



Downtown Hilo MULTIMODAL MASTER PLAN

Final
APRIL 2018

PREPARED FOR:
COUNTY OF HAWAII PLANNING DEPARTMENT

PREPARED BY:
SSFM INTERNATIONAL, INC.

WITH ASSISTANCE FROM:
WESLIN CONSULTING SERVICES, INC
MARINE & COASTAL SOLUTIONS INTERNATIONAL
PROJECT FOR PUBLIC SPACES
BLUE ZONES

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Announcing the Downtown Hilo Multimodal Master Plan

Aloha! The County of Hawai'i is pleased to present the **Downtown Hilo Multimodal Master Plan**. This document represents a collection of ideas and solutions generated through a three year context sensitive solutions process of study and collaboration. Hundreds of Hilo residents, organizations, and agencies participated in discussions and events to come up with the concepts presented herein, with the collective goal of making Downtown Hilo a more vibrant, walkable and bike friendly community for people of all ages and abilities. The Plan identifies projects and solutions that honor the past while enhancing the qualities that make Downtown Hilo special – its historic character, proximity to the Bayfront, and world-renowned destinations.

The recommendations included in the Plan can serve as guidelines to help the County identify and support projects that are important to the community, while remaining flexible, opportunistic, and adaptable to future conditions and feasibility. Like this Plan's development, implementation should be a collaborative and iterative process involving many partners. Implementing agencies will include the County's Department of Public Works, Planning Department, Parks and Recreation, Mass Transit Agency, and State Department of Transportation, all of whom were instrumental in developing this Plan. These agencies will continue to work together to refine the DHMMP's conceptual recommendations through further study and design.

The County of Hawai'i would like to extend a special *Mahalo* to everyone who contributed to this Plan, and we celebrate this achievement together with you. Mahalo to the County's Planning Department and consultants for leading the effort, to the members of the DHMMP Connector's Forum, and to all those who participated and shared your mana'o. We look forward to continuing to work together toward a Downtown Hilo that is vibrant, safe, and inviting to all.

Mayor Harry Kim

Allan G. Simeon, P.E., Public Works Director

Michael Yee, Planning Director

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LIST OF ACRONYMS

AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act
App	Online Application
BID	Business Improvement District
CAC	Community Advisory Committee
CDH	Commercial Downtown Hilo
CDP	Census-Designated Place
DHCC	Downtown Hilo Commercial Core
DHMMP	Downtown Hilo Multimodal Master Plan
DHS	Department of Human Services
DOT	Department of Transportation, State of Hawai'i
DPW	Department of Public Works, County of Hawai'i
EDH	EnVision Downtown Hilo
FEMA	Federal Emergency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
GPS	Global Positioning System
HRS	Hawai'i Revised Statutes
LOS	Level of Service
MAP-21	Moving Ahead for Progress in the 21 st Century
MCSI	Marine Conservation Science Institute
MTA	Mass Transit Agency, County of Hawai'i
NOAA	National Oceanic and Atmospheric Administration
PATH	People's Advocacy for Trails Hawai'i
ROW	Right of Way
SMA	Special Management Area
TAC	Technical Advisory Committee
TAP	Transportation Alternatives Program
UH	University of Hawai'i
vpd	vehicles per day
YWCA	Young Women's Christian Association
ZIZO	Zoom In Zoom Out

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EXECUTIVE SUMMARY

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EXECUTIVE SUMMARY

OVERVIEW AND BACKGROUND

In 2005, the Hawai'i County Council adopted the *EnVision Downtown Hilo 2025: A Community-Based Vision and Living Action Plan* (EDH 2025). The EDH 2025 Plan serves as a guide for planning in Downtown Hilo and it establishes the strategies and actions for creating an environment that is sustainable, livable and attractive to its residents, workers, and visitors. Action 6.11 of the EDH2025 Plan calls for the "development of a master plan to include traffic circulation, parking, and pedestrian streetscape." This Downtown Hilo Multimodal Master Plan (DHMMP) fulfills this action item and furthers many other actions identified in EDH 2025.

The DHMMP proposes a significant shift in thinking about how people utilize and move through Downtown Hilo, one that considers and accommodates people of all abilities, whether traveling on foot, riding bicycles, using transit, or traveling by car. This multimodal approach is consistent with best practices in transportation planning that employ principles of "Complete Streets." The County of Hawai'i has adopted a Complete Streets policy and is in the process of developing County-wide Complete Streets design standards for all roads. The recommendations contained in the DHMMP arose out of an extensive public engagement process, as well as consultations with numerous County and State agencies.



The East Hawai'i Cultural Center is one of Downtown's notable historic buildings

Downtown Hilo is an ideal neighborhood for applying Complete Streets principles. It is already a destination and gathering place. Its compact size, small blocks lined with historic buildings, and frontage on Hilo Bay make it an attractive place for residents to enjoy walking and bicycling.

The current situation in Downtown Hilo include street design that prioritizes vehicle traffic, and the resulting use of Downtown streets as through-ways to other parts of the island. One-way circulation patterns result in vehicles circling blocks to reach destinations or find parking, to the detriment of pedestrian comfort and safety. Downtown streets lack bicycle lanes, making it intimidating for all but experienced cyclists to bike Downtown.

Parking is perceived as scarce, however there are ample areas available within a 5 to 10 minute walk of the Downtown core that could accommodate needs with improved wayfinding and parking management. Homelessness and vagrancy is also an issue that detracts from safety and enjoyment of public spaces and needs to be addressed through appropriate lighting, security, and improvements.

The DHMMP recommends improvements to road design and circulation, pedestrian amenities, bicycle facilities, transit, parking, and streetscape to further elevate Downtown Hilo's vibrancy and enhance safety. This will invite increased activity that will stimulate Downtown businesses and encourage more desirable uses. The recommended improvements are high-level concepts, and will be subject to further study and analysis to determine feasibility and final design.

ORGANIZATION OF THE PLAN

The DHMMP includes five chapters. The contents of each are summarized below.

CHAPTER 1 – INTRODUCTION

Chapter 1 describes the purpose and need for the DHMMP, and relates it to current and prior efforts. It provides background on the adoption of Complete Streets in Hawai'i Island and its benefits. It includes a description of the timeline for the project and the community engagement process that was undertaken to develop the DHMMP. Maps are included that show the study area boundary for the project.

CHAPTER 2 – VISION, GUIDING PRINCIPLES, & ORGANIZING THEMES

The vision for the DHMMP is that which is presented in EnVision Downtown Hilo 2025. It is reproduced in Chapter 2, along with a set of guiding principles that were developed to direct the DHMMP process.

The public process for the DHMMP led to a series of eight observations and points of consensus that build upon the vision and guiding principles to become fundamental organizing themes. The organizing themes drive the DHMMP's recommendations and priorities, if followed they would produce a comprehensive Downtown network that is walkable, bike friendly, and connected to key destinations within Downtown. They would also provide connections to attractions just outside Downtown Hilo, places such as UH Hilo, Hilo Bay, and Hilo Harbor.

CHAPTER 3 – EXISTING CONDITIONS AND DATA

Chapter 3 describes the context of Downtown Hilo. It summarizes the existing data and reference documents that were reviewed as part of the DHMMP process. It includes a description of the Project Team's comprehensive review of existing plans and policies related to Downtown Hilo (further detailed in Appendix C). Existing data that was analyzed included current and historical data on traffic volumes, and accident information for vehicles, bicycles and pedestrians. The Project Team undertook several additional data collection activities, including a parking demand study, parking turnover study, and traffic impact analysis. The findings of these activities are included in Chapter 3.



A wide path used by pedestrians in Downtown Hilo.

CHAPTER 4 – TRANSPORTATION COMPONENTS

Chapter 4 presents the DHMMP recommendations. These are organized into six transportation components. The individual projects and improvements identified in each component inter-relate to form a cohesive set of changes that will enliven Downtown Hilo. Under each component there is a discussion of existing issues, alternatives considered, community input received, followed by recommendations. The components and the associated solutions addressed by recommendations are shown below.

<i>Component</i>	<i>Elements Addressed</i>
<i>Circulation Component:</i>	- Multimodal and vehicular circulation patterns - Streets designated for different uses and priority modes identified - Street design (lane widths and cross-sections, one-way versus two way) - Traffic calming measures and appropriate “target speeds” - New roadway connections to increase connectivity - Intersections to serve as gateways, slow traffic entering Downtown, and direct through traffic to peripheral roads - Safe crossings and protected travelways for pedestrians and bikes
<i>Pedestrian Component:</i>	- Improvements to the pedestrian environment such as widened sidewalks, corner curb extensions, lighting, awnings. - Safe pedestrian crossings within Downtown and to the Bayfront - Promenade with outdoor dining, a pedestrian plaza, and parklets for gathering places - Improved accessibility of sidewalks and curb ramps
<i>Bicycle Component:</i>	- Connections between Downtown and key destinations to contribute to a regional bikeway network - Street-specific bicycle improvements including multi-use paths, bike lanes - Bike racks, corrals, and storage - Bike rental/sharing stations
<i>Parking Component</i>	- Parking management and optimization of available space for short-term and long-term usage - Designated areas for on and off-street public parking - Locations appropriate for future parking structure(s) - Remote parking solutions for employees and commuters - Education, enforcement, and wayfinding
<i>Transit Component</i>	- Strategies, routes, and vehicle options for a Downtown shuttle - New transit stop locations to increase accessibility and usage - Wayfinding signage and amenities at transit stops - Mobile technology to make transit more user-friendly
<i>Streetscape Component</i>	- Green infrastructure solutions for drainage, stormwater retention (for example permeable paving, rain gardens) - Appropriate landscaping, urban gardening, and street trees for enhanced aesthetics, increased shade, and natural spaces - Street treatments and gateways to aesthetically set apart different areas - Style guidelines for Downtown Hilo

CHAPTER 5 – IMPLEMENTATION & PHASING

Chapter 5 discusses recommendations and strategies for policies, funding, and partnerships to implement the DHMMP's recommended actions. It identifies lead agencies and opportunities for agency and public-private partnerships. Conceptual maps for a phasing program are included.

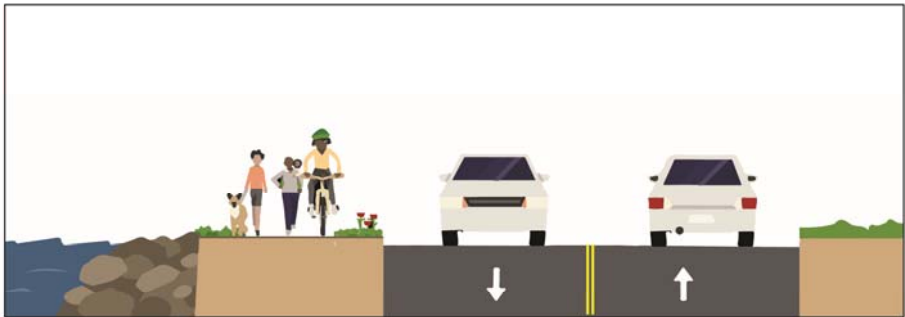
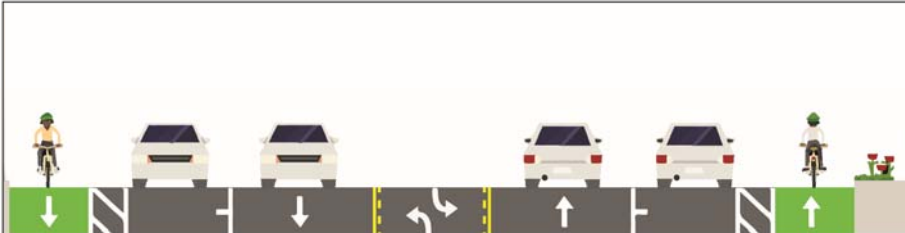
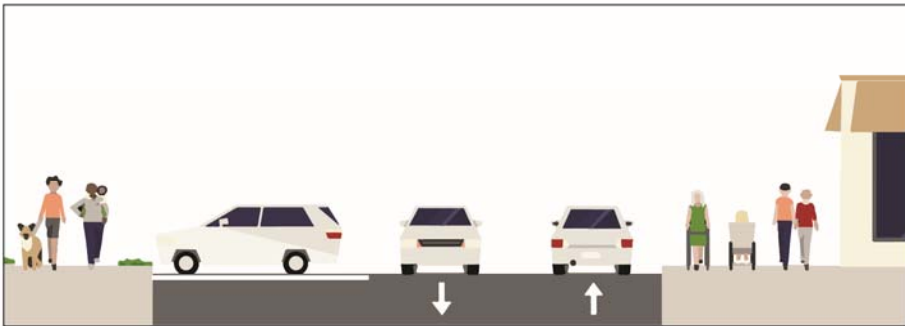


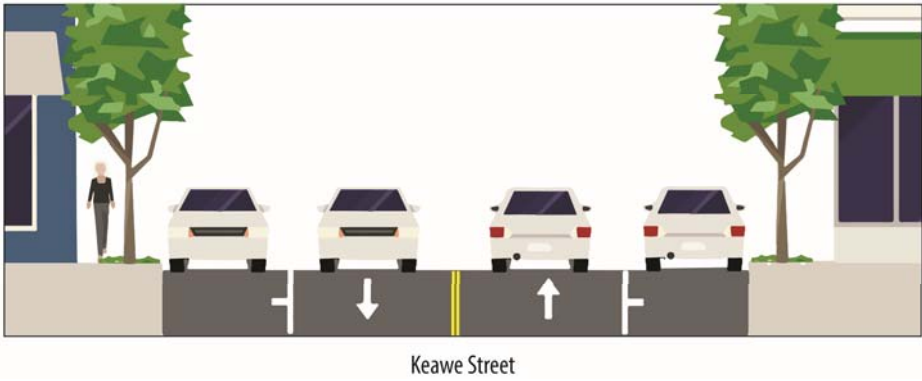
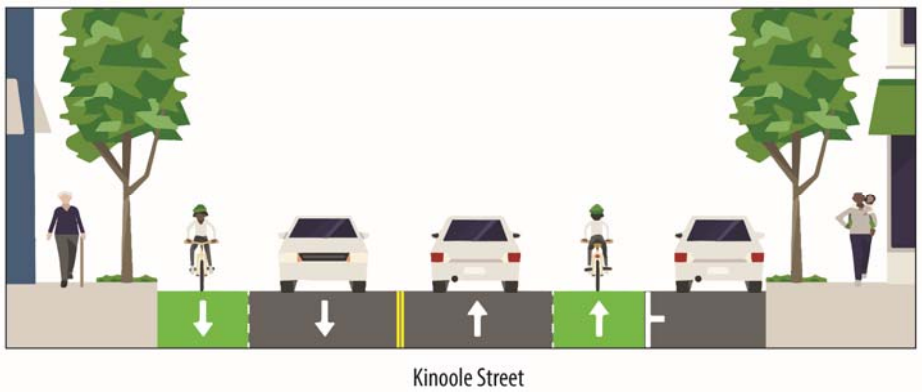
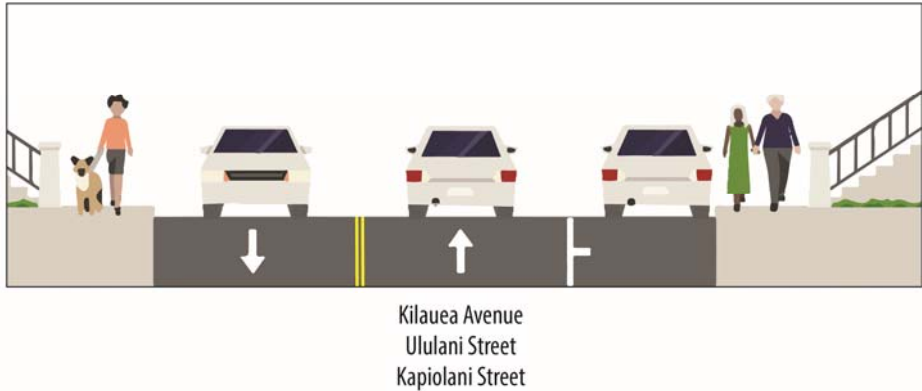
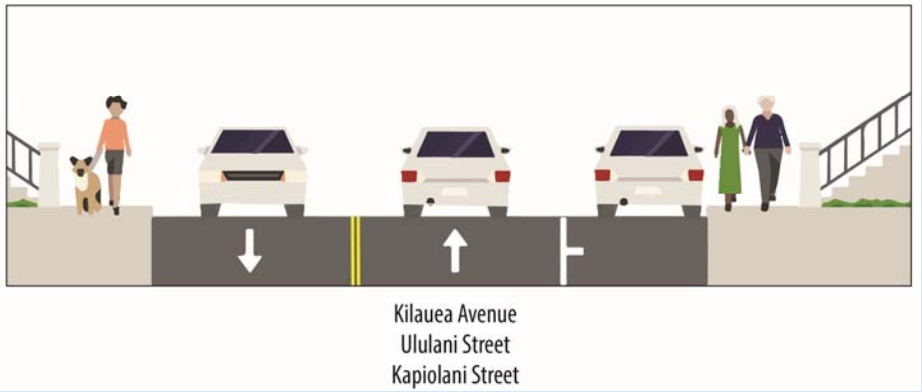
Existing streetscape along Keawe Street looking north toward Shipman Street

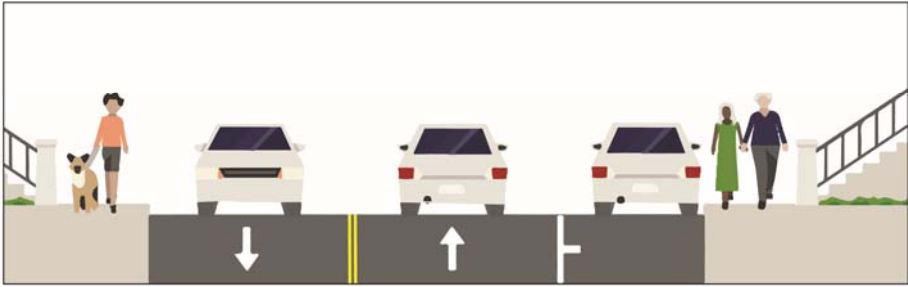
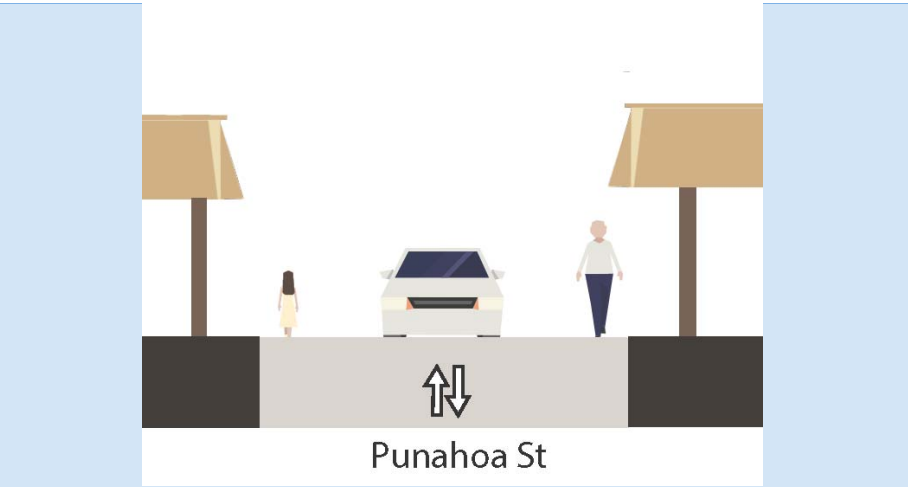
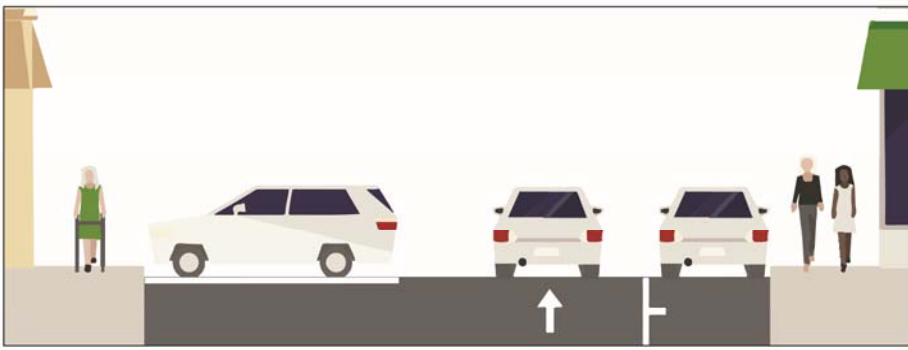
SUMMARY OF RECOMMENDATIONS

The Tables below summarize the proposed recommendations contained in the DHMMP by location.

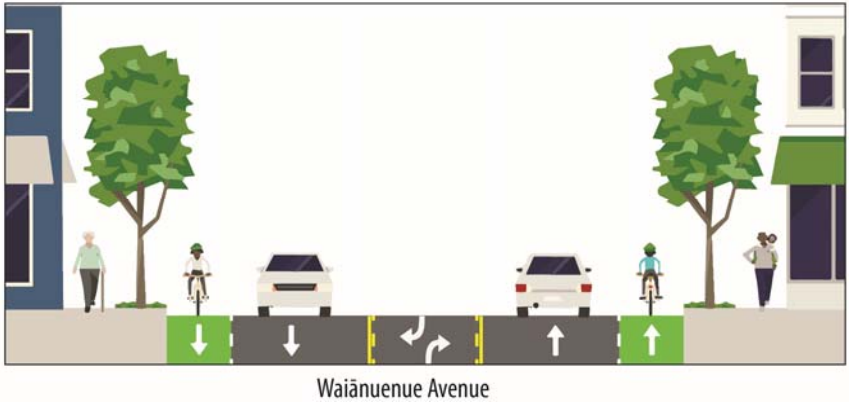
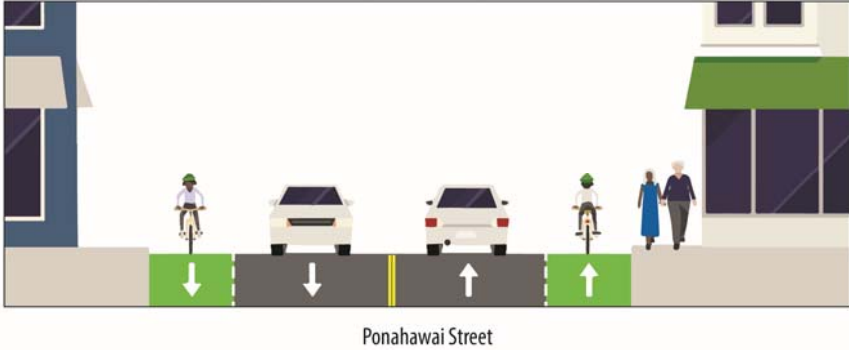
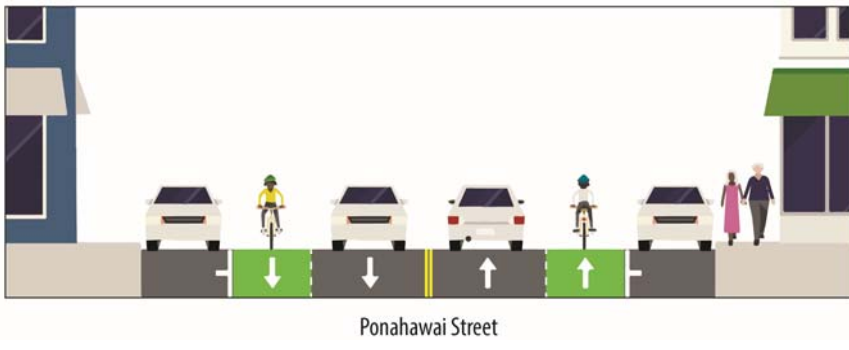
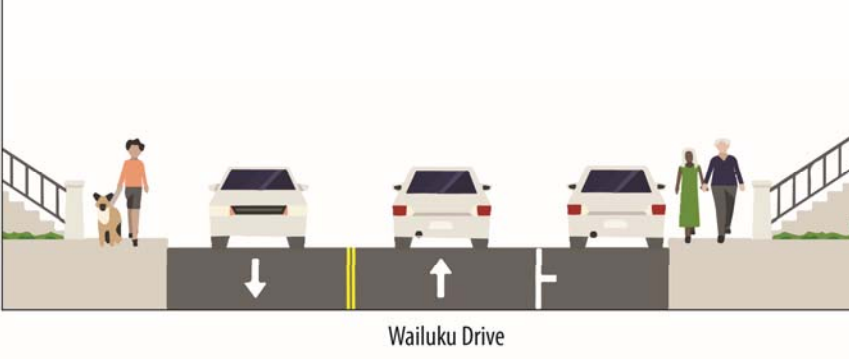
PROPOSED IMPROVEMENTS TO NORTH-SOUTH STREETS

LOCATION	CIRCULATION	PEDESTRIAN	BICYCLE	PARKING	TRANSIT	STREETSCAPE	CONCEPTUAL CROSS-SECTION
Bayfront Highway	Roundabout, crossings, and lane reduction (3 to 2) at Waiānuenue; new intersection at Ponahawai	Shoreline shared use path (makai side) Crossings at Waiānuenue and new Ponahawai intersection	Shoreline shared use path (makai side)	No change	No change	Landscaping and wayfinding along shoreline shared use path	 Bayfront Highway
Kamehameha Avenue	Road Diet: 4 to 2 lanes, center median, roundabout at Haili, Waianuenue, and Ponahawai	Widen sidewalks Add curb extensions	Bike lanes (2 sides)	Add parallel on-street parking (both sides)	Downtown Shuttle route (to proposed remote parking lot)	Street trees Gateway feature at Ponahawai Roundabout Landscaping in medians	 Kamehameha Avenue
Frontage Road	Convert from one-way to two-way	Pedestrian promenade with “Festival Street” treatments cultural trail, curb extensions	Bike corrals and parking Bike share stations	Angled parking, one side	No change	Themed landscaping, sidewalk dining, banners, lighting, bollards for street closure, special paving, etc.	 Frontage Road

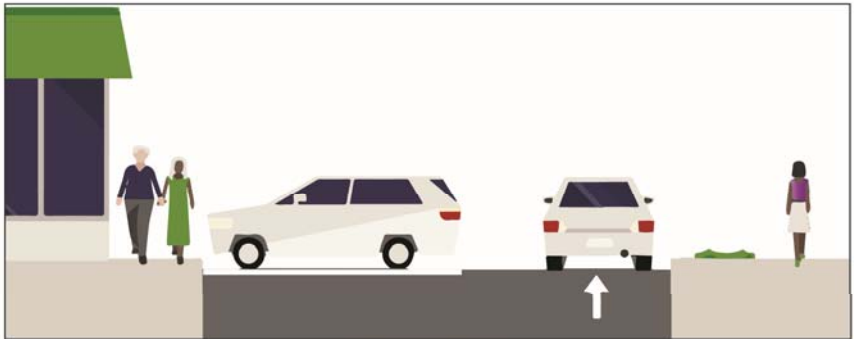
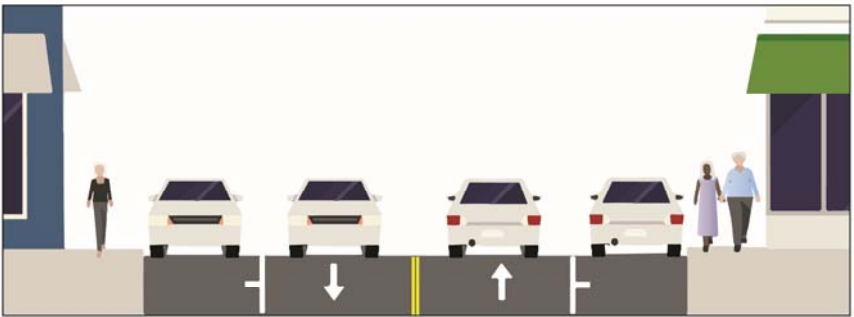
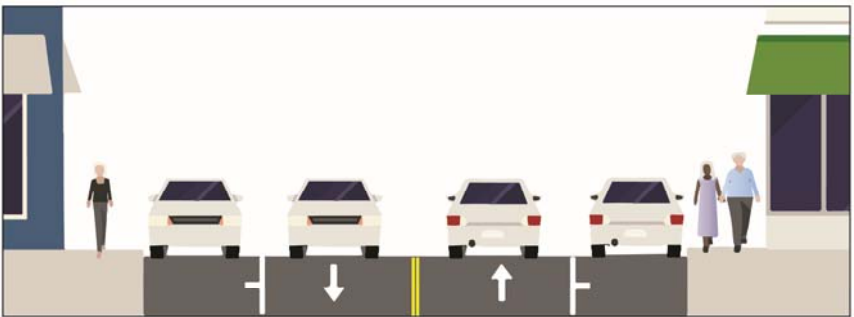
LOCATION	CIRCULATION	PEDESTRIAN	BICYCLE	PARKING	TRANSIT	STREETScape	CONCEPTUAL CROSS-SECTION
Keawe St (and Portion of Kīlauea St between Mamo and Ponahawai)	Convert from one-way to two-way Close a portion of Kīlauea at Mamo to create pedestrian plaza	“Main Street” treatment; wide sidewalks, awnings, parklets, curb extensions; Pedestrian plaza at Mamo Triangle	Sharrows Bike corrals and parking	Parallel on-street parking, two sides (Keawe and Kīlauea between Mamo and Ponahawai). New parking lots at Haili, Armory (possible structure)	Downtown shuttle stops (3)	Street trees, landscaping, gateways, pedestrian scale street lighting, banners/planters	 Keawe Street
Kino’ole St	Convert from one-way to two-way Roundabout at Wailuku Drive	Curb extensions	Bike lanes (two sides) Bike route Bike parking	Parallel on-street parking, one side	Downtown Shuttle route (Stage 2), between Waiānuenue Ave and Wailuku Dr only	Street trees Landscaping and green infrastructure in curb extensions	 Kinoole Street
Kīlauea St (between Haili and Mamo)	Convert from one-way to two-way	Complete sidewalks, parklets	No change	Parallel on-street parking, one side (Kīlauea between Haili and Mamo)	No change	No change	 Kīlauea Avenue Ululani Street Kapiolani Street
Ululani St	Convert from one-way to two-way Extension between Haili and Waianuenue New intersection at Mamo	Complete sidewalks	No change	Parallel on-street parking, one side	No change	No change	 Kīlauea Avenue Ululani Street Kapiolani Street

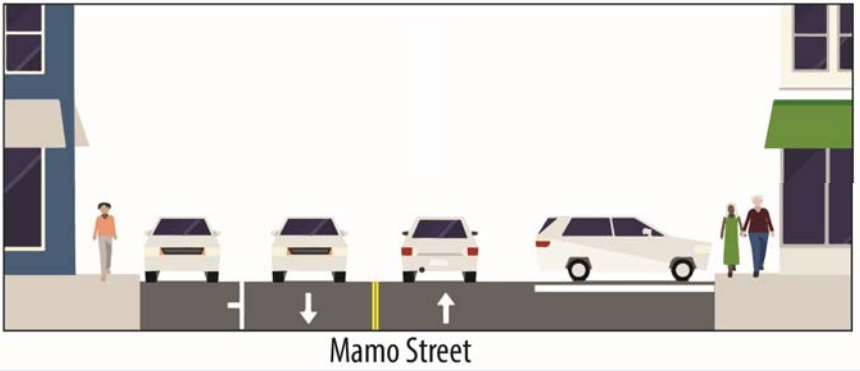
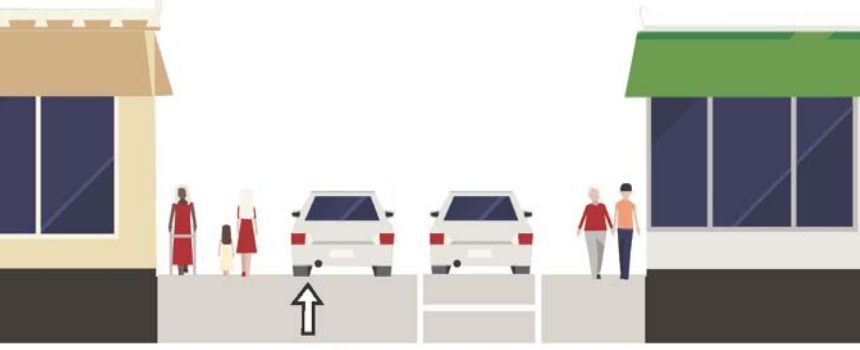
LOCATION	CIRCULATION	PEDESTRIAN	BICYCLE	PARKING	TRANSIT	STREETSCAPE	CONCEPTUAL CROSS-SECTION
Kapi'olani St	No change	Curb extensions Cultural Trail	Bike route Sharrows	Parallel on-street parking, one side	No change	Landscaping and green infrastructure in curb extensions Cultural Trail markers and wayfinding	 Kilauea Avenue Ululani Street Kapiolani Street
Punahoa St	No change	"Shared Street" designation with pedestrian priority Parklets, sidewalks	Shared street	None (loading only)	No change	Shared Street features	 Punahoa St
Kekaulike St	No change	Cultural Trail	No change	Parallel on-street parking, one side Angled parking, one side	No change	Cultural Trail markers and wayfinding	 Kekaulike Street

PROPOSED IMPROVEMENTS TO EAST-WEST STREETS

LOCATION	CIRCULATION	PEDESTRIAN	BICYCLE	PARKING	TRANSIT	STREETScape	CONCEPTUAL CROSS-SECTION
Waiānuenue Avenue	Lane reduction (3 to 2) from Kino’ole to Kapi’olani* Consider removing AM counterflow	Cultural Trail Curb extensions at Kamehameha	Bike Lanes Corrals and parking	On-street parking removed	Downtown shuttle route	Cultural Trail markers and wayfinding Landscaping and green infrastructure in curb extensions	 Waiānuenue Avenue
Ponahawai St	Extension to Bayfront Highway Roundabouts at Kīlauea, Kamehameha and Bayfront	Bayfront Trail extension Curb extensions	Bike lanes Bike share Corrals and parking	New lot (possible structure) on Ponahawai and Beckley Ln. New lots adjacent to Bayfront extension	Downtown shuttle route and stop (1)	Street trees and landscaping Gateway features at roundabouts Landscaping and green infrastructure in curb extensions	 Ponahawai Street
							 Ponahawai Street
Wailuku Dr	Convert from one-way to two-way Reduce from 3 to 2 lanes between Kino’ole and Ululani	Wailuku River Trail Curb extensions Sidewalks	Bike lanes (between Kino’ole and Ululani)	Parallel on-street parking, one side Lot at corner of Keawe (possible structure)	Downtown shuttle route (Stage 2), between Kino’ole and Wainaku Streets only	Wayfinding and signage for Wailuku River Trail Landscaping and green infrastructure in curb extensions	 Wailuku Drive

*As this document was finalized, Waiānuenue Avenue was reconfigured consistently with this recommended lane reduction.

LOCATION	CIRCULATION	PEDESTRIAN	BICYCLE	PARKING	TRANSIT	STREETScape	CONCEPTUAL CROSS-SECTION
Shipman St	No change	No change	No change	Angled parking, one side New public parking lot at Keawe	No change	No change	 Shipman Street
Kalākaua St	Convert from one-way to two-way	“Shared Street” designation with pedestrian priority designation from Kamehameha to Keawe Parklets Curb extensions	Shared street Bike parking	No change	No change	Parklets, Cultural Trail markers and wayfinding Landscaping & green infrastructure in curb extensions Shared street features	 Kalakaua Street Haili Street
Haili St	Roundabouts at Kamehameha and Frontage Road	“Shared Street” pedestrian priority designation from Kamehameha to Keawe Parklets Curb extensions	Shared Street Bike route Corrals and parking	New public parking in vacant lots and at corner of Keawe	No change	Shared street features Parklets Landscaping and green infrastructure in curb extensions	 Kalakaua Street Haili Street

LOCATION	CIRCULATION	PEDESTRIAN	BICYCLE	PARKING	TRANSIT	STREETScape	CONCEPTUAL CROSS-SECTION
Mamo St	Pedestrian plaza at Mamo Triangle Extend Mamo St from Kino'ole to Ululani St.	"Shared Street" pedestrian priority designation from Kamehameha to Keawe Widen sidewalks Curb extensions	Shared street Bike share Bike parking	Changing from parallel to angled on one side	No change	Street trees and landscaping Shared street features Landscaping and pedestrian amenities at Mamo Triangle Landscaping and green infrastructure in curb extensions	 Mamo Street
Furneaux Ln	No change	"Shared Street" pedestrian priority designation from Kamehameha to Keawe Parklets Curb extensions	Shared street Bike parking	Parallel parking one side only	No change	Street trees and landscaping Shared street features Parklets Landscaping and green infrastructure in curb extensions	 Furneaux St

PART ONE: INTRODUCTION AND BACKGROUND

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1.0 INTRODUCTION

This Introduction describes the process and current and prior efforts leading to the preparation of the *Downtown Hilo Multimodal Master Plan* (DHMMP or Plan). It provides an overview of the Plan development process and describes how the Plan is organized.

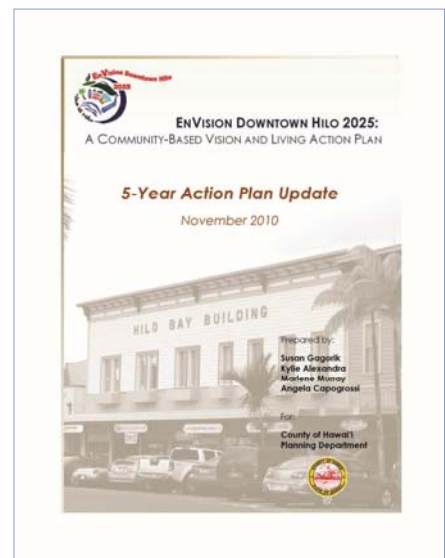
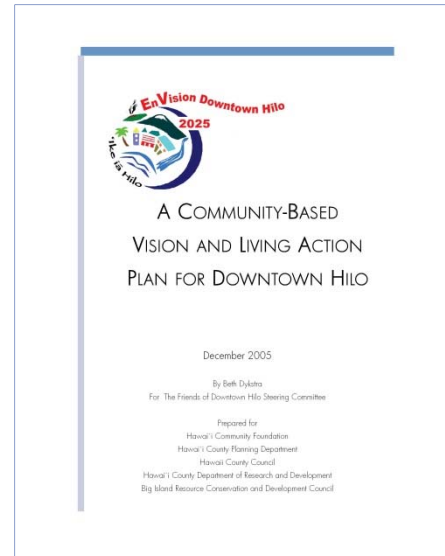
1.1 PURPOSE AND NEED FOR THE PLAN

Downtown Hilo is an important gathering place and destination on Hawai'i Island for residents and visitors. Its historic buildings, compact grid network, scenic location, and cultural destinations are valuable assets for a welcoming, walkable environment. The Downtown Hilo Multimodal Master Plan focuses on strengthening these assets through improvements to Downtown Hilo's transportation network and streetscape. It also addresses connectivity between Downtown and key destinations such as UH Hilo, Hilo Bay, and Hilo Harbor. Planning efforts in Hilo have long called for this, as discussed below.

In 2005, the County of Hawai'i County Council adopted *EnVision Downtown Hilo 2025: A Community-Based Vision and Living Action Plan* (EDH 2025 plan). The EDH 2025 plan serves as a guide for planning in Downtown Hilo and establishes the vision, strategies, and actions for creating an environment that is sustainable, livable, and attractive to its residents, workers, businesses, and visitors.

EnVision Downtown Hilo 2025 was the result of a 15-month community-driven process involving hundreds of stakeholders, set forth a vision for Downtown Hilo (see Section 2.1), and outlined a detailed action plan for achieving that Vision. A 5-year Action Plan Update for *EnVision Downtown Hilo* was prepared in 2010 to update the action matrix. The Update includes Strategies and Actions in six major focus areas: 1) Creating Economic Vitality; 2) Preserving the Environment; 3) Strengthening and Sustaining the Community; 4) Enhancing Education, Culture, and the Arts; 5) Promoting Health and Safety; and 6) Managing Growth.

The Downtown Hilo Multimodal Master Plan arose out of one specific action item identified in *EnVision Hilo 2025*, Action 6.11, which calls for the County to, "Develop a master plan to include traffic circulation, parking, and pedestrian streetscape." However, it addresses actions in other focus areas as well (see Appendix A for a complete list). The County of Hawai'i Planning Department (County) initiated the *Downtown Hilo Multimodal Master Plan* to address Action 6.11 and, in accordance with Complete Streets principles, identify implementable actions to make Downtown Hilo more vibrant and welcoming gathering place and destination. The next section provides background on Complete Streets as a philosophy, its benefits, and its regulatory context in Hawai'i County.



1.2 COMPLETE STREETS: ITS BENEFITS AND REGULATORY CONTEXT

Complete Streets is an approach that incorporates a toolkit of practices in planning, design, construction and maintenance to design street and roads. It redefines how streets are used and how funds are spent to improve them. This is accomplished by balancing allocation of space in the travelway for use by bicyclists, transit vehicles, and pedestrians and not prioritizing the movement of cars quickly through an area. Complete Streets are designed to empower users of all ages and abilities to safely and efficiently move along and across streets in a community, regardless of how they are traveling. As the National Complete Streets Coalition simply states, “Complete Streets are streets for everyone.” They make it easy to walk to the market, take the bus to work, and bike to the park.

The Complete Streets philosophy brings together advocates from many interests, including public health agencies, transportation practitioners, bicycling and walking advocates, local business supporters and others. Complete Streets policies and programs can support many community goals, including increasing transportation choices, improving transportation safety, supporting the local economy, supporting public health, supporting local community building, and improving environmental goals.

The State of Hawai‘i adopted the Hawai‘i Complete Streets Act (Act 54) in 2009. It requires each County to adopt a Complete Streets Policy that results in a balanced, multimodal transportation network, which meets the needs of all users of streets, roads, and highways, including motorists, pedestrians, bicyclists, children, persons with disabilities, seniors, movers of commercial goods, and users of public transportation. The Complete Streets Act expects that a multimodal transportation system will reduce greenhouse gas emissions and make the most efficient use of transportation infrastructure. It is also meant to improve public health by encouraging physical activity and shifting short trips from the automobile to biking, walking, and public transit thereby improving people’s health and longevity.

Hawai‘i County adopted Resolution 171-11 on October 19, 2011, thereby establishing a County Complete Streets Policy. The County of Hawai‘i has completed more than half a dozen projects that incorporate Complete Streets principles of designing and operating streets that provide safe access for all users, including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities. This Downtown Hilo Multimodal Master Plan will be followed by the preparation of a Hawai‘i County Complete Streets Design Manual. Two demonstration projects will be part of the Manual’s development. Some of the many benefits of Complete Streets are described in the text box on the following page.

Benefits of Complete Streets

Complete Streets make economic sense. A transportation system that includes Complete Streets can bolster economic growth and stability by providing accessible and efficient connections between residences, schools, parks, public transportation, offices, and retail destinations.

Complete Streets improve safety by reducing crashes. One study found that designing for pedestrian travel by installing raised medians and redesigning intersections and sidewalks reduced pedestrian risk by 28% (Smart Growth America 2015).

Complete Streets encourage more walking and bicycling. Public health experts are encouraging walking and bicycling as a response to the obesity epidemic. One study found that 43 percent of people with safe places to walk within 10 minutes of home met recommended activity levels, while just 27 percent of those without safe places to walk were active enough.

Complete Streets can help ease congestion. Streets that provide travel choices can give people the option to avoid traffic jams, and increase the overall capacity of the transportation network. Several smaller cities have adopted Complete Streets policies as one strategy to increase the overall capacity of their transportation network and reduce congestion.

Complete Streets help children be active and independent. Streets that provide room for bicycling and walking help children get physical activity and gain independence. More children walk to school where there are sidewalks, and children who have and use safe walking and bicycling routes have a more positive view of their neighborhood.

Complete Streets are good for air quality. Poor air quality in urban areas is linked to increases in asthma and other illnesses. If each resident of a community of 100,000 replaced one car trip with one bike trip just once a month, it would cut carbon dioxide (CO₂) emissions by 3,764 tons of per year in the community.

Complete Streets make fiscal sense. Integrating sidewalks, bike lanes, transit amenities, and safe crossings into the initial design of a project spares the expense of retrofits later.

Sources: Smart Growth America and the National Coalition for Complete Streets (see References section for citations).

1.3 HOW THE PLAN WAS DEVELOPED

The County selected SSFM International Inc. to lead the preparation of the DHMMP. The DHMMP is coordinated with the County of Hawai'i's development of a Complete Streets Program, also being led by a consultant team from SSFM. The Complete Streets Program will result in countywide Complete Streets standards and two demonstration projects on Hawai'i Island.

The process for developing the DHMMP recommendations is described below and shown in Figure 1.

The Vision and Guiding Principles presented in Chapter 2 provided the basis for the project. The Vision (Section 2.1) came directly out of the EnVision Downtown Hilo 2025 community planning effort. Guiding principles (Section 2.2) were developed by the County based on best practices in public engagement and transportation planning.

The Study Team's review of the project area (Section 3.1), existing plans and information (Section 3.2), collection of data (Section 3.3), and consultation with the community led to the identification of Organizing Themes, or core ideas that drive the nature of recommendations and proposed improvements to Downtown Hilo (Section 2.3).

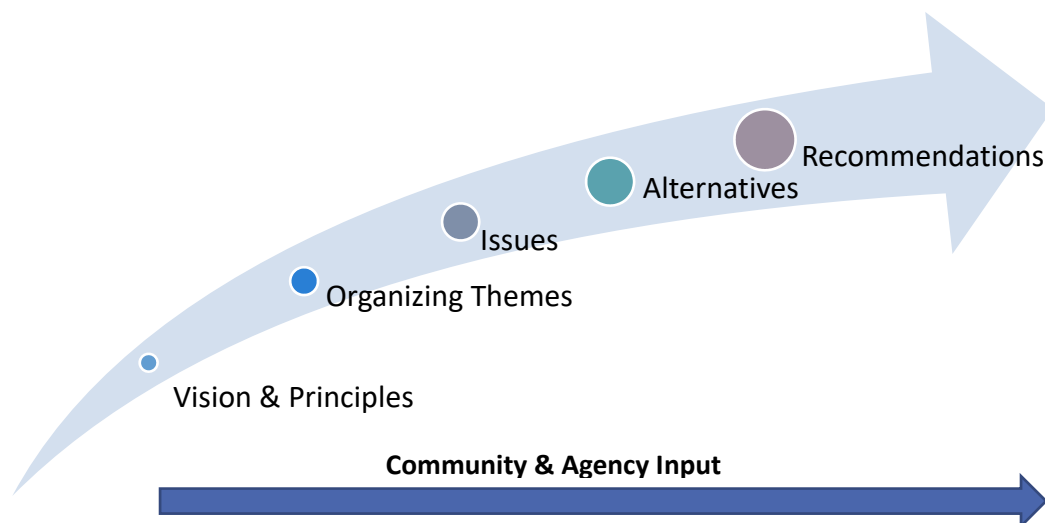
Issues and alternative solutions were identified and explored for each of six transportation components:

- 1) Circulation
- 2) Pedestrian Improvements
- 3) Bicycle Facilities
- 4) Parking
- 5) Transit
- 6) Streetscape Design

Chapter 4 describes for each component the issues identified through study and consultation with the community and agencies, the alternatives that were considered, and the resulting final recommendations. Issues and alternatives were memorialized in a white paper prepared by the Project Team in the spring of 2015.

Strategies for phasing and implementation are included in Chapter 5. These were developed with input from County and State agencies.

FIGURE 1 – PROCESS FOR DEVELOPING RECOMMENDATIONS



1.4 COMMUNITY ENGAGEMENT PROCESS

Following in the footsteps of the community-driven process set forth by *EnVision Downtown Hilo 2025*, the project team designed the DHMMP process to be highly inclusive, respectful of prior planning efforts, and to provide multiple pathways for people to become engaged and share their input. A timeline of the community engagement process is shown in Figure 2 and described below. Table 1 lists the types of engagement that occurred and describes the format, content presented, and how the input was used to inform the DHMMP. Appendix B includes a more detailed description of the stakeholders consulted and the engagement process.

FIGURE 2 – COMMUNITY ENGAGEMENT PROCESS TIMELINE

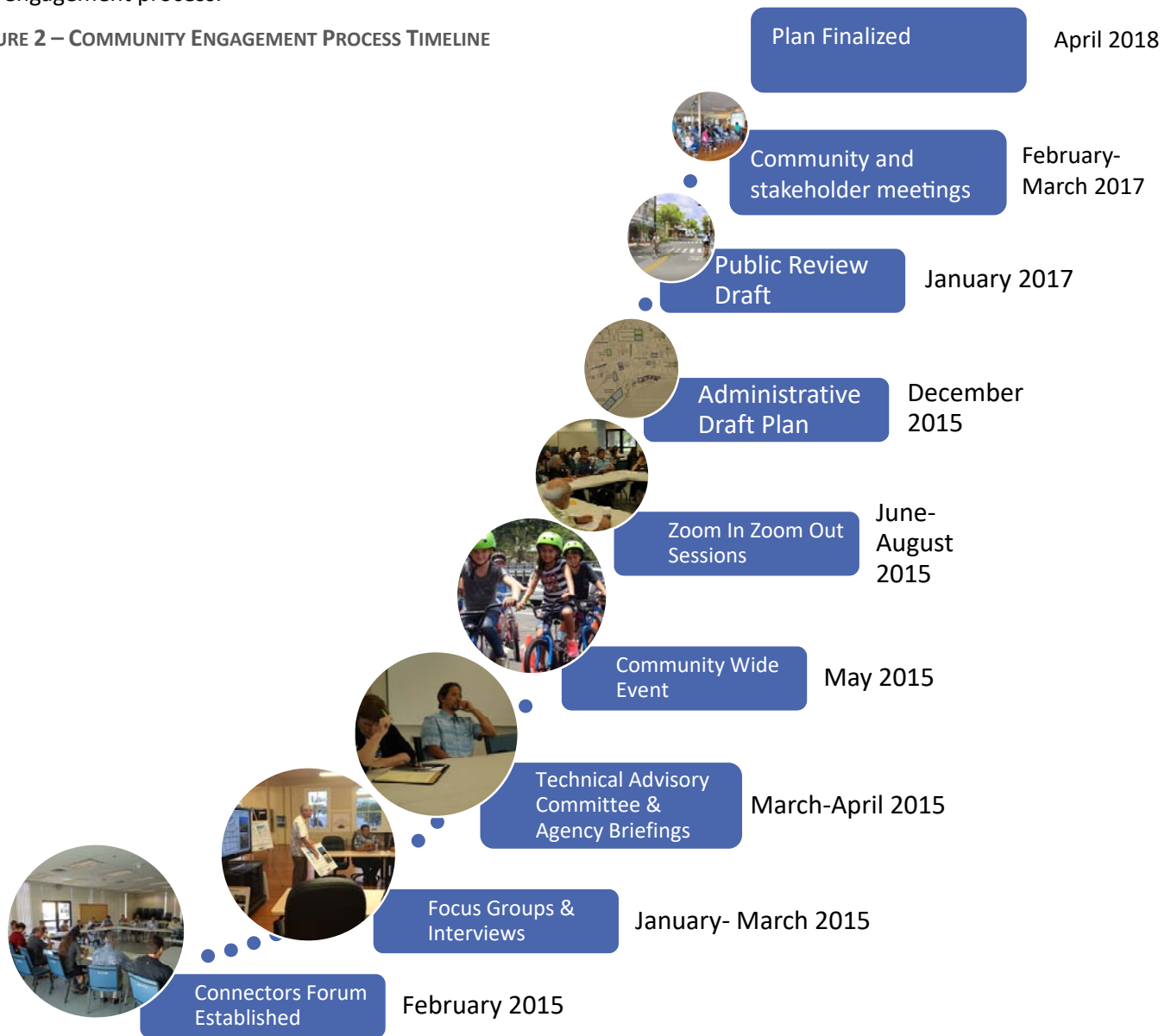


TABLE 1 - SOURCES AND APPLICATIONS OF COMMUNITY INPUT

Participation Method	Format	Content Presented	How Input Was Used
Connectors Forum Meetings (5)	Advisory group	Details on the project approach and proposed format for community outreach and gathering input.	Identified stakeholders to include in focus groups, interviews, and outreach, and to encourage participation from the greater community.
Focus Groups (7) (open to the public) and Stakeholder Interviews	Focus groups occurred with: 1) Producers of Downtown Events; 2) Businesses; 3) Landowners; 4) Students; 5) Bicycle Users; 6) Accessibility Advocates; 7) Users Interviews with individual stakeholders also took place.	Issues identified related to mobility in Downtown Hilo. Preliminary concepts under consideration.	Input helped to vet and refine preliminary concepts. It also confirmed and added to understanding of the issues regarding mobility from the perspectives of different users.
Meetings with Downtown Businesses	Meetings with groups of Downtown Hilo businesses	Discussed businesses' issues, concerns, and ideas related to mobility in Downtown Hilo.	Confirmed and added to understanding of the issues surrounding mobility in Downtown from the perspectives of businesses.
Agency Consultations and Technical Advisory Committee	Meetings with County and State agency representatives in individual and group settings	Alternative concepts under consideration.	Identified priorities, programs, and challenges that could help or hinder mobility solutions. Gathered input on alternatives under consideration, possible phasing, and implementation considerations.
Community Meetings (2) (advertised to the public)	Open House; Presentations and Open discussion; Street fair and demonstration projects.	Alternative concepts under consideration and demonstrations of proposed solutions (parklets, street festivals, historic tours, etc).	Input gathered was used to refine alternatives into recommendations and identify priority locations for proposed improvements. The second meeting was held to gather input on the Draft Plan.
Zoom In Zoom Out Sessions (3) (advertised to the public)	Combination of large group presentations and small group breakout sessions.	Recommendations for circulation, street design, parking, transit, pedestrian & bicycle improvements.	Explored recommendations, gauged community acceptance and viability. Gathered input on priority locations for improvements (gateways, parklets, etc).

1.4.1 CONNECTORS FORUM

Public engagement commenced early in the DHMMP process with the formation of the Connectors Forum, which was an advisory group comprised of well-connected persons and community leaders. The Term “Connectors” was inspired by Malcom Gladwell’s book, *The Tipping Point*, in which he described three types of change agents: Connectors, Mavens, and Salesmen. Connectors are those with large community networks that “...habitually make introductions to further shared goals and projects.”

The primary role of the Connectors Forum was to advise the Project Team on how to best engage the community in various elements of the DHMMP and the planning process. The Connectors Forum met four times between February and May 2015 and a fifth time in January 2017, prior to the release of the Public Review Draft. Members also participated in community events, focus groups, and small group working sessions throughout the DHMMP development process, and helped to spread the word about opportunities for community engagement. Appendix B includes a description of each Connectors Forum meeting and a list of its members.



The Connectors Forum convened four times during the early DHMMP Process.

1.4.2 FOCUS GROUPS AND STAKEHOLDER INTERVIEWS

The project team conducted seven focus groups and stakeholder interviews between January and March 2015. The purpose was to hear firsthand from the community members who work, live, study, and play in Downtown Hilo. Each focus group represented a different stakeholder type, as follows:

- Event Sponsors (Organizations which sponsor large events that close Downtown Hilo streets)
- Visitor Industry Representatives
- Advocacy Organizations (Disabled, Elderly, Accessibility, Cycling)
- Users (Residents and those going to school, church, or work Downtown or nearby)
- Downtown Landowners
- Downtown Businesses
- Hilo High School Students and Teachers



David Tarnas of MCSI facilitated a focus group of Downtown landowners.

Focus Group participants shared their experiences related to mobility in Downtown Hilo and reacted to preliminary concepts under consideration. Interviews were conducted with interested stakeholders that couldn’t attend Focus Groups or that represented a distinct interest group. Interviewees are listed in

Appendix B. Recording input and hosting discussions in individual and small group settings helped the project team vet and refine preliminary concepts to be further tested by the community at large.

1.4.3 AGENCY CONSULTATION AND TECHNICAL ADVISORY COMMITTEE

Participation of County and State Departments was essential to the process. This commenced in March 2015 with the formation of a Technical Advisory Committee (TAC) of County agency staff. Department heads participated in a briefing on the project in April 2015. The TAC convened twice during the preparation of the Draft Plan to discuss alternatives under consideration. They shared information on projects, programs, and other considerations that could affect the DHMMP. TAC members attended and participated in the community meeting and Zoom In Zoom Out working sessions. Individual meetings also took place with County agencies and the State Department of Transportation District Office. The Planning Department circulated the Administrative Draft Plan to County agencies for comment and held follow up meetings with the Department of Public Works and the Police Department.

1.4.4 MEETINGS WITH DOWNTOWN BUSINESSES

Following the release of the Public Review Draft, three meetings were held with Downtown businesses in March and April of 2017. The meetings were intended to capture the input of business owners, some of whom were new to the Downtown area, on the recommendations in the draft. More than 80 people attended business owner meetings held at the Hilo Shala and the Aupuni Conference Center.



A meeting of Downtown businesses to discuss the Public Review Draft.

1.4.5 COMMUNITY MEETINGS

The first of two community-wide meetings during the DHMMP process was held Saturday, May 2, 2015. It was a festive event that spanned two venues and a street festival. More than 100 community members attended presentations and talk story sessions led by the technical team on proposed improvements to Downtown Hilo. A street festival featured activities intended to activate the streets and demonstrate a more walkable, bike-friendly, vibrant Downtown. These included a keiki bike rodeo hosted by PATH (Peoples Advocacy for Trails Hawai'i), a bicycle giveaway by Hilo Bike Hub, a street yoga class by Yoga Centered, a historic walking tour of Downtown Hilo by Lyman Museum, food by Kona Dogs, a book giveaway by the Hilo Public Library, a bicycle tour by the Mayor's Active Living Advisory Council, and a parklet demonstration sponsored by KTA Super Stores and Garden Exchange. Appendix B includes details on the presentations and activities during the event.



Activities such as the keiki bike rodeo at the May 2015 Community Event demonstrated elements of a more walkable, bike-friendly Downtown.



An Open House at the May 2015 Community Event invited input on proposed concepts through post-it notes and white board tables.

A second community meeting was held to celebrate the release of the Public Review Draft of the DHMMP on February 15, 2017 at Mokupāpapa Discovery Center. It included a presentation on the key components of the DHMMP and how community input informed the recommendations. The presentation was followed by a Q&A session and an open house. Community members had the opportunity to peruse and comment on the content at five different input stations in the open house: 1) Overview of the plan process and six transportation components, 2) Organizing themes with recommendations, 3) Recommendations for North-South streets, 4) Recommendations for East-West streets, and 5) Phasing.

Comments were submitted on comment cards where people could indicate support, support with comments on what is missing, or opposition for each recommendation. Approximately sixty people attended, and fifty comment cards were collected and compiled. Additional comments were collected on the Public Review Draft by e-mail, mail, and meetings with Downtown businesses, as described further in Appendix B.



Attendees at the open house as part of the Public Review Draft Community Meeting.

1.4.6 ZOOM IN ZOOM OUT SESSIONS

The community was invited to participate in three “Zoom In Zoom Out” (ZIZO) working sessions during the summer of 2015. The purpose was to provide their input as the project team evaluated alternative solutions and developed draft recommendations. Each three hour session started with a presentation on two of the six transportation components of the DHMMP, followed by facilitated breakout discussions. More than 100 community members participated in these sessions. Appendix B contains a description of each ZIZO and a summary of input received.



A large and lively crowd attended Zoom In Zoom Out session 2.

1.5 STUDY AREA BOUNDARY

Hilo is the largest census-designated place (CDP) and is the county seat of the County of Hawai‘i. The Downtown Hilo area, located in the District of South Hilo, is an important commercial district and tourist destination. The Project Area for the DHMMP utilizes the existing boundaries of the CDH (Commercial Downtown Hilo) district. The CDH is a distinct area of approximately 124 acres that is designated in the County of Hawai‘i Zoning Code by the symbol "CDH." The CDH is bounded by Hilo Bay to the North, Ponahawai Street to the East, Kapi‘olani and Ka‘iulani Streets to the South, and the Wailuku River to the West. Figure 3 shows the boundaries of the Commercial Downtown Hilo area.¹ Figure 4 shows major regional destinations in relation to Downtown Hilo.

¹ For consistency in terminology, this document adopts the term Bayfront Highway to refer to the main belt highway. It is also known as Māmalahoa Highway, Belt Highway, Route 11 (east of Hilo) and Route 19 (west of Hilo).

The figure consists of three panels illustrating the project location:

- Top Left Panel:** A map of the **Island of Hawaii** showing its major districts. A red box in the **S. Hilo** district is labeled **Inset 1**.
- Top Right Panel:** A detailed map of the **Project Location** in the South Hilo District. It shows a grid of streets including Bayfront Hwy, Kamehameha Ave, Punahoa St, Keawe St, Kinooie St, Haili St, Ululani St, Kapiolani St, and others. A red shaded area indicates the project site.
- Bottom Panel:** A map of the **South Hilo District** showing the project area (red shaded) and surrounding streets. Key landmarks include **Hilo High School**, **Hilo Bay**, **Hilo International Airport**, and **UH Hilo Campus**. A red box labeled **Inset 2** highlights the project area, which is shown in more detail in the top right panel.

FIGURE 4 – REGIONAL MAP SHOWING MAJOR DESTINATIONS



1.6 ORGANIZATION OF THE PLAN

Following this introductory chapter, the Master Plan document is organized as follows:

PART ONE: INTRODUCTION AND BACKGROUND

- Chapter 2 presents vision, goals, and guiding principles of the DHMMP;
- Chapter 3 presents existing conditions and supporting data. It is based on available information, existing plans, and data collected through the course of the project;

PART TWO: RECOMMENDATIONS

- Chapter 4 describes the six Transportation Components that contribute to a multimodal Downtown Hilo. It describes the existing conditions, issues and alternatives, and recommendations for each;

PART THREE: IMPLEMENTATION & PHASING

- Chapter 5 presents phasing and cost estimates for recommendations and discusses how recommendations can be implemented.

APPENDICES

- Appendix A discusses the EnVision Downtown Hilo 2025 Actions that are addressed by the DHMMP.
- Appendix B summarizes the process for gathering community input to inform the recommendation in the DHMMP.
- Appendix C summarizes key plans and studies that were reviewed during preparation of the DHMMP.
- Appendix D includes data on historical peak hour volumes in the project area.
- Appendix E lists the contract requirements for the Downtown Hilo Multimodal Master Plan.
- Appendix F presents preliminary cost estimates for recommended DHMMP improvements.

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2. VISION, GUIDING PRINCIPLES, & ORGANIZING THEMES

2.1 VISION FOR DOWNTOWN HILO

A tremendous amount of valuable visioning and planning work has occurred in Commercial Downtown Hilo. Much of it came through the development of the *EnVision Downtown Hilo 2025 Vision and Living Action Plan* (2005) and its subsequent five-year update (2010). The *Downtown Hilo Multimodal Master Plan* arose directly out of an action item (Action 6.11) which was identified as key to achieving the vision for Hilo as expressed in *EnVision Downtown Hilo 2025*. As such, the DHMMP serves to implement the vision that the community developed for Downtown Hilo.

The overarching vision for the *EnVision Downtown Hilo 2025* plan reflects the community's desire for a thriving and diversified economy base while maintaining its historic charm and small town atmosphere. Carefully managed growth should meet local needs first, enhance arts, culture, education, and social welfare programs, and focus on natural resource management and protection (see inset).

The *EnVision Downtown Hilo 2025* plan envisions an active and healthy community that conveniently navigates the walkable Downtown Hilo by provision of safe bicycle paths, improved pedestrian walkways, and methods to slow traffic. Identified needs include the right to safe, adequate, and connected transit pathways for all modes of transportation while allowing for an easily navigable network for people of all ages and mobility levels.

Overarching Vision from *EnVision Hilo 2025*

In the year 2025, Downtown Hilo

... Has a vibrant, thriving, and diversified economy that supports its residents, visitors, and local businesses with a gathering place that builds on the community's unique scientific, educational, historical, spiritual, cultural, and artistic assets.

... Is a green, sustainable environment with protected natural resources - magnificent vistas, pristine waters, pure sweet air, and historic charm.

... Carefully manages its growth and development through sound planning and policies, accommodating change while preserving its unique historical character, natural features, and quality of life.

... Is a friendly, safe, and healthy community with affordable housing, accessible health care, low levels of crime, well-maintained streets, pedestrian pathways, public places, and a wealth of recreational activities for families and youth.

... Is a global magnet for education, culture, and the arts, building on its rich Hawaiian, ethnic, and cultural diversity and shares these resources with the community and the rest of the world.

... Is synonymous with the spirit of Aloha, a community that celebrates its unique character, rich heritage, generational values, and vision for the future. Our hometown, Downtown Hilo, is a welcoming neighborhood like no other - a wonderful place to live, work and play.

The 2010 Five-Year Update of the *EnVision 2025 Downtown Hilo* plan introduced ten Sustainability Measures to ensure that implementation actions are viewed and measured through a “lens” of sustainability:

1. **Community Resiliency:** actions that strive to build social, economic, and environmental well-being as a community.
2. **Civic Gathering:** actions that create opportunities to bring people together to strengthen the community.
3. **Earth-Friendly:** projects that are environmentally sensitive, and include natural resource protection, climate-friendly and green initiatives.
4. **Equitable Access:** actions that ensure that Downtown is a fair space that is considerate and appreciative of the diversity of the human experience.
5. **Healthy Living and Walkability:** actions that promote active living, physical fitness, healthy eating, pedestrian-oriented streets, traffic-calming methods, and a Downtown core of short distances.
6. **Mixed Use Development:** actions which promote, develop, or enhance a variety of land uses within the Downtown area.
7. **Multimodal Transportation:** actions that promote a variety of transportation options such as public transit, shuttle service, park-and-ride options, private vehicles, pedestrians, scooters, bicycles, and rollerblades.
8. **‘Ohana Tradition:** actions that promote Downtown being a safe and healthy place for the entire family, from keiki to kupuna.
9. **Parks and Natural Spaces:** Actions that preserve and promote the development, expansion, and maintenance of open green spaces, including pocket-parks, the urban treescape, and natural view planes.
10. **Rhythm of Hilo:** Actions that directly contribute to creating an energetic and vibrant Downtown that will enhance relationships and enrich and uplift human experience.

The recommendations in this *Downtown Hilo Multimodal Master Plan* address several of the actions and strategies in the *EnVision Downtown Hilo 2025* plan. It particularly focuses on promoting community health and safety, increasing economic vitality and transit efficiency, and improving the overall quality of life for those who hold Hilo dear. Appendix A lists the EDH 2025 actions that are addressed by the DHMMP and their corresponding focus areas, strategies, actions, and sustainability measures.

2.2 GUIDING PRINCIPLES

The County identified twelve Guiding Principles for preparing the *Downtown Hilo Multimodal Master Plan*. They provided direction to the project team for the content, approach, and outcomes of the DHMMP. The Guiding Principles also helped provide a framework for the identification and evaluation of alternatives and recommendations. Alternate solutions were proposed and evaluated using data, modeling, and extensive input from the community, as well as from key County and State agencies. These Guiding Principles are listed below.

