o'ahu bike plan

a bicycle master plan

August 2012

Department of Transportation Services
City & County of Honolulu

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Helber Hastert & Fee, Planners

The Authors would like to acknowledge the leadership and contributions provided by the Director of the Department of Transportation Services, Mr. Wayne Yoshioka, and the City's Bicycle Coordinator, Mr. Chris Sayers.

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A O‘ahu Bike Plan Technical Reports listing
B Alphabetical Listing of Projects

ACRONYMS AND ABBREVIATIONS

AASHTO	American Association of State Highway and Transportation Officials
APBP	Association of Pedestrian and Bicycle Professionals
BFB	Bicycle Friendly Business
BFC	Bicycle Friendly Community
C	City
CDC	Centers for Disease Control and Prevention
CIP	Capital Improvement Program
City	City and County of Honolulu
CO	Central Oʻahu
DDC	City Department of Design and Construction
DFM	City Department of Facility Maintenance
DOE	State Department of Education
DOH	State Department of Health
DOT	State Department of Transportation
DP	Development Plan
DPP	City Department of Planning and Permitting
DTS	City Department of Transportation Services
EH	East Honolulu
F	Federal
FTE	Full Time Equivalent
GIS	Geographic Information System
HART	Honolulu Authority for Rapid Transportation
HBL	Hawaiʻi Bicycling League
HPD	Honolulu Police Department
HTA	Hawaiʻi Tourism Authority
HVCB	Hawaiʻi Visitors and Convention Bureau
KL	Koʻolau Loa
KP	Koʻolau Poko
L	Lane
LAB	League of American Bicyclists
LCC	Leeward Community College
LEED	Leadership in Energy and Environmental Design
MACB	Mayor's Advisory Committee on Bicycling
MUTCD	Manual on Uniform Traffic Control Devices
NS	North Shore
P	Path
PHBP	Pearl Harbor Bike Path
PSA	Public Service Announcement
PUC	Primary Urban Center
Pv	Private
R	Route
ROW	Right-of-Way
SRTS	Safe Routes to School
S	State
SUP	Shared Use Path
U.S. DOT	United States Department of Transportation
Wai	Waiʻanae

"I thought of that while riding my bicycle."

— Albert Einstein on the Theory of Relativity

Executive Summary

Existing O‘ahu bikeways:	**132 miles**
City projects in this Plan:	**310 miles**
Total cost:	**$68 million**
Short-Range Plan:	**62 miles, $2.7 million**

The O‘ahu Bike Plan guides the Honolulu Department of Transportation Service’s (DTS) bikeway planning for the entire island of O‘ahu and includes provisions to ensure that the proposed high capacity rail transit stations are integrated into the regional bikeway network. The Plan builds on DTS’s 1999 Honolulu Bicycle Master Plan (that focused on the Kāhala to Pearl City Corridor). The O‘ahu Bike Plan was prepared with broad public input via workshops, website questionnaires and draft reviews. It is a comprehensive plan addressing the five “E’s” of transportation planning (i.e., encouragement, engineering, education, enforcement and evaluation), considered vital to achieve the end state of a truly bicycle-friendly island. While actual bicycle facilities (e.g., lanes, routes and paths) are critical to achieving bike friendliness, implementation of strong policies and programs included in the Plan is essential, and in many instances more cost effective and implementable, to making our roads safer and more accessible to bikes.

The broad array of Plan recommendations is part of the City and County of Honolulu’s toolkit for addressing the range of key societal issues that our nation and island communities face in the 21st century (e.g., healthy communities, sustainable practices, energy independence, transportation economics, etc.). The Plan’s vision (“Oahu is a bicycle friendly community where bicycling is a safe, viable and popular travel choice for residents and visitors of all ages”) contemplates a time when bikes play an important role in resident and visitor transportation options. Goals (e.g., increase the share of bicycle trips, enhance cooperation between roadway users, etc.) and measurable objectives are presented to provide more quantifiable steps towards reaching the vision. Benchmarks (2-, 5-, 10- and 20-year milestones) are identified in the Plan to gauge implementation progress and establish expectations.

Honolulu currently ranks 14th among the country’s largest cities for bicycle commuting, and has a vibrant bike culture with a resurgence of interest at both ends of the age continuum. The City has long underwritten a full-time bike coordinator position and a nationally-recognized bicycle education program in the elementary schools. Honolulu has an active college-level and non-profit bicycle advocacy community, and an expanding list of regularly scheduled, family-oriented cycling events. This demonstrated community interest in

cycling, coupled with the City's year round mild climate and compact urban form, make it an ideal candidate to become a nationally-recognized bike-friendly City.

O'ahu has about 132 miles of on- and off-road bikeway facilities (City, State, Federal, and private) and the Plan calls for an additional 559 miles of facilities to be built over the next 20-30 years (including 310 miles of City facilities budgeted at about $68 million). The Plan also includes a short range implementation plan for City projects that will be largely constructed in the next five years, at a cost of about $2.7 million. These short range projects focus on high volume destination areas such as Downtown, Waikīkī, and the University of Hawai'i at Mānoa – and a number of these projects are currently underway.

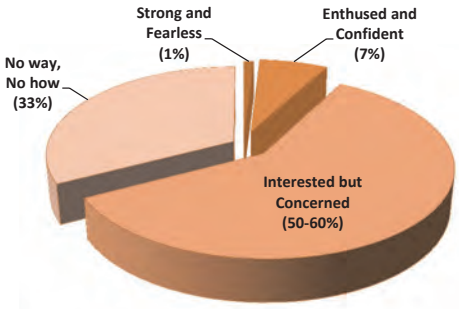
Chapter 1

Introduction

O‘ahu is at an important juncture in its growth and development, with an opportunity to transform into a highly livable community where public spaces are actively used, and there are safe, convenient, accessible, and attractive transportation options. The O‘ahu Bike Plan provides a strategy for better integrating bicycling into the City and County of Honolulu’s (“City’s”) transportation system. It provides an array of important policy and program recommendations and identifies an integrated network of on-road bike lanes and routes and off-road paths that will link people with their favorite and most visited destinations.

Ka‘a‘awa coastline Photo: HBL

There is great potential for bicycles to become a significant transportation mode for O‘ahu and this Plan provides a guide for becoming a bicycle-friendly island.



Four Types of Cyclists (% of total population) Source: Geller, ND

1.1 Overview

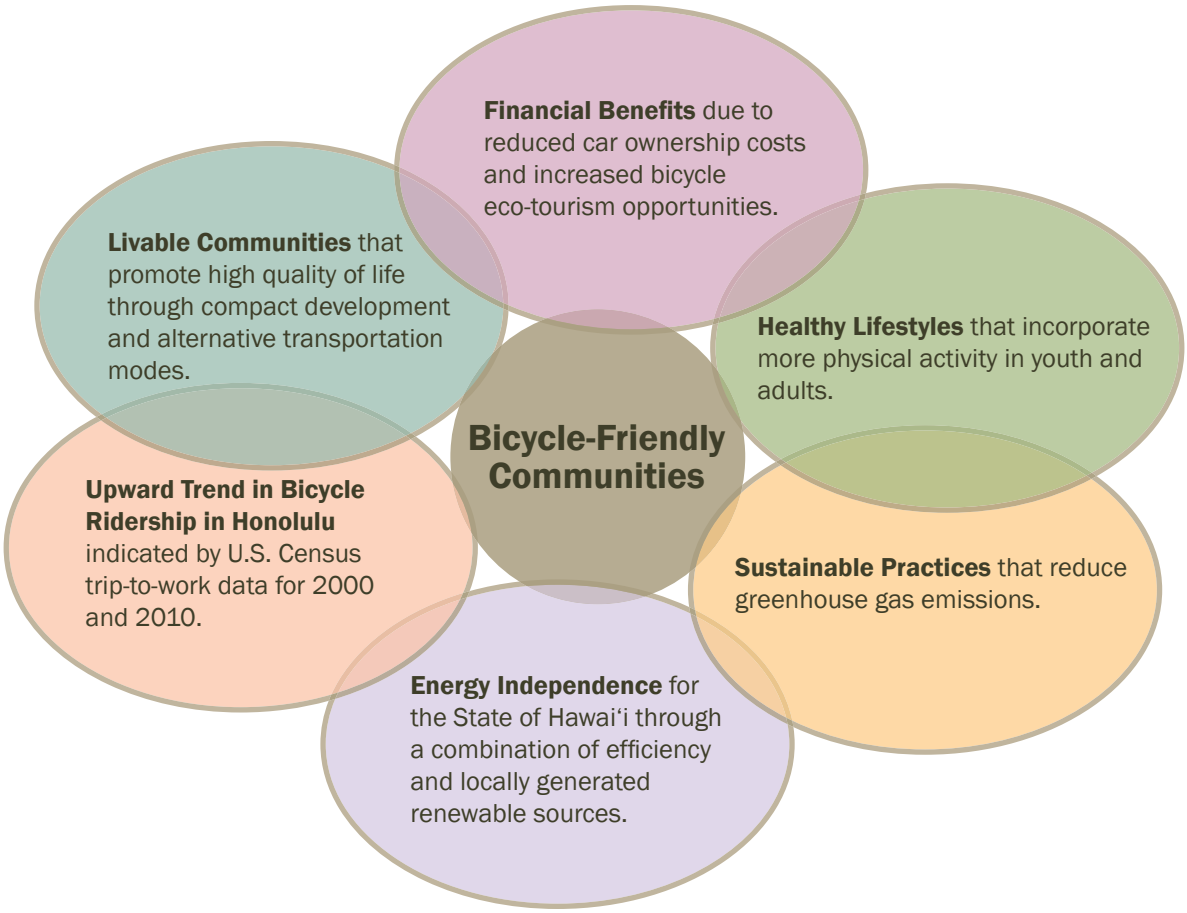
Need for Bike Planning. O‘ahu’s physical beauty, mild year-round climate, and relatively flat coastal plain make it ideal for bicycle transportation. In spite of this, many of our residents are reluctant to use bicycles even for short trips—why?

Well, like many places in the U.S., O‘ahu has matured as a place dominated by the private automobile, to the disadvantage of alternative travel modes such as walking, bicycling, and transit. Increasingly, this auto-dependence may affect our quality of life. While the auto provides an important means to move around the island, increasing congestion is making it difficult, time consuming, and expensive to use.

Parents and school administrators are concerned about the safety of children riding bicycles to school due to increased traffic in their neighborhoods. All of O‘ahu’s residents should feel safe on our streets. It is time to recognize the practice of Kamehameha I’s *Law of the Splintered Paddle*[1] --the right of all people to be safe on our roadways.

Comprehensive bike plans (such as this one) are effective in creating conditions to encourage more residents to use a bicycle for at least part of their daily transportation needs. Studies indicate there is a large segment of the population (50-60%) that would be particularly influenced by plan implementation: those who are currently interested in cycling and would ride on streets designed to work well for bicycles, but are presently concerned about riding alongside cars (i.e., “Interested but Concerned” in pie chart) (Geller ND).

[1] *Ke Kānāwai Māmalahoe* (The Law of the Splintered Paddle, 1797), Hawaii State Constitution: Article 9, Section 10, 1978.

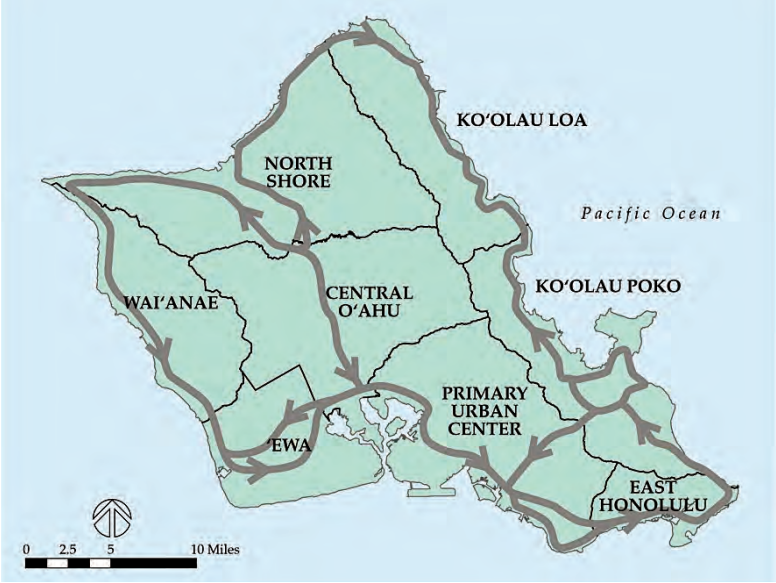


Societal Trends. Several contemporary trends and factors influenced the development of the O'ahu Bike Plan and point to the need to be a bicycle-friendly community. Among these are public health, livable communities, sustainable mobility, unstable fossil fuel costs, financial benefits, and major planned improvements to the island's transportation system.

Honolulu should invest in alternative transportation modes that are efficient, sustainable, tread lightly on our natural environment, and yield significant health and financial benefits. There is, however, no single panacea. The investment strategy must be built on several well-integrated legs including transit, pedestrian and bicycle facilities, and motor vehicles. The strategy must also institutionalize the commitment, at all levels of government, to move toward a post automobile-centric era, where several viable--and more sustainable--transportation modes serve the mobility needs of our residents and visitors.

1.2 Plan Development

History. Formal bicycle planning in Hawai'i has matured over the past three decades, as congestion on roadways increased and policy makers looked for alternate transportation modes. In 1977, the Hawai'i State Department of Transportation (DOT) prepared Bike Plan Hawai'i for the State's roadway system. Most recently updated in 2003, implementation of its ambitious projects will complement the City's bikeway network.



Islandwide bikeway connectivity

In 1994, the City Council and Mayor adopted Ordinance 94-39 (Revised Ordinances of Honolulu Section 2-12.1), which directed that a bikeway system master plan for urban Honolulu be prepared and updated every five years. The initial 1999 Honolulu Bicycle Master Plan, adopted by City Council Resolution 99-252 CD1 in September 1999, was the first significant step towards making Honolulu a bicycle-friendly community. The starting point for this O'ahu Bike Plan was the 1999 Plan, which covered the geographic area from Pearl City to Kāhala. This O'ahu Bike Plan updates the 1999 Plan, broadening the scope to include the entire island.

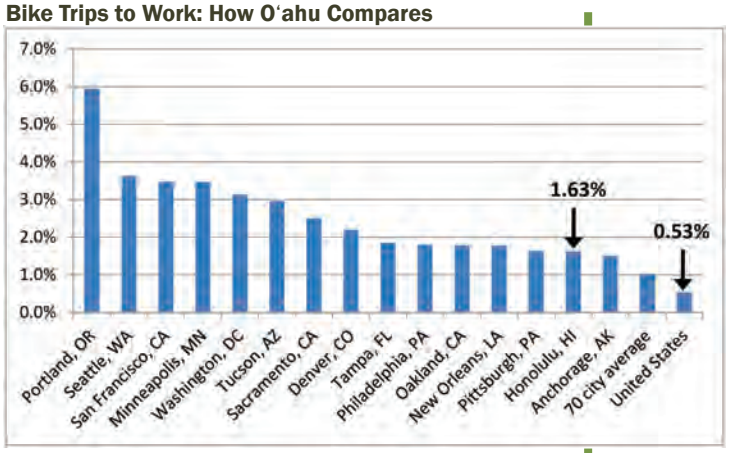
In 2006, a City Charter amendment (Charter Amendment #8) to make O'ahu more pedestrian- and bicycle-friendly was adopted by 76 percent of the island's voters. The Revised Charter of Honolulu now specifically mentions bikeways under the powers, duties and functions for the Director of the Department of Transportation Services (DTS), and a new section (Section 6-17) has been added that explicitly states the priority of making the City pedestrian- and bicycle-friendly.

Honolulu received honorable mention status as a Bicycle Friendly Community in 2007 by the League of American Bicyclists (LAB).

The City has already taken large steps towards achieving bike-friendly status since the publication of the 1999 Plan. The City received honorable mention status as a Bicycle Friendly Community in 2007 by the League of American Bicyclists (LAB). The City conducted several feasibility studies for projects recommended in the 1999 Plan and constructed a number of them (first phase of the Young Street bikeway, several College Access projects, etc.). Bike boxes, one of the 1999 Plan recommendations to improve bike safety, have been installed at several intersections on a trial basis. The Diamond Head Bike Staging Facility was opened in 2007 and created a popular and convenient staging area for bicyclist recreation. The City's bike coordinator continues to work with City and State agencies in coordinating the City's bike program as well as staffing the Mayor's Advisory Committee on Bicycling (MACB).

Since 1990, the City has underwritten the "Bike Ed" program via an annual grant to the non-profit Hawai'i Bicycling League (HBL), which provides bike safety and skills training to 6,000 fourth graders each year. The City maintains a growing network of bike facilities and has placed over 450 bike racks around Honolulu and continues to look for new rack locations. It continues to produce and distribute public service announcements to educate road users and has widely circulated a concise bike safety handout highlighting bicyclist rules of the road. The entire fleet of City transit buses is equipped with bike racks and larger bike racks are gradually being implemented to accommodate more bikes. A recent report issued by the U.S. Census Bureau and the LAB indicates Honolulu ranks 14th among the top 70 cities for percentage of bike commuters – with three times the national average (see chart below). O'ahu is also home to a vibrant bike culture with a tradition of strong bicycle advocacy.

Bike Trips to Work: How O'ahu Compares



Results of LAB's analysis of the U.S. Census Bureau's 2010 American Community Survey Chart shows that Honolulu ranks 14th among the top 70 largest cities in the percentage of residents who use a bicycle as their primary mean of getting to work. As shown in the chart, Honolulu's 1.63% share of bike commuters is well above the U.S. average of 0.53%.

Update Process. The process to update the 1999 Plan involved a comprehensive approach that addressed both the "soft" (i.e., policies and programs) and "hard" (physical improvements) aspects of bicycling in our community. Appendix A contains a listing of the major technical reports and work products prepared to support this Plan. This comprehensive approach, summarized in the adjacent list, forms the technical basis for the O'ahu Bike Plan.

Public participation and involvement were critical to the Plan's formulation. Community input was gathered throughout the planning process and included: public workshops held in May and October 2008; small group meetings; a bicycling survey; and general comments submitted through the project website and by telephone. Additionally, the MACB, comprised of a cross section of bicycling advocates and groups, provided advice and support for formulation of the Plan.

Public input at the O'ahu Bike Plan Public Workshop

The Draft O'ahu Bike Plan was published in July 2009, and available for public review both in hard copy format and via download from the project's website. One-hundred twenty six sets of comments on the Draft Plan were submitted by October 2009, most through email or the project's website comment page. All comments were reviewed and considered for their relevance to the Plan and appropriateness for incorporation.

The Plan identifies important programs and policies to institutionalize bicycle transportation into the routine working of all levels of government agencies and, in some instances, the private sector. Although DTS will lead the implementation of the Plan, it recognizes the need to coordinate with a broad array of agencies, organizations, and interest groups for the Plan to succeed. The diagram on the following page summarizes the complexity and range of stakeholders involved in the planning and implementation framework on O'ahu.

Master Plan Update Process

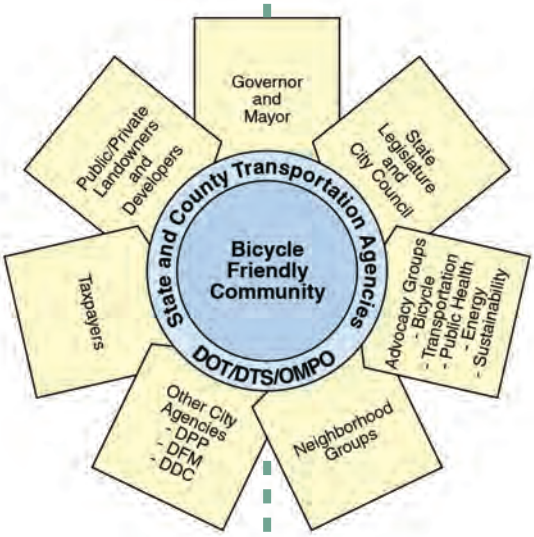
- create a geographic information system (GIS) and database inventory of existing and planned bikeway facilities;
- review and synthesize major plans, laws, regulations, and other policy documents relating to bicycle planning;
- review national, state, and county roadway design and construction standards related to bicycling;
- compile market research on bicycle data relevant to Honolulu;
- validate and refine O'ahu's vision, goals, and objectives for bicycling;
- identify, evaluate, and refine potential programs and policies;
- identify major bicycle travel corridors, transit spokes, and high volume destinations for detailed study;
- recommend practices, improvements, and facilities to integrate bicycling with the future rail transit system;
- recommend design guidelines and best practices for all bikeway facility types;
- identify and prioritize facilities for improvement and recommend preferred design treatments for each facility;
- develop preliminary cost estimates for route segment improvements; and
- prepare an implementation plan and benchmarks for measuring the Plan's progress.

Bicycle Network. The Plan provides recommendations for the development of a regional network of 559 miles of new bikeways islandwide (all jurisdictions), with 310 miles of City facilities. Most of the recommended bikeways are within existing street rights-of-way, a choice necessitated by limited land area and predicated on the legal right of bicycles to operate on public roadways.

The recommended bikeways, discussed in Chapter 5, connect primary employment centers and commercial and recreational destinations with residential areas. The routes are direct and continuous, important characteristics of popular bikeways. The ultimate goal is to create an integrated network of bikeways that provides residents a viable and safe transportation alternative to the automobile.

Chapter 5 also includes a list of short-term, readily implemented projects that comprise a subset of the overall planned bikeway project inventory (i.e., the "Short-Range Implementation Plan"). These projects are relatively low cost initiatives that are likely to be achieved prior to the next Bike Plan update (e.g., within five years) and include interim treatments of longer-range bikeway projects.

The ultimate goal is to create an integrated network of bikeways that provides residents a viable and safe transportation alternative to the automobile.



"It takes a village ..." of agencies and stakeholders to create bicycle friendly communities

Projected cost to design and build all of the City's projects in this islandwide master plan is about $68 million, a significant portion of which can be funded from regular line agency maintenance and capital improvement budgets, coinciding with other park and roadway improvement projects. The remaining projects involve State, Federal, private or shared jurisdiction roads. Total costs for the short-range implementation plan projects are estimated at $2.7 million.

1.3 Plan Organization

The Plan's vision, goals, and objectives are outlined in Chapter 2. Chapters 3 and 4 discuss the specific programs and policies that will help to institutionalize bicycle planning into O'ahu's transportation and land use planning processes. Chapter 3 discusses the City's programs and policies that pertain to the transportation planning categories of Encouragement, Engineering, Education, Enforcement, and Evaluation; while Chapter 4 presents programs and policies that support the overall bicycle network, including parking, showers and changing facilities. Chapter 4 also highlights the integration of bicycle facilities with the City's public transit system. The physical bikeway projects needed to create O'ahu's future bikeway network are discussed and illustrated in Chapter 5, as are the associated costs (including costs for the short-range implementation plan). Finally, Chapter 6 provides specific benchmarks to measure progress in achieving the long-term vision for a bicycle-friendly O'ahu.

'A'ohe hana nui ke alu 'ia

No task is too big when done together by all

If O'ahu is to maintain its character and prestige as a great place to live and visit, we should commit the resources to transform our auto-centric transportation system into one that reinforces the qualities that make our Island livable. Nothing less than a fundamental shift in emphasis from the automobile to alternative transportation modes is required to achieve this.

The O'ahu Bike Plan is an important step in that process. To fully realize O'ahu's potential as a great place for bicycles, Bike Plan recommendations must lead to physical changes in facilities measured in miles of bikeways (routes/lanes/paths), numbers of bike parking stalls, and miles biked per person. It must also lead to changes in the way we currently consider bicycles within the City's overall transportation system. These changes, in turn, will lead to greater use of bicycles.

In addition, challenges such as the design, financing, and implementation of the network and the institutionalization of recommended policies and programs will emerge as obstacles. However, with sustained administrative, legislative, and community support, together we can make great strides toward implementing this Plan. The following Hawaiian proverb sums up the attitude we all must share to transform O'ahu into a bike-friendly community: *"'A'ohe hana nui ke alu 'ia"* (No task is too big when done together by all).

“Nothing compares to the simple pleasure of a bike ride.”

— John F. Kennedy

Chapter 2

Vision. Goals. Objectives.

2.1 Vision

The vision for the O‘ahu Bike Plan provides the overall focus and direction for the Plan. It is rooted in the discussions from small group meetings, public workshops, and comments received about hopes for the future of O‘ahu as a bicycle-friendly community.

In those discussions, a number of recurring themes emerged of what a bicycle-friendly O‘ahu would look and feel like, including:

- improved safety;
- bicycle amenities;
- connectivity and accessibility;
- education;
- enforcement;
- maintenance; and
- social acceptance.

Based on these themes, and the 1999 Plan’s vision statement, O‘ahu’s twenty-year vision for bicycling is, “O‘ahu is a bicycle-friendly community where bicycling is a safe, viable, and popular travel choice for residents and visitors of all ages.”

The Vision suggests an island where it is easy to ride a bicycle, where roads are to be shared, and animosity between motorists and bicyclists does not exist. The bicycle network on O‘ahu is comprehensive and continuous, making it convenient to fulfill a range of transportation needs. The essence of the vision is that riding a bicycle is for everyone and O‘ahu offers bikeways that are safe for all types of people and purposes: a child or college student riding to school, an adult commuting to work, or an elderly person riding to the post office.

The vision supports bicycle projects, programs, and policies through a series of goals and objectives.

Vision Statement

“O‘ahu is a bicycle-friendly community where bicycling is a safe, viable, and popular travel choice for residents and visitors of all ages.”

2.2 Goals and Objectives

In direct support of the O‘ahu Bike Plan’s vision, the goals and objectives form a framework through which the Plan can be implemented. The O‘ahu Bike Plan includes the following four goals, each with corresponding supporting objectives. The Plan also establishes benchmarks for measuring progress in achieving these goals and objectives (see Table 11 in Chapter 6 Implementation and Benchmarks to see how goals and objectives are translated into action).

Goal #1
To increase the mode share of bicycle trips

Objective #1: Increase the number of people who ride bicycles.

Objective #2: Increase the number of bicycle trips.

Objective #3: Provide and maintain a continuous bicycle network.

Objective #4: Provide and maintain bicycle support facilities (e.g., showers and bicycle parking).

Goal #1 focuses primarily on increasing the number of trips that are made by bicycles. Objectives 1 through 4 support this goal, and are primarily engineering and design oriented, recognizing the themes of increased ridership, improved safety by ensuring maintenance of the bicycle facilities, bicycle amenities, connectivity and accessibility.

Goal #2
To enhance cooperation between roadway users

Objective #5: Increase the awareness of bicyclists, motorists, and pedestrians of their rights and responsibilities.

Objective #6: Enforce the traffic code.

Goal #2 has objectives based on the themes of improving education, enforcement, and social acceptance. The need for a coordinated strategy to enhance cooperation of roadway users is essential in order to increase the quality of life on O‘ahu and the number of people who choose to ride a bicycle. A national study by GMAC Insurance Company (2009) indicates that Hawai‘i drivers rank near the bottom of a national ranking of driver aptitude, reinforcing the need to improve driver skills and awareness. Bicyclists also share the blame when they disobey traffic laws.

Goal #3

To encourage and promote bicycling as a safe, convenient, and pleasurable means of travel.

Objective #7: Provide a variety of bikeways.

Objective #8: Reduce the number of traffic crashes involving bicycles.

Objective #9: Reduce the number of bicycle thefts.

Objective #10: Increase the number of visitors who ride bicycles.

Objective #11: Ensure integration of bicycles with transit.

Objective #12: Maintain existing bikeways in safe, rideable condition.

Goal #3 highlights the need for a safer bicycling environment on O'ahu. It is supported by the Complete Streets Act and the State DOT's Safe Routes to School and Strategic Highways Safety programs. A variety of programs and policies that relate to Goal #3 and its objectives will help improve bicycle safety and comfort. These objectives also incorporate the themes of access and connectivity including integration with transit, social acceptance, and improving safety for all people on the island.

The State's constitution contains a unique provision, originally decreed by Kamehameha I, which guarantees the safety of the highways to all. The Law of the Splintered Paddle, or Ke Kānāwai Māmalahoe, is paraphrased in the Hawai'i State Constitution as: "Let every elderly person, woman and child lie by the roadside in safety" (Hawai'i Constitution Article 9, Section 10). Goal #3 embodies and promotes this provision.

Ke Kānāwai Māmalahoe

"The right of all people to be safe on Hawai'i's roadways"

Goal #4

To be recognized by the League of American Bicyclists as a Bicycle-Friendly Community.

Objective #13: Implement the **O'ahu Bike Plan**.

Objective #14: Provide funding to achieve the goals of the Plan.

Diamond Head Bicycle Staging Facility

Goal #4 is to achieve an accepted 3rd party standard of excellence for a community's support of cycling. The League of American Bicyclists (LAB) designates communities as "bicycle-friendly" when they demonstrate an established high level of support for bicycling related to the categories of Engineering, Education, Encouragement, Enforcement, and Evaluation (referred to as the five E's). The City received an Honorable Mention for its 2007 Bicycle-Friendly Community application and plans to re-apply for the designation in the near future.

Attainment of Bicycle-Friendly Community (BFC) designation is a way to measure progress, track achievements in the five E's, and evaluate the City's efforts against other communities recognized as premier places for cycling.

A BFC provides safe accommodation for cycling and encourages its residents to bike for transportation and recreation. Objectives #13 and #14 focus on areas identified in LAB's feedback on the City's 2007 BFC application as needing improvement in order to achieve the designation of "Bicycle-Friendly Community."

Chapter 3

The 5 E's: Encouragement, Engineering, Education, Enforcement, Evaluation

The five "E's" (Encouragement, Engineering, Education, Enforcement, Evaluation) represent a comprehensive approach used by transportation planners in bicycle planning. The five "E's" address the myriad of issues and components—both physical and intangible—needed to provide a safe, convenient bicycling experience on the island's bikeways. They are also used by the LAB in its evaluation of communities for its BFC program. Strength in each of the E's creates a successful and vibrant bicycle-friendly community.

