Dedicated to Solving Maui's Traffic Issues

Lahaina Bypass Now

www.lahainabypassnow.com

Lahaina Transportation Design Workshop

January 9-12, 2007

Summary Report

Final Report April 2007

LAHAINA BYPASS NOW

Lahaina Bypass Now (LBN) is a community-based organization dedicated to solving West Maui's traffic problems. With the ultimate goal of the construction of the Lahaina Bypass in sight, LBN continuously seeks step by step solutions that will make an immediate difference in our traffic and create a better quality of life. With an open and collaborative approach to creating solutions, LBN works cooperatively with state Department of Transportation, the Maui Mayor and County Council, and local businesses and residents.

Anyone interested in joining Lahaina Bypass Now is encouraged to call Theo Morrison at (808) 667-2516, email at info@lahainabypassnow.com, or visit the group's web page at lahainabypassnow.com.

Workshop Facilitation and Technical Report prepared by:

Charlier Associates, Inc.
2511 31st Street
Boulder, Colorado, 80301
(303) 543-7277
www.charlier.org

Lahaina Bypass Now

Table of Contents

"It was truly an amazing week. Out of a diverse group of citizens, wrestling with every kind of urban and suburban problem, came a consensus on how to proceed with some of the most contentious and difficult issues facing the West Maui community. While everyone brought their own prejudices and biases to the table at the outset, the end result was true 'coming together' for the betterment of the entire community. Very strong egos with strong ideas, from every corner of the community, were set aside, during this 4 day event, in order to come up with a workable plan acceptable to the group as a whole. I've never seen anything quite like this before and I've been involved with many communities in the past."

– Bob Pure, LBN Project Management Team

"Thank you for allowing us to participate in this workshop, it was very informational and allowed us to be informed of the various County projects within West Maui."

- Misako K.Mimura, Phase 1A Lahaina Bypass Project Manager, Hawaii DOT

The Process

On January 9th-12th, 2007, the citizens group Lahaina Bypass Now organized a four-day public planning workshop at the Malu'uluolele Cultural Center to accomplish the following goals:

- Examine solutions for traffic circulation and highway capacity needs in and around Lahaina.
- Coordinate multiple projects planned by the Hawaii Department of Transportation, Maui County and private developers.
- Determine how Lahaina Town can retain its character and sense of place as new roadway construction projects move forward.

Why Address These Issues?

West Maui is one of the most beautiful places on earth. Lahaina is a community many residents call home and a town that draws much of its value as a vacation destination from its history and its unique character. The Honoapi'ilani Highway serves as the community's current gateway, but is proposed to be widened into a four-lane highway for congestion relief. A future four-lane Lahaina Bypass roadway is also planned that will help accommodate future traffic and provide additional entrance points into the community.

The Lahaina Transportation Design Workshop was designed as an opportunity for the citizens of West Maui to work with the State of Hawai'i Department of Transportation, Maui County and others involved in the planning and design of upcoming projects to create streets that are in character with West Maui, add value to the place, and offer relief from current traffic problems. While highway capacity and traffic congestion are serious issues on West Maui, it is important to keep in mind that Lahaina distinguishes itself as a place by the natural beauty of the surroundings and the unique character of the area.

Nationally, many states and localities have been pursuing the development of "Great Streets" and "Context Sensitive Design" approaches to roadway planning and design. The underlying idea is that public works agencies and state DOTs should not be building roads and streets in a way that subtracts from the value of abutting and nearby lands or reduces safety or quality of life for residents. One of the lessons learned in other states has been that good, modern design leads to increased public acceptance and reduced environmental impact, which in turn removes obstacles to project completion, reduces citizen opposition to highway projects, and creates value for adjacent communities.

Workshop participants recognized that, as the Bypass and other road and street projects will be built in and around Lahaina, not all of the traffic through the region has to flow on any one roadway. There is opportunity to disperse traffic over several parallel roadways – including the Mill Street Extension, the new Bypass route, and the Honoapi'ilani Highway. As we looked at these roadway improvement projects in the Design Workshop, we worked to plan "Great Streets" that not only move traffic but also are in character with their environment, offer shade from tree-lined canopies, provide continuous sidewalks and safe pedestrian crossings, work for enhanced public transit service, and make it easier to make daily trips for those who live and work within Lahaina as well as those who commute through Lahaina.

During the four-day workshop, community members, stakeholders and local government staff and officials worked together to develop plans, designs and solutions to address these issues. The workshop process promoted a high degree of citizen involvement, brought diverse interests and issues to the table, and resulted in a conceptual design that all parties can be committed to as they move forward with final design and implementation of their individual projects. This report summarizes the Design Workshop process and its recommendations.

Our Sponsors

This workshop was made possible with the financial support of:

Maui Land & Pineapple Company, Inc.

Kamehameha Schools

Makila Land Company, LLC.

Kauaula Land Company, LLC.