Guiding Principles for Content

- Consider the movement of people of all ages and abilities;
- Consider all modes of transportation but emphasize alternatives to the automobile, including transit, bicycle, and pedestrian accommodations;
- Be environmentally sensitive by reducing congestion, decreasing emissions, and encouraging non-polluting modes of transportation such as electric vehicles, bicycles, walking, etc.;

Guiding Principles for Approach

- Be cognizant of persons with disabilities, their wayfinding and mobility challenges, and their preferred modes of transportation and travel;
- Engage the community and stakeholders through public workshops and presentations;
- Attempt to establish consensus and broad support for innovative street designs;
- Coordinate with the EDH 2025 Plan, Hilo Bayfront Trails, other relevant Plans, and State and County road and infrastructure improvement plans;
- Use best practices and guidelines for design while recognizing the need for flexibility when balancing user needs;

Guiding Principles for Outcomes

- Set realistic priorities that are visionary, yet practical, measurable, and achievable;
- Identify and seek corrections to features of the transportation network or barriers that make it unsafe or uncomfortable for all users, including pedestrians, bicyclists, transit users, and motorists;
- Enhance Downtown Hilo as a gathering place and destination that invites residents and tourists alike to patronize Downtown businesses, enjoy beautiful waterfront vistas, walk to work, access public transportation, and marvel at the spectacle of Hilo Bay and a traditional historic Downtown.
- Provide a means to measure existing safety, access and mobility, environmental health, and economic vitality – then provide tools to document change over time.

2.3 ORGANIZING THEMES

In fulfillment of the DHMMP's guiding principles, the project team implemented an in depth community engagement process (see Appendix B). Hilo residents and businesses care deeply about the Downtown area. While there are many opinions on possible solutions, points of consensus exist. Some of these ideas relate to a specific place within Downtown Hilo, and others are principles that either originated from the community or from current thinking in complete streets that were confirmed through community input.

These organizing themes are so fundamental to the people that live, work, and play in Downtown Hilo that the project team adopted them as organizing themes to drive the DHMMP's recommendations and priorities. The application of multimodal improvements guided by these organizing themes will produce a comprehensive Downtown network that is walkable, bike friendly, and connected to key destinations within and outside Downtown, such as UH Hilo, Hilo Bay, and Hilo Harbor.

DHMMP Organizing Themes

1. All improvements should be driven by the over-arching priority of improving the multimodal environment in Downtown Hilo, with connectivity to key destinations.
2. Keawe Street is Downtown Hilo's "Main Street" and its role as a hub of activity for local residents should be celebrated and elevated.
3. Downtown Hilo needs to be better connected to the Bayfront. This applies to non-motorized modes as well as vehicles.
4. Kamehameha Avenue Frontage Road and the Farmers Market is the primary focus of retail and pedestrian activity. It is the main attraction for visitors. A pedestrian-friendly environment should start there and radiate mauka to draw pedestrians throughout the Downtown area.
5. Make bicycling attractive and safe. Create a bicycle network that connects key surrounding neighborhoods to Downtown. Once Downtown, bicyclists should be able to comfortably move with traffic and should be provided with secure and convenient "jumping off points" to park their bikes and walk.
6. Achieve a walkable environment within Downtown Hilo by slowing traffic to 20 mph and improving connectivity within the grid. Add improvements to the road network that encourage through traffic to take alternate routes.
7. Transform Downtown Hilo into a "park once and walk" environment by incorporating elements that make it easy and attractive to do so.
8. All improvements should preserve and enhance Downtown Hilo's historic character and charm, and help make it an inviting and safe place with vibrant street life.

1. All improvements should be driven by the over-arching priority of improving the multimodal environment in Downtown Hilo, with connectivity to key destinations.

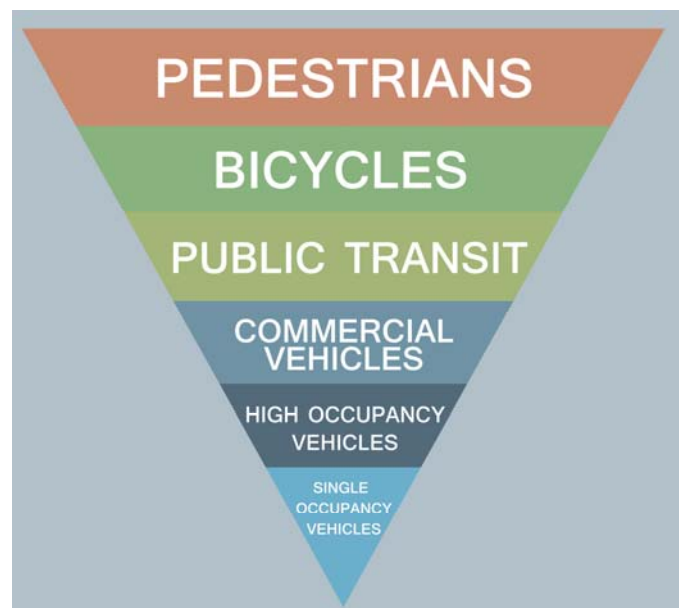


The DHMMP is driven by a desire to make Downtown Hilo a more walkable, bike friendly, vibrant place for people of all ages and abilities. Core to this is improving safety and accessibility for non-motorized modes, namely walking and biking, in a way that also accommodates transit and motor vehicles.

Improving the multimodal environment involves a shift in thinking about transportation improvements and priorities for Downtown Hilo; one that accommodates all modes and users rather than prioritizing the movement of motor vehicles.

To achieve this, roadways within the Downtown core need to be designed to achieve a target speed of 25 mph and higher driver awareness to improve safety. Roadway improvements to keep vehicle traffic flowing should be focused on periphery roads to direct through traffic to alternate routes. Parking areas should be placed to create a “park once and walk” environment.

Other municipalities have adopted “transportation hierarchies” to reflect the desired prioritization of modes within a town or neighborhood. The hierarchy becomes a benchmark by which improvements can be proposed and evaluated. A transportation hierarchy is recommended for Downtown Hilo that prioritizes pedestrians, bicycles, and transit, as shown at right. This hierarchy will promote sustainable transportation modes to maximize land use and support commercial activity in Downtown Hilo.



2. Keawe Street is Downtown Hilo's "Main Street" and its role as a hub of activity for local residents should be celebrated and elevated.



"Mamo Triangle" at Keawe and Mamo Streets is proposed for a pedestrian plaza and gathering place. The top photo shows Mamo Triangle in 2015; the bottom image shows proposed conversion to a pedestrian plaza and multimodal improvements along Keawe Street.



Residents, businesses, and users of Downtown Hilo strongly believe that Keawe Street is a hub and a priority area to focus improvements and revitalization activities. Keawe is lined by small businesses, including one of the two grocery stores in Downtown Hilo, a bed and breakfast, and many shops and restaurants. While many sections of Keawe Street are vibrant, the energy of the street is interrupted by vacant lots and buildings, auto-oriented businesses (such as strip malls), and inconsistent applications of landscaping, awnings, and street furniture. There is great potential to stitch together the desirable elements along Keawe Street and elevate it to a vibrant, multimodal "Main Street".

The multimodal improvements planned will enhance the appeal and attractiveness of the Keawe Street corridor. The creation of a Business Improvement District for Downtown can help to attract businesses and provide an economic stimulus. More "eyes on the street" will enhance safety and make Keawe Street more inviting at all hours. The incorporation of design guidelines and incentives for awnings, sidewalk dining, and parklets will increase street life and provide new community gathering places.

3. Downtown Hilo needs to be better connected to the Bayfront. This applies to non-motorized modes as well as vehicles.



Hilo Bay fronting Downtown is proposed to feature a shoreline shared-use path that connects to Downtown.

Hilo Bay is recognized as a key asset of Downtown Hilo. Yet residents currently feel disconnected from it. Users regularly accessing the shoreline include surfers, fisherman, and students visiting the Mokupāpapa Discovery Center. Cruise ship passengers and resort guests coming from Hilo Harbor and Banyan Drive areas need ways to access Downtown.

Development is planned for the Hilo Bayfront Trail and Kaipalaoa Landing. This furthers the need for connection points between the shoreline and Downtown which will only increase over time.

The intersection of Waiānuenue Avenue and Bayfront Highway has long been flagged as a “problem area” with complicated movements and a mix of local and regional traffic that sometimes creates bottlenecks. An alternate route for vehicles and pedestrians to access Downtown from Bayfront is needed.

Connecting Downtown Hilo with the planned Hilo Bayfront Trails system is a key to improving Bayfront connections. The Bayfront Trails system broke ground in 2015, and has long been a community priority. A shoreline shared-use path is proposed to connect to the Bayfront Trail along the makai side of Bayfront Highway. These connections to Downtown will provide trail users with an opportunity to access Downtown and frequent businesses there.

Providing a second vehicular access to Bayfront Highway at Ponahawai Street will provide drivers additional routes into and out of Downtown. The new connection at Ponahawai will reduce traffic volumes at the intersection of Waiānuenue Avenue and Bayfront, and will improve the transportation grid for Downtown. It also provides an alternate route for through traffic heading mauka of Downtown.

Installing roundabouts at the new Ponahawai-Bayfront intersection as well as the Bayfront-Waiānuenue intersection will have several desirable effects. The roundabouts will: 1) slow traffic approaching Downtown along Bayfront highway; 2) create gateway features at either end of Downtown; and 3) provide opportunities for safe pedestrian and bicycle crossings of Bayfront Highway.

4. Kamehameha Avenue Frontage Road from the Farmer’s Market to Wailuku River is the primary focus of retail and pedestrian activity. It provides the main attraction for visitors to Hilo. A pedestrian-friendly environment should start there and radiate mauka to draw pedestrians throughout the Downtown area.



A pedestrian promenade can further enliven the commercial strip along the Frontage Road.

Storefronts lining Kamehameha Avenue’s Frontage Road* form a walkable strip with restaurants, museums, galleries, and retail. Visible from Bayfront Highway, this strip of buildings sets the transition between the Bay and Downtown Hilo. It also serves as the main gateway to attract passing drivers into Downtown Hilo. Historic buildings with brightly colored facades, attractive landscaping, easy access to parking, and place making features including a clock tower create an inviting environment for pedestrians.

Community events and street festivals are often centered in this locale, and the Hilo Farmers Market at the Mamo Street end is one of the main attractions in town. There is opportunity to further add to the character and function of this area as a gathering place through expanding the pedestrian oriented area along the storefronts, adding areas for sidewalk dining, and widening the network of walkable streets radiating out from it.

Making Kamehameha Avenue and the Frontage Road more welcoming and pedestrian oriented will enhance its role as a hub for street life and a community gathering place. A widened promenade can accommodate new uses, such as sidewalk dining, kiosks, and performances. Better pedestrian connections to the Farmers Market will further elevate the market as a destination. Provision of Downtown parking in the nearby Mo’oheau lot, paired with covered walkways, will provide a destination parking lot for those visiting Downtown.

*Note: Kamehameha Avenue splits into two roadways between Kalākaua Street and Mamo Street. The makai roadway is a four-lane, two way road. The mauka roadway is a one-way road with angled parking on both sides, abutted by commercial storefronts on the mauka side. These roadways are commonly referred to collectively as “Kamehameha Avenue”, although the mauka roadway and parking area is sometimes called the “Frontage Road” or “Front Street.” For the purposes of this report, the term “Kamehameha Avenue Frontage Road” will be used for the mauka roadway and parking area, and “Kamehameha Avenue” will refer to the makai roadway.

- 5. Make bicycling attractive and safe. Create a bicycle network that connects key surrounding neighborhoods to Downtown. Once Downtown, bicyclists should be able to comfortably move with traffic and should be provided with secure and convenient “jumping off points” to park their bikes and walk.**



Dedicated bike lanes can make cycling a comfortable alternative to driving.

Very few people bicycle in Downtown Hilo, but many say that they would if they felt safe doing so. There are currently no dedicated bicycle facilities in Downtown Hilo, forcing bicycles to share the road with vehicles traveling faster than they are and lacking visual cues to alert them to the presence of bicyclists. Even experienced cyclists express trepidation about the prospect of commuting by bike to, from, and through Downtown Hilo.

Encouraging people to use bicycles within and around Downtown Hilo will require addressing the perception of safety. Another commonly cited barrier to cycling is Hilo's rainy climate. Places like Portland, Oregon and Seattle, Washington (both very rainy) have effected significant modal shifts by prioritizing bicyclists within their transportation hierarchy, and incorporating bike infrastructure into roadway design.

Plans for a bike network in Downtown Hilo go back to the County's 1979 *Bikeway Plan*, which called for a network of bike lanes and bike paths that would connect Downtown Hilo with surrounding areas. *Bike Plan Hawai'i* (HDOT, 2003) proposed the creation of an extensive bicycle facility network throughout the Hilo area. The DHMMP has identified opportunities throughout Downtown for incorporating bike facilities into street design, including bike lanes, sharrows, and bike corrals (made possible through repurposed on-street parking that will be replaced by more centralized parking at the Downtown periphery). Many of these improvements can be tied to projects such as resurfacing, widening, and changing traffic direction from one to two way, without adding significant cost.

6. Achieve a walkable environment within Downtown Hilo by slowing traffic to 20 mph and improving connectivity within the grid. Add improvements to the road network that encourage through traffic to take alternate routes.



Narrowing lane widths by adding curb extensions and pavement markings that can help to slow speeds.

Community members regularly cited the issue of motorists circling within Downtown Hilo. One reason for this is the tendency for people to look for parking close to their destination. The network of one-way streets requires people to circle the block to find parking and reach their destination. In addition, drivers unfamiliar with Downtown end up taking circuitous routes if they get lost. The end result of repeated circulating vehicles is traffic congestion and driver confusion and irritation. It also detracts from the safety of pedestrians and bicyclists as drivers look for parking spaces and wayfinding cues.

The conversion of key Downtown streets from one-way to two-way travel, combined with the addition of traffic calming features and the removal of some dedicated turn lanes, will create a slower, safer environment for people using all modes throughout Downtown. Conversions from one-way to two-way streets have been shown to reduce collisions, increase property valuations, and reduce crime (Jaffe, July 2015). Converting one-way streets such as Keawe and Kino'ole Streets to two-way increases accessibility and will reduce the instances of drivers circling to reach their destination or to find parking. It will improve wayfinding for visitors unfamiliar with the Downtown area.

In addition to benefiting multimodal users, the slowed traffic speed within the Downtown commercial core could have the effect of discouraging through-traffic from utilizing Downtown streets. Meanwhile, roundabouts on the Downtown periphery streets will keep traffic on those streets flowing smoothly while maintaining slower speeds. Roundabouts can be designed for a maximum entry speed of 20 mph, which results in increased safety for vehicles, crossing pedestrians, and bicyclists sharing the lane. The overall effect will be a calmer, more accessible and pedestrian-oriented Downtown.

7. Transform Downtown Hilo into a “park once and walk” environment by incorporating elements that make it easy and attractive to do so.



Expanding parking and transit options in and around Downtown will encourage people to park and walk or ride a shuttle.

People find all manner of reasons not to walk to their destinations. Auto-oriented development such as strip malls and big box stores have trained people to park directly in front of the business or store they are going to, get back in their cars, and drive to the next place. In a compact, historic Downtown area such as Downtown Hilo, block sizes are small and street parking is limited, making it an ideal candidate for a “park once and walk” environment. Yet, many people still circle the area looking for parking close to their destination, and in many cases business owners and employees occupy stalls in front of their own businesses, rather than leaving them for potential customers.

The footprint of the Downtown core approximates the size of a large shopping mall. Given that, a shift in thinking and behavior is needed and can be brought about using a combination of incentives, amenities, and management tools. To achieve this, convenient and secure parking areas are proposed in dedicated lots around the periphery of Downtown. To cultivate a comfortable walking environment within the Downtown core, improvements focus on keeping sidewalks in good repair, providing safe crossings, and providing shelter and shade from the elements. Alternatives to walking, such as a Downtown shuttle, paid on-street parking, and ADA compliant parking and sidewalks, will be made available. Managing parking to create higher parking turnover within the Downtown Core can:

- Stimulate economic activity by freeing up on-street parking for customers frequenting Downtown businesses;
- Generate revenue that can be used to support transit and other improvements;
- Make going Downtown for short trips much easier and more attractive;
- Increase street life and community interaction by encouraging people to park once and walk.

8. All improvements should preserve and enhance Downtown Hilo's historic character and charm, and help make it an inviting and safe place with vibrant street life.



Sidewalk dining, street furniture, awnings, galleries, shops, landscaping, and events all contribute to a vibrant and inviting Downtown.

Every town has features and elements of character that make it special. Hilo is rich in history, community pride, and artistic talent. Downtown Hilo's character and charm are internationally celebrated and derive from many sources: its historic buildings, views of Hilo Bay and Mauna Kea, world class arts and cultural activities, friendly small town feel, and even its rainy climate. *EnVision Downtown Hilo 2025* described this as the "Rhythm of Hilo", which embodies qualities of Hilo to be celebrated, preserved, and elevated. This goal can be supported in the DHMMP through the application of unifying decorative elements throughout Downtown Hilo, particularly in areas designated as pedestrian priority. Street design treatments should build upon the existing treasured elements of Hilo's character, reflect the community, and utilize local talent.

The two greatest challenges to encouraging more amenities and features in the public realm are maintenance and vandalism. The humid coastal climate degrades things quickly, and homelessness and petty crime are recurring concerns among the community. There is a concern that new community features and gathering places will become occupied by the homeless. These issues should be considerations in selecting design elements for Downtown Hilo. Features may include gateways, awnings, trees, landscaping, sidewalk dining, planters, bollards, street banners, wayfinding signs, street lighting, and murals.

3. EXISTING CONDITIONS & DATA

The project team reviewed and analyzed existing data, plans, policies, and conditions related to the transportation network and multimodal travel conditions in and around Downtown Hilo. This review and analysis helped to identify existing strengths and gaps in multimodal infrastructure, planning, and policy. It also helped to determine what additional data collection was needed in order to provide the support the recommendations of the *Downtown Hilo Multimodal Master Plan*.

This Chapter summarizes the results of the analysis of existing plans, policies, data, and infrastructure. Chapter 4 provides more detail on existing conditions related to the six transportation components of the DHMMP: 1) Circulation; 2) Street Design; 3) Parking; 4) Pedestrian Trails and Sidewalks; 5) Bicycles and Non-Motorized Modes, and 6) Transit

3.1 PROJECT SITE CONTEXT & COMMUNITY CHARACTER

Downtown Hilo includes a commercial district with a total of 24 blocks. The historic Downtown has a compact fabric, with short blocks knitted together by closely spaced buildings on small lots. Many buildings feature zero setback from sidewalks and provide shading canopies to shelter pedestrians from the elements.

Major waterways in the Downtown area include: Hilo Bay, Wailuku River, Wailoa River and Alenaio Stream (which feeds into Wailoa River).

Downtown Hilo is an important commercial, retail, dining area for the island of Hawai'i and a hub for culture and arts. It is a destination and gathering place for residents and visitors alike. Many of these point of interest exist in Downtown Hilo, many of which are on the National and State Register of Historic Sites. The Historic Downtown Hilo Walking Tour, a self-guided tour sponsored by the Downtown Improvement Association, includes many of these buildings. Points of interest are listed below and their locations are shown in Figure 5.

- Burns Building & the Pacific Building – Constructed in the early part of the 20th Century, these buildings reflect a nostalgic simple wooden style that is characteristic of the period.
- Central Christian Church – One of the three remaining churches that once comprised “Church Street.” It was constructed in the early 1900’s.
- East Hawai'i Cultural Center (Museum of Contemporary Art)^{1, 2} – This historic building is reminiscent a Hawaiian hale (house) of the 1800’s. It was the District Courthouse until 1969; then housed the Hawai'i County Police Department until 1975.
- Federal Building (1915)² – Designed by architect Henry Whitfield, it is typical of the early 20th Century government buildings.
- Haili Christian Church (Waiākea Mission Station)^{1, 2} – This historic building was the first Christian mission on the eastern side of the Island of Hawai'i.
- Hawaiian Telephone Building – This building is characteristic of the early 20th Century Hawaiian Regional Architecture style.
- Hilo Farmer's Market – A major tourist attraction, which was called one of ten Great U.S. Farmers Markets by the Huffington Post (Huffington Post, 2012). Full farmers markets with over 200 vendors take place twice a week on Wednesdays and Saturdays. Smaller farmers markets with about 30 vendors take place on all other days.

¹ On the Hawai'i register of historic sites. ² On the National register of historic sites.

- Kaikodo Bldg (Hilo Masonic Lodge)^{1, 2} – One of the first buildings in Hilo to use steel beams on reinforced concrete, built in 1908.
- Kaipalaoa Landing Wharf – One of the few access points to the Hilo Bay from Downtown Hilo. Legends note that the site served as a campground and favorite surfing spot for King Kamehameha I, and is where Hilo town earned its name.
- Kalākaua Square - Hilo's town square for over a century. Hilo became a visiting place of King Kalākaua, who designed the first county complex at this site in the late 19th century. The park contains a sundial bearing the inscription: "This sundial was erected in the Fourth Year of the reign of King Kalākaua, A.D. 1877, Hilo, Hawai'i." The trees in the park were planted during the King's time, making them over one hundred years old today. The park also contains a memorial inscribed with the names of the dead from Hawai'i Island from World War II, the Korean War, and the Vietnam War.
- Koehnen's Building – Built in 1910, this building features interior walls of koa and floors of 'ōhi'a woods. Home to the Mokupāpapa Discovery Center, a popular tourist attraction.
- Lincoln Park is a County park at the corner of Kino'ole and Ponahawai Streets. Amenities include a playground, restrooms, and picnic areas.
- Michael Victor House¹ – A historic Late Victorian style house built in 1906, which retained many of its original features.
- Mo'oheau Bandstand and Bus Terminal – The primary bus transit center for the Hele-On bus system. Transit amenities include restrooms, bicycle parking, and a Visitor Information Center which provides maps, bus schedules, and informational brochures.
- Pacific Tsunami Museum – Having survived both the 1946 and 1960 tsunami, this building is now a museum chronicling the history of Big Island tsunamis and the resulting reconstruction of the city. It is also a major tourist attraction.
- S. Hata Building^{1, 2} – A reinforced concrete structure constructed in 1912 as a general store. Representative of renaissance revival architecture in Hilo.
- S.H. Kress Co. Building – Characteristic of Art Deco architecture, and a popular tourist attraction housing Connections Public Charter School.
- St. Joseph's Roman Catholic Church – Designed in the style of old mission architecture.
- Hilo Public Library and Naha Stone – The Naha Stone is important in ancient Hawaiian traditions and is associated with the prophesy of Kamehameha the Great becoming a great leader.
- Taishoji Soto Mission – Established in 1913 by Zen Buddhists.
- The Palace Theater^{1, 2} – This historic building remains a vibrant place for the arts. It hosts concerts, stage plays, musicals, film festivals, gatherings, and celebrations.
- Volcano Block^{1, 2} – This historic building was the first built in Hilo to house multiple businesses in the same structure, and the first not constructed for its owner's occupancy. Former notable tenants include Peoples Bank of Hilo, and C. Brewer & Co.
- YWCA – first organized in 1919, the YWCA of Hawai'i Island still plays an active role in the local community.

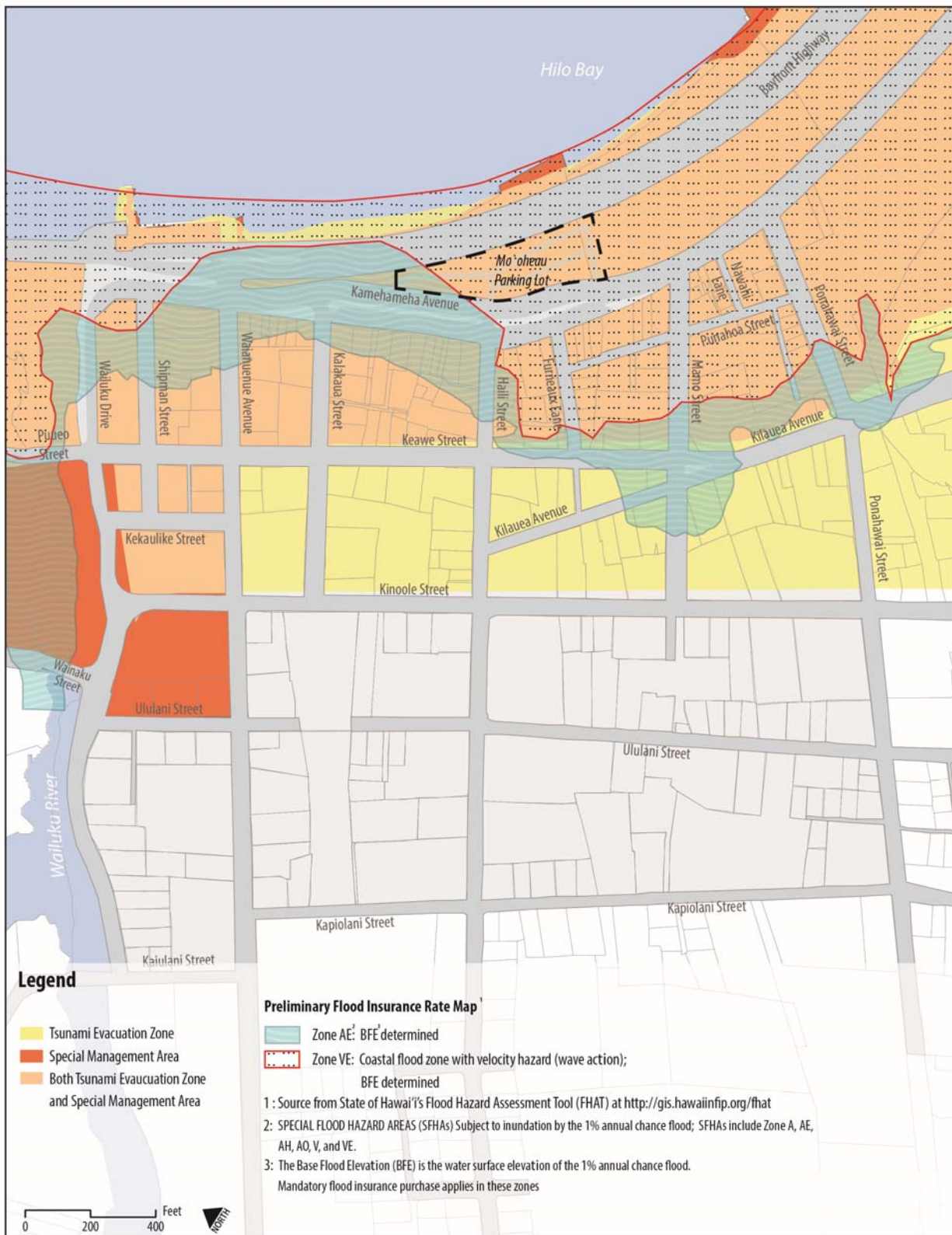
¹ On the Hawai'i register of historic sites. ² On the National register of historic sites.

FIGURE 5 - POINTS OF INTEREST IN DOWNTOWN HILO



Additional considerations for Downtown Hilo are its vulnerability to flooding, major storms and tsunami. The tsunami evacuation zone extends from the shoreline almost as far inland as Kino'ole Street, as shown in Figure 6. The Special Management Area (SMA) extends to Keawe Street through most of Downtown, with the exception of the Wailuku River side, where it extends as far inland as Ululani Street. The Federal Emergency Management Agency's Flood Insurance Rate Maps (FIRM) show that Kamehameha Avenue and areas immediately mauka may be subject to flood inundation. In some cases flooding may extend as far inland as Mamo and Keawe Streets. FIRM designations by parcel can be obtained by submitting a flood zone request form to the County of Hawai'i Department of Public Works.

FIGURE 6 - SPECIAL MANAGEMENT AREA AND TSUNAMI EVACUATION ZONES IN DOWNTOWN HILO



3.2 REVIEW OF EXISTING PLANS, POLICIES, AND REGULATIONS

The Study Team undertook a comprehensive review of existing plans and policies related to Downtown Hilo. This is described in detail in the *Material Review and Gap Analysis* that was submitted to the County in December 2014, and summarized in Appendix C. Key plans that informed existing conditions and development of alternatives included:

- *EnVision Downtown Hilo 2025* (2005)
- *EnVision Downtown Hilo 2025: Five-year Update* (2010)
- *EnVision Downtown Hilo 2025: Mobility Vision Concept and Off-Street Parking Proposals* (2012)
- *Hawai'i County General Plan* (2005)
- *Downtown Hilo Parking Analysis* (2009)
- *Community Design Patterns, A Guidebook for Downtown Hilo* (2010) (draft)
- *Dan Burden Healthy Community Audit* (December 2013)
- *Downtown Hilo AIA SDAT Strategic Implementation for Long-term Sustainability* (August 2009)
- *Federal-Aid Highways 2035 Transportation Plan for the District of Hawai'i* (2014)
- *Bike Plan Hawai'i Master Plan* (2002)
- *The Bikeway Plan; County of Hawai'i Planning Department* (1979)
- *Statewide Pedestrian Master Plan* (2013)
- *Hilo Bayfront Trails Master Plan (2009) and Environmental Assessment*
- *Bus Stop Location Study, County of Hawai'i* (2010)
- *Transit Technical Study for the Counties of Kaua'i, Maui, and Hawai'i* (2004)
- *Expanding Transportation Opportunities on Hawai'i Island* (2014)
- *Public Transportation Plan for Hawai'i County* (1992)
- Regional, state, and county development standards, regulations, and construction plans

The material review included becoming familiar with Hilo's transportation network, both within Downtown and in areas immediately adjacent to it. The review included some materials that have a broad geographical base, with some influence on Downtown Hilo.

Key conclusions that emerged from the material review are:

- *Parking* – There is consistent emphasis on the need for parking improvements including new public parking, parking management and partnership strategies.
- *Circulation* – There is a focus on how traffic movements impact the area, including circulation within Downtown Hilo and access to Downtown Hilo.
- *Non-motorized transportation modes* – Many of the materials reviewed are concerned with enhancing infrastructure for non-motorized transportation, including pedestrians and bicyclists.
- *Aesthetics* – Some excellent work has already been conducted to improve the aesthetics of Downtown Hilo, in step with many of the Actions identified in the *EnVision Downtown Hilo 2025* process and the Guiding Principles of the DHMMP.
- *Events* – There is a desire for enhancing existing events and creating new events that can attract people to Downtown Hilo. Many of the events desired could require street closures.
- *Transit* – Many of the reports detailed a need for an increase in transit circulation and user amenities.

The material review identified gaps in available information and used those gaps to identify areas for data collection and analysis within the scope of the DHMMP. Some of the gaps identified included data on parking capacity, demand and turnover; analysis on how a specific improvement Downtown would affect the multimodal transportation network within and around Downtown; and conflicts between some recommended solutions for traffic circulation, traffic calming, and multimodal improvements.

3.3 DATA COLLECTION & ANALYSIS

The Technical Team reviewed available data on trip generation, accident data, average daily travel, and peak hour volumes in Downtown Hilo. Based on gaps in available data, the Technical Team undertook additional data collection on parking demand, parking turnover, and traffic counts. The team also looked at ongoing and planned improvements to the regional roadway network that could impact Downtown. Results are summarized in the sections that follow. Peak hour volumes for Downtown Hilo taken between 2010 and 2012 are included in Appendix D.

Key conclusions that emerged from the data collection and analysis include:

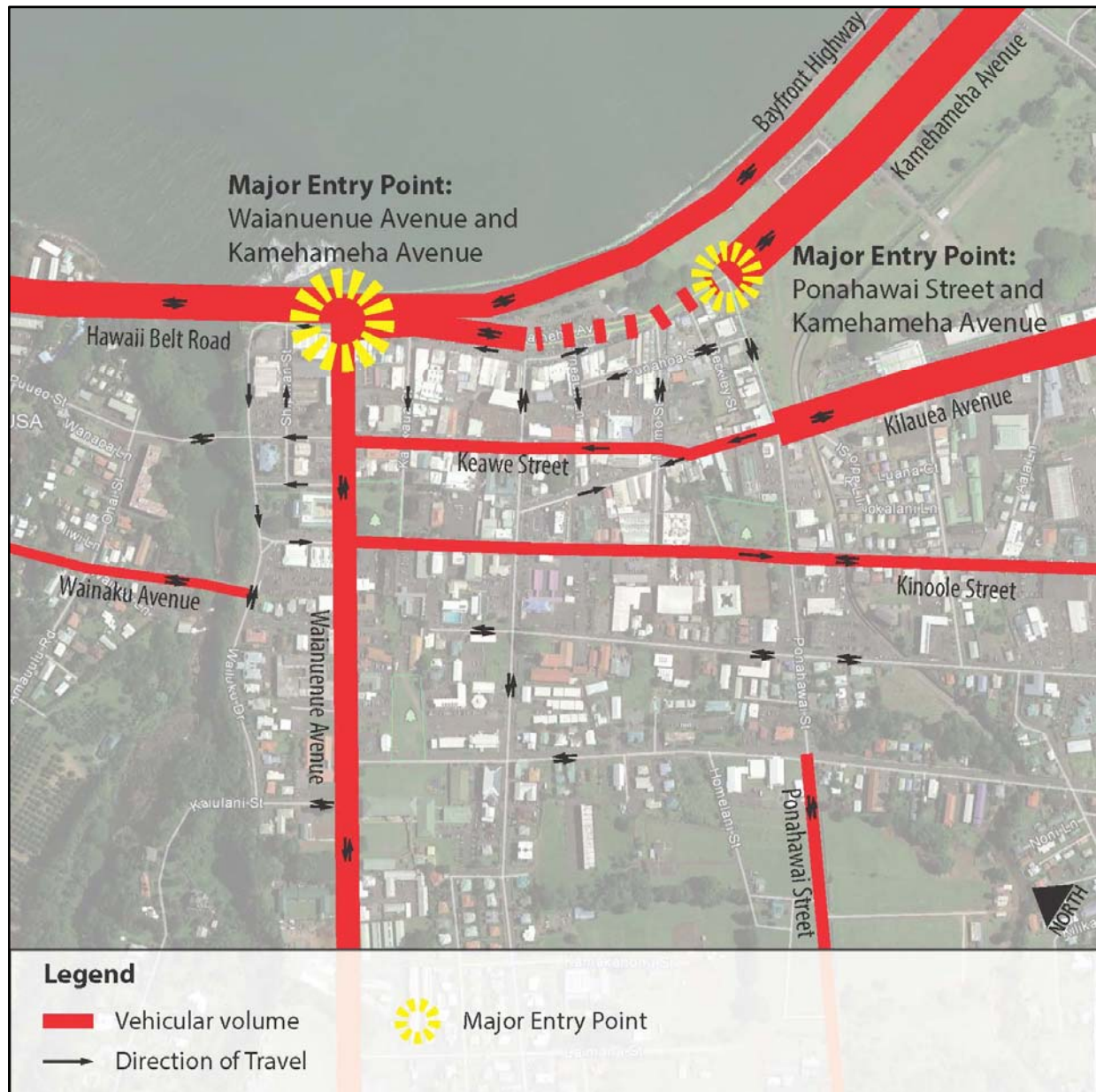
- *Regional Trip Generation* – The majority of trips (69 percent) to and from Downtown Hilo come from areas to the southeast. This includes origins and destinations such as Hilo International Airport, Hilo Harbor, adjacent residential neighborhoods and outlying residential areas such as Kea’au, Pāhoa, and Volcano. Trips to and from the southwest are 18 percent of the total, while trips up the Hāmākua Coastline to the north make up only 11 percent of daily trips.
- *Parking Demand* – Afternoon (12 to 4 pm) is the time when people reported the most difficulty finding parking in Downtown Hilo, followed by late morning (10am-12pm). People interviewed between 5-10 am did not report difficulty finding parking. Many morning parkers are Downtown employees that intend to stay parked in one place most or all of the day.
- *Parking Turnover* – Turnover of parking spaces throughout Downtown ranged from 0.56 to 1.12 parkers per hour. Anecdotally, many employees and business owners admitted to occupying spaces in front of their businesses for longer periods.
- *Traffic Impact Analysis* – The analysis modeled the impact on Level of Service (LOS) for recommended improvements, and concluded that the recommendations would result in improved traffic operations in Downtown Hilo.
- *Accident Data* – Most accidents in Downtown Hilo involved motor vehicles. Both Waianuenue Avenue and Ponahawai Street had several intersections where multiple accidents had occurred.

Each of these data collection activities is described in the following sections. Planned changes to the roadway network and development are described at the end of the Chapter.

3.3.1 REGIONAL TRIP GENERATION

The HDOT roadway ADT were used in conjunction with The *Hawai'i Long Range Land Transportation Plan* (HLRLTP) TransCAD model (CH2M Hill, 2013) to estimate the distribution of trips into and out of the Downtown Hilo area. Figure 7 shows this distribution and the relative size of vehicle volumes on major roadways.

FIGURE 7 – VEHICLE VOLUMES ON MAJOR ROADWAYS CONNECTING TO DOWNTOWN



The majority of trips (69 percent) to and from Downtown Hilo come from areas to the southeast, with bi-directional traffic volumes of approximately 51,000 vehicles per day (vpd) See Figure 8. This includes origins and destinations such as Hilo International Airport, Hilo Harbor, adjacent residential neighborhoods and outlying residential areas such as Kea’au, Pāhoā, and Volcano.

Trips to and from the southwest are 18 percent of the total, approximately 23,000 vpd. These trips provide access to and from adjacent residential neighborhoods, as well as cross island towards Kailua-Kona. Trips up the Hāmākua Coastline to the north make up only 11 percent of daily trips, which equates to approximately 17,000 vpd. There are limited roadway options, and adjacent residential development along the northern route. Trips that start and end within Downtown Hilo make up the remaining 3 percent.

FIGURE 8 - REGIONAL TRIP GENERATION DATA FOR DOWNTOWN HILO



3.3.2 PARKING DEMAND STUDY

Parking data was collected in March 2015 to determine how existing Downtown parking capacity is used. Interception interviews were conducted with people who had parked to ask them questions such as the purpose of their trip and how long they expect to be parked. This was done at the Mo'ohau and Kamehameha parking lots and along Keawe and Haili Streets where on street parking spaces are located.

Table 2 provides the results of the parker's trip purpose by how long they expected to be parked by all respondents. Table 3 includes the trip purpose and length of time parked for all respondents, excluding the 55 respondents who parked in the Mo'ohau lot.

The study also involved assessing people's perceptions of difficulty in finding a convenient place to park. The results of that inquiry are shown in Table 4 below.

TABLE 2 - PARKING TRIP PURPOSE BY LENGTH OF TIME EXPECTED TO BE PARKED REPORTED BY ALL RESPONDENTS

Trip Purpose	480 minutes or more	240 to 479 minutes	120 to 239 minutes	60 to 119 minutes	30 to 59 minutes	Less than 30 minutes	Total	Average Time Expected to be Parked
Work	21	6	3	0	1	2	33	476.4
Shopping	0	1	10	9	16	13	49	58.3
Eating	0	0	6	5	4	1	15	86.7
Other	2	3	6	9	4	3	27	133.0
Totals	23	10	25	23	25	19	124	196.2

TABLE 3 - PARKING TRIP PURPOSE BY LENGTH OF TIME EXPECTED TO BE PARKED EXCLUDING MO'OHEAU RESPONDENTS

Trip Purpose	480 minutes or more	240 to 479 minutes	120 to 239 minutes	60 to 119 minutes	30 to 59 minutes	Less than 30 minutes	Total	Average Time Expected to be Parked
Work	2	5	2	0	0	1	10	277.5
Shopping	0	1	4	6	12	13	36	49.3
Eating	0	0	2	5	4	1	12	54.3
Other	0	0	3	4	2	2	11	69.6
Totals	2	6	11	15	18	17	69	87.1

TABLE 4 - PARKING DIFFICULTY BY TIME PARKED FOR ALL RESPONDENTS

Time	Did you have any difficulty finding a convenient place to park?				Total	Average Time Expected to be Parked
	NO		YES			
	#	%	#	%		
5:00 AM to 10:00 AM	33	86.8%	5	13.2%	38	355.2
10:00 AM to 12:00 PM	10	47.6%	11	52.4%	21	126.9
12:00 PM to 4:00 PM	17	40.5%	25	59.5%	42	54.3
Totals	60	59.4%	41	40.6%	101	196.2

Respondents in the morning period from 5:00 a.m. to 10:00 a.m. typically had no difficulty finding a place to park. These 38 individuals were composed of 27 who reported the purpose of their trip was to go to work. Therefore, it is not surprising that the overall time this group expected to be parked (355.2 minutes) was far greater than what was reported by the other two time groups.

A much greater percentage (52.4 percent) of those interviewed in the 10:00 a.m. to 12:00 p.m. time period reported having difficulty finding a convenient place to park. This increased to 59.5 percent in the 12:00 p.m. to 4:00 p.m. time period.

3.3.3 PARKING TURNOVER STUDY

Parking turnover, or the rate parking spaces become available, is important since it describes the number of opportunities different users will have to occupy a parking space. It is even more important when those users are customers to adjacent businesses. The lower the parking turnover rate, the fewer the number of potential customers. The higher the parking turnover rate, the more likely the nearby businesses are being visited by more customers and enjoying greater economic prosperity.

A parking turnover study was conducted to determine how often parking spaces in Downtown Hilo are turning over. This activity involved observing the arrival and departure of vehicles at different locations to determine how long vehicles were parked in Downtown Hilo overall and by parking time limit. Table 5 includes the results of this parking data collection activity.

Three different locations were observed during different time periods between March 21 and 25, 2015. The three locations were selected to represent different parking time limits: 1) One hour time limit as posted along Keawe Street between Mamo and Haili, 2) Two hour time limit until 4:00 pm as posted in the Kamehameha lots and 3) Eight hour time limit as posted in the Mo'ohau lot. The Kamehameha lots and Mo'ohau lot were divided into north and south sections at Haili Street.

Altogether, 1,830 vehicles were observed parking for an average of about 66 minutes (see Table 5). The one hour time limit spaces have the highest parking turnover rate at 1.12 parkers per hour. The Keawe Street one hour time limit parking area was the most investigated during the parking turnover study because it was the most difficult area to conduct intercept interviews. Keawe Street had 530 observations or about 29% of all observations.

The next highest Parking Turnover observation was for the two hour time limit areas. The parking turnover rate for the two hour limit spaces wasn't much different for the Kamehameha south lot which with a turnover of 1.04 vehicles per hour.

A vehicle belonging to an employee could occupy a parking space in front of a business for four to five hours. By example, along Kamehameha where the parking is restricted to a two hour time limit up to 4:00 PM, restaurant and store employees on an afternoon or evening shift know they can park at 2:00 PM for the rest of the day and evening in close proximity to where they work. Some employees admitted to doing this on a routine basis even if they reported to work earlier. They would move their vehicle parked elsewhere in the morning closer to their work while on a break.

The parking turnover rate for the two hour time limit parking spaces was 1.04 vehicles per hour even with those workers included in the data who were parking in those time restricted spaces and staying much longer. If one worker is monopolizing a parking space for 277.4 minutes that is prohibiting that parking space from being used by 4 to 5 customers. This is a standard situation serving as a deterrent to those who would otherwise patronize Downtown. Ideally, both on and off-street parking should be managed and enforced so that they can accommodate a range of different stay durations based upon the needs of the surrounding land uses. This parking management and enforcement issue is addressed in detail in Section 4.4.

TABLE 5 - PARKING TURNOVER OBSERVATIONS BY TIME LIMIT AND LOCATION

Time Limit	SURVEY CONDITIONS			SURVEY RESULTS			PARKERS PER HOUR
	Location	Date	Time Periods	Number of Observations	Total Minutes Parked	Average Minutes Parked	
1 hour	KEAWE between Mamo and Haili	03/25/15	08:00 to 12:00 and 15:00 to 19:00	530	28,475	53.73	1.12
2 hours	KAMEHAMEHA North Lot	03/24/15	12:00 to 20:00	364	23,322	64.07	0.94
2 hours	KAMEHAMEHA South Lot	03/24/15	12:00 to 16:00	452	26,094	57.73	1.04
8 hours	MOOHEAU North	03/21/15	06:00 to 12:00	107	8,150	76.17	0.79
8 hours	MOOHEAU North	03/24/15	5:00 to 9:00	52	4,825	92.79	0.65
8 hours	MOOHEAU South	03/21/15	06:00 to 12:00	218	23,255	106.67	0.56
8 hours	MOOHEAU South	03/24/15	5:00 to 9:00	107	6,673	62.36	0.96
Totals				1,830	120,794	66.01	0.91

3.3.4 TRAFFIC IMPACT ANALYSIS

The DHMMP technical team conducted a traffic impact analysis which included modeling the effects on level of service (LOS) associated with three scenarios:

- 1) Existing conditions.
- 2) Stand-alone conversion of Keawe and Kino'ole Streets from one-way to two-way and the associated removal of some dedicated turn lanes.
- 3) Full buildout of proposed circulation improvements (as described in Section 4.1.4).

Intersection turning movement counts were taken in October 2015 when school was in session, during the peak periods as determined from historical traffic count data. Average peak hours were determined to be between 7:15-8:15 AM and 4:00-5:00 PM. Counts were taken at the following intersections within Downtown Hilo:

- Kino'ole and Wailuku
- Keawe/Pu'u'eo and Wailuku
- Kino'ole and Waiānuenue
- Keawe and Waiānuenue
- Kamehameha and Waiānuenue
- Kino'ole and Haili
- Keawe and Haili
- Frontage and Haili
- Kamehameha and Wailuku
- Kīlauea/Keawe and Mamo
- Kino'ole and Ponahawai
- Kīlauea and Ponahawai
- Kamehameha and Ponahawai

Existing intersection traffic control and lane configurations were used to create a traffic model using *Synchro Traffic Signal Software*. Peak hour traffic volumes were input into this model and validated using *SimTraffic* traffic simulation software. The individual results from the traffic model are included in a separate report submitted to the County of Hawai'i. Results are summarized below.

For Downtown Hilo, intersection LOS D or better is considered acceptable. For each scenario, the results are summarized as follows:

Existing conditions: Modeling of existing conditions mostly resulted in intersection LOS C or better except for the AM conditions at Kino'ole and Ponahawai and at Kamehameha and Waiānuenue, which resulted in LOS D. Some turning movements at Kamehameha and Waiānuenue resulted in LOS E.

Two-way reconfiguration of Kino'ole and Keawe Streets: All intersections along Keawe and Kino'ole will operate at intersection level of service (operations) LOS B or better. This scenario did not take into account the effects of constructing the other recommended circulation improvements such as roundabouts and roadway extensions.

Full-build reconfiguration: Following the full-build reconfiguration, the resulting intersection operations were LOS B or better with all turning movements LOS C or better.

In conclusion, the analysis showed that the proposed reconfiguration in the interim and full-build conditions would result in improved traffic operations in Downtown Hilo.

3.3.5 ACCIDENT DATA FOR DOWNTOWN HILO

The State Department of Transportation provided accident data along State Highway 19 (Bayfront Hwy) between the Wailuku Bridge and Pauahi Street. Data was provided for the most recent three (3) years on record, which were 2009 to 2011. There were twelve (12) total accidents listed with the following characteristics:

- 1 moped; all others were motor vehicles (no bikes or peds)
- No fatalities
- 3 side swipes
- 3 bridge rail impacts
- 4 curb impacts
- 1 run off the road
- 1 retaining wall impact

The County of Hawai'i Department of Public Works Traffic Division provided accident data for all reported accidents on the entire Island (major and minor) for the years 2012 to 2014. Accidents occurring within the Downtown Hilo area were extracted, and are shown in Table 6 and Figure 7.

Accident data from the Downtown Hilo area between 2012 and 2014 indicated an average of 173 incidents per year. Over that time, one incident involved a pedestrian and one involved a person on a bicycle. While low accident rates involving bicycles and pedestrians may seem to be a good thing, it may also be reflective that the area is not attractive or inviting to bicyclists and pedestrians and/or there is a lack of perceived safety.

TABLE 6 – ACCIDENT DATA FOR COUNTY ROADWAYS IN DOWNTOWN HILO (2012-2014)

Type	Total	Percent Occurrence of
Pedestrian	7	2%
Bike	7	2%
Intersection	196	47%
Due to Parking	77	19%
Midblock	129	31%

Source: County of Hawai'i Department of Public Works, Traffic Division (December 2014)

FIGURE 9 – ACCIDENTS WITHIN DOWNTOWN HILO (2012-2014)



Source: County of Hawai'i Department of Public Works, Traffic Division (December 2014)

3.3.6 ROADWAY ADDITIONS AND CHANGES TO THE NETWORK CURRENTLY IN PROGRESS

The Puainako Street Widening is currently under design and expected to be constructed by 2020. This project includes widening of the existing Puainako Street between Kīlauea Avenue and ʻĀnela Street from two to four lanes, including the addition of dedicated bike lanes in either direction; its realignment between ʻĀnela Street and Komohana Street; and a new two-lane roadway from Komohana Street to Kaumana Drive. Its alignment between West Kawili Street and Komohana Street would be north of the existing Puainako Street and would be between the residences on Puainako Street and the UH Hilo dormitory complex. This existing section of Puainako Street would become a local road that services residents along the roadway.

The Kapiʻolani Street Extension construction that was completed in 2016 provides a two-lane road connection between Lanikāula and Mohouli Streets, which includes sidewalks, bike lanes, and a potential bus shelter pullout and other related improvements. In addition to alleviating traffic congestion on Kīlauea and Kinoʻole Streets, this project provides a bike and pedestrian route that links UH Hilo with Downtown Hilo. It would also facilitate development of underutilized State of Hawaiʻi lands. Construction for this project was awarded in October 2014 and construction is pending, according to the County of Hawaiʻi Public Works website.

Several local streets and pedestrian paths are currently under construction or planned in the UH Hilo west campus area, including a new roadway and bridge structure that will straddle the drainage channel and provide additional access between Komohana Street and West Kawili Street.

3.3.7 PLANNED AND COMPLETED DEVELOPMENT

UH Hilo development is a major contributor to growth in the Hilo area. Nowelo Street, a recent addition to the road network, intersects Komohana Street between Puainako Street and Mohouli Street. This new roadway serves as a collector for the UH Hilo west campus, and the new research park. A bridge structure crosses the Waiākea Stream and connects Nowelo Street to the UH Hilo east campus roadway system. Recent additions to the University campus include the Ka Haka ʻŪla O Keʻelikolani Hawaiian Language Building (opened in January of 2014), Hale ʻAlahonua residence hall (completed in August of 2013), the UH Hilo Student Services Building (completed in 2012), the UH Hilo Science and Technology Building (completed in 2011), and the UH Hilo Portable Buildings (completed in 2009). The Daniel K. Inouye College of Pharmacy is currently under construction as of December 2014. Additional campus expansions are proposed in the *UH Hilo 2020 Long Range Development Plan Update*, including development of a 267 acre parcel owned by the State of Hawaiʻi known as UH Hilo Mauka Lands. This plan devotes 118 acres for the University Park Expansion, 122 acres for the Hawaiʻi Community College (HCC) Komohana Campus, and 18 acres for other University-related functions. A Master Plan has been developed for the University Park Expansion but no development timetable has been established.

UH Hilo developments will have the greatest impact on streets surrounding UH Hilo (e.g., Kapiʻolani Street, Mohouli Street, Komohana Street, and Puainako Street). Traffic through and within Downtown Hilo will also be affected. UH Hilo is a significant trip generator in the area, providing multimodal connectivity from UH Hilo to Downtown Hilo commercial activities (e.g., restaurants, farmer's market, recreation, and nightlife). Trips between these two areas will likely increase with the addition of better pedestrian and bicycle infrastructure.

Phase 1 of the Mohouli Heights Senior Neighborhood Project was completed in March of 2014. The Final Environmental Assessment (FEA) for this project anticipated regional traffic volumes to increase by 1.0% annually between 2011 and 2019, as well as an overall increase in population between 2006 and 2010 of 7.6%.

PART TWO: ALTERNATIVES & RECOMMENDATIONS

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4. TRANSPORTATION COMPONENTS

This chapter provides an overview of six transportation components: 1) Circulation; 2) Pedestrian Improvements; 3) Bicycle Facilities; 4) Parking; 5) Transit; and 6) Streetscape Design. For each component, this Chapter describes:

- Existing Conditions for that component in the Downtown Hilo area;
- Issues related to that component;
- Alternatives considered and later eliminated; and
- Recommendations.

Implementation and phasing for recommended improvements are discussed in Chapter 5, and preliminary cost estimates are included in Appendix F.

4.1 CIRCULATION COMPONENT

4.1.1 EXISTING CONDITIONS

Regional Transportation Network

The major regional access roads that feed into and out of Downtown Hilo are described below. The regional network is shown in Figure 10.

Māmalahoa Highway (Route 19) provides regional access between Downtown Hilo and the northern parts of Hawai'i Island. Upon entering Downtown Hilo, Māmalahoa Highway (Route 19) becomes Bayfront Highway. It serves to allow motorists to bypass the Downtown area. Several streets provide access to Downtown Hilo from the south of the island.

Bayfront Highway is a principal arterial providing regional access between Downtown Hilo and areas to the north. It is the primary route for commercial vehicles and travelers who are looking to bypass Downtown Hilo. Bayfront Highway is four lanes south of the intersection with Waiānuenue Avenue, carrying 10,600 vpd. North of Waiānuenue Avenue, Bayfront Highway crosses the Wailuku River, by way of a two-lane bridge, carrying 17,400 vpd. The 0.6-mile section of Bayfront Highway between the signalized intersections of Pauahi Street and Waiānuenue Avenue does not operate as a principal arterial due to the relatively short span of road. A couple of times a year, this section of Bayfront Highway has to be closed due to ocean conditions that result in high waves crashing over the shoreline washing debris onto the roadway. During these times, Kamehameha Avenue is the sole arterial north and south of Downtown Hilo. Bayfront Highway has only one intersection with a mauka-makai road in Downtown Hilo, at Waiānuenue Avenue. At this location, vehicles are prohibited from turning left from Bayfront Highway into Downtown Hilo. This signalized intersection at Waiānuenue is further complicated by the proximity of Kamehameha Avenue.

Kamehameha Avenue is a four-lane minor arterial. In the Downtown area, it runs parallel to Māmalahoa/Bayfront Highway, and provides access to local streets in Downtown Hilo. East of the Downtown near Banyan Drive, Kamehameha Avenue merges into Māmalahoa/Bayfront Highway, providing access to Hilo International Airport and southern parts of the island. Traffic volumes indicate 10,300 to 11,900 vpd to the north of Ponahawai Street, and 21,200 vpd to the south. At the south end of Downtown Hilo, Kamehameha Avenue intersects with Ponahawai Street and Mamo Street at stop-sign controlled intersections. Between Waiānuenue Avenue and Mamo Street, a single-lane frontage road runs parallel to Kamehameha Avenue with parking on both sides. This frontage road is one way, heading northbound north of Haili Street and heading southbound south of Haili Street. Marked crosswalks exist across Kamehameha Avenue at the intersection with Ponahawai Street, as well as at Mamo Street, which also includes a pedestrian-activated beacon for access to the Hele-On Bus Terminal.

Kīlauea Avenue and Kino'ole Street provide regional access between Downtown Hilo and residential areas to the south. Kīlauea Ave extends further south into residential areas, and eventually merges into Māmalahoa Highway. Waiānuenue Avenue connects to Kaumana Drive and Saddle Road, which provide regional access to the west side of Hawai'i island. Ponahawai Street terminates at the intersection with Komohana Street, an urban major collector which provides access to Puainako Street, an urban minor collector, heading west.

Waiānuenue Avenue connects Downtown Hilo with mauka residential areas and Komohana Street, an urban major collector. Waiānuenue Avenue connects to Kaumana Drive and Saddle Road, which provide regional access to the west of the island. Ponahawai Street terminates at the intersection with Komohana Street, which provides access to Puainako Street, an urban minor collector, heading west.

FIGURE 10 - REGIONAL TRANSPORTATION NETWORK IN GREATER HILO



Internal Downtown Hilo Transportation Network

The Downtown Hilo transportation network operates as a grid system. Streets run in two directions: mauka to makai or north to south (parallel to the shoreline). Several arterial and collector streets are important to internal circulation within Downtown. These streets, which are all County owned, are summarized in Table 7 and shown in Figure 11.

TABLE 7 – SUMMARY OF ARTERIAL AND COLLECTOR STREETS

Street Name	Classification ¹	Owner	Speed Limit	
			Approach ²	Downtown
North-South Roads				
Māmalahoa Highway	Urban Principal Arterial	State	35 mph	25 mph
Bayfront Highway	Urban Principal Arterial	State	35 mph	25 mph
Kamehameha Avenue	Urban Minor Arterial	County	35 mph	25 mph
Kīlauea Avenue	Urban Minor Arterial	County	30 mph	25 mph
Kinoʻole Street	Urban Minor Arterial	County	35 mph	25 mph
Keawe Street	Urban Minor Collector	County	N/A	25 mph
Mauka-Makai Roads				
Waiānuenue Avenue	Urban Major Collector	County	35 mph	25 mph
Ponahawai Street	Urban Minor Collector	County	40 mph	25 mph
Haili Street	Urban Minor Collector	County	N/A	25 mph

¹ Source: *Federal-Aid Functional Classification Update* (HDOT, 2012).

² Represents the speed limit in the direction approaching Downtown Hilo. Source: Hawai'i County Code § 24-253 to § 24-263.

Mauka-makai streets provide access from Downtown Hilo to residential areas to the west.

- **Ponahawai Street** defines the southern boundary of Downtown Hilo. Ponahawai Street links Kamehameha Avenue with Komohana Street and completely traverses the study area.
- **Mamo Street**, a local street, has many retail and commercial stores along it including the Hilo Farmers Market and KTA. Mamo Street extends from Kamehameha Avenue to Kino'ole Street.
- **Haili Street** links Kamehameha Avenue with Puanahale Street, and completely traverses the study area. Haili Street has a large number of retail stores, a few landmarks (e.g., Palace theater, Central Christian Church), and a few vacant lots, which provide an opportunity for infill development.
- **Waiānuenue Avenue** functions as a primary ingress and egress from Māmalahoa Highway to the northern corner of Downtown Hilo. Waiānuenue Avenue also provides regional access (via Kaumana Drive and Saddle Road) to the western parts of the island.
- **Wailuku Drive** links Kamehameha Avenue with Ka'iulani Street and completely traverses the study area. It travels along the northwest boundary of the Downtown Hilo area. The portion of Wailuku Drive between Kamehameha Avenue and Kino'ole Street is one-way in the mauka-bound direction.
- **Other smaller mauka-makai streets** within the Downtown Hilo area include Nawahi Lane, Beckley Street, Furneaux Lane, Kalākaua Street, and Shipman Street.

North-south streets run parallel to the shoreline, and are a mix of one-way and two-way streets.

- **Kamehameha Avenue** and its associated Frontage Road provide access to properties on the makai boundary of Downtown Hilo, the Mo'ohau bandstand and bus terminal, and several off-street public parking lots.
- **Keawe Street and Kino'ole Street** are a one-way couplet that facilitates the majority of northbound and southbound traffic (respectively) in Downtown Hilo. Both of these streets extend across the study area and intersect many of the important mauka-makai streets. Both streets also have retail frontage, however it is more prevalent along Keawe Street.
- **Kīlauea Avenue** is an important street for accessing the Downtown Hilo area from the southern part of the island. However, when entering Downtown Hilo (at the intersection with Ponahawai Street), Kīlauea Avenue transitions from a two-way minor arterial to a one-way minor collector. At the intersection with Mamo Street, Kīlauea Avenue terminates in the northbound direction and transitions into a one-way southbound street, which terminates at the intersection with Haili Street.
- **Kapi'olani Street** defines the western boundary of Downtown Hilo and provides access to residential properties as well as several points of interest.
- **Other smaller north-south** streets within the Downtown Hilo area include Kekaulike Street, Ululani Street, Furneaux Lane, and Punahoa Street.

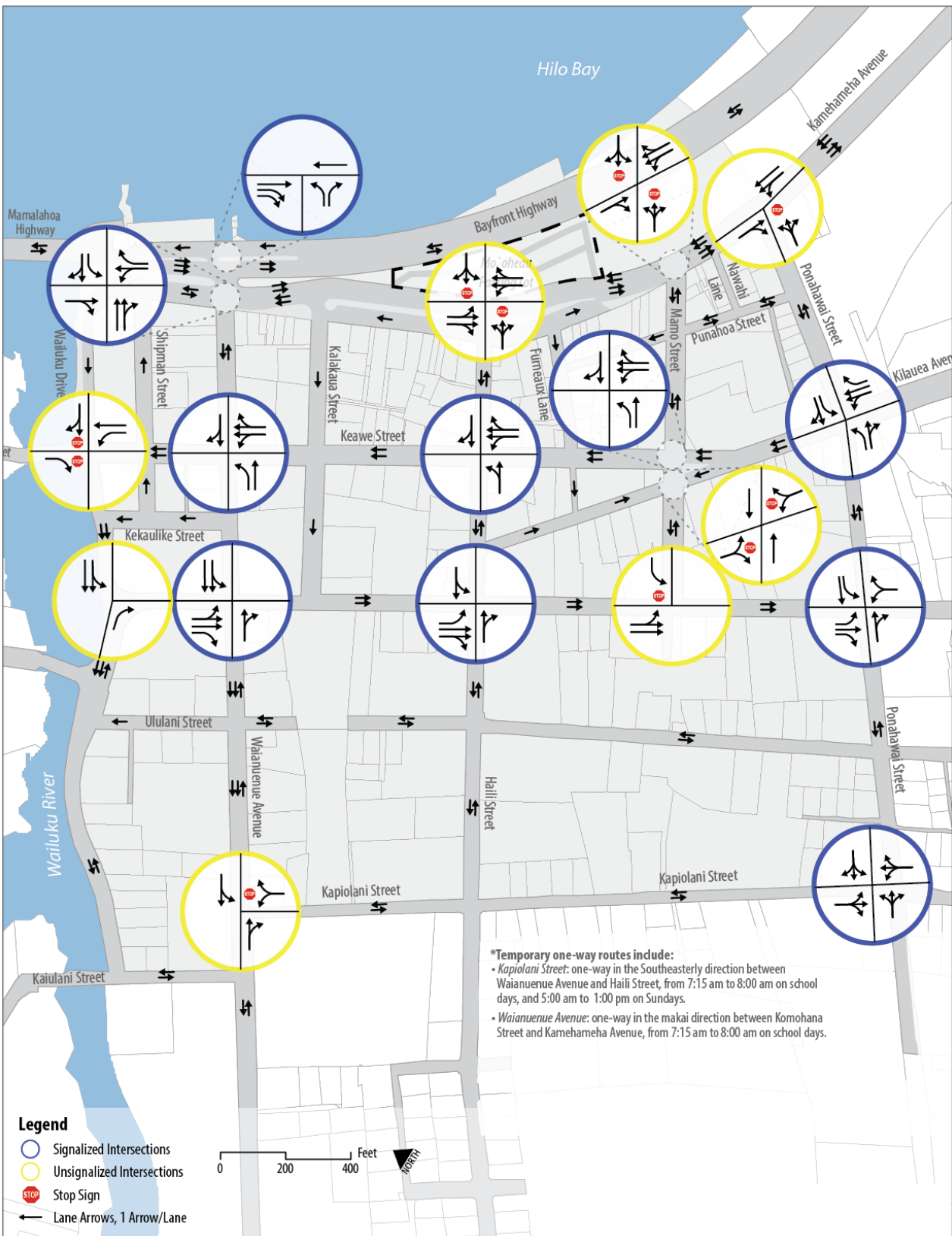
The grid network of streets that characterizes Downtown Hilo is common for central business districts. This grid system results in more frequent roadway intersections, which results in a high number of conflict points, but on the other hand provides great connectivity. Intersections in Downtown Hilo are spaced between 150 and 500 feet apart in the blocks bounded by Kamehameha Avenue and Kino'ole Street. Blocks become further apart in the area bounded by Kino'ole Street and Kapi'olani Street, with 750 foot block lengths. Figure 12 shows the lane configuration and traffic control at major intersections in Downtown Hilo. Major roadways leading into and through Downtown Hilo (Table 7) have posted speed limits of 30 to 40 mph, which are reduced to 25 mph within the Downtown area as specified by Hawai'i County Code, Section 24-255 (11).

Figure 12 shows the existing roadway and intersection configurations within Downtown Hilo during normal operating hours. Waiānuenue Avenue in the Downtown Hilo area becomes a one-way (eastbound) street between 7:15 AM and 8:00 AM on school days. During those same times, a section of Kapi'olani Street between Waiānuenue Avenue and Haili Street becomes a one-way (southbound) street. This portion of Kapi'olani Street is also one-way between 5:00 AM and 1:00 PM on Sundays.

FIGURE 11 - DOWNTOWN HILO TRANSPORTATION NETWORK



FIGURE 12 - EXISTING ROADWAY AND INTERSECTION CONFIGURATION



Note: This figure reflects existing conditions at the time the study was prepared in 2017. In finalizing the report, it is noted that changes to lane and intersection configurations have occurred along Waiānuenue Avenue.

4.1.2 DISCUSSION OF ISSUES RELATED TO CIRCULATION

Circulation issues in Downtown Hilo are discussed below.

- 1) Street design encourages higher speeds. The posted speed limit throughout Downtown Hilo is 25 mph. Roads entering Downtown have posted speed limits of 30 to 40 mph. Street lane widths and visual cues can encourage drivers to drive at higher speeds. In the absence of a change in road design characteristics entering Downtown, a change in speed limit is not likely to affect motorist driving behavior and many will continue through Downtown in the 30 to 40-mph range. Community input from residents and users of Downtown supports this. Intersection and street design is important to slow through traffic and cue motorists to yield to pedestrians and bicyclists.
- 2) One-way streets diminish benefits of the compact grid. Downtown Hilo is made up of a roadway network that includes a compact grid of 300 to 750-foot block lengths. The existing roadway lane and intersection configuration is shown on Figure 12. Compact grid networks are beneficial for connectivity and multimodal travel because pedestrians and bicyclists can take a more direct path to their destination. However, a large number of the streets in Downtown Hilo are one way only, which diminishes the benefits of a compact network. The result is that motorists often take long circuitous routes in search of Downtown parking that artificially increases the traffic volumes. Those motorists who are not familiar with the road network are left to drive further out of their way.
- 3) Downtown streets are used as throughways which encourages speeding by commuters. Downtown Hilo streets were converted to one-way in the mid-1970s. These changes were intended to increase vehicular capacity and to reduce delays through downtown caused by left turning movements and vehicles maneuvering in and out of on-street parking stalls. Downtown Hilo's one-way streets are now largely used as throughways for commuting vehicles that make their way through Downtown as quickly as possible. These conditions are a detriment to creating a safe multimodal environment where pedestrians can cross the street and bicyclists can share the road

Anecdotal Comments from Community Outreach

- In Downtown Hilo, roads are being used for both through and local traffic creating complex conditions that are not hospitable to alternate modes of travel.
- There's a problem with circulation Downtown due to people circling to find parking.
- A "park once and walk" strategy would be supported by temporary roadway closures to encourage walking.
- Reverse-in angled parking is not preferred.
- The Waiānuenue Street counter flow serves some, although many believe it needs to change especially with the change in demographics. This will alleviate some congestion caused by students waiting to park.
- Kino'ole Street two-way could be a problem with the McDonalds drive-through backing into the road as it currently does.
- Waiānuenue – Kapi'olani: The reasons they are one way is archaic.
- Having Downtown streets be two-way is a good idea and will move traffic better.
- If Keawe and Kino'ole were converted into two way streets, it would open up many possibilities.
- Biking through roundabouts works well.
- Having a roundabout at Waiānuenue makes sense, it would slow traffic.
- I'd like to see Ponahawai pushed through to Bayfront.