This chapter discusses the five "E's" in detail, and recommends specific programs and policies that DTS (unless otherwise noted) should pursue to fulfill the vision of the Plan. The chapter concludes with two additional policy initiatives relevant to bicycling: Safe Routes to School and Complete Streets.

By taking a multi-faceted approach to safety involving a variety of programs and policies, the City can educate current riders while encouraging new riders to bicycle in a safe, predictable manner. To increase ridership, as this Plan hopes to do, the community must be confident that bicycling is a safe choice for transportation and recreation. This means increasing the awareness of all roadway users about safe behavior and improving the physical bicycling environment.

Based on other jurisdictions' experiences, and in light of the popularity of bicycling already enjoyed here, investment in "5E" programs and policies will help to push O'ahu to embrace bicycling as an accepted means of transportation. While new bicycle facilities will certainly help to increase bicycling, it is the less costly, often more easily implemented programs and policies that will ensure bicycling permeates into the transportation culture.

Honolulu Bike to Work Day (2008)

Encouragement programs and policies inspire and support residents in changing their transportation habits to include bicycle use.

Engineering programs and policies support the physical improvements for bicycle facilities (Note: Bikeway projects are discussed in Chapter 5).

Education programs and policies can give bicyclists, motorists, and pedestrians the knowledge and confidence necessary to safely share the road.

Enforcement programs and policies help bicyclists ride more often and more safely, and are generally implemented by police officers who help reinforce compliance with traffic laws and safety among all users of the transportation system.

Evaluation programs and policies provide feedback on efforts to help public officials learn whether or not implementing the projects, programs, and policies effects change in the bicycle mode share. Additionally, evaluation can improve programs and increase effectiveness of taxpayer investments.

3.1 Encouragement

Encouragement programs are designed to meet a range of objectives, including raising awareness of bicycling as an activity, as well as of the existing bicycle infrastructure; connecting current and future bicyclists to existing resources; and motivating residents to bicycle more often or new bicyclists to start riding. The Plan's Encouragement programs target current and potential riders representing a cross-section of the community through individualized outreach, community-wide programs, visitor industry collaboration, and promotion of incentives in the workplace. **The following programs will encourage bicycling to become a routine transportation choice.**

PROGRAMS

1. Implement individualized outreach to O'ahu residents to include:
- Survey of bicycling needs and questions;
- Delivery of customized packets of maps, brochures, discounts for bike shops; and
- Hosting safety classes and guided rides.

2. Continue and expand "Bike to Work Week" with program incentives that support bicycling and alternative transportation modes.

3. Include bicycles in the City motor pool.

4. Provide bicycle facility information to residents and visitors:
- Create and disseminate bicycle maps showing designated paths, streets, lanes, bicycle rental locations, shower and storage facilities (both print and online versions);
- Establish online bicycle trip planning maps, integrated with transit maps, to include route selection based on scenery, topography, type of facility, and points of interest;
- Create information for visitors--including maps, guides, and rules of the road--and distribute to bike shops, hotels, youth hostels, and bed and breakfast accommodations, and at the Honolulu International Airport;
- Encourage hotels and other visitor accommodations to provide and/or expand bike parking and storage; and
- Work with Hawai'i Tourism Authority (HTA) and Hawai'i Visitors and Convention Bureau (HVCB) to promote O'ahu as a bicycle-friendly community.

5. Encourage establishment of bike sharing programs on O'ahu (e.g., Kailua's Hawaii B-cycle program).

6. Encourage employee incentives and participation in LAB's Bicycle Friendly Business (BFB) program, such as:
- Flextime for bike commuters;
- Cash back to cyclists who do not use employee parking;
- Bike shop discounts;
- Subsidize bicycle repair;
- Encourage friendly competitions that publicize firms' commuting habits;
- Coordinate a bicycle-buddy system; and
- Sponsor bicycle rides during lunchtime or after work.

7. Publicize incentives for alternative transportation commuting, such as the federal bicycle commuter tax credit, among employers.

3.2 Engineering

Major national engineering guidance for roads and bikeways is provided by AASHTO (Guide for Development of Bicycle Facilities, 1999) and the Federal Highway Administration's "Manual on Uniform Traffic Control Devices" (2009) (MUTCD). The AASHTO guide focuses on geometric design while MUTCD focuses on signs, pavement markings, and highway traffic signals to regulate, warn, or guide traffic (including bicycles). (Note: An update of the AASHTO guide [4th Edition] was published just prior to release of this Bike Plan; therefore, the Plan references the 2009 AASHTO guide [3rd Edition].) These guidance documents, along with other manuals and guides (e.g., from the Institute of Traffic Engineers and the Transportation Research Board), form the basis for the engineering and operation of public streets and highways.

In addition to on-the-ground engineering improvements such as bikeway project programming and construction (discussed in Chapter 5), engineering-related programs and policies can help improve bikeway maintenance and design as discussed below. (Note: The City Department of Facility Maintenance [DFM] is responsible for ongoing maintenance of City streets while the Department of Design and Construction [DDC] is responsible for major City road reconstruction projects.)

3.2.1 Maintenance

Maintenance programs are important to ensure bicycle facilities are in the best condition, resulting in a safer bicycling environment. Both on-street and off-street bikeways need regular maintenance. Bicycles are more susceptible than motor vehicles to roadway conditions such as potholes, broken glass, and loose gravel. Large potholes for a cyclist could easily break a wheel or force a sudden swerve into the travel lane. Some cities have set up on-line hazard reporting systems, such as Portland's B-SMART ~ Bike Safety Monitoring And Reporting Tool, to alert City maintenance staff.

The condition of Honolulu's roads rank near the bottom[2] based on a 2007 national poll by AASHTO (Rough Roads Ahead, 2009). Not surprisingly, a universal theme coming from the public workshops was the need to improve the physical conditions of our bikeways. **The following programs will address these conditions.**

PROGRAMS

1. Implement comprehensive on- and off-street bikeway maintenance programs to:

- Perform street sweeping on roads with bicycle facilities more frequently than those without;
- Promptly repair potholes and cracks along roadway shoulders (minimizing the need for cyclists to dodge into travel lanes);
- Actively coordinate with bicycle facility maintenance workers;
- Maintain adequate shoulder conditions, including minimizing encroachment from vegetation;
- Establish a system to ensure street sweeping after collisions;
- Maintain shared-use paths;
- Replace non-bicycle-friendly storm grates and utility covers in conjunction with routine maintenance and street resurfacing; and
- Ensure all striping and markings used on roadways are slip-resistant, especially when wet.

2. Establish a procedure for prompt identification of and response to maintenance needs, including a robust phone hotline (i.e., 24-hours, with regular follow-up) and online request system.

[2] *Compared to other U.S. urban areas with populations of 500,000 or more.*

3.2.2 Design Guidance

New Bicycle Designation guide signs included in MUTCD (2009 edition).

AASHTO's Bike Guide identifies the basic facility types (e.g., lanes, shared use paths and routes). These basic types are discussed in more detail in Chapter 5 in the context of the existing bikeway network and proposed expansion of the network. The City and County of Honolulu's Subdivision Street Standards (June 2001) identify typical right-of-way (ROW) details for all new public roadways. The standards essentially provide an option of providing bike lanes or off-street shared use paths (SUPs) for new multilane streets. According to AASHTO, SUP's are considered to be a complementary system of off-road transportation routes for bicyclists and others. They should not be considered a substitute for on-street facilities because many cyclists will find it less convenient to ride on these paths compared with the streets, particularly for utilitarian trips. The street standards should be changed to require on-street bike lanes on all new multilane roadways and continue to recommend inclusion of SUPs.

The MUTCD (Part 9) focuses on signs, pavement markings, and traffic signals related to bicycle operation on both roadways and SUPs. An important new treatment introduced in the most recent version of the MUTCD is the shared lane marking or "sharrow" for roadways with speed limits up to 35 miles per hour.

Based on experience in other jurisdictions, bicycle route guide signs can be very important in assisting cyclists locate the best routes, distance, and direction of popular destinations such as Downtown, Waikīkī, college campuses, and parks, and can also direct cyclists to short loop rides around a community, amenities such as bike parking, and bikeway system maps. These signs should be in locations that are easily viewable by bicyclists.

In addition to alerting bicyclists where to ride, signs, such as "Bike Route," can also inform bicyclists where not to ride (e.g., sidewalks in business districts or Waikīkī). Pavement markings such as loop detector stencils indicating where to place bikes at signalized intersections to trigger loop detectors,[3] bike boxes, and advance stop lines represent ways to give priority to cyclists at signalized intersections and reduce conflicts between bicycles and automobiles.

The following **design-oriented programs and policies** will enhance safety and enjoyment of O'ahu's bicycling facilities.

PROGRAMS

1. Establish a variety of on- and off-street signage:

- Continue to promote sharing of roadway space between motorists and bicyclists through signing roadways with "Share the Road" and "Bike Route" signs, as well as using the "sharrow" symbol;
- Promote sharing of and reduce conflicts on shared-use path space by installing "Share the Path" and "Give Way to Pedestrians" signs;
- Provide wayfinding signage and posted bike maps for popular destinations, major travel corridors, and short loop rides;
- Install loop detector stencils and signage, and upgrade loop detectors where necessary in high bicycle traffic areas to make it easier for cyclists pass through signalized intersections;
- Install pavement markings (e.g., sharrows, bike boxes) where appropriate for additional awareness and marking of bicycle facilities; and
- Develop a sign maintenance program.

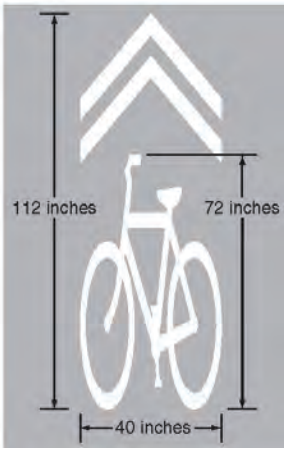
[3] *Many of Honolulu's urban intersections are signalized and include signal loop detectors buried in the pavement at the intersection approaches that automatically trigger the signals when the vehicle approaches. Standard loop detectors will detect bicyclists, but the sensitivity must be adjusted so that bicyclists are detected, and the loops must be placed in a location where a bicyclist's movements can be registered. MUTCD has identified a pavement marking to assist cyclists to locate the optimum position for their bikes over the loop detectors.*

POLICIES

1. **Ensure appropriate interim accommodations for bicycles during roadway construction projects.**
2. **Work with the Department of Planning and Permitting (DPP) to adopt major bicycle policy statements in the City's *General Plan* and *Development and Sustainable Communities Plans* that "every street and highway on which bicycles are permitted to operate is a 'bicycle street' and should be designed and maintained to accommodate shared use by bicycles and motor vehicles" (Primary Urban Center Development Plan, p. 3-61).**
3. **Improve coordination between City agencies and State DOT for the implementation of proposed bicycle facilities to minimize gaps in the bike network and improve transition of bikeway connections across jurisdictions.**
4. **Ensure that traffic impact studies conducted for new development projects assess impacts on and identify mitigation for all travel modes (auto, transit, bicycle, and pedestrian).**
5. **Incorporate appropriate bicycle and pedestrian facilities into all new roads and roadway improvements, ensuring safe linkages to existing bicycle facilities.**
6. **City agencies involved in roadway maintenance, construction, and design should adopt the latest editions of AASHTO and MUTCD guidance documents.**
7. **To the extent practical, bicycle facilities, particularly in public parks, should be designed to be "accessible."[4]**
8. **Incorporate project recommendations from the *O'ahu Bike Plan* into the *O'ahu Regional Transportation Plan* and subsequent updates of the State's *Bike Plan Hawai'i*.**
9. **Identify opportunities for bicycle projects to be incorporated into capital improvement and maintenance projects.**
10. **Request DPP to amend its subdivision street standard for multilane streets (Arterials 1 and 2) to require on-street bike lanes and continue to encourage construction of adjacent shared use paths.**

Kamokila Boulevard bike lane

Bike box at the intersection of St. Louis Drive and Wai'alae Avenue



Sharrow: Shared Lane Pavement Marking symbol included in 2009 edition of MUTCD.

[4] *All buildings, facilities, and sites shall conform to applicable federal, state, and county accessibility guidelines and standards. Hawaii Revised Statutes §103-50 requires all State of Hawaii or County government buildings, facilities, and sites to be designed and constructed to conform to the Americans with Disabilities Act Accessibility Guidelines, and other applicable design standards as adopted and amended by the Disability and Communication Access Board.*

3.3 Education

Objectives for educational programs and policies include promoting safety and educating all roadway users about their rights and responsibilities. The following educational programs and policies were identified to help bicyclists and automobile drivers learn about safely operating on and sharing space with other users of the transportation system.

Keiki riders in 4th grade BikeEd program

PROGRAMS

1. Develop a multi-modal access guide given at point of sale and available at all bicycle shops/online that includes information on the following:

- Map of the island with transit stops, recommended walking and biking routes, nearby landmarks, facilities such as restrooms and drinking fountains, locations of bicycle and vehicle parking, and major roads;
- Public transit service frequency, fares, accepted methods of payment, first and last runs, schedules, phone numbers and websites of transit service providers;
- Walking/biking travel times from transit stops to popular destinations; and
- Accessibility and paratransit services and facilities for the disabled.

2. Expand current education programs:

- Include questions regarding bicycles on driver's license tests (not just in the test manual);
- Expand the Hawai'i Bicycling League's (HBL) current BikeEd education program to include all O'ahu's 4th graders;
- Initiate "Adult Ed" programs to teach traffic safety skills, proper etiquette and basic bike maintenance skills; and
- Create and air public service announcements (PSAs) regarding the rules of the road and promote the spirit and awareness of **Ke Kānāwai Māmalahoe** (safety on the highways for all--see Goal #3).

3. Establish a neighborhood safety program to make neighborhoods and school zones more pedestrian-/bike-friendly:

- Provide technical support to community groups, government agencies (such as the State Department of Education [DOE]), Neighborhood Boards, developers, and public and private sector designers and engineers on street safety issues.

4. Implement '3-foot rule' education campaign to educate motorists and cyclists on safe, minimum passing distances (i.e., a three-foot horizontal separation in the roadway is needed to minimize motor vehicle and bicycle crashes). The same rule should also apply to bicyclists passing pedestrians on shared use paths or sidewalks; the larger or faster moving vehicle should always give way to smaller, slowing moving vehicles (or persons).

POLICY

1. Continue to provide education and technical assistance to community-based groups that desire to make their neighborhoods more accessible for bicycling, and by doing so support the City's Charter 8 Amendment mandate of making the City pedestrian- and bicycle-friendly.

3.4 Enforcement

Enforcement programs and policies require participation by other City and State agencies, including the Honolulu Police Department (HPD), State Judiciary, DOT and DOE. Several Enforcement programs and policies involve enhancing HPD's interaction with DTS, prioritizing enforcement activities, and generating valuable statistics regarding collisions that can help determine targets for future education and encouragement programs.

The State of Hawai'i had the 3rd highest average annual fatality rate for bicyclists (4.7 deaths/million residents) in the U.S. from 2001-2005, nearly twice that of the rest of the nation during this period (CDC 2009). During that period, the number of non-fatal crashes increased, from 285 to 356 statewide (State of Hawai'i DOT 2007). Over the past few years, an average of four bicyclists have been killed on O'ahu each year and non-fatal bicycle crashes averaged 260 per year (State of Hawai'i Department of Health [DOH] 2008). The majority of non-fatal bicycle crashes are reported as "non-traffic," (occurring on private roads, driveways and parking lots). Better enforcement and implementation of the **O'ahu Bike Plan** should lead to increased safety of O'ahu's bicyclists in the future.

PROGRAMS

Implement programs to enforce the laws of the road as they apply to motorists, bicyclists, and pedestrians, including:

1. **Integrate bicycle traffic education, including the rights and responsibilities of cyclists, into police officer training;**
2. **Prioritize enforcement activities to target motorist violations most dangerous to bicyclists;**
3. **Strictly enforce speed limits and parking regulations on all streets thereby improving pedestrian and bicycle safety and access;**
4. **Offer 'fix-it' ticket policy for improperly equipped or operating bicycles;**
5. **Offer a traffic school option for bicycle-related violations for both motorists and bicyclists;**
6. **Continue to work with neighborhood groups and utilize variable speed feedback signs and trailers to reduce speeds and enforce speed limits;**
7. **Implement an enforcement program for dangerous behavior on the road by all road users, including cyclists (this program should be linked to Program 1, police officer education and training); and**
8. **Create a positive reinforcement program for good behavior, such as including cycling clubs and bike shops in annual road safety recognition awards, encouraging officers to acknowledge courteous driving behavior, etc.**

POLICY

1. **Support implementation of the bike/pedestrian safety recommendations in** *Hawai'i's Strategic Highway Safety Plan (2007)* **(e.g., strengthen bike/pedestrian laws and increase enforcement; improve data collection; update zoning codes and street standards, etc.).**

3.5 Evaluation

Evaluation programs and policies, such as those listed here, are critical in determining whether bicycle infrastructure and programs are working to increase ridership and decrease crashes/mishaps. In the likely event that bicycle ridership increases, reliable bicycle screenline counts would help the City earn positive media coverage and support its funding proposals for bicycle projects and programs. While basic crash data are maintained by HPD and DOH, they are not normalized to adjust for travel volumes (i.e., auto and bikes) so it is difficult to discern "hotspots." Automobile volume counts are available for most areas of the City, but no such counts exist for bicycles, making it impossible to meaningfully evaluate crash data. Reliable bike volume data would be useful to compare the relationship between ridership and reported collisions over time.

PROGRAMS

1. **Conduct annual counts and surveys of bicycle trips according to national best practices;**
2. **Assist volunteer groups in establishing programs to monitor bicycle use patterns;**
3. **Conduct baseline counts on key recreation and commuter routes and update counts to track changes in use;**
4. **Require assessment of bicyclists and pedestrians in all traffic studies;**
5. **Insert separate bicycle and pedestrian survey questions into any existing travel mode or City audit survey instrument (i.e., break out the combined "bike/ped" components into separate components);**
6. **Routinely compile and publish data on crashes/fatalities (adjusted for traffic volume) including their causes and locations (e.g., geographic region; bike path or route); and**
7. **Conduct counts before and after new projects to monitor use and effectiveness.**

POLICY

1. **Prepare an annual Bicycle Master Plan progress report to be submitted to the Mayor, the Transportation Commission, the City Council, O'ahu Metropolitan Planning Organization, and the MACB.**
2. **Incorporate recommendations of the** *O'ahu Bike Plan* **into other City plans as they are updated. These include the** *General Plan, Sustainable Communities and Development Plans,* **and** *Special Area Plans.*
3. Periodically apply for **higher Bicycle Friendly Community status** from the LAB (i.e., from Honorable Mention to Bronze).
4. **Use the benchmarks identified in Chapter 6 to monitor progress toward implementation of the** *O'ahu Bike Plan.*

3.6 Other Policy Initiatives

3.6.1 Safe Routes to School

In our 21st century society, the thousands of students attending the over 200 public and private elementary and secondary schools on O‘ahu are more likely to travel to school in a private motor vehicle than by bike or on foot. Safe Routes to School (SRTS) is a federally-funded program designed to increase the number of students who walk and bike to school by making it safe and fun through implementation of the five “E’s.” Hawai‘i’s program funding is managed by the State DOT. The program makes funding available for a wide variety of programs and projects, from building safer street crossings to establishing programs that encourage children and their parents to walk and bicycle safely to school. Federal funding for Hawai‘i’s program has been about $1 million per year since 2005, including fiscal year 2011. Hawai‘i is also one of the 20 jurisdictions participating in the SRTS National Partnership State Network Project, which aims to increase physical activity among children by improving the built environment and state-level policies. SRTS is an important program that DTS supports to benefit students on O‘ahu.

3.6.2 Complete Streets

Complete Streets is a nation-wide coalition to encourage the development of policies at Federal, State, and local levels that ensure street design guarantees that all users (pedestrians, bicyclists, motorists and transit riders) are able to safely move along and across a street. In 2009, the Complete Streets Act (codified as HRS §264-20.5) was signed into law, which requires State DOT and County transportation departments to adopt a complete streets policy that ensures the accommodation of all users of the road, regardless of their age, ability, or preferred mode of transportation. The City adopted its Complete Streets policy in May 2012 (Bill 26).

“When I see an adult on a bicycle, I do not despair for the future of the human race.”

— H.G. Wells

Chapter 4

Support Facilities

Support facilities are those that complement the overall network of bicycle facilities (lanes, routes, paths--discussed in Chapter 5), such as parking, showers and changing facilities, and integration with public transit. This chapter identifies a range of programs and policies that address these support facilities.

Honolulu's distinctive bike racks

4.1 Parking

As more bikeways are constructed and bicycle usage grows, the demand for parking will increase. Bicycle parking facilities should be required at public facilities, popular destinations, including major transit centers, government buildings, community centers, parks, schools, and shopping centers. The Association of Pedestrian and Bicycle Professionals (APBP) issued a 2nd Edition of its Bicycle Parking Guidelines (2010), which establishes a national standard for bicycle parking and is incorporated by reference as the standard Honolulu should seek to follow.

Covered "bike oasis" parking

Short-term bicycle parking accommodates those expected to depart by bike within several hours (but not all day or overnight) and is typically provided by racks that support the bicycle but do not have a built-in locking mechanism. The City has an ongoing bike rack placement program where the City installs distinctive bike-shaped racks (see accompanying photo) on sidewalks and other appropriate locations. To date, approximately 450 racks have been installed at locations around the island.

Long-term bicycle parking is for those riders expecting to leave their bikes unattended all day and possibly overnight. This parking typically consists of secure and weather-protected bike sheds or lockers.

Attended facilities provide long-term parking at areas where bicycle use is popular. They often offer other amenities including bicycle rentals and maintenance service for a charge, as well as free access to showers, bike sharing, and 24-hour secure bicycle parking.

City parks and buildings need to have adequate bicycle parking to encourage bicycle ridership and minimize automobile use. Policies need to be established to ensure that adequate parking facilities are installed and maintained. The adequacy of bike parking in City parks was assessed as part of the planning process in response to City Council Resolution 07-250. Based on a survey of City park managers, there are very few existing bike racks in City parks. To address this shortfall, a new standard should be adopted to ensure that every City park has at least minimal bicycle parking to discourage theft and encourage bike use.

Bicycle Parking PROGRAMS

Continue and expand bicycle parking facilities through:

1. Installing and managing bike rental lockers for long-term parking at major destinations including the airport, Downtown Honolulu, Park & Ride transit facilities, regional malls, universities, and colleges;
2. Expanding the City's bicycle rack installation program, especially at major destinations and major event venues (Kapiʻolani Park, Waikīkī Shell, Ala Moana Beach Park);
3. Providing bicycle valet services at major City events to encourage bicycle use; and
4. Designating bicycle parking areas and ensuring adequate bicycle parking signs and pavement markings.

Downtown Honolulu bike lockers (Pacific Guardian Center)

Bicycle Parking POLICIES

1. Establish a bicycle parking standard in the City's Land Use Ordinance and/or Building Code to identify minimum short- and long-term bicycle parking requirements by land use or building type. The standards should follow APBP's Bicycle Parking Guidelines (2010).
2. Provide incentives for building owners to retrofit premises to provide these facilities for tenant use.
3. Amend City Parks Department Standard Details to include bicycle parking requirements for all City Parks.
4. Implement Council Resolution 07-250 to install additional bicycle racks in City Parks in accordance with the standards recommended in Table 1, and formally incorporate these into the City's Park Standards.
5. Promote establishment of attended bicycle parking facilities at major destinations and events.

Table 1: City Parks Bike Parking Standard

Park Type	Number of Bicycle Racks[1]
Regional	10
District	8
Community	6
Neighborhood	4
Mini	1
Other	1

[1] Assumes minimum capacity of 4 bicycles per rack

4.2 Showers/Changing Rooms

O'ahu's climate is generally considered highly conducive to year-round bicycling. However, our consistently balmy temperatures can also be a deterrent for people who may want to bike to work but do not have a place to change or freshen up at their destination. Encouraging developers/employers to provide shower and changing room facilities for employees/tenants should be a component of all commute and traffic demand management programs. These facilities would be used by bicycle commuters and will encourage more employees to ride their bicycles to work.

Some cities in the U.S. have requirements for showers (and bike locker facilities) in new and reconstructed developments (e.g., the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) standard of one shower or changing room per 200 full time equivalent (FTE) occupants). Requirements can vary based on the size and type of the proposed development. In 2006, the City adopted Ordinance 06-06, which requires all new City facilities larger than 5,000 square feet to achieve a minimum LEED Silver rating, requiring consideration of bicycle parking and amenities such as showers or changing rooms.

Shower/Changing Room PROGRAMS

1. **Promote establishment of a network of destination support facilities to provide bike commuters with clothes storage and shower facilities:**
   - Encourage developers, building owners, and facility managers to provide shower and changing facilities by offering tax incentives; and
   - Encourage health centers and fitness clubs to offer membership packages for bicycle commuters.
2. **Promote LAB's BFB employer awards programs for destination facilities.**

Shower/Changing Room POLICIES

1. **Establish a bicycle parking requirement in the City's Land Use Ordinance and/or Building Code (see Parking Policy 1) that also requires showers and associated changing room in new and reconstructed developments following the LEED standard of one shower or changing room per 200 FTE occupants.**
2. **Provide shower and changing facilities for bicycle commuters at all new City facilities.**

4.3 Transit Integration

Effective bicycle integration with public transit depends on the ability to bicycle comfortably and safely to and from bus stops and future train stations. Integration with public transit also relies on the availability of secure bike parking and the passengers' ability to take bikes on the transit vehicles to their final destinations. To do this effectively, the bicycle network must link directly to transit centers and transfer points and there must be reasonable accommodation of bicycles at the stops and on transit vehicles. This integration expands the transit service area and efficiency of transit, reduces the need for additional auto parking, improves mobility choices, can create denser, mixed-use urban environments, and promotes public health through more active lifestyles.

Honolulu High Capacity Transit Corridor Project. The City, led by the Honolulu Authority for Rapid Transportation (HART), is in the process of implementing a fixed-guideway transit system that will extend from Kapolei to Ala Moana (see corridor map below). Ridership projections for 2030 indicate the system will accommodate about 116,000 boardings each weekday (U.S. DOT 2012). Twenty-one stations at approximately one-mile intervals are planned as part of the first phase of development, extending from East Kapolei to Ala Moana Center. The City Department of Planning and Permitting is undertaking a parallel, community-based, station area master planning effort (i.e., transit- oriented development) to coordinate development around each of the planned transit stations. Draft station area plans are underway or have been completed for all of the 21 stations.

The system is being planned to be bicycle friendly, including permitting bikes on board the train cars and providing bicycle parking and/or storage at each of the stations, with each station connected to the regional bikeway network. Bike traffic should be carefully monitored by system managers to minimize bottlenecks and build ridership.

Planned rail transit route

TheBus bike racks

TheBus. The City's bus operation has about 250,000 passenger boardings on the average weekday served by a fleet of 540 buses (with about 30,000 bike loadings/month). Bicycle racks are fitted on all the buses with plans to increase rack capacity from two to three bikes over the next few years. Additional bicycle parking at transit stations is needed to accommodate peak hour demands. Key locations include park & ride facilities and transit centers where there is a large volume of morning commuter traffic.

As discussed in Section 3.2.2, wayfinding signage at and in the vicinity of transit stations is an important part of the bicycle network and the integration of the transit system. Wayfinding signage should lead bicyclists to bikeways to and from high volume destinations and transit stations, encouraging O'ahu residents and visitors to bicycle for work and pleasure.

Effective bicycle integration with public transit depends on the ability to bicycle comfortably and safely to and from bus stops and future train stations.

Transit Integration PROGRAMS

Improve bike accessibility to, and integration with, transit facilities by:

1. **Installing wayfinding signage at appropriate locations to provide estimated distance and time to and from transit stations and bus stops.**
2. **Providing online "bikes on transit" information, including trip planning tools and maps.**
3. **Adding bike routes to transit maps and creating bike maps that include transit routes.**
4. **Installing and managing convenient and accessible bicycle parking at TheBus park & ride lots and transit centers, and at the proposed rail transit stations. Bicycle parking should be provided according to APBP standards (i.e., short and long term spaces to meet 5 percent and 1.5 percent of projected AM peak ridership, respectively). Bicycle parking facilities should be located within 100 feet of the station entrance, preferably in highly visible locations for safety and security.**
5. **Routinely reassessing effectiveness of bike-transit integration, transit-related bike parking facilities, and bicycle rider satisfaction to ensure a high level of service.**
6. **Coordinating Capital Improvement Program (CIP) bike network improvements with station development plans to ensure stations are connected to the regional bikeway network.**

Transit Integration POLICIES

1. **Continue to allow folding bicycles on all City transit vehicles. (Note: Folding bikes must be small enough to be placed on either the passenger's lap or under their seat.)**
2. **Ensure that the new rail transit system is bike friendly by adopting the following policies:**
   - Ensure every guideway vehicle has a convenient area to store bicycles.
   - Evaluate the incorporation of "stair rails" into planned transit stations to facilitate moving bicycles to and from the platform (elevator capacity will be taxed during peak hours).
   - Encourage attended parking facilities to locate adjacent to stations with high AM peak period boardings (e.g., >1,000) to provide services such as bike repair, and showering and dressing room facilities for the commuting public.

