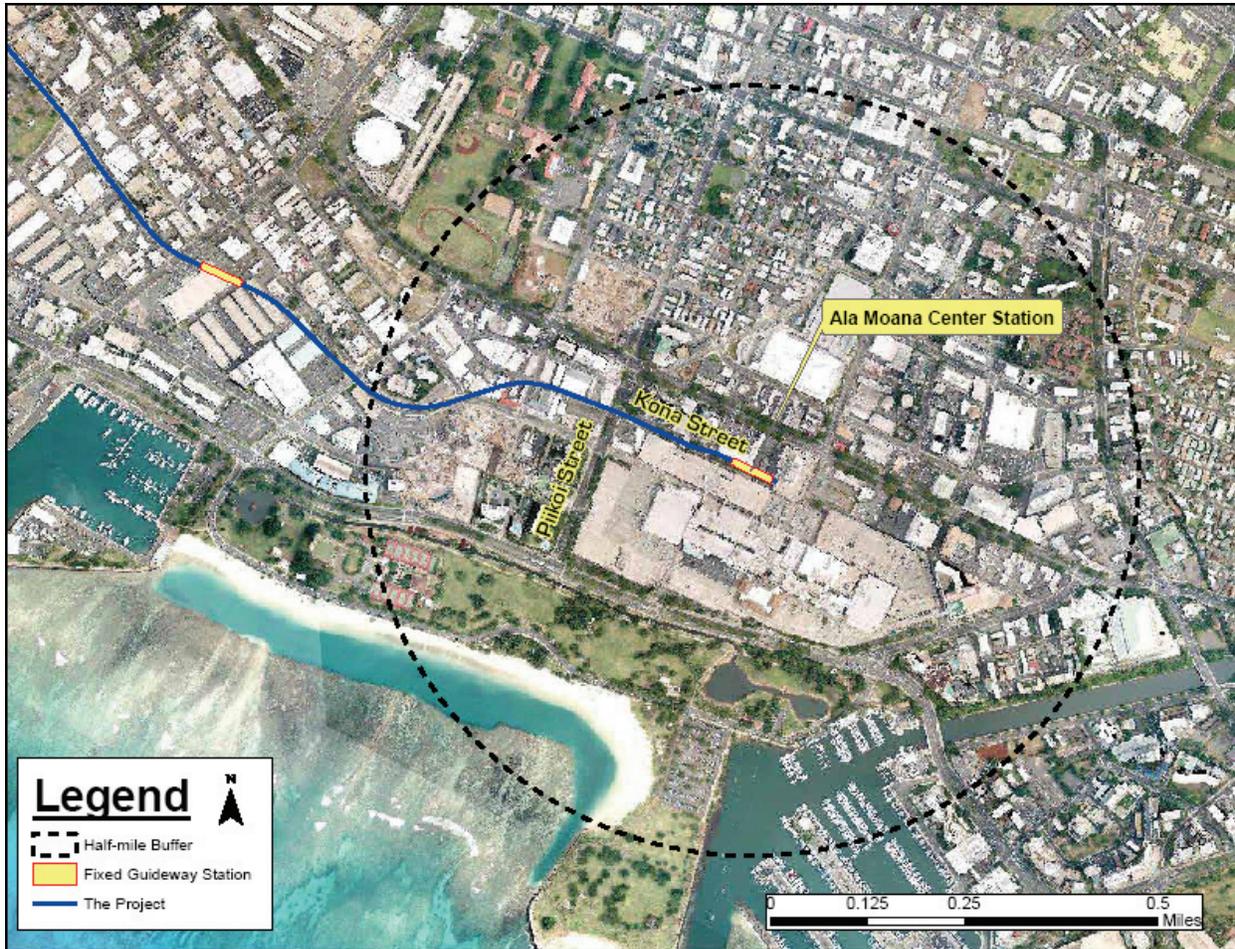
### **Summary**

The Kaka'ako Station area could meet many of the criteria under the Category 1 and Category 2 precepts of LEED-ND. It has an estimated total LEED-ND score of 61, which is above the minimum score of 60 points for LEED-ND Gold. While there is currently a mix of land uses in the area, the location within the Kaka'ako Community Development District will provide the potential for more transit-supportive land uses. Green building design and materials should be incorporated in future construction. The LEED scorecard on the next page provides a preliminary quantitative assessment based on what is known today.