Comments reflect a sample of diverse views and opinions. Not all comments were included. Numerous views and considerations were taken into account when developing plan recommendations.

safely. Ultimately, this exacerbates the problem of motorists searching for parking because there is a perception that walking is not safe or convenient in the Downtown area.

- 4) Several key intersections have multiple conflicting movements. The primary location of conflict in this and most transportation networks is at intersections. Traffic calming measures would improve multimodal conditions by slowing vehicle speeds and reducing conflicts. This can be done through reconfiguration as roundabouts or by creating more compact intersections by using curb extensions and removing dedicated turn lanes.
- 5) Vehicles queue for turns into the driveways serving McDonald's on Kino'ole Street. There are currently four driveways serving the McDonald's: three along Kino'ole Street and one on Kilauea Avenue. The driveways on Kino'ole are close enough to the intersection with Haili that they present a stacking problem when vehicles queue up to turn into the driveways in the southbound direction along Kino'ole. These multiple driveways are not ideal for access control, and they present multiple conflict points for pedestrians walking along the sidewalk. With the proposed conversion of Kino'ole from one-way to two-way travel, additional mitigation that controls access to these driveways is recommended. Closing driveways or reconfiguring the internal circulation would be effective but may not be feasible. An alternative solution is to prohibit left-turns into the drive-through driveway. This will allow vehicles to queue along the curb in the northbound direction. The proposed reconfiguration to two-way travel will allow for vehicles to bypass the queue by using alternate roads since all the major roads will be two-way and parallel routes will exist.
- 6) There are poor connections to Bayfront Highway, by foot or bicycle. There is only one vehicle connection to Bayfront Highway at the intersection with Waiānuenue Avenue. In order to reduce delay along Bayfront Highway, multiple turn lanes have been included for vehicular movement towards Downtown Hilo. This results in a large intersection that is difficult to travel through on foot or by bicycle, particularly for those wishing to cross Bayfront Highway. Additionally, no marked crosswalks exist, which hinders multimodal accessibility. Additional protected access points are needed that reduce vehicular movements through the single intersection and enable multimodal connections across Bayfront Highway.
- 7) Low pedestrian and bicycle usage is likely due to an inhospitable environment. This is supported by the very low percentage of multimodal usage in Downtown Hilo. In order to transform Downtown Hilo into an area that is safe and accessible by pedestrians and bicyclists, vehicular mobility needs to take a lesser priority.

4.1.3 ALTERNATIVES CONSIDERED

One alternative considered was retaining one-way travel along Keawe Street but narrowing it by reducing to one lane of vehicular travel and reconfiguring the cross-section to include a dedicated bike lane and angled parking. These ideas were eliminated, as they decreased vehicle capacity in the Downtown grid without improving connectivity.

An additional connection from Downtown Hilo to Bayfront Highway at Haili Street was considered in order to increase access to Bayfront from Downtown. This was eliminated due to the possibility that it would degrade the viability of Bayfront Highway to serve as a bypass to Downtown for through-traveling vehicles. Without Bayfront Highway providing this opportunity to avoid Downtown Hilo traffic, more vehicles may route their trips through Downtown, which would have a negative effect on multimodal accessibility. As an alternative, right-in/right-out access at Haili Street was also considered, however it too was dismissed due to the need to reconfigure the existing Mo'ohau parking lot.

Different intersection treatments were considered along the two arterial roadways separating Downtown Hilo and Hilo Bay. In order to provide a safe pedestrian and bicycle connection, different access locations and treatments were considered.

Multiple alternatives were considered for the intersection of Bayfront Highway, Kamehameha Avenue, and Waiānuenue Avenue, which is a complex intersection and one of the main entrances into Downtown Hilo. Considerations for this intersection included providing safe crossings for pedestrians and bicycles across Bayfront, enabling better access to Downtown Hilo from Bayfront Highway, and simplifying the movements at this complex interchange. Solutions for this intersections were considered in tandem with the alternative of providing an additional connection from Downtown to Bayfront Highway at Ponahawai Street. These included: 1) signalized intersections at both this location and the new Ponahawai/Bayfront intersection; 2) a multi-lane roundabout at this location, with or without the Ponahawai extension; and 3) a single-lane roundabout, which would be dependent upon the Ponahawai extension to divert traffic volumes.

Without the Ponahawai Street extension, existing traffic volumes at the intersection of Bayfront Highway, Kamehameha Avenue, and Waiānuenue Avenue are high enough to warrant a multi-lane roundabout. The figure at right shows how a multi-lane roundabout would fit at this location. However, multi-lane roundabouts are less desirable than single lane roundabouts for a number of reasons. They involve a higher number of conflicting and interacting movements, increasing the threats to pedestrians crossing the lanes, and to bicycles navigating through the roundabout.

The DHMMP Study Team found that adding the Ponahawai Street extension to Bayfront Highway and placing a roundabout there would alleviate traffic volumes at the intersection with Waiānuenue Avenue sufficiently to justify a single-lane roundabout.

Another alternative considered was to use traffic signals to control both the Waiānuenue and Ponahawai intersections with Bayfront. While this would accommodate traffic volumes and movements adequately, roundabouts are preferred for their ability to keep traffic flowing, safely accommodate all modes, accommodate a full range of turning movements, provide crossings on all legs, and to serve as gateway features into Downtown Hilo.

FIGURE 13 – MULTI-LANE ROUNDABOUT – BAYFRONT HIGHWAY WITH KAMEHAMEHA AVENUE AND WAIĀNUENUE AVENUE (NOT RECOMMENDED)



4.1.4 RECOMMENDATIONS

The proposed reconfiguration of circulation within the Downtown Hilo transportation network is aimed at reducing travel speeds on all Downtown streets to 20 mph to achieve a comfortable multimodal environment. This would be accomplished by keeping lanes narrow and providing inset on-street parking with roundabouts, curb extensions and bus bulb-outs at certain intersections. Furthermore, providing amenities such as landscaping, parklets and bicycle corrals will enhance the multimodal environment.

Proposed roadway extensions within Downtown Hilo enable additional circulation and access while improving the transportation grid. The proposed extension of Ponahawai Street provides an alternative access to Bayfront Highway, reducing vehicular volume at the intersection with Waiānuenue Avenue, while also providing enhanced access between Hilo Bay, Bayfront Highway, and Downtown Hilo.

The expected result is a reduction of vehicle travel speeds, which enables safer pedestrian crossings and bicycle travel. Capacity of the roadway network is not expected to change; however, current vehicle trips should be reduced due to a reduction in through-travel and circling for available parking in addition to the improved ability to walk or bike to destinations. Slower speeds through Downtown will encourage through-traveling drivers to take streets such as Bayfront Highway, Kamehameha Avenue, or Kino'ole Street. Kīlauea Avenue, Keawe Street, and Frontage Road are expected to serve more local traffic.

To achieve this, the recommendations include the conversion of roads to two-way travel, inclusion of traffic calming features at intersections, the extension of existing roads, and the reconfiguration of roadway cross-sections that gives multimodal travel priority. These changes are reflected on Figure 14 and summarized in the text box on the following page.



The intersection of Waiānuenue Avenue, Bayfront Highway, and Kamehameha Avenue is proposed to be reconfigured with a roundabout with pedestrian crossings on all legs.

Recommendations for Circulation

A-1) Convert most one-way roads in Downtown Hilo to two-way travel. These include Keawe Street, Kino'ole Street, Wailuku Drive, Kalākaua Avenue, the Frontage Road, and a portion of Ululani Street (Figure 15).

A-2) Tighten intersection configuration and eliminate dedicated turn lanes at key locations (Figure 16).

A-3) Add roundabouts at seven locations to facilitate slow vehicle travel while enabling safe multimodal use along the periphery of Downtown Hilo (Figure 16).

A-4) Reconfigure Kamehameha Avenue between Ponahawai Street and Waiānuenue Avenue to a two-way, two-lane road, with dedicated center turn lane or median, and parking protected bike lanes.

A-5) Complete roadway extensions of Ululani Street, Mamo Street, and Ponahawai Street (Figure 22).

A-6) Alter lane configuration within existing cross-sections to provide for two-lane, two-way vehicular travel, dedicated facilities for bicycles, bus stop loading zones, and reorganized on-street parking.

A-7) Apply traffic calming with narrowed lane widths and reduced speed limit. Apply a default lane width of 10 feet to local and collector roadways in Downtown Hilo, with exceptions made for 9-foot-wide lanes for alleyways. Combine this with a posted and target speed of 20 mph.

A-8) A mix of parallel and angled on-street parking is recommended in Downtown Hilo, as shown in Figure 24 and Figure 25.

A-9) Convert Keawe Street to two-way and reduce travel speeds on Keawe Street to 20 mph to achieve a comfortable multimodal environment amenable to shared bike use and safe pedestrian crossings. Accommodate bus loading zones for a new circulator shuttle (described in Section 4.5).

A-1. Two-Way Conversion

This recommendation is to convert major roads in Downtown Hilo from one-way to two-way travel. These include Keawe Street, Kino'ole Street, Wailuku Drive, Kalākaua Avenue, the Kamehameha Frontage Road, and a portion of Ululani Street.

This will reduce vehicular speeds and improve multimodal connectivity while maintaining roadway capacity. One-way streets correlate with higher speeds and decreased levels of driver attention, which negatively affects the multimodal environment. This includes the safety of pedestrians crossing the street and bicycles sharing the vehicle lane or traveling adjacent to traffic.

One-way streets serve a higher volume of vehicles due to the ability to move more cars faster, with less conflicts, along a corridor. However, this benefit primarily aids long-distance trips while detracting from shorter distance Downtown trips as it requires vehicles to travel out of their way to reach their destination.

Two-way streets are less confusing for Downtown visitors as they can approach their destination in any direction. Two-way streets have also been shown to be better for local businesses that depend on their visibility to passerby motorists. The resulting impact on vehicle congestion, on-street parking, and ability to install dedicated bike lanes was considered when proposing these changes. A list of the existing and proposed roadway one/two-way travel is included in Table 8 and shown on Figure 15.

The effects on intersection level of service was modeled for proposed circulation changes within Downtown. The two-way conversion of Keawe and Kino'ole Streets alone will result in an acceptable level of service (LOS B or better) for all intersections along the corridor. If all of the recommended improvements are implemented, major intersections in Downtown will operate at LOS B or better, with all turning movements at LOS C or better. This is an acceptable level of performance for Downtown Hilo. The results are described in further detail in Section 3.3.4.

FIGURE 14 - PROPOSED DOWNTOWN HILO CIRCULATION



Note: As this report was being finalized, lane configurations were changed along Waiānue Avenue consistently with the recommended lane reduction between Kapi'olani and Kino'ole Streets.

FIGURE 15 - PROPOSED ROADWAY TWO-WAY CONVERSION



Note: As this report was being finalized, lane configurations were changed along Waiānue Avenue consistently with the recommended lane reduction between Kapi'olani and Kino'ole Streets.

TABLE 8 - PROPOSED ROADWAY RECONFIGURATION FROM ONE TO TWO-WAY USE

Street Name	To	From	Roadway Configuration	
			Existing	Proposed
Bayfront Highway	Wailuku Drive	Ponahawai Street	Two-Way	Two-Way
Kamehameha Avenue	Wailuku Drive	Ponahawai Street	Two-Way	Two-Way
Frontage Road	Mamo Street	Waiānuenue Avenue	One-Way	Two-Way
Kīlauea Avenue	Keawe Street	Ponahawai Street	One-Way	Two-Way
	Mamo Street	Keawe Street	One-Way	Pedestrian Plaza
	Haili Street	Mamo Street	One-Way	Two-Way
Kino'ole Street	Wailuku Drive	Ponahawai Street	One-Way	Two-Way
Ululani Street	Wailuku Drive	Waiānuenue Avenue	One-Way	Two-Way
	Waiānuenue Avenue	Ponahawai Street	Two-Way	Two-Way
Waiānuenue Avenue ¹	Bayfront Highway	Ka'iulani Street	Two-Way	Two-Way
Ponahawai Street	Kīlauea Avenue	Kamehameha Avenue	Two-Way	Two-Way
	Kapi'olani Street	Kīlauea Avenue	Two-Way	Two-Way
Keawe Street	Wailuku Drive	Kīlauea Avenue	One-Way	Two-Way
Kapi'olani Street ²	Waiānuenue Avenue	Ponahawai Street	Two-Way	Two-Way
Haili Street	Kamehameha Avenue	Kapi'olani Street	Two-Way	Two-Way
Mamo Street	Kamehameha Avenue	Kino'ole Street	Two-Way	Two-Way
Wailuku Drive	Bayfront Highway	Ka'iulani Street	One-Way	Two-Way
Shipman Street	Kekaulike Street	Kamehameha Avenue	One-Way	One-Way
Kekaulike Street	Wailuku Drive	Waiānuenue Avenue	One-Way	One-Way
Kalākaua Street	Frontage Road	Kino'ole Street	One-Way	Two-Way
Furieux Lane	Frontage Road	Kīlauea Avenue	One-Way	One-Way
Punahoa Street	Furieux Lane	Ponahawai Street	Two-Way	Two-Way

¹ Waiānuenue Avenue is one-way in the makai direction between Komohana Street and Kamehameha Avenue, from 7:15am to 8:00am on school days

² Kapi'olani Street is one-way in the Southeasterly direction between Waiānuenue Avenue and Haili Street, from 7:15am to 8:00am on school days, and 5:00am to 1:00pm on Sundays.

A-2. Intersection Configuration

Tighten intersection configuration and eliminate dedicated turn lanes at key locations (Figure 16). These include:

Removed turn lanes:

- Northbound left-turn lane along Keawe St at Wailuku Dr
- Northbound right-turn lane along Keawe St at Shipman St
- Westbound right-turn lane along Kalākaua St at Keawe St
- Eastbound left-turn lane along Mamo St at Keawe St
- Westbound left-turn lane along Ponahawai St at Kino'ole St
- Southbound right-turn lane along Kino'ole St at Ponahawai St
- Southbound left-turn lane along Kino'ole St at Ponahawai St
- Southbound left-turn lane along Kino'ole St at Haili St
- Southbound right-turn lane along Kino'ole St at Waiānuenue Ave

The following dedicated turn lanes are proposed for removal with the ultimate intent for the intersection conversion to a roundabout:

- Westbound left-turn lane along Ponahawai St at Kīlauea Ave
- Eastbound left-turn lane along Ponahawai St at Kīlauea Ave
- Northbound right-turn lane along Kīlauea Ave at Ponahawai St
- Northbound right-turn lane along Kamehameha Ave at Waiānuenue Ave
- Westbound left-turn lane along Waiānuenue Ave at Kamehameha Ave
- Southbound right-turn lanes along Bayfront Hwy at Waiānuenue Ave

Primary intersections in Downtown Hilo are controlled by traffic signals while lower volume intersections have stop signs for the minor approaches. Without opposing vehicular movements along one-way roads, turning movements can be made without delay at higher speeds. This enables higher vehicular speed and volume, which are a detriment to the safety and travel of pedestrians. To further improve multimodal travel, smaller intersections enable shorter crossing distances and result in slower vehicle turning speeds. This can be accomplished by removing dedicated turn lanes.

With the conversion of roads to two-way, removal of certain dedicated turn lines combined with opposing vehicular movements will slightly increase delays at some intersections. This change will have the largest effect on vehicles using Downtown Hilo roads as a through-way, thereby encouraging them to use a different road or travel at a reduced speed. The traffic model conducted for proposed circulation improvements (see Section 3.3.4) demonstrated that turning movements at intersections with these improvements will operate at level of service C or higher, which is acceptable for Downtown Hilo.

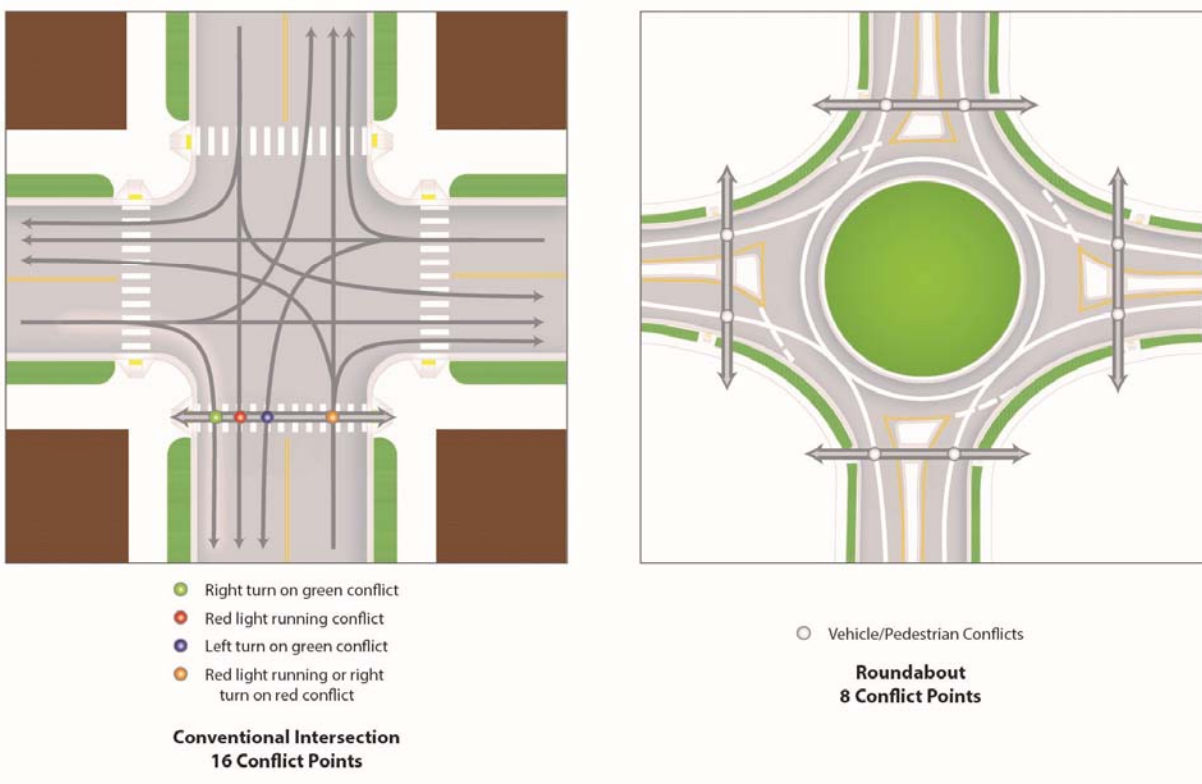
A-3. Roundabouts

Add seven roundabouts in order to facilitate slow vehicle travel while enabling safe multi-modal use along the periphery of Downtown Hilo:

1. Haili Street at Kamehameha Avenue (Figure 17)
2. Haili Street at Frontage Road (Figure 17)
3. Kīlauea Avenue at Ponahawai Street (Figure 18)*
4. Kino'ole Street and Wailuku Street (Figure 19)
5. Ponahawai Street and Kamehameha Avenue (Figure 20)*
6. Ponahawai Street and Bayfront Highway (Figure 20)*
7. Bayfront Highway and Waiānuenue Avenue (Figure 21)*

**These roundabouts will act as gateways to Downtown Hilo and may incorporate features such as landscaping, signage, and water features.*

The proposed roundabouts will help to keep traffic flowing while maintaining slow vehicular speeds. Roundabouts are amenable to sharing the lane with bicycles and giving pedestrians the right-of-way. Roundabouts have also been shown to be safer than other types of intersection controls – they greatly reduce the number of potential conflict points and can reduce crashes resulting in injuries by as much as 90 percent (Stone et al., 2002). The diagram below demonstrates how roundabouts reduce vehicle/pedestrian conflict points.



Source: Federal Highways Administration Roundabout Guide (2000)

Roundabouts can serve as gateways into Downtown Hilo, slowing vehicular speeds while giving priority to multimodal travel (see Section 4.6.5 for further discussion on gateways). Roundabouts can be designed for a maximum entry speed of 20 mph, which results in increased safety for vehicles, crossing pedestrians, and bicyclists sharing the lane. Single-lane roundabouts, and urban compact or mini-roundabouts where space is constrained, are recommended for Downtown Hilo. Figure 16 shows the proposed locations of the seven roundabouts in Downtown Hilo.

Characteristics of different roundabout types are included in Table 9. Where truck traffic is expected, a WB-50 semitrailer truck serves as the design vehicle for roundabouts. A 105-foot diameter inscribed circle is needed to permit a WB-50 semitrailer truck vehicle to travel around a raised center island. In areas with truck traffic where this diameter is not possible, a mountable center island or apron can be provided to allow continued access by trucks.

The project team analyzed each of these intersections to ensure that single-lane roundabouts could fit within the existing right-of-way and accommodate traffic volumes. It should be noted that there are linkages between some of these roundabouts, meaning that one is dependent upon another being implemented in order to function as intended. These linkages apply to the following locations:

- Haili Street at Kamehameha Avenue and Haili Street at Frontage Road. As the intersections along Haili Street are closely spaced, these two roundabouts will necessarily function as a double mini single-lane roundabout (Figure 17).
- Ponahawai Street and Bayfront Highway (Figure 20) and Bayfront Highway and Waiānuenue Avenue (Figure 21). With the proposed extension of Ponahawai Street to Bayfront Highway, traffic volumes along Waiānuenue Avenue will be reduced, thereby allowing for the reconfiguration to a single-lane roundabout. The intersection of Ponahawai Street and Bayfront Highway will also be a single-lane roundabout due to the proximity of these intersections and need for consistent vehicular travel speeds. This will also allow for marked crosswalks, providing a pedestrian and bicycle connection between Downtown Hilo and Hilo Bayfront at two locations.

TABLE 9 – MODERN ROUNDABOUT TYPE CHARACTERISTICS

Roundabout Type	Typical ADT (vehicles)	Max. Peak Hour Volume (vehicles)	Inscribed Circle Diameter (feet)	Entry Lane Width (feet)		Circulating Lane Width (feet)	Central Island Type
				Min.	Max.		
Mini Single-Lane	10,000 - 15,000	1,000	45-90	12	15		Fully traversable apron
Urban Compact	15,000	1,000	80-100	12	15		Raised
Single-Lane	20,000 - 25,000	1,300	90-150	14	18	16 - 18	Raised
Multi-Lane	30,000 - 45,000	1,300	150 - 300	24	30	14 - 16	Raised

A-4. Reconfiguration of Kamehameha Avenue from Ponahawai Street to Waiānuenue Avenue

The recommendation is to reconfigure Kamehameha Avenue between Ponahawai Street and Waiānuenue Avenue to a two-way, two-lane road with parking-protected bike lanes.

An excess of capacity exists for the section of Kamehameha Avenue that passes through Downtown Hilo between Ponahawai Street and Waiānuenue Avenue. This volume of traffic could be accommodated with fewer lanes, which would allow for additional roadway space to be converted for other uses to improve the multimodal environment. The loss of parking resulting from the widening of the pedestrian space along the Frontage Road can be partially offset by the reconfiguration of Kamehameha Avenue.

As discussed above, Kamehameha Avenue's intersections with Waiānuenue Street and with Ponahawai Street are recommended to be reconfigured as single-lane roundabouts, with a third roundabout at Haili Street. Between these roundabouts, the recommendation is to reconfigure Kamehameha Avenue between Ponahawai Street and Waiānuenue Avenue to a two-way, two-lane road with a dedicated left-turn lane (at intersections without roundabouts – see cross section below) or raised landscaped median (at intersections with roundabouts). Parallel on-street parking is recommended on both sides of the street along the length of the reconfigured section, with bike lanes between parking and curbs. The ongoing Kamehameha Avenue improvements construction can be transitioned into this two-lane section of road at the reconfigured intersection with Ponahawai Street. After this intersection, it is recommended that bike lanes are transitioned to a location between on-street parking and the curb, creating protected bike lanes in either direction.

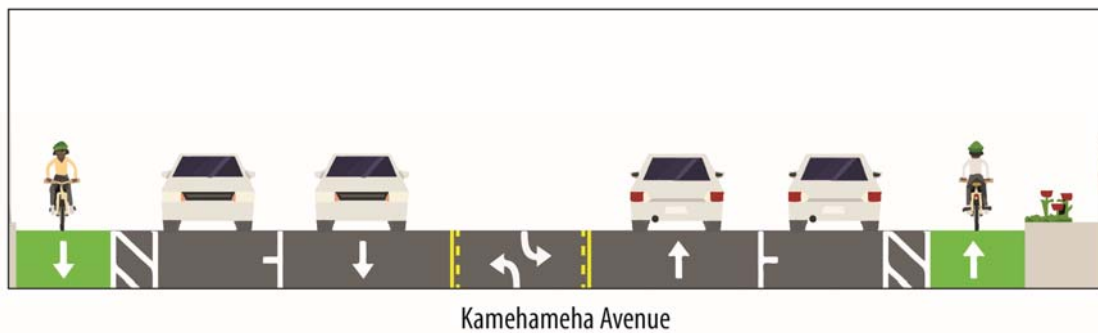
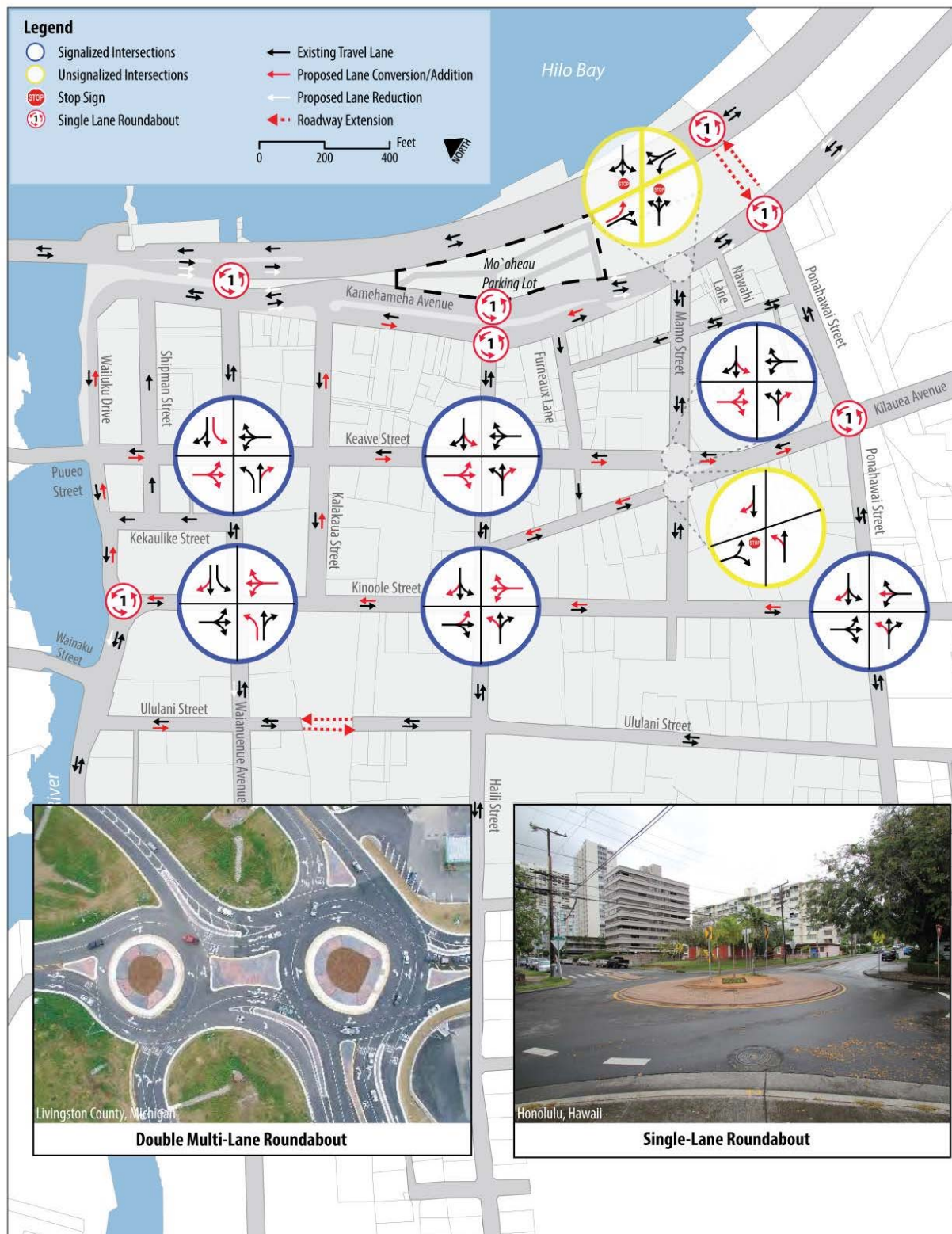


FIGURE 16 - PROPOSED INTERSECTION RECONFIGURATION



Note: As this report was being finalized, lane configurations were changed along Waiānuenu Avenue consistently with the recommended lane reduction between Kapi'olani and Kino'ole Streets.

FIGURE 17 – DOUBLE MINI SINGLE-LANE ROUNDABOUT - HAILI STREET AT KAMEHAMEHA AVENUE AND AT FRONTAGE ROAD

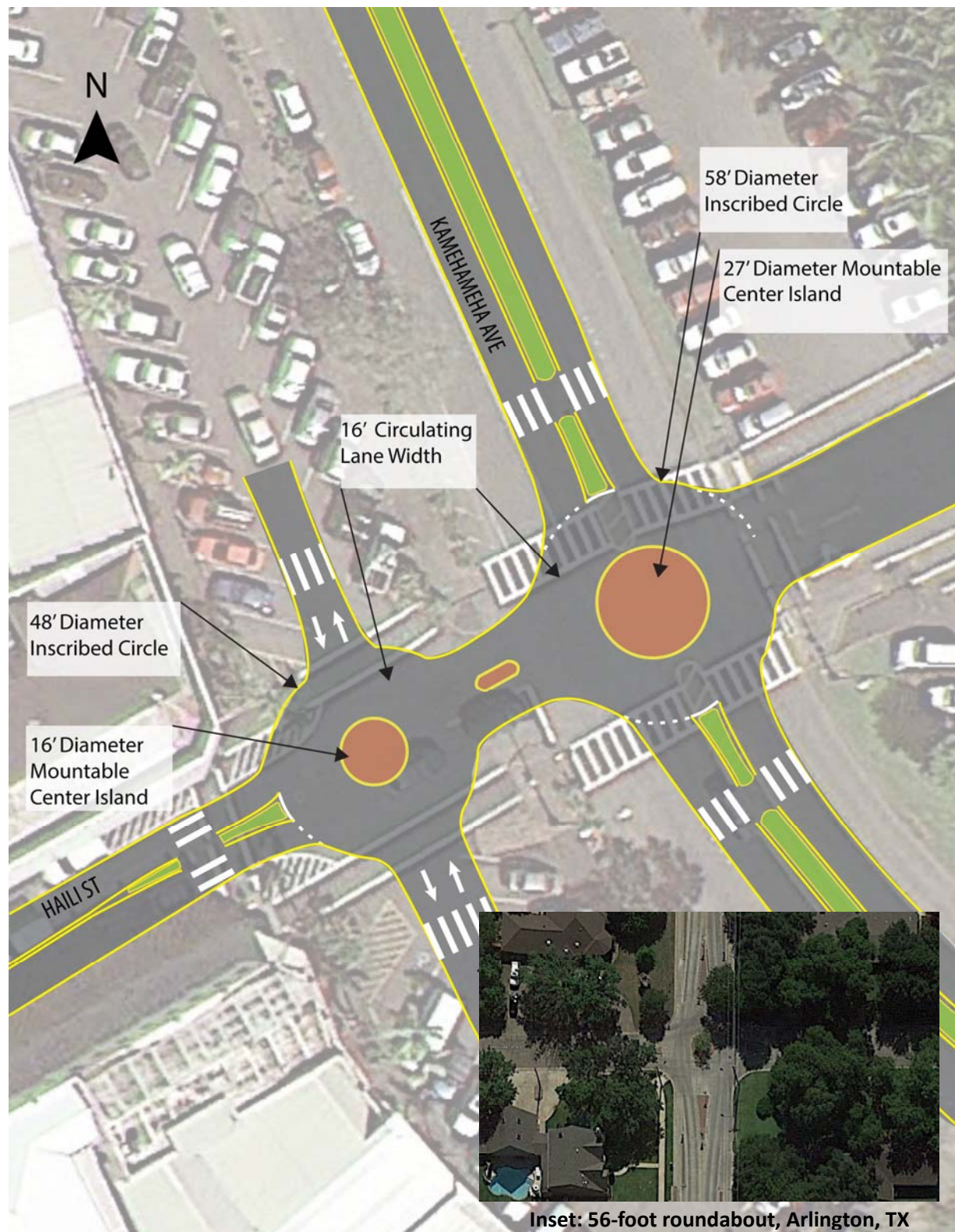


FIGURE 18 – MINI SINGLE-LANE ROUNDABOUT - KĪLAUEA AVENUE AT PONAHAHAWI STREET

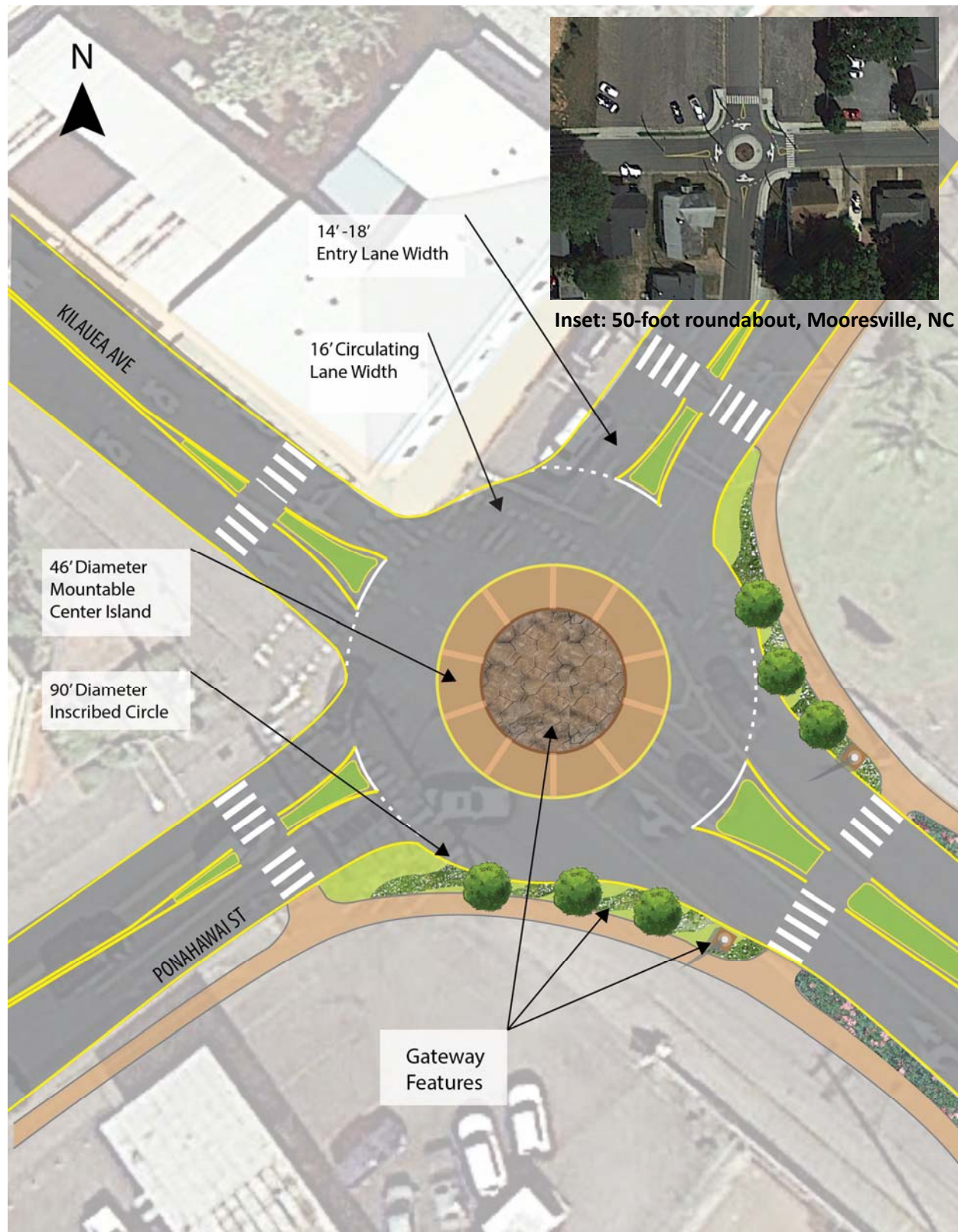
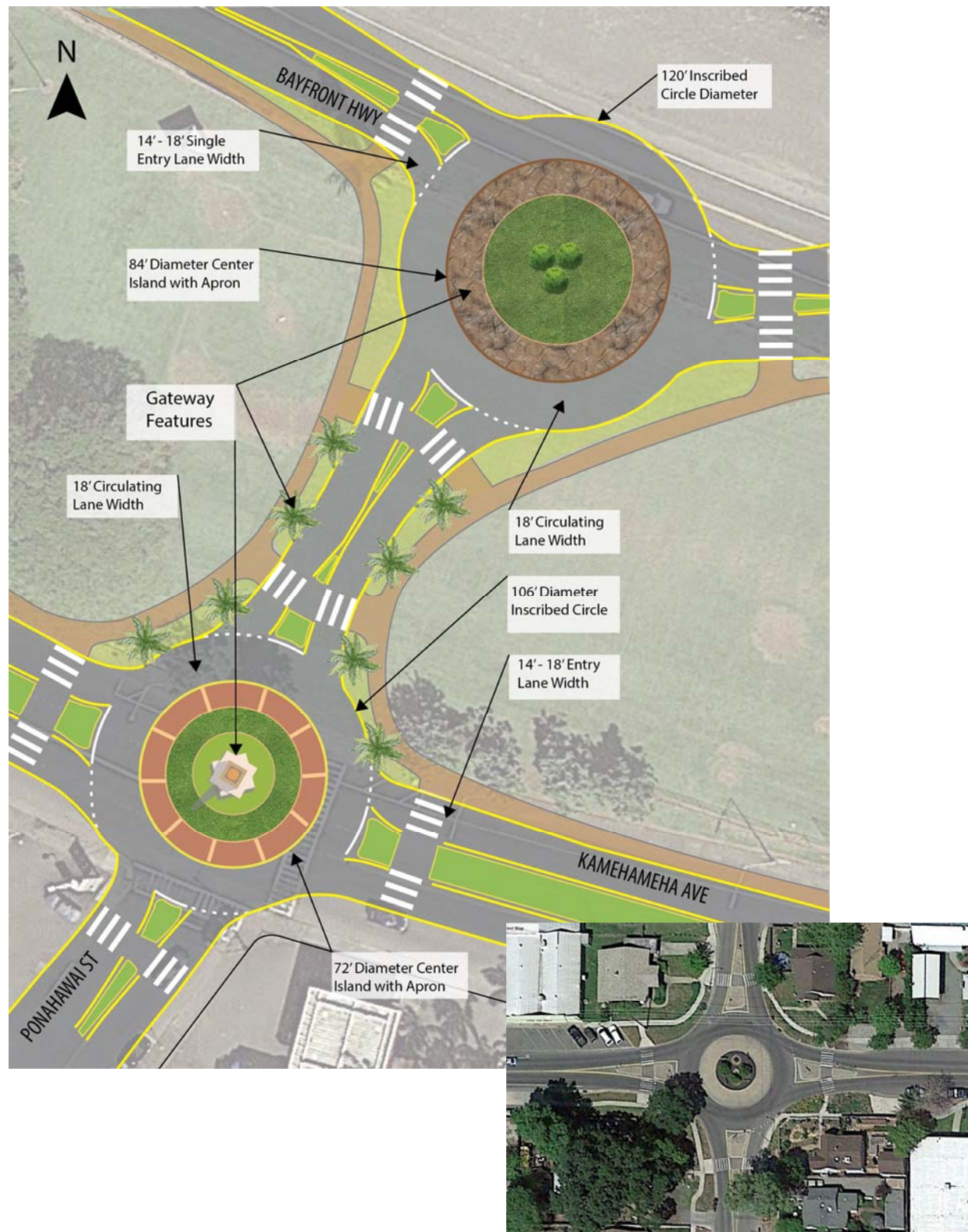


FIGURE 19 – SINGLE-LANE ROUNDABOUT - KINO'OLE STREET AND WAILUKU STREET

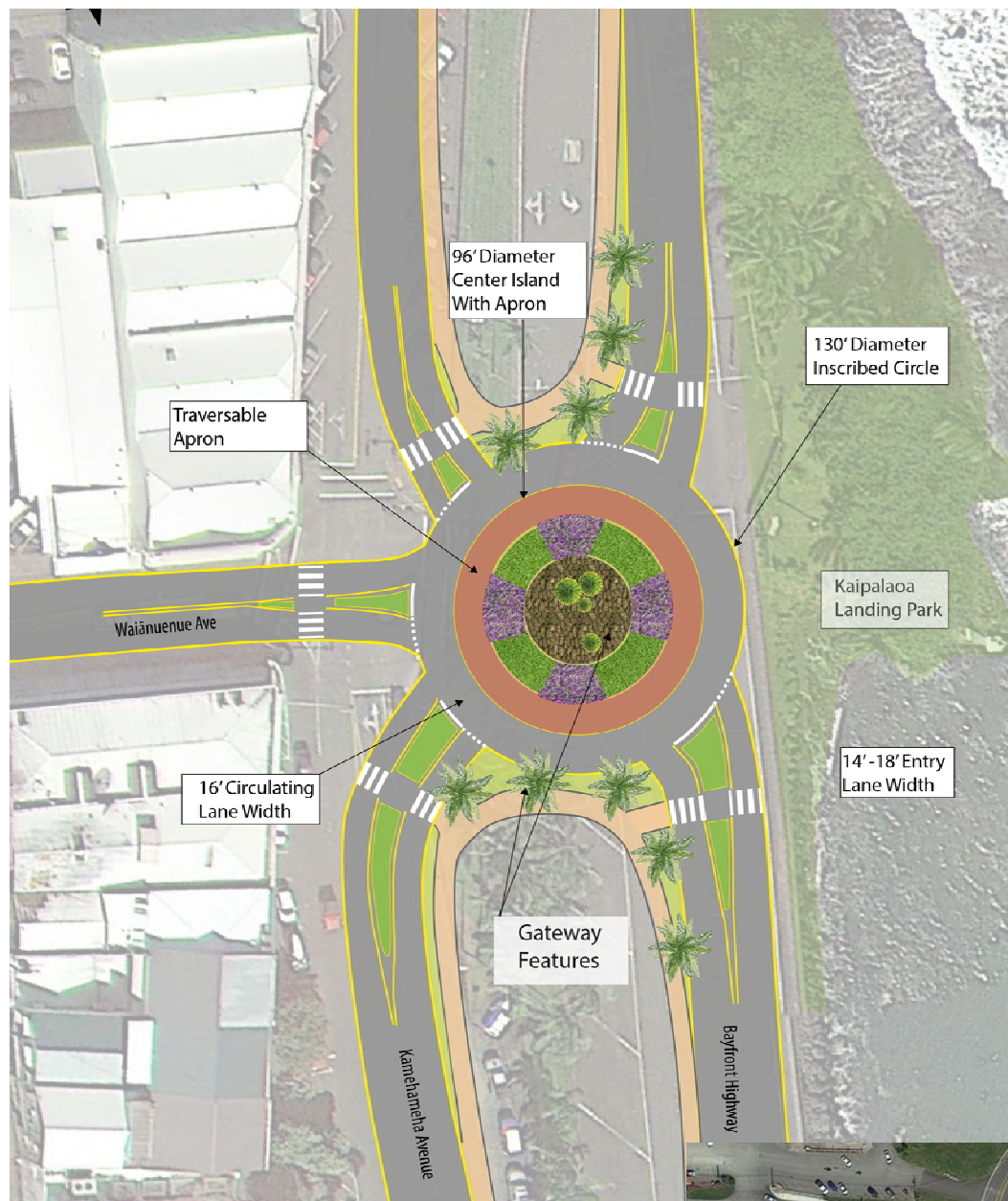


FIGURE 20 – SINGLE-LANE ROUNDABOUTS – PONAHAWAI STREET WITH BAYFRONT HIGHWAY AND WITH KAMEHAMEHA AVENUE



Inset: 100-foot roundabout, Chico, CA

FIGURE 21 – SINGLE-LANE ROUNDABOUT – BAYFRONT HIGHWAY WITH KAMEHAMEHA AVENUE AND WAIĀNUENUE AVENUE



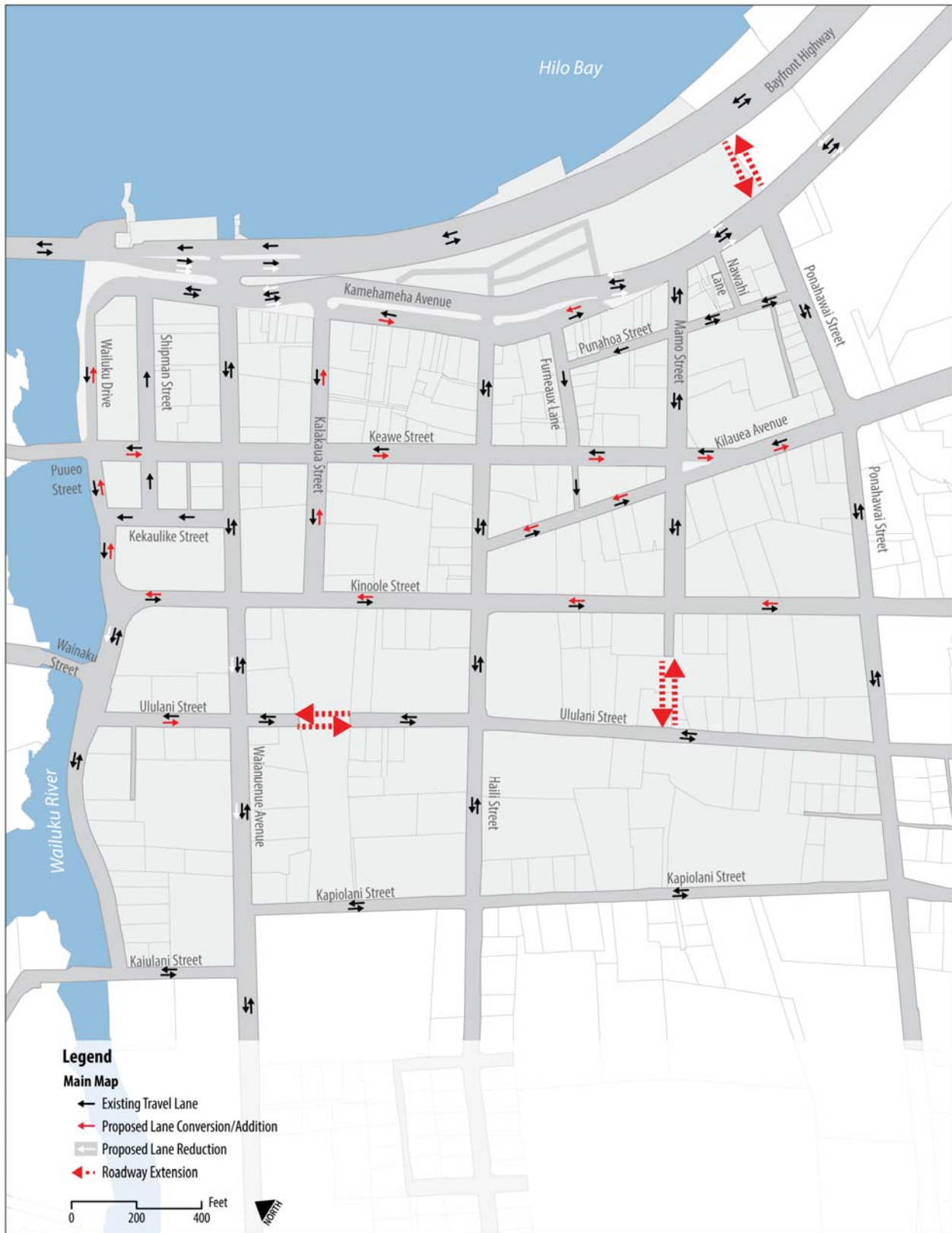
Inset: 5-leg roundabout, Pioneer Hwy, WA

A-5. Roadway Extensions

Mobility and accessibility can be improved with the extension of certain roads and completion of the transportation network. The DHMMP recommends completing roadway extensions of Ululani Street, Mamo Street, and Ponahawai Street (Figure 22). Each of these is described below.

1. **Ululani Street:** Between Haili Street and Waiānuenue Avenue, Ululani Street is divided by the Hilo Hotel. If extended, this road would provide a more direct connection across the Wainaku Street Bridge. The extension of the road would also provide additional capacity, alleviating the traffic along Kino'ole Street and Kapi'olani Street. Reduced traffic will support proposed bike lane along Kino'ole Street and a proposed bike route along Kapi'olani Street (see Section 4.5).
2. **Mamo Street:** An extension of Mamo Street between the intersection of Kino'ole and Ululani Streets would shorten the grid network and improve connectivity for areas further mauka. Existing businesses and a steep grade in this area complicate this proposed street extension, making it likely to be a longer term goal that will require some monitoring and opportunism to identify and act on opportunities for implementation. Coordination with landowners will also be required to determine feasibility. If a staircase, ramp, or other structure is required to facilitate pedestrian connectivity, it could provide an opportunity for application of street art or decorative elements.
3. **Ponahawai Street:** The current configuration of Bayfront Highway provides limited connections to Downtown Hilo. This access control is intentional in order to provide a bypass of Downtown Hilo traffic that can accommodate high speeds and volumes. However, the lack of connections, specifically the inability to turn off Bayfront Highway into Downtown Hilo, exacerbates the complexity and delay at the intersection with Waiānuenue Avenue and causes many visitors to turn around farther north so they can access Downtown Hilo. To improve connectivity between Downtown Hilo and Bayfront Highway as well as the Hilo Bayfront, and alleviate congestion at the Waiānuenue Avenue intersection, an extension of Ponahawai Street to an intersection with Bayfront Highway is recommended. Providing an intersection at this location, 0.25 miles away from the intersection with Waiānuenue Avenue, would also allow for the inclusion of pedestrian crossings.

FIGURE 22 - PROPOSED ROADWAY EXTENSIONS



Note: As this report was being finalized, lane configurations were changed along Waiānuenue Avenue consistently with the recommended lane reduction between Kapi'olani and Kino'ole Streets.

A-6. Downtown Travel Two-Way Cross-Sections

Existing paved travel ways along local and connector roads in Downtown Hilo vary from 27 to 44 feet wide, curb-to-curb. Some public alleyways/lanes are as narrow as 18 feet wide, such as Punahoa Street. Kamehameha Avenue, which is a minor arterial, ranges from 60 to 64 feet wide, including the median buffer. These widths, measured in the field, are shown on Figure 23. The recommendation is to alter lane configuration within existing cross-sections to provide for two-lane, two-way vehicular travel, dedicated facilities for bicycles, bus stop loading zones, and reorganized on-street parking.

The Federal Highway Administration (FHWA) *Flexibility in Highway Design* (2014) provides guidance on the implementation of design flexibility as a way to consider roadway use and context. Specifically, FHWA issued guidance in an August 20, 2013, memo that expresses its support for a flexible approach to bicycle and pedestrian facility design.

The proposed use of existing curb-to-curb paved travel way cross sections are provided in Table 10. Where road width varies from what is listed, lane width can be altered to accommodate the change while not removing through-traveling bike or vehicle lanes. Where the full road width is not used by the proposed reconfiguration, additional space can be given to widen sidewalks and provide other amenities to enhance the pedestrian environment (see Section 4.2).

Recommended roadway cross sections are shown on Figure 24 and Figure 25.

The US DOT Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations states that the "...DOT encourages transportation agencies to go beyond the minimum requirements and proactively provide convenient, safe, and context-sensitive facilities that foster increased use by bicyclists and pedestrians of all ages and abilities, and utilize universal design characteristics when appropriate."

A-7. Traffic Calming with Lane Widths and Posted Speeds

This recommendation is to use a default lane width of 10 feet on local and collector roadways in Downtown Hilo, with exceptions made for 9-foot-wide lanes on alleyways. Combine this with a posted and targeted speed limit of 20 mph.

A Policy on Geometric Design of Highways and Streets, 6th Edition (AASHTO, 2011) states, "Lane widths of 9 to 12 ft are generally used, with a 12-ft lane predominant on most high-speed, high-volume highways... In urban areas where pedestrian crossings, right-of-way, or existing development become stringent controls on lane widths, the use of 11-ft lanes may be appropriate. Lanes 10 ft wide are acceptable on low-speed facilities, and 9 ft wide may be appropriate on low-volume roads in rural and residential areas."

Vehicular Lanes: Existing travel lanes in Downtown Hilo range from 10-14 feet wide. Reconfiguring the width of travel lanes can aid in vehicle speed reduction which, in turn, is safer for pedestrians and people on bicycles. Wider lanes and faster speeds can be maintained on arterial roads where vehicular throughput has a higher priority.

Bicycle Facilities: Bike lanes are proposed along Kamehameha Avenue, Kino'ole Street, Waiānuenue Avenue, and Ponahawai Street. This conforms to recommendations in *Bike Plan Hawai'i* (HDOT, 2003) and *Hilo Bayfront Trails Master Plan* (Helber Hastert & Fee, Planners, 2009). The proposed minimum bike lane width is 5 feet from the face of curb, although 6 feet is preferred. Kapi'olani Street is also proposed for a combination of bike lanes and shared lanes to increase connectivity between Downtown Hilo and the University of Hawai'i at Hilo (UH Hilo), following the

extension between Mohouli Street and Lanikaula Street. Recommendations for bicycle facilities are detailed in Section 4.3.

[illegible]

TABLE 10 – PROPOSED ROADWAY CROSS-SECTIONS AND USES

Street Name Cross-Section Reference (Figures 24 & 25)	ADT (vpd)	Road Width	Travel Lanes		Bike Lanes		Parking Lanes	
			#	Width	#	Width	Type (# of sides)	Width
Bayfront Highway (25A)	10,600	37'	2	24'	-		-	
Kamehameha Avenue ¹ (25B)	10,300	60'-64'	3	30'	2	6'+3'	Parallel (2)	16'
Frontage road (25C)	-	48'	2	12'	-		Angle (1)	17'
Kīlauea Avenue (25F)	11,900	44'	3	30'	-		Parallel (2)	14'
(25G)	7,200	28'	2	20'	-		Parallel (1)	8'
Kino'ole Street (25H)	8,300	44'	2	20'	2	12'	Parallel (1)	8-12'
Ululani Street (25G)	-	28'	2	20'	-		Parallel (1)	8'
Waiānuenue Avenue ² (24C)	10,100	38'	3 ¹	30'	2	10'	-	
Ponahawai Street (24F)	7,400	34'	2	18'	2	12'	-	
(24G)	-	44'	2	18'	2	12'	Parallel (2)	14'
Keawe Street (25D)	7,200	40'	2	20'	-		Parallel (2)	20'
Kapi'olani Street (25G)	-	29'	2	20'	-		Parallel (1)	9'
Haili Street (24D)	-	34'	2	20'	-		Parallel (2)	14'
Mamo Street (24E)	-	44'	2	20'	-		Angle (1)/ Parallel (1)	24'
Wailuku Drive (24A)	-	28'	2	20'	-		Parallel (1)	8'
Shipman Street (24B)	-	27'	1	10'	-		Angle (1)	17'
Kekaulike Street (25E)	-	34'	1	11'	-		Parallel (1)/ Angle (1)	8'/15'
Kalākaua Street (24D)	-	34'	2	18'	-		Parallel (2)	16'
Furneaux Lane (24H)	-	28'	Shared Street				Parallel (1)	8'
Punahoa Street (25I)	-	18'	Shared Street					

¹ Proposed reconfiguration to provide 6' bike lane, 3' buffer, 8' on-street parking, 10' northbound travel lane and 10' turn lane/median, 10' southbound travel lane, 8' on-street parking, 3' buffer, 6' bike lane (total max width 64').

² Existing counter-flow during the morning is suggested for removal in place of permanent 24-hour two-way travel. Further study and community consultation is suggested.

- Does Not Exist or "none."

FIGURE 24 - PROPOSED MAUKA-MAKAI CROSS-SECTIONS

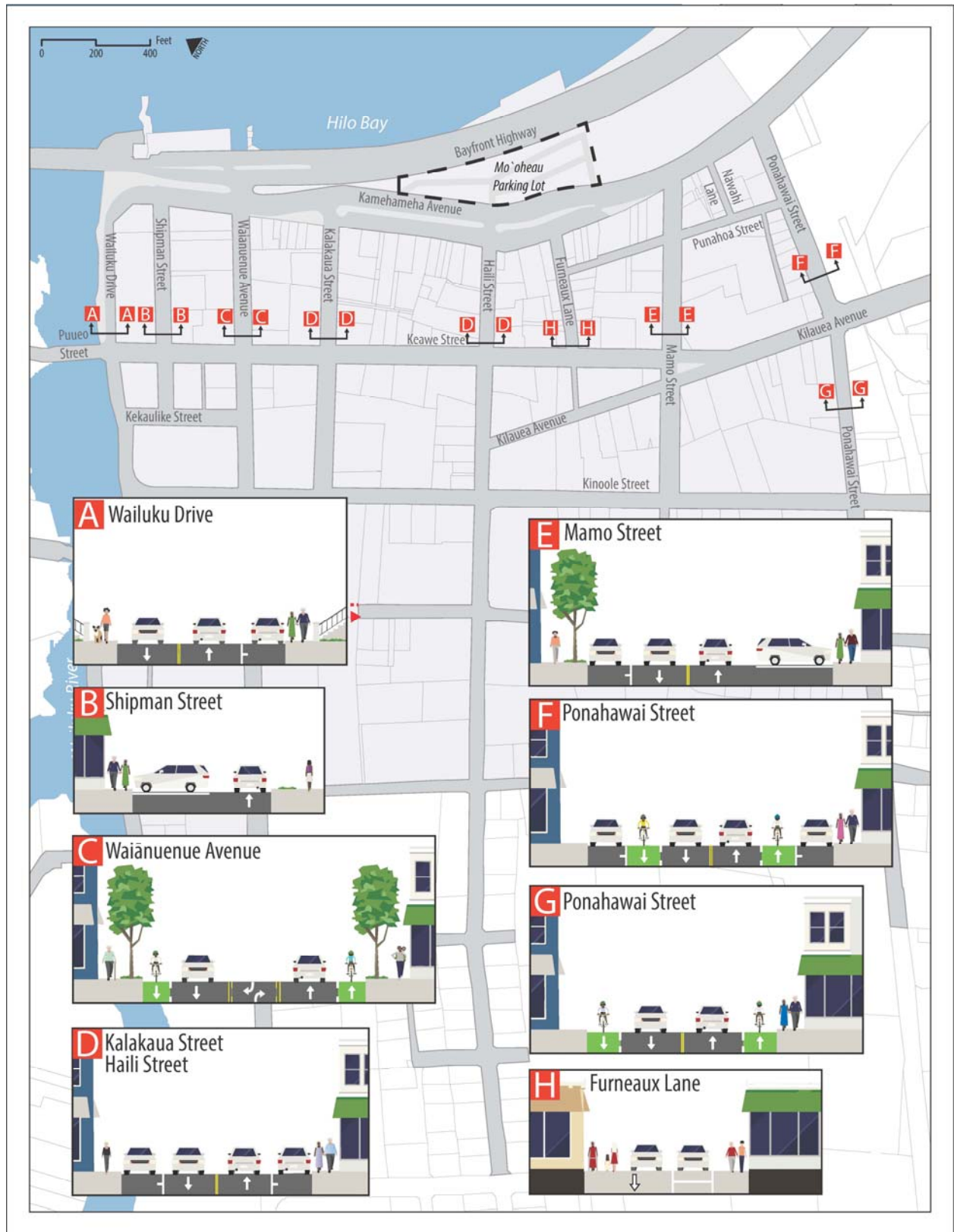
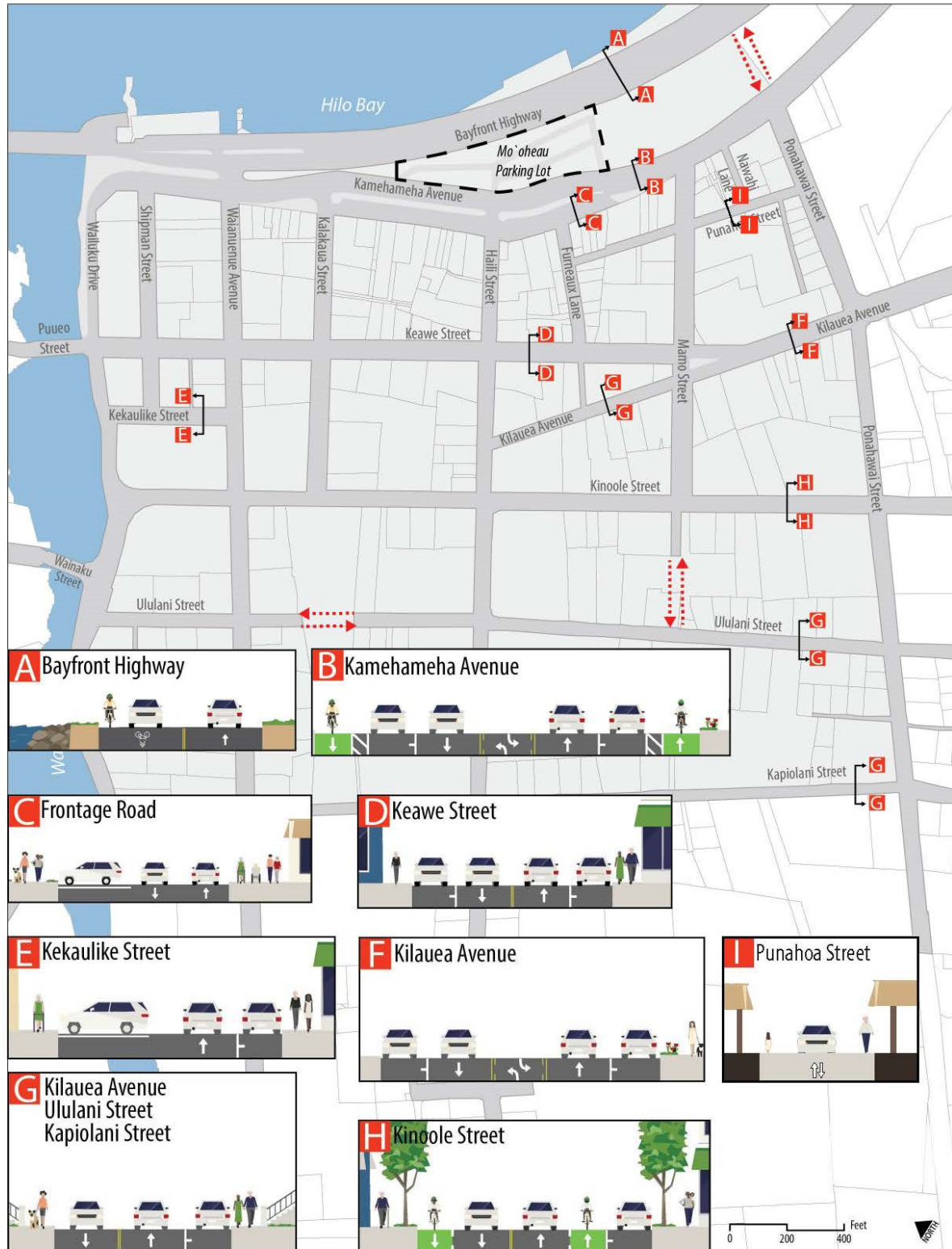


FIGURE 25 - PROPOSED NORTH-SOUTH CROSS-SECTIONS



A-8. On-Street Parking, Loading Zones, and Use of Curbsides

A mix of parallel and angled on-street parking is recommended in Downtown Hilo, as shown in Figure 24 and Figure 25. Parking lanes may range from 8 to 10 feet in width. If adjacent to a bike lane, these widths may be reduced to 7 feet wide. Angled parking provides the potential for additional stalls. Angled parking is approximately 16.5 feet wide for 60-degree angles, and 15 feet for 45-degree angles.

On-street parking can be important in the urban environment for the success of the retail businesses that line the street to provide a buffer for pedestrians on sidewalks and help calm traffic speeds. On-street parking can also be used as a buffer for bicycles as is the case for protected bike lanes. Where pedestrians, bicyclists, and bus transit have been provided for, on-street parking is beneficial to provide short-term access to businesses as well as serve as a traffic calming measure. Besides parking, other uses of the curbside, such as for bus transit, loading zones, bike facilities, parking, and parklets help support surrounding businesses. Loading zones can be designated along street frontages in place of on-street parking. Businesses should be consulted during the design phase to determine the best location for loading zones that can serve multiple businesses. Alleys in Downtown Hilo may also continue to partially function as loading zones.

A-9. Keawe Street

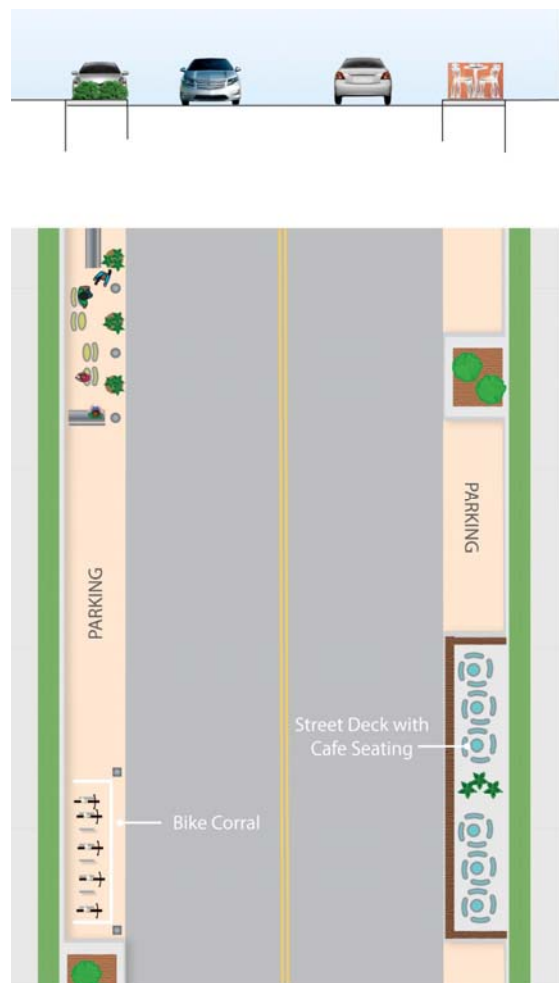
Keawe Street is an important street that services the main commercial area of Downtown Hilo. It is also a minor collector that serves 7,000 vpd. Currently it is a one-way road serving as a couplet with the parallel Kino'ole Street.