With additional support from:

- The Kapalua Villas
- The Makai Inn
- Ka‘anapali Beach Hotel
- West Maui Cultural Council
- Marriott’s Maui Ocean Club
- 505 Front Street Shops & Restaurants
- The Wharf Cinema Center
- Lahaina Shores Beach Resort
- Lahaina Inn
- The Mauian Hotel on Napili Bay
- Bad Ass Coffee
- LahainaTown Action Committee

Workshop Schedule

Day One: Tuesday, January 9th

The workshop began with a site visit of the corridor and presentations by the Project Teams of the major Lahaina area initiatives including:

- The Lahaina Bypass Phases 1A and 1B-1
- The Mill Street Extension
- Honoapi‘ilani Highway Widening
- The Lahaina Watershed Flood Control Project

That afternoon, workshop attendees began to identify and prioritize issues and opportunities impacting the study area, which was focused specifically on transportation needs within Lahaina Town.

In the evening, a Public Workshop was held to give the area residents the opportunity to learn about the proposed projects, offer their vision for the community’s future, and identify transportation related issues and opportunities that impact their daily lives.

Day Two: Wednesday, January 10th

The following additional project presentations were given in the morning:

- The West Maui Commuter Needs Survey
- Honoapi‘ilani Highway Signal Synchronization
- The Keawe Street Extension

After these presentations the group developed a list of design objectives that would guide the process for the rest of the week. In the afternoon, the design team and project sponsors were split into six small workgroups to begin developing alternative plans to meet specific design objectives. The day ended with a pin-up session of maps outlining the beginning stages of alternatives that each group worked on, and the public was invited to see the progress that had been made and comment on the proposed alternatives.

Day Three: Thursday, January 11th

The third day kicked off with brief summaries of the six alternative plans created by the small workgroups. Next was an exercise to identify common elements among all six alternatives, and areas where participants agreed to disagree. These controversial points were further studied and refined as participants divided into two groups to develop final alternative plans that focused on very different design concepts. The two alternative plans that resulted ultimately directed the group toward the creation of the final consensus plan. The day ended with a pin-up session of maps outlining the final stages of the two alternatives, with public review and input.

Day Four: Friday, January 12th

On the final day of the Lahaina Transportation Design Workshop, the goal was to combine the two alternatives into a plan with which everyone felt comfortable. Charlier Associates, led a group exercise to take comments and develop consensus among the group. In general, we were able to come to agreement on plans for the Lahaina Bypass, the Mill Street Extension, the Flood Control Project and the Keawe Street Extension. However, the decision to widen or not widen the Honoapi‘ilani Highway proved most difficult, but a consensus plan prevailed.

That evening, a second large Public Workshop was held where the final plan was presented by workshop participants to the public, government agency directors and elected officials.

Issues and Opportunities

Day One

The first day of the Design Workshop started off with the Design Team, which included a group of key stakeholders, developers, Charlier Associates staff, county, state and federal agencies and interested citizens, taking a site tour. After reconvening at the Malu'uluolele Cultural Center, Jim Charlier of Charlier Associates, Inc. presented an overview of what other communities are doing to create "Great Streets" and lay the groundwork for creating a vision for the future of West Maui.

Status Summary of Main Projects

Four presentations were given to provide workshop participants with an understanding of the current status of major proposed infrastructure projects, piece together an overall timeline for work to be occurring in the Lahaina area, and have a solid background for discussing issues and opportunities in coordinating these projects.

- **Honoapi'ilani Highway Widening** – The Honoapi'ilani Highway Widening project was presented by Charlene Shibuya of the Hawai'i Department of Transportation (HDOT) Maui District Office. This project includes incorporating concrete sidewalks, possibly adding sound barrier walls, and extending drainage culverts within an 80-foot existing right-of-way. Numerous public and agency reviews have been held as part of the Environmental Assessment process, resulting in additional modifications to the original project.

- **The Lahaina Bypass Phases 1A and 1B-1** – The Lahaina Bypass projects were presented by Jeffrey Fujimoto of HDOT. Phase 1A includes two lanes from Keawe Street to Lahainaluna Road. Phase 1B-1 runs two lanes from Lahainaluna Road to Hokiokio Place.

- **The Mill Street Extension** – This project was presented by Howard Hanzawa of the Ka'anapali Development Corporation (KDC). A surveying and design contract was recently awarded, and the project is in the initial stages of planning.

- **The Lahaina Watershed Flood Control Project** – The Lahaina Watershed Flood Control Project was presented by Joe Krueger of the Maui County Department of Public Works & Environmental Management. The initial project has been scaled back from the original plan due to funding issues, with the initial construction phases beginning with the new outlet and culvert under the Honoapi'ilani Highway and proceeding north to Kaua'ula Stream.