Stair rail (BART Station)

Chapter 5

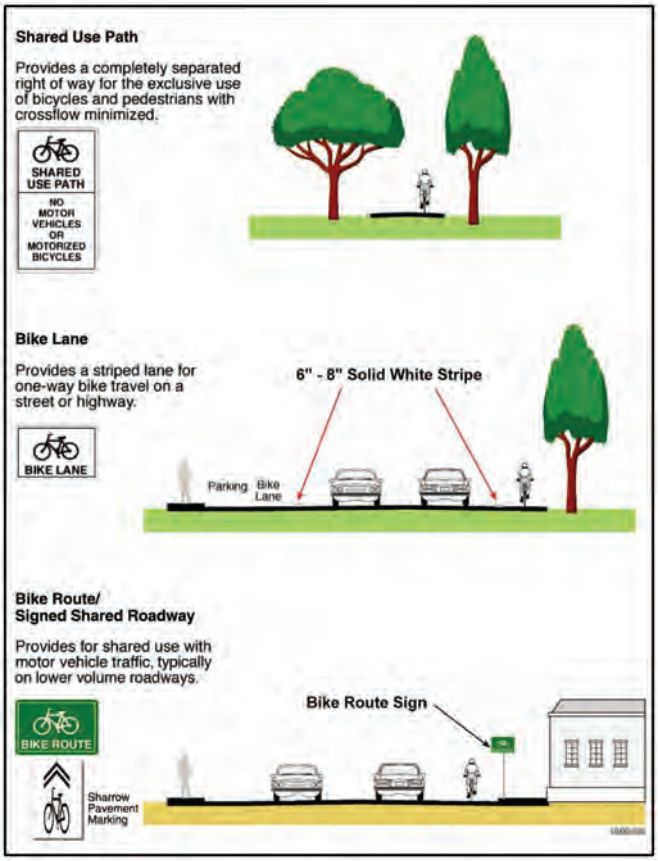
Bikeway Network

An extensive network of lanes, paths, and routes is key to making O'ahu a bicycle-friendly community. Connecting riders to popular destinations and everyday services will encourage more people to ride for both utilitarian trips as well as recreation.

A key component of this network is ensuring that facilities connect to one another, providing a continuous route and multiple options to arrive at destinations. A wide variety of facilities is the best manner in which to serve the diverse types of riders. The three major types of bicycle facilities are paths, lanes, and routes (also referred to as a signed shared roadway by AASHTO) (see figure below). While the projects presented in this chapter are recommended as bicycle facilities, the accommodation of bicycles should be considered in all roadway maintenance and improvement projects, whether or not they are official bikeways.

Pearl Harbor Bike Path

Young Street bike lane



Bikeway types and associated signage

Paths. Bicycle paths, referred to as shared use paths or SUPs, are off-street facilities constructed of either concrete or asphalt and 12 feet in width (10-foot minimum). These grade-separated facilities are family and beginner rider friendly, often traveling through parks and in general providing a more leisurely, less direct route. SUPs are considered to supplement, rather than replace, on-road bicycling facilities.

Lanes. Bicycle lanes are on-street facilities delineated from vehicle traffic by a wide, white line. They are typically five to six feet in width (four-foot minimum) and contain pavement markings that indicate they are for bicycle use only.

Routes. Bicycle routes are also on-street facilities, posted with street signage and in some instances, pavement markings. A wide outside traffic lane (14 feet) is typically preferable for routes to enable cars to safely pass bicyclists without crossing the centerline. Routes may also include wide paved shoulders, at least four feet in width (five feet when adjacent to a guard rail, curb, or other barrier used along highways). They are typically separated from vehicle traffic through striping treatments to delineate the space for use by bicycles and pedestrians.

In urban areas, there are often popular bicycle routes in which curb lane width is not sufficient for a vehicle to pass without crossing the centerline or into the adjacent travel lane (a typical condition in urban Honolulu). In these situations, in addition to bicycle route street signage, "sharrows," or shared lane pavement markings can alert motorists to the likelihood of encountering bicyclists traveling in the lane. Sharrows indicate where riders should travel in the lane, reduce potential conflicts with motorists and parked cars, and provide a visual reminder to drivers that bicyclists use the roadways. Sharrows are included in the 2009 edition of the MUTCD and are recommended for streets posted at 35 mph or less. Bicycle routes can also be identified by signage alone.

It is important to note that with very few exceptions, bicycles are permitted to travel on all public streets within the City, regardless of whether it has been formally defined as a bikeway. Therefore, any street could potentially be a bikeway if opportunities for improvement arise.

The MUTCD-approved "Bicycles May Use Full Lane" sign can also be used to educate drivers.

Kalākaua Avenue sharrow

New "May Use Full Lane" sign on Ala Wai Boulevard

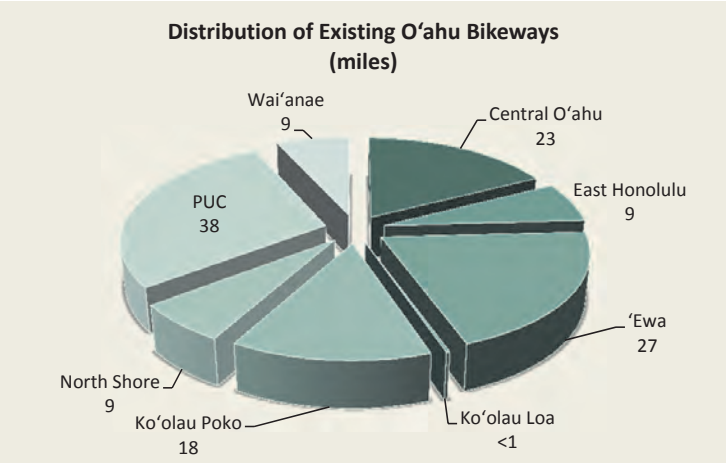
5.1 Existing Network

Currently, O‘ahu has 129 bicycle facilities, covering 132 miles under the jurisdiction of the City and other entities. The network is composed of 46 miles of paths, 51 miles of lanes, and 36 miles of routes. This is contrasted with approximately 1,550 miles of non-freeway paved roads on the island (State 2010 Data Book, Table 18-02).

Table 2 summarizes existing bicycle facilities for O‘ahu by planning area (**Development Plan** or **Sustainable Communities Plan**), facility type, and mileage, with City-controlled facilities identified separately from other jurisdictions. The accompanying pie chart below summarizes the existing bikeway facilities by City Development Plan (DP) area (any discrepancies between the table and chart are due to rounding).

Table 2: Existing O‘ahu Bikeways

DP Area	Existing Bikeway Facilities (County) Type (miles)				Existing Bikeway Facilities (State/Other) Type (miles)				TOTAL
	Path	Lane	Route	**Subtotal**	Path	Lane	Route	**Subtotal**	
Central O‘ahu	3.7	6.4	2.2	**12.3**	4.6	0.0	6.2	**10.8**	**23.1**
East Honolulu	0.0	0.0	3.6	**3.6**	0.0	4.3	0.9	**5.2**	**8.8**
‘Ewa	6.9	7.5	0.9	**15.3**	7.2	3.9	0.5	**11.6**	**26.9**
Ko‘olau Loa	0.0	0.3	0.0	**0.3**	0.0	0.0	0.0	**0.0**	**0.3**
Ko‘olau Poko	0.8	8.5	3.4	**12.7**	0.0	2.2	2.8	**5.0**	**17.7**
North Shore	6.5	0.0	0.0	**6.5**	0.0	0.0	2.1	**2.1**	**8.6**
PUC	12.1	8.1	4.1	**24.3**	3.8	8.2	1.4	**13.4**	**37.7**
Wai‘anae	0.0	0.0	0.0	**0.0**	0.0	1.4	7.6	**9.0**	**9.0**
Total	**30.0**	**30.8**	**14.2**	**75.0**	**15.6**	**20.0**	**21.5**	**57.1**	**132.1**



5.2 Planned Facilities

The total proposed new network for O'ahu (for all jurisdictions) includes 357 on- and off-road facilities, covering 559 miles. A mix of lanes, paths, and routes create a diverse range of riding experiences while connecting existing facilities and creating an extensive island-wide network. When all of the proposed facilities are built, O'ahu would have nearly 700 miles of bikeways.

The proposed network for City facilities is comprised of 310 miles; an additional 249 are under other jurisdiction (State, Federal, private, or a combination thereof).

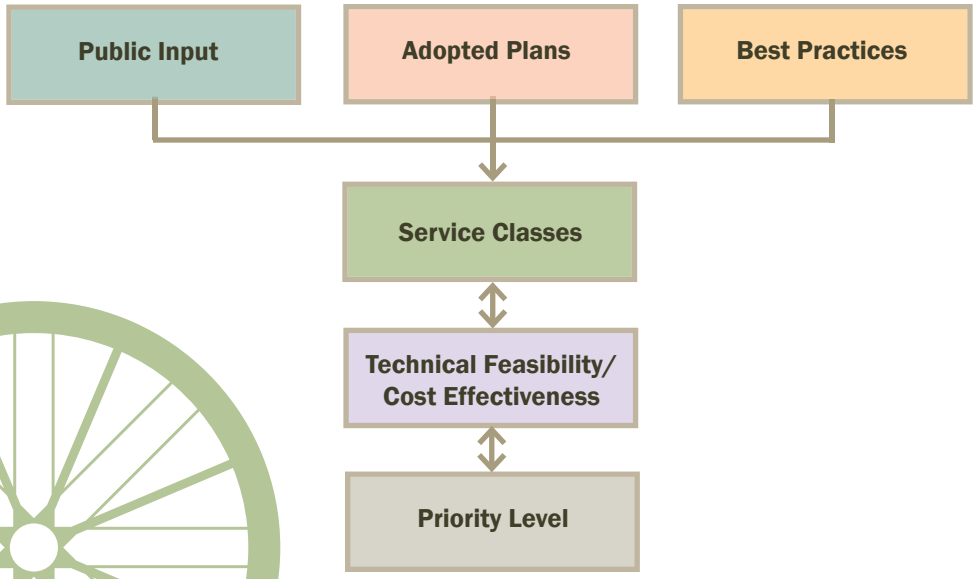
Projects have been identified for communities throughout the island, ensuring that the proposed projects form a complete connected network that serves each community.

A subset of **near-term, readily implementable** projects from the inventory of proposed bikeway projects is also identified and presented in Section 5.3 as the Bike Plan's **Short-Range Implementation Plan.** This short-range plan includes interim treatments of longer-term projects to help fill gaps in the bikeway system and provide short-term connectivity.

5.2.1 Project Prioritization and Methodology

Potentially, any existing roadway, unofficial path, or desirable route to travel could become a bikeway project. However, this Plan narrowed the set of potential projects by using several criteria to screen and prioritize projects. The flow chart below illustrates the project identification and prioritization process.

Bikeway Facility Prioritization Process



Initially, potential bikeway projects were identified based on public input, adopted plans (including each of the eight O‘ahu DP areas), and application of best practices. Out of the entire set of potential projects, proposed bikeways were then developed based on surrounding land use, linkage to popular destinations, access to transit, and creating an extensive connected network for O‘ahu.

Bikeway projects were then prioritized based on several criteria developed from input received from O‘ahu’s bicycling community, input from transportation engineers and planners, and research from other bicycle master plans from around the U.S.

Criteria used in the prioritization process:

- Provide continuity within the regional bikeway system;
- Provide the most direct route possible;
- Connect cyclists to desired destinations, such as employment centers, commercial districts, universities, schools, and recreational destinations;
- Provide connections to mass transit, including all of TheBus transit centers and future rail stations;
- Create cross-town and regional facilities that encourage long distance and bicycle commuting opportunities; and
- Identify local loop rides that will encourage recreational and neighborhood-based riding.

In order to determine which facilities best fulfilled the aforementioned criteria, **two analyses were conducted for each of the facilities:**

- number of services provided, and
- connections to existing bikeways.

Table 3: Service Classes

Types	Description
College Access	Projects that directly serve a college campus or support an important link to the college (e.g., University Avenue bicycle lanes).
Crosstown Route	Continuous routes within urban Honolulu that traverse large areas of the City (e.g., Young Street).
Lei of Parks	Facilities that serve popular park areas and/or connect public park facilities to one other (e.g., Kapiolani Park Path).
Loop Ride	Facilities that branch off major arterial streets, providing an alternate "back roads" route as well as recreational riding opportunities (e.g., Tantalus Loop Ride).
Popular Destination	Facilities that serve popular destinations for riders, such as shopping centers, parks, or other highly frequented areas (e.g., Downtown Honolulu and Waikīkī).
Regional Corridor	Facilities that connect geographic regions. Different from the *Crosstown Routes*, these facilities support the larger regional bikeway network (e.g., Kamehameha Highway from Wahiawā to Hale'iwa).
Transit Access	Facilities that connect to TheBus transit centers and the planned rail stations (e.g., Mokuola Street bike lane).

Priority 1

projects are considered the most important facilities for the network and should be completed within the next 5-10 years.

Priority 2

projects should be implemented following the completion of all Priority One projects. These projects will help expand the overall network, providing multiple routes to important services.

Priority 3

projects are the balance of the projects and when constructed will create an extensive network of bicycle facilities, multiple routes for destinations, and a comprehensive system that makes it easy and attractive to ride on O'ahu.

The level of services that a bikeway provides is essential in determining how important it is for the overall network. Seven service designations were identified in the prioritization process (summarized in Table 3). These service classes address both the everyday needs of cyclists as well as desirable or popular rides.

In an effort to create a comprehensive, connected bikeway network, spatial analysis was conducted to determine the number of connections that each proposed facility would have to existing bikeways. The results of this analysis contributed to the project prioritization.

After extensive evaluation of the number of service classes and level of connectivity provided, each project was assigned to one of the three priority levels, described at left.[5] Facilities that connected to other existing bikeways, or served multiple classes (e.g., they connect UH Mānoa to Waikīkī), were assigned higher priorities than those that did not connect or only served one or no service class. Engineering feasibility and construction costs were also considered in order to determine the highest priority projects.

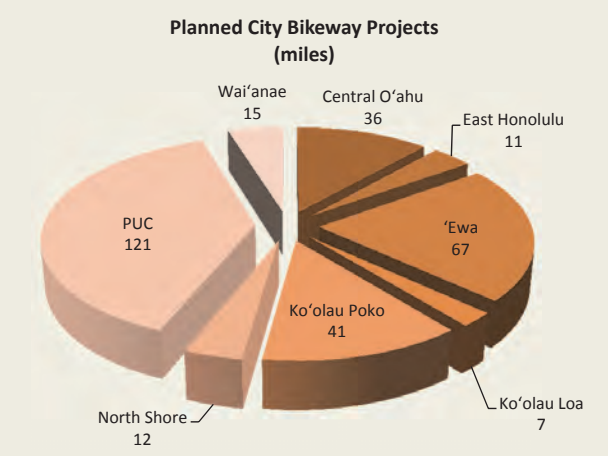
[5] *Prioritization of all bikeway projects was conducted on a jurisdiction-neutral manner--i.e., all projects, whether on State, County, Federal, or private lands--were evaluated in the same process and projects were prioritized for each DP area.*

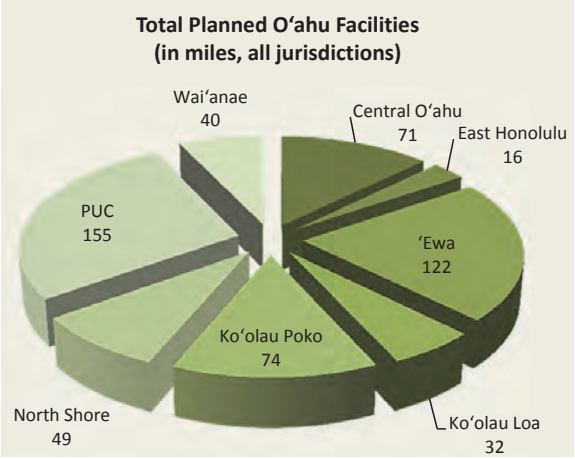
Comments received from government agencies, stakeholder groups and private citizens on the Draft O‘ahu Bike Plan also influenced both the set of projects presented in this Final O‘ahu Bike Plan and their priorities. Priority designations were raised in some cases and lowered in others. Overall, the bulk of the projects presented in the Draft Plan were retained in the Final Plan--with the addition of a new set of short-term, readily implementable projects, which are described in Section 5.3.

Table 4 summarizes all planned bikeway facilities on O‘ahu by DP area, with City-controlled facilities identified separately from other jurisdictions. The accompanying pie charts summarize the planned City bikeway projects and the total planned O‘ahu bikeway facilities, respectively. Both charts indicate bikeway project mileage by DP area.

Table 4: Overview of Planned O‘ahu Bikeways

	Proposed Bikeway Projects (City)				Proposed Bikeway Projects (State/Other)				
	Type (miles)				Type (miles)				
DP Area	Path	Lane	Route	**Subtotal**	Path	Lane	Route	**Subtotal**	**TOTAL**
Central O‘ahu	12	13	11	36	9	6	20	35	71
East Honolulu	2	<1	9	11	0	0	5	5	16
‘Ewa	21	31	15	67	27	14	14	55	122
Ko‘olau Loa	0	0	7	7	0	0	25	25	32
Ko‘olau Poko	<1	5	36	41	8	4	21	33	74
North Shore	7	0	5	12	7	0	30	37	49
PUC	8	54	59	121	3	15	16	34	155
Wai‘anae	0	0	15	15	8	0	17	25	40
Total	**50**	**103**	**157**	**310**	**62**	**39**	**148**	**249**	**559**





Tables 5, 6, and 7 (Priority 1, 2, and 3 projects, respectively) list the 357 planned bikeway projects proposed in all jurisdictions (i.e., City, State, Federal, private) and include a brief bikeway description, facility type (path, lane, or route), ownership, length, estimated cost, and DP area in which it is located. (Note: No costs are included for projects that will be constructed by private developers meeting County subdivision standards–including those that will ultimately be dedicated to the City.) Each project has been assigned a unique project code (e.g., 1-1, 2-1, 3-1) for identification purposes, with the prefix (i.e., 1-, 2-, or 3-) indicating its priority class. Within each priority class, the projects were sorted by DP area, then alphabetically, and then assigned the second number of the project code. Other than indicating its priority class, the project codes do not indicate a project's relative importance within each priority class. **An alphabetical listing of the projects by primary street name is found in Appendix B.**

These facilities are also depicted in the maps that follow the tables (Figures 1-6). The maps show both the existing and proposed facilities in all jurisdictions in order to represent the future comprehensive islandwide network. Existing routes, lanes, and paths are shown with solid lines; proposed facilities are shown as dashed lines, with facility types shown in different colors. Each proposed bikeway is labeled with its project code, which can be cross-referenced with Tables 5, 6, and 7.

In both the tables and the bikeway maps, the short-range implementation plan projects are indicated by an asterisk (*). These projects are presented in greater detail in Section 5.3. The maps also show major bus transit and park & ride facilities, the proposed rail alignment and station locations, and locations of schools, parks, colleges, and major destinations.

The proposed bikeway system will provide a variety of facilities for various rider experience levels, ages, and competencies. These include grade-separated paths, on-street lanes and routes, as well as loop rides and commuting corridors and connections to popular destinations. Taken together, the Plan improves mobility for young and older, student and commuter, and recreational and competitive cyclists.

Table 5: Priority 1 Projects

Code	Name	Description	Type	Owner	Length (miles)	Cost** (1000s)	DP Area
1-1	Central Oʻahu Regional Park	Kamehameha Highway to Paiwa Street	P	C	0.95	$734	CO
1-2*	Lanikūhana Avenue	South end of Meheula Parkway to Mililani Shopping Center	R	C	2.64	$132	CO
1-3	Leeward Bikeway (Phase 1)	Waipiʻo Point Access Road to Hawaiian Railroad Society Train Station	P	S	5.99	--	CO
1-4*	Waipiʻo Point Access Road (Southern Section)	Pearl Harbor Bike Path to Waipiʻo Soccer Park	P	C	0.72	UC	CO
1-6*	Wailua Street	Hawaii Kai Drive to Lunalilo Home Road	L	C	0.37	$42	EH
1-7*	Kapolei Parkway	Fort Barrette Road to Keoneʻula Boulevard	L	C	4.10	$472	ʻEwa
1-8	Kualakaʻi Parkway	H-1 Freeway to Keoneʻula Boulevard	L	S	4.37	--	ʻEwa
1-9	Kamehameha Hwy. (Koʻolauloa)	ʻOʻopuola St. to Waiāhole Valley Road	R	S	25.25	--	KL
1-10*	Hāmākua Drive	Keolu Drive to Kailua Road	L	C	0.79	$486	KP
1-11*	Kailua - Lanikai Connector	South Kalaheo to Kawailoa Rd. to Mokulua Dr.	R	C	0.82	$41	KP
1-12*	Kailua Road (Eastern Section)	Wanaʻao Road to South Kalāheo Avenue	L	C	0.84	$97	KP
1-13*	Kailua Road (Western Section)	Kuʻulei Road to Hahani Street	R	C	0.21	$11	KP
1-14*	Kalāheo Avenue	Kāneʻohe Bay Drive to Kailua Road	R	C	2.12	UC	KP
1-15	Kalanianaʻole Highway (Kailua)	Kailua Road to Olomana Golf Course	R	S	2.51	--	KP
1-16	Kalanianaʻole Highway (Olomana Golf Course)	Olomana Golf Course to Flamingo Street	R	S	0.40	--	KP
1-17	Kalanianaʻole Hwy (Waimānalo)	Wailea to Makapuʻu Lighthouse	R	S	3.52	--	KP
1-18*	Kamehameha Hwy (Kāneʻohe)	Kahuhipa Road to Kāneʻohe Bay Drive	L	C	1.09	$673	KP
1-19	Kawainui Levee Path	Kawainui Neighborhood Park to Kailua Road	P	S	1.25	--	KP
1-20	Kawainui Marsh Path (Levee to Hāmākua Drive)	Levee Path to Makai Side of Kawainui Canal	P	S	0.26	--	KP
1-21*	Keaʻahala Road	Kahekili Highway to Lilipuna Road	R	C	1.28	$64	KP
1-22*	Wanaʻao Road	Kailua Road to Keolu Drive	R	C	0.85	$43	KP
1-23	Goodale Avenue	Farrington Highway to Waialua Beach Road	R	C	0.82	$487	NS
1-24	Haleʻiwa Road	Waialua Beach Road to Kamehameha Hwy	R	C	1.60	$946	NS
1-25	Kamehameha Highway (North Shore)	Kaukonahua Road to ʻOʻopuola Street	R	S	9.23	--	NS

Key

L	Lane	C	City	CO	Central Oʻahu	NS	North Shore
R	Route	S	State	EH	East Honolulu	PUC	Primary Urban Center
P	Path	F	Federal	KL	Koʻolau Loa	Wai	Waiʻanae
XW	signalized crosswalk	Pv	Private	KP	Koʻolau Poko	UC	under design or construction

Notes: Project code "1-5" not used.
Alphabetical listing of projects provided in Appendix B.
* Projects in Short-Range Implementation Plan (see Table 10).
** Costs not provided for State, Private, or Federal projects, or for City projects under design, construction or privately funded (including those that will ultimately be dedicated to the City).

Table 5: Priority 1 Projects (continued)							
Code	Name	Description	Type	Owner	Length (miles)	Cost** (1000s)	DP Area
1-26*	18th Avenue	Diamond Head Road to Kīlauea Avenue	L	C	0.33	UC	PUC
1-27	Ala Moana Beach Park (Extension)	Connect existing mauka and makai bike paths, extend path to Kewalo Basin	P	S	0.15	--	PUC
1-28*	Ala Moana Boulevard Path	Atkinson Drive to Ala Wai Canal	P	C	0.10	UC	PUC
1-29*	Ala Wai Boulevard	Keoniana Street to Kalākaua Avenue	R	C	0.29	$15	PUC
1-30	Aloha Tower Path	Aloha Tower to Waterfront Park	P	S	0.99	--	PUC
1-31*	Alohea Avenue	10th Avenue to Makapuʻu Avenue	R	C	0.34	$17	PUC
1-32	Beretania St. (Middle Section)	McCully Street to Alapaʻi Street	L	C	1.43	$164	PUC
1-33*	Beretania St. (Southern Section)	University Avenue to McCully Street	L	C	0.78	$89	PUC
1-34*	Civic Center Bike Path	Alapaʻi Street to Richards Street	P	C	0.46	UC	PUC
1-35*	Cooke Street	Ilalo Street to South King Street	L	C	0.76	$88	PUC
1-36*	Coyne Street	University Avenue to Isenberg Street	R	C	0.28	UC	PUC
1-37*	Diamond Head Road	Pākī Avenue to Fort Ruger Park	L	C	1.47	$909	PUC
1-38	Dillingham Boulevard (Southern Section)	Puʻuhale Road to N. King Street	R	C	1.44	$72	PUC
1-39*	ʻEna Road	Kalākaua Avenue to Ala Moana Boulevard	R	C	0.21	$10	PUC
1-40*	Fort Street Mall	Nimitz Highway to Beretania Street	R	C	0.38	$15	PUC
1-41*	Harding Avenue	Kapahulu Avenue to 16th Avenue	R	C	1.31	$65	PUC
1-42*	Honomanū Street	Moanalua Road to Kamehameha Highway	L	C	0.16	$19	PUC
1-43*	Isenberg St (Northern Section)	Coyne Street to South King Street	R	C	0.17	$8	PUC
1-44*	Kaʻahumanu Street	Kamehameha Highway to Komo Mai Drive	L	C	1.01	$117	PUC
1-45*	Kāhala Avenue	Diamond Head Road to Kealaʻolu Avenue	R	C	1.51	$75	PUC
1-46*	Kalākaua Avenue (Northern Section)	Beretania Street to Ala Moana Boulevard	R	C	0.98	$49	PUC
1-47*	Kalākaua Avenue (Southern Section)	Saratoga Road to Kapahulu Avenue	L	C	0.95	UC	PUC
1-48	Kalākaua Ave. Signal/Crosswalk	Ala Wai Promenade	XW	C	0.00	$200	PUC
1-49*	Kālia Road	Ala Moana Boulevard to Saratoga Road	R	C	0.49	$25	PUC
1-50*	Kapahulu Avenue	Kalākaua Avenue to Old Waiʻalae Road	R	C	1.56	UC	PUC
1-51	Kapahulu Avenue Bike Path (Extension)	Extend existing Kapahulu Avenue Path to Ala Wai Bike Lane	P	S	0.11	--	PUC
1-52	Kapiʻolani Boulevard	Waiaka Road to South King Street	L	C	0.21	$130	PUC
1-53*	Kīlauea Avenue	Waiʻalae Avenue to Makapuʻu Avenue	R	C	1.56	$78	PUC
1-54*	King Street (Southern Section)	South Street to Kapiʻolani Boulevard	L	C	2.84	$326	PUC
1-55*	Kuala Street	Kamehameha Hwy to Waimano Home Road	L	C	1.02	$117	PUC
1-56*	Kūhiō Avenue	Kalākaua Avenue to Kapahulu Avenue	R	C	1.17	$59	PUC

Table 5: Priority 1 Projects (continued)							
Code	Name	Description	Type	Owner	Length (miles)	Cost** (1000s)	DP Area
1-57*	Makapuʻu Avenue	Kīlauea Avenue to Diamond Head Road	L	C	0.27	UC	PUC
1-58*	McCully Street	Kapiʻolani Boulevard to H-1 Freeway	L	C	0.61	$70	PUC
1-59*	Moanalua Road (Pearl City)	Hoʻomalu Street to Waimano Home Road	L	C	0.60	$69	PUC
1-60	Moanalua Road (Aiea)	Kaʻahumanu Street to ʻAiea Heights Drive	L	C	1.87	$215	PUC
1-61*	Monsarrat Avenue - Diamond Head Road	Kapahulu Avenue to Fort Ruger Park	L	C	2.36	$1,460	PUC
1-62*	Noelani Street	Moanalua Road to Kaʻahumanu Street	R	C	0.72	$36	PUC
1-63	Old Waiʻalae Road	St. Louis Heights Drive to South King Street (over H-1)	L	S	0.42	--	PUC
1-64*	Pālolo Loop (10th Ave)	Alohea Ave and 10th Ave to Pālolo Place	R	C	2.62	$131	PUC
1-65*	Pālolo Loop (Pālolo Ave)	Alohea Ave./10th Ave. Intersection to Pālolo Place	R	C	2.83	$142	PUC
1-66*	Pearl Harbor Bike Path (PHBP) Connector-- Lehua Avenue	Kamehameha Highway to Pearl Harbor Bike Path	L	C	0.34	$39	PUC
1-67*	Pensacola Street	Waimanu Street to Wilder Avenue	R	C	1.05	$53	PUC
1-68*	PHBP Connector - Hekaha St.	Kamehameha Hwy to Pearl Harbor Bike Path	L	C	0.09	$11	PUC
1-69*	PHBP Connector - Kanuku Street	Kamehameha Highway to Pearl Harbor Bike Path	L	C	0.05	$6	PUC
1-70*	Piʻikoi Street	Ala Moana Boulevard to Wilder Avenue	R	C	1.20	$60	PUC
1-71*	Queen Street	Fort Street Mall Path to Piʻikoi Street	R	C	1.63	$82	PUC
1-72*	Queen's Beach Trail (South Section)	Beach Trail to Kalākaua Avenue (at Natatorium)	P	C	0.07	$51	PUC
1-73*	Saratoga Road	Kālia Road to Kalākaua Avenue	R	C	0.27	$14	PUC
1-74*	School Street	ʻIolani Avenue to Middle Street	R	C	2.68	UC	PUC
1-75*	Thomas Square Park	Victoria Street to Ward Avenue	P	C	0.11	UC	PUC
1-76*	University Avenue	Dole Street to Maile Way	L	C	0.36	$41	PUC
1-77*	Varsity Place	University Avenue to Lower Campus Road	R	C	0.27	UC	PUC
1-78	Waiaka Road-Kuilei Street	Waiʻalae Avenue / King Street Connection	R	C	0.41	$44	PUC
1-79*	Waiʻalae Ave. (Eastern Section)	11th Avenue to 17th Avenue	R	C	0.49	$25	PUC
1-80	Waiʻalae Ave. (H-1 Viaduct)	18th Avenue to ʻĀinakoa Avenue	L	S	0.89	--	PUC
1-81*	Waiʻalae Ave. (Western Section)	Kapahulu Avenue to 11th Avenue	L	C	0.91	$566	PUC
1-82*	Young Street	Pensacola Street to Isenberg Street	L	C	1.40	$865	PUC
1-83	Māʻili to Waiʻanae (Valley Route)	Plantation – Waiʻanae Valley - Lualualei Homestead Rd – Māʻiliʻili – Paʻakea – Lualualei Naval Rd	R	C	9.34	$467	Wai
1-84	Waiʻanae Coast Path	Lualualei Naval Road to Kili Drive	P	S/C	8.16	--	Wai
		Priority 1 Totals (rounded):		138 miles		$11.3 million	

Table 6: Priority 2 Projects

Code	Name	Description	Type	Owner	Length (miles)	Cost** (1000s)	DP Area
2-1	ʻĀinamakua Drive	Mililani Mauka Park and Ride to Kualapa St.	L	C	1.12	$128	CO
2-2	Anania Drive	Meheula Parkway to Kīpapa Gulch Path	R	C	1.27	$135	CO
2-3	ʻAwalau Street	Farrington Highway to Awanei Street	L	C	0.39	$45	CO
2-4	Awanui Street Bike Path	Farrington Highway to Pearl Harbor Bike Path	P	C	0.38	$367	CO
2-5	California Avenue	Plum Street to ʻIliahi Elem School	R	C	1.71	$181	CO
2-6	Farrington Highway (Waipahu)	Fort Weaver Road to Kamehameha Highway	L	S	2.74	--	CO
2-7	H-2 Mililani Interchange	Meheula Parkway	L	S	0.26	--	CO
2-8	Hōʻaeʻae Stream Path	Honowai Street to Pearl Harbor Bike Path	P	C	0.88	$857	CO
2-9	Honowai St. (Western Section)	Fort Weaver Road to Loaʻa Street	R	C	0.71	$76	CO
2-10	Kamehameha Hwy. (Mililani)	Meheula Parkway to Ka Uka Boulevard	R	S	2.76	--	CO
2-11	Kamehameha Hwy. (Waipiʻo)	Waipiʻo Uka Street to Waipahu Street	R	S	0.91	--	CO
2-12	Kapakahi Stream Path	Farrington Highway to Pearl Harbor Bike Path	P	C	0.41	$400	CO
2-13	Kilani Avenue	Koa Street to Wahiawā Elem School	R	C	0.67	$27	CO
2-14	Kīpapa Gulch Pathway	Anania Drive to Central Oʻahu Regional Park	P	S/Pv	2.60	--	CO
2-15	Kunia Road	ʻAnonui Street to Wilikina Drive	R	S	7.11	--	CO
2-16	Kupuna Loop	Kunia Road to ʻĀiki Street	R	C	0.80	$85	CO
2-17	LCC (Ala ʻIke Street)	Cane Haul Road to Waiawa Road	L	S	1.22	--	CO
2-18	LCC Access Road (Mauka)	Kamehameha Highway to LCC	R	S	0.27	--	CO
2-19	Leilehua Golf Course Road	Kamehameha Highway to Wīkaʻo Street	R	C	0.27	$29	CO
2-20	Leokāne St. – Kaihuopalaʻai St.	Fort Weaver Road to Leowahine Street	R	C/Pv	1.64	$66	CO
2-21	Leokū Street	Waipahu Street to Pearl Harbor Bike Path	L	C	0.57	$65	CO
2-22	Leowahine Street	Leokū Street to Waipahu Street	R	C/Pv	0.47	$21	CO
2-23	Meheula Parkway (Mililani Mauka)	H-2 Interchange to Kapanoe Street	L	C	1.98	$228	CO
2-24*	Mokuola Street	Naliʻi Street to Farrington Highway	L	C	0.20	$123	CO
2-25	Paiwa Street	Farrington Highway to H-1 Freeway	L	C	1.08	$124	CO
2-26	Royal Kunia Loop	Loop from ʻAnonui St. to Royal Kunia Golf Course	L	C	1.65	$190	CO
2-27	Makalena Golf Course Stream Path	Pearl Harbor Bike Path to Waipahu Street	P	C	0.94	$915	CO
2-28	Waikele Stream Path	Pearl Harbor Bike Path to Kapakahi Stream Path	P	C	0.64	$629	CO

Key

L	Lane	C	City	CO	Central Oʻahu	NS	North Shore
R	Route	S	State	EH	East Honolulu	PUC	Primary Urban Center
P	Path	F	Federal	KL	Koʻolau Loa	Wai	Waiʻanae
XW	signalized crosswalk	Pv	Private	KP	Koʻolau Poko		

Notes: Alphabetical listing of projects provided in Appendix B.
* Projects in Short-Range Implementation Plan (see Table 10).
** Costs not provided for State, Private, or Federal projects, or for City projects under design, construction, or privately funded (including those that will ultimately be dedicated to the City).