Residents, businesses, and users of Downtown Hilo strongly believe that Keawe is a hub and a priority area to focus improvements and revitalization activities. There is great potential to stitch together the desirable elements along Keawe Street and elevate it to a vibrant, multimodal "Main Street." The Figures on the following pages depict what proposed improvements could look like in place along the Keawe Street corridor. Specific multimodal improvements to Keawe Street are addressed in several of the sections within this chapter, and the "Main Street" treatment is described further in Section 4.6.5.

The recommendation is to convert Keawe Street to two-way and reduce travel speeds to 20 mph to achieve a comfortable multimodal environment. Improvements will make Keawe Street more amenable to shared bike use, facilitate safe pedestrian crossings, and accommodate dedicated bus stop loading zones for a new circulator shuttle (see Section 4.5). This can be accomplished by keeping lanes narrow and providing inset on-street parking with curb extensions at intersections and transit stops. Providing amenities such as landscaping with native plants, parklets and bicycle corrals will help to enhance the multimodal environment (see Figure 26).

Dedicated bicycle facilities are unnecessary along Keawe Street because Kino'ole Street and Kamehameha Avenue

FIGURE 26 - RECOMMENDED KEAWE STREET CROSS-SECTION



will have them, providing a 0.5-mile bicycle facility network. Therefore, the Keawe Street cross section can be narrowed further to accommodate the proposed circulator shuttle while also creating a safe and walkable environment for pedestrians. Depending on the bus specifications, a travel lane width of 10 feet should be adequate, with travel in both directions. Remaining space could be provided for on-street parking, bus loading zones, bulb-outs, parklets, and bicycle corrals.

With the reconfiguration of Kilauea Avenue to two-way travel, the segment of road south of Mamo Street that is part of the “Mamo Triangle” is no longer needed for vehicle connectivity. It is recommended to be transitioned to a pedestrian plaza, which will create a new gathering place along Keawe (see Figure 27).

FIGURE 27 - KEAWE STREET AT KILAUEA AVENUE (MAMO TRIANGLE)



FIGURE 28 - KEAWE STREET AT MAMO STREET



FIGURE 29 - KEAWE STREET AT FURNEAUX LANE



FIGURE 30 - KEAWE STREET AT HAILI STREET



FIGURE 31 - KEAWE STREET AT KALĀKAUA STREET



FIGURE 32 - KEAWE STREET AT WAIĀNUENUE AVENUE



FIGURE 33 - KEAWE STREET AT SHIPMAN STREET



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4.2 PEDESTRIAN COMPONENT

4.2.1 EXISTING CONDITIONS

The *Statewide Pedestrian Master Plan* (HDOT, 2013) notes that State owned roads on Hawai'i Island have very few sidewalks due to the island being predominately rural. All State roads in Hilo have sidewalks along at least one side of the roadway. Most local streets in the Downtown Hilo area have paved sidewalks. Many areas with retail frontage, including parts of Keawe Street, Furneaux Lane, Haili Street, Mamo Street, and Kilauea Avenue, have sidewalks covered by awnings to protect pedestrians from the rain and sun. Covered sidewalks are important for enhancing the comfort of walking in Downtown Hilo because of Hilo's frequent rain. Figure 34 is a map of Downtown Hilo's existing pedestrian network.

A comprehensive pedestrian network allows people of all ages and abilities to get where they want to go safely and conveniently. The network of accessible elements including ramps, crosswalks, signage, and other markings helps accommodate a full range of persons who use strollers, wheelchairs, and other mobility devices in addition to those who walk slowly and have sensory impairments. Figure 35 shows locations of existing crosswalks, curb ramps, and rapid flashing beacons in Downtown Hilo.

FIGURE 34 - EXISTING PEDESTRIAN NETWORK IN DOWNTOWN HILO



FIGURE 35 - EXISTING CROSSWALKS, CURB RAMPs, RAPID FLASHING BEACONS, AND SIGNALIZED INTERSECTIONS



4.2.2 DISCUSSION OF ISSUES RELATED TO PEDESTRIAN FACILITIES

Concerns about sidewalk quality, continuity, and accessibility figured largely in community input gathered through focus groups and community meetings. There were discussions of amenities and visual cues that would make walking in the Downtown area safer and more pleasant. Previous plans have also included recommendations to improve Downtown Hilo's pedestrian environment. These are listed below, with additional input in the text box at right:

- Accessibility improvements were called for throughout the Downtown area to ensure that sidewalks and crosswalks are navigable for all users. Hilo has an active and engaged community of advocates for accessibility, and many solutions were suggested, including tactile, audible and visual cues to alert users they are entering a crosswalk or approaching a curb cut. The importance of maintaining landscaping and providing adequate clearance around obstacles (light poles, street dining, etc) is necessary for pedestrian safety.
- Bayfront Highway poses a pedestrian hazard for those crossing the highway. It does not have any pedestrian crossings from the Downtown street grid. A chain-link fence restricts pedestrians' access from Pauahi Street to Waiānuenue Avenue and leaves Waiānuenue Avenue as the only accessible point for those going to the shoreline and Kaipalaoa Landing. The *Statewide Pedestrian Master Plan* (May 2013) identifies Bayfront Highway near the Kaipalaoa Landing as one of the County's five areas of concern. It cites lack of connectivity and accessibility for pedestrians attempting to access the waterfront and the Kaipalaoa Landing from Downtown Hilo. The *Statewide Pedestrian Master Plan* recommends conducting "a pedestrian study to install a series of marked crosswalks to link Downtown Hilo to the waterfront."
- Another notable gap in the pedestrian network is along Punahoa Street between Mamo Street and Beckley Lane. This stretch of road connects parking for the Hilo Farmers Market with the market itself, and therefore is a high-use

Anecdotal Comments from Community Outreach

- Maybe Hilo should make some of the Downtown area pedestrian only during the day and allow business delivery early in the morning and later in the day. A good place to start would be to make Mamo Street a pedestrian mall.
- We should extend the shoreline path up to the bridge located under the bridge up Wailuku. Wailuku River Trail would be a good way to attract people to that side of Downtown.
- We want the Downtown to be economically prosperous, by twice a year closing down a major street totally to vehicular traffic and having a car-free street fair with music, art, food, yoga, climbing wall, bike repair stations, hands-on art for adults and children, educational booths for environmentally friendly NGOs and local businesses displaying their merchandise.
- More outdoor seating for snacking, chatting, and relaxing would be very comforting all over Downtown!
- We need tables and chairs and benches Downtown that are comfortable and covered from the rain, and safe. Great idea to create an outside seating area in front of the stores along Kamehameha Ave by moving the parking spaces.
- Lots of schoolchildren walk from schools along Waianuenue to the library and Downtown. Consider their safety.
- Use a sound-activated signal at roundabouts to assist with crossing for the blind.
- We need more bathrooms Downtown that are clean and safe!
- Trucks speed around corners, and regularly clip awnings.

Comments reflect a sample of diverse views and opinions. Not all comments were included. Numerous views and considerations were taken into account when developing plan recommendations.

pedestrian corridor. However, the majority of Punahoa Street in this area lacks paved sidewalks. In addition, the intersection of Punahoa Street and Ponahawai Street lacks crosswalks to access the Waiola River State Park.

- The Mamo Street and Kamehameha Avenue intersection near the Farmers Market is equipped with a pedestrian-activated flashing beacon, but pedestrians tend to cross without looking for approaching cars. Traffic is moving fast, especially in the northbound lane where roads are wide and straight, and drivers have not transitioned into a more urban, pedestrian-oriented environment.
- The *Hilo Bayfront Trails Master Plan* identifies two opportunities to highlight Downtown Hilo's strengths, namely Wailuku River and historic buildings. The first opportunity is a pedestrian loop trail on Wailuku Drive, Kekaulike Street, and Waiānuenue Avenue. The second opportunity is a larger pedestrian loop trail on Waiānuenue Avenue, Kapi'olani Street, and Haili Street (see Figure 36). As part of the proposed Hilo Bayfront Trails system, trail markings and interpretative signage would be added to enhance the pedestrian facilities in these loops. Trail markings and interpretative signage could help formalize and publicize the existing Historic Downtown Hilo Walking Tour, which identifies historic buildings and places of interest in Downtown Hilo. The *Hilo Bayfront Trails Master Plan* also mentions the Department of Parks and Recreation's Wailuku Riverfront Project, which includes a proposal to build new pedestrian facilities within the Wailuku Drive rights-of-way.

These have been incorporated into the recommendations.

4.2.3 ALTERNATIVES CONSIDERED

Alternatives were considered for the route of the shoreline shared-use path. The Hilo Bayfront Trail alignment does not currently access the shoreline fronting the Downtown area. Residents strongly expressed a need for shoreline access and supported creation of a shoreline shared-use path that would provide another connection to the Bayfront Trail.

Alternatives were also considered for providing a safe pedestrian crossing of Bayfront at Waiānuenue Avenue. In consideration was an above-grade crossing such as a pedestrian-bicycle bridge. This could provide a safe crossing and become an architectural symbol for travelers entering and leaving Hilo. There was some support for this idea within the community, however it was agreed that such a feature should be designed to make a statement. These kinds of bridges can be very expensive. It's also true that many pedestrians may still prefer crossing at-grade rather than taking the longer bridge route. Given those considerations, most community members felt that a safe at-grade crossing was the most practical solution and that financial resources might be better allocated elsewhere.

Placing curb extensions at every intersection leg within Downtown was considered. The locations were later prioritized to include most key intersections.

The community expressed strong support for giving pedestrians priority in key parts of Downtown. The DHMMP recommendations designate pedestrian-priority areas through the use of street treatments such as shared streets, pedestrian promenades, and a Main Street (see Section 4.6.5). Closing certain streets altogether was considered, including portions of Mamo and Punahoa Streets near the farmers market, Furneaux Lane,



Bikes and pedestrians in Downtown Hilo.

and portions of Kalakaua Avenue. These may be longer term improvements. However, current conditions including ownership, land uses, and the need for delivery access limit the options. The DHMMP team instead recommended street treatment designations that would preserve and prioritize pedestrian access while still accommodating some vehicles. These areas also have the capability to be temporarily closed for events and designated hours.

4.2.4 RECOMMENDATIONS

Overall recommendations for pedestrian trails and sidewalks in Downtown Hilo are listed in the text box below. Each are further expanded on in the sections to follow.

Recommendations for Pedestrian Trails and Sidewalks

B-1) Develop pedestrian paths, trails, and promenades including: a) Hilo Bayfront Trail and shoreline shared-use path; b) Wailuku River Trail; c) Downtown Hilo Cultural Trail; and d) Kamehameha Avenue Frontage Road promenade.

B-2) Provide a safe pedestrian crossing of Bayfront Highway at Waiānuenue using an at-grade pedestrian crossing with traffic signal controls on the south side of the Waiānuenue and Bayfront intersection.

B-3) Extend Ponahawai Street from Kamehameha Avenue to Bayfront Highway, intersecting at a single-lane roundabout. Provide sidewalks, crosswalks, and bicycle facilities to improve multimodal access to the Bayfront.

B-4) Apply a gateway treatment and pedestrian improvements at the Kamehameha Avenue and Ponahawai Street intersection to slow traffic.

B-5) Install curb extensions at most Downtown intersections to shorten pedestrian crossing distances and slow vehicular traffic.

B-6) Institute a parklet program that allows parklets on key commercial streets including: Keawe Street, Haili Street, Kalākaua Street, Furneaux Lane, and Punahoa Street.

B-7) Widen sidewalks and improve the pedestrian environment in designated pedestrian-priority zones. These include Kamehameha Avenue Frontage Road, Kamehameha Avenue, Keawe Street, and the Farmers Market district.

B-8) Add ADA-compliant sidewalks and curb ramps to areas throughout Downtown where existing facilities are damaged, missing, or inadequate. Improve accessibility and safety of pedestrian crossings.

B-9) Institute incentives and requirements for continuous awnings and associated lighting as a key design feature of Downtown buildings to improve the pedestrian environment.

B-10) Provide covered walkways from designated employee parking areas to Downtown, and between Downtown shuttle stops.

B-11) Design overhead utilities on Keawe Street to be less obtrusive through replacing frequent wooden poles with metal poles, arranging lines in vertical configuration, painting poles, and placing local electrical service underground.

B-1. Pedestrian Trails and Shared-Use Paths

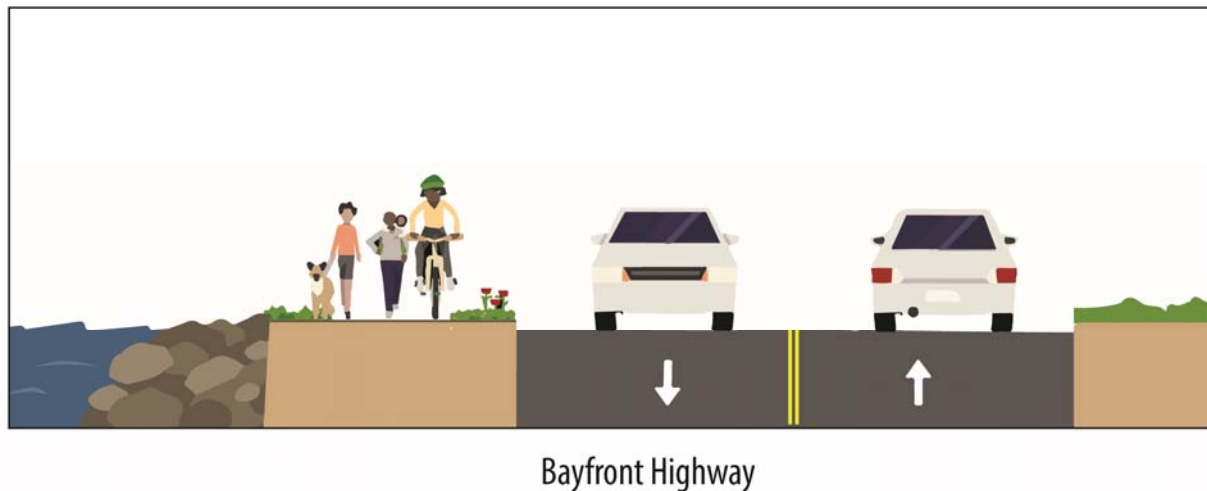
Three pedestrian trails and shared-use paths (shown on Figure 36) are proposed to improve pedestrian access and walking environment in and around Downtown Hilo.

FIGURE 36 - RECOMMENDED TRAILS AND PATHS



Shoreline Shared-Use Path: The Hilo Bayfront Trails program is from an earlier planning effort that proposes a shared-use path to accommodate pedestrians and bicycles along Hilo Bay. An initial phase is being built along the mauka side of Bayfront Highway. A proposal to extend Hilo Bayfront Trails along the makai side of Bayfront Highway between the canoe hales and Mo'ohau Bandstand received strong support in the DHMMP community engagement process, as it would provide shoreline access along the entire urban edge of Downtown Hilo from Wailuku River to the Banyan Drive hotels. The path alignment will acknowledge and accommodate existing recreational uses, such as fishing.

The proposed shared-use path extends from the Wailoa River Bridge to Kaipalaoa Landing. This will require the realignment or restriping of Bayfront Highway between the north side of Mo'ohau Parking Lot to Kaipalaoa Landing to provide adequate room for the path, as shown in the cross-section below. This would require coordination with the State Department of Transportation, as it affects the alignment of Bayfront Highway. Pedestrian and bicycle access across the highway will also be needed at Waiānuenue and Ponahawai to connect the shared-use path with Downtown (see Section 4.1.4 for details).





View of the Hilo Bayfront shoreline shared-use path location.



Left: A Shoreline Shared-Use Path in Tel Aviv, Israel. Right: A waterfront shared-use path in Portland, OR.

Wailuku River Trail: The Hilo Bayfront Trails program proposes a Wailuku Riverwalk as a new sidewalk along the north side of Wailuku Drive from Kamehameha Avenue to just past the Pu'u'eo Street Bridge. The sidewalk provides a pedestrian connection to the Pu'u'eo Bridge and views of the river from street level.

Additionally, a Wailuku River Trail is recommended to take pedestrians down to river level to get a closer look and experience of the falls and rapids area. It will complement the Hilo Bay Shoreline Trail with a riparian setting and extend the recreational resources of the pedestrian network of Downtown Hilo.

An elevated walkway or boardwalk may be most appropriate for safety and to minimize impacts to the waterway.



Wailuku River on the edge of Downtown Hilo.

Downtown Hilo Cultural Trail: Another recommendation is to build a Downtown Cultural Trail that extends the Hilo Bayfront Trails system through the Downtown area. This recommendation originated from the Hilo Bayfront Trails study that highlights the historic and cultural points of interest in Downtown area for visitors and residents. The routing is shown on Figure 36. Provide special treatments along the trail to distinguish it from the regular sidewalk system and integrate the points of interest into the wayfinding and interpretive graphics system. Boston's Freedom Trail is a good example of a 2.5-mile path through Downtown Boston that passes 16 locations that have been significant in American history. The trail is defined by a simple two-course brick header embedded in the sidewalks with bronze medallions spaced along the trail (see photos below).



Boston's Freedom Trail uses a brick header and bronze medallions to lead visitors through this National Historic Park tour of 16 historically significant locations (Boston, MA).



A walking tour of Downtown Hilo conducted during this plan's public meeting (May 2015) highlighted historic landmarks and buildings.

B-2. Bayfront Crossing

The Bayfront Highway has been a major barrier to get access to the shoreline. The recommendation is to provide an at-grade pedestrian crossing at the Waiānuenue and Bayfront intersection. Initially, a signal-controlled crossing can be put in place. Ultimately, when other recommendations are completed, including the extension of Ponahawai to Bayfront and the installation of a roundabout there, a single lane roundabout with pedestrian crossings on all legs can be constructed at Bayfront Highway and Waiānuenue. These improvements are described further in Section 4.1.4.

B-3. Ponahawai Street Extension

New sidewalk and trail connections are recommended along the proposed Ponahawai Street extension that connects Kamehameha Avenue and Bayfront Highway. This will allow for a second connection to the Downtown and have more direct access to the Mo'ohau Transit Center and the Farmers' Market.

B-4. Ponahawai and Kamehameha Gateway Treatment

The recommendation is to create a major gateway treatment at the intersection of Kamehameha Avenue and Ponahawai Street. This will help to calm traffic along the approach to the Farmers' Market. The roundabout proposed at this location and the covered walkway proposed to connect remote employee parking lots to Downtown will be the two design features comprising this gateway, as shown conceptually in the diagram below. The roundabout at Ponahawai and Bayfront will also be designed to provide a welcoming entrance into Downtown from the highway.



Ponahawai Street extension connecting Kamehameha Avenue and Bayfront Hwy with two roundabouts and covered walkways serving as gateway features.

B-5. Curb Extensions

Provide curb extensions at intersections where pedestrian safety or high pedestrian crossings exists or are anticipated. Figure 37 identifies proposed curb extension locations for Downtown Hilo. Curb extensions significantly improve pedestrian safety at crosswalks and mid-block crossings. They decrease crossing distances and improve sightlines and the drivers' field of view as they approach intersections and pedestrian crossings (see diagram below). By designing them with tighter curb radii, they can slow down traffic, improve the integration of ramps, and allow traffic control features to be moved outside of the storefront awnings. Curb extensions can be designed to accommodate turning radii of larger vehicles on streets that carry large truck traffic. Rain gardens and street trees can also be incorporated in them to improve water quality and landscaping.

FIGURE 37 – RECOMMENDED LOCATIONS FOR CURB EXTENSIONS IN DOWNTOWN HILO





Typical intersection at Keawe and Haili with curb extensions to accommodate street trees, bio-swales, traffic signals, and shuttle stops. They will also shorten pedestrian crossing distance.

B-6. Parklets

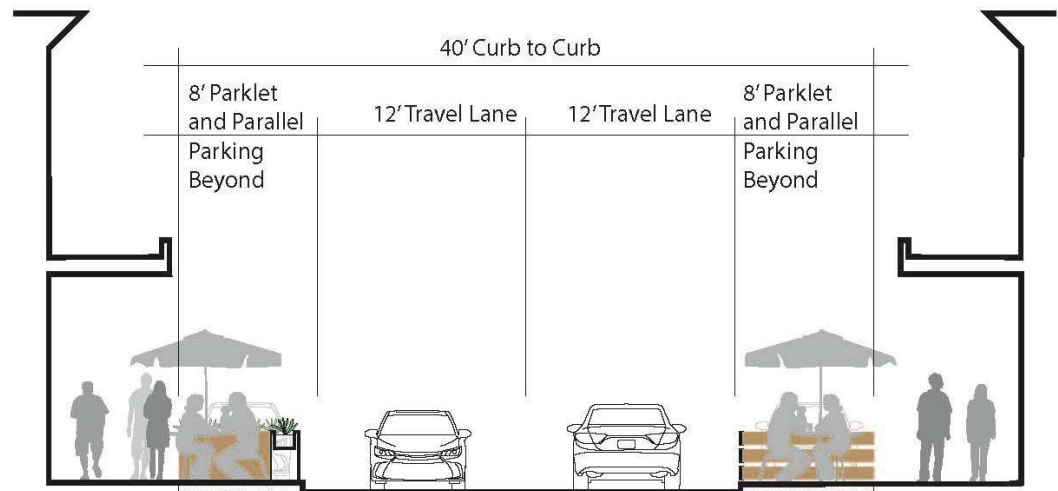
A parklet is a sidewalk extension over the adjacent on-street parking space and provides additional space and amenities for pedestrians. They are publicly accessible spaces for use by the general public, although they benefit nearby businesses whose customers can also use the parklet.

Parklet programs are typically developed and administered by municipal agencies but privately funded, constructed, and maintained by businesses fronting the parklet space. They are permitted in areas where sidewalk activities are desired to create a more pedestrian friendly environment and also to support local businesses. In instances where a parklet is not intended to accommodate people, it may provide shade trees and landscaping, art, or some other visual amenity. A parklet may accommodate bicycle parking within it in the form of a bicycle corral, or bicycle parking may be associated with it.

The DHMMP's recommendation is to institute a parklet program that allows parklets on key commercial streets with storefronts where sidewalks are not wide enough to accommodate outdoor seating. Keawe Street would be the heart of the program. Other preferred locations include Haili Street, Kalākaua Street, Furneaux Lane, and Punahoa Street. Other locations may be added over time. Figure 38 shows priority streets for a parklet program in Downtown Hilo.

The City and County of Honolulu has adopted guidelines for parklets. Hawai'i County may include its own guidelines for parklets in its Complete Streets Manual, which will commence development in 2018. Guidelines will take into account desired uses, security considerations, and designs that prevent people from sleeping or lying down in parklets.

The County can start by developing a demonstration or pilot parklet program similar to the City of Oakland to see if there are businesses and land owners who will provide and maintain this new type of public space. A permanent program can be implemented based on the success of the pilot program. Current regulations in Hilo prohibit commercial activity outside storefronts, which can be a disincentive to business owners to construct and maintain sidewalk seating areas. The City of Seattle instituted a pilot program earlier this year that allows hosting businesses to offer table service within their parklets during their hours of operation and is working with the State Liquor Commission to permit this use. These part-commercial parklets are called “Streateries” (Seattle DOT, 2015). This may be something that the County can consider emulating.



Keawe Street cross section showing parklets as extensions of the sidewalks.



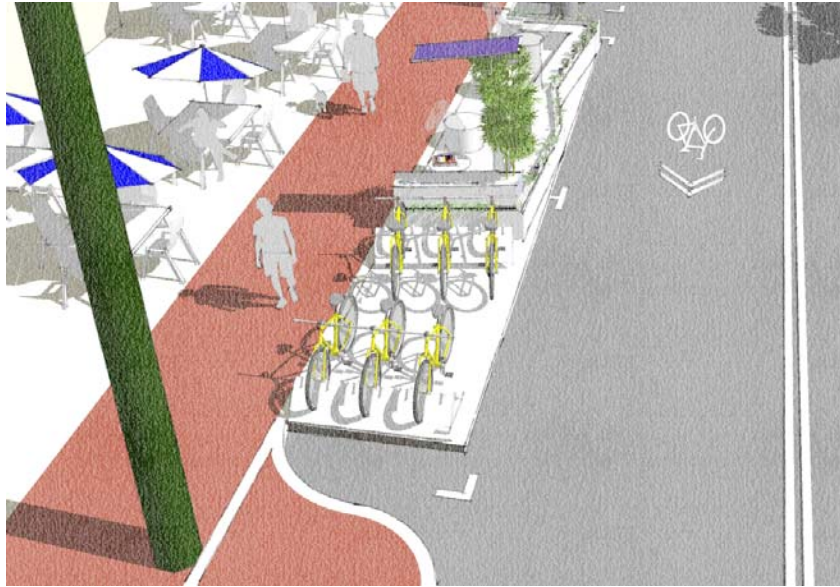
Parklet for seating and one that accommodates bicycle parking (San Francisco, CA).



A demonstration parklet in Hilo with an integrated bicycle corral at the DHMMP Community Meeting (May 2015).

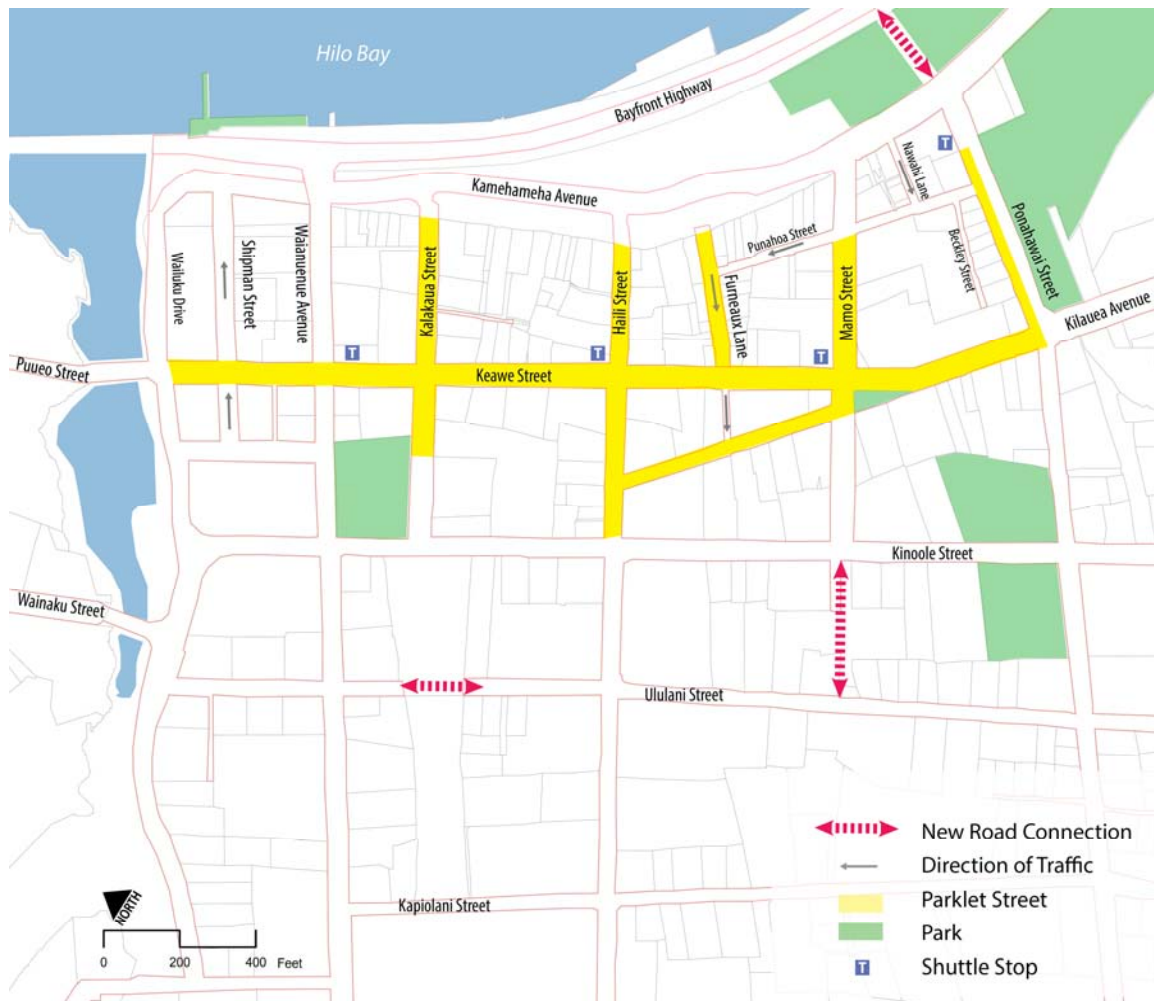


A parklet with an integrated rain garden in Vancouver, BC.



Concept for a parklet on Keawe Street

FIGURE 38 – RECOMMENDED STREETS FOR PARKLET PROGRAM IN DOWNTOWN HILO



B-7. Sidewalk Widening

The DHMMP recommends designating pedestrian-priority zones through application of street treatments (See Section 4.6.5) with associated design features. Providing adequate sidewalk width is a critical factor in encouraging pedestrian use. Downtown Hilo sidewalks are on average 8'-10' wide, which makes them large enough to allow two persons walking side-by-side with little room left over for standing shoppers or for street utility poles along the curbside. There should be a minimum pedestrian through-zone of 6 feet and a 2 foot zone for any furnishings and utilities along the curbside. This limits the amount of pedestrian amenities that can be placed along the mid-block.

The two streets where the sidewalk width is most critical are Keawe Street and Kamehameha Avenue Frontage Road because they get the most daily use. On Keawe Street, sidewalk area can be maximized by locating streetlights and street trees in small bulbouts outside of the sidewalk area in the parking zone (see rendering below). Curb extensions planned for intersections can also accommodate pedestrian improvements such as trees, poles, shuttle stops, bike corrals, and signage.



The typical on-street parking zone proposed for Keawe will have street trees and streetlights to clear existing awnings and minimize the loss of parking.

Sidewalks along Kamehameha Frontage Road are proposed to be widened from 8'-10' to 20'-35' along the store frontage to create a pedestrian promenade where there is currently angled parking. Pedestrian amenities will be added along the length of the promenade. These include features such as special paving, landscaping, benches, street and pedestrian lights, public art, bollards, and trash and recycling bins. The promenade will be large enough to accommodate small performances, commercial kiosks and outdoor dining as well (see drawing on the following page below).

Other areas that are recommended as pedestrian priority zones include:

- Kamehameha Avenue from Mamo Street to Waiānuenue Avenue. Recommended treatments include sidewalks, curb extensions, pedestrian scaled street lights, street trees, protected bike lanes, and on-street parking on both sides of the street.
- The Farmers Market district, which is comprised of Mamo Street, Furneaux Lane, and a portion of Punahoa Street between Ponahawai and Mamo. All of these streets are recommended as

“shared streets”, which is a design approach that prioritizes pedestrians by making the pedestrian zone part of the entire street section. This may be done by removing features such as curbs, road surface markings, traffic signs, and traffic lights. Shared streets often incorporate special pavement markings and treatments that allow them to be closed for special events and on market days. The Streetscape Design Component of this report (Section 4.6) includes further description of shared streets.



Improvements to the Kamehameha Avenue area include a pedestrian promenade along the Frontage Road, pedestrian improvements to Kamehameha Avenue, and a double roundabout at Haili Street to slow vehicular speeds and create an inviting destination.

B-8. Sidewalk Repairs and Improvements

The DHMMP Team identified locations throughout Downtown where sidewalks were damaged, missing, or in need of repair. ADA-compliant sidewalks should be constructed in these locations, which are shown on Figure 39. At intersections, the width of curb ramps should be maximized at crosswalks using vertical curbs along the sides of the ramps where possible.

Safety and accessibility of pedestrian crossings Downtown can be further enhanced through the use of activated buttons, flashing lights, textured pavement, and sound-enhanced crossings. At locations with unexpected features such as higher curbs or grade changes, these cues may be adapted to alert the user to be prepared.

FIGURE 39 – RECOMMENDED LOCATIONS FOR SIDEWALK IMPROVEMENTS OR REPAIRS IN DOWNTOWN HILO



Downtown Hilo features unique accessible crossing aids in some locations, with pedestrian activated buttons near the ground.

B-9. Awnings

Building awnings with associated lighting provide an important streetscape element that encourages a pedestrian-friendly environment during daytime and nighttime hours. While most awnings are privately owned, the awnings, like the sidewalk network, need to be as continuous as possible to encourage pedestrian use of the sidewalks.

The DHMMP recommends that the County consider design guidelines or incentive programs for installation and maintenance of awnings. New buildings should be required with zero setback and awnings with associated lighting. All buildings and land owners will benefit by improving pedestrian access throughout the Downtown core.

Other cities such as Worcester, MA and Atlanta, TX can serve as examples to learn from and emulate. Both offer funding incentives to businesses in a defined commercial area for awning and façade improvements. These programs may be funded by Community Development Block Grants from HUD or economic development funds.

B-10. Covered Walkways

As part of the parking management strategy proposed in this DHMMP (see Section 4.4, Parking Component), covered pedestrian walkways are proposed to connect the new employee parking lots with the existing awning network along Kamehameha Frontage Road. Private awnings and/or public covered walkways are recommended to connect the shuttle stops along Mamo, Keawe, and Waiānuenue with the existing network of awnings. The covered walkway design will be selected to provide rain protection for people walking while retaining visibility and openness. This will support safety and discourage loitering or camping out under awnings.

The Figure on the following page illustrates the recommended covered walkway and awning connections, and Figure 41 shows example designs. Below is a conceptual drawing of a covered walkway along Kamehameha Avenue.



Conceptual covered walkway along Kamehameha Avenue

FIGURE 40 – RECOMMENDED AWNING AND COVERED WALKWAY LOCATIONS DOWNTOWN

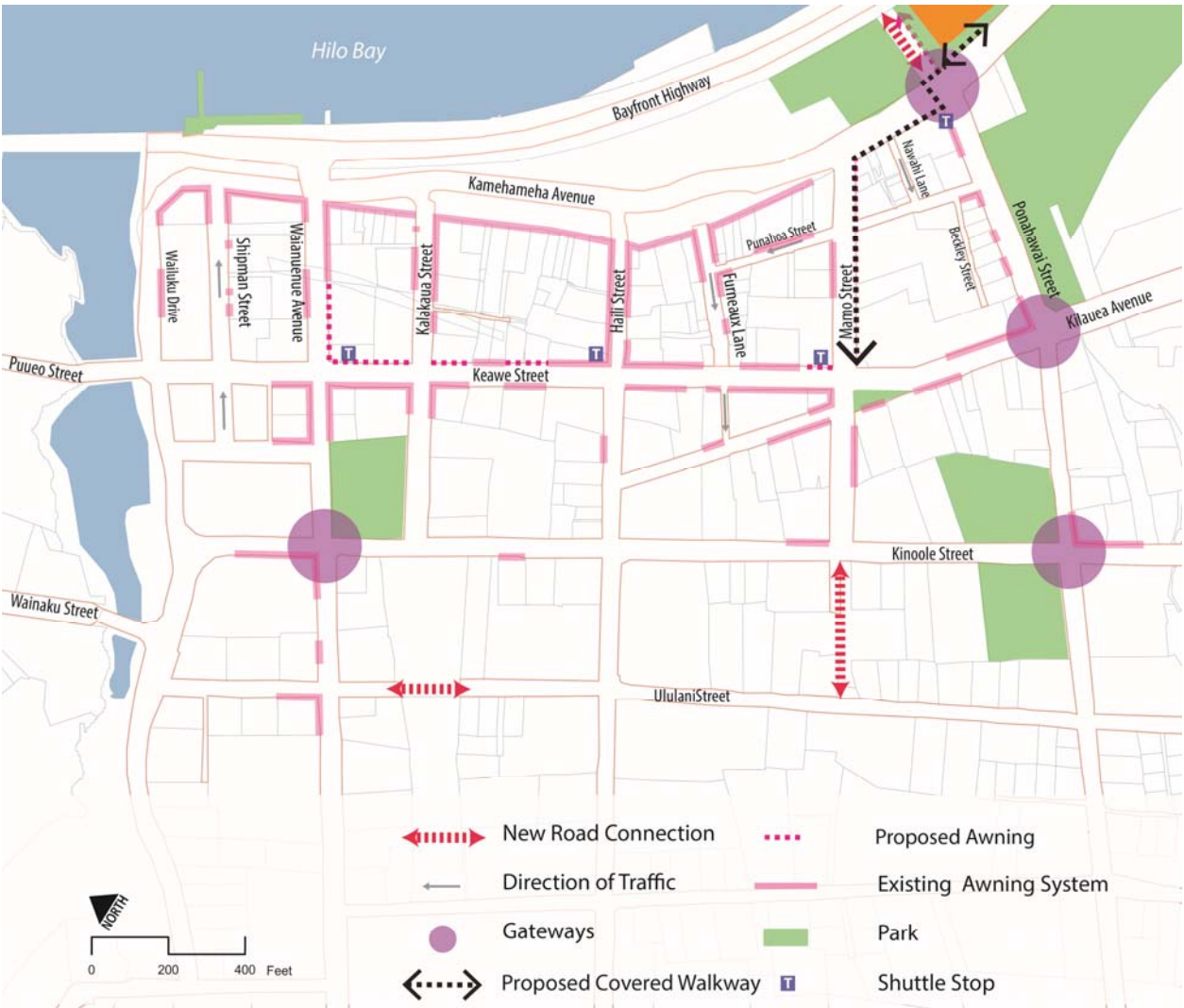


FIGURE 41 — EXAMPLE DESIGNS FOR COVERED WALKWAYS



B-11. Replace Overhead Utilities

The recommendation is to consider replacing the overhead utilities on Keawe Street with new metal poles for transmission lines and place local electrical service underground. The existing wooden utility poles in Downtown Hilo are not entirely out of character, however their spacing along the street is more frequent than would be required with metal poles. Metal poles also offer a broader choice of design features and colors. Transmission lines can be arranged vertically to reduce visual impact. Poles should be painted with a darker color that is consistent with other streetscape features such as light poles and traffic signals. The figure below illustrates how the overhead utilities can be renovated to an appropriate scale. This improvement has substantial associated cost relative to other proposed improvements and is considered a longer lead and lower priority item. It is included as part of a range of design options that can be considered to enhance the historic and architectural appeal of Downtown Hilo.



Overhead utilities are maintained on Waiʻalae Avenue in Kaimukī. Tall metal poles were used and power lines oriented vertically for a cleaner look. All vertical streetscape elements were painted dark green.

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4.3 BICYCLE COMPONENT

4.3.1 EXISTING CONDITIONS

There are currently no dedicated bicycle facilities in Downtown Hilo. Every street is a bicycle street, regardless of bikeway designation, unless specifically prohibited through signage. The only available bike racks are at Mo'ohau Bus Terminal and a couple of sidewalk locations in Downtown Hilo. The *1979 Bikeway Plan* (COH Planning Department) called for a network of bike lanes and bike paths that would connect Downtown Hilo with surrounding areas. Proposed improvements in Downtown Hilo from the 1979 Bikeway Plan are listed in Table 11.

TABLE 11 - PROPOSED BICYCLE FACILITIES (FROM THE 1979 BIKEWAY PLAN)

Roadway	Improvement
Kamehameha Avenue	Makai-side shared-use bike/walk path and mauka-side bike lanes.
Kino'ole Street	Shared-lane bike routes in the Downtown district, with bike lanes leading to Downtown.
Keawe Street	Shared-lane bike routes in the Downtown district, to eventually be converted to a shared-use bike/walk path
Ponahawai Street	Sidewalks in Downtown Hilo to be converted to shared-use bike/walk paths. Bike lanes leading to Downtown Hilo
Waiānuenue Avenue	Bike lanes leading to Downtown Hilo

Bike Plan Hawai'i (HDOT, 2003) proposed an extensive bicycle facility network throughout the greater Hilo area. Some of the *1979 Bikeway Plan* improvements were incorporated into *Bike Plan Hawai'i*. *Bike Plan Hawai'i* categorized proposed improvements as either Priority 1 (near-term), Priority 2 (mid-term), Priority 3 (long-term), or Priority 4 (those contingent on road development), as shown in Table 12. Further study is needed to develop desired regional connections.

TABLE 12 –PROPOSED BICYCLE FACILITIES LEADING TO OR WITHIN DOWNTOWN HILO (BIKE PLAN HAWAII', 2003)

Roadway	Priority	Description of Proposed Improvement
Bayfront Highway	1	Bike lanes from Waiānuenue Avenue to Pauahi Street (1.2 miles) ¹
Kamehameha Avenue	1	Bike lanes throughout Downtown Hilo from Waiānuenue Avenue to Wailoa River Bridge (1 mile)
Kīlauea Avenue	1	Bike lanes throughout Downtown Hilo from Waiānuenue Avenue to West Puainako Street (2.5 miles)
Waiānuenue Avenue	1	Bike lanes throughout Downtown Hilo from Bayfront Highway to Hilo Medical Center (1.9 miles)
Kapi'olani Street	2	Signed shared road through Downtown Hilo from Waiānuenue Avenue to Hualalai Street
Kino'ole Street	2	Bike lanes from Waiānuenue Avenue to Haihai Street (3.9 miles)
Ponahawai Street	2	Bike lanes leading to Downtown Hilo from Komohana Street terminating at Kapi'olani Street (1 mile)

¹ The DHMMP recommends a shoreline shared use path in lieu of these bike lanes (see Section 4.3.4)

The Hilo Bayfront Trails plan proposes to create a multi-use trail through Hilo that highlights cultural, historic, and environmental resources that can be enjoyed by residents and visitors. The main Hilo Bayfront Trail links Downtown Hilo with other points of interest in the greater Hilo area, and includes a potential extension to UH Hilo. Proposed improvements for this main trail include a shared use path that supports recreational walkers, joggers, cyclists, in-line skaters, skateboarders and people using scooters, wheelchairs and other mobility devices. The Bayfront Trails system broke ground in 2015, and has completed construction of phase 1. The *Hilo Bayfront Trails Master Plan* also references the Department of Parks and Recreation's Wailuku Riverfront Project, which proposes reconstructing the Wailuku River bank and building a scenic bicycle route along Wailuku Drive (see Figure 42 below).

There is limited designated bicycle parking in the Downtown Hilo area. The only available bike racks are at Mo'ohau Bus Terminal and a couple of sidewalk locations in Downtown Hilo. The Hilo Bayfront Trails Master Plan recommends placing additional bicycle racks at the Kaipalaoa Landing.

FIGURE 42 - PROPOSED HILO BAYFRONT TRAILS MASTER PLAN IMPROVEMENTS



Source: *Hilo Bayfront Trails Master Plan* (Helber Hastert & Fee, Planners, 2009)

4.3.2 DISCUSSION OF ISSUES RELATED TO BICYCLES

No dedicated bicycle facilities exist along roads in Downtown Hilo. Every street is a bicycle street, regardless of bikeway designation, unless specifically prohibited through signage. Bikeway facilities are designed to take into account vehicle speed and volume in order to accommodate the accessibility of bicyclists of all ages and levels. To encourage bicyclists to travel in the road, as opposed to on the sidewalk, there need to be facilities that accommodate less confident riders. The lack of dedicated bicycle facilities has resulted in a low volume of people on bicycles and perception from many in the community that roads are not safe for the majority of riders. Since most bicycle trips are short, a complete network of designated bikeways has a grid of roughly 0.5-miles with long haul bikeways connecting networks.

The issues to be addressed for a bikeway network in Hilo fall into two categories: 1) how to access Downtown by bicycle from neighboring areas; and 2) how to travel within the Downtown Core Area. The challenges in addressing these include:

- Few existing miles of bicycle facilities
- A mostly discontinuous existing bicycle network
- Difficult access to Downtown by bicycle
- Lack of bicycle facilities within the core Downtown area
- Many proposals for bicycle facilities but few implemented to date

Participants in focus groups and community meetings also had a lot to say about bicycle facilities. Selected comments are reproduced in the text box.

4.3.3 ALTERNATIVES CONSIDERED

Alternatives considered had to do with what type of bicycle facility is appropriate for each street: a protected bike lane, a painted bike lane, or sharrows. Best practices indicate that sharrows are appropriate on streets where the design and target speeds are 20 mph or less. This means that bicycles can more comfortably share the road with traffic. Some community members suggested that dedicated bike lanes were needed everywhere, however in some cases that means giving up other desired uses such as on-street parking, parklets, or bike share stations.

Bayfront Highway is an example of a facility that requires consideration of tradeoffs. Bike Plan Hawai'i recommended dedicated bike lanes along Bayfront Highway, however, given the high speeds along the

Anecdotal Comments from Community Outreach

- We need better signage Downtown about cycling. Drivers don't have cues that tell them bicycles may be present.
- A sharrow lane would work better than dedicated facilities if vehicle speeds are reduced.
- Students do not believe roads are safe to bicycle on due to narrow roadways and speeding vehicles.
- Consider additional bicycle parking Downtown so cyclists park and then walk Downtown.
- A Waiānuenue road diet is being explored to remove parking on both sides and install dedicated bike lanes, although the steep uphill grade is a deterrent.
- Kīlauea is used by cyclists but is not safe due to poor visibility.
- Kamehameha Avenue should have sharrows.
- I would love to see a Bike Share Program. It is indicative of a community where I would want to live.
- Bike racks are needed throughout Downtown to store bikes and possibly secure lockers.
- Put in bike racks at bus terminal and in front of Mokuāpapa, but police presence is needed to help secure it.
- Bicycle routes are needed to Walmart, Safeway, Target, pedestrian/shopping malls, and movie theaters.
- A bike route is needed from Banyan Drive to Downtown.

Comments reflect a sample of diverse views and opinions. Not all comments were included. Numerous views and considerations were taken into account when developing plan recommendations.

corridor and its use as a bypass to Downtown Hilo, the DHMMP recommends instead creating a shoreline multi-use path on the makai side that is buffered from the highway. This path will accommodate both bicycles and pedestrians comfortably and will provide an extension to the Hilo Bayfront Trail fronting Downtown.

It was also considered whether regional bikeway connections should be made to Downtown Hilo, while retaining shared road bike travel through Downtown Hilo so as to allow for a narrowed travelway and increased pedestrian use. This was dismissed in order to ensure all level of cyclists would have access into and through Downtown Hilo.

Alternatives were also considered with regard to the location of bike share stations. A bike share at the County building that provides for County workers to ride to and from Downtown at lunch would be beneficial, but ultimately was not central to the recommendations.

4.3.4 RECOMMENDATIONS

Recommendations related to bikeways are intended to form a basic network that will improve bicycle connectivity to and within Downtown Hilo. None of the proposed bikeways, except Kamehameha Avenue, require changes to curb line. The one-way section of Kino'ole and Keawe requires a conversion to a two-way traffic flow to accommodate proposed bike facilities. Supporting facilities such as bike corrals, bike share stations, and bike centers need to be accessible from bikeways into Hilo and located in convenient places to support a bicycle-friendly Downtown.



Bicyclist near Pineapple's in Downtown Hilo

Recommendations for bicycle facilities serving Downtown Hilo are listed in the text box. Each recommendation is further expanded on in the sections to follow.

Recommendations for Bicycles

- C-1) Create a regional bikeway network that connects Downtown Hilo with the airport, UH Hilo, Hilo Medical Center, and the Wainaku Neighborhood.**
- C-2) Add bike facilities, including bike lanes in both directions of travel on Kamehameha Avenue, Waiānuenue Avenue, Kino'ole Street, and Ponahawai Street. Add sharrows to Keawe Street and Haili Street as shared road bike routes.**
- C-3) Implement a bike share program at key locations within Downtown Hilo, with the possibility for expansion to neighboring areas.**
- C-4) Provide secure and convenient bicycle parking and corrals for cyclists.**
- C-5) Add a manned bike station at the Mo'oheau transit center to provide information and repair services.**

C-1. Regional Bikeway Network

Recommendations for Hilo's bikeway network address regional network to access the Downtown as well as bicycle access throughout the Downtown Core. Implementing these recommendations will require investment in new facilities.

Figure 43 shows proposed and existing regional bikeways interconnecting Downtown Hilo with the airport to the east, UH Hilo to the south, Hilo Medical Center to the west, and the Wainaku neighborhood to the north. It uses the *Bike Plan Hawai'i 2003* as a base but modifies a number of bikeways based on input from stakeholders, site observations, and analysis by the project team. The key bikeway corridors that are proposed to serve the Downtown from adjacent communities are the Wainaku Street protected bike lane from the north, Kamehameha Avenue bike lane from the east, Kino'ole Street bike lane from the south, and Waiānuenue Avenue bike lane from the west.

FIGURE 43 - PROPOSED REGIONAL BICYCLE NETWORK



C-2. Downtown Core Bikeways

Figure 44 shows proposed bikeways and supporting facilities within Downtown Hilo.

In the Downtown core, proposed bike lanes distribute cyclists along the perimeter of the core area and are extensions of the major bicycle corridors serving Downtown. Bike lanes are proposed in both directions of travel on Kamehameha Avenue, Waiānuenu Avenue, Kino'ole Street, and Ponahawai Street. Keawe Street and Haili Street have proposed sharrows that bifurcate the Downtown core into quadrants and provide bicycle access to the majority of Downtown's streets. Haili Street is proposed to have sharrows makai of Kino'ole and a bike lane and sharrows in the mauka direction from Kino'ole to Kapi'olani Streets. The downhill portion of the bikeway will be a sharrow.

These bikeways will be supported by facilities including bicycle corrals, a bike share program, a bicycle station at the transit center, and shared use paths. Each of these recommendations are described further below.

FIGURE 44 – PROPOSED BICYCLE FACILITIES IN THE DOWNTOWN CORE



C-3. Bike Share Program

The DHMMP recommends a phased bike share program to serve major destinations in the vicinity of Downtown Hilo, including the University of Hawai‘i at Hilo and the cruise ship terminal. Bike sharing is a transit system that enables customers to make short trips (typically up to 4 miles) using a network of publicly accessible bikes. Bike share schemes allow people to borrow a bike from point “A” and return it to point “B”. Bike share systems offer subscriptions to make the first 30 -40 minutes of use either free or very inexpensive, encouraging use as short distance transportation. Many stations are located in areas where on-street parking spaces would be placed. A diagram of a typical bike share station is shown below.



Typical bike share station



A bike share station in Boulder, CO

A bike share program was launched in the Kailua-Kona area in 2016, and currently has three stations. The Kailua-Kona bike share program is operated by Bikeshare Hawai‘i Island, a non-profit created through the joint efforts of the County of Hawai‘i Department of Research and Development, the Mayor’s Active Living Advisory Council, and People’s Advocacy for Trails Hawai‘i (PATH). Bikeshare Hawai‘i Island has applied for a grant to initiate a similar bike share program in Hilo, starting with 3 stations. Each station will include wayfinding signage that maps bike routes and points of interest Downtown. The three initial station locations are under consideration. Feasibility studies are anticipated to determine whether locations at UH Hilo and the County Building would be desirable. Currently, UH Hilo offers a free bike-borrowing program for registered students.

The DHMMP technical team identified locations for possible bike share facilities within Downtown Hilo, shown on Figure 44. Final locations and timing of rollout will likely be driven by the results of the pilot project. In the Downtown area, most of the stations will need to be located in on-street parking spaces and at nearby Downtown destinations such as the Farmers Market, Kamehameha Avenue restaurant row, Mokupāpapa Discovery Center, Pacific Tsunami Museum, the main transit centers, and other County-owned property.

Bike Share Hawai‘i Program

A non-profit organization in Honolulu, Bike Share Hawai‘i, has successfully implemented a Phase One Program branded as “Biki Hawai‘i”. It includes 1,000 Biki bikes in 100 stations from Waikīkī to Chinatown. The program logged over 360,000 rides on Biki in its first 6 months.

Bike Share Hawaii received initial funding of over \$2,000,000 from the State of Hawaii, City and County of Honolulu, and other non-profits. Expansion is currently planned with funding support from the federal Transportation Alternative Program.

Other cities and towns have smaller, private bike share programs that are used by institutional or large corporate clients for their employees, families, and guests. One in Cleveland, Ohio is a public system that is privately funded by the business and development community who feel it is an important transportation mode that will help catalyze redevelopment in a re-emerging urban neighborhood. Rather than waiting for a costly bike and dock system to be funded by government and non-profits, a private company is operating a more local neighborhood based system that will be one-fifth the cost. The company leases the bicycles that are locked in light-weight bicycle racks with Kryptonite locks. Key are stored in key-pad lockboxes on the bicycle and can be opened when subscribers get the code on a mobile phone app developed by the company. The system can grow more organically by neighborhoods where a large-scale conventional bike share program would not have been feasible. Anyone who has a smartphone can use the system.

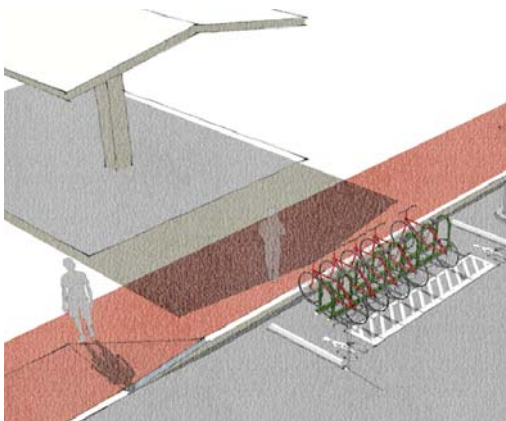
Lessons learned from pilot bike share programs in Hawai'i and elsewhere indicate that a successful bike share program has the following components:

- Brightly colored and highly visible facilities
- Located in high-traffic, well-lit areas near key destinations
- Stations are placed at both ends of routes between key destinations
- Some bicycle infrastructure (lanes, sharrows, racks) is already in place along the intended travel routes

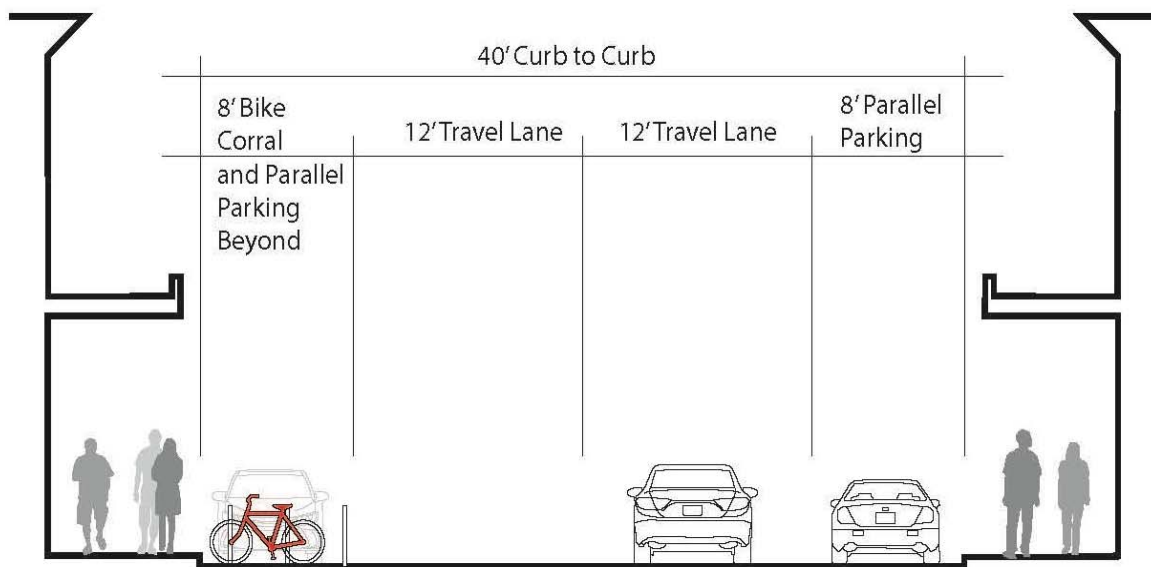
To the extent possible, Hilo's bike share program should have these elements. Additional security measures may be required around stations to deter theft.

C-4. Bicycle Parking and Corrals

In order to encourage bicycling, secure and convenient bicycle parking locations are needed throughout Downtown. This may take the form of bicycle racks, corrals, and in some cases, lockers. Bike corrals provide substantially more bicycle parking than racks, and are usually placed in heavily-used commercial areas such as Keawe Street and the Kamehameha Avenue Frontage Road. They are typically located in on-street parking spaces with buffering devices separating them from the adjacent travel way. Bike corrals are recommended to be provided along Keawe Street, Kino'ole Street, the Frontage Road, and at the Mo'ohau Transit Center (Figure 44). Bike corrals can also be built as part of a parklet (See Section 4.2.4) and on wide sidewalks where the shuttle stops are located.



Left: Conceptual bike corral on Keawe Street. Right: Bike corral in Kailua, O'ahu with road and parking buffers along three sides and fixed bike rack within.



Keawe Street conceptual cross section showing a bicycle corral using an on-street parking stall.

C-5. Transit Center Bicycle Station

A staffed bike station could be added to the Mo'ohau Transit Center or other major parking facility. It would provide a range of bicycle services including secure lockers, repair and maintenance, and showering facilities. The bike station can provide information about Hilo's bicycle network including related trails, destinations, and connections to the transit network.



Mo'ohau Transit Center can be retrofitted to include a bicycle center.

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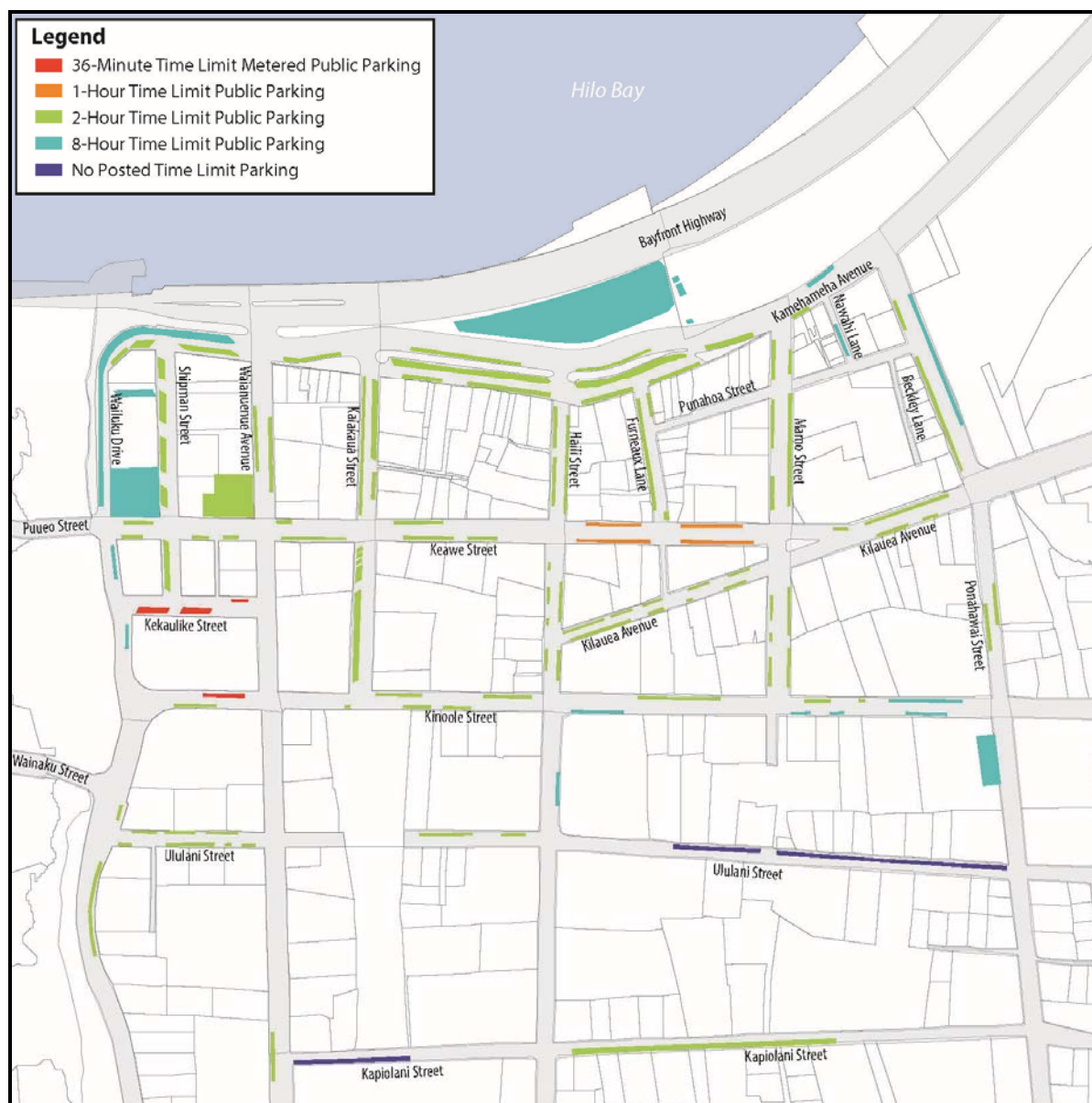
4.4 PARKING COMPONENT

4.4.1 EXISTING CONDITIONS

A high proportion of the street right-of-way in Downtown Hilo is devoted to on-street parking. Most streets have permitted on-street parking, and most on-street parking stalls are not metered. They mostly have two-hour limits, although a few have shorter time limits, and some do not have posted time limits. Figure 45 shows the location of public parking areas and their respective parking restrictions.

Off-street parking lots constitute a significant percentage (about 17%) of land in Downtown Hilo, which amounts to 21 acres of coverage. The majority of lots are privately owned. There are several off street public parking lots in the Downtown Hilo area, one of which, on the Hāmākua side of the Mo'orea Bus Terminal, functions as a Park and Ride lot for the Hele-On Bus and provides overflow parking for the retail shops along Kamehameha Avenue.

FIGURE 45 - EXISTING PUBLIC PARKING NETWORK IN DOWNTOWN HILO



In the early 1990s there were 918 parking meters in operation in Downtown Hilo. Today, there are 31. Non-metered parking is regulated by time limit zones ranging from a one-hour zone along two blocks of Keawe Street to eight-hour limit zones. These have not been consistently enforced and parkers routinely exceed the time limit.

Downtown Hilo is exempt from the standard off-street parking and loading requirements. These exemptions were linked to the anticipated formation of a Business Improvement District (BID) for Downtown.

A 2009 *Downtown Hilo Parking Analysis* calculated a parking deficit of 1,977 total stalls, including 151 ADA stalls. The County has been consistently revising curb spaces and parking lot configurations to add parking stalls. For example, over 17 stalls were added when the Mo'oheau parking lot was reconfigured in 2013 (see photo below).



The Mo'oheau parking lot was reconfigured in 2013 to add an additional 17 stalls.

The increases in parking supply have not been adequate to quell the concerns about the lack of adequate parking supply. Many Downtown businesses believe as much that can be done has been done in providing additional parking supply without proceeding to make major investments in parking supply increases, parking demand management, or a combination of both.

The 2009 report summarized the problems as follows:

1. The general disregard of the time limit zones.
2. People parking for an extended period in short-term parking areas such as:
 - a. The two-hour parking zone near the storefronts along Kamehameha Avenue
 - b. The one-hour parking zone near the storefronts along Keawe Street.
3. Added traffic congestion as people drive (cruise) in search of available stalls.
4. A loss of revenue by Downtown Hilo merchants when customers who cannot find parking shop elsewhere.

These problems were based upon observations and isolated incidents. Before proceeding with specific proposals for the DHMMP it was determined that more detailed characteristics needed to be developed of existing parking demand. The parking demand data confirmed the identified problems and developed the baseline data and turnover rates by trip type needed to conduct a meaningful parking analysis.

The fourth problem identified can be quantified. Various Downtown parking studies have estimated the revenue generated by a properly managed retail area parking space can range from \$150 to \$300 per day.

4.4.2 DISCUSSION OF ISSUES RELATED TO PARKING

1) Parking Turnover and Availability

The issues of parking turnover, enforcement, availability, and circulation are closely intertwined in Downtown Hilo. Perceptions among the study team, focus group participants, agency staff, and individual stakeholders all indicate that the availability of parking Downtown is stymied by a lack of turnover often due to employees, businesses owners, and other long-term users staying for extended periods in centrally located Downtown parking spots. This is exacerbated by vendors on Farmers Market days. Compounded with public parking areas with poor wayfinding, the Downtown parking experience is often characterized

as circling over and over on the main Downtown blocks searching for a parking spot. For those unfamiliar with Downtown, the network of one-way streets often increases the amount of circling and confusion.

The result of all of this is a perceived parking shortfall in Downtown Hilo. The data does not fully bear this out and even frustrated users acknowledge there probably would be plenty of parking with improvements in management and wayfinding. The parking analysis suggests there is substantial room for improvements in parking turnover, and therefore, parking availability.

Anecdotal Comments from Community Outreach:

- Hilo drivers tend to circle around Downtown looking for open spaces close to their destination. They do not want to park and walk because they might get wet if it rains.
- When the Farmers Market is busy on Wednesday and Saturday, vendors park near their stalls and businesses on Ponahawai and Mamo suffer because their customers cannot find parking.
- Many Downtown business employees park in the parking spaces that are close to their businesses. These two-hour spaces get taken up for eight hours by the employees and are not available for customers.
- There are very few eight-hour parking spaces for those that work Downtown. More are needed.
- Accessible parking needs to have longer time limits than others to allow more time for those with mobility challenges.
- All parallel parking spaces along Keawe and Kino'ole Streets are usually taken early and rarely turn over.
- KTA bought property and developed a parking lot for their employees only. Garden Exchange rents land from a nearby church for their employees to park. Cafe Pesto has reportedly asked employees to park in lots farther away from the restaurant so the nearby parking spaces are available for customers.

Comments reflect a sample of diverse views and opinions. Not all comments were included. Numerous views and considerations were taken into account when developing plan recommendations.

Successful parking management increases the availability of parking for users who need or value it most in a given situation. In the past that situation in Hilo is best defined by the most convenient parking location at the lowest possible cost to the person who is parking. Parking in front of the desired destination at no cost has often been reasonably available. In the future Downtown Hilo will become more attractive and vibrant. Such success will inevitably change the past parking experience and make preferable parking more difficult to find. Incentives can significantly alter this location and cost relationship where a parking user can be directed to where parking is available. These factors of location, cost and incentives will involve tradeoffs best addressed by the private sector impacted by how they are established and implemented.

2) Parking Enforcement

Downtown street parking is unmetered, and until 2015 was not enforced other than by signage posting applicable time limits. The County has now hired a parking enforcement officer through the Department of Public Works, who is on a first-name basis with many Downtown residents, users, and business owners. He has started issuing tickets for vehicles parked longer than the posted time limit.