Small Work Groups

The 84 people participating on Day One were asked, "From your perspective, what should this Transportation Design Workshop address so that the four major projects together create a network of "Great Streets" in the Lahaina area?" Small groups were encouraged to design collaboratively, adapt prior ideas and plans, create a new climate of opportunity and progress, and integrate the four projects. Included in this was a discussion related to how transportation impacts the daily lives of residents and the vision for Lahaina's future. Each group listed a number of issues and opportunities and condensed that list to their five top concerns as follows:

Group One:

1. Design projects for future growth/needs (Right of Way, transit, mauka-makai connections)
2. Maintain greenway between Honoapi'ilani Highway and Lahaina Bypass
3. Preserve and enhance local circulation
4. Carefully consider locations for connections between Honoapi'ilani Highway and Lahaina Bypass
5. Plan and optimize safe locations for pedestrian and bicycle corridors

Group Two:

1. Address funding inequities and lack of total funding
2. Stop development until transportation issues are addressed

3. Preserve the landscape through sustainable planning
4. Expedite project implementation
5. Expand transit options –stops at high traffic destinations

Group Three:
1. Secure adequate funding for all projects
2. Leverage public sector assistance to expedite project permitting process
3. Implement via cooperation of community, government, landowners, and developers
4. Establish and maintain project schedules, timing, and priorities
5. Prioritize bicycle/pedestrian safety, consider overpasses/underpasses

Group Four:
1. Create network of Complete Streets –walkable, bikeable small streets with linear parks
2. Develop attractive gateway/entry to Lahaina Town
3. Educate public on planning process (critical)
4. Create multiple connections to/from Lahaina Town
5. Preserve traditional access rights for mauka residents

Group Five:
1. Address native Hawaiian access rights (HRS 7-1)
2. Preserve Honoapi‘ilani Highway as two lanes – better relationship to surrounding community
3. Consider long-term impacts of projects
4. Major projects should focus on moving people by all modes, not just moving vehicles
5. Expedite project implementation, stay on schedule

Group Six:
1. Establish realistic timelines for all projects
2. Identify funding for all projects
3. Consider short-term multimodal strategies (transit, staggered commutes)
4. Establish priorities first –what is most important?
5. Clarify the function of each project –is the Bypass truly a “bypass?”

In summary, recurring policy issues included funding, project coordination and implementation schedules. Key design concerns included multimodal corridors, connector locations, project function, cultural and land relationships, mauka-makai access for native Hawaiians and gateways to the community.

Common Themes:
- We need a bypass highway... Now!
- Intersection design –vehicle turn lanes, pedestrians, bikes, kids
- Relationship between Flood Control Project and Mill Street Extension/Waine‘e Village
- More smaller streets for people, rather than wide roads for cars only
- Reflect and respect sense of place

Additional Big Ideas:
- Local daily needs vs. visitor travel needs
- Drainage Project as a huge opportunity — extend the vision of the Pali to Puamana bikepath
- What is our sense of place? What period in time should projects be designed for?
- Use native plants in the design of projects

First Public Workshop

That evening, the first public workshop gave area residents the opportunity to learn about proposed projects, offer their vision for the community’s future and identify transportation related issues and opportunities that impact their daily lives. All of the group work from the day was displayed around the Cultural Center, allowing West Maui residents to see what had transpired and the progress completed by the small work groups.

Tuesday, January 9th

Design Objectives

Day Two

The second day of the workshop started with short presentations on other transportation-related projects affecting West Maui commuters:

- Scott McCarey of Charlier Associates, Inc. discussed the results and recommendations from the recent West Maui Commuter Needs Survey. This study examined the effects of daily commuting on West Maui resort employees, including current travel behaviors and opportunities for new transit routes, carpooling and vanpooling.

- Keith Niiya of Austin, Tsutsumi & Associates briefly discussed the signal synchronization on the Honoapi'ilani Highway. The timing of the signals has been adjusted to favor through traffic on the Honoapi'ilani Highway which allows for increased traffic flow but also causes the local circulation on cross streets to back up at lights.

- Joe Krueger of Maui County Public Works presented the status of the Keawe Street Extension project occurring in conjunction with Phase 1A of the Bypass.

Design Objectives

After the morning presentations and a review of issues and opportunities generated the previous day, the design team and attendees complied a list of overall design objectives that were to be the foundation for the concepts and plans created throughout the course of the design workshop. These included:

1. *Preserve traditional access and gathering rights for native Hawaiians — mauka-makai.*
2. *Provide mauka-makai access across projects - car, pedestrian, bike, kids.*
3. *Ensure that school access works for all modes.*
4. *Address safety elements in each project through design.*
5. *Design for "Great Streets" - design for people not cars.*
6. *Enhance connectivity: provide a variety of future travel route options.*
7. *Reflect and respect sense of place and core community values.*
8. *Balance the vision of what could be with the realities of implementation and funding schedules.*
9. *Plan for long-term needs; both in terms of function and character.*
10. *Balance through traffic with local travel needs.*
11. *Identify the key elements and locations of potential conflict and coordination between projects.*
12. *Manage traffic through all phases of implementation, synchronize projects and develop construction mitigation plan.*
13. *Identify supplemental funding sources for specific design components.*
14. *Create gateway entrance to Lahaina that reflects Hawaiian sense of place.*
15. *Plan and design for transit, car pool lanes, etc.*