Table 6: Priority 2 Projects (continued)

Code	Name	Description	Type	Owner	Length (miles)	Cost** (1000s)	DP Area
2-29	Waipahu Cane Haul Rd. (South)	Waipahu Street to Waipiʻo Point Access Road	P	C/Pv	1.16	--	CO
2-30	Waipahu Cane Haul Road (West)	Naval Access Road to Waipahu Street	P	C	1.18	$906	CO
2-31	Waipiʻo Park Path (Eastern Section)	Waipiʻo Pt. Access Road to End of Waipiʻo Park Road	P	C	0.55	$427	CO
2-32	Waipiʻo Park Path (Western Section)	Connecting Pearl Harbor Bike Path to Western Terminus of Waipiʻo Park Road	P	C	0.75	$733	CO
2-33	ʻĀina Haina Valley Loop	West - East Hind Drive	R	C	1.15	$122	EH
2-34	Halemaʻumaʻu Street	Niu Valley Loop	R	C	0.85	$90	EH
2-35	Hawaiʻi Kai Dr. (Eastern Section)	Wailua Street to Lunalilo Home Road	R	C	1.80	$191	EH
2-36	Hawaiʻi Kai Drive (Western Section)	Kalanianaʻole Highway to Wailua Street	R	C	1.70	$181	EH
2-37	Kalanianaʻole Highway (Hanauma Bay)	Sandy Beach Park to Lunalilo Home Road	R	S	2.97	--	EH
2-38	Kalanianaʻole Hwy. (Makapuʻu)	Makapuʻu Beach Park to Sandy Beach Park	R	S	1.49	--	EH
2-39	Kawaihae Street	Kalanianaʻole Highway to Hawaiʻi Kai Drive	R	C	0.90	$95	EH
2-40	Portlock - Lunalilo Home Road	Kalanianaʻole Highway to Lunalilo Home Road	R	C	0.81	$32	EH
2-41	Aliʻinui Drive Extension (Southern Section)	Kōʻiʻo Drive to Kapolei Parkway	L	C	1.48	--	ʻEwa
2-42	Coral Sea Road	Around Kalaeloa Airfield	P	S	5.51	--	ʻEwa
2-43	Farrington Highway (Hoʻopili)	Kualakaʻi Parkway to Fort Weaver Road	L	S/C	2.21	--	ʻEwa
2-44	Farrington Highway (Kapolei)	Kamokila Boulevard to Kalaeloa Boulevard	R	S	0.74	--	ʻEwa
2-45	Farrington Highway (UHWO)	Kapolei Golf Course Road to Kualakaʻi Parkway	L	S/C	1.10	--	ʻEwa
2-46	Farrington Highway Bike Path (Hoʻopili)	Kualakaʻi Parkway to Fort Weaver Rd	P	C	2.21	--	ʻEwa
2-47	Farrington Highway Bike Path (UHWO)	Kapolei Golf Course Road to Kualakaʻi Parkway	P	S	1.10	--	ʻEwa
2-48	Fort Weaver Road (Northern Section)	Farrington Highway to Hanakahi Street	R	S	3.03	--	ʻEwa
2-49	Fort Weaver Road (Southern Section)	Keaunui Street to end of public road	P	S	2.56	--	ʻEwa
2-50	Honouliuli Path	Leeward Bikeway to North Road	P	C/Pv	3.51	$2,706	ʻEwa
2-51	Hoʻopili Development	Hoʻopili Development Bike Ways	R	Pv	7.99	--	ʻEwa
2-52	Kalaeloa Boulevard (Southern Section)	Malakole Road to Barbers Point Beach Park	R	C	1.47	$869	ʻEwa
2-53	Kalaeloa Boulevard (Northern Section)	Kapolei Parkway to Malakole Road	L	S	1.26	--	ʻEwa
2-54	Kapolei Parkway Path (Eastern Section)	Kamaʻaha Avenue (East) to Renton Road	P	C	1.33	--	ʻEwa

Table 6: Priority 2 Projects (continued)							
Code	Name	Description	Type	Owner	Length (miles)	Cost** (1000s)	DP Area
2-55	Kapolei Parkway Path (Western Section)	Aliʻinui Drive to Fort Barrette Road	P	C	2.47	--	ʻEwa
2-56	Keoneʻula Boulevard Extension	Coral Sea Road to Kamakana Street	P	C	1.91	--	ʻEwa
2-57	Kōʻiʻo Drive	Aliʻinui Drive to Farrington Highway	L	C	0.48	$295	ʻEwa
2-58	Kualakaʻi Parkway Path	H-1 Freeway to Kapolei Parkway	P	S	2.48	--	ʻEwa
2-59	Leeward Bikeway (Phase 2)	Lualualei Naval Road to Hawaiian Railroad Society Train Station	P	S	9.06	--	ʻEwa
2-60	Makaīwa Hills	Farrington Highway to Aliʻinui Drive	R	C	2.25	$1,328	ʻEwa
2-61	Makakilo Loop	Farrington Highway to Mekila Street	L	C	5.19	$596	ʻEwa
2-62	Manawai Street	Kamokila Boulevard to Kapolei Parkway	L	C	0.61	--	ʻEwa
2-63	Mango Tree Road	Leeward Bikeway to Honouliuli Path	P	C/Pv	3.20	--	ʻEwa
2-64	North Road	Fort Weaver Road to Iroquois Drive	L	C	1.71	$197	ʻEwa
2-65	Oneʻula Beach Park	Through Oneʻula Beach Park	P	C	1.05	$806	ʻEwa
2-66	Pālailai Mall	Kamokila Boulevard to Leeward Bike Path	P	Pv	0.93	--	ʻEwa
2-67	Pāpipi Road	Fort Weaver Road to Oneʻula Beach Park	R	C	0.87	$92	ʻEwa
2-68	Renton Road	Fort Weaver Road to Arizona Road to Roosevelt Avenue	R	C	2.57	$272	ʻEwa
2-69	Saratoga Road (Extension)	Kalaeloa Road to Geiger Road	L	C	4.32	$497	ʻEwa
2-70	UH West Oʻahu Development	UHWO Development Bike Ways	L	S	3.96	--	ʻEwa
2-71	Uluohia Street	Kamokila Boulevard to Kamaʻaha Avenue	L	C	0.27	--	ʻEwa
2-72	Waipahē Place	Aliʻinui Drive to Kō ʻOlina Marina	R	C/Pv	0.33	$13	ʻEwa
2-73	Wākea Street	Kapolei Parkway to Saratoga Avenue	L	C	0.74	--	ʻEwa
2-74	Lāʻie Loop	Naniloa St. - Hale Laʻa Blvd. - Cane Haul Roads	R	C	3.98	$422	KL
2-75*	Hahani Street	Kailua Road to Hāmākua Road	L	C	0.19	$22	KP
2-76	Kaha Street	Oneawa Street to Kawainui Park	R	C	0.27	$28	KP
2-77	Kahekili Highway	Kamehameha Highway to Haʻikū Road	R	S	3.32	--	KP
2-78*	Kahuhipa Street	Kamehameha Highway to Lōliʻi Street	R	C	1.09	$55	KP
2-79*	Kailua Road – Kuʻulei Road	Hāmākua Drive to Kainalu Drive	L	C	0.47	$171	KP
2-80	Kalanianaʻole Highway (Castle Junction)	Kamehameha Highway to Kailua Road	R	S	1.82	--	KP
2-81	Kamehameha Hwy. (Kahaluʻu)	Waiāhole Valley Road to Kahekili Highway	R	S	1.94	--	KP
2-82	Kamehameha Highway (North Kaneohe)	Kahekili Highway Haʻikū Road	R	C	4.14	$2,446	KP
2-83	Kāneʻohe Bay Drive	Kamehameha Highway to H-3 Interchange	R	S	4.22	--	KP
2-84	Kapaʻa Quarry Road	Mōkapu Boulevard to Kalanianaʻole Highway	R	C	2.54	$127	KP

Table 6: Priority 2 Projects (continued)							
Code	Name	Description	Type	Owner	Length (miles)	Cost** (1000s)	DP Area
2-85	Kawainui Marsh Path (Mauka Perimeter)	Mōkapu Boulevard to Levee Path	P	S	4.58	--	KP
2-86*	Keolu Drive	Kalaniana‘ole Highway to Wana‘ao Road	L	C	1.46	$903	KP
2-87	Likelike Highway	Kahekili Highway to Kamehameha Highway	R	S	0.49	--	KP
2-88	Lilipuna Road	Kamehameha Hwy. to Kamehameha Hwy.	R	C	2.39	$96	KP
2-89	Luluku Road	Loop around Ho‘omaluhia Gardens	R	C	3.46	$173	KP
2-90	Mōkapu Boulevard	Kāne‘ohe Bay Drive to North Kalāheo Avenue	L	S	3.35	--	KP
2-91	Oneawa Street	Mōkapu Road to Ku‘ulei Road	R	C	1.29	$65	KP
2-92	Waimānalo Loop	Kumuhau - Waikupanaha - Ahiki - Hīhīmanu – Pō‘alima – ‘Olu‘olu Streets	R	C	4.69	$235	KP
2-93	Farrington Highway (Mokulē‘ia)	Kamehameha Highway (Waialua) to End (Ka‘ena Beach)	R	S	9.49	--	NS
2-94	Hale‘iwa Cane Haul Road	Farrington Hwy. to Hale‘iwa Bypass Road	P	Pv	2.99	--	NS
2-95	Ka‘ena Point Path	Farrington Highway (Wai‘anae) to Farrington Highway (Mokulē‘ia)	P	S	3.51	--	NS
2-96	Kamehameha Hwy. (Wahiawā)	Halei‘wa Bypass to Kuahelani Ave	R	S	11.44	--	NS
2-97	Kaukonahua Road	Weed Circle to Thomson Corner	R	C	1.14	$675	NS
2-98	Kealohanui Street	Pu‘uiki Street to Goodale Avenue	R	C	0.38	$40	NS
2-99	Pa‘ala‘a Road	Hale‘iwa Road to Kamehameha Highway	R	C	0.76	$31	NS
2-100	Pu‘uiki Street	Waialua Beach Road to Kealohanui Street	R	C	0.56	$333	NS
2-101	Ala Liliko‘i Street	Nimitz Hwy. to Salt Lake Elementary School	L	C	1.17	$135	PUC
2-102	Alakawa Street	Nimitz Highway to Dillingham Boulevard	L	C	0.41	$47	PUC
2-103	Aloha Stadium Access Lanes	Pearl Harbor Bike Path to Ulune Street	L	C	0.56	$348	PUC
2-104	Auahi Street	Ala Moana Boulevard to South Street	R	C	0.98	$49	PUC
2-105	Beretania Street (Northern Section)	Alapa‘i Street to North King Street	L	C	1.12	$128	PUC
2-106	Date Street Bike Path Bridge	Bridge crossing over Mānoa-Pālolo Stream	P	C	0.02	$765	PUC
2-107	Dillingham Boulevard (Northern Section)	Middle Street to Pu‘uhale Road	L	C	0.50	$311	PUC
2-108	Dole Street	East West Road to St. Louis Drive	L	C	0.63	$72	PUC
2-109	Halekauwila Street	Ala Moana Boulevard to Ward Avenue	R	C	0.76	$38	PUC
2-110	Honolulu Airport Access Route	Aolele Street to Pai‘ea Street	R	S	1.18	--	PUC
2-111*	Hotel Street	Alapa‘i Street to Ward Avenue	L	C	0.26	$30	PUC
2-112	Iwilei Transit Station	Dillingham Boulevard to Nimitz Highway	P	C	0.25	$189	PUC
2-113	Kaimukī High School Bike Path	Mānoa-Pālolo Bike Path to Kapahulu Avenue	P	S	0.28	--	PUC
2-114	Kamake‘e Street	Ala Moana Boulevard to McKinley HS	L	C	0.35	$217	PUC
2-115	Kamehameha Hwy. (East Loch)	Waihona Street to Arizona Memorial	L	S	5.42	--	PUC
2-116	Kamehameha IV Road	North School Street to Likelike Highway	L	C	0.67	$77	PUC

Table 6: Priority 2 Projects (continued)							
Code	Name	Description	Type	Owner	Length (miles)	Cost** (1000s)	DP Area
2-117	Kapālama Canal (Kōhou Street Side--North Section)	Hālona Street to Houghtailing Street	P	C	0.33	$324	PUC
2-118	Kapālama Canal (Kōhou Street Side--South Section)	Nimitz Highway to Olomea Street	P	C	0.77	$754	PUC
2-119	Kapālama Canal (Kōkea Street Side)	Nimitz Highway to Olomea Street	P	C	0.76	$745	PUC
2-120	Kapiʻolani Park	Monsarrat Avenue to Diamond Head Road along Pākī and Kalākaua Avenues	P	C	1.37	$1,053	PUC
2-121	Keʻeaumoku Street	Kapiʻolani Boulevard to Nehoa Street	R	C	1.19	$59	PUC
2-122	King Street (Middle Section)	River Street to South Street	L	C	0.96	$110	PUC
2-123	King Street (Northern Section)	Middle Street to River Street	L	C	1.97	$227	PUC
2-124	Lagoon Drive	Nimitz Hwy to End	L	C	2.26	$260	PUC
2-125	Mānoa Loop	Oʻahu Avenue to Paradise Park	R	C	4.84	$194	PUC
2-126	Mānoa-Pālolo Stream Path	Dole Street to Kapiʻolani Boulevard	P	C	0.68	$664	PUC
2-127	McCully Street Bridge	Bridge over H-1	L	S	0.02	--	PUC
2-128*	Metcalf Street	McCully Bridge to Wilder Avenue	L	C	0.18	$21	PUC
2-129	Middle St. (Southern Section)	North King Street to Kamehameha Highway	L	C	0.46	$52	PUC
2-130	Nuʻuanu Stream Path	H-1 Freeway to Kuakini Street	P	C	0.33	$323	PUC
2-131	Nuʻuanu Stream Path (Extension)	Nimitz Highway to Existing Nuʻuanu Stream Path	P	C	0.07	$57	PUC
2-132	Pearl Harbor Bike Path (Rainbow Bay)	Kamehameha Highway to Arizona Memorial	P	S	0.75	--	PUC
2-133	PHBP Connector - Pearl Ridge Transit Station	Kamehameha Highway to Pearl Harbor Bike Path	L	C	0.09	$10	PUC
2-134	Queen's Beach Trail (North Section)	Kalākaua/Monsarrat Intersection to Natatorium	P	C	0.38	$12	PUC
2-135	Radford Drive	Bougainville Drive to Kamehameha Highway	L	C	0.24	$27	PUC
2-136	River Street	Nimitz Highway to Beretania Street	R	C	0.22	$9	PUC
2-137	Salt Lake Boulevard	Kamehameha Highway to Ala Lilikoʻi Street	L	C	2.54	$356	PUC
2-138	South Street	Ala Moana Boulevard to Beretania Street	L	C	0.78	$71	PUC
2-139	Tantalus Loop	Makiki Street - Makiki Heights Dr. - Tantalus - Round Top	R	C	9.57	$383	PUC
2-140	Waimano Home Road	Kamehameha Highway to Komo Mai Drive	L	C	1.25	$144	PUC
2-141	Ward Avenue	Ala Moana Boulevard to Prospect Street	R	C	1.16	$58	PUC
2-142	Waterfront Park	UH Medical School to Ala Moana Shared Use Path	P	S	0.71	--	PUC
2-143	Wilder Avenue	Dole Street to Spencer Street	L	C	1.20	$138	PUC
2-144	Mākaha Valley Loop	Mākaha Valley - Huipū Drive - Kili Drive	R	C	3.19	$339	Wai
		Priority 2 Totals (rounded):	260 miles			$29.8 million	

Table 7: Priority 3 Projects

Code	Name	Description	Type	Owner	Length (miles)	Cost** (1000s)	DP Area
3-1	Farrington Hwy. (Leeward CC)	Kamehameha Highway to Farrington Highway	L	S	0.77	--	CO
3-2	Honowai St. (Eastern Section)	ʻĀiki Street to Waipahu Street	R	C	0.18	$19	CO
3-3	Ka Uka Boulevard	Kamehameha Highway to Waipiʻo Uka	R	C	0.27	$29	CO
3-4	Kamananui Road	Kamehameha Highway to Wilikina Drive	R	S	1.13	--	CO
3-5	Kamehameha Hwy. (Waipahu)	Widen overpass across H-1/H-2	L	S	0.73	--	CO
3-6	Kuahelani Avenue	Hokuahiahi Park to Mehuela Parkway	L	C	2.20	$253	CO
3-7	PHBP Connector-LCC	Pearl Harbor Bike Path to Waiawa Road	P	C	0.63	$616	CO
3-8	Lumiʻaina Street	Lumiʻauʻau Street to Kamehameha Highway	P	C	0.13	$102	CO
3-9	Lyman Road	Trimble Road to Kunia Road	R	F	2.90	--	CO
3-10	McMahon Road	Trimble Road to Wilikina Drive	R	F	2.64	--	CO
3-11	Pūpūpuhi Street	Waipahu Street to Pearl Harbor Bike Path	L	C	0.52	$60	CO
3-12	Waikele Magazine Access Road	Naval Access Road running mauka from Waipahu Street	P	C	0.16	$152	CO
3-13	Waipahu Cane Haul Rd. (North)	Waipahu Street to Waihona Street	P	C/Pv	2.35	--	CO
3-14	Waipahu Street	Kunia Road to Kamehameha Highway	L	C	3.06	$1,894	CO
3-15	Waipiʻo Point Access Road (Northern Section)	Pearl Harbor Bike Path to Farrington Highway	P	C	0.40	$306	CO
3-16	Wilikina Drive	Kamananui Road to Kamehameha Highway	R	S/C	2.16	--	CO
3-17	Ahukini Street	Lunalilo Home Road to Kamiloiki Elem School	R	C	0.73	$29	EH
3-18	ʻAnaliʻi Street	Kalani-Waiʻalae Iki Park to Keikilani-ʻĀina Haina Elem School	P	C	1.10	$851	EH
3-19	Hanauma Bay Road	Kalanianaʻole Highway to Hanauma Bay	R	C	0.32	$13	EH
3-20	Hawaiʻi Kai Golf Course	Hawaiʻi Kai Drive to Kalanianiʻole Highway	P	C	0.93	$713	EH
3-21	Hind Iuka Drive	Kalanianaʻole Hwy to Wailupe Valley School	R	C	0.55	$22	EH
3-22	Aliʻinui Drive Extension (Northern Section)	Aliʻinui Drive to Farrington Highway	L	C	0.22	$138	ʻEwa
3-23	Bravo Road	ʻEwa Beach Road to Iroquois Point	R	C	2.66	$107	ʻEwa
3-24	East Kapolei II Development	East Kapolei II Development Bike Ways	R	S	1.30	--	ʻEwa
3-25	Keahumoa Parkway	Kualakaʻi Parkway to Fort Weaver Road	L	C	2.13	--	ʻEwa
3-26	Enterprise Avenue	Leeward Bikeway to Midway Street	R	S	1.01	--	ʻEwa

Key

L	Lane	C	City	CO	Central Oʻahu	NS	North Shore
R	Route	S	State	EH	East Honolulu	PUC	Primary Urban Center
P	Path	F	Federal	KL	Koʻolau Loa	Wai	Waiʻanae
XW	signalized crosswalk	Pv	Private	KP	Koʻolau Poko		

Notes: Alphabetical listing of projects provided in Appendix B.
* Projects in Short-Range Implementation Plan (see Table 10).
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Table 7: Priority 3 Projects (continued)

Code	Name	Description	Type	Owner	Length (miles)	Cost** (1000s)	DP Area
3-27	Essex Road (Southern Section)	San Juacinto Street to White Plains Beach	R	C	0.64	$68	ʻEwa
3-28	Fort Barrette Road (Northern Section)	Farrington Highway to Renton Road	L	S	1.22	--	ʻEwa
3-29	Fort Barrette Road (Southern Section)	Roosevelt Avenue to Saratoga Avenue	L	C	0.32	--	ʻEwa
3-30	Geiger Road - Fort Weaver Road	Renton Road to Keoneʻula Boulevard	L	C	2.77	$319	ʻEwa
3-31	H-1 Makai Bike Path	Kualakaʻi Boulevard to Fort Weaver Road	P	S	2.17	--	ʻEwa
3-32	H-1 Mauka Bike Path	Makakilo Drive to Kunia Road	P	S	2.67	--	ʻEwa
3-33	Essex Road (Northern Section)	Geiger Road to San Juacinto Street	R	C	1.55	$164	ʻEwa
3-34	Iroquois Avenue	North Road to Heron Avenue	L	C	1.02	$117	ʻEwa
3-35	Iroquois Road	Keaunui Drive to End of Public Road	P	C	0.30	$228	ʻEwa
3-36	Kaimālie Street	Fort Weaver Road to Kaieʻe Street	L	C	0.72	$82	ʻEwa
3-37	Kamaʻaha Avenue (Extension)	Kapolei Parkway to Leeward Bike Path	L	C	0.29	--	ʻEwa
3-38	Kapolei Villages Loop	Kūloa St. - Kumuiki St. – Kamaʻaha St. Loop	R	C	1.43	$71	ʻEwa
3-39	Kapolei Villages Path	Kamaʻaha Loop to Kamaʻaha Avenue	P	C	0.13	--	ʻEwa
3-40	Keaunui Drive (Southern Section)	Leeward Bikeway to beginning of Keaunui Bike Path	P	C	0.43	--	ʻEwa
3-41	Kinoiki Street	Kapolei Parkway to UHWO	P	S	0.61	--	ʻEwa
3-42	Makaīwa Hills Path	North of Kō ʻOlina to Makakilo Drive	P	C	3.97	$3,884	ʻEwa
3-43	Malakole Street	Kalaeloa Harbor to Coral Sea Road	L	C	2.30	$1,422	ʻEwa
3-44	Olai Street	Kalaeloa Blvd to Coral Sea Road	L	C	0.83	$96	ʻEwa
3-45	Pāpipi Keoneula Connector	Pāpipi Road to Keoneʻula Boulevard	L	C	1.10	--	ʻEwa
3-46	Plantation Road (E-W Connection)	Kapolei Parkway to Essex Road	L	C	0.62	$382	ʻEwa
3-47	Pohauapuna Road	Pāpipi Road to Fort Weaver Road	R	C	0.87	$92	ʻEwa
3-48	Hauʻula Homestead Road	Hauʻula Valley Road	R	C	1.13	$120	KL
3-49	Kaʻaʻawa Loop	Huamalani Street - Lihimauna - Hauhele - Kekio - Pōhuehue Road	R	C	1.11	$117	KL
3-50	Kahuku Subdivision Loop	Pualalea - Kekauoha - Huehu Streets	R	C	1.07	$114	KL
3-51	ʻAnoʻi Road	Luluku Road to Likelike Highway	R	C	0.35	$14	KP
3-52	ʻAumoku Street	Kāneʻohe Bay Drive to Mokulele Drive	R	C	0.82	$87	KP
3-53	Hāmākua Marsh Trail	Kailua Road to Hāmākua Drive	P	Pv	0.48	--	KP
3-54	Kahekili Hwy. - Likelike Hwy. Connector	Kulukeoe Street-Keneke Street-ʻAnoʻi Road	R	C	0.48	$19	KP
3-55	Kamehameha Hwy. (HPU Campus)	Koʻolau View Drive to Pali Highway	R	S	1.26	--	KP
3-56	Kamehameha Highway (South Kaneohe)	Kāneʻohe Bay Drive to Koʻolau View Drive	L	S	1.08	--	KP

Table 7: Priority 3 Projects (continued)							
Code	Name	Description	Type	Owner	Length (miles)	Cost** (1000s)	DP Area
3-57	Keneke Street Greenway	Along Kamoʻaliʻi Stream	P	C	0.35	$269	KP
3-58	Kīhāpai Street	Kaha Street to Kailua Road	R	C	1.18	$125	KP
3-59	Makalani Street	Kāneʻohe Bay Drive to Kamehameha Highway	R	C	0.61	$65	KP
3-60	Maunawili Loop	Kalanianaʻole Highway to Maunawili Valley	R	C	2.63	$105	KP
3-61	Mokulele Drive	Kamehameha Highway to Kāneʻohe Bay Drive	R	C	1.17	$47	KP
3-62	Old Kalanianaʻole Highway	Kalanianaʻole Hwy. to Kalanianaʻole Hwy.	R	C	1.73	$184	KP
3-63	Old Pali Road	Nuʻuanu Pali Lookout to Hairpin Turn	P	S	1.50	--	KP
3-64	Pali Highway (Windward)	Kamehameha Highway to Pali Tunnel	R	S	1.75	--	KP
3-65	Puaʻina Street	Makalani Street to Castle High School	R	C	0.43	$46	KP
3-66	Wailehua Road	Wailehua - Ahilama – Waiheʻe	R	C	1.13	$120	KP
3-67	Waimānalo District Park	Kamehameha Highway to Hīhīmanu Street	R	C	0.41	$43	KP
3-68	Haleʻiwa and Waialua Beach Parks	Kaiaka Bay and Haleʻiwa Beach Park	P	C	2.07	$1,592	NS
3-69	Kamehameha Highway Path (North Shore)	Haleʻiwa Road/Kamehameha Hwy intersection to Kamehameha Highway just past Waimea Bay	P	C	4.99	$3,846	NS
3-70	16th Avenue	Waiʻalae Avenue to Kīlauea Avenue	R	C	0.61	$31	PUC
3-71	Āhua Street	Pūkōloa Street to Kikowaena Street	L	C	0.07	$8	PUC
3-72	ʻAiea Heights Drive	Moanalua Road to Ulune Street	L	C	0.18	$20	PUC
3-73	Ala Moana Boulevard	Kalākaua Avenue to Fort Street Mall	L	S	2.95	--	PUC
3-74	Alakea Street	Nimitz Highway to School Street	R	C	0.82	$33	PUC
3-75	Alapaʻi Street	ʻIolani Avenue to Spencer Street	L	C	0.05	$6	PUC
3-76	Āliamanu Drive	Salt Lake Boulevard to Moanalua Road	L	C	1.76	$203	PUC
3-77	Aolele Street	Airport Loop to Lagoon Drive	L	C	0.86	$99	PUC
3-78	Auiki Street	Sand Island Access Road to Nimitz Highway	R	C	0.79	$83	PUC
3-79	Bishop Street	Nimitz Highway to Queen Emma Street	R	C	0.60	$24	PUC
3-80	Blaisdell Auditorium - McKinley High School Path	King Street to Kapiʻolani Boulevard	P	S	0.43	--	PUC
3-81	Bougainville Drive	Radford Drive to Salt Lake Boulevard	L	C	0.60	$69	PUC
3-82	Date Street	University Avenue to Kapahulu Avenue	R	C	0.96	$567	PUC
3-83	Gulick Avenue	School Street to North King Street	L	C	0.56	$64	PUC
3-84	H-3 Freeway Access Road	Kahuipa St./Hope Chapel to Hālawa Valley St.	R	S	8.81	--	PUC
3-85	Ilalo Street	Keawe Street to ʻĀhui Street	R	C	0.33	$13	PUC
3-86	ʻIolani Avenue - Prospect Street	South School Street to Ward Avenue	L	C	0.48	$56	PUC
3-87	Isenberg St. (Southern Section)	Kapiʻolani Boulevard to King Street	L	C	0.39	$45	PUC
3-88	Kaʻamilo Street	Kulawai Street to Honomanū Street	L	C	1.26	$145	PUC