While the scope of the new enforcement program is very limited, in the early months it generated some pushback from shop owners who felt that it was hurting business to have their customers' cars getting parking tickets. Numerous suggestions and ideas were raised during the focus groups and consultations to address enforcement, which is directly related to parking availability and location of public parking in Hilo. Some of these are listed below.

3) Public Parking Facilities

Stakeholders consulted felt that more public parking lots are needed Downtown and that they should be clearly marked and easy to find. Many people thought there should be an online application (App) showing public parking Downtown. Locations for additional parking lots – suggested and supported by the focus group participants – include the lots across from Palace Theater, lots behind Palace Theater, the parcel at Keawe and Haili, land along Ponahawai behind Tesoro or behind Salvation Army, land adjacent to the Ponahawai Road extension to Bayfront Highway, and the parking lot at Keawe and Shipman.

Security in parking lots was a key concern. It was suggested that lighting should be provided. Several stakeholders said they would be willing to pay for safe and secure parking. Many participants were open to

Solutions Suggested in Focus Groups and Outreach Sessions include:

- Reintroduce metered or paid street parking in Downtown Hilo, combined with a range of short-term and long term spaces.
- Consider a free public parking lot or structure and implement paid street parking everywhere else to encourage “park once” behavior.
- Require Downtown businesses to provide more parking spaces or impact fees to support provision of more parking.
- Keep Downtown parking free but enforce it better and provide more attractive alternatives for employees and long-term users.

Comments reflect a sample of diverse views and opinions. Not all comments were included. Numerous views and considerations were taken into account when developing plan recommendations.



Parking and traffic on Keawe on a weekday at noon.

public parking at the edges of Downtown, particularly if covered pathways and awnings sheltered the pedestrian walkways. There was a strong sense that parking facilities should match the scale and character of Downtown and incorporate features such as bicycle parking, landscaping, green walls, and pedestrian friendly design.

4) Street Parking

Providing angled parking on Keawe was favored by many participants in focus groups and stakeholder consultations. Some said that back-in angled parking is dangerous to cyclists and pedestrians, and others felt it should be considered.

Advocates for people with disabilities said that angled parking spaces for disabled people are not designed with access aisles on both sides of the parking space. This is a big problem as it reduces the functionality of the accessible parking spaces, such as those by Kalākaua Park.

5) Accessible Parking

There was general agreement among persons with disabilities and disability advocates that there is not enough accessible parking Downtown. It was mentioned that there is no accessible parking along Kilauea Avenue, and other streets have only one or two spaces. The designated accessible parking spaces on Kalākaua Avenue, beside the park, are cracked and rough; they are on a steep grade, and do not comply to the ADA standards for accessible parking. These spots "count" as accessible, but many people with disabilities find them difficult to use.

6) Remote Parking

There was general agreement within the community that having remote parking lots and a shuttle to Downtown is a good idea if the lot is secure, the shuttle runs frequently, is free or inexpensive, and the shuttle vehicles are accessible. Downtown employees could use remote lots and it would open up parking spaces Downtown for customers. Parking during major events Downtown could also use remote parking sites and a shuttle to Downtown. Remote parking should be targeted at longer-term customers like visitors or restaurant diners, rather than those who are shopping for groceries or landscaping supplies.

7) Passenger Loading Zones

Areas should be designated Downtown passenger loading zones for everyday drop off and pick up of students at Connections Charter School, and especially during big events Downtown like the Ho'olaule'a.



Typical existing accessible parking space located next to Haili Street.



Accessible parking space with access aisles on both sides located on North Market Street in Wailuku.



8) Parking Structure Viability

Focus Group participants and stakeholders generally agreed that a multi-story parking garage in Downtown Hilo would be very helpful if it was safe and secure, well lit, and covered. The design of the garage should be consistent with the architectural character of the Downtown Hilo buildings and blend in as much as possible. Several participants mentioned the Long's Drugs parking structure in Kailua, O'ahu, as an example of well camouflaged structure.

There was broad recognition that a sole purpose parking garage would not be a viable business proposition. This was based on reports from 1993 when the Downtown Improvement Association asked Diamond Parking Company (Diamond) to look at the possibility of a parking structure in Downtown Hilo. Diamond considered the idea and developed a business plan but ultimately rejected the idea because it was not financially viable.

Landowners and developers participating in the focus groups substantiated that conclusion. A viable business plan might combine a multi-story mixed use development with a parking structure. The mix of uses could include retail, residential, hotel, and condominium, as well as County offices and community centers.



Parking garage at Fort DeRussy in Waikīkī.

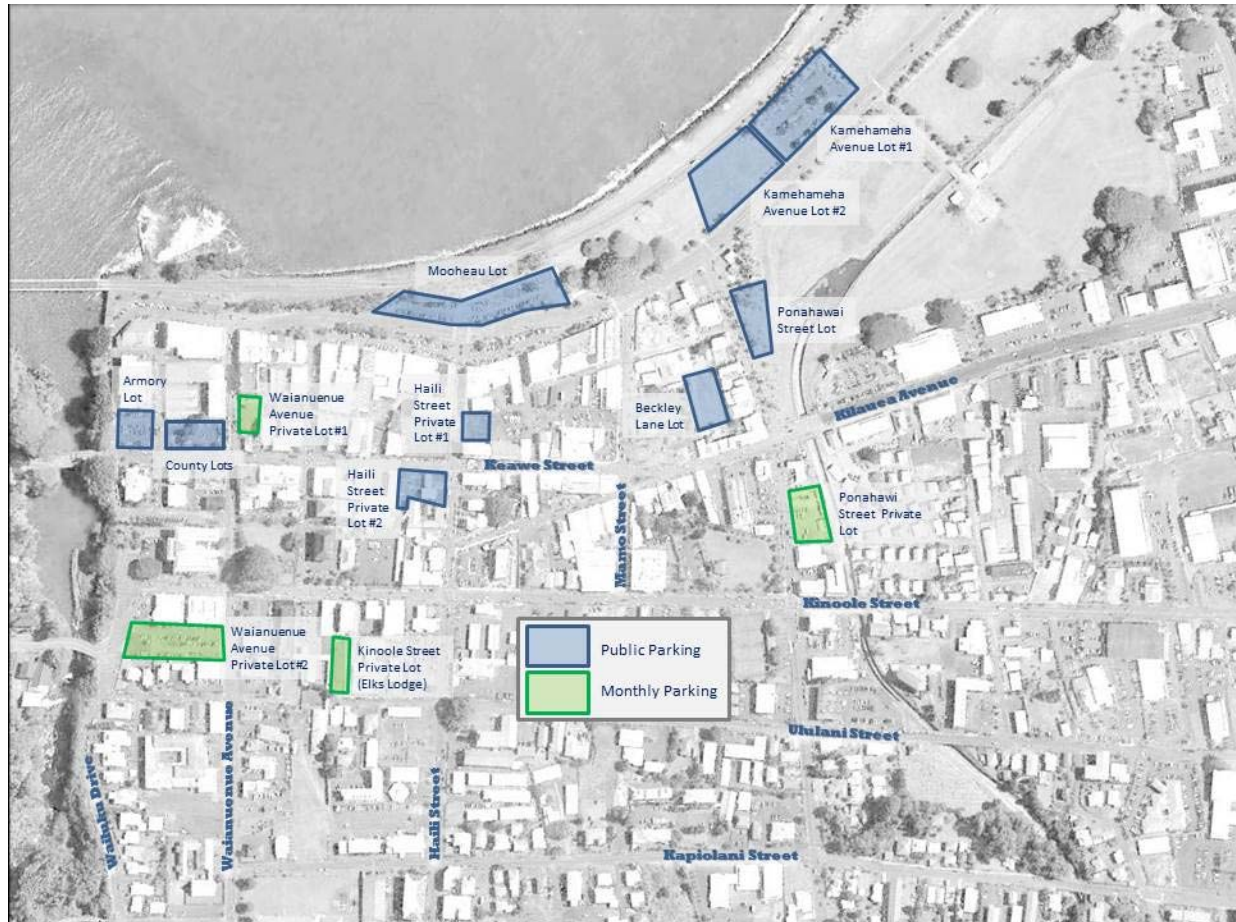
Possible sites were identified on the perimeter of Downtown Hilo as well as in the Downtown area itself. These include the area between Waiānuenue and Wailuku, either above the Armory or replacing some of the derelict warehouses in the area by Keawe and Shipman. Also mentioned were the lots behind Palace Theater, the lots across from Palace Theater, the Hawaiian Telcom lot, several lots on Beckley Lane, or the County lot on Ponahawai by the Salvation Army. There was more overall interest in a multi-story mixed use parking structure on the perimeter of Downtown with a shuttle/trolley to connect along the Downtown area. It was also suggested that parking structures should include amenities such as bicycle parking.

Business owners felt that the County could help realize the development of a Downtown parking structure through sharing the investment with a private developer, providing a tax incentive, or by allowing for a higher building height and mixed use development to make the parking structure financially viable. Some observed that permitting requirements would make a parking structure difficult to implement, and coordination with the County Planning Department was recommended.

4.4.3 ALTERNATIVES CONSIDERED

The primary alternatives that were considered served to increase parking capacity by developing off street parking capacity using both surface lots and potential future parking structures. Fourteen private and public off-street parking lots were considered.

FIGURE 46 – ALTERNATIVE PUBLIC PARKING LOTS CONSIDERED



An additional surface parking lot that was considered but eliminated that is not shown in the above figure is the existing 140-space remote parking lot along Kamehameha Avenue near Pauahi Street. This lot is a considerable distance from Downtown (1,400 feet), and therefore could be considered too far by some users. It could also be vulnerable to safety and security problems. This site was eliminated from consideration in favor of using the existing commuter lot, which is only 500 feet from the edge of Downtown. Instead, the parking lot near Pauahi Street is planned for a future skateboard park.

Table 13 identifies the alternative locations for surface parking lots where public parking is offered on an hourly basis. There are ten of these lots. Table 14 identifies the alternative locations for off street monthly parking. There are five of these locations.

TABLE 13 - ALTERNATIVE LOCATIONS FOR SURFACE PARKING LOTS

Location	Image	Proposed	Size	Timing
Mo'ohau Lot		Existing lot used by employees. Proposal is to change this lot from 8 hour time limit to 2 hours.	144 stalls, 2 ADA, 5 reserved	Near term, no further reconfiguration, change regulations from 8 to 2 hours with 5 ADA stalls and passes.
Armory Lot		Existing lot used heavily by long term parkers. Proposal is to change this lot from 8 hour time limit to 4 hours.	52 stalls, 4 ADA	Near term, no reconfiguration, change regulations from 8 to 4 hours with longer term parking passes allowed.
Keawe Street and Shipman Street Lot		Existing lot to be acquired by County	29 stalls, 0 ADA.	Acquisition is to allow reconfiguration with adjacent surface lot in the first stage of the plan.
Keawe Street and Waiānuenue Avenue Lot		Existing lot used heavily by long term parkers. Proposal is to change this lot from 8 hour time limit to 4 hours.	24 stalls, 2 ADA. Reconfiguration with adjacent lot creates 50 stalls, 4 ADA.	Existing, no stall changes until reconfigured with adjacent lot.
Ponahawai Street		New surface parking lot with adjacent park area. Land is undeveloped.	22 stalls, 2 ADA.	Near term for 22 stall configuration, development process is underway.

Location	Image	Proposed	Size	Timing
Haili Street #1		New surface parking lot using vacant lots only.	20 stalls, 2 ADA if only unused lot is included.	Several years. Parking management plan should make private development viable.
Haili Street #2		New surface parking lot using former Union 76 gas station	54 stalls, 3 ADA (now has 19 spaces, no formally designated ADA stalls)	Near term. Parking management plan should make private development viable.
Beckley Lane		Existing unimproved lot used for market visitors. Can serve about 70 vehicles	75 possible stalls, 3 ADA	Near Term. Could retain unimproved condition or be upgraded. Use green infrastructure where possible.
Kamehameha Avenue Lot #1, existing cross-island commuter lot		Land is developed as a surface parking lot.	104 stalls, 4 ADA as stand alone, 0 ADA if combined with Lot#2.	Existing, no change. Cross-island bus commuter parking would have to be permanently relocated.
Kamehameha Avenue Lot #2		Land is developed as a playfield. New multi-modal trail will eliminate the playfield.	100 stalls 4 ADA as stand alone, 6 ADA if combined with Lot#1.	Either a swap with Lot #1 or an expansion of Lot #1.

TABLE 14 - ALTERNATIVE PRIVATE OFF STREET MONTHLY PARKING LOCATIONS

Location	Image	Rate Per Stall	Status
Shipman and Keawe Street (across from Le Magic Pan Restaurant)		\$35.00/month along wall \$25.00/month along Keawe Street	29 stalls, 15 rented in 2011.
Ponahawai Street Private Lot (across from Downtown Laundry Express)		No single stalls available.	Majority of space leased to Downtown Laundry Express @ \$800 per month.
Waiānuenue Avenue Private Lot (across from Blane's Drive-Inn)		\$25.00/month	Stalls available
Waiānuenue Avenue Private Lot		\$50.00/month	Stalls available
Kino'ole Street with access from Ululani Street (Hilo Elks Lodge)		\$38.00/month	44 parking stalls

TABLE 15 - POSSIBLE STRUCTURED PARKING FACILITY LOCATIONS

Location	Image	Features	Size	Comments
Ponahawai Street		Multi-Modal Terminal with ground floor commercial, trail head, transit, secured bike storage, and bike sharing.	4 levels, maximum 270 vehicle parking spaces on top 3 levels, 8 ADA stalls on lower level.	Efficient garage with 120' width and 240' length provides 90 spaces per level. Ground level reserved for non-parking functions.
Ponahawai Street and Kīlauea Avenue		Multi-Modal Terminal with ground floor commercial, trail head, transit, secured bike storage, and bike sharing.	4 levels, maximum 540 vehicle parking spaces, 10 ADA stalls on lower level.	Efficient garage with 120' width and 480' length provides 180 spaces per level. Ground level primarily reserved for non-parking functions.
Beckley Lane		Multi-Modal Terminal with trail head, secured bike storage, and bike sharing. No transit terminal included.	4 levels, maximum 340 vehicle parking spaces, 8 ADA stalls.	Efficient garage with 120' width providing 90 spaces per level. About 2,000 square feet on ground level reserved for non-parking functions.

Location	Image	Features	Size	Comments
Mo'ohau Parking Lot		Multi-Modal Terminal with visitor center, trail head, transit, police station, secured bike storage, and bike sharing.	4 levels, maximum 340 vehicle parking spaces, 8 ADA stalls.	Could include tiered grass viewing terraces fronting Kamehameha Avenue for viewing parades.
Haili Street		Multi-Modal Terminal with trail head, transit, secured bike storage, and bike sharing.	4 levels, maximum 92 parking spaces, 4 ADA stalls.	Inefficient parking garage foot print with 80-foot width yields only 23 vehicles per level.
Wailuku, Shipman, Waiānuenu and Keawe.		Joint development or partnership involving Armory, County and private sites with upper levels crossing Shipman.	4 levels, maximum 370 spaces or about 300 on top 3 levels, 8 ADA stalls on lower level.	Inefficient parking garage foot print for individual sites makes development impractical unless all sites are developed jointly.
Kamehameha Avenue		Multi-Modal Terminal with visitor center, trail head, transit, secured bike storage, and bike sharing.	4 levels, maximum 1,000 spaces, 20 ADA stalls.	Efficient parking and access. Could include tiered grass viewing terraces fronting Kamehameha Avenue for viewing parades.

4.4.4 RECOMMENDATIONS

The two core parking solutions are: 1) to provide better parking management, and 2) to increase parking capacity, with the aim of creating a “park once and walk” environment in Downtown Hilo. These core parking solutions would be synchronized in stages to mesh with other key recommendations. Overall recommendations for parking in Downtown Hilo are listed in the text box and described below.

Recommendations for Parking

D-1) Adjust parking time limits using a parking management system that shifts long-term parking into dedicated lots and reserves short term spaces for customers and visitors frequenting Downtown businesses.

D-2) Use revenue from paid on-street parking to institute an enforcement program. This will help improve parking turnover in the Downtown core.

D-3) Institute a residential parking permit program for Downtown residents.

D-4) Increase off-street public parking supply from 309 to 649 spaces, an overall increase of 340 stalls. This will be accomplished by: 1) Building a 22-space lot on Ponahawai and eventually expanding it to a parking structure; 2) Creating a private lot operated by Diamond Parking at Haili Street and Keawe Street, providing a total of 54 stalls; 3) Acquiring the private lot between Shipman and the existing County parking lot; and 4) Building a new surface parking lot bordered by Kamehameha Avenue, the proposed Ponahawai Street extension, Bayfront Highway and the new remote parking lot .

D-5) Designate the Kamehameha Avenue parking lot as a remote lot for Downtown employees. Switch this lot, and perhaps the other Kamehameha Avenue lot, with the adjacent ball fields so that the parking is closer to Downtown but still serves park users.

D-6) Reconfigure Downtown streets to create new multimodal features using existing on-street parking spaces. These include parklets, transit stops, and bike corrals. Offset lost parking with increased off-street parking.

D-7) Evaluate feasibility of constructing parking structures at two sites: 1) above the new 22-space surface lot proposed for Ponahawai; and 2) County property makai of Keawe between Waiānuenue Avenue and Wailuku Drive. Consider the viability and possible locations for other parking structures.

D-1. Adjust Parking Time Limits

The intended outcome of a Downtown Hilo parking management program is to form a public-private partnership that places an emphasis on the private sector performing some functions such as parking planning, operations, management and enforcement that might otherwise not be performed; or, be performed by the County, but without the constant monitoring, innovation and adjustments needed to make parking an effective system that is balanced.

Better parking management includes effective enforcement of time limits and a range of tactics. One recommendation is a paid parking program with rates for long-term public parking set above the current private off-street monthly parking rate. This will help to shift parking demand into private lots with capacity and convenient locations. Effective signage and wayfinding are key to direct people to short and long term parking areas.

Table 16 shows the effect of the reallocation of time limits on the number of parkers served. The 251 additional parking spaces provided in stages 1 and 2 of the parking management program serve 1,186 additional parkers during a peak eight-hour time period using current parking turnover rates. The expectation is that turnover rates will increase and possibly serve enough additional parking demand that the construction of parking structures might be unnecessary in the near term. In accordance with community input received, accessible spaces are recommended to be provisioned with longer time limits.

In addition to time limits, it will be important to ensure that parking areas within and close to Downtown are reserved for users of Downtown. One of the lots along Kamehameha Avenue has been designated for commuters to different parts of the island. Moving that lot away from Downtown and reserving it for Downtown users would enhance the parking availability for Downtown Hilo.

TABLE 16 - CURRENT AND PROPOSED ON STREET PARKING SUPPLY AND DEMAND

Time Limit	Parking Demand						
	Current			Proposed			Increase In Parkers Served
	Number of Spaces	Parkers Per Hour	Estimated Number of Parkers	Number of Spaces	Parkers Per Hour	Estimated Number of Parkers	
36 minutes	31	1.67	414	36	1.67	481	67
1 hour	34	1.10	299	34	1.10	299	0
2 hours	632	1.10	5,562	706	1.10	6,213	651
4 hours	0	0.25	0	80	0.25	160	160
8 hours	324	0.18	467	69	0.18	99	-367
12 hours	89	0.18	128	429	0.18	618	490
none	45	0.10	36	43	0.10	34	-2
monthly	261	reserved	111	261	reserved	235	124
Totals	1,416		7,017	1,658		8,139	1,123

D-2. Paid On-Street Parking and Enforcement

Privately owned surface parking lots have been used to provide monthly parking to anyone willing to pay a fee. The cost for a Downtown Hilo monthly parking pass ranges from \$25.00 to \$50.00. However, the public demand to purchase monthly parking passes has been dampened because ample free public parking has been available in relative close proximity to where employees work. The conversion of most

eight hour time limit parking spaces to shorter time limits and the enforcement of the new time limit proposals will serve to encourage Downtown workers to either use remote public parking or private surface parking lots with the purchase of a monthly parking pass. With the introduction of an electronic parking management system, enforcement will be made easier through better tracking of how long vehicles remain parked. Enforcement can be accomplished through a combination of electronic tracking and in-person inspection of vehicle parking passes and permits. Enforcement is an ideal area for partnerships with parties that have an interest (e.g., towing companies, security companies, downtown businesses, associations, etc.).

The parking turnover rates (parkers per hour per stall by time limit) should improve with a paid on-street parking system coupled with effective parking enforcement. An example parking pay station is shown at right. The parking enforcement can be paid for through the parking revenue gained from instituting paid on-street parking. Effective parking pricing rates and enforcement will entice long-term parkers to seek off-street monthly parking. The assumption in increase, but parking demand will shift to private parking capacity by private

There is little incentive for the private changes in parking management and generating business is a needed first step additional parking options. Normally, parking is only a temporary condition business venture. Structured parking prices exceed about \$1,000,000 per acre other land uses on the same site that



Examples of parking payment kiosks from various places.

parking from the supply of private parking lots offering Table 16 is that private monthly parking supply will not these lots by 124, or 90% of capacity, making providing property owners more financially viable in the future.

sector to offer public parking without the proposed enforcement. Making off-street parking a revenue toward other strategies and partnerships to provide private property available for off street surface public while the land awaits development for a more lucrative typically becomes marginally cost effective when land and the land is being developed in conjunction with require off street parking.

D-3. Residential Parking Permits

The paid parking program will be permits will be issued by those location and history of their housing and parking.

supplemented by residential parking permits. These Downtown residents who qualify based upon the the inability of the property to offer sufficient off-street

The City of Seattle's Restricted Parking Zones (RPZ) program may serve as a model. The Restricted Parking Zone (RPZ) Program was created in 1979 to help ease parking congestion in residential neighborhoods surrounded by major traffic generators like hospitals and universities, while balancing the needs of all people to be able to use the public streets. RPZs help neighborhoods deal with the impacts from major traffic generators through transportation and parking demand management strategies and signed time limits from which vehicles displaying a valid RPZ permit are exempt. In Seattle, RPZ permits cost \$65 each and are valid for two years in most areas. Each residence is eligible for up to four vehicle-specific permits and one guest permit.

D-4. Off-Street Parking Capacity

Table 17 provides an inventory of Downtown Hilo's current and proposed parking supply by street and lot location. The current on-street parking supply consists of about 846 stalls. Another 309 stalls are provided by public lots for a total of 1,155 stalls. An additional 261 stalls are currently available in private lots for use by the public for a monthly charge.

In considering how additional parking capacity should be provided the following criteria were used:

- Be aesthetically consistent with Hilo's historic character.
- Promote high parking turnover in retail areas of Downtown.
- Offer reasonable alternatives for employees.
- Represent cost-effective investments.

The recommendation is to increase off-street public parking supply available for Downtown from 309 to 649 spaces, an overall increase of 340 stalls as listed at the bottom of Table 17. This will be accomplished by:

- 1) Building a 22-space lot on Ponahawai and eventually expanding it to a parking structure;
- 2) Creating a private lot operated by Diamond Parking at Haili Street and Keawe Street, providing a total of 54 stalls.
- 3) Acquiring the private lot between Shipman and the existing County parking lot;
- 4) Building a new surface parking lot bordered by Kamehameha Avenue, the proposed Ponahawai Street extension, Bayfront Highway and the new remote parking lot; and

Recommended areas for off-street parking are listed in the text box at right, and Figure 48 shows the locations of proposed parking lots and structures in Downtown Hilo.

Recommended Off-Street Parking Locations

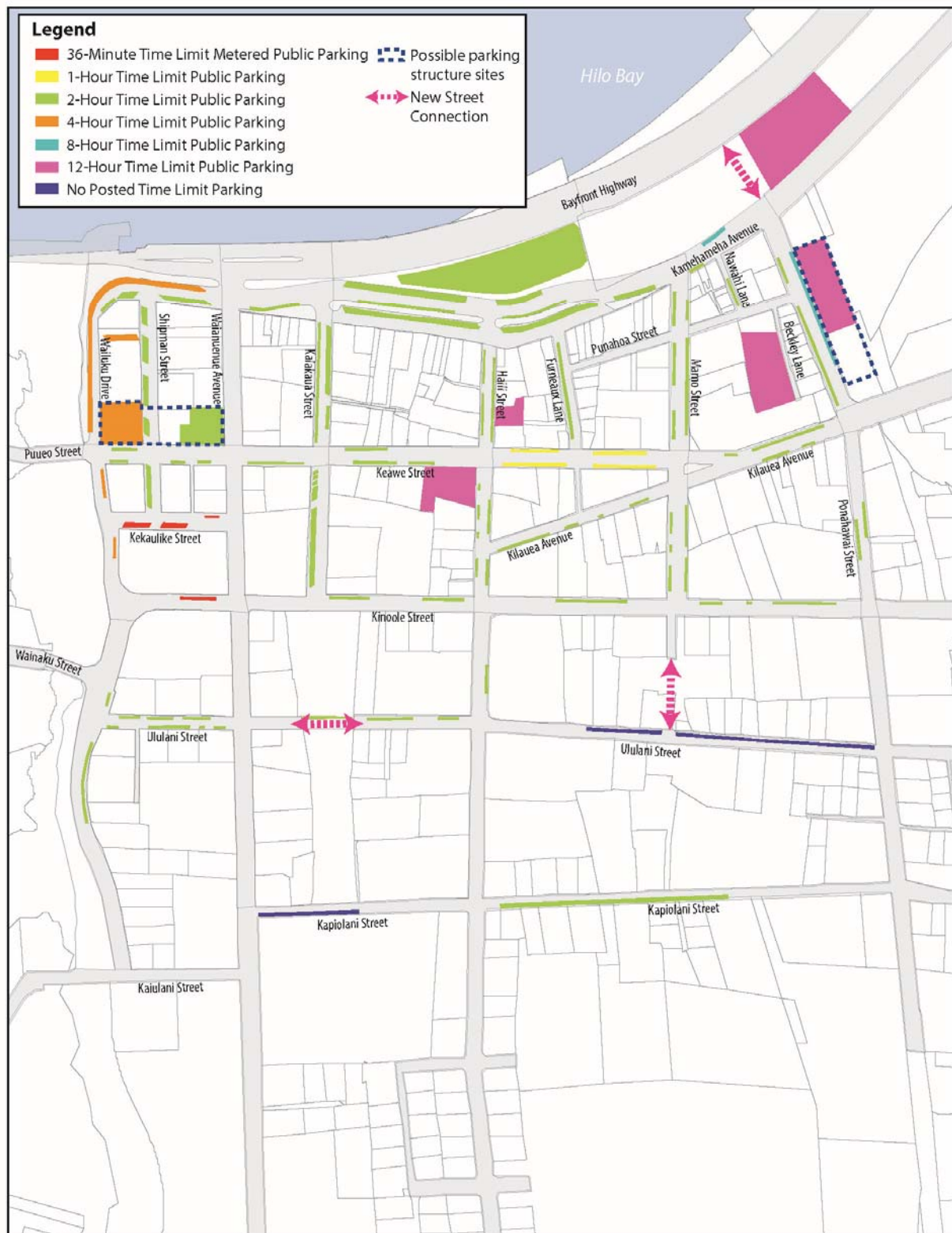
Surface Parking Lots:

- Mo'ohau Lot
- Armory Lot
- Old County Building Lot
- Private lot adjacent to County lot on Keawe
- Ponahawai Street
- Haili Street
- Beckley Lane
- Kamehameha Avenue existing commuter lot
- Kamehameha Avenue new location

Parking Structure Locations:

- Ponahawai Street
- Beckley Lane
- Armory/County lots and adjacent private lot
- Haili Street

FIGURE 48 – LOCATIONS OF RECOMMENDED PUBLIC PARKING IN DOWNTOWN HILO



D-5. Create Remote Parking Lots

Transition the Kamehameha Avenue parking lot from the current commuter use for Hele-On cross-island bus riders to a parking lot for Downtown employees. To do this will require other complementary strategies such as a shuttle, discussed in Section 4.6. It would be desirable to switch this lot, and perhaps the other Kamehameha Avenue lot shown on the last row of Table 17, with the adjacent ball fields so that the parking is closer to Downtown but still serves park users. This closer proximity to Downtown makes the use of covered walkways (as discussed in Section 4.3) more cost effective. Some existing parking areas experience flooding or ponding, which will need to be addressed in the design phase. New and reconstructed parking lots are recommended to incorporate green infrastructure, which can help to improve drainage. This could include permeable paving with green-crete or grass-crete, as well as planters and bioswales.

The employee lot could be managed using a monthly parking pass program entitling the holder to free transit shuttle service and other incentives such as free use of the bike share program within certain time limits. A covered walkway connecting to Kamehameha Avenue is recommended for those who prefer not to use the shuttle or the bike share program.

D-6. On-Street Parking Capacity

The DHMMP includes recommendations that create new multimodal features using existing parking spaces. These include parklets, transit stops, street tree bulbouts, and bike corrals. The anticipated reduction in on-street parking spaces (an estimated 98 in total, as shown in Table 17) will be offset by the recommended increase in off-street public parking lot capacity. The parking supply and management strategies that have been identified for Downtown Hilo will help to create a healthier economic climate will be created for the private sector to benefit from more equitable and sustainable opportunities to provide off-street public parking.

Off-street parking typically requires 300 to 400 square feet per space, including access lanes and landscaping. One acre can support between 100 to 150 spaces. Land costs in Downtown Hilo can vary from \$500,000 to over \$1,000,000 per acre. Because parking must be located near destinations, it often requires the higher land value. It is difficult to justify dedicating land to surface parking when the land value alone is worth up to \$10,000 per parking space and the expected gross revenue is no more than \$600 per space excluding site development, operations and maintenance costs. On-street parking should be priced and valued so that private off street parking is economically sustainable providing Downtown Hilo with a balanced parking supply.

D-7. Parking Structure

Future site development with off street structured parking in a Downtown area such as Hilo is likely to become more viable when it is combined with a multi-level, mixed-use development where the parking supply is shared and managed to support the overall development. There must be special incentives to justify a private developer providing more parking supply than needed to serve the land uses within the overall private development. This is more likely to occur if a successful parking management program is in place to assure the developer revenue generating parking demand will exist.

Three of the potential parking structure sites listed in Table 15 are considered to be the most promising. These are along Ponahawai Street, Beckley Lane, and the Armory in conjunction with the existing County surface parking lot and the privately owned lot along Shipman.

- The Ponahawai parking structure would be designed as a multimodal terminal with trail head information, transit, secured bike storage, and bike sharing operations. Preferential parking locations would be offered to carpools and vanpools. Potential exists to have viewing terraces, an adjacent park area with seating, and ground-floor commercial spaces. These features may reduce vehicle parking capacity. Of the three locations under consideration, Ponahawai is the most visible and accessible to vehicles entering Downtown from the south, which constitutes the majority of trips. It is a convenient jumping off point for vehicle occupants to leave their cars and transition to biking or walking to nearby destinations such as the Hilo Farmer's Market. Concerns were raised in community outreach about site limitations and visual impacts of a parking structure at this location. These will need to be addressed during the recommended feasibility analysis.
- The Beckley Lane site is an intriguing and attractive location. It may be best left for a multi-use development integrated with off-street public parking. If the Ponahawai site were to be found infeasible, the Beckley location could be designed as a multimodal terminal with trail head information, secured bike storage, and bike sharing operations, but it would not be a good location for transit.
- The Keawe Street site between Wailuku and Waiānuenue Avenue is currently occupied by surface lots with smaller footprints. These are too small to be developed with an efficient parking structure independently, but if the land is assembled into one site it has much greater promise.

The reallocated parking supply, revised parking time limits, and ongoing enforcement should adequately provide sufficient parking capacity in the near term. The three identified potential parking structure locations provide off-street parking lots in the interim and serve as a land bank in the event parking structures are deemed to be needed at some time in the future.

TABLE 17 - CURRENT AND PROPOSED PARKING SUPPLY BY STREET OR LOT LOCATION

Street or Location	Parking Capacity							Primary reason for parking capacity change
	Current			Proposed			Change	
	Time Limit	Type (#)	Spaces	Time Limit	Type (#)	Spaces		
Bayfront Highway	none	none	0	none	none	0	0	no change
Kamehameha	2	mixed	39	2	P(2)	62	23	makai parallel parking added
Kam. Ave. @	8	A (1)	28	4	A (1)	28	0	time & regulatory change
Frontage Road	2	mixed	125	2	mixed	60	-65	new storefront promenade
Kilauea Avenue	2	P (2)	19	2	P (2)	19	0	no change
Kilauea Avenue	2	P (1)	3	none	none	0	-3	new pedestrian mall
Kilauea Avenue	2	P (2)	30	2	P (1)	16	-14	shared street
Kinoole Street	36 min	P (1)	10	36 min	P (1)	10	0	cross-section conversion
Kinoole Street	2	P (2)	47	2	P (1)	23	-24	cross-section conversion
Kinoole Street	8	P (2)	24	2	P (1)	12	-12	cross-section conversion
Waianuenue Street	2	P (2)	23	none	none	0	-23	road diet
Ponahawai Street	2	P (2)	27	2	P (2)	27	0	no change
Ponahawai Street	8	P (2)	16	8	P (2)	16	0	no change
Keawe Street	1	P (2)	34	1	P (2)	34	0	no change
Keawe Street	2	P (2)	41	2	P (2)	37	-4	new bus stops
Kapiolani Street	2	P (1)	25	2	P (1)	25	0	no change
Kapiolani Street	none	P (1)	13	none	P (1)	13	0	no change
Haili Street	2	P (2)	38	2	P (2)	38	0	no change
Haili Street	8	P (2)	4	2	P (2)	4	0	time & regulatory change
Mamo Street	2	P (2)	47	2	mixed	47	0	shared street & angled
Mamo St. Extension	-	-	0	2	P (2)	28	28	new street connection
Wailuku Drive	8	A (1)	23	4	A (1)	23	0	time & regulatory change
Wailuku Drive	8	P (1)	30	4	P (1)	30	0	time & regulatory change
Shipman Street	2	A (1)	40	2	A (1)	40	0	no change
Kekaulike Street	36 min	mixed	21	36 min	mixed	26	5	metered to pay station
Kalakaua Street	2	A (1)	54	2	P (2)	54	0	shared street
Furneaux Lane	2	P (2)	17	2	none	10	-7	shared street
Punahoa Street	30 min	loading	0	30 min	loading	0	0	shared street
Ululani Street	2	P (2)	33	2	P (2)	33	0	new connection
Ululani Street	none	P (1)	32	none	P (1)	30	-2	new street connection
Nawahi Lane	8	P (1)	3	2	P (1)	3	0	time & regulatory change
On-Street Subtotal			846			748	-98	
Mooheau Lot	8	mixed	144	2	mixed	144	0	time & regulatory change
Armory Lot	8	mixed	52	4	mixed	52	0	time & regulatory change
Old County Bldg. Lot	2	mixed	24	2	mixed	24	0	monthly parking pass
Ponahawai Lot			0	12	mixed	75	75	new public parking lot
Haili Street Lot #1			0	12	mixed	20	20	privately operated public lot
Haili Street Lot #2	12		19	12	mixed	54	35	privately operated public lot
Beckley Lane Lot	12		70	12	mixed	76	6	privately operated public lot
Kamehameha Lot #1			0	12	mixed	104	104	relocated Hele-On parkers
Kamehameha Lot #2			0	12	mixed	100	100	additional lot capacity
Public Lot Subtotal			309			649	340	
Totals			1,155			1,397	242	

Legend: P(1) = Parallel parking stalls on one side of the street.

A(1) = Angled parking stalls on one side of the street.

P(2) = Parallel parking stalls on both sides of the street.

mixed = Angled and Parallel parking along the street.

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4.5 TRANSIT COMPONENT

4.5.1 EXISTING CONDITIONS

Public and Private Transit Services

The County's public bus service, Hele-On Bus, is administered by the County Mass Transit Agency. The Hele-On's fleet consists of 56 vehicles, all of them with lifts or ramps. The Hele-On Bus service includes eleven routes that provide service to Downtown Hilo (see Figure 49 and Table 18). The Mass Transit Master Plan is currently being updated. The Mo'ohau Bus Terminal, a major transfer point, is located in Mo'ohau County Park with access from Kamehameha Avenue between Mamo Street and Furneaux Lane.

The County of Hawai'i also provides a shared-ride taxi program, which is a flexible door-to-door transportation service that services the urbanized area of Hilo (within an 11 mile radius of Hilo) and the Kailua-Kona area. Individual fares for this service are \$2.00, but discounted fares are available.

In addition to the County bus service, Hoppa-On Hoppa-Off provides a private shuttle service with stops in Downtown Hilo. The Hoppa-On Hoppa-Off Circle Route provides service to six major tourist destinations in the Hilo area including the Port of Hilo (cruise ship terminal), Reeds Bay, Liliuokalani Gardens, Rainbow Falls, King Kamehameha Statue, and Richardson Beach. All day passes for the circle route service cost \$15.00. The Hilo Farmers Market provides a free shuttle to and from the cruise ship terminal on cruise ship days between 8:00 am and 12:00 pm.



Hele-On Bus at the Mo'ohau Terminal



Hoppa On Hoppa Off Bus next to KTA market

FIGURE 49 EXISTING HELE-ON ROUTES SERVING DOWNTOWN HILO

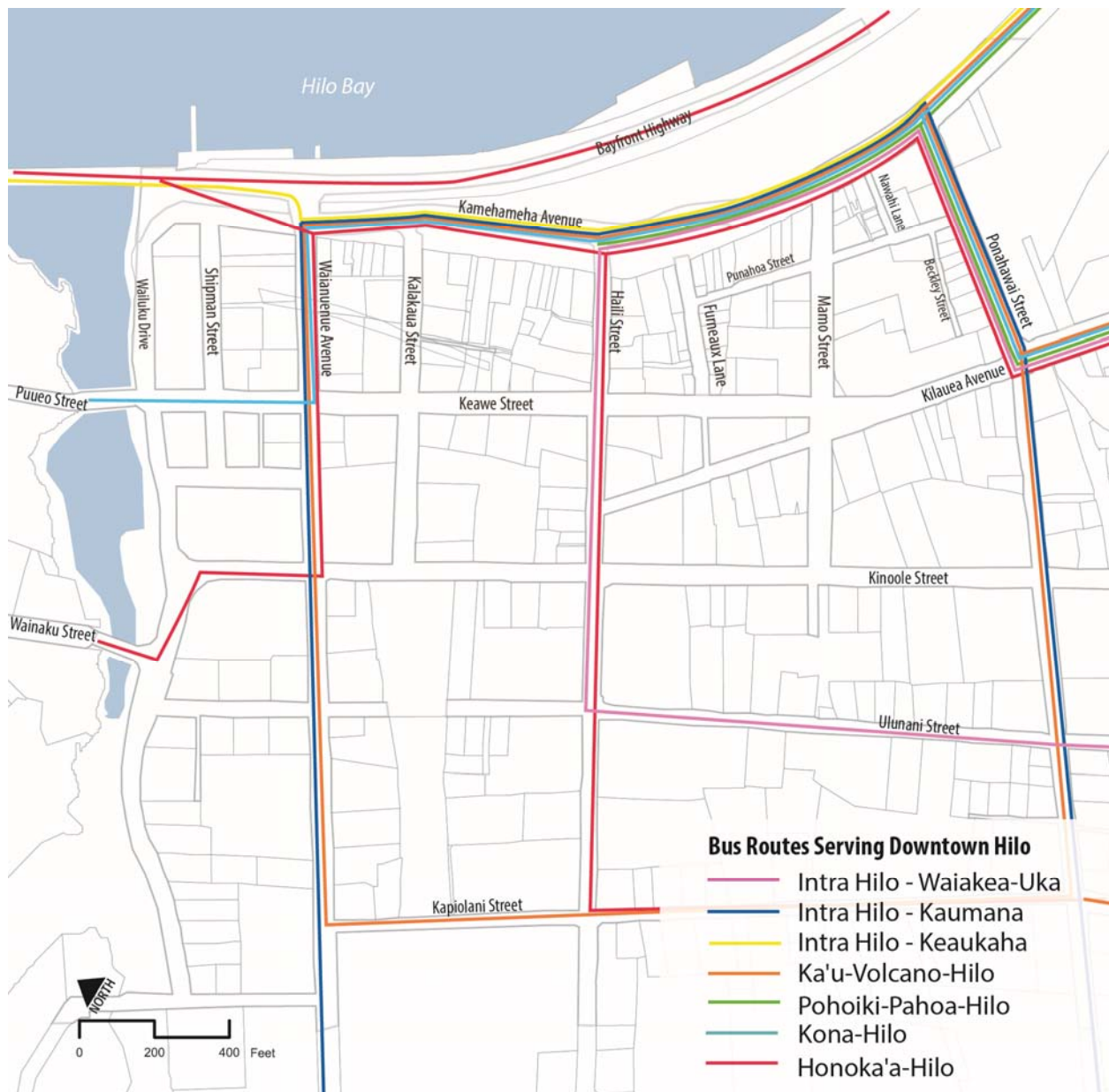


TABLE 18 - HELE-ON BUS ROUTES WITH SERVICE TO DOWNTOWN HILO

Route Name	Average Frequency (Headway)	Span of Service	Buses Per Day	Time Points and Bus Stops (stops within study area shown in bold)	Monthly Ridership (MTA 2009)
Route 101 – Kona to Hilo	Peak Hour Service: two Peak AM and one Peak PM buses to Hilo from Kona; one early morning, one AM, one PM bus to Kona from Hilo	3:50 AM to 1:30 PM (Mon. through Sat.)	12	Fujiyama store, Honaunau, Capt. Cook Yano Hall, Kealahou, Kona, Kailua, Sheraton Keauhou Resort, Ali'i Drive, Kona Commons, Kmart, Ali'i Drive, Matsuyama Store, Waikoloa Pyramid Stone, Four Seasons Resorts, Hilton Waikoloa, Marriott, Orchid @ Mauna Lani, Mauna Lani Bay, Hāpuna Prince, Pa'auilo, Laupāhoehoe, Pāpa'aloa, Nīnole, Hakalau, Honomū Plantation Store, Pepe'ekeo, Pāpa'ikou, Kalākaua Park, Mental Health Clinic, Mo'ohau Bus Terminal , Aupuni Center, Hilo Shopping Center, UH-Hilo, Hawai'i Community College, Prince Kūhiō Plaza	4,237
Route 102 – Waimea to Hilo	45 min	3:30 AM to 11:55 PM (Mon. through Sat., with fewer buses on Sat. and Sun.)	21	Waimea, Honoka'a, Pa'auilo, Laupāhoehoe, Hakalau, Honomū, Pāpa'ikou, Kalākaua Park, Mental Health Clinic, Mo'ohau Bus Terminal , Aupuni Center, Hilo Shopping Center, UH Hilo, Hawai'i Community College, Prince Kūhiō Plaza.	581
Route 103 – Hilo to Waikaloa	15 min peak AM service to resorts, and 15 min peak PM service to Hilo. Limited off-peak service.	3:30 AM to 7:30 PM (Mon. through Fri. with fewer buses on Sat. and Sun.)	16	Bayfront Parking Lot, Mo'ohau Bus Terminal , Pāpa'ikou, Laupāhoehoe, Honokaa, Waimea, Hilton Waikoloa, Marriott, Orchid @ Mauna Lani, Mauna Lani Bay, Hāpuna Prince, Mauna Kea Beach, Four Seasons	22,512

Route Name	Average Frequency (Headway)	Span of Service	Buses Per Day	Time Points and Bus Stops (stops within study area shown in bold)	Monthly Ridership (MTA 2009)
Route 104 – Honoka‘a to Hilo	Average 40 min (higher frequency during peak AM and PM periods)	3:30 AM to 7:30 PM (Mon. through Sat. with fewer buses on Sun.)	26	Honokaa, Pa‘auilo (overpass), Laupāhoehoe, Hakalau, Honomū, Pāpa‘ikou, Kalākaua Park, Mo‘oheau Bus Terminal , St. Joseph School, Aupuni Center, Hilo Shopping Center, UH-Hilo, Hawai‘i Community College, Prince Kūhiō Plaza	807
Route 121 – Pohoiki to Pāhoa to Hilo	40 min	7:30 AM to 9:30 PM (Mon. through Fri.)	22	Pohoiki, Seaview Estates, Leilani Estates, Nānāwale, Pāhoa, Hawaiian Beaches, Ainaloa, Hawaiian Paradise Park, Kea‘au, Prince Kūhiō Plaza, Hawai‘i Community College, UH Hilo, Hilo Shopping Center, Aupuni Center, St. Joseph School, Downtown Hilo (Mo‘oheau Bus Terminal) .	13,053
Route 122 – Ka‘u to Volcano to Hilo	60 min (Peak Hour Service)	5:00 AM to 4:40 PM (Mon. through Sat.)	10	Mo‘oheau Bus Terminal, Hilo Public Library, Hilo Fire Station , St. Joseph School, Aupuni Center, UH-Hilo, Hawai‘i Community College, Prince Kūhiō Plaza, Keaau Post Office, Kurtistown, Fern Acres, Mountain View, Volcano Village, Volcano National Park Visitor's Center, Pāhala, Punalu‘u, Naalehu, Wai‘ōhinu, Ocean View Park & Ride Lot	1,176
Route 130 – Keaukaha	30 min	7:00 AM to 4:00 PM (Mon. through Sat.)	17	Mo‘oheau Bus Terminal , Aupuni Center, Hilo Shopping Center, UH-Hilo, Hawai‘i Community College, Prince Kūhiō Plaza, Keaukaha Market, Baker Street/Krauss Street, Seaside Restaurant, King’s Landing, Kalaniana‘ole (Richardson), Kalaniana‘ole (Onakahakaha), Oceanfront Kitchen (Chinese Take-Out), Banyan Drive	Not available

Route Name	Average Frequency (Headway)	Span of Service	Buses Per Day	Time Points and Bus Stops (stops within study area shown in bold)	Monthly Ridership (MTA 2009)
Route 131 – Waiākea Uka	60 min	7:05 AM to 4:00 PM (Mon. through Sat.)	10	Mo’oheau Bus Terminal , Aupuni Center, Hilo Shopping Center, UH Hilo, Hawai’i Community College, Prince Kūhiō Plaza, Kīlauea/Haihai, Haihai/Ainaola, Waiākea-Uka Gym, Life Care Center, Banyan Drive.	Not available
Route 132 – Kaumana	60 min	7:35 AM to 4:45 PM (Mon. through Sat.)	11	Prince Kūhiō Plaza, Aupuni Center, Banyan Drive, Mo’oheau Bus Terminal , Post Office – Kalākaua Park , Hilo Public Library , Hilo Medical Center, Ainako/ Kaūmana, Chong/ Kaūmana, Gentry Subdivision, Kaūmana City	8,961
Prince Kūhiō Plaza to HCC to UH to Downtown Hilo ¹	30 min	5:00 AM to 8:00 PM (Saturday)		Mo’oheau Bus Terminal , Aupuni Center, UH Hilo, Hawai’i Community College, Prince Kūhiō Plaza.	Not available
Downtown Hilo to Aupuni Center or Prince Kūhiō Plaza ¹	18 min	5:00 AM to 9:30 PM Mon. through Sat.)	49	Mo’oheau Bus Terminal , Aupuni Center, Prince Kūhiō Plaza	Not available

¹ This route is a conglomeration of other Hele-On Routes and does not represent additional bus service.

Commuting Characteristics

The Hele-On bus operates 16 routes, with Mo'ohau Terminal functioning as the system's main passenger facility. Although most of these routes serve some part of Hilo, the emphasis for Hele-On has been on providing longer-distance, cross-island connections with commuter-oriented schedules. Many workers must leave Hilo around 5:00 a.m. in the morning to catch the bus to Kona.

Survey data shows that Hele-On has not been widely used by workers in Hilo. Table 19 shows that only 0.7 percent of all people commuting to work use public transportation to get to their jobs in Hilo.

TABLE 19 - HILO COMMUTING CHARACTERISTICS TO AND FROM HILO FOR THE PERIOD FROM 2011-2013

Transportation Mode	Percent
Drove Alone	80.2%
Carpooled	12.6%
Public transportation	0.7%
Walked	0.7%
Bicycle	0.6%
Taxicab, motorcycle or other	1.6%
Worked at home	3.6%
Totals	100.0%

Source: American Community Survey 3-Year Estimates

Students in Hilo schools also have limited options for using transit. Bus service is limited only to those that live outside of a two-mile radius from the school. As a result, many students are driven to school. Most Hilo Union School students walk to school or are dropped off. The school principal estimated that only 30 to 40 students take the school bus. Bus service is not provided from area schools in the afternoon, which means that parents must pick students up from school and after-school activities.

4.5.2 DISCUSSION OF ISSUES RELATED TO TRANSIT

The DHMMP process included robust discussion on the type of transit service that could be effective in meeting the needs of Downtown Hilo. Input collected helped frame the issues around transit and identify solutions. Anecdotes from community input are in the text box below, followed by a summary of issues identified for transit.

Anecdotal Comments from Community Outreach

- The proposed shuttle for the remote parking lots calculated a specific wait time. This wait time must be the same for wheelchair users. The only way to guarantee this is if all the shuttle vehicles are wheelchair accessible. The type of accessible vehicle is as important as the number of accessible vehicles in the fleet. In my experience, the simpler the modification is, the better.
- Afterschool activities are not over until at least 6pm, and sometimes not until 8pm. More bus routes are needed which leave after these activities are over.
- We should consider building a new bus station on the County land on Ponahawai beyond Tesoro that has clean well-lit bathrooms, covered benches, some bicycle storage racks, and a Downtown trolley to get around Downtown. Extend Ponahawai from Kamehameha to Bayfront and put parking alongside the new road connection where the existing ball field is.
- A Downtown shuttle/trolley is a great idea for students! Make it free for students with their student ID! Have it go along Keawe and Kamehameha at 15 minute intervals. We prefer the open sided trolley because it looks cool and it's easy to get on and off.
- Apps that help you use the bus are great. We need a local app for the bus schedule and route with a GPS tracking option so you can see where the bus is.
- The Bus station should be cleaned up and relocated. Should be part of Bayfront, maybe next to Kress building. Should be a nice clean space that is part of the Downtown experience.
- There is no municipal bus that services Port of Hilo. They should put in a route that runs frequently on cruise days.
- An improved bus system would be very helpful to the people who use DHS services. Transportation is one of their greatest challenges, so they can't get access to services now. A better bus system with more routes and schedules would be great!
- We need shuttles Downtown that run frequently, and the Downtown transit should extend out of town to Keaukaha and Kaūmana neighborhoods, to the beaches, and to the malls and commercial areas out as far as Puainako.
- We need more covered bus stops throughout Hilo including Downtown. We also need a standardized system to put schedules and routes on the bus stops.
- It's not easy to find the bus schedule and routes. Visitors need to be better informed about the bus routes, location of bus stops, too. The schedule and routes can be posted at the bus stops. There are some parts of Hilo where bus stops are not clearly marked, and other places where you can flag down passing buses, but there is no signage or easily accessible information about this for those that are not familiar with Downtown or the bus schedule.
- Buses should not charge passengers for shopping bags as they do now, especially for the elderly.

Comments reflect a sample of diverse views and opinions. Not all comments were included. Numerous views and considerations were taken into account when developing plan recommendations.

1) Types of Downtown Transit Services

Community input gathered for the DHMMP indicated an overarching need for an improved bus system and wayfinding system to make bus stops and routes easier to find. The perception is that schools, businesses, and others would benefit from making transit access to Downtown easy and convenient. Transit options are also important for the elderly, disabled, and those that benefit from social services.

There was strong support for additional transit services to complement Hele-On's mostly long-distance commuter bus service. This includes a Downtown shuttle that makes short and frequent runs in the Downtown area, and that could potentially serve students of area schools. This Downtown shuttle could also serve remote parking lots for Downtown employees, thereby freeing up parking spaces for visitors and potential customers of Downtown businesses.

A Downtown shuttle could be timed to synchronize with the Hele-On bus schedules, and could be phased to initially provide service within Downtown and eventually expand to outlying areas.



Bus schedule for Maui Bus Route 40.



Connections school bus stop along Kamehameha.



A student class walking past the Extreme Exposure Fine Art Gallery.

2) Shuttle Destinations

Input was gathered on key destinations that should be served by transit, whether by a Downtown Shuttle, Hele-On, or other private services. There was agreement that a Downtown circulator shuttle is needed to facilitate the “park once and walk” environment that the community envisions. This circulator would provide an alternative to walking for those that need or desire it, and would also serve the proposed remote parking lot for Downtown employees.

The community also expressed a desire for better transit service to and from the Port of Hilo and UH Hilo. The airport was regularly cited as another key destination, and bus service to the Airport commenced during the preparation of the DHMMP. Other destinations mentioned included schools, senior housing and centers, government offices, neighborhoods, parks, beaches, and shopping centers.

Currently, only the privately run Hoppa-On Hoppa-Off bus goes to Downtown from the Port of Hilo, and it serves multiple other destinations in addition to Downtown. A regular shuttle from the port to the Downtown area would help area businesses, as well as providing options for cruise ship passengers. It could be funded in part by area businesses that serve as key destinations.

Destination Hilo conducted interviews of Hilo cruise ship passengers. Based on their interviews, 50 percent of the passengers go on tours and about 25 percent of the passengers went Downtown. In December 2014, there were 500 cruise ship passengers who took the free shuttle to the Farmers Market. The Hoppa-On Hoppa-Off bus take an average of 200 cruise ship passengers to Downtown Hilo on boat days. About 85 percent of these passengers get off the bus in Downtown Hilo. Cruise ship passengers often travel in couples or on their own.



Hele On serves UH Hilo at the Campus Center.



Hoppa-On Hoppa-Off bus arriving at the Port of Hilo gate to serve cruise ship passengers. A Roberts Hawaii Charter bus is leaving the pier.



A Double Decker Tour Bus served the cruises for a limited time in 2015. This operation did not go through the gate and passengers were unloading in the middle of Kalanianaʻole Street.



Hele-On Keaukaha Route passes by the Port of Hilo cruise terminal pier eight times a day on six days each week.

3) Transit Vehicles

The vehicles used by Hele On and Hoppa-On Hoppa-Off are ADA-compliant, and community members emphasized the importance of maintaining accessible options. Many felt that a sampan or open air bus would be an appealing design for a Downtown shuttle to make short and frequent runs in the Downtown area. Sampan vehicles would bring back an attraction unique to Hilo, as shown on Figure 50. If not a sampan, some believe Downtown Hilo needs an energy-sustainable vehicle, perhaps one that runs on biogas. Others suggested the vehicle should exhibit some high-tech demonstration feature, perhaps vehicles that are self-guided.

4) Transit Stops

Visibility and comfort of transit stops was a common theme of community feedback during the DHMMP process. Many feel that bus stops are currently not well marked, and that they need to be consistently designed and clearly identifiable.

In order to encourage more use of transit, many felt that bus stops should be covered and include amenities such as benches and waste receptacles.

It was also noted that taxis often park in the bus lane because they do not have dedicated taxi stands.



A Hele-On bus stop and passenger shelter along Kamehameha Avenue.



A Honolulu bus stop along Ala Moana Boulevard shared with private operators.

FIGURE 50 - HILO SAMPAN HISTORY

To the right is a Hilo Sampan destined for Keukaha in 1964 in front of the Mooheau bus terminal. The Hilo Sampan Company was started in 1922 by a taxi driver. Vehicles were converted sedans with wooden passenger seats. In 1962 the fare was 5 to 10 cents and about 200 Sampans operated on the island, mostly in Hilo. By 1976 air conditioned buses became more popular with tourists and Sampans stopped operating. Sampans are sometimes seen at car shows as illustrated below.



Source: *Sampans will remain a part of Downtown Hilo*, Pacific Business News, September 8, 1996

5) Bus Terminal Issues

Many people in the community expressed concern about the Mo'ohau bus terminal. The presence of panhandlers and homeless make it an unwelcoming place, and there are gaps in security, particularly on Sundays.

People suggested putting maps at the bus station, providing more bike storage racks, and having the bus terminal be the centralized taxi stand for Downtown. Cyclists do take the bus into town.

People observed that the crosswalk from Mamo to the terminal is hazardous. It is a long crossing with no signal, only markings on the road and lights on the side of the road. Cars ignore the flashing lights and do not stop until almost too late. There are lots of close calls. Some offered ideas for relocating the bus terminal to avoid needing to cross Kamehameha Avenue, perhaps in front of the Kress Building.



There is a police mini station at the Mo'ohau Terminal that is closed on Sundays.

6) Information & Wayfinding



A bus stop in Bellevue, Washington on NE 8th Street with real time schedule information, off board fare ticket vending machine, transit system map, route map and schedule and extensive branding.

Many people felt that they did not have enough information about how to access transit, due to lack of signage, advertising, and user friendly information.

There are some parts of Hilo where bus stops are not clearly marked, and other places where you can flag down passing buses, but there is no signage or easily accessible information about this for those not familiar with Downtown or the bus schedule.

A standardized system to post schedules and routes on the bus stops would help, as would including the information on the website. A smartphone app was also suggested.

Downtown stakeholders stressed that more advertisements about Downtown Hilo are needed in passenger airline magazines. Events are included in the magazines, and maps are distributed to airline passengers just before they arrive in Hilo. Participants suggested that we need a better visitor map highlighting Downtown Hilo that shows businesses, parking, bus stops, Bayfront trails, and other attractions. These maps could be posted on boards in several locations throughout Downtown.

4.5.3 ALTERNATIVES CONSIDERED

Six shuttle alternatives were considered. These ranged from a simple connection between a remote parking location for Downtown Hilo employees to a full network of shuttle routes connecting Downtown Hilo with three major outlying trip generators important to Downtown Hilo: the Port of Hilo cruise ship pier, Hilo airport and UH Hilo. Hele-On already serves these locations, but not with the direct routes and frequent service levels people asked for during the public outreach program.

One alternative required just one vehicle because it only connected remote parking lots with Downtown. A second alternative required three transit vehicles and connected the government center and neighborhoods north of the Wailuku River with Downtown. Four of the alternatives all served the three major outlying trip generators important to Downtown Hilo, all of which would require at least six transit vehicles. These last four shuttle system alternatives were refined to one preferred configuration. The final recommendations reflect three of the alternatives building upon each other in a phased sequence.

4.5.4. RECOMMENDATIONS

The key recommendations for transit in Downtown Hilo are in the text box below.

Recommendations for Public/Private Transit

- E-1) Establish a Downtown shuttle (separate from Hele-On) and implement it in stages.**
- E-2) Initially, connect remote parking lots so employees will park there rather than utilizing on-street spaces and the Mo'ohau lot. Operate the shuttle in a clockwise loop with three stops on Keawe Street. Service would depart every 8 to 10 minutes and could possibly operate in peak periods only. Use tram type vehicles or replicas of the former sampans, but with full ADA compliant accessibility.**
- E-3) Extend the shuttle route. Peak period services could include a route across the Wailuku River into the neighborhood north of Hilo and an extension to the Civic Center complex. Three vehicles would operate every 10 minutes in the morning and evening peak periods. Midday service would be provided with one vehicle just serving the initial route. A more substantive vehicle should be used for this operation such as the trolleys used on O'ahu.**
- E-4) Later, extend the shuttle to more distant destinations with service every 30 minutes to the Port of Hilo, Hilo International Airport, and UH Hilo. Six vehicles would operate in the morning and evening peak periods and four during midday service. The operation could use a higher technology bus. A higher capacity bus, such as the double deckers operating in Honolulu, may be necessary to serve peak loads from the cruise terminal.**
- E-5) Improve security at Mo'ohau Terminal and add bike services. Relocate the Terminal to the parking structure if and when the decision is made to proceed.**
- E-6) Create a Downtown mobile app for wayfinding, real-time transit information, bike sharing availability, and locations and walking tours.**
- E-7) Install sheltered transit stops with wayfinding, street furniture, and other amenities.**

E-1. Establish a Downtown Shuttle and Implement in Phases

A Downtown shuttle was widely supported during the focus groups and other outreach activities. Connections to the airport, UH Hilo, the cruise terminal, the Civic Center area, and many residential neighborhoods were specifically identified. The Downtown shuttle will:

- Supplement (rather than replace) existing municipal bus service.
- Support the objectives of the *Hawai'i County Transit Master Plan* that is currently underway.
- Offer frequent and reasonable services for Downtown employees to remote parking areas.
- Be extended where possible while fulfilling its primary purpose.
- Be easy to understand and use by both residents and visitors.
- Utilize accessible vehicles such as low floor buses with manual foldout ramps.

To fulfill these desires the DHMMP established the following objectives for the shuttle:

- Identify those characteristics of a remote parking lot shuttle that would make it attractive to those employees who now park Downtown.
- Identify those extensions, connections, and additional characteristics that would need to be added to the remote parking lot shuttle that would make it attractive for residents and visitors to get into Downtown Hilo without having to use a vehicle.

The shuttle is proposed to be implemented in three stages. The route alignment and operational characteristics of each stage are shown in Table 20. The next three recommendations further describe the proposed phasing for the shuttle.

TABLE 20 - SHUTTLE ROUTES AND OPERATIONAL CHARACTERISTICS

Stage	Description	Routes	Vehicles	Headway	Comments
1	Baseline Remote Parking Shuttle		1	8 to 10 minutes	Alternatives build on this baseline. It could operate in peak periods only.
2	Baseline with Extensions to the Civic Center area and North Hilo		3	10 minutes	Extensions could be operated in the peak period only.
3	Baseline with Extensions (Stage 2) and Connections.		6	8-10 minutes, 15 in non-peak periods 15-30 minutes on branches	Baseline with extensions provided by 2 vehicles in peak period only.

E-2. Stage One: Connect Remote Parking Lots for Employees to Downtown using the Shuttle

The first stage of the shuttle is recommended to service remote parking lots designated for use by Downtown employees. This will help free up parking in the Downtown core for short-term customers and visitors.

In this first stage, the shuttle would operate in a clockwise loop with three stops on Keawe Street. Service would depart every 8 to 10 minutes and could possibly operate in peak periods only. Use tram type vehicles or replicas of the former sampans, but with full ADA compliant accessibility. Lowered-floor vehicles with manual flip-down ramps are preferred to hydraulic lifts for their ease of use and maintenance. The introduction of the Downtown Hilo shuttle transforms the former bus commuter parking lot for cross-island workers to one for Downtown Hilo workers served by a frequent shuttle.



The existing commuter parking lot along Kamehameha Avenue, which is proposed for remote parking for Downtown employees.

The Stage 1 Hilo shuttle is designed to operate between the existing commuter parking lot (which would be transitioned to a remote employee lot) and Downtown. Cross-island commuter parking would be accommodated at Ho'olulu Park or another suitable location farther from Downtown.



The temporary bus commuter parking lot at Ho'olulu Park.

With the Hilo Shuttle Stage 1 service one vehicle would operate along a clockwise route every 10 minutes or less. The two subsequent stages involve extensions, connections, and service characteristics that add to the first stage route and service levels.

The Stage 1 operation could use a tram type vehicle as shown on the next Figure.

FIGURE 51 - HILO SHUTTLE STAGE 1



E-3. Stage Two: Extend the Shuttle Route to North Hilo and the Civic Center

The Stage 2 Hilo shuttle shown on Figure 52 is designed to add to the Stage 1 operation between the existing commuter parking lot and Downtown. Peak period services would include a route across the Wailuku River into the neighborhood north of Hilo and another extension would go to the Civic Center complex. Three vehicles would operate every 10 minutes in the morning and evening peak periods. Mid-day service would be provided with one vehicle just serving the route shown for Stage 1. A more substantive vehicle should be used for this operation such as the trolleys used on O'ahu.

E-4. Stage Three: Extensions to the Port, Hilo Airport, and UH Hilo

The Stage 3 Hilo shuttle is shown on Figure 53. It is designed to include the Stage 2 routes plus extensions to the port, Hilo International Airport, and UH Hilo. These branches would operate every 30 minutes except when a cruise ship is being served when more frequent 15-minute service is required. Six vehicles would operate in the morning and evening peak periods and four would be required for mid-day service. The operation could use a higher technology bus such as the ultra-capacitor electric bus shown in Figure 53. A higher capacity bus such as the double decker operating in Honolulu may be necessary to serve the peak loads from the cruise terminal.

E-5. Mo'ohau Bus Terminal Improvements

The recommendation is to improve the security at Mo'ohau Terminal, which has aggressive panhandling and a homeless problem. This includes adding more lighting and installing gates to close the seating area when the terminal is not in operation. Relocate the Mo'ohau Terminal to the parking structure if and when the decision is made to proceed with one.

E-6. Mobile App for Transit

A mobile app is recommended that identifies locations of bus stops, routes, and provides real-time information on bus and shuttle services. It could be specific to Downtown Hilo or perhaps broadened to the whole Island. It could also be expanded to show bike sharing locations and availability, walking tours, local businesses, and points of interest. A mobile app could include a GPS tracking option to show the real-time location of the bus or shuttle.