Project Alternatives

Great Streets

During the development of design objectives, creating "Great Streets" was viewed as important to improve and preserve community character, sense of place and community values. From the presentation on Day One, the following elements of "Great Streets" were desired to be included in the development of subsequent design alternatives:

1. *Reflect local character*
2. *Allow people to walk comfortably & safely*
3. *Contribute to economic vitality*
4. *Work for pedestrians, bicyclists, transit, and automobiles*
5. *Provide mobility options so people of all ages can get where they want to go*
6. *Create a sense of place*
7. *Are green*

Small Group Work

In the afternoon on Day Two, the attendees were split into groups and given specific tasks to address from the fifteen design objectives. The groups came up with six very different alternative plans, each with advantages and disadvantages. All groups focused on system level design except for groups A and B. The day ended with a pin-up session of maps outlining the six alternative plans, and the public was invited to see the progress that had been made and comment on the proposed alternatives. Highlights of each of these plans are presented following.

- **Group A** (Native gathering right/access focus)
  - 1843/1850 HRS 7-1 preserves the historic gathering rights, access, sense of place and character
  - Projects should be minimally invasive
  - Mill Street would be the alternative for another connection
  - Mill Street should end before it angles into Honoapi‘ilani Highway
  - Flood Control Project near the sediment basin would alter the course of the stream
  - The historic road that runs into Kaua‘ula Valley should remain unobstructed to provide mauka residents with access
  - Cannot change the name of the historic road in order to avoid altering traditional access
  - The access road should go under the Bypass to prevent excessive traffic on the private road

- **Group B** (Funding focus)
  - Honoapi‘ilani Highway should not be widened — Mill Street should be prioritized to alleviate congestion
  - Make Honoapi‘ilani Highway a complete street with bike lanes, sidewalks, landscaping and trees
  - There may be other funding sources available — Maui has strong legislative contingent
  - Funding options include impact fees, County CIP funding, West Maui hotel room tax (T.A.T.), rental car fee, employer contributions (employees retention) and government bonds

Project Alternatives

- **Group C**
  - Shaw Street should connect as a meandering landscaped parkway to Bypass since it's the beginning of commercial on Front Street and the Boys & Girls Club is a high traffic area
  - Honoapi'ilani Highway should be widened and the existing signals at Lahainaluna, Dickenson and Shaw streets should remain
  - Advantages:
    - Increased traffic flow
    - Adds landscaping and sidewalks to Honoapi'ilani Highway to provide traffic calming
    - Reduces traffic on Waine'e and Front Street
  - Disadvantages:
    - Widening would bring the highway up to houses on the makai side
    - Shaw Street is a high pedestrian traffic intersection
    - There would be a lot of congestion during construction
    - Would be unnecessary after the Bypass

- **Group D**
  - Lahaina Recreation Center is community gathering place
  - Bypass should not have traffic lights in order to increase traffic flow
  - Mill Street and the Honoapi'ilani Highway could act as one-way couplets
  - Front Street could be one way northbound from Shaw Street to Kapunakea or Waine'e and Luakini could run one way southbound
  - Lahainaluna could run one way makai and Dickenson could run one way mauka
  - Would rather see the Flood Control Project happen in a more natural form with berms rather than the ditch they have it designed as right now
  - Maybe integrate a growth boundary into the development of the Bypass
  - Possible stacking problems heading makai on Lahainaluna with both Mill Street and Honoapi'ilani Highway
  - All landscaping should reflect native Maui by using native plantings
  - The Bypass design should integrate a major drainage component to pick up some of the runoff. Two separate, smaller and less noticeable drainage features could accommodate the same amount of runoff as the major Flood Control Project

- **Group E**
  - Gateway features:
    - Could have dual or multiple gateways on the south entrance to Lahaina
    - One at Honoapi'ilani Highway near Puamana Park and the other on the Bypass
    - Could be a visual gateway that is defined through a landscaped gateway area
  - Mauka-makai connections with bike paths connecting schools with parks
  - Flood Control Project could be used to make bike connections
  - Mill Street should be pedestrian and bicycle dominant
  - Connectivity enhancement – new routes from Honoapi'ilani Highway to Front Street
  - Rehabilitate upper drainage channel mauka of Bypass
  - Reinforce historic sites with connectivity and access: Moku'ula, Courthouse, Kamehameha Iki Park, Prison, Waiola Church and the Baldwin House
  - Third connector needed to Bypass to increase convenience and provide more connectivity, but would have impacts on the residential community, would slow traffic on the Bypass and could compromise the "Great Streets" concept of Mill Street
  - Four-laning of Honoapi'ilani Highway should be pedestrian-friendly and intersections should be improved to accommodate bike lanes and pedestrians – current design does not address

- Merge Dickenson Street with Lahainaluna to improve mauka-makai access
- Abandon existing Honoapi‘ilani Highway south of Puamana for a mauka alignment and create a linear ocean park