Table 7: Priority 3 Projects (continued)							
Code	Name	Description	Type	Owner	Length (miles)	Cost** (1000s)	DP Area
3-89	Kāneali‘i Avenue	Lusitana Street to Kapalu Street	R	C	0.55	$22	PUC
3-90	Ka‘ōnohi Street	Kamehameha Highway to Laelua Street	L	C	1.54	$177	PUC
3-91	Kapalu Street	Kāneali‘i Avenue to Pauoa Road	R	C	0.09	$4	PUC
3-92	Kapi‘olani-Wai‘alae Intersection	Kapi‘olani Boulevard to Wai‘alae Avenue	L	S	0.14	--	PUC
3-93	Kaua Street	Middle Street to Moanalua Gardens	L	C	0.87	$540	PUC
3-94	King Street (Chinatown)	King St./Beretania St. split to River Street	L	C	0.22	$25	PUC
3-95	Kuakini Street	Liliha Street to Nu‘uanu Avenue	R	C	0.40	$42	PUC
3-96	Liliha Street (Nu‘uanu)	H-1 Freeway to Wyllie Street	L	C	0.99	$114	PUC
3-97	Liliha Street (Pālama)	King Street to H-1 Freeway	L	S	0.37	--	PUC
3-98	Lusitana Street	‘Iolani Avenue to Pauoa Road	R	C	0.55	$58	PUC
3-99	Makuahine Street	North School Street to Kalihi Elementary School	R	C	1.58	$167	PUC
3-100	Mānoa Makiki Mauka Corridor	Lusitana Street to O‘ahu Avenue	R	C	2.37	$251	PUC
3-101	Middle Street (Bridge)	Bridge over H-1 Freeway	L	S	0.05	--	PUC
3-102	Middle St. (Northern Section)	Kaua Street to Haumana Place	L	C	0.44	$50	PUC
3-103	Moanalua Gardens	Kaua Street to Jarrett White Road	P	C	0.40	$305	PUC
3-104	Moanalua Road (Moanalua Gardens)	Āhua Street to Kaua Street	L	C	0.32	$37	PUC
3-105	Moanalua Road (Tripler)	Jarrett White Road to Ala Kapuna Street	P	C	0.60	$584	PUC
3-106	Mokauea Street	Auiki Street to North King Street	L	C	0.94	$109	PUC
3-107	Nimitz Highway	Valkenburgh Street to Waiakamilo Road	L	S	4.78	--	PUC
3-108	Nu‘uanu Avenue	Vineyard Street to Pali Highway	R	C	1.23	$725	PUC
3-109	Nu‘uanu Pali Drive	Waokanaka Street to Pali Highway	R	C	1.78	$189	PUC
3-110	Pali Hwy. (Lower Nu‘uanu Valley)	Nu‘uanu Ave to Waokanaka Street	R	S	1.31	--	PUC
3-111	Pali Hwy. (Middle Nu‘uanu Valley)	Waokanaka Street to Nu‘uanu Pali Drive	R	S	1.69	--	PUC
3-112	Pali Highway (Punchbowl)	Central Middle School to Wyllie Street	R	C	1.57	$929	PUC
3-113	Pali Hwy. (Upper Nu‘uanu Valley)	Nu‘uanu Pali Drive to Pali Tunnel	R	S	1.60	--	PUC
3-114	Pali Lookout Access Road	Pali Highway to Pali Lookout	R	S	1.57	--	PUC
3-115	Pauoa Road	Lusitana Street to Kapalu Street	R	C	0.55	$22	PUC
3-116	PHBP Connector--Pearl Kai Center	Kamehameha Hwy to Pearl Harbor Bike Path	P	C	0.16	$125	PUC
3-117	Pūkōloa Street	Āhua Street to Salt Lake Boulevard	L	C	0.27	$31	PUC
3-118	Punchbowl Street	Nimitz Highway to Vineyard Boulevard	L	C	0.85	$98	PUC

Table 7: Priority 3 Projects (continued)							
Code	Name	Description	Type	Owner	Length (miles)	Cost** (1000s)	DP Area
3-119	Puʻuloa Road	Salt Lake Boulevard to Mahiole Street	L	C	0.54	$63	PUC
3-120	Radford Dr. - Valkenburgh St.	Bougainville Drive to Kamehameha Highway	L	C	0.95	$109	PUC
3-121	Red Hill	Icarus Way to Ulune Street	P	C	1.01	$990	PUC
3-122	Spencer Street	Alapaʻi Street to Wilder Avenue	L	C	0.51	$59	PUC
3-123	Ulune Street	ʻAiea Heights Drive to Hālawa Valley Street	L	C/S	1.16	$133	PUC
3-124	Victoria Street	Beretania Street to King Street	L	C	0.13	$15	PUC
3-125	Waihona Street	Cane Haul Road Bike Path to Kamehameha Highway Bike Lanes	L	C	0.37	$43	PUC
3-126	Wyllie Street	Liliha Street to Nuʻuanu Avenue	L	C	0.26	$30	PUC
3-127	Farrington Highway (Nānākuli)	Mōhihi Pl. to Farrington Hwy. at Honokai Hale	R	S	5.53	--	Wai
3-128	Farrington Highway (Waiʻanae)	Ala Hema Street to Pūhano Street	R	S	0.74	--	Wai
3-129	Kolekole Pass	Paʻakea Road to Trimble Road	R	F	10.43	--	Wai
3-130	Nānākuli Valley Loop	Nānākuli Ave. - Nānāikalā St. - Haleakalā Ave.	R	C	2.52	$267	Wai
		Priority 3 Totals (rounded):	**161 miles**			**$26.9 million**	

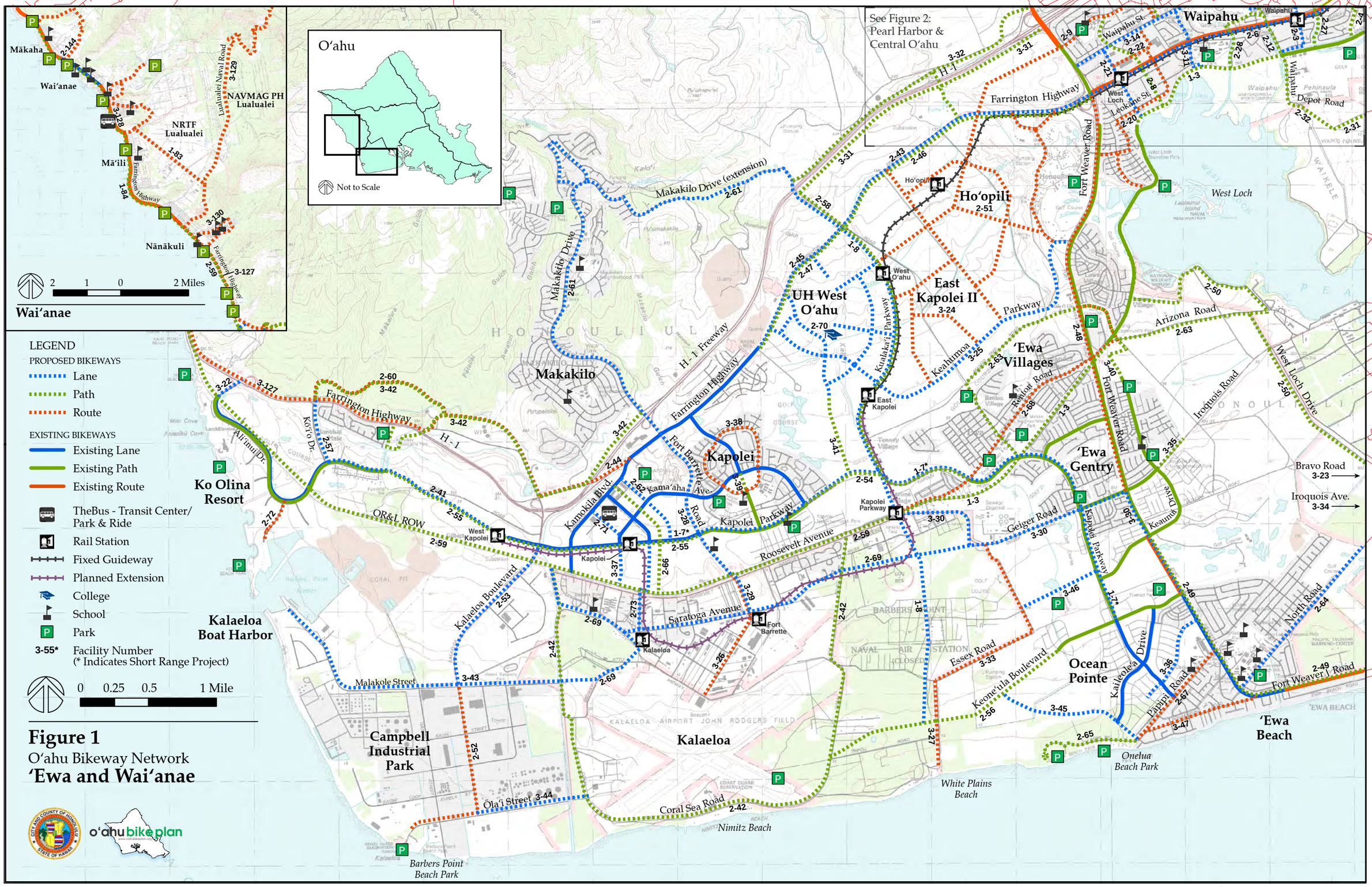
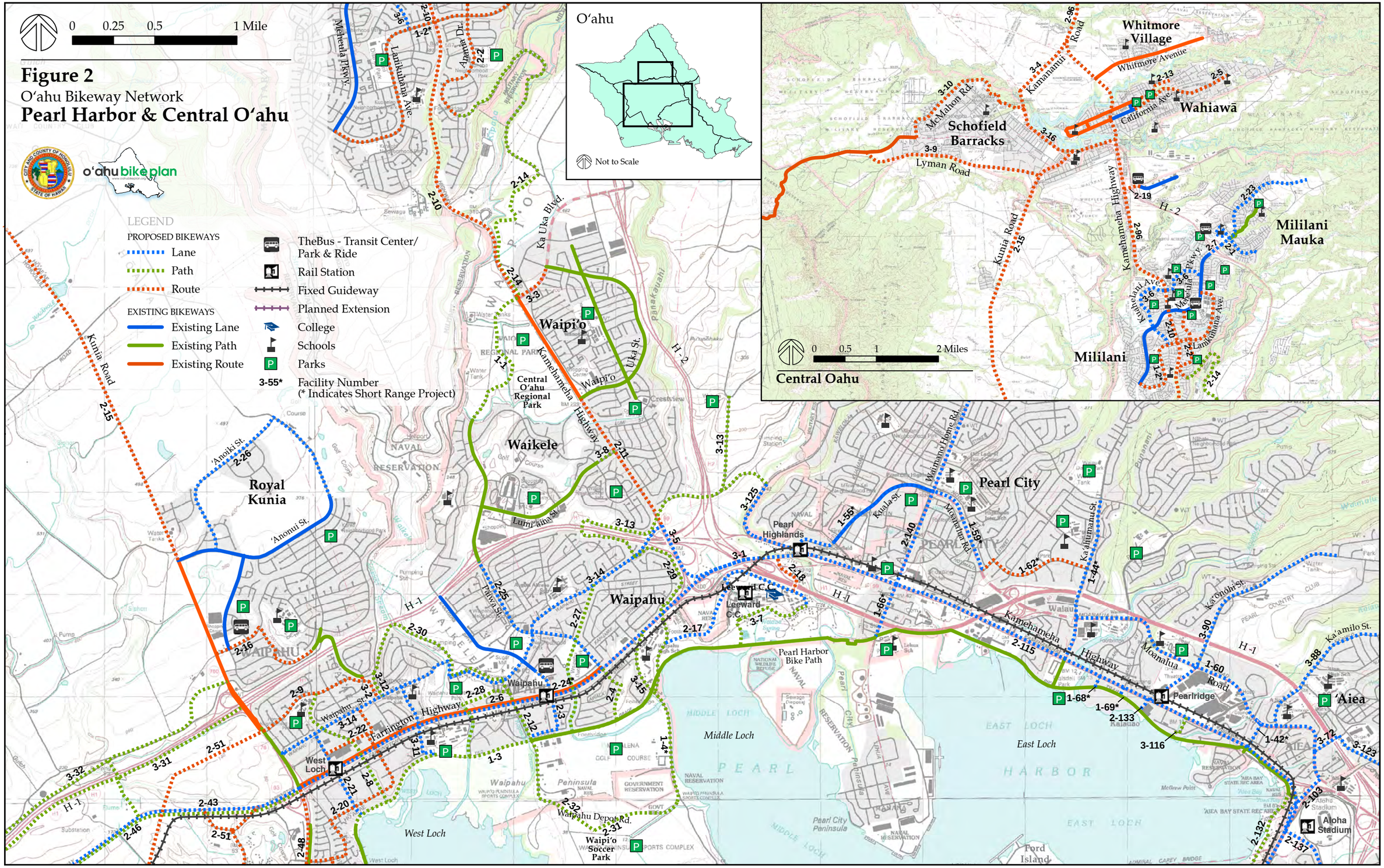


Figure 1
O'ahu Bikeway Network
'Ewa and Wai'anae


0 0.25 0.5 1 Mile
Figure 2
O'ahu Bikeway Network
Pearl Harbor & Central O'ahu
o'ahu bike plan
LEGEND
PROPOSED BIKEWAYS
Lane
Path
Route
EXISTING BIKEWAYS
Existing Lane
Existing Path
Existing Route
TheBus - Transit Center/ Park & Ride
Rail Station
Fixed Guideway
Planned Extension
College
Schools
Parks
3-55* Facility Number (* Indicates Short Range Project)
O'ahu
Not to Scale
Central Oahu
0 0.5 1 2 Miles
Whitmore Village
Whitmore Avenue
Wahiawā
California Ave.
Schofield Barracks
McMahon Rd.
Lyman Road
Kunia Road
Kamehameha Highway
Mililani Mauka
Mililani
Kuahelani Ave.
Meheula Pkwy.
Lanikuhana Ave.
H - 2
Meheula Pkwy.
Lanikuhana Ave.
Anania Dr.
Ka Uka Blvd.
Waipi'o
Uka St.
Central O'ahu Regional Park
Waikele
Royal Kunia
'Anoiki St.
'Anonui St.
Lumi'aina St.
Waipahu
Waipahu St.
Farrington Highway
West Loch
Waipahu Depot Rd.
Waipi'o Soccer Park
Pearl Highlands
Leeward C.C.
Pearl City
Waimano Home Rd.
Moanalua Rd.
Kuala St.
Ka'ahumanu St.
Kamehameha Highway
Pearl Harbor Bike Path
Middle Loch
East Loch
Pearl City Peninsula
Ford Island
Pearlridge
Moanalua Road
Ka'onohi St.
Ka'amilo St.
'Aiea
Aloha Stadium
H - 1
Kunia Road
Meheula Pkwy.
Lanikuhana Ave.
Anania Dr.
Ka Uka Blvd.
Kamehameha Highway
Waipi'o
Uka St.
Waikele
Waipahu
Farrington Highway
West Loch
Waipahu Depot Rd.
Waipi'o Soccer Park
Pearl Highlands
Leeward C.C.
Pearl City
Waimano Home Rd.
Moanalua Rd.
Kuala St.
Ka'ahumanu St.
Kamehameha Highway
Pearl Harbor Bike Path
Middle Loch
East Loch
Pearl City Peninsula
Ford Island
Pearlridge
Moanalua Road
Ka'onohi St.
Ka'amilo St.
'Aiea
Aloha Stadium
H - 1
H - 2

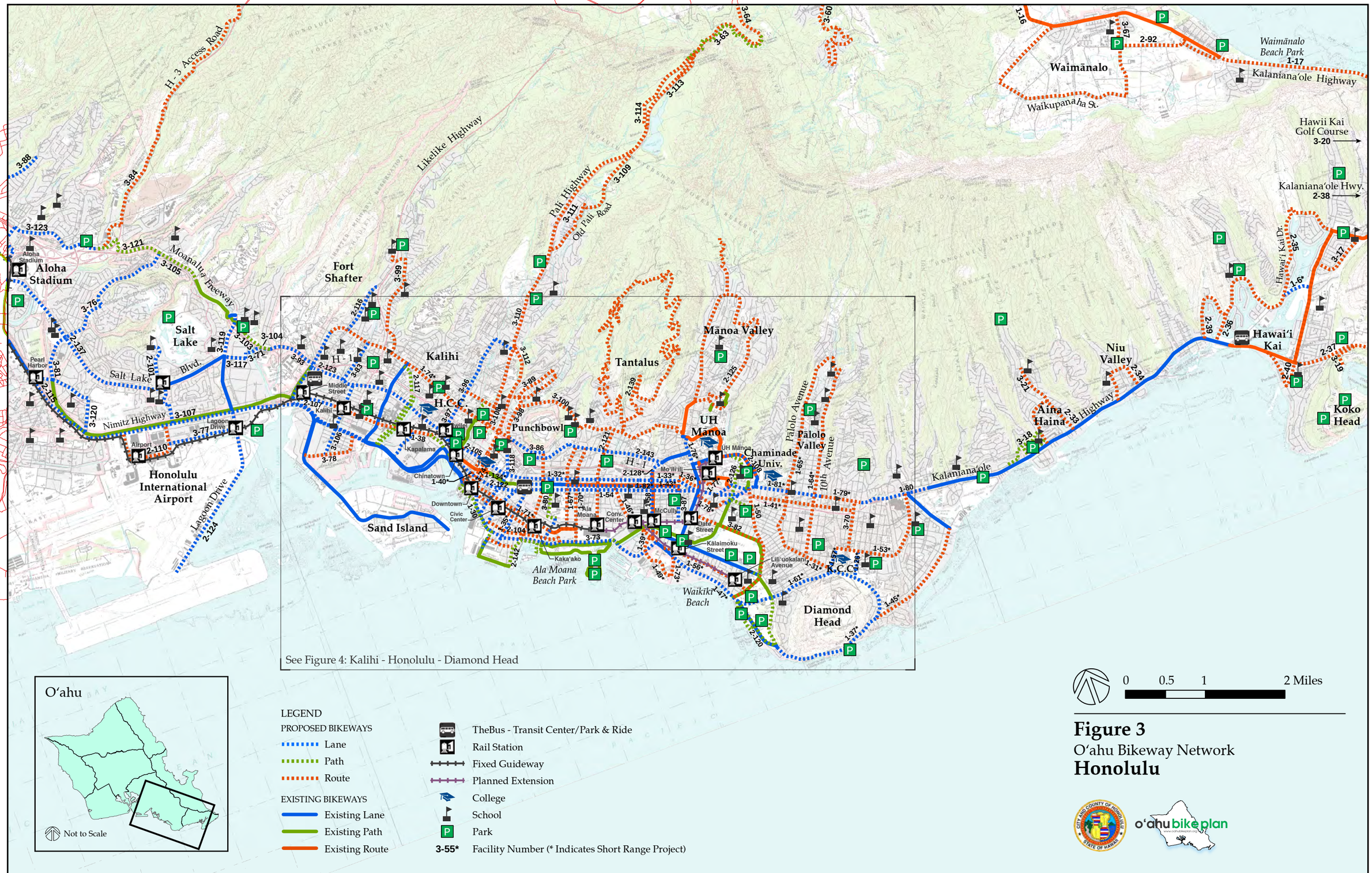
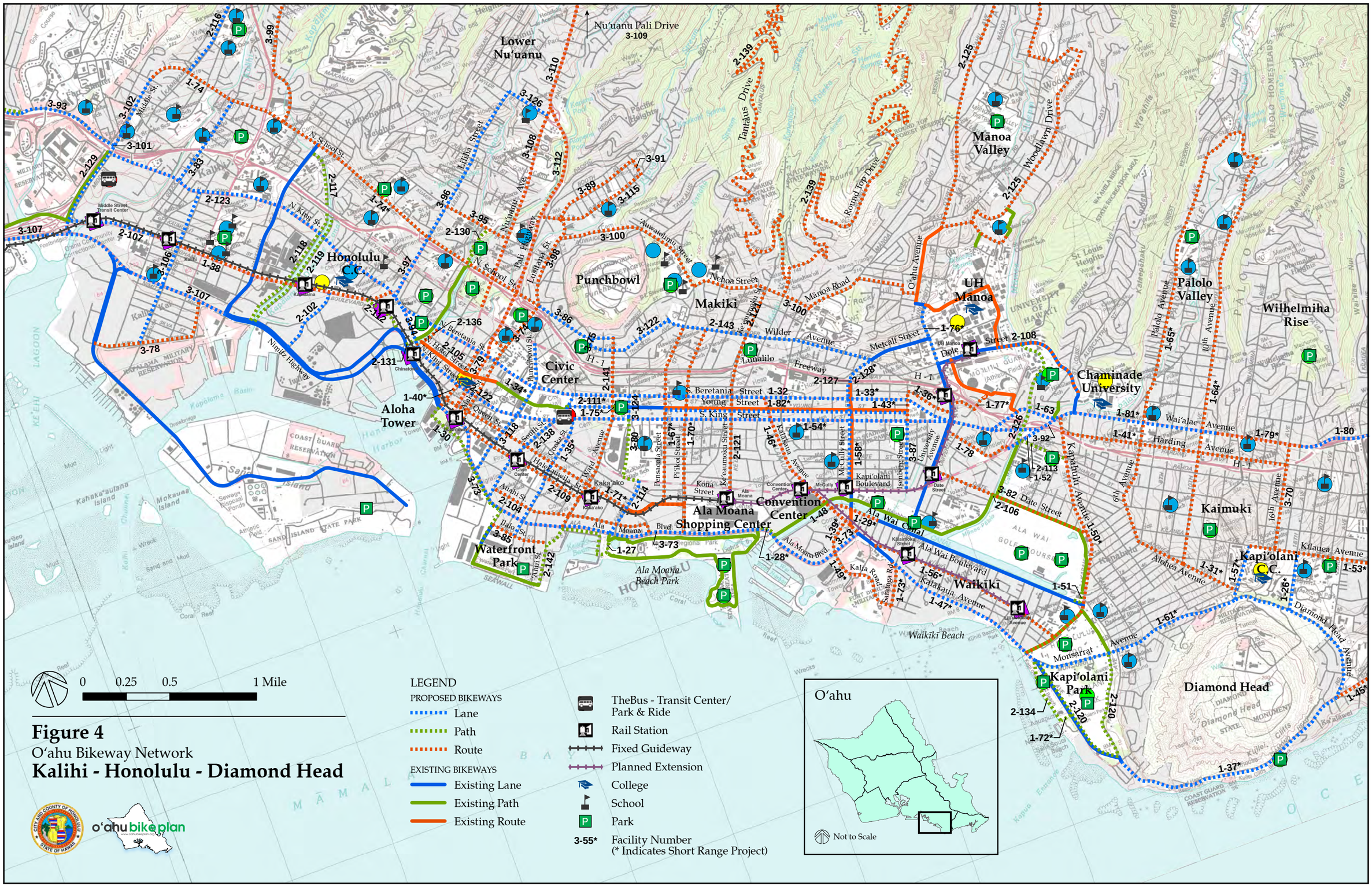
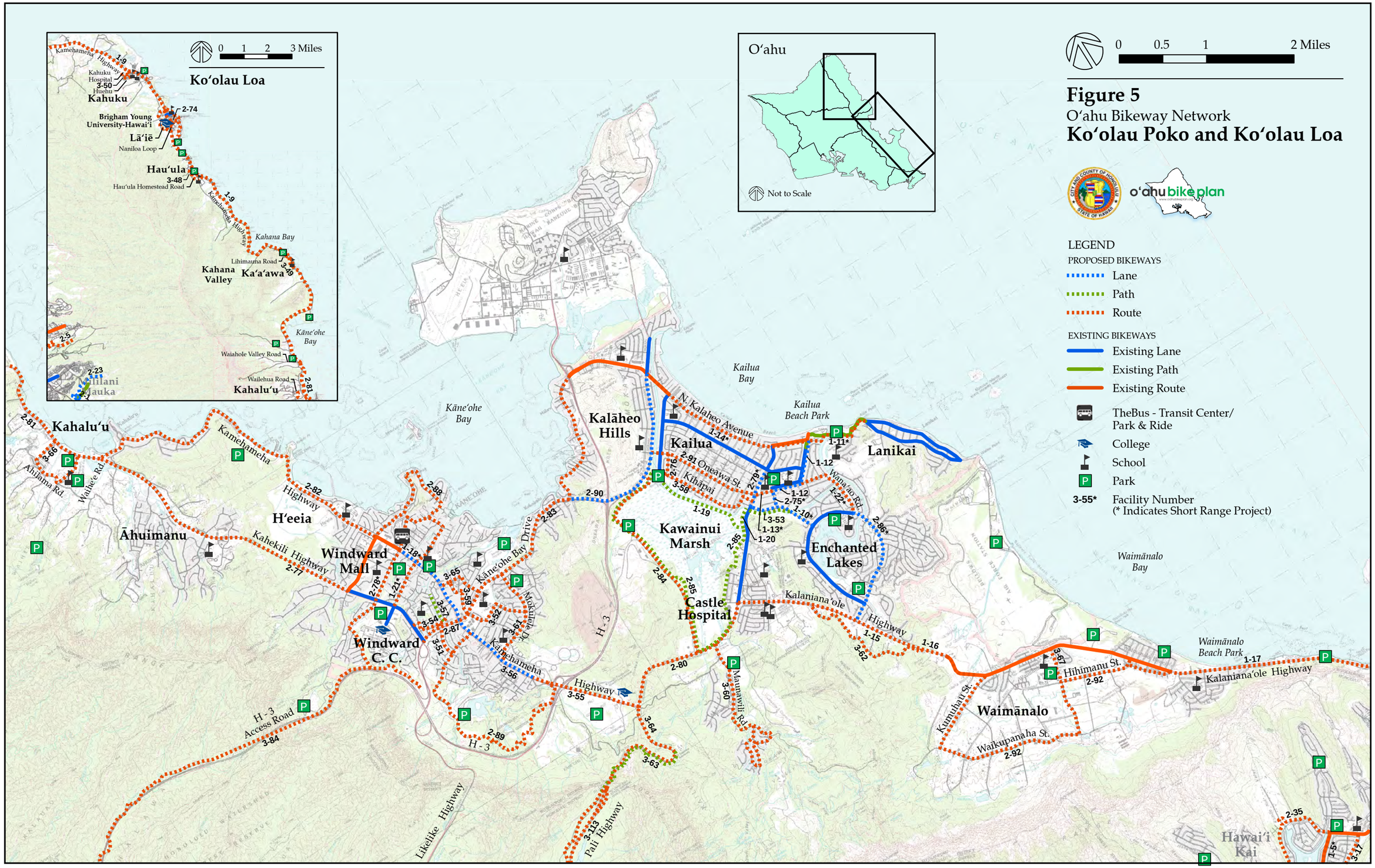
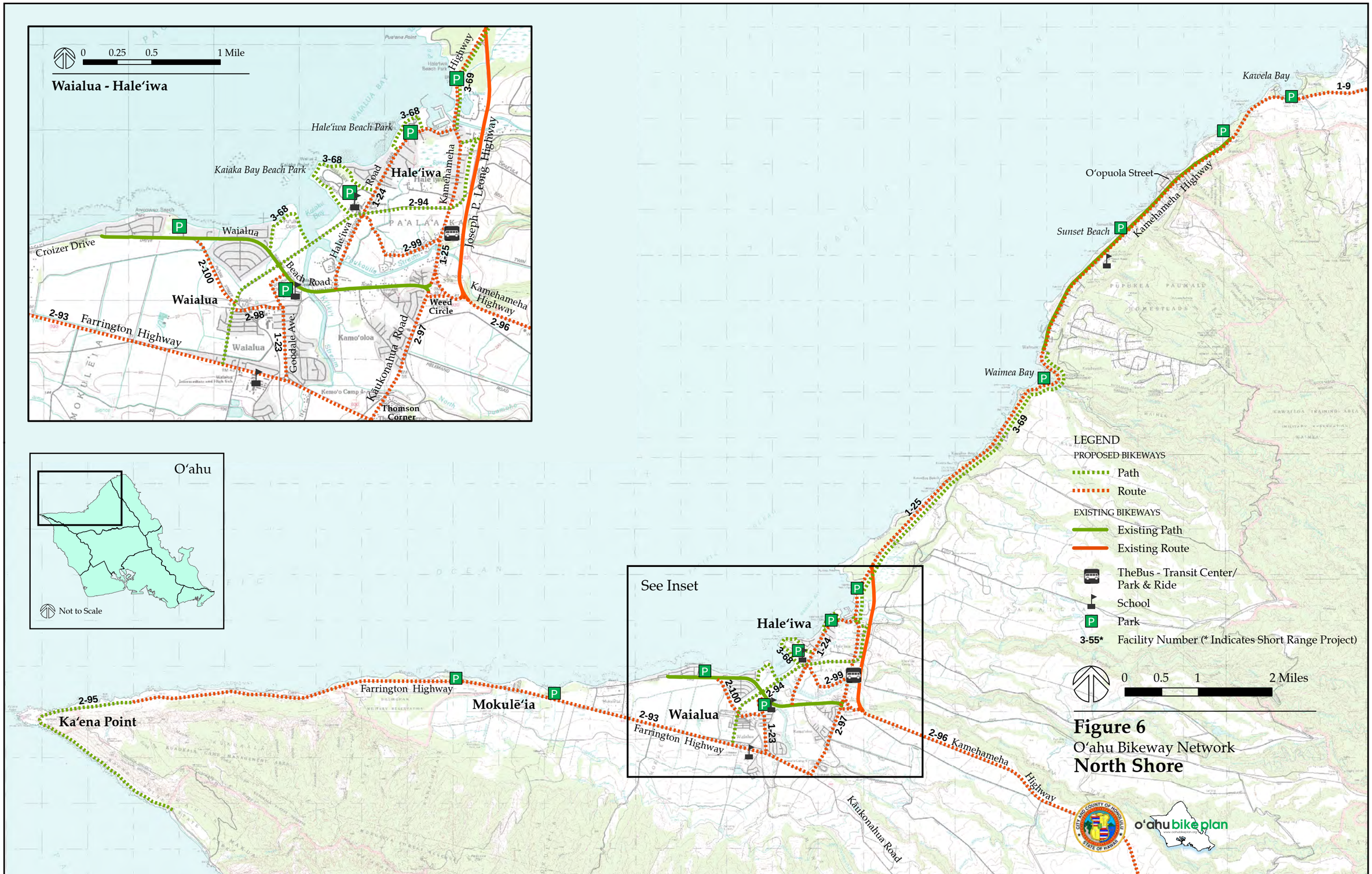