FIGURE 52 - HILO SHUTTLE STAGE 2

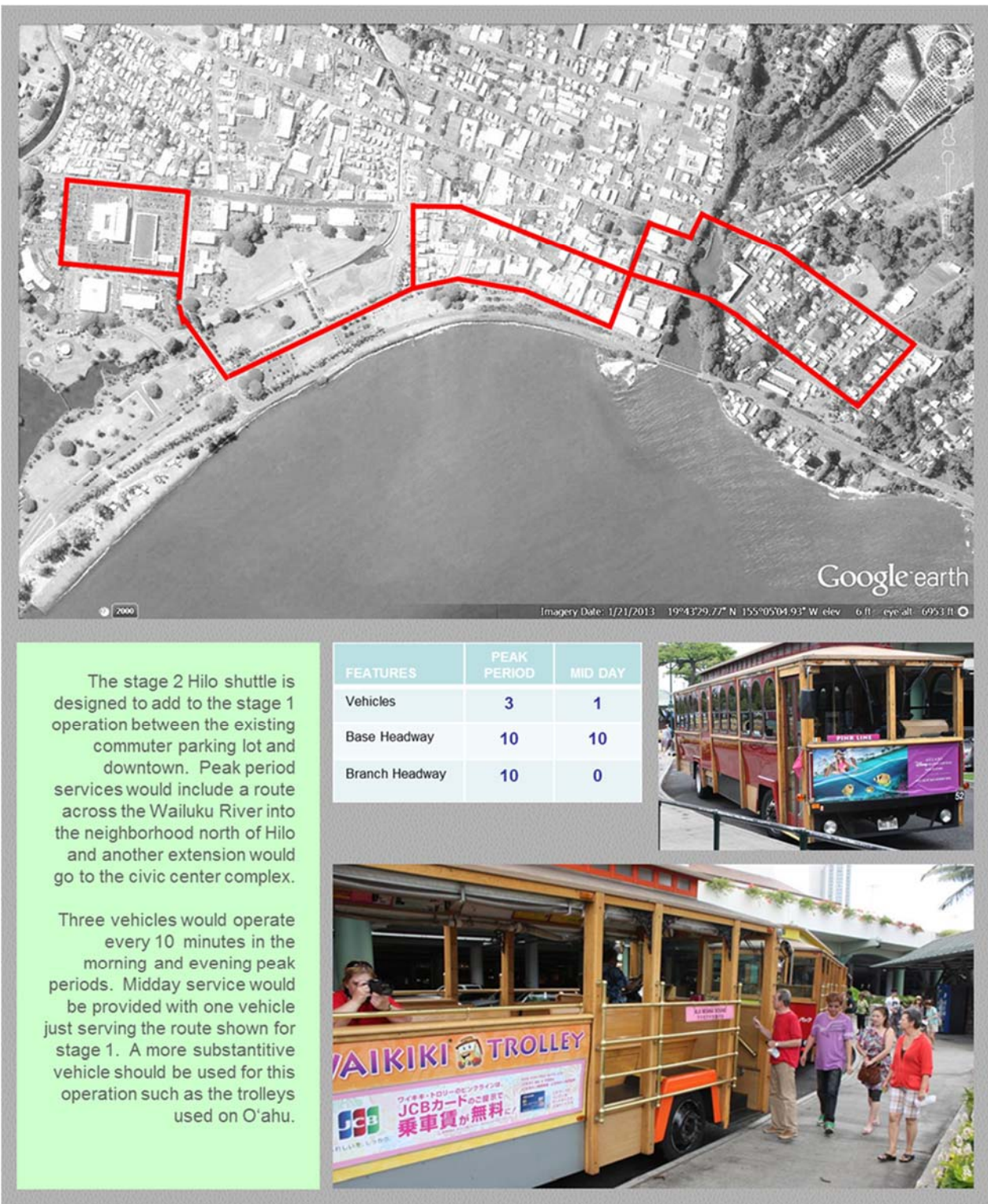
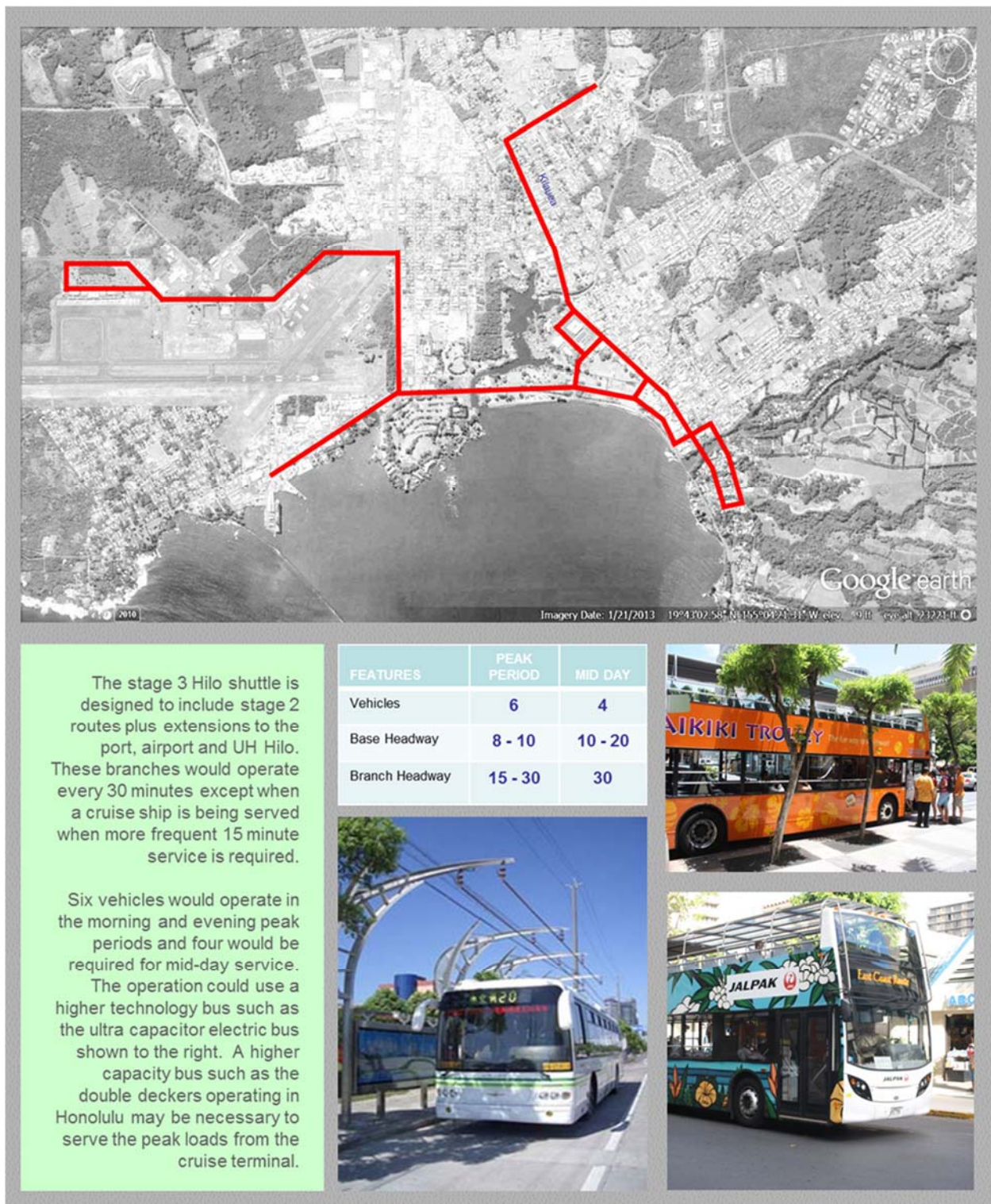


FIGURE 53 - HILO SHUTTLE STAGE 3



E-7. Transit Stop Amenities & Signage

The recommendation is to install transit stops with wayfinding information, street furniture, and other amenities. Stations are recommended to provide awnings or shelters to protect riders from the elements. Stations should be clearly marked and of consistent design so they are recognizable. They will require adequate space for passenger loading, ADA access, and supporting street furnishings as well (see example illustration below). Transit signage should include the station name, bus routing, and scheduling information. Hilo wayfinding maps and directional signage, trash receptacles, and bike racks should be located in proximity to the station.

Shuttle stops are recommended to follow the following ADA criteria: 1) a firm landing surface; 2) sized at least five feet wide and eight feet long; and 3) connected to the curb.



Conceptual shuttle stop on Keawe Street with wayfinding signage, bus information, and shelter with seating.

4.6 STREETScape DESIGN COMPONENT

4.6.1 EXISTING CONDITIONS

Cohesive street design elements in Downtown Hilo are lacking throughout the Downtown core. The following examples of street design features that exist in isolated areas or on select Downtown streets and could be considered for broader application:

- Colorful planters: such as those found on Keawe Street
- Painted storefronts: now found on Kamehameha Avenue (the result of a Benjamin Moore paint contest)
- Decorative curb decals: in use at the County building complex in Hilo and elsewhere.
- Landscaped pedestrian plaza at Mamo Triangle (Corner of Kīlauea and Keawe Streets)
- Downtown Hilo welcome sign on Kamehameha Avenue at Waiānuenue Avenue
- Painted wall murals (such as KTA on Keawe Street)
- Kamehameha Avenue clock tower



Hilo's County Building and sidewalks feature decorative decals with ocean motif to discourage skateboarding use while adding a design element.

A new logo for Downtown Hilo, designed by local business owner and artist Sig Zane, was unveiled in February 2015. It could serve as design inspiration for future signage and place making elements.



Rebranded Downtown Hilo logo, February 2015



Colorful planters on Keawe Street



Mural on Keawe Street

4.6.2 DISCUSSION OF ISSUES RELATED TO STREETScape DESIGN

The two greatest challenges to encouraging more amenities and features in the public realm are maintenance and vandalism. The humid coastal climate degrades things, and vegetation grows quickly. Homelessness and petty crime are recurring concerns among the community. There is a concern that new community features and gathering places will become occupied by the homeless. While addressing these social issues is outside the scope of the DHMMP, it is clear that the success of many solutions depends on parallel progress in the areas of enforcement, security, and addressing homelessness and crime. Design of landscaping, street furniture and other amenities will take these issues into consideration. Input provided by Hawai'i County Police Department has been incorporated into the recommendations and implementation section of the DHMMP.

Landowners cited concerns about being responsible for maintaining street trees fronting their businesses. Damaged sidewalks, falling fruit and flowers were things that the community wanted to avoid. Maintenance requirements for landscaping can be mitigated through choosing appropriately sized trees and plants, using native species that are acclimatized to Hilo and require less inputs of water and chemicals, and partnering with active community groups with an interest in decorative or edible gardening.

Encouraging landowners to build and maintain awnings could also require more than a nudge, as some said their awnings suffer damage from trucks rounding corners and clipping them, and that they pose a maintenance issue.

4.6.3 BEST PRACTICES IN STREET DESIGN

Current national best practices in street design integrate the facilities of the multiple modes into a safe, convenient, and coherent system. This enhances multimodal use and creates a vibrant sense of place. There are many elements of street design that work together to achieve this, from decorative features such as banners and planters, to street furniture that provides comfort and shelter. Even functional parts of a streetscape such as street lights and regulatory signage can be context sensitive, with design elements that both set and reflect the character and scale of their environment. Street treatments with associated design guidelines can be applied to individual streets and neighborhoods to retain their unique identity and encourage the desired mix of uses.

Designing a streetscape treatment means choosing from a “menu” of elements that define and reflect character, prioritizing those that are most impactful (considering cost and other factors), and determining

Anecdotal Comments from Community Outreach

- Please use Native Hawaiian plants and palms in landscaping.
- Green infrastructure sounds good, but won't permeable pavers get clogged?
- The streets in town are narrow, maybe Kino'ole and Bayfront would be good sites for street trees.
- At night, people don't feel safe walking due to lack of lighting outside of businesses.
- Tree roots can damage sidewalks and it is important to think about that when choosing the trees. There should be the “right tree for the right place.”
- 'Ōhi'a trees provide very little shade, BUT they are easy to maintain.
- An ordinance currently exists stating that property owners must maintain the trees.
- There used to be benches by the Tsunami Museum but they were removed due to people congregating. A bike rack was also removed because it was rusted and became a trip hazard.
- Come up with a color scheme for traffic signal hardware.
- We should create codes that require building owners to replace awnings.
- There needs to be adequate lighting on the sidewalks and under awnings.

Comments reflect a sample of diverse views and opinions. Not all comments were included. Numerous views and considerations were taken into account when developing plan recommendations.

how and where unique design features will be applied. Design for elements such as light posts, benches, shuttle stops, and bike racks, might be selected to look the same through the entire Downtown area, providing elements of continuity. Others, such as awnings, public art, and gateways, may be designed to be neighborhood or street-specific. The end result should demonstrate design continuity, meaning that their architectural character, materials and color are similar or complementary in design and they clearly belong to a recognizable “family” of parts.

The following are examples of streetscape elements that can be designed consistently to provide elements of continuity throughout the Downtown area:

- Street lights
- Overhead utilities
- Traffic signals
- Regulatory signage
- Covered walkways
- Curb extensions
- Bike share stations
- Bicycle corrals & racks
- Street furnishings: benches, trash receptacles, water fountains, etc.
- Interpretive information
- Shuttle stops
- Signage and wayfinding features
- Street trees

Some streetscape elements can be designed so that they are site specific. Streets with a district focus (entertainment, arts, cultural, shopping districts, etc.) or related to a special place can incorporate unique aspect of the district or place into its streetscape. The following are examples of elements that can be designed site specifically to the district or place:

- Awnings
- Street banners
- Special pavement
- Public art
- Street furnishings

The following examples can be designed either as elements of continuity or as site specific elements. The determining factor depends on the importance of the elements’ identity, or the location’s context.

- Gateways
- Parklets
- Bicycle corrals & racks
- Wayfinding maps and directional signage
- Sidewalk streetscape zones
- Interpretive information



Transit stops can incorporate elements of individuality such as paint or artwork, and amenities such as benches, shelters, and trash receptacles. Above, a bus shelter in Glendale, CA.

4.6.4 ALTERNATIVES CONSIDERED

Alternatives for streetscape design mainly focused on the location and character of elements such as signage, curb extensions, street trees, landscaping, and parklets, and the designation of special street treatment areas. Pedestrian malls were considered along some streets so as to increase the mobility of pedestrians and provide car-free gathering places. This street treatment was eliminated in favor of shared streets due to the long-term need for a change in land use that would profit from and support this type of roadway treatment.

The third and final Zoom In Zoom Out Session was devoted to gathering community input on elements of street design and pedestrian improvements. Alternate locations for gateway features were discussed, as were locations for wayfinding signage and gathering places. Concerns were raised about curb extensions providing too narrow of a turning radius for large trucks, and providing sufficient drainage.

The community expressed a strong desire for trash cans and restrooms Downtown, and regular maintenance and garbage pick-up service.

4.6.5 RECOMMENDATIONS

Key recommendations for streetscape design in Downtown Hilo are listed in the text box and described below.

Recommendations for Streetscape Design

F-1) Establish and apply three types of street treatments for Downtown Hilo: shared streets, pedestrian promenades, and a Main Street (Figure 54).

F-2) Install gateway features at six locations (see Figure 55). Increase streetscaping and pedestrian amenities within the district delineated by the gateway features.

F-3) Incorporate green infrastructure such as rain gardens and bioswales into curb extensions throughout Downtown. Incorporate permeable pavers into roadways and sidewalks on shared streets and sidewalks on pedestrian promenades and Main Streets.

F-4) Plant appropriately scaled street trees in curb extensions throughout Downtown Hilo (Figure 57).

F-5) Install pedestrian-scaled street lighting along key streets such as Keawe Street and the Frontage Road to illuminate the street at night.

F-6) Incorporate urban gardening and edible landscaping into designated areas within Downtown Hilo, working with community groups.

F-7) Consider adopting a "style guide" for decorative and functional elements throughout Downtown Hilo. Incorporate and incentivize the use of decorative elements on shared streets, pedestrian promenades, and Main Streets. These include murals, street art, brightly painted buildings, street flags, decorative curb decals, and colorful planters.

F-1. Street Treatments

Three new types of street treatments are recommended for the existing Downtown Hilo transportation network, in accordance with Complete Streets principles. These include shared streets, a pedestrian promenade (along Kamehameha Avenue Frontage Road), and a Main Street designation for Keawe Street (Figure 54).

These street treatment designations take into consideration the degree of multimodal access required of the adjacent land uses, and incorporate design features that cater to the desired mix of modes. Many of these design features can be context-sensitive and customized. Street treatment areas should incorporate artistic elements that distinguish the area as a destination. This includes colors, motifs, and artistic elements incorporated into signage, street furniture, artwork, and even pavement. This section discussed how the three new street typologies proposed in Downtown Hilo can help establish a multimodal environment and set the design character for future improvements.

FIGURE 54 – PROPOSED STREET TREATMENTS FOR DOWNTOWN HILO



Shared Streets

Shared street environments are considered in places where pedestrian activity is high and vehicle volumes are either low or discouraged. Shared streets can be designed for narrow or wide cross sections, but become increasingly complex and difficult to maintain the shared space as street width increases. Shared streets maintain access for vehicles operating at low speeds and are designed to permit easy loading and unloading for trucks at designated hours. They are designed to intentionally slow traffic speeds using pedestrian volumes, design, and other cues to slow or divert traffic. While travel ways are shared, pedestrians take priority. Parking may be limited or absent. Shared streets are recommended along the following roadway segments:

- Kalākaua Street, between Kamehameha Avenue and Keawe Street.
- Haili Street, between Kamehameha Avenue and Keawe Street.
- Furneaux Lane, between Kamehameha Avenue and Keawe Street.
- Punahoa Street, between Mamo Street and Ponahawai Street.
- Mamo Street, between Kamehameha Avenue and Keawe Street.

Shared streets promote a sense of community by providing the street closure to vehicular traffic and to allow for pedestrian-oriented events. These shared streets are usually classified non-arterial streets that have good pedestrian and bicycle connections and are in areas that may benefit from heavy pedestrian traffic such as commercial shopping districts. Shared streets usually don't have curbs but vehicular travel is usually non-linear or in a narrow travel way to calm travel speeds. They have a strong pedestrian character and are appointed with street furniture including bollards, benches, planters, street lights, sculpture, trees and bicycles parking. Often, special pavement texture or color treatments are applied to signify a pedestrian priority area (see bottom right photo below for an example).



Furneaux Lane (above left) and Haili Street (above right) are candidates for shared streets and could be closed temporarily for special events in the Farmers Market District.

The shared street at right is wide enough for a clear zone delineated by special paving and street trees for pedestrians. Permeable paving and a centerline drainage is used to capture storm water. (Madison, WI.)



Shared streets can be closed for special events by use of large planters, removable or retractable bollards, or in some cases gates that provide pedestrian and bicycle access but block vehicles from entering the closed section (see photos below). The recommended shared streets for Hilo will need to be accessible by single-unit trucks for deliveries, and will be accessible by regular vehicles when not closed for events. Parking is proposed to be reduced but not eliminated on shared streets in Downtown Hilo, as described in Section 4.4.4.



Examples of ways to permanently and temporarily close streets. Top photo is Brooklyn, NY. Bottom left photo is San Francisco, CA, Bottom right photo is London's Southbank, U.K.

Pedestrian Promenade

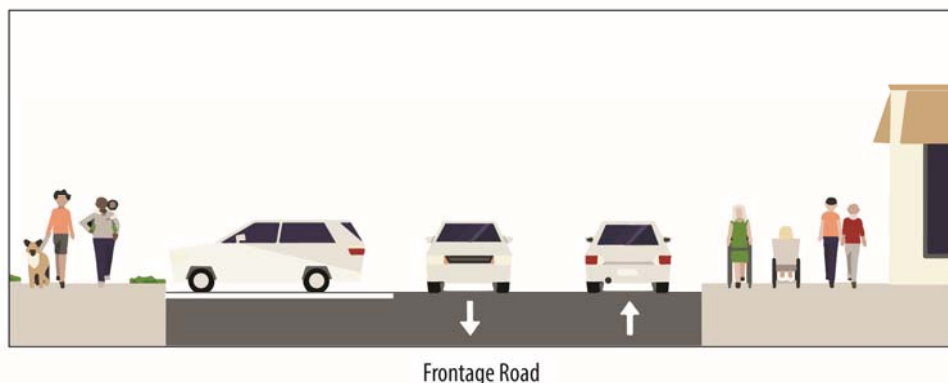
A pedestrian promenade is an area reserved for pedestrian use and in which all automobile, and sometimes bicycle, traffic is prohibited. The pedestrian promenade should provide an ADA compliant passageway while also providing other pedestrian zone features such as café seating, landscaping, pocket parks, public restrooms, and kiosks. Patterned or colored pavement can be used to delineate the area, as can pavers, which provide the added benefit of drainage. Often positioned alongside a vehicular travelway, a pedestrian promenade can provide all of the amenities of a pedestrian mall without restricting full vehicular access.

A new pedestrian promenade is proposed for the storefronts along Kamehameha Avenue Frontage Road from Mamo Street to Wailuku Drive. The promenade involves widening of the sidewalk area and more pedestrian furnishings and amenities. Pedestrian furnishings such as special paving, landscaping, benches, street and pedestrian lights, public art, bollards, and trash and recycling bins will be provided along the entire length of the promenade. The promenade will be large enough to accommodate small performances, commercial kiosks and outdoor dining. Public restrooms should also be provided here.

Currently the Kamehameha Avenue Frontage Road has a double bay of parking on each side, but it is recommended to remove the angled parking along the storefront side to widen the sidewalk to 20 - 35 feet to better accommodate the pedestrian furnishings and activities. The vehicular flow will be converted from one-way to two-way, and the displaced parking will be supplemented with on-street parking on both sides of Kamehameha Avenue and at the Mo'ohau Transit Center parking lot (see Section 4.4.4 for a detailed discussion of parking strategy). The Frontage Road can be temporarily closed to allow for special events, similar to the 3rd Street Promenade in Santa Monica, California (see photo below). This will allow it to function as a festival street that is an extension of the sidewalk activities during major events.



Left: A temporarily closed access road at the 3rd Street Promenade, featuring special pavement treatments (Santa Monica, CA) Right: Existing landscaping and pedestrian walkway along Kamehameha Avenue in Hilo. Below: Proposed Frontage Road cross-section.



Main Street

A Main Street is the meeting place for the community and should be designed to support community gatherings and special events. Features of a “main street” often can include enhanced finishes such as painted concrete or pavers along sidewalk with amenities such as bike parking, benches, common street tree use, special pavement treatments, and anything that alludes to the historical or unique character of the area. Pocket parks that include seating, restrooms, and gathering space for small events may also be incorporated where space allows.

Hilo’s Main Street is Keawe Street and will be designed to accommodate access for all users. It will have a special streetscape treatment for its entirety through the Downtown core from Kīlauea Avenue to Wailuku Drive. It will be able to be used and temporarily closed for special events such as First Friday and Ho’olaule’a. The renderings at the end of this section depict the design elements proposed for Keawe Street in detail.



Keawe Street is Downtown Hilo’s “Main Street.” Top photos show existing conditions at the “Mamo Triangle” intersection of Keawe Street, Mamo Street, and Kīlauea Avenue. The rendering below shows the proposed transformation of Keawe Street and Mamo Triangle.



F-2. Gateways

Gateway features should be attractive both during the day and night, and create a threshold that marks the edge of a pedestrian district. This visually implies a pedestrian priority of the streets where vehicle need to slow down and be vigilant of pedestrians. Gateways that mark the major and minor entrances to Downtown Hilo are recommended at the following locations (shown in Figure 55):

Major Gateways

- Waiānuenue Avenue and Bayfront Highway-Kamehameha Avenue
- Ponahawai Street and Kamehameha Avenue

Minor Gateways

- Ponahawai Street and Kīlauea Avenue
- Ponahawai Street and Kino'ole Street
- Waiānuenue Avenue and Kino'ole Street
- Bayfront Highway and Ponahawai Street

Gateways are urban design features that give a sense of arrival or departure from a place. For Hilo, the gateways will serve as a sense of arrival and departure to the pedestrian oriented Downtown district. Gateways take many forms but are commonly vertical architectural elements that are on the roadside, usually at important intersections and are visually attractive and designed to be context sensitive.

Minor gateways can be as simple as special plantings, light pole banners, string lighting, curb extensions, or street artwork to signify entrance into a Downtown area (see photos below).



Left: Street Art Gateway (Kirkland, WA);



Right: Pavers and Street Light Banners (Denver, CO)

Major gateways incorporate larger scale architecturally designed or artistic elements such as welcome signs, bicycle-pedestrian bridges, larger scale sculptures, and water features.



Examples of major town gateways: Left photo is a newly installed roundabout gateway in Līhu'e, Kaua'i. Right photo shows MLK Gateway, Portland, OR.

F-3. Green Streets

Many elements of street design, construction, and operation can serve both Complete Streets and environmental sustainability. “Green Streets” is a set of solutions that address drainage and stormwater runoff issues while enhancing the multimodal environment by adding landscaped “rain gardens” and design features like decorative permeable pavement. Green Streets solutions focus on efforts to retain and treat runoff at the source, thereby improving water quality (Smart Growth America 2015).

Green Street principles are recommended to be incorporated into the Downtown Hilo street improvements. Parking lots should incorporate permeable pavement such as green-crete or grass-crete where feasible. The street design features illustrated on the Green Street Plan below include bioswales and rain gardens (planted areas designed to absorb rainwater), as well as permeable pavers that allow water to infiltrate rather than sheet flow across the road.

FIGURE 56 – GREEN STREET IMPROVEMENTS RECOMMENDED FOR DOWNTOWN HILO



Green Streets help minimize impact to the environment and, when coupled with Complete Streets principles, can make for safer and more pleasant communities. Green Streets are environmentally sustainable because they retain and treat runoff at the source, helping to improve water quality. Multimodal improvements such as widening of sidewalks for pedestrians and shuttle stops, use of curb extensions to shorten pedestrian crossings, and street trees to slow vehicular speed also contribute to creating green streets. Intersections provide an opportunity to incorporate raingardens or bioswales within curb extensions to retain and filter stormwater.

The following Complete Streets principles and green infrastructure features are recommended to make Downtown Hilo more sustainable and safe for all users.

- 1) Install permeable pavers for roadways and sidewalks on Shared Streets and sidewalks on Main and pedestrian promenades. Permeable pavers enhance the design character of the Downtown while retaining and filtering stormwater. Pavers can be costly, but they can be relatively easily replaced. Other options such as painted concrete or colored asphalt can be decorative but don't have the same stormwater filtration benefits as permeable pavers.
- 2) Use bioswales in curb extensions at intersections, tree lawns and medians. Locations for these bioswales is shown on Figure 56. Flow-through planters are recommended in wide sidewalk areas and plazas where groundwater table is less than 5 feet from the bottom of the bioswale or basin. Pervious planters are recommended similar to flow-through planters where the water table is greater than 5 feet from the bottom of the bioswale or basin. Bioswales channel stormwater downstream in shallow planted swales that filter, hold, and percolate the "first flush." This is the initial and most polluted runoff of a storm event.



Curb extension with bioswales and street trees (Portland, OR).



Example of an urban Green Street design using a continuous bioswale planter with drain inlets along the sidewalk and parking lane. (Portland, OR).



Left photo: Flow-through planters are self-contained planters that treat stormwater. Underdrains remove treated water and surface drain inlets skim any overflow above a 6-inch ponding depth Walnut Creek, CA).



Right photo: Pervious planters are linear planting areas that capture and slow runoff, which settles and filters pollutants in the stormwater (El Cerrito, CA).

F-4. Street Trees

Street trees are recommended to be planted in curb extensions at intersections and in bulbouts placed at intervals between parking spaces, as shown on Figure 57. In accordance with guidance included in the County's General Plan and zoning code, native species are encouraged. The next recommendation, F-5, includes more information on guidance for landscaping of all kinds, including street trees.

FIGURE 57 - STREET TREE PLAN FOR DOWNTOWN HILO



Street trees have historically been problematic in Downtown Hilo because of the storefront awnings that cover much of the sidewalks will conflict with the tree canopy. Overhead utilities and street lighting are another related problem. Awnings should be retained, as they are one of the signature elements of Downtown Hilo's historic main street and they serve an important rain protection for shoppers, customers, and Downtown workers. When street trees are placed in curb extensions, their branches and canopy can clear the awnings and utilities.

Street trees are proposed on the major north-south streets in the Downtown core area. These include Kamehameha, Keawe and Kino'ole. On Kino'ole, street trees are recommended only on the makai side due to large overhead utilities on the mauka side. The mauka-makai streets are not proposed to have street trees, to maintain the mauka-makai views. Only Ponahawai and Mamo will have street trees as

they are more open with fewer storefronts and awning to conflict with street trees. The street tree plan in Figure 57 illustrates the layout. Small to medium sized trees with an upright form are recommended and native or adapted tree species are preferred. Their spacing and location must balance the visibility of storefronts and signage with providing urban greenery. Examples of appropriate tree species for Downtown Hilo could include shower trees, kou, and 'ōhi'a lehua. The size of the tree and associated maintenance requirements (trimming, sweeping flowers and fruit, etc) should factor into the final selection of tree species. The forthcoming Hawai'i County Complete Streets Manual will include further detail on appropriate street tree species.

The plan recommends street trees planted in curb extensions at intersections and small bulbouts at mid-block locations throughout Downtown Hilo. An overall tree spacing of 80 to 100 feet apart is ideal. The exact locations and sizes of these bulbouts will need to be finalized during design, with consideration of impacts to on-street parking. If all the street trees shown in Figure 57 are planted and bulbouts are no more than 14 feet in length, it is estimated that up to 23 parking spaces could be lost. Fortunately, Downtown is a network of straight roads, which allow street trees to be spaced further apart and still have views of greenery down the street while providing for near views of storefront and signage between them.



Street trees and bioswale within a curb extension at intersections.

F-5. Street Lighting

Street lighting is an important design element that is vital to pedestrian and vehicle safety. It facilitates evening use of sidewalks, parks, parking, and public open spaces for nighttime activities. In areas that are active during evenings such as the Kamehameha Avenue storefronts and Keawe Street on First Friday, pedestrian-scaled street lighting is recommended to improve the illumination of the sidewalk areas and gathering places. Integration of lighting into building awnings could provide this function, however building owners may need to be incentivized to provide awning lighting to ensure that a critical mass is reached. Standalone light poles are another possibility, but would need to be placed in curb extensions where they can clear the awnings. Trees and street light pole locations will be located so as to provide adequate roadway illumination while also improving pedestrian safety. This will be addressed during the design phase.

Existing street lights in Downtown Hilo are on one side of the street, and illumination under the awnings is lacking. Some shop owners provide supplemental lighting, but coverage is inconsistent throughout Downtown. This detracts from the perception of safety and “eyes on the street”.

Using LED lamps for street lighting improves color rendition, visual recognition, and significant savings in energy costs. The light fixtures should meet dark-sky requirements while being able to provide proper cut off to illuminate urban settings. At intersections, taller poles and multiple fixtures are recommended to increase the amount of illumination. In mid-block locations, pedestrian scaled lights can be placed on concrete bases in the on-street parking zone. This uses a similar approach as the street trees to minimize the loss of parking spaces.



Illuminated awnings exist along storefronts lining Kamehameha Avenue Frontage Road

F-6. Landscaping & Urban Agriculture

Landscaping is an important component of street design that helps create a sense of place and improves the pedestrian environment. Several County plans and regulatory codes address landscaping:

- Hawai'i County Planning Department's Rule 17 contains the following guidance for landscaping:
Encouraging landscaping with native species, other species adaptable to the environment, and species suitable for the intended function conserves water, promotes ecological and cultural appreciation, and adequately fulfills the intended buffering, screening, or shading functions without causing undue maintenance problems.
- The County's General Plan (Policy 8.3(p)) also includes policy that encourages the use of native plants for screening and landscaping.
- The County Zoning Code (Section 25-2-77 (3)) includes the following in its review criteria and conditions of approval:

(3) Proper landscaping is provided that is commensurate with the structure, development or use and its surroundings;

Section 25-4-59.3 of the Zoning Code specifies that landscaping and screening should be provided for parking lots and loading spaces, and native plants and xeriscaping are preferred.

Maintenance is a key concern driving landscaping choices. The community of Hilo has expressed a desire for landscaped areas that are well maintained so that they serve both beautification and safety. Tree and plant selection should be done with consideration to maintenance, including water and nutrient requirements, susceptibility to pests, production of flowers and fruit that requires clean-up, and root depth/area. Using native plants can ease maintenance requirements as they are more acclimatized to Hilo. Partnering with local organizations to "adopt" a planter or landscaped area is another way to spread the responsibility of caring for landscaped areas.



Sponsored planters in Kirkland, WA. The concept could be applied to plantings in Hilo using native species.

Urban agriculture or “edible landscaping” can provide an opportunity not only for community partnerships but for addressing other community needs and social issues. Urban agriculture is a trend in many parts of the world and is widely acknowledged as part of the “new urbanism” movement in planning and landscape design.

Opportunities in edible landscaping range from sanctioned (community gardens, designated plantings) to opportunistic (guerrilla efforts by community groups to plant or re-plant public areas with edible plants).

Hawai‘i has a number of organizations and businesses dedicated to edible landscaping. In the project area, “Let’s Grow Hilo” is a group that plants common areas throughout Downtown with edibles and participates in beautification days in partnership with the Downtown Improvement Association (DIA) (see inset). There is an opportunity to further formalize and expand upon these efforts through designating areas in Downtown Hilo for edible plantings and community gardens.

Let’s Grow Hilo

Let’s Grow Hilo is an edible landscaping beautification project that provides people with a living classroom to grow produce, while educating our community on what is needed to plant their own garden at home. This project involves local schools, organizations and community members to promote community pride and involvement.

Let’s Grow Hilo shares how to make garden beds, grow fresh vegetables, and provides planting spaces that are easily accessible to the community.



A median along Kamehameha Avenue planted with edibles by Let’s Grow Hilo.

F-7. Style Guide for Downtown Hilo

This recommendation is to consider adopting a "style guide" for decorative and functional elements throughout Downtown Hilo. Incorporate and incentivize the use of decorative elements on Shared Streets, Festival Streets, and Main Streets. Hawai'i County is preparing to begin work on a County-wide Complete Streets manual in 2016, and the manual can potentially be a vehicle for establishing some general design guidelines.

A style guide for Downtown Hilo can draw from existing elements of Hilo's character. Some elements might require continuity, such as for wayfinding signage, street lights, street flags, trash receptacles, and traffic signals. Others could allow for more creative expression, such as murals, street art, brightly painted buildings, decorative curb decals, and colorful planters.

Hilo already has many vibrant elements of character, and just a few are shown in Figure 58 - Elements of Downtown Hilo Character. There is also a successful track record of Downtown businesses collaborating on improvements. Storefronts along Kamehameha Avenue won a national "Main Street Matters" contest sponsored by Benjamin Moore for repainting the building facades in vibrant colors. These assets can be built upon.

One of Hilo's defining characteristics is its rainy climate. Given a creative touch (and a sense of humor), this can become a character asset too. Rain-activated artwork is a low-cost application that can be used on sidewalks and other surfaces to create art and messages that appear when it rains (see below).



Rain-activated artwork created using a product called Rainworks

FIGURE 58 - ELEMENTS OF DOWNTOWN HILO CHARACTER



Clockwise from top left: outdoor dining on Keawe Street, Historic Kress Theatre, Landscaping fronting Café Pesto, Painted building on Kamehameha Avenue, First Friday street closure on Kilauea Street, Kalākaua Park.

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PART THREE: IMPLEMENTATION & PHASING

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5. IMPLEMENTATION & PHASING

This section of the DHMMP addresses implementation and phasing for the recommended transportation components. Appendix F includes cost estimates for key recommendations.

5.1 IMPLEMENTATION

The process of implementing the DHMMP recommendations involves the following actions:

1. Changes to regulations and codes to allow or require proposed improvements
2. Designation of a lead agency and establishing partnerships
3. Scoping, budgeting and securing funding and financing sources
4. Studies to determine feasibility and design alternatives (as applicable)
5. Permitting, environmental review, public outreach
6. Design, bid, and construction of improvements
7. Provision of staffing, security, enforcement (as applicable)
8. Ongoing maintenance and repair

The following sections expand upon key steps in the implementation process and relate them to the DHMMP recommendations. A table of DHMMP recommendations (Table 21) is included at the end of this Section.

5.1.1 CHANGES TO REGULATIONS AND CODES

Some of the DHMMP recommendations require amendments to existing codes and regulations in order to permit the proposed improvement, or to ensure that it can be adequately enforced. Recommendations that may require changes to ordinances or codes include:

- Parklets (B-6):
 - Hawai'i County may include its guidelines for parklets in its Complete Streets Manual, as the City and County of Honolulu did.
 - Possible ordinance changes to allow some commercial activity in parklets to incentivize business owners to create and maintain them.
- Awnings (B-9):
 - An ordinance to require business owners along Keawe Street and other key streets to provide continuous awnings over sidewalks, with appropriate design guidelines.
 - An ordinance to allow the Police Department to better enforce trespassing under alcoves and covered walkways
- Landscaping and Urban Agriculture (F-6); Green Streets (F-3)
 - Possible changes to requirements for type and maintenance of landscaping and street trees to allow community groups to practice urban agriculture in common areas and provide for rain gardens in curb extensions.
- Downtown Style Guide (F-7)
 - May require code changes once guidelines are developed.

5.1.2 PARTIES RESPONSIBLE FOR IMPLEMENTATION

County and State Agencies

Most of the DHMMP recommendations will be implemented with involvement (and in most cases leadership) from one or more County agencies. For most DHMMP improvements, the Department of Public Works would be the lead agency. Where State roadways such as Bayfront Highway are involved, the State Department of Transportation (DOT) may take a lead or partnership role.

The table below lists agencies that may serve as lead or partner agencies on implementing DHMMP recommendations. Some agencies may serve as lead roles on some projects and partner agencies on others.

Lead Agencies	Partner Agencies
County Planning Department	County Planning Department
County Public Works Department	County Parks Department
County Mass Transit Agency	County Mass Transit Agency
State Department of Transportation (when State highways or facilities are involved)	County Research and Development
County Research and Development (for economic revitalization or visitor attractions)	State Department of Transportation

Public-Private Partnerships

Public-private partnerships can be formed around investments such as parking structures, and to facilitate dedication or acquisition of land for public use. They can also be used to support maintenance of streetscape features such as planters, banners, public art, and landscaped medians or beds.

Non-governmental partners can include advocacy groups such as People's Advocacy for Trails Hawai'i (PATH) and the Mayor's Active Living Advisory Council (MALAC). Organizations such as the Downtown Improvement Association (DIA) and Destination Hilo that have an interest in stimulating commerce and promoting Downtown Hilo can also be partners in development and maintenance of improvements. Community groups with interest in the arts, history, and urban gardening can also contribute to Downtown beautification and events. The Hilo Public Library and other educational institutions could assist with developing programs, events, or interactive content for people to engage with Downtown. Individuals and businesses can be engaged to contribute to projects and maintenance by creating programs to "adopt" a corner or planter.

Recommendations that may benefit from partnerships with private or non-profit entities include:

- Keawe Street Multimodal Improvements (A-9): Partners can help provide street furniture, bike racks, parklets, public art, events and programs
- Pedestrian Trails and Shared-Use Paths (B-1): Partners like PATH and Hilo Bayfront Trails can be development partners in shared-use paths.
- Ponahawai and Kamehameha Gateway Treatments (B-4): Gateways are ideal candidates for community groups or organizations to "adopt" or sponsor landscaping, public art, signage, and other features.

- Parklets (B-6): Parklets can be adopted or sponsored by individual businesses or community groups.
- Sidewalk Repairs and Improvements (B-8): Groups that advocate for accessibility can consult on needed improvements and may be able to assist with grant funding.
- Awnings (B-9): Business associations may assist with programs to install continuous awnings. Business owners may participate voluntarily if incentivized.
- Covered Walkways (B-10): Partners can provide artwork or assist with maintenance and security.
- Bike Share Program (C-3): Bike share can be operated and funded by private sponsors and non-profit advocacy groups.
- Bicycle Parking and Corrals (C-4): Partners can help design and maintain creative solutions for bike corrals and parking.
- Transit Center Bike Station (C-5): A private or non-profit partner could take responsibility for operations, security, and maintenance.
- Paid On-Street Parking and Enforcement (D-2): Operations could be done in partnership with a private vendor. A BID or business association could contribute to enforcement.
- Off-Street Parking Capacity (D-4): Private landowners and developers can be partners in developing off-street parking for public use.
- Parking Structure (D-7): Private landowners and developers can partner with the County to share in the costs and revenues associated with building a parking structure, or in developing co-located uses on the same site.
- Establish a Downtown Shuttle (E-1): A shuttle service for Downtown could be operated through a private partner or vendor.
- Mobile App for Transit (E-6): This technology could be developed and funded in part by a community or business partner.
- Transit Stop Amenities and Signage (E-7): Community groups or business associations can adopt transit stops to lessen maintenance burdens. They can also help upgrade them with amenities and artwork.
- Street Treatments (F-1): Decorative features for shared streets, Main Streets, and festival streets can be developed and funded through community partnerships.
- Gateways (F-2): Community partners and BIDs can help develop and maintain signage, art, and landscaping in gateway features.
- Green Streets (F-3): Rain gardens and landscaping in curb extensions can be planted and maintained with assistance from business owners, associations, and community groups.
- Street Trees (F-4): Street trees can be planted and maintained with assistance from business owners, associations, and community groups.
- Landscaping and Urban Agriculture (F-5): Landscaped areas can be planted with edibles or decorative plants in collaboration with community groups interested in revitalization, gardening, and urban agriculture.
- Street Lighting (F-6): A business association or BID could help with funding and design selection.
- Style Guide for Downtown Hilo (F-7): A BID or business association can assist with developing style guidelines for Downtown that can be adopted by ordinance.

5.1.2 FUNDING AND FINANCING MECHANISMS

The availability of funding and financing for study, design, construction and ongoing maintenance is a key driver of implementation. Several possible funding sources are described below. In addition, cost management can be factored into the design phase for improvements. The selection of appropriate materials can save on installation, maintenance and repair costs. Partnerships can also be created for

reducing and sharing costs. Cost estimates for those improvements that are expected to be County-led are included in Appendix F.

1) Budget Appropriations and Capital Improvements Program

The County's capital improvements program (CIP) and operating budget can be a substantial source of funding for implementing the DHMMP. The Mayor annually submits an operating budget and capital budget to the County Council for the ensuing fiscal year, as well an operating program for the next three fiscal years and a capital program for the next six fiscal years. The budgets and programs are prepared by the Mayor with the assistance of the Department of Finance and the Planning Department. The capital budget contains capital improvements pending or proposed to be undertaken within the ensuing fiscal year, together with the estimated cost of each improvement, estimated operating cost, and pending or proposed method of financing.

2) Bonds

Bonds can be used to fund capital projects and infrastructure. General Obligation (GO) bonds are governed by the State Constitution and Hawai'i Revised Statutes (HRS) Chapter 47. The security for these bonds is the full faith and credit of the County. GO bonds may be used for revenue generating facilities and non-revenue generating facilities.

Revenue, or enterprise, bonds are governed by the State Constitution and HRS Chapter 49. The security for revenue bonds is an enterprise fund or a dedicated revenue stream of the County or an enterprise. They are issued to fund revenue-generating activities (e.g., public facilities or systems), and the issuer is obligated to charge and collect enough revenues to make the endeavor self-sufficient (*Kona CDP Financing Plan for Public Facilities and Backbone Infrastructure*, 2011). The DHMMP includes recommendations that could generate revenue, such as a parking management system, bike share program, and shuttle circulator.

3) Improvement Districts

Improvement Districts are a bond financing mechanism that can be used to fund the development of new infrastructure. They are permitted under Hawai'i Revised Statutes (HRS) Section 46-80 and Hawai'i County Code (HCC) Chapter 12. To securitize the bond, assessments are levied on properties inside the boundaries of the Improvement Districts. A local example is the North Kona Improvement District, which was established to research and fund sewer improvements to support planned development in the region.

A Business Improvement District in Downtown Hilo could be considered to formalize a public-private arrangement between the County and Downtown businesses and landowners. Exploration of a BID is an Action Item in the *EnVision Downtown Hilo 2025 Five-Year Update*. BID's are governed by HCC Chapter 35. Revenue is generated by special assessments levied on property within the boundaries of the BID, and is typically added to the property tax bill on an annual basis. BID's are typically used to fund operating costs to support landscaping, security, marketing, or other ongoing programs.

On Hawai'i Island, there is a BID in Kona, the Kailua Village Business Improvement District (KVBID). Waikiki Business Improvement District is another example within the state of Hawai'i.

Kailua Village Business Improvement District

KVBID was formed in 2007 under Ordinance 07-171 for the purpose of providing for and financing supplemental services and improvements in Kailua Village, including:

- (A) Services to enhance public safety through the hiring of Information and Safety Officers;
- (B) Landscaping and enhanced sanitation services through the hiring of Clean Sweep Crews;
- (C) Construction and installation of landscaping, lighting, pedestrian pathways and surfaces, and kiosks or other structures for marketing and special events, as well as wayfinding and signage to enhance the movement, convenience, and enjoyment of the public; and
- (D) Marketing services including special events to encourage the public's use of the District and to introduce the public to the changes being made.

It is organized as a district association, which is a non-profit corporation with 501(c)3 status. It is governed by a District Board. Operations are managed by an executive director and staff. Among staff providing services are Information & Safety Officers and Landscaping & Maintenance Crews. The primary source of funding is special assessments levied against property within KVBID boundaries. KVBID did not have any plans to issue bonds to finance capital improvements at the time the District was formed. However, the implementing ordinance and HCC Ch.35, when applied together, provide KVBID with the authority to issue bonds.

Source: *Kona Community Development Plan Financing Plan for Public Facilities and Backbone Infrastructure* (2011). KVBID website: <http://historickailuavillage.com/>



4) Impact Fees and Fair Share Contributions

Impact fees are permitted under HRS Section 46-141 to 46-148. They are not currently addressed in the County Code. Impact fees are levied on new development to fund or defray the cost of infrastructure improvements that benefit the new development. They are of limited utility in the Downtown Hilo area as there is not much land available for new development, and the pace of development is difficult to predict.

While the County does not have an impact fee program, it does require “fair share” contributions from certain single family, multi-family, and resort developments, but not on commercial or industrial development. Improvements to roads are an identified use for these funds. Again, it is unlikely that this revenue source will be significant for Downtown Hilo.

5) State and Federal Programs

Federal and State funds are available for transportation research and improvements. These programs are described below.

Hawai'i Statewide Transportation Improvement Program

Federal funds available include the Hawaii Statewide Transportation Improvement Program (STIP). STIP provides a multiyear listing of the State and County projects and identifies those projects slated for Federal funding. It is a multimodal transportation improvement program that is developed utilizing existing transportation plans and policies, and current highway, transit, and transportation programming processes. The STIP delineates the funding categories, specific capital improvement projects, and the Federal and local share required for each project (*Kona Community Development Plan Financing Plan for Public Facilities and Backbone Infrastructure*, 2011).

Transportation Alternatives Program

The Transportation Alternatives Program (TAP) was authorized under Section 1122 of Moving Ahead for Progress in the 21st Century Act (MAP-21). The TAP provides funding on the order of \$2.5M annually for programs and projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, community improvement activities, and environmental mitigation; recreational trail program projects; safe routes to school projects; and projects for planning, designing, or constructing boulevards and other roadways that meet program qualifications.

State Planning & Research Program

The Federal Highway Administration (FHWA)'s State Planning and Research (SPR) Program provides funding for states' planning and research activities. The funds are used to establish a cooperative, continuous, and comprehensive framework for making transportation investment decisions and to carry out transportation research activities.

Eligible activities for SPR grants that could be utilized to implement the DHMMP include:

- Engineering and economic surveys and investigations
- Research, development, and technology transfer activities necessary in connection with the planning, design, construction, management, and maintenance of highway, public transportation, and intermodal transportation systems
- Conduct of activities relating to the planning of real-time monitoring elements

6) Federal Grants

Grants are available to support a variety of projects that promote multimodal transportation, healthy built environments, community revitalization, pedestrian safety, recreational trails, and other objectives that align with DHMMP recommendations. Federal grants are offered by the U.S. Department of Agriculture (USDA), Department of Transportation (DOT), Economic Development Administration (EDA), Environmental Protection Agency (EPA), and others.

The Transportation Investment Generating Economic Recovery grant, or TIGER Discretionary Grant program, is well suited to projects such as the DHMMP. It is a Federal DOT grant program for investments in road, rail, transit and port projects that promise to achieve national objectives. Since 2009, Congress has dedicated nearly \$4.6 billion for seven rounds of TIGER to fund projects that have a significant impact on the Nation, a region or a metropolitan area. In Hawai'i, the County of Kaua'i was the most recent recipient in 2015 (see text box).

The eligibility requirements of TIGER allow project sponsors at the State and local levels to obtain funding for multimodal, multi-jurisdictional projects that are more difficult to support through traditional DOT programs. Applicants must detail the benefits their project would deliver for five long-term outcomes: safety, economic competitiveness, state of good repair, quality of life and environmental sustainability. DOT also evaluates projects on innovation, partnerships, project readiness, benefit cost analysis, and cost share.

Līhu'e Town Core Mobility and Revitalization Project TIGER Grant

The County of Kaua'i received a \$13M TIGER Grant from the federal Department of Transportation for multimodal improvements to the Līhu'e Town Core. The project is intended to restore Līhu'e as the thriving commercial, civic, and cultural heart of Kaua'i. It includes a transit hub, bicycle and pedestrian improvements, streetscape improvements and a shared use path.

Source:

<http://www.kauai.gov/Government/Office-of-the-Mayor/TIGER-Grant>



A TIGER grant package for Downtown Hilo could include conversion of key downtown streets from one-way to two-way with multimodal improvements, reconfiguration of Kamehameha Avenue and the Frontage Road, and installation of roundabouts at Haili, Ponahawai, and Kino'ole Streets.

7) Innovative Funding Sources

Non-traditional means of funding can be harnessed to assist with some aspects of implementation, particularly those related to beautification. Downtown Hilo has already had some success in this regard, having successfully competed for a national contest by paint company Benjamin Moore (see text box). The result was a free repainting of the building facades on Kamehameha Avenue. The effort was supported by multiple partners, including the Chamber of Commerce, Downtown Improvement Association, Lions Club, and HPM Building Supply.

Crowdfunding and micro-grants are other innovative ways to raise funding for specific beautification of revitalization projects. These initiatives can be sponsored by the County, business associations, nonprofits, or private entities.

Kamehameha Avenue To Get New Paint Job

By Hunter Bishop

Posted September 17, 2013, 04:29 PM HST
Updated September 17, 2013, 04:59 PM HST

0 Comments

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Downtown Hilo is about to get a facelift. Photo by Dave Smith.

Kamehameha Avenue will be the beneficiary of Hilo's winning effort in Benjamin Moore Paints' "Main Street Matters" contest in July.

Downtown Hilo was one of 20 downtown areas across the nation selected by the paint company from hundreds of contestants to get the free makeover.

Source: *Big Island Now*, September 17, 2013

TABLE 21 –RECOMMENDATIONS AND IMPLEMENTATION CONSIDERATIONS

#	Recommendation	Lead Agencies	Possible Partners	Possible Funding Sources	Other Considerations
Circulation					
A-1	Two-Way Conversion	COH DPW		CIP SPR Funds TIGER Grant	Further study and possible demonstration project needed to determine whether intersections should be signalized or with stop signs.
A-2	Intersection Configuration	DPW COH Planning		CIP TIGER Grant	Coordinated with County re-paving program and with Two-Way Conversion (A-1)_
A-3	Roundabouts	COH DPW	Partner with DIA and community groups on gateway features and maintenance	CIP TIGER Grant	Public art and landscaping could be “adopted” by different partner groups and/or the Downtown Business Association
A-4	Reconfiguration of Kamehameha Avenue from Ponahawai Street to Waiānuenue Avenue	COH DPW	PATH, DIA, Let’s Grow Hilo, Destination Hilo	CIP TIGER Grant	Beautification elements could be provided and/or maintained by partners (landscaping, pedestrian/bike amenities)
A-5	Roadway Extensions	COH DPW	Parks, DOT (for Ponahawai extension)	CIP State funds	Ponahawai Extension requires State coordination, environmental review. Others will require subdivision and acquisition with possible associated permits/review requirements.

#	Recommendation	Lead Agencies	Possible Partners	Possible Funding Sources	Other Considerations
A-6	Downtown Travel Two-Way Cross-Sections	COH DPW	MTA (for transit); Police/Fire, Emergency Services; bicycle and pedestrian safety advocates	CIP TIGER Grant	Police, fire and emergency services will need adequate clearance.
A-7	Traffic Calming with Lane Widths and Posted Speeds	COH DPW		CIP TIGER Grant	Coordinate with County Repaving program. This item to be implemented together with A-6.
A-8	On-Street Parking, Loading Zones, and Use of Curbsides	DPW COH Planning	Landowners and Businesses (for use and maintenance of parking spaces fronting their businesses)	CIP BID Impact Fees / Fair Share	Coordination with MTA will be needed for transit stops. Consultation with businesses should occur to determine location of on-street parking/loading zones during design phase.
A-9	Keawe Street Multimodal Improvements	COH DPW Parks	MTA (transit stops); private shuttle provider (TBD)	CIP SPR Funds TIGER Grant BID Other Grants Innovative sources	Recommended to be implemented along with Two-Way Conversion (A-1). Coordinate Mamo Triangle with Parks.

#	Recommendation	Lead Agencies	Possible Partners	Possible Funding Sources	Other Considerations
Pedestrian Trails and Sidewalks					
B-1	Shared-Use Paths (Bayfront Trail, Shoreline Shared-Use Path, Cultural Trail, Pedestrian Promenade).	COH Planning DPW	Hilo Bayfront Trails; PATH; DIA; Destination Hilo	CIP TAP Grants Innovative Sources	Property acquisition and environmental review/approvals may be required, particularly near the shoreline. DOT coordination involved in shoreline path.
B-2	Bayfront Highway Crossing	COH DPW, State DOT		CIP STIP	Two step process: interim signalized crossing and later, crossings at roundabouts.
B-3	Ponahawai Street Extension	COH DPW	County Parks	CIP STIP TIGER Grant	Coordination with County Parks; land acquisition, subdivision and environmental review needed.
B-4	Ponahawai and Kamehameha Gateway Treatment	COH DPW	DIA, Destination Hilo, other organizations	CIP BID TIGER Grant Other Grants Innovative Sources	Consider incorporating public art, signage, landscaping features that partners can provide.
B-5	Curb Extensions	COH DPW		CIP TIGER Grant	Coordinate with Repaving program; consider demonstration project opportunities.

#	Recommendation	Lead Agencies	Possible Partners	Possible Funding Sources	Other Considerations
B-6	Parklets	COH Planning & DPW R&D	Business owners, landowners, community organizations	Private funds BID TAP TIGER Grant Innovative Sources	Ordinance changes and associated permitting processes needed to allow some commercial use, and to specify guidelines for parklets.
B-7	Sidewalk Widening	COH DPW	Business Associations, Accessibility Advocates	CIP BID TAP TIGER Grant	Coordinate with street cross-section modifications and other improvements.
B-8	Sidewalk Repairs and Improvements	COH DPW	Accessibility advocates, pedestrian safety advocates	CIP BID Grants	ADA compliance will be needed.
B-9	Awnings	COH Planning	Business and visitor industry associations	Private Funds BID Grants Innovative Sources	Ordinance changes may be needed to require awnings in certain areas and/or specify design guidelines. Incentive programs may be considered.
B-10	Covered Walkways	COH DPW	Businesses and landowners Business and visitor industry associations	CIP BID TAP Private Funds Grants	Permitting requirements, possible environmental review.
B-11	Replace Overhead Utilities	COH DPW and utilities	Business associations	Utility companies CIP BID	Coordinate with repaving program and other street improvements

#	Recommendation	Lead Agencies	Possible Partners	Possible Funding Sources	Other Considerations
Bicycles					
C-1	Regional Bikeway Network	COH Planning DPW	Bicycle Advocates	CIP STIP TAP Grants	Coordinate with repaving program
C-2	Downtown Core Bikeways	COH DPW	Bicycle Advocates Business and neighborhood associations	CIP TIGER Grant TAP Other Grants	Coordinate with repaving program
C-3	Bike Share Program	COH Planning MTA R&D	Private businesses Bicycle Advocates Business and neighborhood associations	Private funds BID TAP Grants Innovative Sources	Coordinate with private businesses and landowners. Security and lighting may need to be enhanced around bike share stations.
C-4	Bicycle Parking and Corrals	COH DPW	Private businesses Bicycle Advocates Business and visitor industry groups	Private funds CIP BID TAP Innovative Sources	Partnerships and incentives could encourage community investment in bike corrals and racks; they could be artistic features also.
C-5	Transit Center Bicycle Station	COH DPW MTA	Bicycle Advocates Business and visitor industry groups	CIP BID TAP Grants	Coordinate with MTA on placement of facility. Staffing and security to be included in budgeting.

#	Recommendation	Lead Agencies	Possible Partners	Possible Funding Sources	Other Considerations
Parking					
D-1	Adjust Parking Time Limits	COH DPW	Business associations	CIP	Coordinate with parking management system (D-2) and development of off-street parking
D-2	Paid On-Street Parking and Enforcement	COH DPW	Private vendors and service providers	CIP	Coordinate with adjustment of time limits (D-1) and reconfiguration of on-street parking, and development of off-street parking.
D-3	Residential Parking Permits	COH DPW	Private vendors and service providers	CIP	Coordinate with parking management system (D-2)
D-4	Off-Street Parking Capacity	COH Planning DPW	Private landowners and developers	Private funds CIP	Coordination with Parks and other landowners needed
D-5	Create Remote Parking Lots	COH Planning DPW Parks	Private vendors and service providers	CIP TIGER Grant	Coordinate with development of shuttle and parking management system/time limits. Incorporate security.
D-6	On-Street Parking Capacity (addition of multimodal features)	COH DPW Planning MTA	Business associations	CIP TIGER Grant BID	Coordinate with MTA on locations of bus stops. Consult businesses and landowners on parking and features
D-7	Parking Structure	COH Planning DPW Parks	Developers and Landowners	Private funds CIP	Work with developers and landowners on revenue model

#	Recommendation	Lead Agencies	Possible Partners	Possible Funding Sources	Other Considerations
Transit					
E-1	Establish a Downtown Shuttle and Implement in Phases	COH Planning R&D	Shuttle providers and vendors Businesses & visitor industry	Private funds CIP Grants SPR funds	Coordinate with development of remote parking lots (D-5)
E-2	Stage One: Connect Remote Parking Lots for Employees to Downtown using the Shuttle	COH Planning MTA R&D	Shuttle providers and vendors Businesses and associations	Private funds CIP Grants	Coordinate with development of remote parking lots (D-5)
E-3	Stage Two: Extend the Shuttle Route to North Hilo and the Civic Center	COH Planning MTA R&D	Shuttle providers and vendors	Private funds CIP Grants	Coordinate shuttle routes with MTA
E-4	Stage Three: Extensions to the Port, Hilo Airport, and UH Hilo	COH Planning MTA R&D	Visitor industry organizations UH Hilo	Private funds CIP Grants	Coordinate shuttle routes with MTA
E-5	Mo'ohau Bus Terminal Improvements	COH Planning DPW MTA		CIP	Coordinate with MTA and consult Police on security, enforcement
E-6	Mobile App for Transit	COH Planning R&D MTA	UH Hilo Vendors and tech providers Business & visitor associations	CIP BID Grants	Coordinate with MTA and development of Downtown shuttle (E-1)
E-7	Transit Stop Amenities & Signage	COH Planning R&D MTA	Business and visitor associations	CIP BID Grants	Coordinate with MTA and development of Downtown shuttle (E-1)

#	Recommendation	Lead Agencies	Possible Partners	Possible Funding Sources	Other Considerations
Streetscape Design					
F-1	Street Treatments	COH DPW	Business and visitor associations	CIP BID Grants Innovative Sources	Determine loading areas and time frames in pedestrian priority areas. Select furniture and decorative elements with security and durability in mind.
F-2	Gateways	COH DPW Parks	Business and visitor associations Arts and community organizations	CIP BID Grants Innovative Sources	Coordinate signage, artwork, landscaping and ongoing maintenance with community organizations; possibly Parks
F-3	Green Streets	COH DPW	Environmental organizations	CIP BID Grants	Study drainage requirements. Consider maintenance needs.
F-4	Street Trees	COH DPW	Businesses and visitor associations	CIP BID Grants	Coordinate with Parks as needed. Choose low maintenance trees
F-5	Street Lighting	COH DPW	Businesses and visitor associations	CIP BID Grants	Electrical study needed to determine illumination needs.
F-6	Landscaping & Urban Agriculture	COH DPW	Community groups, schools, environmental organizations	CIP BID Grants Innovative Sources	Plan for ongoing maintenance; coordinate with DPW/Parks
F-7	Style Guide for Downtown Hilo	COH Planning	Business associations; Design professionals	CIP BID Grants	Develop with community and landowner input. Adopt as ordinance

5.2 PHASING

Since it is neither feasible nor desirable for all recommendations in the Master Plan to proceed simultaneously (imagine the chaos and disruption), the phasing plan looks at a possible approach to bringing about change in a meaningful and progressive fashion. In addition to phasing and scheduling, best management practices will be utilized to mitigate construction-related impacts.

The phasing plan also takes into account the hierarchy (reverse pyramid) of complete streets priorities. Namely, Pedestrian, Bicycle, Transit, Commercial Vehicles, High Occupancy Vehicle (HOV) and Single Occupancy Vehicle (SOV). It seeks to identify visible elements on the ground to give supporters encouragement that something is happening to bring positive change they have so long desired. It also acknowledges linkages and dependencies that exist between the various improvements.

The table below identifies projects and programs that are already underway or in place for Downtown Hilo and are related to the DHMMP recommendations.

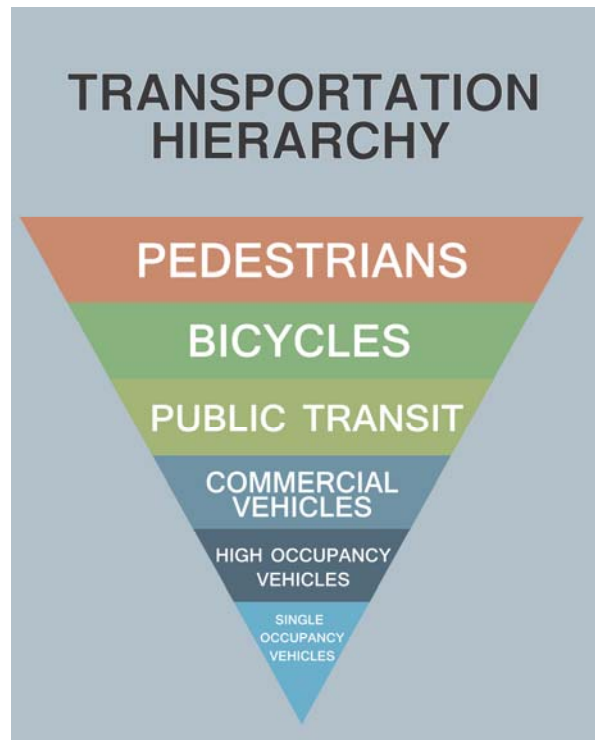


TABLE 22 –PROJECTS ALREADY UNDERWAY

Recommendation	Lead	Description
Kapiʻolani Street Extension	COH DPW	Includes bike & pedestrian features Expands the road network
Hilo Bayfront Trails	COH DPW	Groundbreaking in 2015; Phase 1 construction completed
COH Paving Program	COH DPW	Review all upcoming projects to coordinate with markings and treatments recommended in DHMMP
Bike Share Pilot Program	COH R&D	Install bike share stations at three locations, select additional locations for feasibility study
Transition Commuter Parking Area	COH DPW	Move the commuter parking lot farther away from Downtown and retain the existing lot for users of Downtown
Waiānuenue Road Diet	COH DPW	Road diet study completed and implemented.
Regional Bicycle Network	COH	The County is developing a bicycle network connecting Downtown with UH and Hilo Harbor.
Private parking lot (temporary)	Diamond Parking	Haili & Keawe vacant lot provides 35 additional spaces for workers

A four-step phasing program is suggested for implementing DHMMP recommendations. The first three phases identify actions recommended to take place over the next five years, with longer term actions included in the fourth phase.

These phases acknowledge that there are precursors to some action items, and that some will take longer to find funding or in some instances secure land or right of way. It assists the County in identifying a reasonable annual program for CIP, including the typical steps in a project development, which include Concept, Design, Construction, and Opening/Implementation. Each of these phases and the associated actions are discussed in the following sections. Conceptual phasing maps follow at the end of each section.

5.2.1 IMMEDIATE ACTION PHASE (PHASE 1)

The Priority Action Phase includes improvements that can be started and implemented relatively quickly, within one to two years of plan adoption, and that will result in immediately visible and beneficial changes to Downtown Hilo.

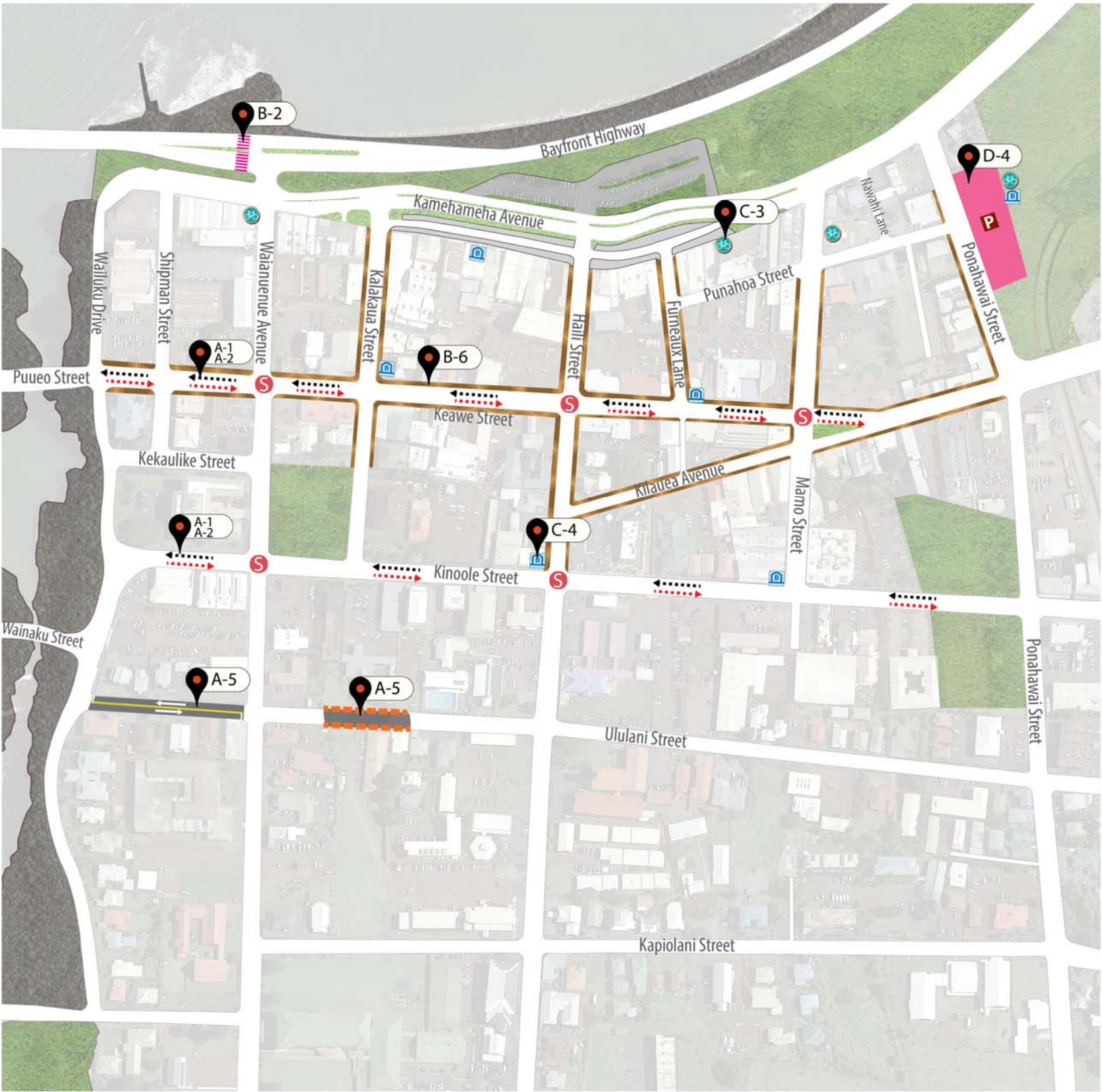
The Priority Action Phase includes commencing the work needed for the extension of Ponahawai Street to Bayfront Highway. This was identified as a high priority project in public and agency consultation. The work included in Phase 1 includes coordination with the Parks Department to acquire the land needed for the extension, subdivision of the land, and initiating coordination with the State DOT. Table 23 lists recommended actions for Phase 1. Figure 59 depicts them visually on a map.