- **Group F**
  - Gateway feature that references Lahaina’s whaling history — maybe something about stepping into the future
  - Puamana and Hokiokio possible connections to the Bypass
  - Dickenson, Shaw, Lahainaluna and Keawe all possible connections to the Bypass
  - Shaw would not connect to the Bypass but would provide access to the mauka residents
  - Mauka-makai bus connections should be made
  - Mill Street should have a multiuse path and connections at Aholo and the Flood Control Project
  - A shuttle system should be provided for the students from Lahainaluna and Honoapi‘ilani Highway up to the schools to alleviate congestion during peak times
  - Continuous sidewalks should be constructed on Waine‘e and Front Streets on at least one side
  - Consideration was given to the possibility of one way streets in downtown to provide enough right-of-way to create a complete street system but didn’t find a good way to integrate a one-way street system into downtown
  - Shaw Street needs some sort of pedestrian treatment to accommodate the large number of children crossing that intersection
  - Sidewalks should be put on both sides of Honoapi‘ilani Highway not just one side
  - The Shaw extension from Honoapi‘ilani Highway should be a private road past the Bypass

Day Two wrapped up with presentations from each group and a discussion of the advantages and disadvantages of each concept. Work session attendees were sent home with the task of thinking about which concepts they would like to see incorporated into the final two alternative plans that would be developed on Day Three.

Preferred Design Concepts

Day Three

The third day kicked off with brief summaries of the six alternative plans created by small workgroups on Wednesday. This was followed by an exercise to identify the similarities and differences among all six alternatives.

From this review of the alternatives, the workshop attendees were able to arrive at a consensus that the final plan needed to include the following components:

- Large trees as a part of all projects
- Preservation of traditional Hawaiian mauka-makai access rights
- Creation of bike/pedestrian/bus friendly streets
- Mill Street as a key component of local circulation needs
- Lahaina Bypass should move forward to meet regional travel needs
- Bypass Phase 1A will not work without the Keawe Street Extension being completed simultaneously
- Create a gateway on the Honoapi‘ilani Highway at the southern entrance to Lahaina Town
- Develop a bike path following the Flood Control Project alignment & connecting with the proposed regional Pali to Puamana Trail
- Redesign the intersection of Shaw Street and Honoapi’ilani Highway to address pedestrian safety concerns
- Plan for coastal zone emergency evacuation routes
- Address the southern connection between the Honoapi’ilani Highway and the Lahaina Bypass
- Consider the locations of destinations, need for parking and overall traffic circulation throughout the community

DAY THREE

Even though many consensus elements were identified, the group had differing viewpoints on how to coordinate traffic flows across the major transportation projects. We focused on these concerns in the development of two final alternatives. The following chart summarizes findings. In general, Alternative One focused on regional mobility while Alternative Two focused on local circulation. The goal was to be able to distill select portions of each alternative for each project into one consensus plan for detailed development on Day Four of the workshop.

	Alternative One	Alternative Two
Lahaina Bypass	Free-flow facility with very few connections for regional travel needs • A 30'-50' median should be integrated as part of the design in order to create a greenway • The Bypass should act as a growth boundary to prevent further sprawling development mauka of the Bypass • A flood control component should be integrated into the design of the Bypass to prevent the need for a large channel • A 100' greenway buffer makai of the bypass would enhance the greenway design as well as reemphasize the growth boundary concept • The phasing of the Bypass would be one lane in each direction with the median for the initial phase and then expanding each direction of the roadway to two lanes to ensure the Bypass is a greenway from day one and to allow for the landscaping to mature • Connections would be made at Keawe, Lahainaluna and Hokiokio with private access being provided to mauka residents at approximately Shaw Street which could later be considered for a makai connection only	More of a local street with multiple connections to the street network to carry part of local circulation needs • Hokiokio would act as the southern connection to the Bypass Phase 1B-1 with Lahainaluna, Keawe, Aholo and another access point between Prison and Dickenson providing additional connections • The additional access point between Prison and Dickenson would connect only to Mill Street but would not go all the way through to the Honoapi'ilani Highway
Honoapi'ilani Highway	Four-lane facility that carries some regional travel as well as local circulation • The proposed Hawai'i DOT widening plan would be used with the addition of a landscaped median and the assurance that a planting strip, sidewalk and bike lane on the makai side of the highway remain part of the plan • Intersection improvements would be needed at Shaw Street • Construction impacts	Highway will not be widened but remain a two-lane facility • New signals would need to be added at Hokiokio and Aholo and another signal would need to be added later at the new road that is proposed to run from Mill Street to the highway • The funding for the highway would likely be lost and could not be reallocated if the widening did not happen • Eliminating further development could reduce traffic • Eliminating the widening project would cause delayed relief from the current congestion and would increase the need to expedite the Mill Street Extension • By leaving all roads at two lanes including the highway there is an immediate need to make other connections to relieve congestion