Figure 3
O'ahu Bikeway Network
Honolulu


Nu'uanu Pali Drive
3-109
Lower Nu'uanu
Honolulu C.C.
Punchbowl
Makiki
Civic Center
Aloha Tower
Waterfront Park
Ala Moana Beach Park
Ala Moana Shopping Center
Convention Center
Waikīkī
Waikīkī Beach
Kapi'olani C.C.
Kapi'olani Park
Diamond Head
Kaimukī
Pālolo Valley
Wilhelmina Rise
Mānoa Valley
UH Mānoa
Chaminade University
Middle Street Transit Center
Kalihi
Kapalama
Chinatown
Dole
Date Street
Kalakaua Avenue
Ala Wai Canal
Ala Wai Boulevard
Kapi'olani Boulevard
Nimitz Highway
Pali Highway
Round Top Drive
Tantalus Drive
Wilder Avenue
Manoa Road
Metcalf Street
Harding Avenue
Waialae Avenue
Kilauea Avenue
Diamond Head Avenue
Monsarrat Avenue
Kapahulu Avenue
Kuhio Avenue
Beretania Street
King Street
Young Street
Nehoa Street
Lunalilo Freeway
Punchbowl Street
Alakea Street
Bishop Street
Ala Moana Blvd.
Kalia Road
Saratoga Rd.
Kaiolani Street
Kona Street
Ala Moana
Kaka'ako
Ala Moana Blvd.
Ala Moana
Ala Moana Blvd.
Ala Moana
Ala Moana Blvd.
Ala Moana


0 0.5 1 2 Miles
Figure 5
O'ahu Bikeway Network
Ko'olau Poko and Ko'olau Loa
o'ahu bike plan
LEGEND
PROPOSED BIKEWAYS
Lane
Path
Route
EXISTING BIKEWAYS
Existing Lane
Existing Path
Existing Route
TheBus - Transit Center/ Park & Ride
College
School
Park
3-55* Facility Number (* Indicates Short Range Project)
O'ahu
Not to Scale
0 1 2 3 Miles
Ko'olau Loa
Kamehameha Highway
Kahuku Hospital
Huehu
Kahuku
Brigham Young University-Hawai'i
Lā'ie
Naniloa Loop
Hau'ula
Hau'ula Homestead Road
Kamehameha Highway
Kahana Bay
Lihimauna Road
Kahana Valley
Ka'a'awa
Kāne'ohe Bay
Waiahole Valley Road
Waiahole Valley Road
Kahalu'u
Kahalu'u
Kāne'ohe Bay
Kailua Bay
Kailua Beach Park
Kalāheo Hills
N. Kalaheo Avenue
Kailua
Oneawa St.
Kihapai
Lanikai
Wana'ao Rd.
Kawainui Marsh
Enchanted Lakes
Waimānalo Bay
Kamehameha
Ahuimanu Rd.
Waiahe'e Rd.
H'eeia
Kahekili Highway
Āhuimanu
Windward Mall
Kāne'ohe Bay Drive
Mokulele Dr.
Kamehameha
Castle Hospital
Kalaniana'ole Highway
Waimānalo Beach Park
Kalaniana'ole Highway
Hīhīmanu St.
Kumulau St.
Waimānalo
Waikupanaha St.
Windward C. C.
H - 3
H - 3 Access Road
Likelike Highway
Pali Highway
Maunawili Rd.
Hawai'i Kai


Waialua - Hale'iwa
0 0.25 0.5 1 Mile
Hale'iwa Beach Park
Kaiaka Bay Beach Park
Hale'iwa
Waialua
Croizer Drive
Beach Road
Farrington Highway
Kamehameha Highway
Joseph P. Leong Highway
Weed Circle
Goodale Ave.
Kaukonahua Road
Thomson Corner
3-68
3-69
1-24
2-94
2-99
1-25
2-100
2-98
2-97
2-96
1-22
2-93
O'ahu
Not to Scale
Kawela Bay
1-9
O'opuola Street
Sunset Beach
Waimea Bay
3-69
1-25
See Inset
Hale'iwa
Waialua
Farrington Highway
Mokulē'ia
Ka'ena Point
2-95
2-96
LEGEND
PROPOSED BIKEWAYS
Path
Route
EXISTING BIKEWAYS
Existing Path
Existing Route
TheBus - Transit Center/ Park & Ride
School
Park
3-55* Facility Number (* Indicates Short Range Project)
0 0.5 1 2 Miles
Figure 6
O'ahu Bikeway Network
North Shore
o'ahu bike plan

5.2.2 Projected Costs and Funding

The projected cost for City projects is $68 million. Table 8 summarizes the parametric cost estimating procedure and Table 9 summarizes costs for all City projects by priority level.

The costs are preliminary, order of magnitude, parametric estimates, and include striping, pavement markings, and signage, based on site inspection and recent bid tabulations. For construction of bikeways on existing roadways and intersections, costs include traffic control; however, right-of-way acquisition[6] and bridge widening costs have not been included as these factors can only be determined with more detailed engineering. A soft cost and contingency budget of 25% is also included.

The $68 million estimate for City projects is a conservative estimate that assumes the projects are built on an individual, stand-alone basis, and that all improvements are classified as "bicycling projects."

A number of the projects, such as lane striping and intersection improvements, can be programmed as part of regular roadway repair, maintenance, and improvement projects (e.g., the recent Keolu Drive repaving project with added bike lanes). Strategies to bundle projects together, such as a series of interconnecting bikeways or entire mega-projects such as the urban Honolulu lei of parks, would reduce projected per mile costs by achieving economies of scale in the design and construction process.

A number of the project recommendations are for State and Federal facilities that will need to be prioritized and programmed under the State highways (or other) funding process. Creativity in identifying alternative funding sources and getting projects built will be required to realize the completed O'ahu network as proposed and outlined in the O'ahu Bike Plan.

State of Hawai'i Law (§264-18 HRS) requires that at least 2% of eligible federal funds, as well as other available state highway fund moneys, shall be expended for the creation of bicycle facilities as well as safety devices along bikeways. In addition to CIP funding for bikeway projects, the City Bike Fund raises about $400,000 per year from bicycle/moped registrations and is dedicated to funding only bicycle projects and programs. Additional resources from the City's general fund can also be allocated to bikeway projects.

Table 8: Facility Unit Costs ($000, per mile)

	Class			
Facility Type	A	B	C	D
Route	$40*	$106	$591	$0
Lane	$80	$115	$619	$3,506
Path	$32	$770	$978	$0

*Sharrows estimated at $50,000/mile

Facility costs (2011 base year) were calculated using parametric estimating procedures based on research into previous bid tabulations and professional judgment. Costs classes were developed for each facility type ranging from Class A – minor work, Class B – moderate work, Class C -- major work, and Class D -- significant work. Assumptions include: average site accessibility, and no ROW acquisition, stream crossings, retaining or fill conditions.

Table 9: Projected City Costs for Future Network

Priority	Length (miles)	Cost ($ million)
1	75	$11.3
2	140	$29.8
3	95	$26.9
Total	**310**	**$68.0**

[6] To the extent possible, right-of-way acquisition has been avoided.

An increase in the gasoline tax could be used for bicycle facilities and other human-powered modes of transportation. For every one-cent increase in this tax, an additional $2.9 million dollars could be generated annually for bicycle projects (based on the City's 2010 rates of highway-use gasoline and diesel consumption, Table 17.16, State of Hawaii 2010).

Federal, State, and private-sector funding will be used for a number of segments of the future network, particularly in the fast growing 'Ewa district. Additional revenue could be raised through the implementation of Community Facilities Districts, tax increment financing districts, and traditional improvement district programs. Partnerships with community groups and non-profit organizations can help small projects become implemented quickly.

5.3 Short-Range Implementation Plan

In light of streamlined fiscal conditions both locally and globally, it was important to identify short-term, readily implementable projects from within the extensive O'ahu Bike Plan project inventory that would serve current cyclists and encourage new ridership. These projects focus on high volume areas (e.g., Downtown, Waikīkī, UH/Colleges, Kailua), improving safety, school and transit access, and implementability (e.g., public acceptance, cost).

The resulting Short-Range Implementation Plan consists of 65 projects--the bulk of which could be completed by the next update of the Plan (e.g., within five years of Plan adoption). All 65 projects are within the City's jurisdiction. Seventeen of the 65 projects are already budgeted and are in the design or construction stages. Most are located in the PUC, where they would benefit the highest concentration of residents. The Short-Range project cost totals about $2.7 million (excluding projects already budgeted), which is achievable over five years given previous bike facility funding levels. Table 10 summarizes the projects in the Short-Term Implementation Plan, along with their respective project codes, location, descriptions, lengths, costs, and DP Area.

The Short-Range projects are either considered **"interim"** or **"short-term."** "Interim" projects are linked to larger bikeway projects that are unlikely to be implemented in the near term due to their cost, complexity, or need for extensive community consultation. Interim projects are indicated with a "+" symbol in Table 10. Many of the interim projects listed consist of installing sharrows in advance of dedicated bike lanes. Sharrows are low cost and easily implemented, and will remind motor vehicle operators of the need to share the road, as well as indicate to cyclists where to ride within the lane to increase their safety.

"Short-term" projects are permanent standalone Priority 1 projects with no secondary or follow-up components--i.e., the short-term project is the ultimate facility. These projects do not have a "+" symbol in Table 10.

All of the projects in the Short-Range Implementation Plan are also listed earlier in Tables 5 – 7, and identified with an asterisk (*). These projects are also shown on the maps in Figures 1 through 6 (also identified by asterisks).

Table 10: Short-Range Implementation Plan Projects

Code	Name	Description	Length (miles)	Ultimate Facility	Short-Range Treatment	Ultimate Cost (1,000)	Interim Cost (1,000)	DP Area
1-2	Lanikūhana Avenue	South end of Meheula to Mililani Shopping Ctr.	2.64	R	sharrows	$132	A	CO
1-4	Waipiʻo Point Access Road (Southern Section)	Pearl Harbor Bike Path to Waipiʻo Soccer Park	0.72	P	path	UC	A	CO
1-6	Wailua Street	Hawaiʻi Kai Drive to Lunalilo Home Road	0.37	L	lane	$42	A	EH
1-7+	Kapolei Parkway	Fort Barrette Road to Keoneʻula Boulevard	4.10	L	sharrows	B	$205	ʻEwa
1-10+	Hāmākua Drive	Keolu Drive to Kailua Road	0.79	L	sharrows	B	$39	KP
1-11	Kailua - Lanikai Connector	South Kalāheo to Kawailoa Rd. to Mokulua Drive	0.82	R	sharrows	$41	A	KP
1-12	Kailua Road (Eastern Section)	Wanaʻao Road to South Kalāheo Avenue	0.84	L	general improvements to existing lanes/sharrows on makai-bound lanes	$97	A	KP
1-13	Kailua Road (Western Section)	Kuʻulei Road to Hahani Street	0.21	R	sharrows	$11	A	KP
1-14	Kalāheo Avenue	Kāneʻohe Bay Drive to Kailua Road	2.12	R	shoulder improvements	UC	A	KP
1-18+	Kamehameha Highway (Kaneohe)	Kahuhipa Road to Kāneʻohe Bay Drive	1.09	L	sharrows	B	$54	KP
1-21	Keaʻahala Road	Kahekili Highway to Lilipuna Road	1.28	R	sharrows	$64	A	KP
1-22	Wanaʻao Road	Kailua Road to Keolu Drive	0.85	R	sharrows	$43	A	KP
1-26	18th Avenue	Diamond Head Road to Kīlauea Avenue	0.33	L	lane	UC	A	PUC
1-28	Ala Moana Boulevard Path	Atkinson Drive to Ala Wai Canal	0.10	P	minor sidewalk Improvements	UC	A	PUC
1-29	Ala Wai Boulevard	Keoniana Street to Kalākaua Avenue	0.29	R	sharrows	$15	A	PUC
1-31	Alohea Avenue	10th Avenue to Makapuʻu Avenue	0.34	R	sharrows	$17	A	PUC
1-33	Beretania Street (Southern Section)	University Avenue to McCully Street	0.78	L	lane	$89	A	PUC
1-34	Civic Center Bike Path	Alapaʻi Street to Richards Street	0.46	P	path widening	UC	A	PUC
1-35+	Cooke Street	Ilalo Street to South King Street	0.76	L	sharrows	B	$38	PUC
1-36	Coyne Street	University Avenue to Isenberg Street	0.28	R	sharrows	UC	A	PUC
1-37+	Diamond Head Road	Pākī Avenue to Fort Ruger Park	1.47	L	lane/sharrows	B	UC	PUC
1-39	ʻEna Road	Kalākaua Avenue to Ala Moana Boulevard	0.21	R	sharrows	$10	A	PUC
1-40	Fort Street Mall	Nimitz Highway to Beretania Street	0.38	R	signage	$15	A	PUC
1-41	Harding Avenue	Kapahulu Avenue to 16th Avenue	1.31	R	sharrows	$65	A	PUC
1-42+	Honomanu Street	Moanalua Road to Kamehameha Highway	0.16	L	sharrows	B	$8	PUC
1-43	Isenberg Street (Northern Section)	Coyne Street to South King Street	0.17	R	sharrows	$8	A	PUC
1-44+	Kaʻahumanu Street	Kamehameha Highway to Komo Mai Drive	1.01	L	sharrows	B	$51	PUC
1-45	Kāhala Avenue	Diamond Head Road to Kealaʻolu Avenue	1.51	R	sharrows	$75	A	PUC
1-46	Kalākaua Avenue (Northern Section)	Beretania Street to Ala Moana Boulevard	0.98	R	sharrows	$49	A	PUC
1-47	Kalākaua Avenue (Southern Section)	Saratoga Road to Kapahulu Avenue	0.95	L	lane	UC	A	PUC
1-49	Kālia Road	Ala Moana Boulevard to Saratoga Road	0.49	R	sharrows	$25	A	PUC
1-50	Kapahulu Avenue	Kalākaua Avenue to Old Waiʻalae Road	1.56	R	sharrows	UC	A	PUC
1-53	Kīlauea Avenue	Waiʻalae Avenue to Makapuʻu Avenue	1.56	R	sharrows	$78	A	PUC
1-54	King Street (Southern Section)	South Street to Kapiʻolani Boulevard	2.84	L	lane	$326	A	PUC
1-55	Kuala Street	Kamehameha Highway to Waimano Home Road	1.02	L	lane	$117	A	PUC
1-56	Kūhiō Avenue	Kalākaua Avenue to Kapahulu Avenue	1.17	R	sharrows	$59	A	PUC

Key
L Lane
R Route
P Path
UC Under design/ construction

CO Central Oʻahu
EH East Honolulu
KP Koʻolau Poko
NS North Shore
PUC Primary Urban Center

Notes: Costs not provided for City projects under design or construction (i.e., "UC" projects in table).

"+" denotes interim treatments of longer term projects. All other short-range projects in table represent the permanent or "ultimate" projects.

"A" indicates projects with no interim cost associated because the short-range treatment is the ultimate facility.

"B" See Tables 5 and 6 for cost of ultimate projects.

Table 10: Short-Range Implementation Plan Projects (continued)

Code	Name	Description	Length (miles)	Ultimate Facility	Short-Range Treatment	Ultimate Cost (1,000)	Interim Cost (1,000)	DP Area
1-57	Makapuʻu Avenue	Kīlauea Avenue to Diamond Head Road	0.27	L	uphill lane/downhill sharrow	UC	A	PUC
1-58+	McCully Street	Kapiʻolani Boulevard to H-1 Freeway	0.61	L	sharrows	B	$31	PUC
1-59+	Moanalua Road (Pearl City)	Hoʻomalu Street to Waimano Home Road	0.60	L	sharrows	B	$30	PUC
1-61+	Monsarrat Ave. – Diamond Head Road	Kapahulu Avenue to Fort Ruger Park	2.36	L	lane/sharrows	B	UC	PUC
1-62	Noelani Street	Moanalua Road to Kaahumanu Street	0.72	R	sharrows	$36	A	PUC
1-64	Pālolo Loop (10th Ave)	Alohea Ave and 10th Ave to Pālolo Place	2.62	R	sharrows	$131	A	PUC
1-65	Pālolo Loop (Pālolo Ave)	Alohea Ave / 10th Ave Intersection to Pālolo Place	2.83	R	sharrows	$142	A	PUC
1-66+	Pearl Harbor Bike Path Access PHBP Connector--Lehua Avenue	Kamehameha Highway to Pearl Harbor Bike Path	0.34	L	sharrows	B	$17	PUC
1-67	Pensacola Street	Waimanu Street to Wilder Avenue	1.05	R	sharrows	$53	A	PUC
1-68	PHBP Connector – Hekaha Street	Kamehameha Highway to Pearl Harbor Bike Path	0.09	L	lane	$11	A	PUC
1-69	PHBP Connector – Kanuku Street	Kamehameha Highway to Pearl Harbor Bike Path	0.05	L	lane	$6	A	PUC
1-70	Piʻikoi Street	Ala Moana Boulevard to Wilder Avenue	1.20	R	sharrows	$60	A	PUC
1-71	Queen Street	Fort Street Mall Path to Piʻikoi Street	1.63	R	sharrows	$82	A	PUC
1-72	Queen's Beach Trail (South Section)	Beach Trail to Kalākaua Avenue (at Natatorium)	0.07	P	widen existing sidewalk	$51	A	PUC
1-73	Saratoga Road	Kālia Road to Kalākaua Avenue	0.27	R	sharrows	$14	A	PUC
1-74	School Street	ʻIolani Avenue to Middle Street	2.68	R	sharrows	UC	A	PUC
1-75	Thomas Square Park	Victoria Street to Ward Avenue	0.11	P	path	UC	A	PUC
1-76+	University Avenue	Dole Street to Maile Way	0.36	L	sharrows	B	UC	PUC
1-77	Varsity Place	University Avenue to Lower Campus Road	0.27	R	sharrows	UC	A	PUC
1-79	Waiʻalae Avenue (Eastern Section)	11th Avenue to 17th Avenue	0.49	R	sharrows	$25	A	PUC
1-81+	Waiʻalae Avenue (Western Section)	Kapahulu Avenue to 11th Avenue	0.91	L	sharrows	B	UC	PUC
1-82+	Young Street	Pensacola Street to Isenberg Street	1.40	L	sharrows	B	UC	PUC
2-75+	Hahani Street	Kailua Road to Hāmākua Road	0.19	L	sharrows	B	$10	KP
2-24+	Mokuola Street	Naliʻi Street to Farrington Highway	0.20	L	sharrows	B	$10	CO
2-86+	Keolu Drive	Kalanianaʻole Highway to Wanaʻao Road	1.46	L	sharrows	B	$73	KP
2-78	Kahuhipa Street	Kamehameha Highway to Lōliʻi Street	1.09	R	sharrows	$55	A	KP
2-79+	Kailua Road – Kuʻulei Road	Hāmākua Drive to Kainalu Drive	0.47	L	sharrows	B	$23	KP
2-111+	Hotel Street	Alapaʻi Street to Ward Avenue	0.26	L	sharrows	B	$13	PUC
2-128+	Metcalf Street	McCully Bridge to Wilder Avenue	0.18	L	sharrows	B	$9	PUC
		Total Length (rounded): 62 miles			**Subtotal Costs (rounded):**	**$2,044**	**$611**	
					SHORT-RANGE IMPLEMENTATION PLAN GRAND TOTAL COSTS (ROUNDED):	**$2.7 MILLION**		

Chapter 6

Implementation and Benchmarks

6.1 Implementation and Funding

Implementation of The O‘ahu Bike Plan depends on the funding and actions of a variety of responsible parties and stakeholders. They include DTS (primary proponent of City roadway facilities and O‘ahu Bike Plan policies and programs), DFM (responsible for ongoing maintenance of City facilities), DDC (responsible for major City road resurfacing projects), City Council (adopts the City’s operating and capital budgets), State DOT (responsible for State roadways improvements), and private developers, among other entities.

Clearly, funding for projects and programs is critical to the Plan’s execution and the City’s budget process plays a pivotal role. The City’s budget process, which is nearly a year-round effort, involves the Executive Branch (line agencies and Mayor) and City Council. The public may participate at various points in the process. Agencies begin preparing budget requests in July for submittal to the Mayor for review by September 1 (capital budget) and October 1 (operating budget). The Executive Program and Operating Budget and the Executive Program and Capital Budget are submitted to City Council in March of the following year, after which Council holds public hearings on the budget proposals. Council may then delete, amend or add to any item in the proposals. Council then holds three readings on the budget bills (open to the public and held on separate days) and must adopt the executive budget ordinances by June 15. Without final Council action by that date, the executive budget ordinances go into effect as submitted by the Mayor upon start of the new fiscal year on July 1.

6.2 Benchmarks

Benchmarks have been developed to measure the success of how Plan implementation is meeting the goals and objectives outlined in Chapter 2. Benchmarks are used to indicate progress in reaching an ultimate vision, and specify a timeframe in which achievement should be attained (2-, 5-, 10-, and 20-years).

Benchmarks are crucial in recognizing and defining priorities, as well as in measuring the achievement of goals and objectives that support the vision of a bicycle-friendly O‘ahu. The benchmarks listed in Table 11 are organized by the four goals and 14 objectives of the Plan. Each objective is accompanied by a specific benchmark(s). Unless otherwise noted, DTS is the responsible party for implementing, tracking, and evaluating progress on the benchmarks.

6.3 How to Get Involved in Implementation

There are numerous opportunities for members of the general public to promote implementation of the O‘ahu Bike Plan. The boxes below describe a few ways to get involved.

Get Involved

The **Mayor’s Advisory Committee on Bicycling** (MACB) is comprised of citizens interested in improving conditions for bicycling in Honolulu. The status of upcoming and ongoing City and State bicycle projects is a standing agenda item, as are reports by County and State transportation agencies and bicycling advocates. Committee meetings are held monthly at the Frank F. Fasi Municipal Building and are open to the public. MACB meeting minutes are available upon request for those unable to attend meetings, and will be available online at the City’s website in the future.

Advocacy groups, such as the Hawai‘i Bicycling League, monitor County, State, and Federal legislation pertaining to bicycling and provide venues for citizen participation in the legislative process.

The public may participate in the **City’s budget process** through contacting Councilmembers, testifying at public hearings either in person or in writing, and by organizing others to get involved.

Table 11: Plan Benchmarks

2-Year	5-Year	10-Year	20-Year
Goal #1: To increase the mode share of bicycle trips.			
Objective #1: Increase the number of people who ride bicycles.			
Continue to hold and promote, in collaboration with bicycling partners (DOT, HBL, and cycling groups), the annual Bike to Work Week and Bike to School Day events.	Expand Bike to Work Week events. Expand to several Bike to School Days throughout the year.	Expand Bike to School Day events throughout the year.	
Establish a one-day street closure for bicycle/pedestrian festival (e.g., ciclovia).	Establish a one-day street closure for festival in several areas of the island.	Expand islandwide street closures/ festivals to every weekend for an entire month.	Expand month-long street festival to a semiannual event.
Develop a plan to create baseline inventory of bike traffic counts at selected screen-lines along corridors, with participation from bicycling partners; publish resulting data. Organize and implement an annual "bike count" day.	Expand program to semiannual counts, and publicize trend data online.	Expand bike count program geographically.	Continue to refine bike count program.
Increase mode split from 2010 U.S. Census Bureau American Community Survey (1.63% for Honolulu) by 25%.	Commute mode share has increased by 50% over 2-Year benchmark levels.	Commute mode share has doubled from 2-Year benchmark levels.	Commute mode share has doubled from 10-Year benchmark levels.
Bicycle license registrations have increased to 25,000/year (from historical 5-year average of 23,000/year).	Bicycle registrations have increased 25% from 2-Year benchmark levels.	Bicycle registrations have increased 50% from 2-Year benchmark levels.	Bicycle registrations have doubled from 10-Year benchmark levels.
Objective #2: Increase the number of bicycle trips.			
Establish baseline inventory of bicycle trip counts (see Objective 1, Year 2).	Bicycle trips have increased by 50% over 2-Year benchmark levels.	Bicycle trips have doubled from 2-Year benchmark levels.	Bicycle trips have doubled from 10-Year benchmark levels.

Table 11: Plan Benchmarks (continued)

2-Year	5-Year	10-Year	20-Year
Objective #3: Provide and maintain a continuous bicycle network.			
Identify sufficient sources of funds to design & construct desired bicycling facilities. Create an implementation process for how high-priority projects will be built with guidance from major stakeholders.	Complete 90% of Short-Range Implementation Plan project recommendations. Progress made towards implementing Priority 1 recommendations.	Complete Priority One project recommendations.	Complete the majority of Priority Two project recommendations.
Objective #4: Provide and maintain bicycle support facilities (e.g., showers and bicycle racks).			
Coordinate with DPP to introduce an amendment to the Land Use Ordinance/Building Code that follows LEED-NC Bicycle Support Facilities credit requirements.	Bike parking and support facilities available in most major commercial and employment centers (for example: Downtown, regional malls, colleges, and universities).	Long-term bike parking available at all high-volume destinations (educational institutions, the airport, and transit centers).	Showers and changing facilities available at all employment centers.
Support establishment of attended parking/showers/lockers facility in Downtown Honolulu through tax incentives or other economic incentives.	Attended parking/showers/lockers facilities are operational in Downtown Honolulu. Other locations are under active consideration.	Additional attended parking/showers/ lockers facilities have been established in other areas of the Island.	Four attended parking/showers/ lockers facilities have been established in high demand areas across the Island.
Implement O'ahu Bike Plan standards for City Parks bicycle parking.	All parks meet bicycle parking standards.		
Initiate an outreach program to educate employers on the benefits of commuter cycling and participation in LAB's BFB program. Host an annual recognition program for employers that have adopted bike friendly personnel policies.	Honolulu has two businesses certified by LAB as Bicycle Friendly Businesses. Many employers are offering convenient showers and changing facilities to all commuter cyclists who need them. Awards program has grown to include several geographic areas and competitions between public/private sectors. A number of firms have received LAB BFB status.	Honolulu has ten businesses certified by LAB as Bicycle Friendly Businesses. Reassess and re-evaluate major employment areas to ensure adequate parking and support facilities exist for cyclists. Create a plan to address parking and support facility shortfalls.	Implemented plan that addressed shortfalls.
City hosts two events using bike valets.	City regularly hosts events using bike valets.		

Table 11: Plan Benchmarks (continued)

2-Year	5-Year	10-Year	20-Year
Goal #2: To enhance cooperation between roadway users.			
Objective #5: Increase the awareness of bicyclists, motorists, and pedestrians of their rights and responsibilities.			
Expand the BikeEd grant to increase the number of 4th graders who receive bicycle education through BikeEd to 80%. Initiate an Adult BikeEd program to encourage bicycle use.	100% of all 4th graders receive bicycle education through BikeEd. Expand 4th grade bicycle education program to private schools. Adult BikeEd program annual enrollment reaches 1,000 residents.	Establish a high school BikeEd refresher program. Re-evaluate the BikeEd program to ensure it is reaching its goals.	Consider further expansion of the BikeEd program.
Engage bicycling partners in planning annual Island-wide events promoting cycling activities.	Plan and hold annual Island-wide events promoting cycling activities in conjunction with bicycling partners.	Expand Island-wide event promoting cycling activities to a semi-annual events working with bicycling partners.	Expand to quarterly Island-wide events promoting cycling activities.
Expand bicycle education to include classes for adults. Work with City Parks Dept. to include safe cycling education in its list of offered programs/classes.	Expand bicycle education to ensure safe cycling classes are held regularly at convenient locations and times across the Island.	Continuously refine and improve bicycle education program.	Continuously refine and improve bicycle education program.
Objective #6: Enforce the traffic code.			
Broadcast one new PSA reminding motorists and bicyclists of their rights and responsibilities on the road, emphasizing safety for all roadway users, and that bicyclists may use full lane. Increase traffic code enforcement—including bicycle-related infractions.	Broadcast two additional new PSAs. Bike PSAs are now heard regularly by most Island residents. Scientific polls indicate a shift in attitude between motorists and cyclists and a broad acceptance of the "law of the splintered paddle." Violations relating to bicycle and motorist offenses held constant at 2-Year levels.	Continuously refine and improve PSA program. Violations relating to bicycle offenses reduced 10% over 2-Year levels.	Continuously refine and improve PSA program. Violations relating to bicycle offenses reduced 20% over 2-Year levels.
Goal #3: To encourage and promote bicycling as a safe, convenient, and pleasurable means of travel.			
Objective #7: Provide a variety of bikeways.			
Identify sufficient sources of funds to design and construct desired bicycle facilities.	Complete 90% of Short-Range Implementation Plan project recommendations.	Complete Priority One project recommendations.	Complete the majority of Priority Two project recommendations.