TABLE 23 – PRIORITY ACTION PHASE (PHASE 1)

Action	Rec #	Lead Agency	Description
Initiate Extension of Ponahawai Street to Bayfront Highway	A-5, B-3	COH DPW, Parks, State DOT	Work with Parks to remove land from parks system; subdivide land; initiate coordination with DOT.
Build a 22-space parking lot on Ponahawai Street	D-4	COH DPW	Plan lot to allow for eventual transition to parking structure if/when determined feasible.
Procurement to establish Downtown shuttle	E-1	COH & partners	Procure funds/partners for the Downtown shuttle
Initiate repair of sidewalks & curbs throughout Downtown	B-8	COH DPW	Coordinate sidewalk and curb ramp improvements with multimodal improvements for different streets.
Initiate parklet program	B-6	COH Planning & DPW	Identify partners and locations and develop guidelines and permitting.
Choose design and add bike racks at multiple locations	C-4	COH DPW	Goal of five locations with 5 or more positions

Provide a pedestrian crossing with signal controls at Waiānuenue Avenue & Bayfront Highway	B-2	COH DPW, State DOT	Interim measure until roundabout is constructed (dependent upon timing of Ponahawai extension and associated roundabout).
Design & construct extension of Ululani Street; convert a portion from one-way to two-way travel	A-5	COH DPW	Coordinate with landowner to purchase land, swap, or acquire easement. Construct roadway extension and sidewalks.
Site selection, design, and subdivision for remote employee parking lot	D-5	COH Planning, with DPW and Parks	Will likely involve subdivision of Park land makai of Kamehameha Avenue; coordinate with subdivision for Ponahawai extension
Demonstration of two-way conversion of Keawe and Kino'ole with stop-controlled intersections	A-1 A-2	COH DPW	Demonstrate the two-way conversion of Keawe and Kino'ole Streets using pavement markings, paint, and stop-controlled intersections
Develop regional bikeway network.	C-1	COH DPW	Construct bikeway improvements in coordination with repaving and other roadway improvements.
Launch Downtown Hilo Bike Share Program	C-3	COH R&D	Partner with private vendors and bicycle advocates

FIGURE 59 - PRIORITY ACTION PHASE (PHASE 1)



Actions:

- D-4 Build a 22-space parking lot on Ponahawai Street
- B-6 Initiate parklet program on recommended streets
- C-4 Add bike racks at multiple locations
- B-2 Provide a pedestrian crossing with signal controls
- A-5 Design & construct extension of Ululani Street
Convert a portion of Ululani Street from one-way to two-way travel
- A-1 A-2 Demonstration of two-way conversion of Keawe and Kino'ole with stop-controlled intersections
- C-3 Launch Downtown Hilo Bike Share Program, Add Bikeshare stations at multiple locations

Other Actions:

- A-5, B-3: Initiate extension of Ponahawai Street to Bayfront Highway
- E-1: Procurement to establish Downtown shuttle
- B-8: Initiate repair of sidewalks & curbs
- D-5: Site selection, design, and subdivision for remote employee parking lot
- C-1: Develop regional bikeway network

Legend

- Recommended Streets for Parklet Program
- New Road Connection
- Stop-controlled Intersections
- Convert Roadway to Two-way Travel
- Demonstration of Two-way Conversion
- Temporary Signal-controlled Pedestrian Crossing
- Bikeshare Station
- New Bike Rack
- New Parking Lot

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5.2.2 SHORT-TERM ACTION PHASE (PHASE 2)

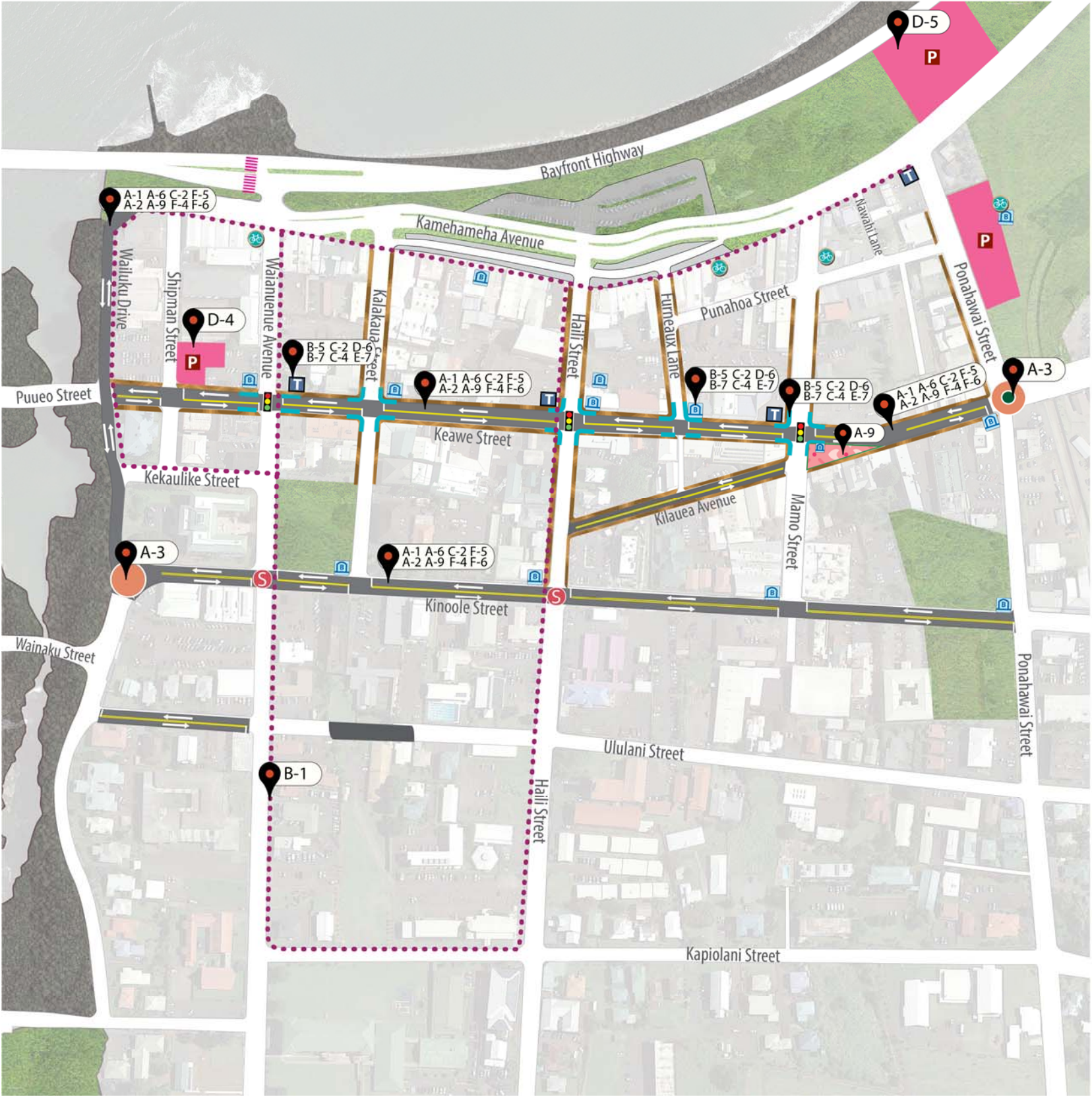
Phase 2 has a time horizon of three to four years from plan adoption. It includes the conversion of Keawe and Kino'ole to two-way and designing Keawe Street as a main street with full complete street and urban design treatments. Completion of the remote parking lot for Downtown employees and the launch of the Stage 1 Downtown shuttle happens during this phase. This phase also includes environmental reviews and studies needed for the Ponahawai Street Extension to Bayfront Highway. Table 24 lists actions included in Phase 2. Figure 60 depicts them conceptually on a map.

TABLE 24 – SHORT-TERM ACTIONS (PHASE 2)

Recommendation	Rec #	Lead Agency	Description
Design for extension of Ponahawai Street to Bayfront Highway –	A-5	State DOT	Environmental studies, traffic report, concept designs, alternatives
Complete two way conversion of Keawe Street, Kino'ole Streets, Wailuku Street and portion of Kīlauea Street with signalized intersections;	A-1 A-2 A-6 A-9 C-2 F-4 F-5 F-6	COH DPW	Construct associated multimodal and streetscape improvements concurrently
Construct roundabouts at Kīlauea and Ponahawai and Wailuku and Kino'ole	A-3	COH DPW	Coordinate with two-way conversion of Keawe, Kino'ole, and Wailuku
Develop regional bikeway network.	C-1	COH DPW	Construct bikeway improvements in coordination with repaving and other roadway improvements.
Initiate parking management system and time limits, with residential permit program	D-1 D-2 D-3	COH DPW and Mass Transit	Install parking management system and designate support staff and enforcement.
Construct remote parking lot for Downtown Employees	D-5	COH Planning/DPW	Coordinate with Downtown shuttle Stage 1.
Acquire the private parking lot between Shipman Street and the County parking lot for a public parking area	D-4	COH Planning/DPW	Coordinate with landowner.
Create mobile app for transit	E-6	COH Planning, MTA, R&D	Coordinate with visitor industry associations and business associations; apply for grant funding; secure technology vendor.

Recommendation	Rec #	Lead Agency	Description
Create Downtown Hilo Cultural Trail	B-1	COH & Partners	Markers and signage with stories and descriptions of places of interest
Widen sidewalks on Keawe, add curb extensions, landscaping, bike facilities and future transit stop	B-7 B-5 C-2 C-4 D-6 E-7	COH DPW	Coordinate with two-way conversion of Keawe.
Convert Mamo triangle to pedestrian plaza and landscape design	A-9	COH DPW	Possible partnership with County Parks & Recreation.
Launch Stage I shuttle system to connect remote employee parking lot to Downtown; construct sheltered stations with wayfinding and amenities	E-2 E-7	COH Planning, R&D	Private contract
Examine parking structure feasibility at two sites: 1) Above the 22-space lot on Ponahawai; and 2) County property between Wailuku and Waiānuenue	D-7	COH Planning	Work with landowners and developers on siting and revenue model

FIGURE 60 – SHORT-TERM ACTION PHASE (PHASE 2)



Actions:

- A-1 A-6 C-2 F-5
A-2 A-9 F-4 F-6** Complete two way conversion of Keawe Street, Kino'ole Streets, portion of Wailuku Drive and Kilauea Avenue
- A-3** Construct roundabouts
- B-5 C-2 D-6
B-7 C-4 E-7** Keawe Street Multimodal Improvements (Add curb extensions, bike facilities and shuttle stops)
- D-5** Construct remote parking lot for Downtown employees
- D-4** Acquire the private parking lot for public parking area
- A-9** Convert Mamo Triangle to Pedestrian Plaza
- B-1** Create Downtown Hilo Cultural Trail

Other Actions:

- A-5:** Studies for extension of Ponahawai Street to Bayfront Highway
- C-1:** Develop regional bikeway network
- D-1, D-2, D-3:** Initiate parking management system and time limits, with residential permit program
- E-6:** Create mobile app for transit
- E-2, E-7:** Launch Stage I shuttle system
- D-7:** Examine parking structure feasibility at two sites:
Above the new 22-space surface lot on Ponahawai; and
County property makai of Keawe Street between Wailuku Drive and Waiānuenue Avenue

Legend

- Recommended Streets for Parklet Program
- Downtown Hilo Cultural Trail
- Convert Roadway to Two-way Travel
- Signalized Intersection
- Stop-controlled Intersections
- Temporary Signal-controlled Pedestrian Crossing
- New Parking Lot
- Roundabout
- Roundabout with Gateway Feature
- Pedestrian Plaza/Promenade
- Curb Extension
- Bikeshare Station
- New Bike Rack
- Downtown Shuttle Stop

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5.2.3 INTERMEDIATE TERM ACTION PHASE (PHASE 3)

This phase identifies actions that may be completed within five years of the DHMMP's adoption. This includes completion of the Ponahawai extension to Bayfront Highway, roundabouts with gateway features at the intersections of Ponahawai with Kamehameha Avenue and Bayfront Highway, a road diet along Kamehameha Avenue, and development of the Frontage Road pedestrian promenade. Phase 3 also implements Stage II of the Downtown shuttle. Table 25 lists actions included in Phase 3. Figure 61 depicts them conceptually on a map.

TABLE 25 - INTERMEDIATE TERM ACTIONS (PHASE 3)

Recommendation	Rec #	Lead Agency	Description
Construct extension of Ponahawai Street to Bayfront Highway	A-5 B-3 B-4	COH DPW	Construction
Construct roundabout with associated pedestrian facilities and gateway feature at Ponahawai and Bayfront Highway	A-3 A-7 B-2 B-3 F-2	COH DPW	Construction
Design and construct roundabout with gateway feature at Waiānuenue and Bayfront Highway	B-2 F-2	COH DPW State DOT	Work with State DOT District Office as lead for project Request congestion relief funds
Reconfigure Kamehameha Avenue from four to two lanes; add multimodal features.	A-4	COH DPW	
Design and construct roundabouts at Kamehameha intersections with Haili and Ponahawai	A-3	COH DPW	
Create Frontage Road Promenade	B-1	COH DPW	Coordinate with reconfiguration of Kamehameha
Implement pedestrian improvements and beautification on designated "shared streets": Kalākaua Street, Mamo Street, Haili Street, Furneaux Lane, and a portion of Punahoa Street	F-1 F-3	COH Planning, DPW	
Develop regional bikeway network.	C-1	COH DPW	Construct bikeway improvements in coordination with repaving and other roadway improvements.

Develop complete street design standards, style guide, incentives for awnings, business improvement district.	B-9 F-7	COH Planning	
Stage II Shuttle	E-3	COH & Partners	Extend to Civic Center, possible Port/Cruise

FIGURE 61 – INTERMEDIATE TERM ACTION PHASE (PHASE 3)



Actions:

- A-5 B-4 B-3** Construct extension of Ponahawai Street to Bayfront Highway
- A-3** Construct roundabouts
- A-3 B-2 F-2 A-7 B-3** Construct roundabout with associated pedestrian facilities and gateway feature at Ponahawai and Bayfront Highway
- B-1** Create Frontage Road Promenade
- B-2 F-2** Construct roundabout with gateway feature at Waianuenue and Bayfront Highway
- A-4** Reconfigure Kamehameha Avenue from four to two lanes; add multimodal features.
- F-1 F-3** Implement pedestrian improvements and beautification on designated "shared streets"

Other Actions:

- C-1:** Develop regional bikeway network
- B-9, F-7:** Develop complete street design standards, style guide, incentives for awnings, business improvement district
- E-3:** Launch Stage II shuttle system

Legend

- Recommended Streets for Parklet Program
- Convert Roadway to Two-way Travel
- Signalized Intersection
- Stop-controlled Intersections
- New Road Connection
- New Parking Lot
- Gateway Feature
- Curb Extension
- Pedestrian Plaza/Promenade
- Roundabout
- Roundabout with Gateway Feature
- Main Street
- Shared Street
- Downtown Hilo Cultural Trail
- Bikeshare Station
- New Bike Rack
- Downtown Shuttle Stop

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5.2.4 LONG-TERM ACTION PHASE (PHASE 4)

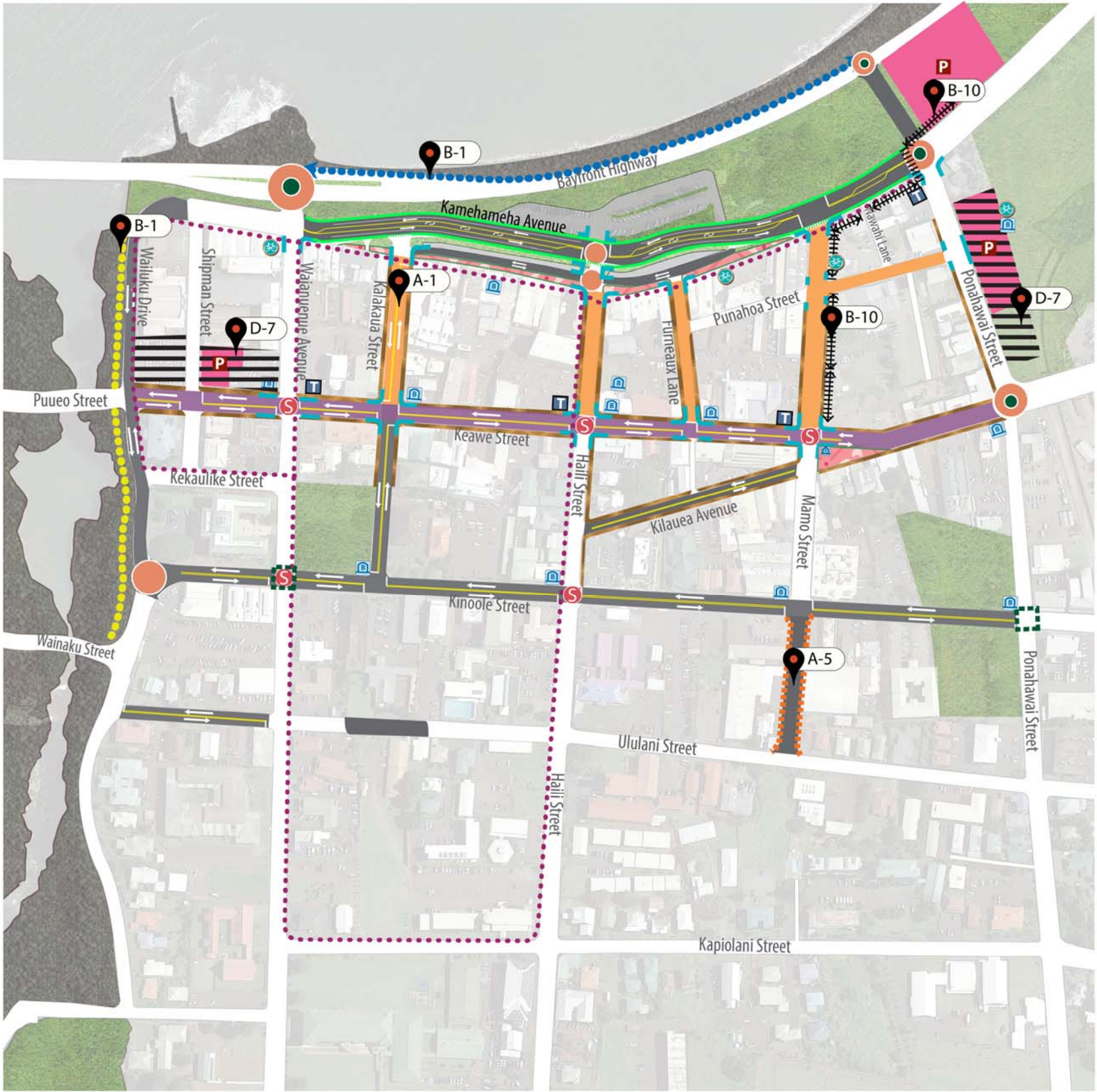
The Long Term Recommendations fill out the program for Downtown multimodal treatment, completing the vision for pedestrian focus, bicycle access, transit use and adjustments to the vehicle network to make these possible. These are anticipated to take longer than five years to complete. Table 26 lists actions included in Phase 4. Figure 62 depicts them conceptually on a map.

TABLE 26 - LONG TERM ACTIONS (PHASE 4)

Recommendation	Rec #	Lead Agency	Description
Convert Kalākaua Street to two way	A-1	COH DPW	Construct curb extensions with green infrastructure, sidewalk improvements
Extend Bayfront trails to Banyan Drive	B-1	COH DPW	
Install covered walkways along key corridors	B-10	COH DPW	From remote parking area to Downtown, and other locations missing awnings.
Construct structured parking facility	D-7	COH DPW	Incorporate bicycle parking. Consider development partner for co-located uses (retail, hotel).
Stage III Shuttle	E-4	COH & Partners	Coordinate with UH Hilo, MTA
Bus terminal improvements and/or relocation	E-5	COH Planning, MTA	Coordinate with MTA
Design and construct Mamo Street extension and associated features	A-5	COH DPW	Property acquisition, landowner coordination, construction of sidewalks and ramps
Design and construct Wailuku River Trail	B-1	COH DPW	State and Federal permits or review may be required (COE, DOH, DLNR)
Install and staff bike station at Bus Terminal	C-5	COH DPW and Mass Transit	
Complete regional bikeway network.	C-1	COH DPW	Construct bikeway improvements in coordination with repaving and other roadway improvements.
Replace overhead utility poles on Keawe Street with painted metal poles, and place local electrical service underground	B-11	COH DPW and HELCO/utilities	Coordination with electric and telecommunications utilities required
Design and construct shoreline shared use path	B-1	COH DPW	Work with State DOT District Office on restriping/realignment of Bayfront Highway

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FIGURE 62 – LONG-TERM ACTION PHASE (PHASE 4)



Actions:

- A-1 Convert Kalākaua Street to two way
- B-10 Install covered walkways
- D-7 Construct structured parking facility
- A-5 Construct Mamo Street extension and associated features
- B-1 Construct Wailuku River Trail
- B-1 Construct shoreline shared use path

Other Actions:

- B-1: Extend Bayfront trails to Banyan Drive
- E-4: Launch Stage III Shuttle
- E-5: Bus terminal improvements and/or relocation
- C-5: Install and staff bike station at Bus Terminal
- B-11: Replace overhead utility poles on Keawe Street with painted metal poles, and place local electrical service underground
- C-1: Complete regional bikeway network

Legend

- Recommended Streets for Parklet Program
- Convert Roadway to Two-way Travel
- Signalized Intersection
- Stop-controlled Intersections
- New Road Connection
- New Parking Lot
- Possible Parking Structure Location
- Covered Walkways
- Curb Extension
- Gateway Feature
- Roundabout
- Roundabout with Gateway Feature
- Main Street
- Shared Street
- Downtown Hilo Cultural Trail
- Wailuku River Trail
- Shoreline Shared use Path
- Pedestrian Plaza/ Promenade
- Bikeshare Station
- New Bike Rack
- Downtown Shuttle Stop

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APPENDIX A— ENVISION 2025 ACTIONS ADDRESSED BY THE DHMMP

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This Appendix lists actions that were included in *EnVision Downtown Hilo 2025* plan and its 2010 Action Plan Update that relate to the scope of the DHMMP. While the DHMMP was developed in response to one specific EDH Action (Action 6.11), it also addresses multiple other actions, as listed in Table A-1. The Table also includes the focus areas, strategies, and sustainability measures that correspond to each. Action 6.11 is highlighted, as it was the genesis of the DHMMP project.

Table A-1 - EnVision 2025 Downtown Hilo Strategies and Actions Addressed by the DHMMP

#	EnVision Action Description	EnVision Sustainability Measures
CREATING ECONOMIC VITALITY		
Strategy 1.1 Increase access to Downtown Hilo through alternative transportation options		
1.12	Launch Downtown circulating shuttle	Multimodal Transportation Equitable Access
1.13	Expand Hele-On routes/stops	Multimodal Transportation Equitable Access
1.14	Expand tour bus loading/ unloading and parking areas	Multimodal Transportation
1.15	Investigate a bike rental program for residents and visitors	Multimodal Transportation
1.16	Develop bike paths between Downtown and the educational institutions	Multimodal Transportation Equitable Access Healthy Living & Walkability Earth-Friendly
1.17	Develop a Hilo Bay pier for water transportation access	Multimodal Transportation Parks and Natural Spaces Civic Gathering
Strategy 1.8 Create financial opportunities to support a prosperous Downtown Hilo		
1.81	Develop new tax incentives for Downtown property owners and businesses	Community Resiliency
1.82	Explore the creation of a Business Improvement District (BID)	Community Resiliency
1.83	Identify new sources of grant funding to initiate community projects	Community Resiliency
PRESERVING THE ENVIRONMENT		
Strategy 2.1 - Develop a network of trails, paths, and green spaces for recreational uses from Wailuku River to Hilo Harbor		
2.12	Implement the Wailuku River Park and Trail Design Plan	Rhythm of Hilo Healthy Living & Walkability Parks and Natural Spaces 'Ohana Tradition
2.13	Develop the Kaipalaoa Landing Park	Rhythm of Hilo Healthy Living & Walkability Parks and Natural Spaces 'Ohana Tradition
2.14	Construct the Hilo Bayfront Trails	Rhythm of Hilo Healthy Living & Walkability

		Parks and Natural Spaces 'Ohana Tradition Equitable Access
Strategy 2.5 - Protect and enhance Downtown Hilo's natural beauty through landscaping, plantings, and related improvements		
2.51	Create a comprehensive landscaping plan	Parks and Natural Spaces
2.52	Develop a program for businesses and residents to adopt areas to improve landscaping and maintenance	Parks and Natural Spaces
2.53	Develop pocket parks	Parks and Natural Spaces Civic Gathering
2.55	Install hanging baskets	Rhythm of Hilo
2.56	Celebrate Downtown gateways with signage and landscaping	Rhythm of Hilo Parks and Natural Spaces
2.57	Develop community gardens	Parks and Natural Spaces Civic Gathering
2.58	Create boulevard treatments along Waiānuenue Avenue	Parks and Natural Spaces
Strategy 2.6 - Develop walking access from Downtown to Hilo Bayfront		
2.62	Develop an alternative route for heavy traffic and reclaim Bayfront Highway	Rhythm of Hilo Parks and Natural Spaces
PROMOTING HEALTH AND SAFETY		
Strategy 5.3 – Incorporate Universal Design Standards to make Downtown Hilo an inclusive, barrier-free community, with safe access for all users		
5.31	Install curb cuts in sidewalks	'Ohana Tradition Equitable Access
5.32	Establish pedestrian-friendly sidewalk standards	Healthy Living and Walkability 'Ohana Tradition Equitable Access
5.33	Improve the safety features of crosswalks	Healthy Living and Walkability 'Ohana Tradition Equitable Access
5.34	Map accessible features such as sidewalks, curb cuts, restrooms, and benches	Equitable Access
5.35	Improve sidewalk surfaces	Healthy Living and Walkability 'Ohana Tradition Equitable Access
MANAGING GROWTH		
Strategy 6.1 - Implement a series of connected measures to calm traffic, encourage multimodal transportation, and accommodate pedestrians.		
6.11	Develop a master plan to include traffic circulation, parking, and pedestrian streetscape.	Multimodal Transportation
6.12	Develop a pilot event for a vehicle free area (first one was completed in 2008)	Healthy Living and Walkability Earth-Friendly
6.13	Identify potential vehicle-free streets or zones	Healthy Living and Walkability Earth-Friendly

6.14	Improve multimodal and pedestrian access on designated streets in Downtown	Healthy Living and Walkability Earth-Friendly
6.15	Identify streets for implementing traffic calming measures	Multimodal Transportation
6.16	Develop landscaped curb extensions	Parks and Natural Spaces Healthy Living and Walkability
6.17	Develop a system of bike lanes	Multimodal Transportation Healthy Living and Walkability Earth-Friendly Equitable Access
Strategy 6.2 – Provide adequate parking in Downtown Hilo		
6.21	Construct a multi-story parking structure around the edge of Downtown	None identified
6.22	Relocate employee parking to a designated area	None identified
6.23	Develop parking alternatives	None identified

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APPENDIX B – COMMUNITY ENGAGEMENT PROCESS

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This Appendix summarizes the efforts that were undertaken to involve the community throughout the development of the DHMMP.

1. Identification of Stakeholders

A Stakeholder Analysis was prepared early in the project to identify stakeholder groups and outline a plan for engaging each throughout the DHMMP process. It was important to the project team to recognize the community's contributions and involvement in prior planning efforts, reaffirm specific elements of the vision for Downtown Hilo, and make room for new ideas in a transparent manner that welcomed previous and future stakeholders.

Fourteen types of stakeholder groups were identified:

- Government Agencies
- Elected Officials
- Participants in previous efforts, including EDH Plan Facilitators, and Lead Solution Partners from EDH 2025 Plan
- Advocates
- Landowners
- Businesses and tenants in Downtown Hilo
- Civic organizations
- Schools
- Visitor Industry
- Residents
- Employees
- Sponsors of Downtown events
- Transportation and Accessibility Providers
- At-large parties with a generalized interest in what happens in Hilo

The project team developed multiple platforms and approaches for engaging stakeholders and collecting input to ensure that all the above stakeholder groups were represented. The outreach process is described in detail in the following sections.

2. Outreach Platforms

E-mail list

One of the first steps in mounting the community engagement process was to prepare an e-mail database of participants in prior planning efforts and update it with new information. More than 600 people had participated in the EnVision 2025 process and other plans, and every effort was made to validate, and where possible, update their contact information. An e-mail list of more than 300 people resulted, and those without e-mails provided were contacted by direct mail and phone call with invitations to join the mailing list.

Connectors Forum members encouraged their networks to join the mailing list and circulated e-mail event notices to their organizations.

Website

A project website was developed, www.Hawai'iCountyCompleteStreets.com. It includes an overview of the project, a sign-up for the e-mail list, and a Latest News section with announcements of upcoming events and re-caps from community meetings.

Media Releases

The County of Hawai'i assisted in preparing and distributing media releases announcing the launch of the project, and inviting the public to community meetings. The project team distributed community meeting announcements to major East Hawai'i event calendars and posted fliers in prominent locations around Hilo.

First Friday Pop-up

On Friday, October 1, the project team participated in a pop-up event at Mamo Triangle as part of Downtown Hilo's monthly first Friday event. Team members staffed a tent with information about the DHMMP, talked story with interested citizens, and handed out popcorn to passersby. Other participating groups included Hilo Bayfront Trails and Blue Zones.



An SSFM Planner answers questions at the DHMMP First Friday tent.

3. Connectors Forum

Public engagement commenced early in the DHMMP process with the formation of the Connectors Forum. The Connectors Forum was comprised of well-connected persons and community leaders who could advise the Project Team on how to best engage the community during the DHMMP process. The Term "Connectors" was inspired by Malcom Gladwell's book, *The Tipping Point*, in which he described three types of change agents: Connectors, Mavens, and Salesmen. Connectors are those with large community networks that, "...habitually make introductions to further shared goals and projects."

Part of the Connectors Forum's role was to recommend individuals and groups to engage and provide input to the DHMMP. Forum members also provide input into the planning process, engagement, and products leading to the final DHMMP. The Connectors Forum met four times during the DHMMP process: February 19, 2015; March 19, 2015; April 9, 2015; and May 11, 2015. Members are listed in the table below.

Table B-1 - Connectors Forum Members

No.	Organization	First Name	Last Name
1	Hawai'i Island Visitors Bureau	Ross	Birch
2	NOAA Mokupāpapa Discovery Center	Virginia	Branco
3	PATH	Tina	Clothier
4	Realtor Board	Kehaulani	Costa
5	Farmer's Market	Keith	De La Cruz
6	University of Hawai'i at Hilo (UH Hilo)	Thomas	DeWitt
7	MAC Made Easy	Jesse	Domian
8	Downtown Property Owner, County Department of Public Works	Neil	Erickson
9	UH Hilo Administration (of counsel)	Judith	Fox-Goldstein
10	Landowner	Karyl	Franks
11	At Large, Vision keeper, High School Key Club	Tommy	Goya
12	Hawai'i Chamber of Commerce, Imiloa Astronomy Center	Kaiu	Kimura
13	Destination Hilo	Dinnie	Kysar
14	Hilo Bayfront Trails Master Plan	James	Leonard
15	DIA, former business owner	Jeffrey	Mermel
16	Hilo Bike Hub, Mayor's Active Living Advisory Council	Chris	Seymour
17	County Department of Human Resources, Equal Opportunity & ADA	Teri	Spinola-Campbell
18	KTA	Toby	Taniguchi
19	Hilo Bayfront Trails Master Plan	Ron	Terry
20	Halai Kumiai	Steve	Woo

The Connectors Forum provided valuable input on content, timing, venues, how to spread the word, and possible demonstration projects for the community meetings. Suggestions ranged from breakout sessions located close together to make it easy for attendees, activities for keiki, and placement of banners and fliers. Some other suggestions to disseminate information made by group members included direct mailings, e-mail blasts, and media advertisements. In addition to event planning and information dissemination, the Connectors Forum provided valuable input on the topics to be covered in the DHMMP.

Kickoff: February 19, 2015

The purpose of the first meeting of the Hilo Multimodal Master Plan Connector's Forum was to orient the members to the project and describe the purpose and expectations of the group. The group members provided introductions and stories of their ties with Downtown Hilo. The project timeline was discussed, as were past accomplishments and upcoming efforts. The group was asked to review and provide input on the list of proposed invitees for the next two focus groups: Disability Advocates and Users (parents, churchgoers, commuters, and residents of Downtown Hilo).



Connectors Forum Kickoff Meeting in February 2015.

Connectors Meeting #2: March 19, 2015

The Connector's Forum was updated on the project schedule and summary of the focus groups that were held. Ideas for the first Community meeting to be held on May 2, 2015 were shared and the group provided input on content, timing, venues, how to get the word out, and possible demonstration projects. Some suggestions included: locating breakout sessions in close proximity to one another, bringing in a chalk artist, setting up a pop-up parklet, placing banners on buses to advertise event, distributing and posting fliers, demonstration of sharrows/bike facilities, a keiki bike rodeo, and more.

Connectors Meeting #3: April 9, 2015

The purpose of the third meeting of the Connector's Forum was to discuss breakout session logistics including how to structure them, methods of communication, how many people to target, and how to spread the word. The group determined that the purpose of the breakout sessions were to 1) introduce material, 2) obtain awareness and buy in, 3) increase overall public awareness to mitigate the surprise factor, 4) make the process more transparent, and 5) to ultimately translate the material and public input into implementation strategies. Suggestions included: email blast, direct mailing, advertisement via First Friday food trucks, and using social media. Most group members offered to spread the word using their contacts in addition to suggesting specific people and businesses to contact who could aid in disseminating event information.

Connectors Meeting #4: May 11, 2015

A presentation on the ideas emerging and on what would be occurring during the May Community Event was given to the group. Group members made suggestions and asked detailed questions regarding some of the planning suggestions. Logistics involving necessary manpower and volunteer tasks for the event were discussed as well as synthesis of input received and the formulation of a Draft Plan. At the end of

the meeting, discussion was focused on the format for ongoing community input during the Draft development.

Connectors Meeting #5: January 13, 2017

The Connectors Forum reconvened just prior to the release of the public review draft. They received an overview of the draft and the timeline for public review. They also provided input into the community outreach for the community meeting to release the public review draft.

4. Focus Groups

The project team conducted seven focus groups of stakeholders over a three-month period from January through March 2015. The focus groups included:

- Event Sponsors (Organizations which sponsor large events that close Downtown Hilo streets)
- Visitor Industry Representatives
- Advocacy Organizations (Disabled, Elderly, Accessibility, Cycling)
- Users (Residents and those going to school, church, or work Downtown or nearby)
- Downtown Landowners
- Downtown Businesses
- Hilo High School Students and Teachers



Advocates Focus Group

Participants reviewed preliminary concepts and reacted to questions about topics related to mobility Downtown. The group highlighted ideas they liked and supported as well as ideas they didn't and/or thought to be unrealistic or ineffective. Focus group members suggested alternative solutions and offered inquiries associated with the topics of discussion. The groups provided insights into their experiences navigating Downtown streets as drivers, pedestrians, and bicyclists. Themes and highlights that emerged from each group are summarized below:

- **Event sponsors** offered insight into what parts of the DHMMP would be beneficial to and or hinder event functionality.
- **Visitor industry representatives** *Users Focus Group* advocated for improvement of the visitor experience through place making, improved transit and circulation for all methods of mobility, increased parking options, and beautification efforts such as street landscaping.
- **Advocacy Organizations** highlighted specific walkways, curbs, and pathways that need improvement and concerns regarding loss of store-front parking, increased challenges for handicapped patrons in using remote parking lots, and parking enforcement issues.
- **Users** offered insight on all areas of the plan ranging from support of signage at bus stops for visitors and locals, concerns regarding shuttle costs, recommendations to improve bicyclists' safety, support for one-way to two-way street conversions, and the need for an increase in

parking spaces and infrastructure improvements. Overall, group members agreed that the Downtown area was unsafe for pedestrians pointing out specific issues such as lack of law enforcement, ineffective flashing lights, and slick pedestrian surfaces.

- **Downtown Hilo Landowners** provided input on a range of topics. These included traffic direction changes they supported, those they thought would be difficult to implement. Most of the group felt that road extensions to Bayfront would be beneficial. Areas of consensus arose around the need for enforcement and monitoring of parking, and the enforcement of laws to encourage drivers to share the road with cyclists.
- **Downtown Hilo Businesses** weighed in on issues that would directly impact their businesses, such as loss of storefront parking, need for more garbage cans and improved lighting, as well as the need to address the homeless issue Downtown.
- **High school students** were in favor of shared streets and the creation of covered places to sit, talk story, and hang out. They had serious concerns about safety due to the presence of homeless at the bus terminal, bandstand, public bathrooms and parks. The youth group advocated for the extension of bus services into the evening due to accommodate students' involvement in extracurricular activities.

5. Technical Advisory Committee and Agency Briefings

Participation of County and State Departments was essential to the process and commenced in March 2015 with the formation of a Technical Advisory Committee (TAC) of County agency staff. The first meeting took place on March 19, 2015, to introduce key County staff to the project and invite their participation in the Technical Advisory Committee. A briefing of County Agency department heads followed on April 17, 2015. The TAC convened a second time on August 28, 2015 to review major recommendations. Individual agency consultations were also conducted with agencies that could not attend TAC or community meetings.

The TAC helped the project team discuss alternatives under consideration and share information on projects, programs, and other considerations that could affect the DHMMP. TAC members also attended and participated in the community meeting and Zoom In Zoom Out working sessions.

The following State and County agencies were included in outreach for the Technical Advisory Committee (those with asterisks participated either in the TAC or in individual consultation meetings):

State Agencies

Department of Transportation*

County Agencies

Planning Department*	Police*
Corporation Counsel*	Fire*
Research & Development	Aging
Human Resources – Equal Opportunity and ADA*	Office of Housing & Community Development
Parks & Recreation*	Water Supply
Mass Transit Agency*	Environmental Management
Civil Defense	
Mayor's Office*	
Public Works - Highways*	
Public Works – Building*	
Finance/Property Management*	

6. Stakeholder Interviews

Between January and April 2015, members of the project team conducted informal consultations with various community members and elected officials that expressed interest in the project. These stakeholder meetings included:

- Chris Seymour, Hilo Bike Hub and Mayor’s Active Living Advisory Council
- Megan Isaac, Lotus Inn and Downtown Improvement Association Events Committee Chair
- County Council Members Aaron Chung and Dennis Onishi
- Alice Moon, Vision Keeper
- Myles Tomiyama
- Erin Williams, Hilo Union School
- Keith De La Cruz, Hilo Farmers Market
- Cornelius Callaghan, Abundant Life Natural Food Stores
- Jeffrey Mermel, Downtown Hilo Improvement Association

These informal conversations centered around the participants’ questions, ideas, and concerns, and their input was recorded for use in the DHMMP process.

7. Community-wide Event

A community-wide event was held Saturday, May 2, 2015. It was a festive event that spanned two venues and a street festival. More than 100 community members attended technical presentations and talk story sessions at Mokupāpapa Discovery Center, viewed displays, and toured an open house at Yamada Technologies. Presentations focused on topics that affect mobility and accessibility in Downtown Hilo:

The community meeting provided a setting for stakeholders came together to learn about and provide input on alternative solutions under consideration to make Downtown Hilo more walkable, bike friendly, and vibrant. The planning team adjusted and refined the DHMMP recommendations to incorporate the public’s feedback.

Orientation & Open House at Yamada Technologies (25 Waiānuenue Street)

- Participants not familiar with the project were invited to attend 15 minute orientation presentations followed by Q&A at 9:00 AM, 10:00 AM, 11:00 AM, and 2:00 PM
- An open house display included posters with concepts for transit, parking, bike lanes, signage, sidewalks, and other elements. Participants were invited to shared comments and sketches on white board tables or to fill out comment forms with their input.

Sit & Share Sessions at Mokupāpapa Discovery Center, 2nd floor (76 Kamehameha Avenue)

- The DHMMP Technical Team hosted a series of one hour topical presentations, followed by discussion and idea exchange:
 - o Circulation – 8:30 AM
 - o Parking and Downtown Shuttle – 9:30 AM
 - o Bicycle Issues – 10:30 AM
 - o Application Case Studies (Keawe Street, Bayfront Crossings) – 11:30 AM
- The entire team hosted a “Bringing it All Together” session from 2:30-4:00 pm to re-cap the day’s discussion and share how collective improvements can transform Downtown Hilo and help realize the goals of *EnVision 2025*.
- Comments provided during the discussion sessions were recorded on large note pads, and participants were also invited to submit written comments.



Group discussion at Mokupāpapa Discovery Center

Mobile Tours

- **Historical Walking Tours of Downtown Hilo:** Met in front of Mokupāpapa Discovery Center at 1:00 pm for an hour-long jaunt through Downtown Hilo guided by Lyman Museum historical experts Susan and Rob McGovern.
- **Downtown Hilo Bike Tour:** Chris Seymour of the Mayor’s Active Living Advisory Council and Hilo Bike Hub conducted a discussion on bike facilities and safety and a two-wheeled spin around Downtown.



Historic Hilo Walking Tour by Lyman Museum

Street Festival

The section of Kamehameha Avenue between Waiānuenue Avenue and Shipman Street was closed for a street festival as part of the community event. The street festival featured a DHMMP information tent and activities intended to activate the streets and demonstrate a more walkable, bike-friendly, vibrant Downtown.

Activities included:

- **Keiki Bike Rodeo by PATH for Ages 9-11:** Peoples Advocacy for Trails Hawai'i (PATH) sponsored a free bike rodeo and safety class for 4th and 5th graders. Participants received free bike helmets for their participation.
- **Street Yoga by Yoga Centered:** Molly Masaoka of Yoga Centered led a free, all-levels street yoga class on Kamehameha Avenue.
- **Hilo Public Library Pop-up:** Hilo Public Library set up a mobile pop-up with free books and magazines, a DIY bookmark station, and information about the library's programs.
- **Parklet Demonstration:** SSFM constructed a demonstration parklet in two parking spaces on Kamehameha Ave. The parklet featured planters with herbs and food plants donated by Hilo Garden Exchange, seating, and a shading awning for people to relax, sit, play, eat, and talk story. Sidewalk chalk was provided for keiki and adults to decorate the street.
- **Hilo Bike Hub Giveaway:** Hilo Bike Hub sponsored a prize drawing for a 20" kids bicycle or a \$200 gift certificate.
- **Kona Dogs Food Tent:** Popular local vendor Kona Dogs set up a station to sell its gourmet hot dogs and other cuisine.

*Street Yoga by Yoga Centered**Pop-up Parklet**Kona Dogs Food Tent*



Open House Interactive Displays



Sit and Share at Mokupāpapa



Keiki Bike Rodeo



Parklet and Sidewalk Chalk Art



Weslin Consulting presents at Mokupāpapa

8. “Zoom In Zoom Out” Working Sessions

As a follow-on to the community-wide event, the DHMMP project team, led by SSFM International, held a series of three “Zoom In Zoom Out” (ZIZO) working sessions during the summer of 2015. Each three-hour session was open to the public and included presentations that “zoomed in” on solutions for a particular subject area. Each session also “zoomed out” to examine how individual changes to accommodate a certain area or mode could affect Downtown Hilo and surrounding areas as a whole. The content and input received at each ZIZO is summarized below.

Zoom In Zoom Out Session 1, July 20, 2015: Circulation, Intersection Design, Bicycle Facilities

At ZIZO 1, recommendations pertaining to circulation, intersection design, and bicycle facilities were presented. This included a description of recommended changes and the reasoning for each, specifically, slowing traffic and increasing efficient circulation and access within Downtown. The main takeaways based on feedback from participants at ZIZO 1 were:

- There was general support for converting one-way streets to two-way operations
- There were comments to make sure landscaping is a part of these improvements
- There is support for roundabouts at Downtown Hilo gateways as long as they are within the existing ROW and can accommodate trucks
- There is interest in understanding the pros/cons of roundabouts versus traffic signals along Bayfront Highway
- People want to make sure State DOT is being coordinated with to get their buy-in on proposed changes to Bayfront
- People want to ensure regional bike connections and Bayfront Trails Plan were incorporated into the planning process
- There is general interest in phasing and how to achieve the proposed plan, step-by-step
- People want to make sure this is connected to the repaving program as well as ongoing construction projects
- The community would like to see demonstration/pilot projects or community events to draw attention to proposed changes



Participants at the first Zoom In Zoom Out session.

Zoom In Zoom Out Session 2, August 14, 2015: Parking and Transit Solutions

ZIZO 2 presented an overview of recommendations pertaining to parking and transit solutions. The following key takeaways summarize input received on parking:

- There was concern about the ADA parking: amount, location, time limits.
- There was recognition that paying for parking may be needed and would need to include management and enforcement.
- There were suggestions about how to find more parking locations: an example was Hawaiian Telcom lot on Keawe.
- There were concerns about parking structures: cost, visual, environmental
- Business Improvement District requires buy-in of businesses and property owners.
- There was a general concern about how much parking was right for Hilo. Incentives are needed to encourage people to use remote parking.
- Distant lots could be vulnerable to safety and security problems. They need to be well-lit, have an emergency call box, provide for bike sharing, and provide covered walkways to Downtown.

The key takeaways on transit were as follows:

- There was a general support for having a Downtown Hilo shuttle. Some people question whether it is needed and how it works between MTA and possible private operators.
- UH Hilo shuttle was tested, please investigate the results.
- Use Kamehameha, not Bayfront Highway for the routing.
- Parking pay station program needs to start before transit shuttle. Funding for the shuttle needs to be identified. Concerns about ability of employee's and employer's ability to pay for parking plus transit.



There was a large turnout for the second Zoom In Zoom Out Session.

Zoom In Zoom Out Session 3, August 28, 2015: Pedestrian Improvements and Street Design

ZIZO 3 presented an overview of recommendations pertaining to pedestrian improvements and street design. Due to the large number of participants, four breakout groups were formed. They discussed the following topics in more detail: 1) Street Typology, 2) Gateways, 3) Trails, 4) Bike Facilities, 5) Curb Extensions, 6) Parklets, 7) Special Pedestrian Features, 8) ADA Access, 9) Green Streets, and 10) Street Trees.

Each group had a facilitator and recorder. The following key takeaways summarize input received:

- There were divergent opinions regarding street typologies but most of the group wanted to use Keawe as a festival street versus the mauka-makai streets.
- The group wanted to know who would fund the festival streets and for what kinds of festivals. They thought that Haili could be used as a shared street and that two way conversions would create opportunities for street types.
- The group did not want to give up all parking on special street types.
- Regarding gateways, the group thought that the Haili street makai bound street was a good idea. They also like the idea of using roundabouts as gateways but had concern about trucks navigating the roundabouts and the likelihood of the Ponahawai extension affecting the ball field.
- They thought there should be a gateway at Wailuku Bridge not Waiānuenue.
- In terms of the crossing of Bayfront at Waiānuenue, the group felt that this idea needs more attention and thought. There was support for a shoreline trail and beach restoration connections between the shoreline and Wailuku River trail. ADA access proved to be a challenging aspect in provision of an expensive pedestrian overpass. A suggestion was made to install a graded crossing in the interim.
- Some called for two-way circulation to be modeled to see if it worked from a traffic perspective.
- The group thought that bike share was a good idea but might be too early to implement; security and vandalism was also a concern.
- Bike sharing stations should be included at a few spots on Keawe Street as well.
- The group didn't want curb extensions in place of turn lanes.
- They wanted more gathering places without blocking sidewalks.
- They wanted more maps and way finding for Downtown area and businesses and more shuttle stops on Kamehameha with the library as destination and gathering place.



SSFM presented Street Design solutions in ZIZO 3.

- There was support for covered walkways, but the group felt that all improvements should be ADA compliant, that it was important to give people incentives to keep them up, and that it would be beneficial and made sense to have a network of covered walkways.
- In terms of street trees, the group did not want 'Ōhi'a trees because they do not provide adequate shade and felt it was important that the trees do not drop leaves and flowers; Tree maintenance could require an ordinance change.



Comments being recorded in a breakout group at ZIZO 3.

9. Public Review and Comments on the Draft Plan

The DHMMP Public Review Draft was released in January 2017 with a media announcement calling for community input. The Plan's release and was also promoted through digital and printed flyers and newspaper and radio advertisements.

A community meeting and open house was held on February 15th, 2017 to celebrate the release of the draft and gather public input on the recommendations in the Plan. Approximately 60 people attended the community meeting at Mokupāpapa Discovery Center. Following the community meeting, the project team held three additional meetings with Downtown businesses that included more than 80 participants in all. The Public Review Draft was also circulated to State and County agencies for comment.

More than 150 public comments were received through e-mail, mail, and at the community and business meetings. In order to organize comments and determine changes needed to the Draft, comments were sorted into general support, general opposition, and other topics, as shown in Table B-2. Some comments were tallied in multiple categories if they related to more than one topic.

Public Review Draft Community Meeting (top, middle); Meeting of Downtown businesses (bottom)



Table B-2 – Public Comment Topics

Topic No.	Topic	# Comments Received
1	General Comments (related to the project and outreach)	30
2	General Support	35
3	General Opposition	4
4	Two-way conversion of Kino'ole Street and Keawe Street	9
5	Roundabouts at Waiānuenue, Kamehameha, and Bayfront	14
6	Ponahawai Extension to Bayfront Highway and roundabout	9
7	Social Issues – Homelessness, drugs, vandalism, and others	5
8	Downtown Shuttle Service	6
9	Accessibility issues	2
10	Bicycle infrastructure	6
11	Parking issues	21
12	Employee parking	5
13	Sidewalk amenities – Lighting , garbage cans, awnings, and others	8
14	Pedestrian Improvements – sidewalks, crosswalks, and curb extensions	11
15	Truck issues	2
16	Delivery issues	2
17	Plantings and landscaping	7
18	Hilo's character	13
19	Impacts of construction	7

The majority of comments expressed support for the overall plan or for specific recommendations. Some expressed location-specific ideas or concerns. The project team carefully reviewed all public and agency comments to determine whether information needed to be added or corrected, or whether changes to recommendations were warranted. In general, there was not a call for substantive changes to the plan's overarching themes or key recommendations. Changes were primarily made to clarify recommendations or acknowledge certain issues that commenters felt should be more prominently discussed in the plan.

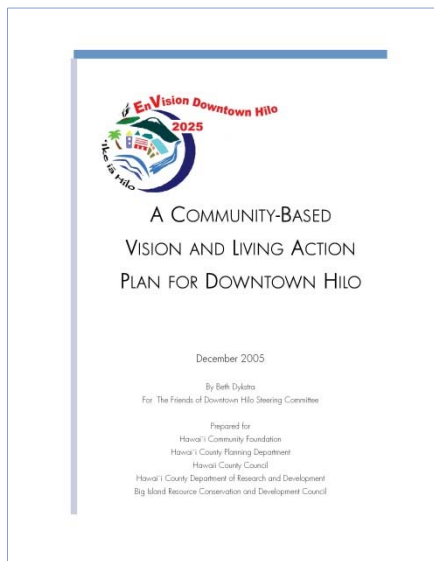
Some commenters raised issues that were beyond the scope of a high-level master plan and would need to be addressed as part of later design and feasibility study during implementation. Language was added to the DHMMP to specify that the Plan's recommendations will require further study to determine feasibility and final design. Phasing maps and cost estimates were also added to fulfill the provisions of the DHMMP contract, and the discussion of the community process was updated. The DHMMP was finalized following a final agency review.

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APPENDIX C— MATERIALS REVIEW SUMMARY

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This appendix summarizes the observations made during the material review for the DHMMP.



EnVision Downtown Hilo 2025: A Community-Based Vision and Living Action Plan; prepared for County of Hawai'i, Planning Department; November 2005.

EnVision Downtown Hilo 2025, 'Ike iā Hilo, is the result of a grassroots visioning process that inspired the community. Originally, guided by the Friends of Downtown Hilo Steering Committee, community members in Hilo came together in 2004 to develop a shared vision and an implementation matrix that would make their vision a reality. The resulting plan, "EnVision Downtown Hilo 2025: A Community-Based Vision and Living Action Plan (EDH 2025)", was adopted by Hawai'i County Council Resolution 192-05 in November 2005.

EnVision Downtown Hilo 2025 identifies ten key sustainability measures. One of these ten is multi-modal transportation. This measure highlights actions that promote a variety of transportation options such as public transit, shuttle service, park-and-ride options, private vehicles, pedestrians, scooters, bicycles, and rollerblades. Downtown Hilo should be an area of "complete streets" which are designed and operated to enable safe access for all users. Actions will receive this icon if they promote alternative modes of transportation that decrease traffic congestion in the Downtown urban core. It also includes actions that support the ability of pedestrians, bicyclists, motorists, and bus riders of all ages and abilities to safely navigate Downtown streets.

The EnVision Downtown Hilo 2025 Multi-modal transportation was inspired by and implements the following philosophies and principles: Smart Growth, New Urbanism, New Pedestrianism, Transit-Oriented Development, Traditional Neighborhood Development, Complete Streets, International Making Cities Livable, and the AIA's 10 Principles for Livable Communities. Multi-modal transportation strategies include the following:

Strategy 1.1 -- Increase access to Downtown Hilo through alternative transportation options

- Action 1.11 -- Provide bicycle racks and related amenities on buses
- Action 1.12 -- Launch Downtown circulating shuttle
- Action 1.13 -- Expand Hele-On routes/stops
- Action 1.14 -- Expand tour bus loading/unloading and parking areas
- Action 1.15 -- Investigate a bike rental program for residents and visitors
- Action 1.16 -- Develop bike paths between Downtown and the educational institutions
- Action 1.17 -- Develop a Hilo Bay pier for water transportation access

Strategy 2.5 – Protect and enhance Downtown Hilo’s natural beauty through landscaping, plantings, and related improvements

- Action 2.56 – Celebrate Downtown gateways with signage and landscaping
- Action 2.58 – Create boulevard treatments along Waiānuenue Avenue

Strategy 5.3 -- Incorporate Universal Design standards to make Downtown Hilo an inclusive, barrier-free community, with safe access for all users

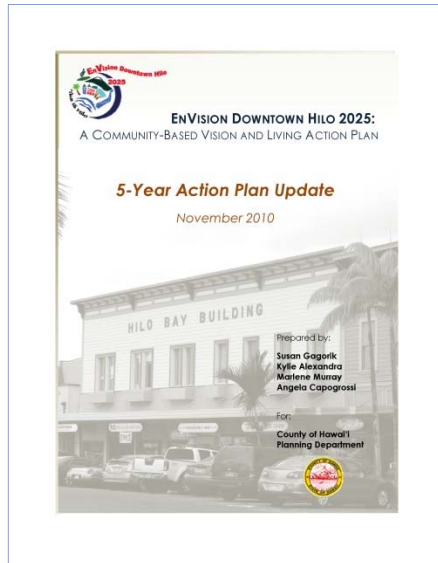
- Action 5.31 -- Install curb cuts in sidewalks
- Action 5.32 -- Establish pedestrian-friendly sidewalk standards
- Action 5.33 -- Improve the safety features of crosswalks
- Action 5.34 -- Map accessible features such as sidewalks, curb cuts, restrooms, and benches
- Action 5.35 -- Improve sidewalk surfaces

Strategy 6.1 -- Implement a series of connected measures to calm traffic, encourage multi-modal transportation, and accommodate pedestrians

- Action 6.11 -- Develop a master plan to include traffic circulation, parking, and pedestrian streetscapes
- Action 6.12 -- Develop a pilot event for a vehicle free area
- Action 6.13 -- Identify potential vehicle-free streets or zones
- Action 6.14 -- Improve multi-modal and pedestrian access on designated streets in Downtown
- Action 6.15 -- Identify streets for implementing traffic calming measures
- Action 6.16 -- Develop landscaped curb extensions
- Action 6.17 -- Develop a system of bike lanes

Strategy 6.2 – Provide adequate parking Downtown Hilo

- Action 6.21 – Construct a multi-story parking structure around the edge of Downtown
- Action 6.22 – Relocate employee parking to a designated area
- Action 6.23 – Develop parking alternatives

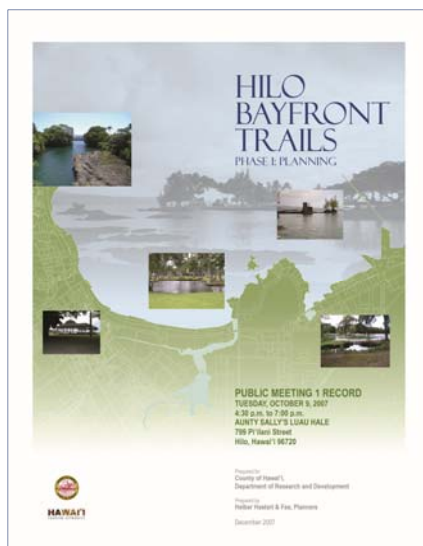


EnVision Downtown Hilo 2025: A Community-Based Vision and Living Action Plan, 5-Year Action Plan Update; prepared for County of Hawai'i, Planning Department; November 2010.

The EDH 2025 Plan five-year update is presented in three parts: the process, the final product and the next steps. Those who keep the process going are referred to as the "VisionKeepers" who seize opportunities to continue working with Lead Solution Partners (implementers) and the wider community. This may have been during EDH 2025 Town Meetings with community members or during small-group gatherings with Lead Solution Partners. Actions in the EDH 2025 Plan were deliberated, refined, and updated. In this sense, the update began soon after plan adoption. The formal process began in mid-2009.

The update contains the revised Living Action Plan: the Action Plan Matrix. The 5-Year Action Plan Update provided an opportunity to revisit both the format and content of the Action Plan Matrix. The newly redesigned matrix is presented in color format, with Focus Area icons for easy identification, revised column headings, and new Sustainability Measures that help track the on-the-ground sustainability of the EDH 2025 Plan.

The third part of the five-year update contains the next steps for both the VisionKeepers and the EDH 2025 Plan. In partnership with the County of Hawai'i Planning Department, the VisionKeepers served as a model implementation committee. The third part of the update concludes with some parting words from the VisionKeepers through which they sketch a new template for sustaining a volunteer implementation committee that will further reinforce collective ownership of the community's plan.

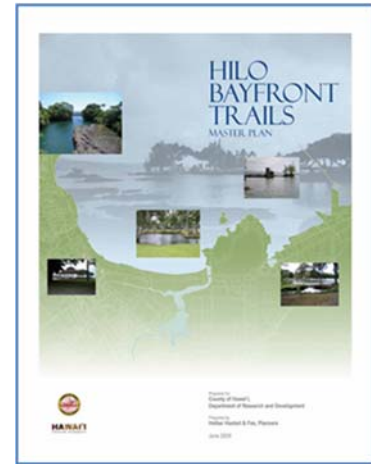


Hilo Bayfront Trails Phase 1: Planning and Master Plan; prepared for County of Hawai'i, Department of Research and Development by Helber Hastert & Fee, Planners; December 2007 and June 2009

The Hilo Bayfront Trails Phase 1 document contains the record of a public meeting held on October 9, 2007. The meeting was well attended with many providing comments on the planning process and offering suggestions. The desire to connect the Hilo Bayfront Trails with the Historic Hilo Walking Tour and possibly provide an informational trailhead and home base in Downtown Hilo was highlighted.

Bayfront Highway (between Waiānuenue Avenue to Pauahi Street) was identified as not desirable as a pedestrian route due to the close proximity to a large volume of traffic operating at higher speeds (including a lot of trucks); storm conditions occur at certain times of the year and Bayfront Highway is not easily accessible to Downtown Hilo (pages 17-19).

The Hilo Bayfront Trails Master Plan was produced in June 2009. The document provides the names of individuals and organizations that were invited to the public meeting and those that attended. Part of the public meeting included an exercise where participants were able to draw their thoughts onto maps to show how they would like to see the trails connect. Figure 2.4 on page 2-3 shows the potential multimodal paths and pedestrian sidewalks identified from the public meeting.



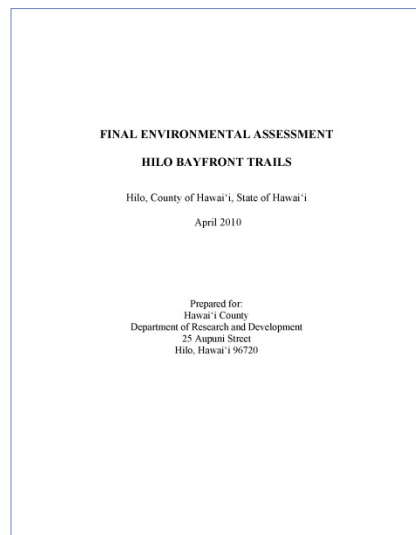
Most of the participants indicated that connections to Downtown Hilo were a must, adding traffic lights, overhead pedestrian bridges and other connection points to make it possible to walk/bike through and to the project area. A number of streets in Downtown Hilo were identified as important for these connections.

Downtown Hilo paths and sidewalks are identified. Page 4-3 provides a good summary of the types and definitions of paths, lanes, routes and walkways. Page 4-5 shows how a trail logo could be incorporated into an existing pedestrian walkway in Downtown Hilo and page 4-8 provides a map of the pedestrian loop and connections in Downtown Hilo. Starting on page 4-9 is a discussion of shared use paths and how they would link Hilo Bayfront Beach Park to the bus terminal.



Figure 4.9: The main pedestrian loop (purple dots) comprises pedestrian walkways along Kamehameha Avenue, Waiānuenue Avenue, Kapi'olani Street and Hali Street and passes by many significant sights in Downtown Hilo. (See Figure 4.2 for a complete symbols legend.)

The path is shown as more meandering within the park but straightening out to provide a more direct route at the edge of Mo'ohēau Park. Design guidelines for the shared use path are shown on page 6-14. Appendix A identifies the Stakeholder Advisory Committee members for the Hilo Bayfront Trails project.



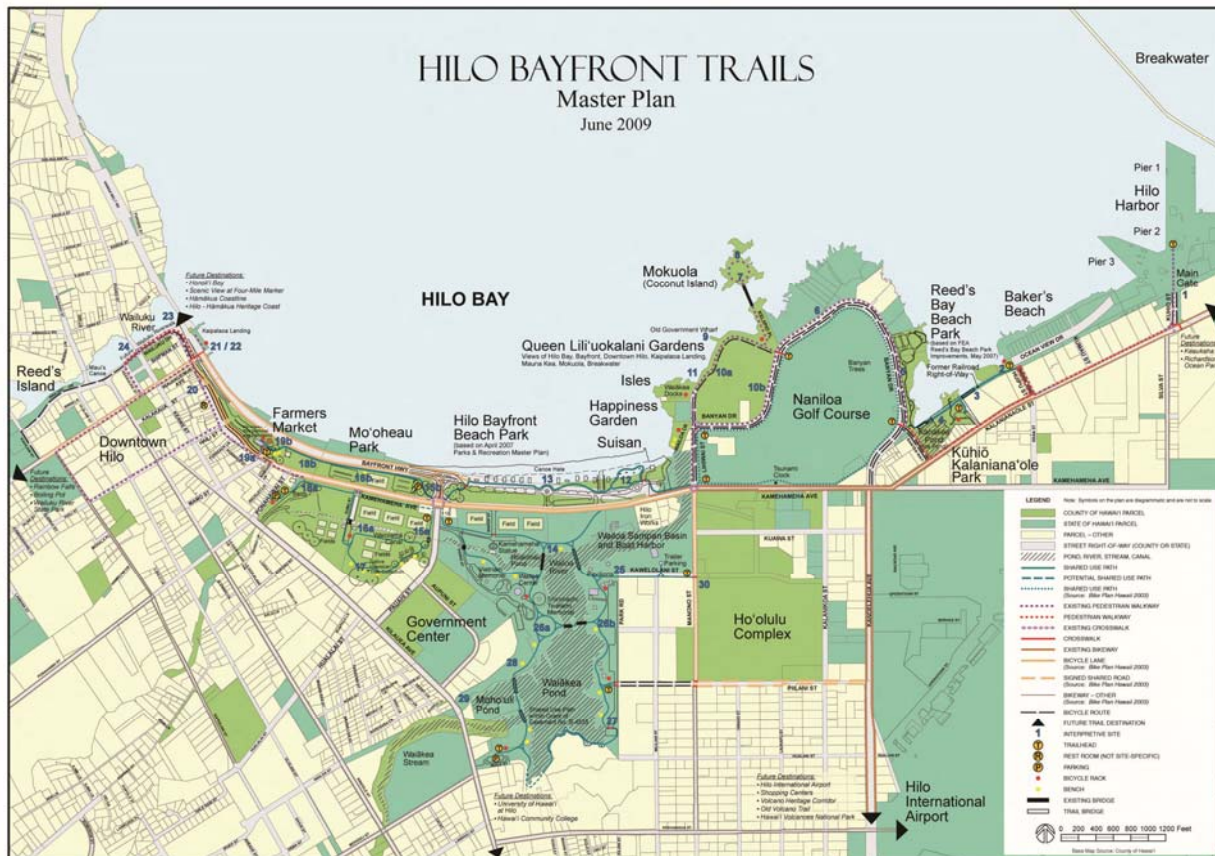
Final Environmental Assessment for Hilo Bayfront Trails Project; prepared for County of Hawai'i, Department of Research and Development by Geometrician Associates LLC; April 2010

The Environmental Assessment (EA) noted that Hilo Bayfront lacks a cohesive system of walkways including connecting to and from Downtown Hilo. (page 4) The EA consultant stated that no counts were undertaken but he counted (February 8, 2010) 48 cruise ship pedestrians between Kūhiō Street and Lihikai Street. This number did not include cruise ship pedestrians walking down to Banyan Drive. A crosswalk proposed in the Bayfront Trails Master Plan between the Waiānuenue Avenue and Kamehameha Avenue intersection and Bayfront Highway was not included as part of the EA since it was to be completed as part of a new separate project that will create a park at Kaipalaoa Landing.

Project Standards discussion starting on page 13 do not include Complete Streets elements and are based on American Association of State Highway and Transportation Officials (AASHTO) 1999 and U.S. Department of Transportation, Federal highway Administration, Manual on Uniform Traffic Control Devices (MUTCD).

The cross section for shared use paths based on AASHTO guidelines is shown in Figure 5 on page 15. The pathway from Pauahi Street to Downtown is described on page 16 and connections within Downtown Hilo are described on page 18 noting the Bayfront Trails Master Plan uses existing sidewalks that would be marked to guide visitors along the historic and cultural attractions.