	Alternative One	Alternative Two
Mill Street	Address connection and intersections with the Honoapi‘ilani Highway • Mill Street should run parallel to the Honoapi‘ilani Highway all the way to Hokiokio • By running all the way to Hokiokio from Keawe it could truly add another connection to the road network by providing more access to the Bypass through a connected street network • There was not consensus on what to do with Mill Street once it hit the Flood Control Project if that proceeded as it is currently proposed	Limited connections beyond the southern terminus • Needs to be built immediately in order to alleviate the congestion on the Honoapi‘ilani Highway since this alternative left the highway as it currently exists
Flood Control Project	Integrate part of the storm water flows into the design of the Bypass and redesign proposed channel • The Flood Control Project should be made into a much wider channel so it can easily be incorporated into the landscape and could create a linear park that would only contain water during major flood events • The Flood Control Project could become an asset	Use existing alignment of flood control project, but enhance design • A bike path should be added to the design of the Flood Control Project on the makai side and it should connect to the Pali to Puamana Trail • The path could continue on the north end along the stream then would run on Keawe to the Honoapi‘ilani Highway to create a major link to the proposed regional path • Dickenson should be extended and would connect further mauka to Lahainaluna • The Flood Control Project would realign with the new Dickenson alignment and it would end at Puamana
Keawe Street	Four-lane facility using proposed alignment • The extension cross section should be the same as the already existing street section • The landscaped median, bike lanes and sidewalks on both sides should be extended to the Bypass	Look at alternative routing to minimize roadway grade • The Keawe extension should meander and follow the topography • The proposed two lane cross section should be used to prevent further delay of the project

Worksession Pin-Up

Day Three wrapped up with a brief discussion highlighting the major differences between the two alternatives as relating to each each project. The format was a public pin-up session that allowed West Maui residents to again see the progress made during the day. Residents and attendees were given the opportunity to view and comment on the proposed alternatives before the final consensus plan was developed on Day Four.

The Consensus Plan

Day Four

On the final day of the Lahaina Transportation Workshop, the goal was to combine various components of Alternative One and Alternative Two into a plan with which everyone felt they could support. Jim Charlier led a group exercise to take comments and develop consensus among the group. Considerations when developing the final plan were:

Lahaina Bypass

- Should the Bypass act as a limited access freeway or should it be integrated into the street network and act as an arterial?
- With both designs there are growth, funding, process, timing and connectivity implications that need to be considered.
- The duplicity of projects should be considered as well as how the alternatives could drive land-use and development.

Honoapi‘ilani Highway

- Should the highway exist as it is today or should it be widened to four lanes?
- Circulation, phasing, future conversion back to two lanes and funding availability are major implications to consider.
- Will Lahaina function as one “place” or be divided into two separate places if the highway is widened and what qualitative differences will result?

Mill Street Extension

- This project would be the easiest to accelerate due to the necessity of the project.
- The dispersion of traffic the Mill Street Extension would provide should be considered when deciding which alternative best fits the community.

Flood Control Project

- The design, alignment and terminus should be reconsidered and how it could possibly be redesigned or integrated into other projects through increased drainage should also be considered.

In general, the group was able to come to agreement on plans for the Lahaina Bypass, the Mill Street Extension, the Flood Control Project and the Keawe Street Extension. However, consensus to widen or not widen the Honoapi‘ilani Highway proved most difficult.

Honoapi‘ilani Highway Deliberations

The advantages of keeping the Honoapi‘ilani Highway as a two-lane facility include:

- Creating and embracing a sense of place for the community — Lahaina Town would not be divided into two separate places by a major infrastructure project.
- Enhanced aesthetics – could provide substantial median tree plantings to create a gateway to Lahaina Town.
- Maintaining acceptable distance from the highway to adjacent homes and businesses. A narrower roadway will be less likely to depreciate the value of abutting properties and will minimize construction impacts.
- Enhanced bicycling and walking facilities within the corridor and greater separation from traffic.
- Improved safety for people trying to cross the Honoapi‘ilani Highway at intersections especially at Shaw Street.
- Greater congestion on the roadway may force Maui to explore and implement transit alternatives sooner.
- Would force the Mill Street Extension and Lahaina Bypass projects to move forward at a faster pace.

The disadvantages of keeping the Honoapi‘ilani Highway as a two-lane facility include:

- A potential delayed funding opportunity as the Honoapi‘ilani Highway widening project is applying to compete for State DOT funds in 2007. This funding cannot transfer to another project.
- Delayed congestion relief since the widening project could be completed sooner than the Lahaina Bypass project. Highway widening was viewed as essential to accommodate traffic flows during the planning of other projects.
- Growth implications since new development projects throughout the region may be delayed waiting on Bypass completion.
- May require more street connections to the Bypass to help handle local circulation needs, thereby reducing ability of the Bypass to function as a free-flow commuter route.
- Requiring additional street connections to the Bypass may increase the cumulative transportation infrastructure costs for the area.

The Consensus Plan

The group ultimately arrived at a consensus plan that, primarily due to timing of the projects and the inability to transfer funding between projects, the Honoapi‘ilani Highway widening should move forward. However, a number of enhancements need to be made to the proposed project for the community to accept the widening, including aesthetics, multimodal considerations, and future “collapsibility” of the design to revert back to a two-lane facility once the Lahaina Bypass is completed from Launiupoko to Honokōwai.