Table 11: Plan Benchmarks (continued)

2-Year	5-Year	10-Year	20-Year
Objective #8: Reduce the number of traffic crashes involving bicycles.			
Implement a program where State (e.g., DOT, DOH) and City (e.g., DTS, HPD) agencies set bicycle safety metrics and publish an annual report. Establish a baseline of crash data.	Number of major bicycle crashes reduced by half from 2-Year data; with zero fatalities.	Number of major bicycle crashes reduced by half from 5-Year data; with zero fatalities.	Number of major bicycle crashes reduced by half from 10-Year data; with zero fatalities.
Objective #9: Reduce the number of bicycle thefts.			
Continue to install bicycle parking in safe, secure areas visible to passersby. Install bike lockers at various high volume destinations. Coordinate with HPD to obtain data on number of bicycle thefts.	Bicycle thefts are reduced by 10% over 2-Year levels. Increase number of lockers at high volume destinations.	Bicycle thefts are reduced by 20% over 2-Year levels. Establish attended bicycle facilities at high volume destinations.	Bicycle thefts are reduced by 40% over 2-Year levels.
Objective #10: Increase the number of visitors who ride bicycles.			
Obtain baseline information on number of bicycle rentals.	25% increase in the number of bicycle rentals over 2011 levels.	Bicycle rentals have increased by 50% over 2011 levels.	Bicycle rentals have doubled 2021 levels.
Distribute visitor-friendly maps of O'ahu's bicycle network and popular destinations to hotels to be made available to each guest.	Update the bike map and create an interactive online version showing O'ahu bicycle network and popular destinations for Island guests.	Continue to update maps and incorporate new technology to disseminate map information.	Continue to update maps and incorporate new technology to disseminate map information.
HVCB, HTA, hotels, bike shops promote bicycle tours, club rides, and rentals.	HVCB, HTA, and the City promote O'ahu as a Bicycle-Friendly Island publicizing listing as one of LAB's Bicycle-Friendly Communities.	HVCB, HTA promote Island-wide cycling events to visitors (See Objective 5).	HVCB, HTA promote O'ahu as a destination for Island-wide bicycle tours.

Table 11: Plan Benchmarks (continued)

2-Year	5-Year	10-Year	20-Year
Objective #11: Ensure integration of bicycles with transit.			
Identify and install lockers or other long-term bicycle parking at two major transit centers according to O'ahu Bike Plan standards.	Ensure all transit centers have adequate bicycle parking according to O'ahu Bike Plan standards. Identify transit stops in need of bicycle parking and wayfinding signage.	Install bicycle parking and wayfinding signage at all high-volume destination transit stops and rail transit station meeting O'ahu Bike Plan standards.	Re-evaluate bicycle parking and signage at transit stops to ensure adequate level of service. Ensure all transit centers have at least one bicycle facility serving it.
Establish a wayfinding signage program.	Install wayfinding signage to and from all transit centers.	A comprehensive wayfinding signage plan has been implemented for all rail transit stations.	
Coordinate with Google to sync O'ahu bicycle maps other modes of Google trip planning.	Continue to upgrade internet-based tools to assist intermodal integration.	Continue to incorporate new technology and broaden user network.	Continue to incorporate new technology and broaden user network.
Objective #12: Maintain existing bikeways in safe, rideable condition.			
Establish procedure/mechanism to enter and store bikeway condition/maintenance information in geospatial data format. Trouble call and complaint logs established and maintained.	Condition/maintenance data for all bikeways are stored in geospatial format and regularly updated as roadway projects are implemented. Database allows for annual maintenance project prioritization and identification of a multi-year program to address deferred maintenance.	Well-established deferred maintenance program reduces overall cost. Significant reduction in trouble calls and complaints.	
Debris and potholes on bikeways are cleared/patched within one week of being reported, resulting in significant reduction in backlog.	Poor bike path pavement conditions (e.g., tree roots, shoulder problems, etc.) are either recapitalized or programmed for major repair.	Improved procedures result in significant reduction in trouble calls and complaints.	
Bicycle-unfriendly grates in bikeways are replaced with bicycle-friendly grates.	New paths are all designed in accordance with best practices (e.g., subgrade beds, concrete headers, etc.) to minimize need for maintenance.		

Table 11: Plan Benchmarks (continued)

2-Year	5-Year	10-Year	20-Year
Goal #4: To be recognized by LAB as a Bicycle-Friendly Community.			
Objective #13: Implement the O'ahu Bicycle Master Plan.			
Broadcast one new PSA illustrating the health benefits and convenience of bicycle riding.	Regularly provide news organizations with updates of bicycle improvements and events. Bike PSAs are heard regularly by most Island residents.	Re-evaluate effectiveness of the PSA program.	Refine/improve PSA program as needed.
Prepare and distribute bicycle maintenance improvement request forms online, to bike shops, satellite city halls, etc. Use Facility Inventory Database to streamline maintenance requests and establish a baseline.	Implement improved maintenance procedures such that maintenance requests decrease by 10% from 2011 levels and average response times are less than 48 hours.	Continue to improve maintenance procedures such that maintenance requests decrease by 15% from 2011 levels. Obtain feedback from bicycle riders on effectiveness of maintenance program.	Evaluate and assess maintenance improvement program and prepare a plan to address any necessary improvements.
Seek Mayor's Advisory Committee on Bicycling advice on the O'ahu Bike Plan implementation and annual goal-setting.	Identify necessary areas of improvement and issues that need to be addressed in the five-year bike plan update.	Regularly update and improve O'ahu Bike Plan on a five-year cycle. Increased efforts to work with bicycling partners and members of the public to make certain adequate bicycling projects, policies, and programs exist.	Continuously refine and improve Bike Plan implementation program.
In association with bike partners, host a county-wide forum to discuss bike planning tools and techniques.	Host a Statewide conference on the state of bike planning, with an emphasis on technical training and best practices/lessons learned.	Host a regional conference. Present research findings at national conference.	Host a national conference.
Achieve LAB Bicycle Friendly Community (BFC) Bronze status.	Re-apply to LAB to achieve Silver BFC status.	Re-apply to LAB to achieve Gold BFC status.	Re-apply to LAB to achieve Platinum BFC status.
Maintain and enhance the O'ahu Bike Plan website as a central repository of bicycle plan information as well as other bicycling information.	Continue to update and enhance the O'ahu Bike Plan website and explore using new technologies for route and trip planning.	Evaluate success of the website to disseminate O'ahu Bike Plan information to the public	
Objective #14: Provide funding to achieve the goals of the Plan.			
Secure funding for Short-Range Implementation Plan projects	Increase funding for bicycle programs and facilities by 100% from 2-Year total funding levels.	Increase funding for bicycle programs and facilities by 200% from 2-Year levels.	Increase funding for bicycle programs and facilities by 400% from 2-Year levels.

Chapter 7

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Appendices

APPENDIX A: List of *O'ahu Bike Plan* Technical Reports

Research and public outreach for this *O'ahu Bike Plan* began in April 2008. A series of work products were developed leading up to this report. Major technical work products are listed below according to the bike planning process phase in which they were conducted.

1: Inventory and Assessment

- **Existing Physical Resources & Conditions/Matrix of Existing Bicycle Facilities** – Existing bicycle facilities as of November 2008
- **Implementation Mechanisms & Policies** – Details various plans, policies, guidelines, and laws applicable to bicycling
- **Market Research Findings** – Statistics on bicycle commuting, accident data, fatalities, and potential funding opportunities
- Newsletters
    - **Newsletter 1: April 2008**
    - **Newsletter 2: October 2008**
- **Survey Results** – Summary of the online survey
- **Workshop No.1 Results** – Summary of the 1st round of public workshops (May 2008)
- **City Park Bike Rack Guidelines** – Assessment of the need for bike racks in public parks (in response to Council Resolution 07-250)

2: Corridor/Transit Spoke/High Volume Destination ID

- **Vision, Goals, and Objectives Report** – Summary of public input in relation to the O'ahu Bike Plan's vision, goals and objectives
- **Bicycle-Transit Integration Primer** – Summary of bicycle commuter trends and needs in relation to commuting with mass transit

3: Identify/Evaluate Programs, Policies and Projects

- **Typical Facility Design Treatments Report** – Survey of various design treatments being used in other municipalities
- **Potential Projects, Programs, and Policies Report** – Identifies the proposed bicycle network as well as various programs and policies aimed at increasing ridership
- **Workshop No. 2 Results** – Summary of the 2nd round of public workshops (October 2008)

4: Evaluate and Prioritize Projects

- **Priority Project Listing Report** – Arranges and ranks potential bikeway projects based on the services they provide and connections to existing facilities.
- **Proposed Facility Design Concepts Report** – Evaluation of the highest priority projects, treatment recommendations, possible constraints, and cost estimates
- **Implementation Plan** – Discusses funding, environmental documentation, and benchmarks for the implementation of programs, policies and projects. Re-evaluates project rankings based on feasibility.

6: Final Bicycle Master Plan

- **Analysis of Key Issues Raised During the Draft Review**

Appendix B: Alphabetical Listing of Projects

Name	Description	Code	Type	Owner	Length (miles)	Ultimate Cost**	Interim Cost**	DP Area
16th Avenue	Waiʻalae Ave. to Kīlauea Ave.	3-70	R	C	0.61	$30,586		PUC
18th Avenue*	Diamond Head Rd. to Kīlauea Ave.	1-26	L	C	0.33	N/A		PUC
Āhua Street	Pūkōloa St. to Kikowaena St.	3-71	L	C	0.07	$8,256		PUC
Ahukini Street	Lunalilo Home Road to Kamiloiki Elem School	3-17	R	C	0.73	$29,123		EH
ʻAiea Heights Drive	Moanalua Road to Ulune Street	3-72	L	C	0.18	$20,419		PUC
ʻĀina Haina Valley Loop	West - East Hind Drive	2-33	R	C	1.15	$122,116		EH
ʻĀinamakua Drive	Mililani Mauka Park and Ride to Kualapa Street	2-1	L	C	1.12	$128,423		CO
Ala Lilikoʻi Street	Nimitz Highway to Salt Lake Elementary School	2-101	L	C	1.17	$135,029		PUC
Ala Moana Beach Park (Extension)	Connect existing mauka and makai bike paths, extend path to Kewalo Basin	1-27	P	S	0.15	N/A		PUC
Ala Moana Boulevard	Kalākaua Ave. to Fort Street Mall	3-73	L	S	2.95	N/A		PUC
Ala Moana Blvd. Path*	Atkinson Drive to Ala Wai Canal	1-28	P	C	0.10	$14,618		PUC
Ala Wai Boulevard*	Keoniana St. to Kalākaua Ave.	1-29	R	C	0.29	$14,618		PUC
Alakawa Street	Nimitz Hwy. to Dillingham Blvd.	2-102	L	C	0.41	$47,046		PUC
Alakea Street	Nimitz Highway to School Street	3-74	R	C	0.82	$32,652		PUC
Alapaʻi Street	ʻIolani Avenue to Spencer Street	3-75	L	C	0.05	$5,718		PUC
Āliamanu Drive	Salt Lake Blvd. to Moanalua Rd.	3-76	L	C	1.76	$202,595		PUC
Aliʻinui Drive Extension (Northern Section)	Aliʻinui Drive to Farrington Highway	3-22	L	C	0.22	$138,453		ʻEwa
Aliʻinui Drive Extension (Southern Section)	Kōʻiʻo Drive to Kapolei Parkway	2-41	L	C	1.48	N/A		ʻEwa
Aloha Stadium Access Lanes	Pearl Harbor Bike Path to Ulune Street	2-103	L	C	0.56	$348,089		PUC
Aloha Tower Path	Aloha Tower to Waterfront Park	1-30	P	S	0.99	N/A		PUC
Alohea Avenue*	10th Ave. to Makapuʻu Ave.	1-31	R	C	0.34	$17,085		PUC
ʻAnaliʻi Street	Kalani-Waiʻalae Iki Park to Keikilani-ʻĀina Haina Elem School	3-18	P	C	1.10	$850,599		EH
Anania Drive	Meheula Parkway to Kīpapa Gulch Path	2-2	R	C	1.27	$134,876		CO

Key

L	Lane	C	City	CO	Central Oʻahu	NS	North Shore
R	Route	S	State	EH	East Honolulu	PUC	Primary Urban Center
P	Path	F	Federal	KL	Koʻolau Loa	Wai	Waiʻanae
XW	signalized crosswalk	Pv	Private	KP	Koʻolau Poko		

Notes: Numerical listing of projects provided in Tables 5, 6 and 7.
* Projects in Short-Range Implementation Plan (see Table 10).
** Costs not provided for State, Private, or Federal projects. Costs not provided for City projects under design or construction, or privately funded. Interim costs provided only for projects that have an interim treatment.

Appendix B: Alphabetical Listing of Projects (continued)								
Name	Description	Code	Type	Owner	Length (miles)	Ultimate Cost**	Interim Cost**	DP Area
ʻAnoʻi Road	Luluku Road to Likelike Highway	3-51	R	C	0.35	$13,859		KP
Aolele Street	Airport Loop to Lagoon Drive	3-77	L	C	0.86	$98,938		PUC
Auahi Street	Ala Moana Blvd. to South St.	2-104	R	C	0.98	$49,189		PUC
Auiki Street	Sand Island Access Road to Nimitz Highway	3-78	R	C	0.79	$83,426		PUC
ʻAumoku Street	Kāneʻohe Bay Dr. to Mokulele Dr.	3-52	R	C	0.82	$86,893		KP
ʻAwalau Street	Farrington Hwy. to Awanei St.	2-3	L	C	0.39	$44,531		CO
Awanui Street Bike Path	Farrington Highway to Pearl Harbor Bike Path	2-4	P	C	0.38	$367,261		CO
Beretania Street (Middle Section)	McCully Street to Alapaʻi Street	1-32	L	C	1.43	$163,940		PUC
Beretania Street (Northern Section)	Alapaʻi Street to North King Street	2-105	L	C	1.12	$128,454		PUC
Beretania Street (Southern Section)*	University Ave. to McCully Street	1-33	L	C	0.78	$89,343		PUC
Bishop Street	Nimitz Hwy. to Queen Emma Street	3-79	R	C	0.60	$23,892		PUC
Blaisdell Auditorium - McKinley H.S. Path	King Street to Kapiʻolani Boulevard	3-80	P	S	0.43	N/A		PUC
Bougainville Drive	Radford Dr. to Salt Lake Blvd.	3-81	L	C	0.60	$68,783		PUC
Bravo Road	ʻEwa Beach Road to Iroquois Point	3-23	R	C	2.66	$106,552		Ewa
California Avenue	Plum Street to ʻIliahi Elem School	2-5	R	C	1.71	$181,368		CO
Civic Center Bike Path*	Alapaʻi Street to Richards Street	1-34	P	C	0.46	N/A		PUC
Central Oʻahu Regional Park	Kamehameha Highway to Paiwa Street	1-1	P	C	0.95	$734,437		CO
Cooke Street*	Ilalo Street to South King Street	1-35	L	C	0.76	$87,778	$38,164	PUC
Coral Sea Road	Around Kalaeloa Airfield	2-42	P	S	5.51	N/A		ʻEwa
Coyne Street*	University Ave. to Isenberg St.	1-36	R	C	0.28	N/A		PUC
Date Street	University Ave. to Kapahulu Ave.	3-82	R	C	0.96	$566,628		PUC
Date Street Bike Path Bridge	Bridge crossing over Mānoa-Pālolo Stream	2-106	P	C	0.02	$765,000		PUC
Diamond Head Road*	Pākī Avenue to Fort Ruger Park	1-37	L	C	1.47	$908,680	$73,399	PUC
Dillingham Boulevard (Northern Section)	Middle Street to Puʻuhale Road	2-107	L	C	0.50	$311,376		PUC
Dillingham Boulevard (Southern Section)	Puʻuhale Road to N. King Street	1-38	R	C	1.44	$71,755		PUC
Dole Street	East West Road to St. Louis Drive	2-108	L	C	0.63	$71,922		PUC
East Kapolei II Development	East Kapolei II Development Bike Ways	3-24	R	S	1.30	N/A		ʻEwa
ʻEna Road*	Kalākaua Ave. to Ala Moana Blvd.	1-39	R	C	0.21	$10,414		PUC

Appendix B: Alphabetical Listing of Projects (continued)								
Name	Description	Code	Type	Owner	Length (miles)	Ultimate Cost**	Interim Cost**	DP Area
Enterprise Avenue	Leeward Bikeway to Midway Street	3-26	R	S	1.01	N/A		ʻEwa
Essex Road (Southern Section)	San Juacinto Street to White Plains Beach	3-27	R	C	0.64	$67,954		ʻEwa
Farrington Highway (Hoʻopili)	Kualakaʻi Parkway to Fort Weaver Road	2-43	L	S/C	2.21	N/A		ʻEwa
Farrington Highway (Kapolei)	Kamokila Boulevard to Kalaeloa Boulevard	2-44	R	S	0.74	N/A		ʻEwa
Farrington Highway (Leeward CC)	Kamehameha Highway to Farrington Highway	3-1	L	S	0.77	N/A		CO
Farrington Highway (Mokulēʻia)	Kamehameha Highway (Waialua) to end (Kaʻena Beach)	2-93	R	S	9.49	N/A		NS
Farrington Highway (Nānākuli)	Mōhihi Place to Farrington Highway at Honokai Hale	3-127	R	S	5.53	N/A		Wai
Farrington Highway (UHWO)	Kapolei Golf Course Road to Kualakaʻi Parkway	2-45	L	S/C	1.10	N/A		ʻEwa
Farrington Highway (Waiʻanae)	Ala Hema Street to Pūhano Street	3-128	R	S	0.74	N/A		WAI
Farrington Highway (Waipahu)	Fort Weaver Road to Kamehameha Highway	2-6	L	S	2.74	N/A		CO
Farrington Highway Bike Path (Hoʻopili)	Kualakaʻi Parkway to Ft Weaver Rd	2-46	P	C	2.21	N/A		ʻEwa
Farrington Highway Bike Path (UHWO)	Kapolei Golf Course Road to Kualakaʻi Parkway	2-47	P	S	1.10	N/A		ʻEwa
Fort Barrette Road (Northern Section)	Farrington Highway to Renton Road	3-28	L	S	1.22	N/A		ʻEwa
Fort Barrette Road (Southern Section)	Roosevelt Avenue to Saratoga Avenue	3-29	L	C	0.32	N/A		ʻEwa
Fort Street Mall*	Nimitz Hwy. to Beretania St.	1-40	R	C	0.38	$15,350		PUC
Fort Weaver Road (Northern Section)	Farrington Highway to Hanakahi Street	2-48	R	S	3.03	N/A		ʻEwa
Fort Weaver Road (Southern Section)	Keaunui Street to end of public road	2-49	P	S	2.56	N/A		ʻEwa
Geiger Road - Fort Weaver Road	Renton Road to Keoneʻula Boulevard	3-30	L	C	2.77	$318,961		ʻEwa
Goodale Avenue	Farrington Highway to Waialua Beach Road	1-23	R	C	0.82	$486,563		NS
Gulick Avenue	School Street to North King Street	3-83	L	C	0.56	$64,210		PUC
H-1 Makai Bike Path	Kualakaʻi Blvd. to Fort Weaver Rd.	3-31	P	S	2.17	N/A		ʻEwa
H-1 Mauka Bike Path	Makakilo Drive to Kunia Road	3-32	P	S	2.67	N/A		ʻEwa
H-2 Mililani Interchange	Meheula Parkway	2-7	L	S	0.26	N/A		CO
H-3 Freeway Access Road	Kahuipa Street / Hope Chapel to Hālawa Valley Street	3-84	R	S	8.81	N/A		PUC
Hahani Street*	Kailua Road to Hāmākua Road	2-75	L	C	0.19	$22,407	$9,742	KP
Haleʻiwa and Waialua Beach Parks	Kaiaka Bay and Haleʻiwa Beach Park	3-68	P	C	2.07	$1,592,059		NS
Haleʻiwa Cane Haul Road	Farrington Highway to Haleʻiwa Bypass Road	2-94	P	Pv	2.99	N/A		NS

Appendix B: Alphabetical Listing of Projects (continued)								
Name	Description	Code	Type	Owner	Length (miles)	Ultimate Cost**	Interim Cost**	DP Area
Haleʻiwa Road	Waialua Beach Road to Kamehameha Highway	1-24	R	C	1.60	$946,253	$80,055	NS
Halekauwila Street	Ala Moana Blvd. to Ward Avenue	2-109	R	C	0.76	$38,046		PUC
Halemaʻumaʻu Street	Niu Valley Loop	2-34	R	C	0.85	$89,927		EH
Hāmākua Drive*	Keolu Drive to Kailua Road	1-10	L	C	0.79	$486,063	$39,262	KP
Hāmākua Marsh Trail	Kailua Road to Hāmākua Drive	3-53	P	Pv	0.48	N/A		KP
Hanauma Bay Road	Kalanianaʻole Hwy. to Hanauma Bay	3-19	R	C	0.32	$12,922		EH
Essex Road (Northern Section)	Geiger Road to San Juacinto Street	3-33	R	C	1.55	$163,924		ʻEwa
Harding Avenue*	Kapahulu Avenue to 16th Avenue	1-41	R	C	1.31	$65,424		PUC
Hauʻula Homestead Rd.	Hauʻula Valley Road	3-48	R	C	1.13	$119,930		KL
Hawaiʻi Kai Drive (Eastern Section)	Wailua Street to Lunalilo Home Road	2-35	R	C	1.80	$190,951		EH
Hawaiʻi Kai Drive (Western Section)	Kalanianaʻole Highway to Wailua Street	2-36	R	C	1.70	$180,713		EH
Hawaiʻi Kai Golf Course	Hawaiʻi Kai Dr. to Kalanianaʻole Hwy.	3-20	P	C	0.93	$713,217		EH
Hind Iuka Drive	Kalanianaʻole Highway to Wailupe Valley School	3-21	R	C	0.55	$22,131		EH
Hōʻaeʻae Stream Path	Honowai Street to Pearl Harbor Bike Path	2-8	P	C	0.88	$857,388		CO
Honolulu Airport Access Route	Aolele Street to Paiʻea Street	2-110	R	S	1.18	N/A		PUC
Honomanū Street*	Moanalua Road to Kamehameha Highway	1-42	L	C	0.16	$18,859	$8,200	PUC
Honouliuli Path	Leeward Bikeway to North Road	2-50	P	C/Pv	3.51	$2,705,701		ʻEwa
Honowai Street (Eastern Section)	ʻĀiki Street to Waipahu Street	3-2	R	C	0.18	$19,125		CO
Honowai Street (Western Section)	Fort Weaver Road to Loaʻa Street	2-9	R	C	0.71	$75,728		CO
Hoʻopili Development	Hoʻopili Development Bike Ways	2-51	R	Pv	7.99	N/A		ʻEwa
Hotel Street*	Alapaʻi Street to Ward Avenue	2-111	L	C	0.26	$29,591	$12,866	PUC
Ilalo Street	Keawe Street to ʻĀhui Street	3-85	R	C	0.33	$13,131		PUC
ʻIolani Ave. - Prospect St.	South School St. to Ward Ave.	3-86	L	C	0.48	$55,762		PUC
Iroquois Avenue	North Road to Heron Avenue	3-34	L	C	1.02	$117,016		ʻEwa
Iroquois Road	Keaunui Dr. to end of public road	3-35	P	C	0.30	$227,804		ʻEwa
Isenberg Street (Northern Section)*	Coyne Street to South King Street	1-43	R	C	0.17	$8,496		PUC
Isenberg Street (Southern Section)	Kapiʻolani Boulevard to King Street	3-87	L	C	0.39	$44,823		PUC
Iwilei Transit Station	Dillingham Blvd. to Nimitz Hwy.	2-112	P	C	0.25	$189,042		PUC
Ka Uka Boulevard	Kamehameha Hwy. to Waipiʻo Uka	3-3	R	C	0.27	$28,523		CO

Appendix B: Alphabetical Listing of Projects (continued)								
Name	Description	Code	Type	Owner	Length (miles)	Ultimate Cost**	Interim Cost**	DP Area
Kaʻaʻawa Loop	Huamalani Street - Lihimauna - Hauhele - Kekio - Pōhuehue Road	3-49	R	C	1.11	$117,430		KL
Kaʻahumanu Street*	Kamehameha Highway to Komo Mai Drive	1-44	L	C	1.01	$116,718	$50,747	PUC
Kaʻamilo Street	Kulawai Street to Honomanū Street	3-88	L	C	1.26	$144,540		PUC
Kaʻena Point Path	Farrington Highway (Waiʻanae) to Farrington Highway (Mokulēʻia)	2-95	P	S	3.51	N/A		NS
Kaha Street	Oneawa Street to Kawainui Park	2-76	R	C	0.27	$28,117		KP
Kāhala Avenue*	Diamond Head Rd. to Kealaʻolu Ave.	1-45	R	C	1.51	$75,344		PUC
Kahekili Highway	Kamehameha Hwy. to Haʻikū Rd.	2-77	R	S	3.32	N/A		KP
Kahekili Highway - Likelike Highway Connector	Kulukeoe Street-Keneke Street-ʻAnoʻi Road	3-54	R	C	0.48	$19,397		KP
Kahuhipa Street*	Kamehameha Hwy. to Lōliʻi Street	2-78	R	C	1.09	$54,724		KP
Kahuku Subdivision Loop	Pualalea - Kekauoha - Huehu Sts.	3-50	R	C	1.07	$113,948		KL
Kailua - Lanikai Connector*	South Kalāheo to Kawailoa Road to Mokulua Drive	1-11	R	C	0.82	$40,787		KP
Kailua Rd. – Kuʻulei Road*	Hāmākua Drive to Kainalu Drive	2-79	L	C	0.47	$170,983	$23,295	KP
Kailua Road (Eastern Section)*	Wanaʻao Road to South Kalāheo Avenue	1-12	L	C	0.84	$96,957		KP
Kailua Road (Western Section)*	Kuʻulei Road to Hahani Street	1-13	R	C	0.21	$10,664		KP
Kaimālie Street	Fort Weaver Road to Kaieʻe Street	3-36	L	C	0.72	$82,377		ʻEwa
Kaimukī High School Bike Path	Mānoa-Pālolo Bike Path to Kapahulu Avenue	2-113	P	S	0.28	N/A		PUC
Kalaeloa Boulevard (Southern Section)	Malakole Road to Barbers Point Beach Park	2-52	R	C	1.47	$869,142		ʻEwa
Kalaeloa Boulevard (Northern Section)	Kapolei Parkway to Malakole Road	2-53	L	S	1.26	N/A		ʻEwa
Kalāheo Avenue*	Kāneʻohe Bay Drive to Kailua Road	1-14	R	C	2.12	N/A		KP
Kalākaua Avenue (Northern Section)*	Beretania Street to Ala Moana Boulevard	1-46	R	C	0.98	$49,078		PUC
Kalākaua Avenue (Southern Section)*	Saratoga Road to Kapahulu Avenue	1-47	L	C	0.95	N/A		PUC
Kalākaua Avenue Signal/Crosswalk	Ala Wai Promenade	1-48	N/A	C	0.00	$200,000		PUC
Kalanianaʻole Highway (Castle Junction)	Kamehameha Highway to Kailua Road	2-80	R	S	1.82	N/A		KP
Kalanianaʻole Highway (Hanauma Bay)	Sandy Beach Park to Lunalilo Home Road	2-37	R	S	2.97	N/A		EH
Kalanianaʻole Highway (Kailua)	Kailua Road to Olomana Golf Course	1-15	R	S	2.51	N/A		KP
Kalanianaʻole Highway (Makapuʻu)	Makapuʻu Beach Park to Sandy Beach Park	2-38	R	S	1.49	N/A		EH
Kalanianaʻole Highway (Olomana Golf Course)	Olomana Golf Course to Flamingo Street	1-16	R	S	0.40	N/A		KP

Appendix B: Alphabetical Listing of Projects (continued)								
Name	Description	Code	Type	Owner	Length (miles)	Ultimate Cost**	Interim Cost**	DP Area
Kalaniana‘ole Highway (Waimānalo)	Wailea to Makapu‘u Lighthouse	1-17	R	S	3.52	N/A		KP
Kālia Road*	Ala Moana Blvd. to Saratoga Rd.	1-49	R	C	0.49	$24,729		PUC
Kama‘aha Avenue (Extension)	Kapolei Parkway to Leeward Bike Path	3-37	L	C	0.29	N/A		‘Ewa
Kamake‘e Street	Ala Moana Blvd. to McKinley HS	2-114	L	C	0.35	$217,059		PUC
Kamananui Road	Kamehameha Hwy. to Wilikina Dr.	3-4	R	S	1.13	N/A		CO
Kamehameha Highway (East Loch)	Waihona Street to Arizona Memorial	2-115	L	S	5.42	N/A		PUC
Kamehameha Highway (HPU Campus)	Ko‘olau View Drive to Pali Highway	3-55	R	S	1.26	N/A		KP
Kamehameha Highway (Kahalu‘u)	Waiāhole Valley Road to Kahekili Highway	2-81	R	S	1.94	N/A		KP
Kamehameha Highway (Kāne‘ohe)*	Kahuhipa Road to Kāne‘ohe Bay Drive	1-18	L	C	1.09	$672,931	$54,356	KP
Kamehameha Highway (Ko‘olau Loa)	‘O‘opuola St to Waiāhole Valley Road	1-9	R	S	25.25	N/A		KL
Kamehameha Highway (Mililani)	Meheula Parkway to Ka Uka Boulevard	2-10	R	S	2.76	N/A		CO
Kamehameha Highway (North Kaneohe)	Kahekili Highway Haiku Road	2-82	R	C	4.14	$2,446,056		KP
Kamehameha Highway (North Shore)	Kaukonahua Road to ‘O‘opuola Street	1-25	R	S	9.23	N/A		NS
Kamehameha Highway (South Kāne‘ohe)	Kāne‘ohe Bay Drive to Ko‘olau View Drive	3-56	L	S	1.08	N/A		KP
Kamehameha Highway (Wahiawā)	Hale‘iwa Bypass to Kuahelani Ave	2-96	R	S	11.44	N/A		NS
Kamehameha Highway (Waipahu)	Widen overpass across H-1/H-2	3-5	L	S	0.73	N/A		CO
Kamehameha Highway (Waipi‘o)	Waipi‘o Uka Street to Waipahu Street	2-11	R	S	0.91	N/A		CO
Kamehameha Highway Path (North Shore)	Hale‘iwa Road Kamehameha Hwy intersection to Kamehameha Highway just past Waimea Bay	3-69	P	C	4.99	$3,845,879		NS
Kamehameha IV Road	North School St. to Likelike Hwy.	2-116	L	C	0.67	$76,795		PUC
Kāneali‘i Avenue	Lusitana Street to Kapalu Street	3-89	R	C	0.55	$21,828		PUC
Kāne‘ohe Bay Drive	Kamehameha Highway to H-3 Interchange	2-83	R	S	4.22	N/A		KP
Ka‘ōnohi Street	Kamehameha Hwy. to Laelua St.	3-90	L	C	1.54	$177,367		PUC
Kapa‘a Quarry Road	Mōkapu Blvd. to Kalaniana‘ole Hwy.	2-84	R	C	2.54	$127,170		KP
Kapahulu Avenue Bike Path (Extension)	Extend existing Kapahulu Avenue Path to Ala Wai Bike Lane	1-51	P	S	0.11	N/A		PUC
Kapahulu Avenue*	Kalākaua Ave. to Old Wai‘alae Road	1-50	R	C	1.56	N/A		PUC