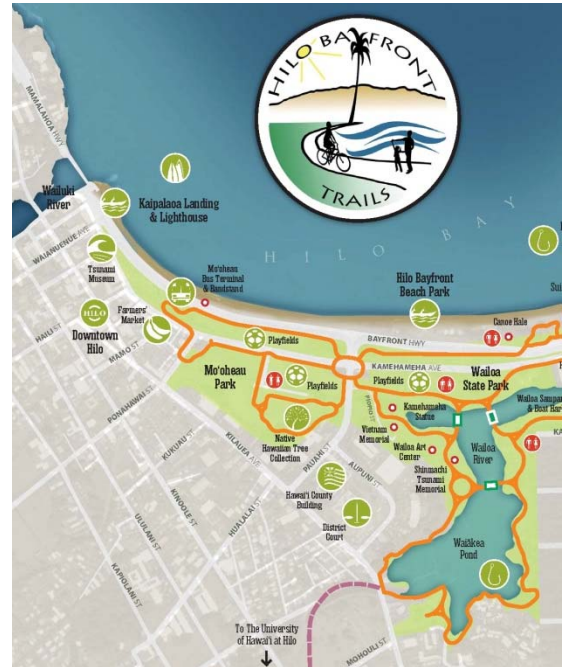
Several proposed parking areas are included in the Master Plan. A description of existing transportation facilities including roadways, bicycle lanes and parking areas is included on page 48. The Master Plan will utilize or cross a number of roadways.



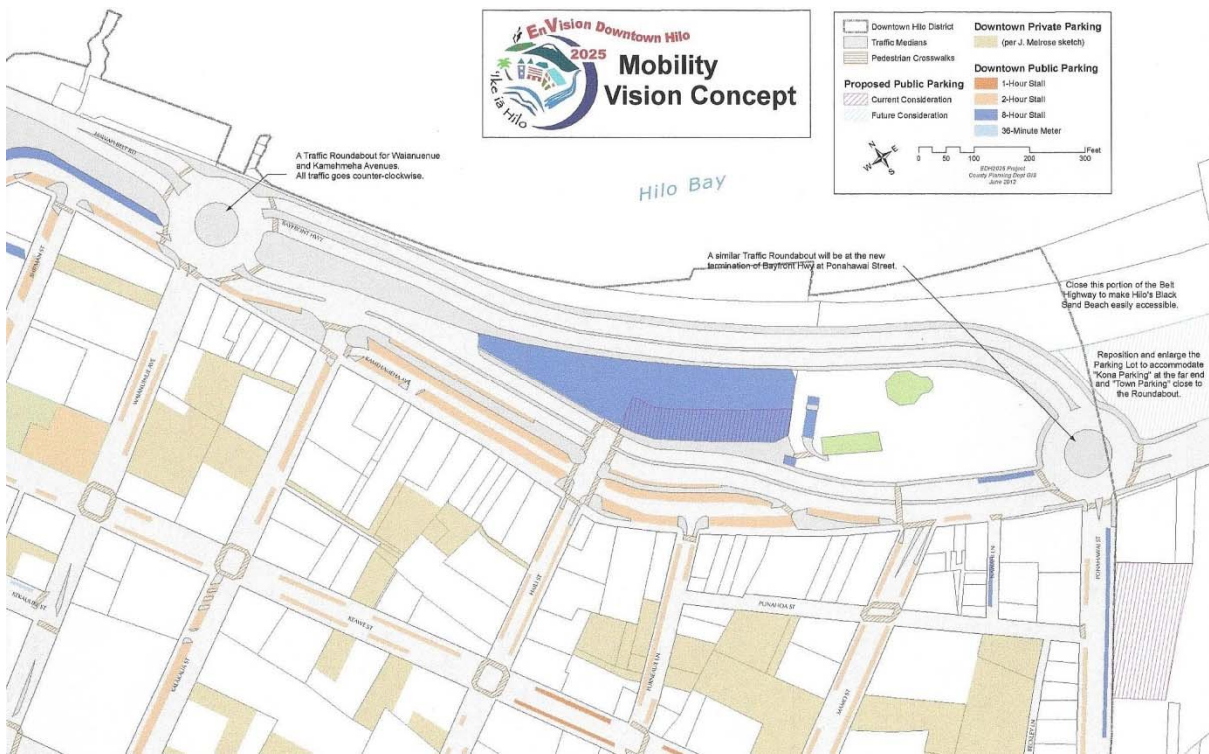
Following review of the EA, the Department of Research and Development issued a Finding of No Significant Impact (FONSI) for the Hilo Bayfront Trails Master Plan.

EnVision Downtown Hilo 2025: Mobility Vision Concept and Off-Street Parking Proposals; prepared by the Planning Department; 2012.

The EnVision Downtown Hilo project has continued to generate transportation proposals. One is referred to as “Mobility Vision Concept” and is shown below. The main feature of this concept is a new roadway connection between Bayfront Highway and Ponahawai Street using two roundabouts at the intersections with Kamehameha Highway. What is unclear is how the desired strong connection with the Hilo Bayfront Trails would be addressed. The trail map to the right shows two connections into Downtown Hilo: one across Ponahawai Street and the other across Kamehameha Highway. Is unclear how the map to the right and the Mobility Vision Concept below relate to the official Hilo Bayfront Master Plan.



The Mobility Vision Concept identifies new crosswalks associated with the new roadway and roundabouts, but not located consistent with what seems to be intended for the Hilo Bayfront Master Plan. The Mobility Vision Concept identifies parking of all types including proposed off-street public parking, but it's unclear how the more recent Mobility Vision Concept parking locations and the December 28, 2011 proposed off-street parking at the Punahoa and Ponahawai Street intersection relate to each other. In more recent proposals, the size of the Ponahawai Street parking lot was reduced to 22 stalls.

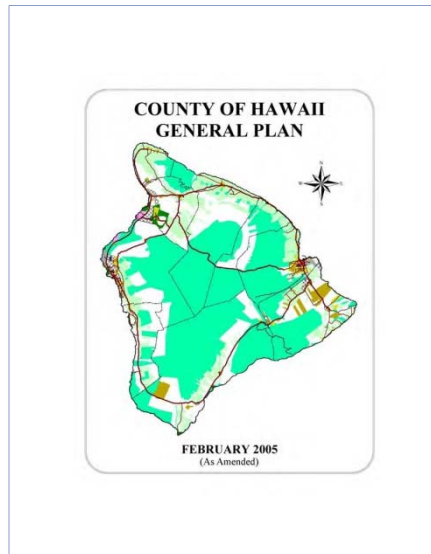


Proposed Off-Street Parking
at the
Punahoa Street-Ponahawai Street
Intersection

TMK: (3) 2-2-6: 1 portion

December 28, 2011

Draft



County of Hawai'i General Plan; February 2005 (as amended)

The General Plan for the County of Hawai'i is a policy document expressing the broad goals and policies for the long-range development of the Island of Hawai'i. The plan was adopted by ordinance in 1989 and revised in 2005 (Hawai'i County Planning Department). The General Plan itself is organized into thirteen elements, with policies, objectives, standards, and principles for each. There are also discussions of the specific applicability of each element to the nine judicial districts comprising the County of Hawai'i. Most relevant to the Hilo Downtown Multi-Modal Plan are the following Goal and Policies:

13.1.2 Transportation Goals

- a. Provide a transportation system whereby people and goods can move efficiently, safely, comfortably and economically.
- b. Make available a variety of modes of transportation that best meets the needs of the County.

13.1.3 Transportation Policies

- a. A framework of transportation facilities that will promote and influence desired land use shall be established by concerned agencies.
- b. The agencies concerned with transportation systems shall provide for present traffic and future demands, including the programmed development of mass transit programs for high growth areas by both the private and public sectors.
- c. The improvement of transportation service shall be encouraged.
- d. Consider the provision of adequate transportation systems to enhance the economic viability of a given area.
- e. Develop a comprehensive, islandwide multi-modal transportation plan that identifies the location and operation of automobile, mass transit, bicycle and pedestrian systems, in coordination with appropriate Federal and State agencies.

13.1.4 Transportation Standards – USDOT, HDOT, County, ADA, AASHTO

13.2.1 Roadway Goals

- a. Provide a system of roadways for the safe, efficient and comfortable movement of people and goods.
- b. Provide an integrated State and County transportation system so that new major routes will complement and encourage proposed land policies.

13.2.5 Roadway Districts – 13.2.5.2 South Hilo Profile and Courses of Action

Hilo is a terminal point for the island-circling Hawai'i Belt Highway and the trans-island Saddle Road. The Saddle Road route within the city follows major thoroughfares that are congested, narrow, and/or winding. Planning and design is currently underway to improve and partially realign Highway 200 (Saddle Road) between Kaumana in East Hawai'i and its connection to the Queen Kaahumanu Highway just south of Waikoloa in West Hawai'i. The extension of Puainako Street in Hilo to connect with Highway 200 is currently in its planning stages and will ultimately provide the final link in a much improved and safer trans-island connector between East and West Hawai'i.

Hilo's internal circulation system provides arterial and collector streets to handle traffic moving from one part of the city to another. However, except for Komohana Street below the mauka residential sections, the majority of the traffic flow in Hilo is forced through the Downtown area because of the lack of arterial connections. High traffic volume is also generated around the Hilo High and Hilo Intermediate School complexes during peak traffic hours. Kawailani and Puainako Streets also experience high traffic volumes during peak traffic hours as students arrive at the various public schools located nearby.

13.4.1 Transit Introduction and Analysis

The County is committed to providing its residents with a public transportation system that is affordable, efficient, accessible, safe, environmentally friendly, and reliable. Mass transit systems provide residents with an alternative means of transportation to employment, services and activities. It also promotes and enhances pedestrian activities, reduces congestion, improves air quality, and increases economic development opportunities.

The County's Mass Transit Agency was created to provide mass transit service. The County currently operates the Hele-On bus system with a fleet of 28 buses, each with a capacity of 33 or 45 passengers. Eleven of these buses are wheelchair accessible. Approximately 10 per cent of the cost to operate the buses is Federally funded with the remainder funded by the County. Approximately 55 per cent of the County's operational costs are derived from fare revenues with the remainder from general revenues.

The Hele-On provides service along the main roadways serving the major urban centers of the island. Within Hilo, there are three additional routes serving the Waiākea-Uka, Downtown Hilo, and Kaumana areas.

In addition to the Hele-On, the County offers a shared-ride taxi service that provides door to door service within the urban areas of Hilo and Kailua-Kona. This program allows the public to purchase coupons and use the coupons instead of cash with participating taxi companies. The program allows a user to submit one coupon (at a cost of \$2) to travel up to four miles and two coupons to travel up to nine miles. The Hawai'i County Economic Opportunity Council, a non-profit community action agency, supplements the County's bus services by providing bus services for the low-income, elderly, disabled, and pre-school children who attend Head Start schools.

13.4.2 Transit Goal

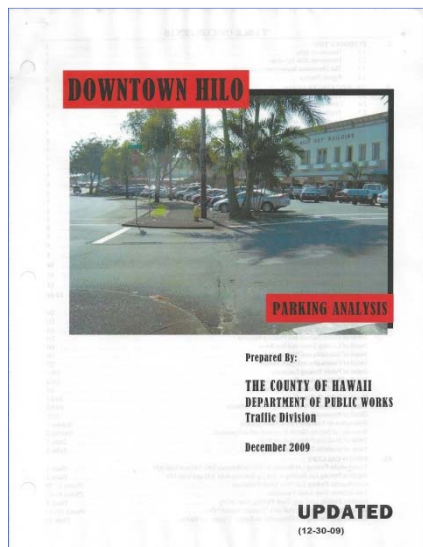
- (a) Provide residents with a variety of public transportation systems that are affordable, efficient, accessible, safe, environmentally friendly, and reliable.

13.4.3 Transit Policies

- (a) Improve the integration of transportation and land use planning in order to optimize the use, efficiency, and accessibility of existing and proposed mass transportation systems.
- (b) Support and encourage the development of alternative modes of transportation, such as enhanced bus services and bicycle paths.
- (c) Incorporate, where appropriate, bicycle routes, lanes, and paths within road rights-of-way in conformance with The Bikeway Plan for the County of Hawai'i.
- (d) Provisions to enhance the mobility of minors, non-licensed adults, low-income, elderly, and people with disabilities shall be made.

13.4.4 Transit Standards

- (a) American Association of State Highway and Transportation Officials (AASHTO), Guide for the Development of Bicycle Facilities.
- (b) U.S. Department of Transportation, Federal Highway Administration, Manual on Uniform Traffic Control Devices (MUTCD).



Downtown Hilo Parking Analysis; County of Hawai'i Department of Public Works Traffic Division; December 2009

This is an excellent resource document providing an inventory of parking, traffic circulation, loading zones, bus stops, traffic signals, sidewalk ramps and pedestrian movement characteristics. Updates to the parking and loading zone inventory were provided to the DHMMP Team by the County. The report purpose is based upon merchants' concern that there is inadequate parking in Downtown. The report identifies "the problem" as occurring when parking in Downtown Hilo was converted from metered parking to time limit parking with no ability to regulate the parking.

The report indicates that parking and traffic problems have steadily increased since implementing time limit parking. Notable parking problems were identified:

1. The general disregard of time limit zones.
2. People parking for an extended period in short-term parking areas, such as:
 - The 2-hour parking zone near storefronts along Kamehameha Avenue
 - The 1-hour parking zone near storefronts along Keawe Street
3. Added traffic congestion as people drive in search of available parking.
4. A loss of revenue by Downtown Hilo merchants when customers go elsewhere because they cannot find parking.

A deficit estimate of parking stalls was conducted based upon three assumptions:

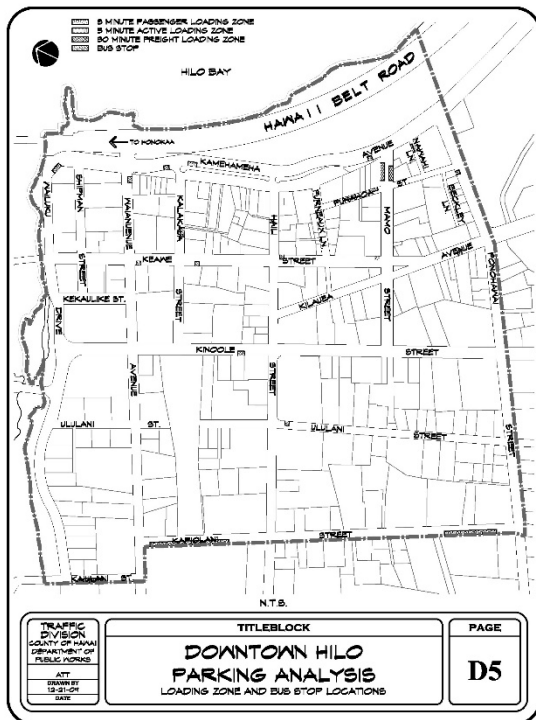
1. 100% occupancy and full commercial use of all usable building floor space;
2. 1 parking space required per 300 square feet of gross floor area; and
3. All existing buildings and current gross floor area values taken from data books provided by the County, compiled in 1985 and last edited on 12/27/93.

A deficit of 1,977 stalls was calculated with the notation that this was a theoretical value and further justification was required. The report did not quantify, count, survey or monitor actual parking use or characteristics such as length of time parked.

A number of findings were listed including: there are no established areas for employees to park; private parking areas are not clearly marked; parking regulations are unenforced; loading zones along Mamo Street, Kamehameha Avenue, Punahoa Street and Nawahi Lane are used for other purposes; there is a parking shortage in the Kamehameha Parking Lot and the Bayfront Parking lot on “Farmers Market” days; and, there is a shortage of covered sidewalks and other pedestrian accommodations to encourage long-term parkers to utilize designated 8-hour parking zones.

Recommendations were provided in three phases. The first phase includes designating employee parking areas, adding signage and markings, providing additional enforcement and adding crosswalk improvements. Phase two would add meters along a number of streets and in the Kamehameha Parking Lot, lower maximum time limits to no more than two hours and increase parking meter enforcement. Phase three offered two options; one for if parking meters are effective, but in too small of an area and the second for if parking meters are effective, but insufficient parking remains.

A number of additional documents, letters, maps and suggestions have been collected regarding the parking situation in Downtown Hilo. These include a list of actions for “Long Term Vision,” a list of parking concerns and related issues and a list of short term action steps. Letters from the Hilo Downtown Improvement Association (DIA), Makai Parking Management and Department of Public Works offer insight into the ongoing struggle with parking management issues in Downtown Hilo. The next page includes two sets of figures (D5 and D11), from the original report and with recent annotations, illustrating the level of detail of ongoing parking deliberations.



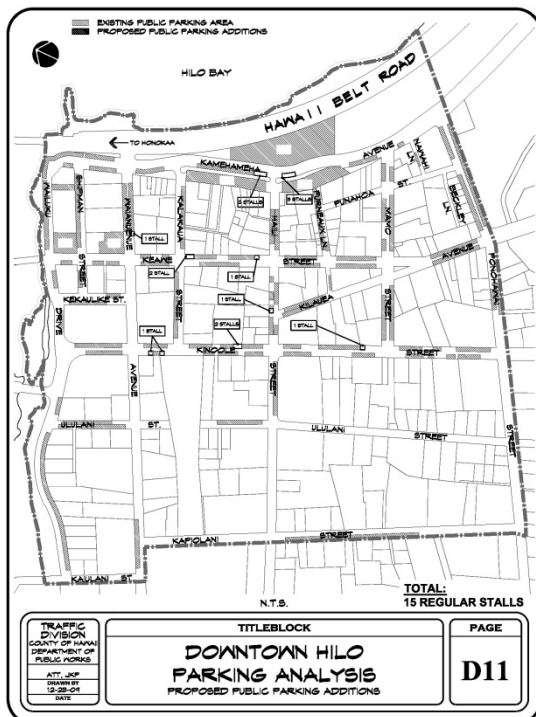
Downtown Hilo Parking Analysis

Page D5 -- Original



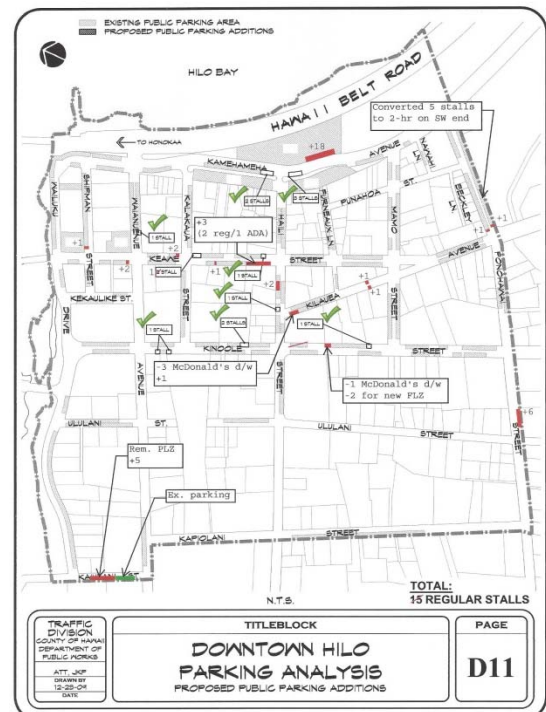
Downtown Hilo Parking Analysis

Page D5 -- Annotated



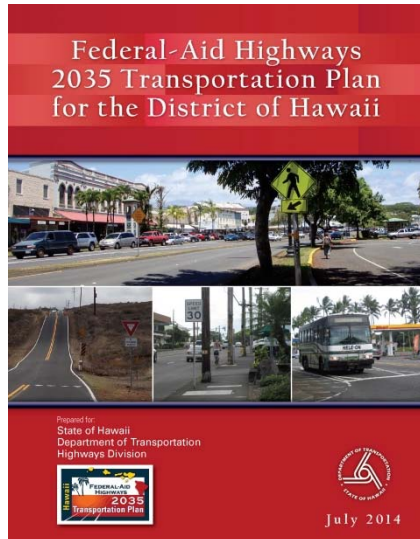
Downtown Hilo Parking Analysis

Page D11 -- Original



Downtown Hilo Parking Analysis

Page D11 -- Annotated



Federal-Aid Highways 2035 Transportation Plan for the District of Hawai'i; prepared for Hawai'i Department of Transportation Highways Division by CH2MHill; July 2014

The Federal-Aid Highways 2035 Transportation Plan is an update of the Hawai'i Long- Range Land Transportation Plan developed in 1998. The new Federal-Aid Highways 2035 Transportation Plan will guide land transportation decisions for the federal-aid highway network on the District of Hawai'i through Year 2035. The Plan sets the direction for land transportation system improvements for which priorities and funding can be developed by defining goals and needs and recommending multimodal solutions specific to the Hawai'i District.

The Federal-Aid Highways 2035 Transportation Plan is a federal requirement as stated in Title 23, Sections 134 and 135 of the United States Code. Section 134 governs metropolitan and regional transportation planning, while Section 135 governs statewide planning. Both sections highlight the need for statewide and regional planning efforts to be coordinated, and Section 134 specifically sets forth a policy that states:

It is in the national interest to encourage and promote the safe and efficient management, operation, and development of surface transportation systems that will serve the mobility needs of people and freight and foster economic growth and development within and between States and urbanized areas.

The Federal-Aid Highways 2035 Transportation Plan is developed in alignment with federal laws, thereby providing a link between statewide and regional planning efforts. The Plan is based on input from the Hawai'i District community and county land use and transportation plans, policies, and programs to ensure it is consistent with the vision of Hawai'i District's communities and is functionally integrated with the county's transportation system.

Stakeholders identified several goals for their land transportation system that carried more weight than others in reflecting their community's values and priorities:

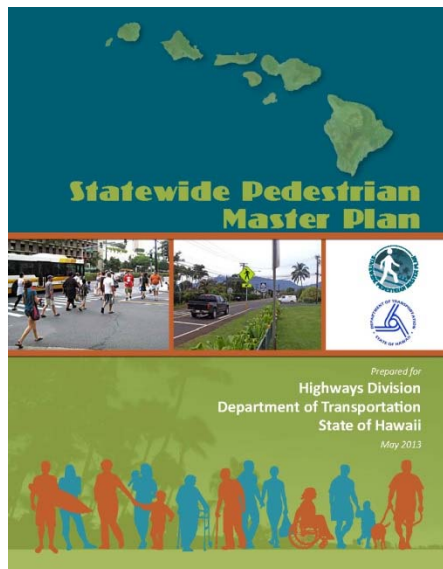
- Improve capacity and system efficiency by addressing congestion
- Maintain and improve safety for all modes
- Expand and increase Hawai'i District's economic vitality
- Preserve and maintain the existing transportation system
- Provide modal integration and improve transit service
- Support evacuation and emergency access/egress during incidents

The Federal-Aid Highways 2035 Transportation Plan applies only to the federal-aid highways on the Island of Hawai'i. The federal-aid highways are the National Highway System and all other public roads, except those federally classified as local roads or rural minor collectors.

Within Hilo, Highways 19 (Māmalahoa Highway), and 11 (Hawai'i Belt Road) provide access. Currently, the average daily traffic volumes around the island are highest in and around Hilo. As one of the central hubs of the island, vehicles travel to and from this location for work and play. Keaau-Pahoa Road (Highway 130) southeast of Hilo carries over 40,000 vehicles per day (in both directions), while the Hawai'i Belt Road south of Hilo approaching Keaau carries around 50,000 vehicles per day. Traffic volumes decrease as the highway moves further away from Hilo. Both of these segments have a V/C of 1.0 or greater and operate at LOS F.

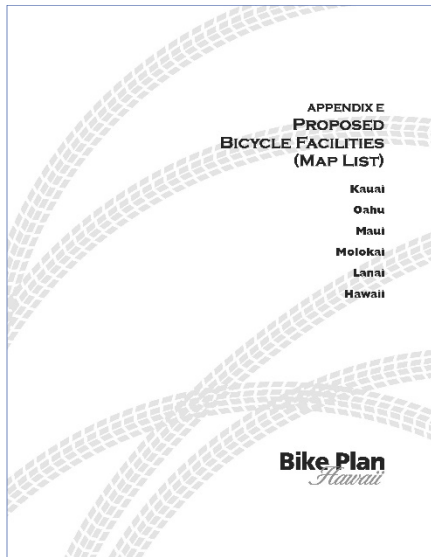
In the future, traffic is expected to increase due to larger population, more jobs, and new land developments on the island. Volumes on Keaau-Pahoa Road (Highway 130) near Hilo are forecast to double by Year 2035, and volumes on Hawai'i Belt Road west of Hilo would likely see modest increases in 2035 due to the availability of parallel facilities. Hawai'i Belt Road serves about 16,000 vehicles per day where it crosses the Wailuku Bridge.

Exhibit 4-4 lists potential long-range capacity solutions including: Route Number 1370 - Kalaniana'ole Avenue – Kanoelehua Avenue to Hilo Harbor -- Improve/provide additional 2 travel lanes with turn lanes at major intersections, bicycle facilities and sidewalks (\$ 28,026,000); and, Mid-Level Road (Puna Makai Alternate Route) -- Construct a new 2-lane connector roadway makai of Keaau-Pahoa Road between Hilo and Pahoa (\$ 288,536,000).



Statewide Pedestrian Master Plan; prepared for State of Hawai'i, Department of Transportation Highways Division by CH2MHill; May 2013

This report included two public meetings in Hilo and included a review of existing conditions identifying Hawai'i Belt Road (H11) in Hilo as the most traveled highway on the Big Island. Pedestrian safety did not include any statistics but simply indicated that crashes in Hilo have been within the urbanized area near a variety of locations that attract pedestrians. This indicates that more detailed analysis is warranted to determine exactly what the circumstances behind pedestrian accidents. Thirty-one pedestrian projects were ranked for the entire state. Only one was listed for Hilo; the Bayfront Highway and the potential solution identified was to conduct a pedestrian study to install a series of marked crosswalks to link Downtown Hilo to the waterfront. The project was ranked as number 22 in the state.



Bike Plan Hawai'i Master Plan; prepared for State of Hawai'i, Department of Transportation; 2002

The original Bike Plan Hawai'i was prepared in 1977 and updated in 1994. Page 25 of Appendix E Proposed Bicycle Facilities (map list) lists sixteen projects for Hilo (E-24 to E-26) and identifies 29 projects in Hilo and six of these appear to be in Downtown (need to verify if any of these have been accomplished). Appendix F is not a document, but an online map tool identifying the projects by island and location. Table 2 lists the Downtown Hilo bike projects identified on the map and listed in the appendix.

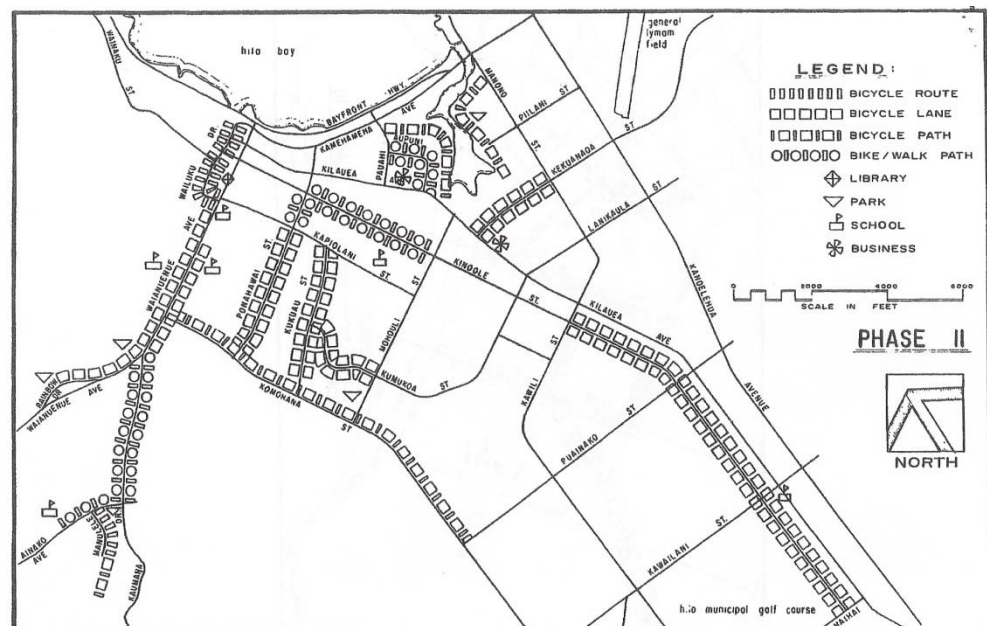
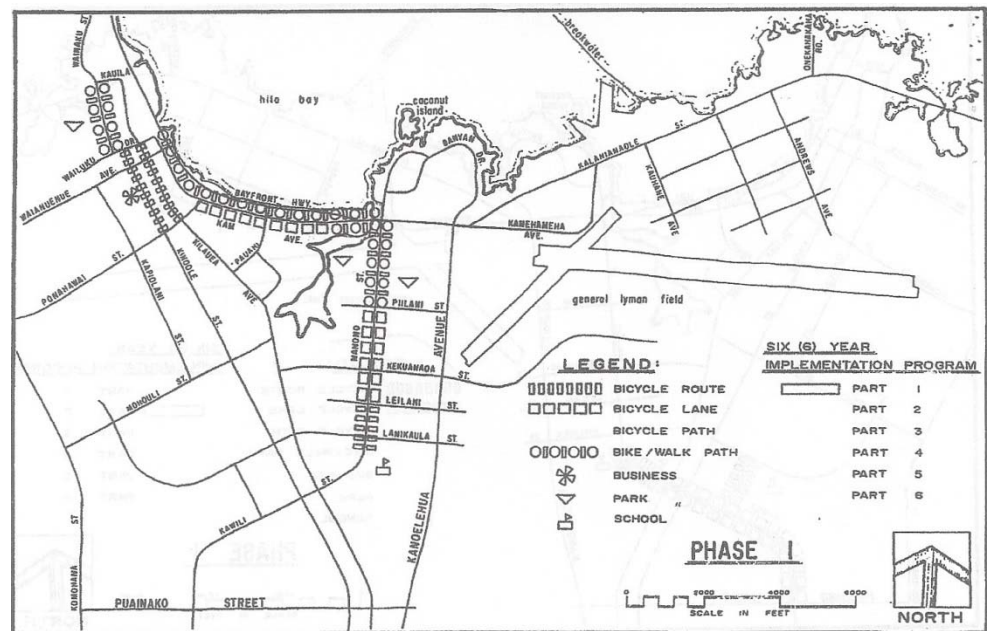
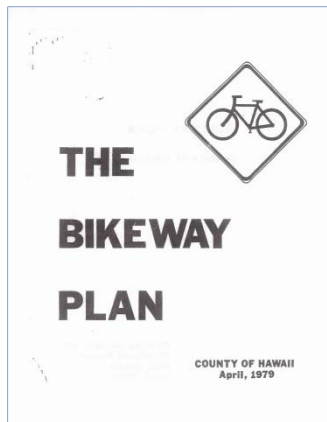
Table 2: List of Bike Projects From The HDOT Plan

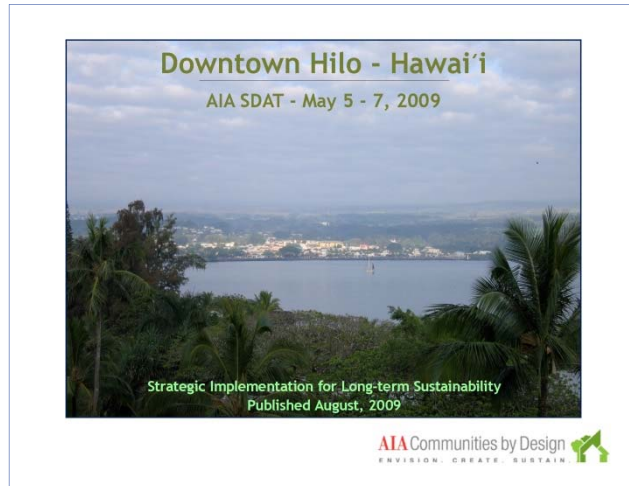
(Source: Appendix E Proposed Bicycle Facilities, pages E-24 and E-25)

DESCRIPTION		CHARACTERISTICS					
Number	Location	Facility Type	Jurisdiction	Improvement Classification	Length	Cost Estimate	Priority Level
1	Kilauea Avenue Waianuenue Ave to W. Puainako St.	Lane	County	Major	2.5	\$3,141,000	I
2	Kapiolani/Hualalai Street Waianuenue Ave. to Hualalai St.	Signed Shared Road	County	Minor	1.0	\$4,000	II
3	Ponahawai Street Komohana to Kapiolani St.	Lane	County	Major	1.0	\$1,256,000	II
4	Kukuau Street Komohana St. to Kapiolani St.	Lane	County	Moderate	0.8	\$36,000	II
5	Waianuenue Avenue Bayfront Hwy. to Hilo Medical Center	Lane	County	Major	1.9	\$2,237,000	I
6	Bayfront Highway Waianuenue Ave to Pauahi St/ Bayfront crossover to Manono St.	Lane	State	Moderate	1.2	\$53,000	I

The Bikeway Plan; County of Hawai'i Planning Department; April 1979

This document contains many engineering standards for bike lanes and paths. Pages 47 to 51 identify bikeways for Hilo including connections to and within Downtown. The report indicated that the "new" one-way circulation of Downtown streets was implemented on August 10, 1975 and that bicycle routes were to be provided along the one-way streets of Keawe and Kino'ole in accordance with the new circulation. The bike plans for Hilo from the report are included in the maps shown below.





Downtown Hilo AIA SDAT Strategic Implementation for Long-term Sustainability; August 2009.

In November 2008, the EnVision Downtown Hilo 2025 (EDH 2025) VisionKeepers and the County of Hawai'i Planning Department submitted a proposal to the AIA for an SDAT on behalf of Downtown Hilo to assist the community in addressing key issues facing the town. The application received support from the State of Hawai'i Department of Health, Healthy Hawai'i Initiative.

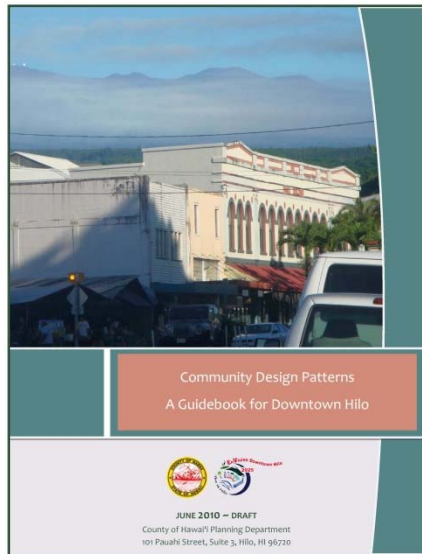
The AIA accepted the proposal. After a scoping visit in March 2009, the full SDAT team arrived in Hilo on May 4, 2009. For three days the team met with property owners, county officials, long-time residents, youth, and other concerned citizens. After completing these forums and charrettes the team made a presentation to the public where they outlined the following high priority recommendations:

1. Designate Downtown Hilo a Historic District
2. Develop a form based code
3. Form a Downtown Business Improvement District
4. Relocate the Bayfront Highway



The report makes many valuable observations. It observed the Downtown can be divided into districts: historic, courthouse/government, shopping & entertainment/restaurant row and market.

The recommendation to relocate Bayfront highway was in response to the barrier the roadways and parking present in offering a safe pedestrian environment. The observation is made that Downtown Hilo's rich pedestrian quality, easily discerned through old historic photographs, has gradually eroded over the years.



Community Design Patterns, A Guidebook for Downtown Hilo; County of Hawai'i Planning Department; June 2010 (draft)

This Guidebook is an educational tool intended to communicate sound design and development practices that will enhance Downtown Hilo livability. The recommendations are not mandatory. The Guidebook was to be distributed to developers, architects, and additional key stakeholders and promoted as best practices to be incorporated in both public and private projects.

Section 5 includes design patterns for special areas including the pedestrian areas of Kamehameha Avenue, Keawe Street, the Farmer's Market and Mo'ohau Bandstand and Bus Station.

Section 2.3.1 addresses public streets and highways. These pages include recommendations for the entire width of the roadway between the boundary lines of a way publicly maintained for use by the public. It includes sidewalks, crosswalks and bike lanes as outlined in the pages shown below.

2.3.1 Public Streets and Highways

A Street is the entire width between the boundary lines of a way publicly maintained for use by the public. It is an avenue, road, alley, lane, highway, or boulevard. It includes sidewalks, crosswalks, boardwalks and every class of public road, square, and place. A highway is a thoroughfare of high vehicular speed and capacity.

Recommendations



• Bayfront Highway skirts along the edge of Hilo Bay

- a. Relocate important infrastructure, such as Bayfront Highway, away from vulnerable locations.
- b. Reduce vehicular traffic in Downtown Hilo by incorporating multi-modal forms of transportation, such as shuttles and bicycles.
- c. Create safe and efficient mobility through downtown with well-connected pedestrian, bicycle (or multi-use paths), and public transit.
- d. As safety requirements permit, utilize existing roadway right-of-ways to create safe walkways, trails, and bicycle paths.
- e. Construct roundabouts where feasible.
- f. Synchronize traffic lights to ease traffic congestion.

Sidewalks:



• Wide and unobstructed sidewalks allow for greatest foot traffic and accessibility

- g. Develop and maintain wide sidewalks to accommodate high-volume pedestrian traffic.
- h. Replace old walkways with cracks, holes, patches, settlement, and smoothness with non-slip walks, curb ramps, and curbs.
- i. Finish new sidewalks with wood trowel, salt finish texture for easy maintenance and non-slip qualities. Brick finish or the "textured"-type walkways are not discouraged but may be subject to plan approval.



• Crosswalk with pedestrian-activated flashing lights connects the Hilo Farmer's Market to the Mo'ohau Bus Station

- j. As regulations permit, sidewalk space outside restaurants may be utilized for benches, tables, and chairs, provided the use is in keeping with County regulations and ADA requirements.

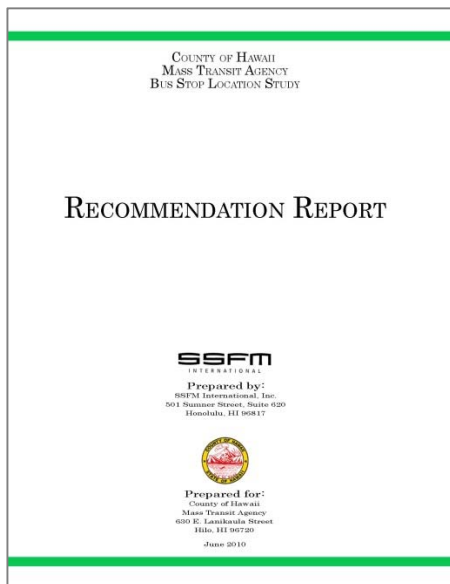
Crosswalks:

- k. Mark crosswalks with high visibility lines or drawings.
- l. Build curb extensions or bulb outs on street corners.
- m. Install median refuges or crossing islands to reduce pedestrian crossing distances and provide a safe place to wait while crossing.
- n. Install pedestrian warning signs and crossing signals as needed.
- o. Limit raised or textured materials that make crossing difficult for people with physical disabilities (except ADA-required tactile bump tiles).
- p. Re-evaluate assumed walking speeds that determine the walking speed for signal operations to consider pedestrians with limited abilities at busy intersections.
- q. Design crossing signals with pedestrian countdowns to provide adequate warning and minimize confusion.

Bike lanes:

- r. Establish bike paths in areas of safe travel without conflict to auto vehicles and pedestrians.
- s. Create interconnecting paved **bike-pedestrian pathways** within a public access easement or public right-of-way.
 - Where easements are utilized, the width should be not less than 10 feet wide.

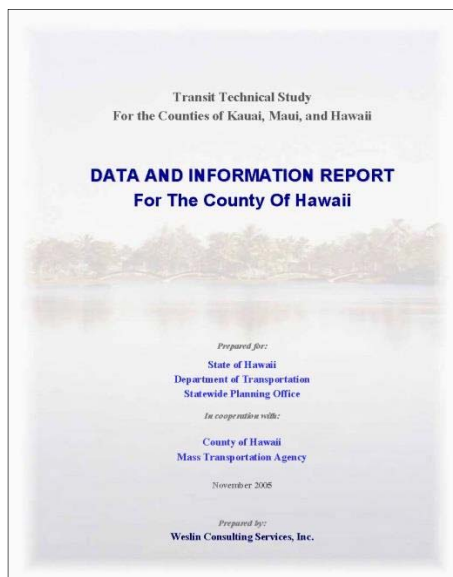
.....
Sustainability Measures
.....
Equitable Access
Healthy Living & Walkability
Multimodal Transportation
.....



Bus Stop Location Study; County of Hawai'i Mass Transit Agency; June 2010

Prior to the conduct of this study, the County's Mass Transit Agency primarily operated with flagstops (where an intending passenger would stand by the side of the road and flag the bus); few stops were formalized with signs. SSFM International, Inc. was contracted to assist the agency in developing a designated bus stop program. A complete inventory of the 575 bus stops was developed. A total of 224 bus stop locations were identified for improvements. The Recommendations Report identified 89 bus stops recommended to be made official in the County Code.

The report includes recommendations for ADA Compliance, recommendations for bus pullouts, identification of amenities at the 224 priority stops, description of bus stop placement, and the appendices include bus stop placement guidelines from other transit agencies.

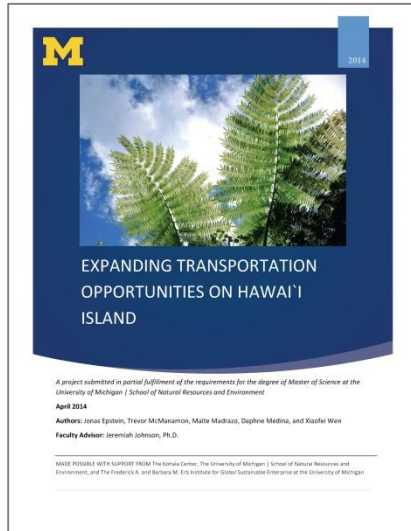


Transit Technical Study for the Counties of Kaua'i, Maui and Hawai'i; State of Hawai'i Department of Transportation; 2004

The Transit Technical Study prepared by Weslin Consulting Services, Inc. provided an exhaustive database for the three counties portraying the existing environment and provided a detailed description of the transportation services being provided.

Service characteristics and passenger usage for fixed route and human services were charted and data was collected to establish a foundation of information to be used to identify immediate actions to improve transportation. A report was developed for each County.

The Hawai'i County report included a description of previous studies and projects including transit planning and significant roadway improvements. Demographic and socioeconomic data including population and employment was mapped. Trends were identified. Geographic and land use characteristics were identified, mapped and investigated for their influence on current and potential transportation services. Visitor population, trends and services was investigated. The report provided a review of the existing public transportation operations including the Hele-On Bus system and other providers of transportation services.



Expanding Transportation Opportunities on Hawai'i Island; April 2014

This project was conducted as part of the requirements for a Master of Science degree at the University of Michigan/School of Natural Resources and Environment. The authors of the report (Jonas Epstein, Trevor McManamon, Maite Madrazo, Daphne Medina and Xiaofei Wen) were engaged by the Kōhala Center to examine and analyze the public transit system.

Recommendations were developed focusing on high-impact solutions to reduce fossil fuel use while improving accessibility and lowering travel times for commuters. Alternatives included the establishment of carpooling and ride-sharing networks using new business models.

Public Transportation Plan for Hawai'i County; State of Hawai'i Department of Transportation; 1992

This plan is the most recent countywide transit planning report conducted by the County. The study prepared by Kaku Associates included a description of existing conditions including characteristics of the resident population and an inventory of existing services. Ten key issues were identified by the project guiding committee, the Transit Advisory Committee (TRAC). These key issues were analyzed by the project team and are as follows:

1. Financial and operational alternatives for upgrading equipment.
2. Potential for improved operations through coordination of current individual services, including coordination of operations, administration and equipment.
3. Funding sources for maintenance of current and acquisition of additional equipment, including equipment necessary to meet accessibility requirements.
4. Detailed investigation of the needs of the public transportation dependent.
5. Potential for island-wide ridesharing program.
6. Funding and operational implications of bus service expansion.
7. Financial implications of provide additional fare options.
8. Possible improvements to the park-and-ride system for improving awareness, security and convenience.
9. Identify needed bus stop additions and improvements.
10. Possible expansion of bus service to the airport.

Some of the identified issues have been resolved or progress has been made. For example, the Kona Airport is served by Hele-On Bus with infrequent service; however, the Hilo Airport is not served by public transit. Some of the listed key issues are a continuing need to be addressed including funding.

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APPENDIX D - HISTORICAL PEAK HOUR VOLUMES

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Bi-directional peak hour volumes and the associated peak hour for the HDOT 24-hour count are included in the table below.

HISTORICAL PEAK HOUR VOLUMES FOR DOWNTOWN HILO

Year	Roadway	Location	AM Peak Hour	AM Peak Hour Vol.	PM Peak Hour	PM Peak Hour Vol.
2012	Bayfront Highway	Bayfront Highway between Pauahi Street and Hawai'i Belt Road	07:00 AM to 08:00 AM	785	03:15 PM to 04:15 PM	813
2012	Hawai'i Belt Road	Hawai'i Belt Road between Wailuku Bridge and Pukihae Street	07:00 AM to 08:00 AM	1214	04:00 PM to 05:00 PM	1329
2012	Kamehameha Avenue	Kamehameha Avenue between Kalanikoa Street and Waiola Bridge	07:15 AM to 08:15 AM	1347	04:00 PM to 05:00 PM	1527
2011	Kamehameha Avenue	Kamehameha Avenue: Kalākaua Street to Haili Street	07:15 AM to 08:15 AM	780	03:45 PM to 04:45 PM	878
2011	Kamehameha Avenue	Kamehameha Avenue: Ponahawai Street to Pauahi Street	07:15 AM to 08:15 AM	1387	03:45 PM to 04:45 PM	1817
2011	Keawe Street	Keawe Street: Furneaux Street to Haili Street	08:00 AM to 09:00 AM	399	04:15 PM to 05:15 PM	659
2011	Kīlauea Avenue	Kīlauea Avenue: Ponahawai Street to Kukuau Street	07:15 AM to 08:15 AM	882	03:45 PM to 04:45 PM	997
2011	Kīlauea Avenue	Kīlauea Avenue: Hoku Street to Wilson Street	07:45 AM to 08:45 AM	1137	04:00 PM to 05:00 PM	1446
2011	Kīlauea Avenue	Kīlauea Avenue: Ponahawai Street to Keawe Street	08:00 AM to 09:00 AM	504	03:15 PM to 04:15 PM	646
2011	Kino'ole Street	Kino'ole Street: Wailuku Drive to Waiānuenue Avenue	07:15 AM to 08:15 AM	499	03:30 PM to 04:30 PM	561
2011	Kino'ole Street	Kino'ole Street: Haili Street to Mamo Street	07:15 AM to 08:15 AM	732	04:00 PM to 05:00 PM	660
2011	Kino'ole Street	Kino'ole Street: Hoku Street to Mauna Kea Street	07:15 AM to 08:15 AM	1006	04:00 PM to 05:00 PM	1018

Year	Roadway	Location	AM Peak Hour	AM Peak Hour Vol.	PM Peak Hour	PM Peak Hour Vol.
2011	Kino'ole Street	Kino'ole Street: Mohouli Street to Lanihuli Street	07:15 AM to 08:15 AM	1198	03:00 PM to 04:00 PM	1151
2011	Kino'ole Street	Kino'ole Street: Ohea Street to Puainako Street	07:15 AM to 08:15 AM	766	04:00 PM to 05:00 PM	709
2011	Komohana Street	Komohana Street: Waiānuenue Avenue to Punahele Street	07:15 AM to 08:15 AM	1176	04:00 PM to 05:00 PM	932
2011	Mohouli Street	Mohouli Street: Lei Street to Kino'ole Street	07:00 AM to 08:00 AM	890	03:15 PM to 04:15 PM	867
2011	Mohouli Street	Mohouli Street: Popolo Street to Kumukoa Street	07:00 AM to 08:00 AM	1054	04:15 PM to 05:15 PM	967
2011	Pauahi Street	Pauahi Street: Kamehameha Avenue to Bay Front Highway	07:30 AM to 08:30 AM	664	04:00 PM to 05:00 PM	832
2011	Pauahi Street	Pauahi Street: Piopio Street to Aupuni Street	07:30 AM to 08:30 AM	1102	03:45 PM to 04:45 PM	1325
2011	Ponahawai Street	Ponahawai Street: Komohana Street to Kapiolani Street	07:15 AM to 08:15 AM	856	04:00 PM to 05:00 PM	620
2011	Waiānuenue Avenue	Waiānuenue Avenue: Keawe Street to Kekaulike Street	08:00 AM to 09:00 AM	710	03:30 PM to 04:30 PM	929
2011	Waiānuenue Avenue	Waiānuenue Avenue: Ka'ulani Street to Laimana Street	07:15 AM to 08:15 AM	948	03:45 PM to 04:45 PM	1123
2011	Waiānuenue Avenue	Waiānuenue Avenue: Punawai Street to Kaumana Drive	07:15 AM to 08:15 AM	1312	03:15 PM to 04:15 PM	1307
2011	Waiānuenue Avenue	Waiānuenue Avenue: Kaumana Drive to Puuhina Street	07:15 AM to 08:15 AM	758	03:15 PM to 04:15 PM	829
2011	Waiānuenue Avenue	Waiānuenue Avenue: Puuhina Street to Rainbow Drive	07:15 AM to 08:15 AM	725	03:15 PM to 04:15 PM	794
2011	Waiānuenue Avenue	Waiānuenue Avenue: Piikea Street to Kaahumanu Street	07:15 AM to 08:15 AM	223	04:00 PM to 05:00 PM	202

Year	Roadway	Location	AM Peak Hour	AM Peak Hour Vol.	PM Peak Hour	PM Peak Hour Vol.
2011	Waiānuenue Avenue	Waiānuenue Avenue: Peepee Falls Road to Lani Street	07:15 AM to 08:15 AM	151	04:15 PM to 05:15 PM	136
2011	Wainaku Avenue	Wainaku Avenue: Ohai Street to Wailuku Drive	07:15 AM to 08:15 AM	495	03:45 PM to 04:45 PM	627
2010	Bayfront Highway	Bayfront Highway between Pauahi Street and Hawai'i Belt Road	07:15 AM to 08:15 AM	783	04:30 PM to 05:30 PM	875
2010	Hawai'i Belt Road	Hawai'i Belt Road between Wailuku Bridge and Pukihae Street	07:15 AM to 08:15 AM	1202	04:15 PM to 05:15 PM	1421
2010	Hawai'i Belt Road	Hawai'i Belt Road between Halaulani Overpass and Hau Street	07:30 AM to 08:30 AM	1076	04:15 PM to 05:15 PM	1199
2010	Kamehameha Avenue	Kamehameha Avenue between Paved Road and Pauahi Street at Hamakua Coast Honakaa sign	07:00 AM to 08:00 AM	1457	03:45 PM to 04:45 PM	1910
2010	Kamehameha Avenue	Kamehameha Avenue: Haili Street to Furneaux Street	07:15 AM to 08:15 AM	887	03:45 PM to 04:45 PM	1016
2010	Kīlauea Avenue	Kīlauea Avenue: Kukuau Street to Aala Lane	07:30 AM to 08:30 AM	1062	04:00 PM to 05:00 PM	1301
2010	Kīlauea Avenue	Kīlauea Avenue: Barenaba Lane to Maile Street	07:15 AM to 08:15 AM	1674	04:00 PM to 05:00 PM	1886
2010	Kīlauea Avenue	Kīlauea Avenue: Lanihuli Street to Kekuanaoa Street	07:15 AM to 08:15 AM	1677	03:00 PM to 04:00 PM	1938
2010	Kīlauea Avenue	Kīlauea Avenue: Kamana Street to Kohola Street	07:15 AM to 08:15 AM	1254	04:00 PM to 05:00 PM	1448
2010	Kīlauea Avenue	Kīlauea Avenue: Lanikaula Street to Olona Street	07:00 AM to 08:00 AM	927	04:00 PM to 05:00 PM	1148
2010	Kīlauea Avenue	Kīlauea Avenue: Maemae Street to Ohea Street	08:00 AM to 09:00 AM	540	05:30 PM to 06:30 PM	588

Year	Roadway	Location	AM Peak Hour	AM Peak Hour Vol.	PM Peak Hour	PM Peak Hour Vol.
2010	Kīlauea Avenue	Kīlauea Avenue: W. Puainako Street to W. Kahaopea Street	07:00 AM to 08:00 AM	1112	04:15 PM to 05:15 PM	1228
2010	Kīlauea Avenue	Kīlauea Avenue: Haihai Street to Hale Manu Drive	07:00 AM to 08:00 AM	886	03:45 PM to 04:45 PM	914
2010	Kino'ole Street	Kino'ole Street: W. Kawaihāni Street to W. Palai Street	07:00 AM to 08:00 AM	681	04:00 PM to 05:00 PM	408
2010	Waiānūenue Avenue	Waiānūenue Avenue: Peepee Falls Road to Lahi Street	07:30 AM to 08:30 AM	121	04:15 PM to 05:15 PM	128

Source: *Historical Traffic Station Maps* (HDOT)

APPENDIX E – DOWNTOWN HILO MULTIMODAL MASTER PLAN CONTRACT COMPONENTS

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The DHMMP contract included guidance which helped frame what was examined for each component, shown in the table below. The order of components presented in this Chapter was changed slightly to group certain topics.

REQUIREMENTS OF DOWNTOWN HILO MULTIMODAL PLAN CONTRACT	
Circulation	
<i>A) Multimodal circulation patterns with:</i>	
Designated streets where different individual modes of travel or street functions take priority, such as walking, bicycling, vehicular, or taking transit.	
Solutions for bicycle and pedestrian conflicts on Downtown sidewalks.	
For all non-motorized transportation modes, facilities that provide safety for users, and prevent conflict with other modes of transportation.	
<i>B) Vehicular circulation patterns with:</i>	
Vehicular travel lane configurations for all streets (number of travel lanes, one-way vs. two-way circulation, etc.).	
Traffic-calming measures and appropriate "target speed," as required for designated streets that correspond with and support the level of activity within particular areas of Downtown and the area immediately surrounding Downtown.	
As appropriate, plans to eliminate the portion of Kīlauea Avenue mauka of Keawe Street.	
As appropriate, plans to eliminate the triangle circulation island at the intersection of Kīlauea Avenue and Mamo Street to create a small pedestrian plaza.	
As appropriate, plans for extending Ponahawai Street to Bayfront Highway and the resulting intersection (e.g., roundabout, etc).	
As appropriate, plans for a roundabout at the intersection of Waiānuenue Avenue and Kamehameha Avenue.	
Street Design	
Utilize green street/sustainable design principles, including stormwater treatment, street trees, permeable pavement, etc., when appropriate.	
As appropriate, allow for temporary street closures for public and community events (e.g., curbside streets, flexible streets, and related multi-functional streets).	
As appropriate, allow for the temporary closing of Mamo Street between Kamehameha Avenue and Punahoa Street to create a pedestrian plaza during Farmers Market Days or during other Downtown special events.	
Parking	
Strategies to maximize on-street parking that complement pedestrian and bicycle improvements (e.g., reverse angle parking, etc.).	
Sites for new public parking, in either structure or surface lot configuration. Extra consideration to be given to parking areas for key Downtown destinations (e.g., Kalākaua Park, Farmers Market, etc.)	
Strategies for partnerships that provide additional parking options.	
Alternative and sustainable public parking solutions for employees, residents, and tourists (short-term and long-term solutions).	
Time limits for on-street parking that would maximize parking and encourage "park once and walk" strategies.	

Parking meter types and placement (including the existing parking meters adjacent to the Federal Building on Waiānuenue Avenue), as necessary.
Signage to direct vehicles to appropriate parking areas for employees and visitors.
Self-sustaining parking education enforcement program.
Pedestrian Trails/Sidewalks
Identification of specific enhanced pedestrian improvements on certain streets, including but not limited to, widened sidewalks, corner bulb-outs, and roadway center medians.
Methods to increase pedestrian safety in Downtown Hilo, including but not limited to, safety placards, speed humps, bollards, change of street and crosswalk materials, etc.
Safe pedestrian crossings for all Downtown Hilo locations (especially between Downtown and the Hilo Bayfront area).
Infrastructure and aesthetic treatments to improve walking experience (e.g., separated sidewalks, curb extensions, crosswalks, shade, lighting, beacons, art, etc.).
Area/site appropriate landscaping and innovative solutions to landscape maintenance (e.g., maintenance agreements) that can result in enhanced aesthetics, increased shade, and natural spaces.
Strategies for expanding sidewalks in various locations for outdoor dining and better integration of the public and private realm, while meeting ADA Clear Path of Travel requirements.
Any discussion of pedestrian improvements includes identifying necessary accessibility improvements, including, but not limited to, sidewalks, sidewalk ramps, and parking considerations.
Bicycle and Other Non-motorized Transportation Modes
Connections between Downtown Hilo's bicycle network grid with surrounding high activity areas and transit facilities to encourage everyday commuter, school, and recreational bicycle trips within Hilo and adjacent communities.
Street-specific bicycle improvements, including but not limited to, off-street shared-use paths, cycle tracks, bike lanes, bike boulevards, and other bicycle facilities.
Locations for bicycle racks, lockers, and bike corrals.
As appropriate, bike rental/sharing stations for Downtown Hilo and other key destinations.
Public and Private Transit
Analysis of the positive and negative effects of enhancing public transportation (more bus stops, increased hours of operation, expanded routes, etc.).
As appropriate and necessary, new transit stop locations that will increase accessibility and usage of the public transportation system.
Strategies to integrate buses, shuttles, or sampans into Downtown Hilo with the least impact to the transportation system.
Alternate locations for a Park-and-Ride lot for the Kōhala Workers Bus Stop.

APPENDIX F –COST ESTIMATES FOR RECOMMENDED IMPROVEMENTS

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This Appendix summarizes the preliminary cost estimates developed for the construction of key improvements recommended in the Downtown Hilo Multimodal Master Plan (DHMMP). Chapter 5 of the DHMMP identifies a four-step phasing plan, with Phases 1 through 3 comprising actions to be completed within five years, and Phase 4 including actions that will be completed over a longer time horizon. The cost estimates were developed for those DHMMP recommendations in Phases 1-3 that are anticipated to be County-funded (rather than led by partners or other agencies). The cost estimates are for design and construction estimates; they were not developed for recommendations related to planning or feasibility analysis. Costs related to land acquisition were not estimated and, where needed, would need to be negotiated during implementation.

Priority Action Phase (Phase 1)

The Priority Action Phase includes improvements that can be started and implemented relatively quickly, within one to two years of plan adoption, and that will result in immediately visible and beneficial changes to Downtown Hilo. Table 1 lists recommended actions for Phase 1. Those for which cost estimates are provided are indicated in bold.

The Priority Action Phase includes commencing planning work and land acquisition needed for the extension of Ponahawai Street to Bayfront Highway. This was identified as a priority project during public and agency consultation. The work included in Phase 1 includes coordination with the Parks Department to acquire the land needed for the extension, subdivision of the land, and initiating coordination with the State DOT.

TABLE 1: PRIORITY ACTION RECOMMENDATIONS (PHASE 1)

Action	Rec #	Lead Agency	Description	Cost Estimate
Initiate Extension of Ponahawai Street to Bayfront Highway	A-5, B-3	COH DPW, Parks, State DOT	Work with Parks to remove land from parks system; subdivide land; initiate coordination with DOT.	In-house
Build a 22-space parking lot on Ponahawai Street	D-4	COH DPW	Plan lot to allow for eventual transition to parking structure if/when determined feasible.	\$539,359
Initiate repair of sidewalks & curbs throughout Downtown	B-8	COH DPW	Coordinate sidewalk and curb ramp improvements with multimodal improvements for different streets.	\$1,526,631
Initiate parklet program	B-6	COH Planning & DPW	Identify partners and locations and develop guidelines and permitting.	In-house
Choose design and add bike racks at multiple locations	C-4	COH DPW	Goal of five locations with 5 or more positions	\$7,280

Provide a pedestrian crossing with signal controls at Waiānuenue Avenue & Bayfront Highway	B-2	State DOT	This would be a State led activity, and would be an interim solution until the roundabout is constructed.	In-house
Design & construct extension of Ululani Street; convert a portion from one-way to two-way travel	A-5	COH DPW	Coordinate with landowner to purchase land, swap, or acquire easement. Construct roadway extension and sidewalks.	\$1,062,260
Site selection, design, and subdivision for remote employee parking lot	D-5	COH Planning, with DPW and Parks	Will likely involve subdivision of Park land makai of Kamehameha Avenue	In-house
Demonstration of two-way conversion of Keawe and Kino'ole with stop-controlled intersections	A-1 A-2	COH DPW	Demonstrate the two-way conversion of Keawe and Kino'ole Streets using pavement markings, paint, and stop-controlled intersections (estimated cost \$745,000-2.3 million)	\$745,000-\$2.3 M
Develop regional bikeway network.	C-1	COH DPW	Construct bikeway improvements in coordination with repaving and other roadway improvements.	\$78,646 (striping) Bike corrals \$5,000 each
Launch Downtown Hilo Bike Share Program	C-3	COH R&D	Partner with private vendors and bicycle advocates	In-house

Short-Term Action Phase (Phase 2)

Phase 2 has a time horizon of three to four years from plan adoption. Table 2 lists actions included in Phase 2. Those for which cost estimates are provided are indicated in bold.

It includes the conversion of Keawe and Kino'ole to two-way and designing Keawe Street as a main street with full complete street and urban design treatments. Completion of the remote parking lot for Downtown employees and the launch of the Stage 1 Downtown shuttle happens during this phase. This phase also includes environmental reviews and studies needed for the Ponahawai Street Extension to Bayfront Highway.

TABLE 2: SHORT-TERM RECOMMENDATIONS (PHASE 2)

Recommendation	Rec #	Lead Agency	Description	Cost Estimate
Design for extension of Ponahawai Street to Bayfront Highway –	A-5	State DOT	Environmental studies, traffic report, concept designs, alternatives	\$2M Design \$1M Environmental
Complete two way conversion of Keawe Street, Kino'ole Streets, Wailuku Street and portion of Kīlauea Street with signalized intersections;	A-1 A-2 A-6 A-9 C-2 F-4 F-5 F-6	COH DPW	Construct associated multimodal and streetscape improvements concurrently	Option A – Full build, \$19M Option B – Mill and Overlay, \$12M Option C – Interim upgrades, \$5.8M
Construct roundabouts at Kīlauea and Ponahawai and Wailuku and Kino'ole	A-3	COH DPW	Coordinate with two-way conversion of Keawe, Kino'ole, and Wailuku	Kīlauea and Ponahawai: \$1,795,200 Kino'ole and Wailuku: \$1,337,710 Kīlauea and Kinoole: (included in Keawe-Kinoole Conversion cost estimate).
Develop regional bikeway network.	C-1	COH DPW	Construct bikeway improvements in coordination with repaving and other roadway improvements.	Provided in Table 1

Recommendation	Rec #	Lead Agency	Description	Cost Estimate
Initiate parking management system and time limits, with residential permit program	D-1 D-2 D-3	COH DPW and Mass Transit	Install parking management system and designate support staff and enforcement.	In-house
Construct remote parking lot for Downtown Employees	D-5	COH Planning/DPW	Coordinate with Downtown shuttle Stage 1.	\$2,377,876
Acquire the private parking lot between Shipman Street and the County parking lot for a public parking area	D-4	COH Planning/DPW	Coordinate with landowner.	In-house
Procurement to establish Downtown shuttle	E-1	COH & partners	Procure funds/partners for the Downtown shuttle	\$78,000-\$84,500 per year
Create mobile app for transit	E-6	COH Planning, MTA, R&D	Coordinate with visitor industry associations and business associations; apply for grant funding; secure technology vendor.	In-house
Create Downtown Hilo Cultural Trail	B-1	COH & Partners	Markers and signage with stories and descriptions of places of interest	\$6,000 per marker
Widen sidewalks on Keawe, add curb extensions, landscaping, bike facilities and future transit stop	B-7 B-5 C-2 C-4 D-6 E-7	COH DPW	Coordinate with two-way conversion of Keawe.	\$473,500 (included in Keawe-Kinoole Conversion cost estimate).
Convert Mamo triangle to pedestrian plaza and landscape design	A-9	COH DPW	Possible partnership with County Parks & Recreation.	\$1,052,100

Recommendation	Rec #	Lead Agency	Description	Cost Estimate
Launch Stage I shuttle system to connect remote employee parking lot to Downtown	E-2 E-7	COH Planning, R&D	MTA or Private contract	\$130,000 for one vehicle
Construct sheltered stations with wayfinding and amenities	E-2 E-7	COH Planning, R&D	MTA	\$15,000 per shelter (add \$5,000 for lighting/digital signage) Operating costs ~\$65/hour
Examine parking structure feasibility at two sites: 1) Above the 22-space lot on Ponahawai; and 2) County property between Wailuku and Waiānuenue	D-7	COH Planning	Work with landowners and developers on siting and revenue model	Feasibility study \$150,000

Intermediate Term Action Phase (Phase 3)

This phase identifies actions that may be completed within five years of the DHMMP's adoption. Table 3 lists actions included in Phase 3. Those for which cost estimates are provided are indicated in bold.

This includes completion of the Ponahawai extension to Bayfront Highway, roundabouts with gateway features at the intersections of Ponahawai with Kamehameha Avenue and Bayfront Highway, a road diet along Kamehameha Avenue, and development of the Frontage Road pedestrian promenade. Phase 3 also implements Stage II of the Downtown shuttle.

TABLE 3: INTERMEDIATE TERM RECOMMENDATIONS (PHASE 3)

Recommendation	Rec #	Lead Agency	Description	Cost Estimate
Construct extension of Ponahawai Street to Bayfront Highway	A-5 B-3 B-4	COH DPW	Construction	\$1,376,199
Construct roundabout with associated pedestrian facilities and gateway feature at Ponahawai and Bayfront Highway	A-3 A-7 B-2 B-3 F-2	COH DPW	Construction	\$1,294,920
Design and construct roundabout with gateway feature at Waiānuenue and Bayfront Highway	B-2 F-2	COH DPW State DOT	Work with State DOT District Office as lead for project Request congestion relief funds	\$4,087,380
Reconfigure Kamehameha Avenue from four to two lanes; add multimodal features.	A-4	COH DPW	Construction	\$4,281,222
Design and construct roundabouts at Kamehameha intersections with Haili and Ponahawai	A-3	COH DPW	Construction	Kamehameha & Haili: \$2,630,155 Kamehameha and Ponahawai: included in extension of Ponahawai
Create Frontage Road Promenade	B-1	COH DPW	Coordinate with reconfiguration of Kamehameha	\$4,188,404

Recommendation	Rec #	Lead Agency	Description	Cost Estimate
Implement pedestrian improvements and beautification on designated “shared streets”: Kalākaua Street, Mamo Street, Haili Street, Furneaux Lane, and a portion of Punahoa Street	F-1 F-3	COH Planning, DPW	Construction	\$55,500
Develop regional bikeway network.	C-1	COH DPW	Construct bikeway improvements in coordination with repaving and other roadway improvements.	Provided in Table 1
Develop complete street design standards, style guide, incentives for awnings, business improvement district.	B-9 F-7	COH Planning	Development of design guidelines	In-house
Stage II Shuttle	E-3	COH & Partners	Extend to Civic Center, possible Port/Cruise	\$260,000 for two additional vehicles, Operating costs ~\$65/hour