Kakaako Station Area LEED Project Scorecard

Yes	?	No			27 Points Possible
21	3		<b>Smart Location and Linkage</b>		
Y			Prereq 1	<b>Smart Location</b>	Required
Y			Prereq 2	<b>Imperiled Species and Ecological Communities</b>	Required
Y			Prereq 3	<b>Wetland and Water Body Conservation</b>	Required
Y			Prereq 4	<b>Agricultural Land Conservation</b>	Required
Y			Prereq 5	<b>Floodplain Avoidance</b>	Required
9			Credit 1	<b>Preferred Locations</b>	10
1			Credit 2	<b>Brownfield Redevelopment</b>	2
6			Credit 3	<b>Locations with Reduced Automobile Dependence</b>	7
1			Credit 4	<b>Bicycle Network and Storage</b>	1
3			Credit 5	<b>Housing and Jobs Proximity</b>	3
1			Credit 6	<b>Steep Slope Protection</b>	1
	1		Credit 7	<b>Site Design for Habitat or Wetland and Water Body Conservation</b>	1
	1		Credit 8	<b>Restoration of Habitat or Wetlands and Water Bodies</b>	1
	1		Credit 9	<b>Long-Term Conservation Management of Habitat or Wetlands and Water Bodie</b>	1
37			<b>Neighborhood Pattern and Design</b>		44 Points Possible
Y			Prereq 1	<b>Walkable Streets</b>	Required
Y			Prereq 2	<b>Compact Development</b>	Required
Y			Prereq 3	<b>Connected and Open Community</b>	Required
11			Credit 1	<b>Walkable Streets</b>	12
6			Credit 2	<b>Compact Development</b>	6
3			Credit 3	<b>Mixed-Use Neighborhood Centers</b>	4
6			Credit 4	<b>Mixed-Income Diverse Communities</b>	7
1			Credit 5	<b>Reduced Parking Footprint</b>	1
2			Credit 6	<b>Street Network</b>	2
1			Credit 7	<b>Transit Facilities</b>	1
1			Credit 8	<b>Transportation Demand Management</b>	2
1			Credit 9	<b>Access to Civic and Public Spaces</b>	1
1			Credit 10	<b>Access to Recreation Facilities</b>	1
1			Credit 11	<b>Visitability and Universal Design</b>	1
1			Credit 12	<b>Community Outreach and Involvement</b>	2
1			Credit 13	<b>Local Food Production</b>	1
1			Credit 14	<b>Tree-Lined and Shaded Streets</b>	2
1			Credit 15	<b>Neighborhood Schools</b>	1
3	8		<b>Green Infrastructure and Buildings</b>		29 Points Possible
Y			Prereq 1	<b>Certified Green Building</b>	Required
Y			Prereq 2	<b>Minimum Building Energy Efficiency</b>	Required
Y			Prereq 3	<b>Minimum Building Water Efficiency</b>	Required
Y			Prereq 4	<b>Construction Activity Pollution Prevention</b>	Required
	1		Credit 1	<b>Certified Green Buildings</b>	5
	1		Credit 2	<b>Building Energy Efficiency</b>	2
	1		Credit 3	<b>Building Water Efficiency</b>	1
	1		Credit 4	<b>Water-Efficient Landscaping</b>	1
1			Credit 5	<b>Existing Building Use</b>	1
1			Credit 6	<b>Historic Resource Preservation and Adaptive Reuse</b>	1
	1		Credit 7	<b>Minimized Site Disturbance in Design and Construction</b>	1
	1		Credit 8	<b>Stormwater Management</b>	4
	1		Credit 9	<b>Heat Island Reduction</b>	1
	1		Credit 10	<b>Solar Orientation</b>	1
1			Credit 11	<b>On-Site Renewable Energy Sources</b>	3
	1		Credit 12	<b>District Heating and Cooling</b>	2
	1		Credit 13	<b>Infrastructure Energy Efficiency</b>	1
	1		Credit 14	<b>Wastewater Management</b>	2
	1		Credit 15	<b>Recycled Content in Infrastructure</b>	1
	1		Credit 16	<b>Solid Waste Management Infrastructure</b>	1
	1		Credit 17	<b>Light Pollution Reduction</b>	1
			<b>Innovation and Design Process</b>		6 Points
			Credit 1.1	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.2	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.3	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.4	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.5	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 2	<b>LEED® Accredited Professional</b>	1
			<b>Regional Priority Credit</b>		4 Points
			Credit 1.1	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.2	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.3	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.4	<b>Regional Priority Credit: Region Defined</b>	1
61	11		<b>Project Totals (Certification estimates)</b>		110 Points
Certified: 40-49 points, Silver: 50-59 points, Gold: 60-79 points, Platinum: 80+ points					