Appendix B: Alphabetical Listing of Projects (continued)								
Name	Description	Code	Type	Owner	Length (miles)	Ultimate Cost**	Interim Cost**	DP Area
Kapakahi Stream Path	Farrington Highway to Pearl Harbor Bike Path	2-12	P	C	0.41	$400,287		CO
Kapālama Canal (Kōhou St. Side, North Section)	Hālona Street to Houghtailing Street	2-117	P	C	0.33	$324,443		PUC
Kapālama Canal (Kōhou Street Side, South Section)	Nimitz Highway to Olomea Street	2-118	P	C	0.77	$753,823		PUC
Kapālama Canal (Kōkea Street Side)	Nimitz Highway to Olomea Street	2-119	P	C	0.76	$744,659		PUC
Kapalu Street	Kāneali‘i Avenue to Pauoa Road	3-91	R	C	0.09	$3,770		PUC
Kapi‘olani Boulevard	Waiaka Road to South King Street	1-52	L	C	0.21	$130,010		PUC
Kapi‘olani Park	Monsarrat Ave. to Diamond Head Rd. along Pākī and Kalākaua Aves.	2-120	P	C	1.37	$1,052,505		PUC
Kapi‘olani-Wai‘alae Intersection	Kapi‘olani Boulevard to Wai‘alae Avenue	3-92	L	S	0.14	N/A		PUC
Kapolei Parkway Path (Eastern Section)	Kama‘aha Avenue (East) to Renton Road	2-54	P	C	1.33	N/A		‘Ewa
Kapolei Parkway Path (Western Section)	Ali‘inui Drive to Fort Barrette Road	2-55	P	C	2.47	N/A		‘Ewa
Kapolei Parkway*	Fort Barrette Road to Keone‘ula Blvd.	1-7	L	C	4.10	$471,500	$205,000	‘Ewa
Kapolei Villages Loop	Kūloa Street - Kumuiki Street – Kama‘aha Street Loop	3-38	R	C	1.43	$71,290		‘Ewa
Kapolei Villages Path	Kama‘aha Loop to Kama‘aha Ave.	3-39	P	C	0.13	N/A		‘Ewa
Kaua Street	Middle Street to Moanalua Gardens	3-93	L	C	0.87	$539,775		PUC
Kaukonahua Road	Weed Circle to Thomson Corner	2-97	R	C	1.14	$674,813		NS
Kawaihae Street	Kalaniana‘ole Hwy. to Hawai‘i Kai Dr.	2-39	R	C	0.90	$95,008		EH
Kawainui Levee Path	Kawainui Neighborhood Park to Kailua Road	1-19	P	S	1.25	N/A		KP
Kawainui Marsh Path (Levee to Hāmākua Dr.)	Levee Path to Makai Side of Kawainui Canal	1-20	P	S	0.26	N/A		KP
Kawainui Marsh Path (Mauka Perimeter)	Mōkapu Boulevard to Levee Path	2-85	P	S	4.58	N/A		KP
Kea‘ahala Road*	Kahekili Highway to Lilipuna Road	1-21	R	C	1.28	$63,999		KP
Keahumoa Parkway	Kualaka‘i Parkway to Fort Weaver Road	3-25	L	C	2.13	N/A		‘Ewa
Kealohanui Street	Pu‘uiki Street to Goodale Avenue	2-98	R	C	0.38	$39,778		NS
Keaunui Drive (Southern Section)	Leeward Bikeway to beginning of Keaunui Bike Path	3-40	P	C	0.43	N/A		‘Ewa
Ke‘eaumoku Street	Kapi‘olani Blvd. to Nehoa St.	2-121	R	C	1.19	$59,382		PUC
Keneke Street Greenway	Along Kamo‘oali‘i Stream	3-57	P	C	0.35	$269,045		KP
Keolu Drive*	Kalaniana‘ole Hwy. to Wana‘ao Rd.	2-86	L	C	1.46	$902,753	$72,920	KP
Keone‘ula Boulevard Extension	Coral Sea Road to Kamakana Street	2-56	P	C	1.91	N/A		‘Ewa
Kīhāpai Street	Kaha Street to Kailua Road	3-58	R	C	1.18	$125,080		KP
Kilani Avenue	Koa St. to Wahiawā Elem School	2-13	R	C	0.67	$26,643		CO

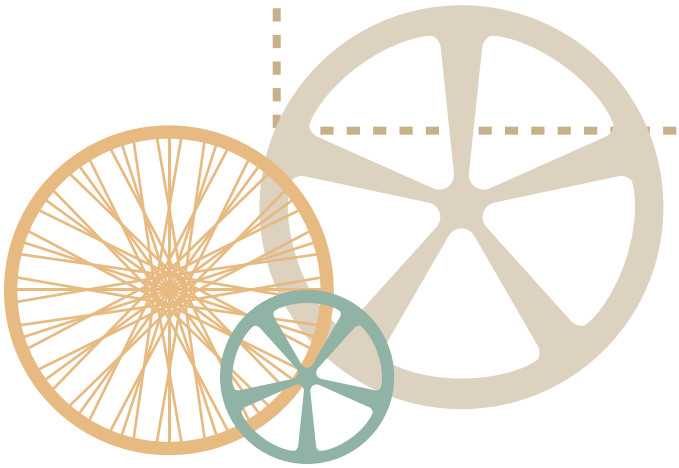
Appendix B: Alphabetical Listing of Projects (continued)								
Name	Description	Code	Type	Owner	Length (miles)	Ultimate Cost**	Interim Cost**	DP Area
Kīlauea Avenue*	Waiʻalae Ave. to Makapuʻu Ave.	1-53	R	C	1.56	$78,245		PUC
King Street (Chinatown)	King Street/Beretania Street split to River Street	3-94	L	C	0.22	$24,799		PUC
King St. (Middle Section)	River Street to South Street	2-122	L	C	0.96	$110,409		PUC
King Street (Northern Section)	Middle Street to River Street	2-123	L	C	1.97	$226,775		PUC
King Street (Southern Section)*	South Street to Kapiʻolani Boulevard	1-54	L	C	2.84	$326,469		PUC
Kinoiki Street	Kapolei Parkway to UHWO	3-41	P	S	0.61	N/A		ʻEwa
Kīpapa Gulch Pathway	Anania Drive to CO Regional Park	2-14	P	S/Pv	2.60	N/A		CO
Kōʻiʻo Drive	Aliʻinui Dr. to Farrington Hwy.	2-57	L	C	0.48	$294,721		ʻEwa
Kolekole Pass	Paʻakea Road to Trimble Road	3-129	R	F	10.43	N/A		Wai
Kuahelani Avenue	Hokuahiahi Park to Mehuela Parkway	3-6	L	C	2.20	$252,518		CO
Kuakini Street	Liliha Street to Nuʻuanu Avenue	3-95	R	C	0.40	$42,321		PUC
Kuala Street*	Kamehameha Highway to Waimano Home Road	1-55	L	C	1.02	$117,344		PUC
Kualakaʻi Parkway	H-1 Freeway to Keoneʻula Blvd.	1-8	L	S	4.37	N/A		ʻEwa
Kualakaʻi Parkway Path	H-1 Freeway to Kapolei Parkway	2-58	P	S	2.48	N/A		ʻEwa
Kūhiō Avenue*	Kalākaua Ave. to Kapahulu Ave.	1-56	R	C	1.17	$58,628		PUC
Kunia Road	ʻAnonui Street to Wilikina Drive	2-15	R	S	7.11	N/A		CO
Kupuna Loop	Kunia Road to ʻĀiki Street	2-16	R	C	0.80	$85,067		CO
Lagoon Drive	Nimitz Hwy to end	2-124	L	C	2.26	$260,096		PUC
Lāʻie Loop	Naniloa Street - Hale Laʻa Boulevard - Cane Haul Roads	2-74	R	C	3.98	$422,140		KL
Lanikūhana Avenue*	South end of Meheula to Mililani Shopping Center	1-2	R	C	2.64	$131,964		CO
PHBP Connector--LLC	Pearl Harbor Bike Path to Waiawa Road	3-7	P	C	0.63	$616,262		CO
LCC (Ala ʻIke Street)	Cane Haul Road to Waiawa Road	2-17	L	S	1.22	N/A		CO
LCC Access Road (Mauka)	Kamehameha Highway to LCC	2-18	R	S	0.27	N/A		CO
Leeward Bikeway (Phase 1)	Waipiʻo Point Access Road to Hawaiian Railroad Society Train Station	1-3	P	S	5.99	N/A		CO
Leeward Bikeway (Phase 2)	Lualualei Naval Road to Hawaiian Railroad Society Train Station	2-59	P	S	9.06	N/A		ʻEwa
Leilehua Golf Course Rd.	Kamehameha Hwy. to Wīkaʻo St.	2-19	R	C	0.27	$28,712		CO
Leokāne Street - Kaihuopalaai Street	Fort Weaver Rd. to Leowahine Street	2-20	R	C/Pv	1.64	$65,607		CO
Leokū Street	Waipahu Street to Pearl Harbor Bike Path	2-21	L	C	0.57	$65,464		CO

Appendix B: Alphabetical Listing of Projects (continued)								
Name	Description	Code	Type	Owner	Length (miles)	Ultimate Cost**	Interim Cost**	DP Area
Leowahine Street	Leokū Street to Waipahu Street	2-22	R	C/Pv	0.47	$21,200		CO
Likelike Highway	Kahekili Hwy. to Kamehameha Hwy.	2-87	R	S	0.49	N/A		KP
Liliha Street (Nuʻuanu)	H-1 Freeway to Wyllie Street	3-96	L	C	0.99	$114,097		PUC
Liliha Street (Pālama)	King Street to H-1 Freeway	3-97	L	S	0.37	N/A		PUC
Lilipuna Road	Kamehameha Highway to Kamehameha Highway	2-88	R	C	2.39	$95,780		KP
Luluku Road	Loop around Hoʻomaluhia Gardens	2-89	R	C	3.46	$173,046		KP
Lumiʻaina Street	Lumiʻauʻau St. to Kamehameha Hwy.	3-8	P	C	0.13	$102,186		CO
Lusitana Street	ʻIolani Avenue to Pauoa Road	3-98	R	C	0.55	$58,304		PUC
Lyman Road	Trimble Road to Kunia Road	3-9	R	F	2.90	N/A		CO
Māʻili to Waiʻanae (Valley Route)	Plantation – Waiʻanae Valley - Lualualei Homestead Rd. – Māʻiliʻili – Paʻakea - Lualualei Naval Rd.	1-83	R	C	9.34	$467,200		Wai
Mākaha Valley Loop	Mākaha Valley - Huipū Drive - Kili Drive	2-144	R	C	3.19	$338,586		Wai
Makaīwa Hills	Farrington Hwy. to Aliʻinui Dr.	2-60	R	C	2.25	$1,328,380		ʻEwa
Makaīwa Hills Path	North of Kō ʻOlina to Makakilo Drive	3-42	P	C	3.97	$3,883,924		ʻEwa
Makakilo Loop	Farrington Hwy. to Mekila St.	2-61	L	C	5.19	$596,387		ʻEwa
Makalani Street	Kāneʻohe Bay Drive to Kamehameha Highway	3-59	R	C	0.61	$64,735		KP
Makapuʻu Avenue*	Kīlauea Avenue to Diamond Head Road	1-57	L	C	0.27	N/A		PUC
Makuahine Street	North School St. to Kalihi Elementary School	3-99	R	C	1.58	$167,392		PUC
Malakole Street	Kalaeloa Harbor to Coral Sea Rd.	3-43	L	C	2.30	$1,421,855		ʻEwa
Manawai Street	Kamokila Boulevard to Kapolei Parkway	2-62	L	C	0.61	N/A		ʻEwa
Mango Tree Road	Leeward Bikeway to Honouliuli Path	2-63	P	C/Pv	3.20	N/A		ʻEwa
Mānoa Loop	Oʻahu Avenue to Paradise Park	2-125	R	C	4.84	$193,663		PUC
Mānoa - Makiki Mauka Corridor	Lusitana Street to Oʻahu Avenue	3-100	R	C	2.37	$251,454		PUC
Mānoa-Pālolo Stream Path	Dole Street to Kapiʻolani Boulevard	2-126	P	C	0.68	$664,404		PUC
Maunawili Loop	Kalanianaʻole Highway to Maunawili Valley	3-60	R	C	2.63	$105,113		KP
McCully Street Bridge	Bridge over H-1	2-127	L	S	0.02	--		PUC
McCully Street*	Kapiʻolani Blvd. to H-1 Freeway	1-58	L	C	0.61	$70,487	$30,646	PUC

Appendix B: Alphabetical Listing of Projects (continued)								
Name	Description	Code	Type	Owner	Length (miles)	Ultimate Cost**	Interim Cost**	DP Area
McMahon Road	Trimble Road to Wilikina Drive	3-10	R	F	2.64	N/A		CO
Meheula Parkway (Mililani Mauka)	H-2 Interchange to Kapanoe Street	2-23	L	C	1.98	$228,022		CO
Metcalf Street*	McCully Bridge to Wilder Avenue	2-128	L	C	0.18	$20,592	$8,953	PUC
Middle Street (Bridge)	Bridge over H-1 Freeway	3-101	L	S	0.05	N/A		PUC
Middle Street (Northern Section)	Kaua Street to Haumana Place	3-102	L	C	0.44	$50,210		PUC
Middle Street (Southern Section)	North King Street to Kamehameha Highway	2-129	L	C	0.46	$52,476		PUC
Moanalua Gardens	Kaua Street to Jarrett White Road	3-103	P	C	0.40	$304,968		PUC
Moanalua Road (Aiea)	Kaʻahumanu St. to ʻAiea Heights Dr.	1-60	L	C	1.87	$215,471	$93,683	PUC
Moanalua Road (Moanalua Gardens)	Āhua Street to Kaua Street	3-104	L	C	0.32	$36,623		PUC
Moanalua Road (Tripler)	Jarrett White Rd. to Ala Kapuna St.	3-105	P	C	0.60	$584,315		PUC
Moanalua Road (Pearl City)*	Hoʻomalu St. to Waimano Home Rd.	1-59	L	C	0.60	$68,543	$29,801	PUC
Mōkapu Boulevard	Kāneʻohe Bay Drive to North Kalāheo Avenue	2-90	L	S	3.35	N/A		KP
Mokauea Street	Auiki Street to North King Street	3-106	L	C	0.94	$108,574		PUC
Mokulele Drive	Kamehameha Highway to Kāneʻohe Bay Drive	3-61	R	C	1.17	$46,803		KP
Mokuola Street*	Naliʻi St. to Farrington Hwy.	2-24	L	C	0.20	$122,824	$9,921	CO
Monsarrat Avenue - Diamond Head Road*	Kapahulu Avenue to Fort Ruger Park	1-61	L	C	2.36	$1,459,960	$117,929	PUC
Nānākuli Valley Loop	Nānākuli Avenue - Nānāikalā Street - Haleakalā Avenue	3-130	R	C	2.52	$267,010		Wai
Nimitz Highway	Valkenburgh St. to Waiakamilo Rd.	3-107	L	S	4.78	N/A		PUC
Noelani Street*	Moanalua Rd. to Kaʻahumanu St.	1-62	R	C	0.72	$35,962		PUC
North Road	Fort Weaver Rd. to Iroquois Dr.	2-64	L	C	1.71	$196,629		ʻEwa
Nuʻuanu Avenue	Vineyard Street to Pali Highway	3-108	R	C	1.23	$725,242		PUC
Nuʻuanu Pali Drive	Waokanaka St. to Pali Hwy.	3-109	R	C	1.78	$188,738		PUC
Nuʻuanu Stream Path	H-1 Freeway to Kuakini Street	2-130	P	C	0.33	$323,176		PUC
Nuʻuanu Stream Path (Extension)	Nimitz Highway to Existing Nuʻuanu Stream Path	2-131	P	C	0.07	$57,310		PUC
Olai Street	Kalaeloa Blvd to Coral Sea Road	3-44	L	C	0.83	$95,794		ʻEwa
Old Kalanianaʻole Highway	Kalanianaʻole Highway to Kalanianaʻole Highway	3-62	R	C	1.73	$183,877		KP
Old Pali Road	Nuʻuanu Pali Lookout to Hairpin Turn	3-63	P	S	1.50	N/A		KP
Old Waiʻalae Road	St. Louis Heights Drive to South King Street (over H-1)	1-63	L	S	0.42	N/A		PUC
Oneawa Street	Mōkapu Road to Kuʻulei Road	2-91	R	C	1.29	$64,734		KP

Appendix B: Alphabetical Listing of Projects (continued)								
Name	Description	Code	Type	Owner	Length (miles)	Ultimate Cost**	Interim Cost**	DP Area
One‘ula Beach Park	Through One‘ula Beach Park	2-65	P	C	1.05	$805,766		‘Ewa
Pa‘ala‘a Road	Hale‘iwa Rd. to Kamehameha Hwy.	2-99	R	C	0.76	$30,542		NS
Paiwa Street	Farrington Hwy. to H-1 Freeway	2-25	L	C	1.08	$123,778		CO
Pālailai Mall	Kamokila Boulevard to Leeward Bike Path	2-66	P	Pv	0.93	N/A		‘Ewa
Pali Highway (Lower Nu‘uanu Valley)	Nu‘uanu Ave to Waokanaka Street	3-110	R	S	1.31	N/A		PUC
Pali Highway (Middle Nu‘uanu Valley)	Waokanaka St. to Nu‘uanu Pali Drive	3-111	R	S	1.69	N/A		PUC
Pali Highway (Punchbowl)	Central Middle School to Wyllie Street	3-112	R	C	1.57	$929,483		PUC
Pali Highway (Upper Nu‘uanu Valley)	Nu‘uanu Pali Drive to Pali Tunnel	3-113	R	S	1.60	N/A		PUC
Pali Highway (Windward)	Kamehameha Hwy. to Pali Tunnel	3-64	R	S	1.75	N/A		KP
Pali Lookout Access Road	Pali Highway to Pali Lookout	3-114	R	S	1.57	N/A		PUC
Pālolo Loop (10th Ave)*	Alohea Ave and 10th Ave to Pālolo Place	1-64	R	C	2.62	$131,237		PUC
Pālolo Loop (Pālolo Ave)*	Alohea Ave / 10th Ave Intersection to Pālolo Place	1-65	R	C	2.83	$141,643		PUC
Pāpipi Keone‘ula Connector	Pāpipi Road to Keone‘ula Boulevard	3-45	L	C	1.10	N/A		‘Ewa
Pāpipi Road	Fort Weaver Road to One‘ula Beach Park	2-67	R	C	0.87	$91,805		‘Ewa
Pauoa Road	Lusitana Street to Kapalu Street	3-115	R	C	0.55	$21,989		PUC
Pearl Harbor Bike Path (Rainbow Bay)	Kamehameha Highway to Arizona Memorial	2-132	P	S	0.75	N/A		PUC
Pensacola Street*	Waimanu St. to Wilder Ave.	1-67	R	C	1.05	$52,601		PUC
PHBP Connector - Hekaha Street*	Kamehameha Highway to Pearl Harbor Bike Path	1-68	L	C	0.09	$10,542		PUC
PHBP Connector - Kanuku Street*	Kamehameha Highway to Pearl Harbor Bike Path	1-69	L	C	0.05	$6,305		PUC
PHBP Connector - Pearl Ridge Transit Station	Kamehameha Highway to Pearl Harbor Bike Path	2-133	L	C	0.09	$10,036		PUC
PHBP Connector at Lehua Avenue*	Kamehameha Highway to Pearl Harbor Bike Path	1-66	L	C	0.34	$38,931	$16,927	PUC
PHBP Connector at Pearl Kai Center	Kamehameha Highway to Pearl Harbor Bike Path	3-116	P	C	0.16	$125,348		PUC
Pi‘ikoi Street*	Ala Moana Blvd. to Wilder Avenue	1-70	R	C	1.20	$59,881		PUC
Plantation Road (E-W Connection)	Kapolei Parkway to Essex Road	3-46	L	C	0.62	$381,860		‘Ewa
Pohauapuna Road	Pāpipi Road to Fort Weaver Road	3-47	R	C	0.87	$92,232		‘Ewa

Appendix B: Alphabetical Listing of Projects (continued)								
Name	Description	Code	Type	Owner	Length (miles)	Ultimate Cost**	Interim Cost**	DP Area
Portlock - Lunalilo Home Road	Kalaniana‘ole Highway to Lunalilo Home Road	2-40	R	C	0.81	$32,361		EH
Pua‘ina Street	Makalani St. to Castle High School	3-65	R	C	0.43	$45,843		KP
Pūkōloa Street	Āhua St. to Salt Lake Blvd.	3-117	L	C	0.27	$30,514		PUC
Punchbowl Street	Nimitz Hwy. to Vineyard Blvd.	3-118	L	C	0.85	$98,302.61		PUC
Pūpūpuhi Street	Waipahu Street to Pearl Harbor Bike Path	3-11	L	C	0.52	$59,885		CO
Pu‘uiki Street	Waialua Beach Rd. to Kealohanui St.	2-100	R	C	0.56	$333,072		NS
Pu‘uloa Road	Salt Lake Blvd. to Mahiole St.	3-119	L	C	0.54	$62,500		PUC
Queen Street*	Fort Street Mall Path to Pi‘ikoi Street	1-71	R	C	1.63	$81,609		PUC
Queen's Beach Trail (North Section)	Kalākaua/Monsarrat Intersection to Natatorium	2-134	P	C	0.38	$12,186		PUC
Queen's Beach Trail (South Section)*	Beach Trail to Kalākaua Avenue (at Natatorium)	1-72	P	C	0.07	$50,809		PUC
Radford Drive	Bougainville Drive to Kamehameha Highway	2-135	L	C	0.24	$27,433		PUC
Radford Drive - Valkenburgh Street	Bougainville Drive to Kamehameha Highway	3-120	L	C	0.95	$108,727		PUC
Red Hill	Icarus Way to Ulune Street	3-121	P	C	1.01	$990,361		PUC
Renton Road	Fort Weaver Road to Arizona Road to Roosevelt Avenue	2-68	R	C	2.57	$272,477		‘Ewa
River Street	Nimitz Hwy. to Beretania St.	2-136	R	C	0.22	$8,786		PUC
Royal Kunia Loop	Loop from ‘Anonui Street to Royal Kunia Golf Course	2-26	L	C	1.65	$189,907		CO
Salt Lake Boulevard	Kamehameha Hwy. to Ala Lilikoi St.	2-137	L	C	2.54	$355,795		PUC
Saratoga Road (Extension)	Kalaeloa Road to Geiger Road	2-69	L	C	4.32	$497,330		‘Ewa
Saratoga Road*	Kālia Road to Kalākaua Avenue	1-73	R	C	0.27	$13,586		PUC
School Street*	‘Iolani Avenue to Middle Street	1-74	R	C	2.68			PUC
South Street	Ala Moana Blvd. to Beretania Street	2-138	L	C	0.78	$70,912		PUC
Spencer Street	Alapa‘i Street to Wilder Avenue	3-122	L	C	0.51	$59,079		PUC
Makalena Golf Course Stream Path	Pearl Harbor Bike Path to Waipahu Street	2-27	P	C	0.94	$915,101		CO
Tantalus Loop	Makiki Street - Makiki Heights Dr - Tantalus - Round Top	2-139	R	C	9.57	$382,733		PUC
Thomas Square Park*	Victoria Street to Ward Avenue	1-75	P	C	0.11	N/A		PUC
UH West Oahu Development	UHWO Development Bike Ways	2-70	L	S	3.96	N/A		‘Ewa
Ulune Street	‘Aiea Heights Drive to Hālawa Valley Street	3-123	L	C/S	1.16	$133,353		PUC
Uluohia Street	Kamokila Blvd. to Kama‘aha Avenue	2-71	L	C	0.27	N/A		‘Ewa

Appendix B: Alphabetical Listing of Projects (continued)								
Name	Description	Code	Type	Owner	Length (miles)	Ultimate Cost**	Interim Cost**	DP Area
University Avenue*	Dole Street to Maile Way	1-76	L	C	0.36	$41,302		PUC
Varsity Place*	University Avenue to Lower Campus Road	1-77	R	C	0.27	N/A		PUC
Victoria Street	Beretania Street to King Street	3-124	L	C	0.13	$15,482		PUC
Waiʻanae Coast Path	Lualualei Naval Road to Kili Drive	1-84	P	S/C	8.16	N/A		Wai
Waiaka Road-Kuilei Street	Waiʻalae Avenue / King Street Connection	1-78	R	C	0.41	$43,901	$20,708	PUC
Waiʻalae Avenue (Eastern Section)*	11th Avenue to 17th Avenue	1-79	R	C	0.49	$24,592		PUC
Waiʻalae Avenue (H-1 Viaduct)	18th Avenue to ʻĀinakoa Avenue	1-80	L	S	0.89	N/A		PUC
Waiʻalae Avenue (Western Section)*	Kapahulu Avenue to 11th Avenue	1-81	L	C	0.91	$565,955		PUC
Waihona Street	Cane Haul Road Bike Path to Kamehameha Hwy. Bike Lanes	3-125	L	C	0.37	$42,626		PUC
Waikele Magazine Access Road	Naval Access Road running Mauka from Waipahu Street	3-12	P	C	0.16	$152,166		CO
Waikele Stream Path	Pearl Harbor Bike Path to Kapakahi Stream Path	2-28	P	C	0.64	$629,232		CO
Wailehua Road	Wailehua - Ahilama – Waiheʻe	3-66	R	C	1.13	$119,713		KP
Wailua Street*	Hawaiʻi Kai Dr. to Lunalilo Home Rd.	1-6	L	C	0.37	$41,977		EH
Waimānalo District Park	Kamehameha Hwy. to Hīhīmanu St.	3-67	R	C	0.41	$43,032		KP
Waimānalo Loop	Kumuhau - Waikupanaha - Ahiki - Hīhīmanu – Pōʻalima – ʻOluʻolu Sts.	2-92	R	C	4.69	$234,688		KP
Waimano Home Road	Kamehameha Highway to Komo Mai Drive	2-140	L	C	1.25	$144,049		PUC
Waipahe Place	Aliʻinui Drive to Kō ʻOlina Marina	2-72	R	C/Pv	0.33	$13,279		ʻEwa
Waipahu Cane Haul Road (North)	Waipahu Street to Waihona Street	3-13	P	C/Pv	2.35	N/A	N/A	CO
Waipahu Cane Haul Road (South)	Waipahu Street to Waipiʻo Point Access Road	2-29	P	C/Pv	1.16	N/A	N/A	CO
Waipahu Cane Haul Road (West)	Naval Access Road to Waipahu Street	2-30	P	C	1.18	$905,574		CO
Waipahu Street	Kunia Rd. to Kamehameha Hwy.	3-14	L	C	3.06	$1,893,733	$152,967	CO
Waipiʻo Park Path (Eastern Section)	Waipiʻo Pt. Access Road to End of Waipiʻo Park Road	2-31	P	C	0.55	$426,604		CO
Waipiʻo Park Path (Western Section)	Connecting Pearl Harbor Bike Path to Western Terminus of Waipiʻo Park Road	2-32	P	C	0.75	$732,966		CO
Waipiʻo Point Access Road (Northern Section)	Pearl Harbor Bike Path to Farrington Highway	3-15	P	C	0.40	$305,787		CO
Waipiʻo Point Access Road (Southern Section)*	Pearl Harbor Bike Path to Waipiʻo Soccer Park	1-4	P	C	0.72	N/A		CO
Wākea Street	Kapolei Parkway to Saratoga Ave.	2-73	L	C	0.74	N/A		ʻEwa

Appendix B: Alphabetical Listing of Projects (continued)								
Name	Description	Code	Type	Owner	Length (miles)	Ultimate Cost**	Interim Cost**	DP Area
Wanaʻao Road*	Kailua Road to Keolu Drive	1-22	R	C	0.85	$42,545		KP
Ward Avenue	Ala Moana Blvd. to Prospect St.	2-141	R	C	1.16	$57,911		PUC
Waterfront Park	UH Medical School to Ala Moana Shared Use Path	2-142	P	S	0.71	N/A		PUC
Wilder Avenue	Dole Street to Spencer Street	2-143	L	C	1.20	$138,377		PUC
Wilikina Drive	Kamananui Road to Kamehameha Highway	3-16	R	S/C	2.16	N/A		CO
Wyllie Street	Liliha Street to Nuʻuanu Avenue	3-126	L	C	0.26	$30,434		PUC
Young Street*	Pensacola St. to Isenberg St.	1-82	L	C	1.40	$864,784		PUC