This consensus plan, its component drawings and a slide show summarizing key policy recommendations were presented Friday night by the design team and workshop participants to an audience of approximately 100 people. Attendees included local citizens, the design team, Mayor Charmaine Tavares, Public Works Director Milton Arakawa, Planning Director Jeff Hunt, State DOT Highways Director Brennon Morioka, State DOT Maui Highways Manager Ferdinand Cajigal, Councilmember Jo Anne Johnson, Councilmember Gladys Baisa, State Senator Roz Baker, State House Representative Joe Souki and many more. Mahalo to all those who attended for making the Lahaina Transportation Workshop such a great community success.

"We had over 100 people in the room on the last night including elected and public officials. No one was yelling at anyone! Everyone was more or less in agreement. It was amazing.

Having never been through this process, I had no real expectations. However, after the second day of the workshop, I could not see a resolution at all. But by the end of the process, we had developed a plan that was much better than any one of us could ever have thought of prior to this workshop. The process is truly amazing!"

- Theo Morrison, LBN Executive Director

"I found the 4 day workshop a terrific opportunity to keep selling my project to opponents, disspell myths or misinformation on the project, and being able to continue and get some meaningful feedback from people in the community. Even though I had presented the project before the Cultural Resources Commission, Maui County Arborists, & 2 public informational meetings, the 4 day interactive forum allowed a whole lot more dialog, personal connections & brainstorming.

When I came on board with State DOT (from the County), and inherited the original project scope of widening to four lanes like the rest of Honoapi'ilani Highway (without sidewalks or landscaping), I knew it was not going to sell unless it was pedestrian friendly and had some features like a landscaped median to traffic calm the area. The design workshop confirmed that the community would be a lot more receptive to the project with landscaped medians, sidewalks, & bike routes."

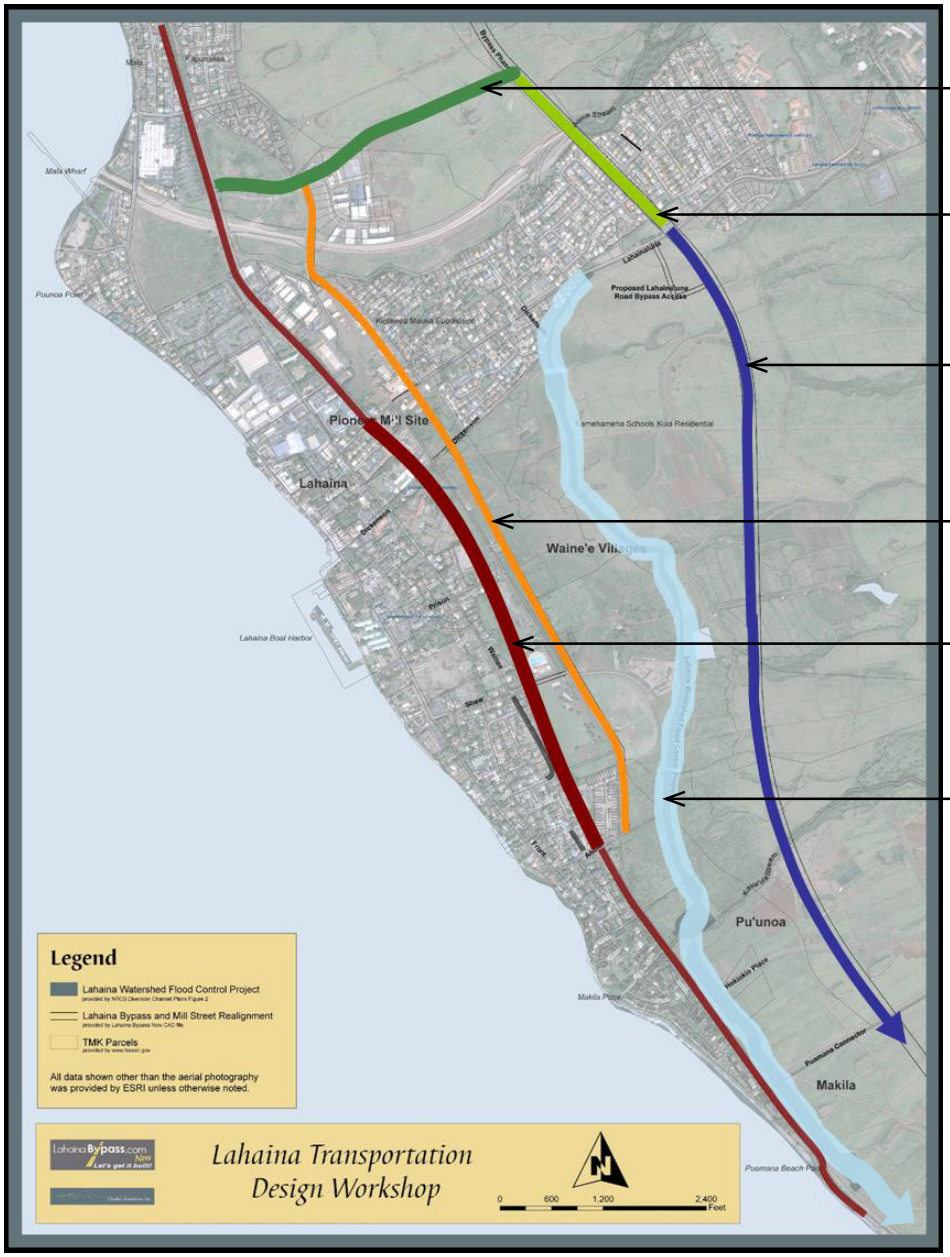
- Charlene Shibuya, HDOT Maui District Office