## Ala Moana Center Station



### Introduction

The Ala Moana Center Station will be located at the largest retail complex in Hawai'i. The station area is dominated by Ala Moana Center, mid- and high-rise housing, hotels, offices, and other commercial activities located mauka of the station. There are several recreational areas makai of Ala Moana Center, including Ala Moana Park and Magic Island. A large concentration of local and express bus service currently serves this area, making it a major transfer location. Access to the station will be dominated by local bus service and walking.

Future rail service, which will be complemented by a mix of supporting land uses, improved pedestrian links to the station, and convenient access by local bus, will help reduce auto dependency in the Ala Moana Station area and meet LEED-ND program goals.

### LEED-ND Assessment

#### ***Smart Location and Linkage (Category 1)***

The Ala Moana Center Station area is currently a heavily developed area with diverse uses, including medium- to high-density housing, retail, offices, and recreational space. Even with the mix of high-density land uses in the station area, there are open spaces available to the public. Ala Moana Beach Park, tennis courts, walking and biking paths,

and open grassy areas are near the station. These facilities are used by both residents and visitors.

Future rail service, the large number of bus routes serving the station area, and the mix of nearby high-density land uses will help reduce auto dependency. Enhancement of pedestrian facilities connecting to the station entrance will also support reduced auto use.

### ***Neighborhood Pattern and Design (Category 2)***

A high degree of connectivity exists in the area due to the current grid pattern of roadways. However, Ala Moana Boulevard and other major roadways in the area have high levels of vehicular traffic and speeds that make the area somewhat unfriendly to pedestrians. Due to the variety of land uses in the station area, there is a large amount of pedestrian and bicycle activity. Future redevelopment could increase pedestrian and bicycle activity in the station area.

At a minimum, measures to calm traffic and improve safety for bicyclists and pedestrians should be explored in designing the area surrounding the transit station. As part of the Ala Moana Station development, raised sidewalks will be added within the Ala Moana Center parking lot to slow down traffic and provide safe crossings for pedestrians transferring between the station entrance and bus stops. In addition, a traffic signal will be added at the corner of Kona and Ke'eaumoku Streets to enhance pedestrian access to the station. Further measures to calm traffic and improve safety for bicyclists and pedestrians should be explored in the station area.

### ***Green Infrastructure and Building (Category 3)***

Existing infrastructure should be reused and restored in ways to encourage the implementation of sustainable principles. The rail station will contain many sustainable elements, such as recycled materials and natural ventilation and lighting. The City should encourage the use of energy-efficient building techniques and resources if LEED-ND is pursued.

### **Summary**

The Ala Moana Station area could meet many of the criteria under the Category 1 and Category 2 precepts of LEED-ND, based on existing and projected transit service and land uses. It has an estimated total LEED-ND score of 60, which meets the minimum score of 60 points for LEED-ND Gold. There are opportunities to design the station area to improve pedestrian and bicycle access, which will further enhance its sustainability. Green building design and materials should be incorporated in future construction. The LEED scorecard on the next page provides a preliminary quantitative assessment based on what is known today.

Ala Moana Center Station Area LEED Project Scorecard

Yes	?	No			27 Points Possible
20	3		<b>Smart Location and Linkage</b>		
Y			Prereq 1	<b>Smart Location</b>	Required
Y			Prereq 2	<b>Imperiled Species and Ecological Communities</b>	Required
Y			Prereq 3	<b>Wetland and Water Body Conservation</b>	Required
Y			Prereq 4	<b>Agricultural Land Conservation</b>	Required
Y			Prereq 5	<b>Floodplain Avoidance</b>	Required
9			Credit 1	<b>Preferred Locations</b>	10
			Credit 2	<b>Brownfield Redevelopment</b>	2
6			Credit 3	<b>Locations with Reduced Automobile Dependence</b>	7
1			Credit 4	<b>Bicycle Network and Storage</b>	1
3			Credit 5	<b>Housing and Jobs Proximity</b>	3
1			Credit 6	<b>Steep Slope Protection</b>	1
	1		Credit 7	<b>Site Design for Habitat or Wetland and Water Body Conservation</b>	1
	1		Credit 8	<b>Restoration of Habitat or Wetlands and Water Bodies</b>	1
	1		Credit 9	<b>Long-Term Conservation Management of Habitat or Wetlands and Water Bodie</b>	1
37			<b>Neighborhood Pattern and Design</b>		44 Points Possible
Y			Prereq 1	<b>Walkable Streets</b>	Required
Y			Prereq 2	<b>Compact Development</b>	Required
Y			Prereq 3	<b>Connected and Open Community</b>	Required
11			Credit 1	<b>Walkable Streets</b>	12
6			Credit 2	<b>Compact Development</b>	6
3			Credit 3	<b>Mixed-Use Neighborhood Centers</b>	4
6			Credit 4	<b>Mixed-Income Diverse Communities</b>	7
1			Credit 5	<b>Reduced Parking Footprint</b>	1
2			Credit 6	<b>Street Network</b>	2
1			Credit 7	<b>Transit Facilities</b>	1
1			Credit 8	<b>Transportation Demand Management</b>	2
1			Credit 9	<b>Access to Civic and Public Spaces</b>	1
1			Credit 10	<b>Access to Recreation Facilities</b>	1
1			Credit 11	<b>Visitability and Universal Design</b>	1
1			Credit 12	<b>Community Outreach and Involvement</b>	2
1			Credit 13	<b>Local Food Production</b>	1
1			Credit 14	<b>Tree-Lined and Shaded Streets</b>	2
1			Credit 15	<b>Neighborhood Schools</b>	1
3	8		<b>Green Infrastructure and Buildings</b>		29 Points Possible
Y			Prereq 1	<b>Certified Green Building</b>	Required
Y			Prereq 2	<b>Minimum Building Energy Efficiency</b>	Required
Y			Prereq 3	<b>Minimum Building Water Efficiency</b>	Required
Y			Prereq 4	<b>Construction Activity Pollution Prevention</b>	Required
	1		Credit 1	<b>Certified Green Buildings</b>	5
	1		Credit 2	<b>Building Energy Efficiency</b>	2
	1		Credit 3	<b>Building Water Efficiency</b>	1
	1		Credit 4	<b>Water-Efficient Landscaping</b>	1
1			Credit 5	<b>Existing Building Use</b>	1
1			Credit 6	<b>Historic Resource Preservation and Adaptive Reuse</b>	1
	1		Credit 7	<b>Minimized Site Disturbance in Design and Construction</b>	1
	1		Credit 8	<b>Stormwater Management</b>	4
	1		Credit 9	<b>Heat Island Reduction</b>	1
	1		Credit 10	<b>Solar Orientation</b>	1
1			Credit 11	<b>On-Site Renewable Energy Sources</b>	3
	1		Credit 12	<b>District Heating and Cooling</b>	2
	1		Credit 13	<b>Infrastructure Energy Efficiency</b>	1
	1		Credit 14	<b>Wastewater Management</b>	2
	1		Credit 15	<b>Recycled Content in Infrastructure</b>	1
	1		Credit 16	<b>Solid Waste Management Infrastructure</b>	1
	1		Credit 17	<b>Light Pollution Reduction</b>	1
			<b>Innovation and Design Process</b>		6 Points
			Credit 1.1	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.2	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.3	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.4	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 1.5	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
			Credit 2	<b>LEED® Accredited Professional</b>	1
			<b>Regional Priority Credit</b>		4 Points
			Credit 1.1	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.2	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.3	<b>Regional Priority Credit: Region Defined</b>	1
			Credit 1.4	<b>Regional Priority Credit: Region Defined</b>	1
60	11		<b>Project Totals (Certification estimates)</b>		110 Points
Certified: 40-49 points, Silver: 50-59 points, Gold: 60-79 points, Platinum: 80+ points					