The Projects

The Transportation Design Workshop was originally planned to coordinate the detailed design of two transportation improvement projects being planned through Lahaina Town:

- The widening of the Honoapi‘ilani Highway from two lanes to four lanes
- Development of a former cane haul road as an extension of Mill Street

However, the planning process recognized that additional projects also needed to be closely considered as both regional transportation patterns and local flood control needs directly impact the study area. Therefore the Design Workshop also included a detailed examination of the future Lahaina Bypass and Keawe Street Extension, as well as the long-planned Lahaina Watershed Flood Control Project. Each of these projects’ initial plans and recommended modifications are presented in detail on following pages, with a discussion of the resulting transportation system on page 41.



Keawe Street Extension
to the Lahaina Bypass

Lahaina Bypass Phase 1A
from Keawe Street to Lahainaluna Road

Lahaina Bypass Phase 1B
from Lahainaluna Road to Launiupoko

Mill Street Extension
from Keawe Street to Aholo Road

Honoapi‘ilani Highway Widening
from Lahainaluna Road to Aholo Road

Lahaina Watershed Flood Control Project
from Lahainaluna Road to past Puamana Park/ “Guard Rails”

Study Area

Keawe Street Extension

The County of Maui Department of Public Works and Environmental Management will be extending Keawe Street as a necessary companion project to the HDOT Lahaina Bypass Phase 1A. Keawe is proposed to connect at-grade to the northern terminus of Phase 1A and is intended to provide congestion relief for neighborhood and school traffic currently accessing the Honoapi‘ilani Highway at Lahainaluna Road. Princess Nahienaena Elementary, Lahaina Intermediate School and Lahainaluna High School are all located mauka on Lahainaluna Road with a single point of access and egress.

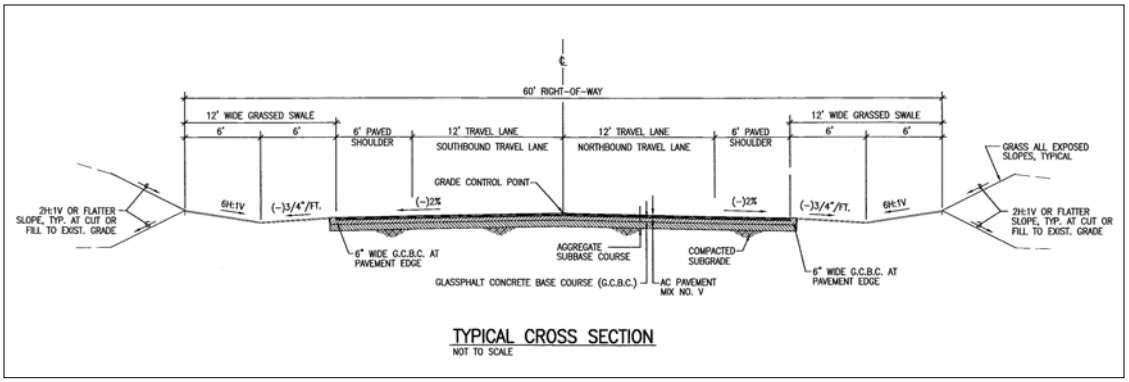
Existing Conditions

The existing segment of Keawe Street, located from the Honoapi‘ilani Highway mauka to Kupuohi Street, is constructed as a four-lane parkway with on-street bicycle lanes, median planting strip and sidewalks. The new Opukea housing development and the Lahaina Gateway Shopping Center are both currently under construction along this segment of Keawe Street, just mauka of the Cannery Mall.

Existing Keawe Street cross-section

The Concept Plan

Maui County submitted Keawe Street plans for federal-aid funding for fiscal year 2006. Concept plans dated May 2005 show a two-lane cross section within a 60-foot right-of-way. Six-foot wide paved shoulders for bicycle use are included, with grassed drainage swales located on either side of the roadway. No sidewalks are included in the initial plans. The proposed route is 2,360 feet in length, with most of the grade at 12 percent.



Proposed cross-section for Maui County extension of Keawe Street

Design Workshop Recommendations

The following issues and opportunities were identified in the Workshop process, refined during the development of alternatives, and reflect group consensus for the design of Keawe Street:

▶ Grade

Workshop participants felt that there is opportunity to add some gentle curves to the proposed roadway alignment to offer relief from the 12 percent grade.

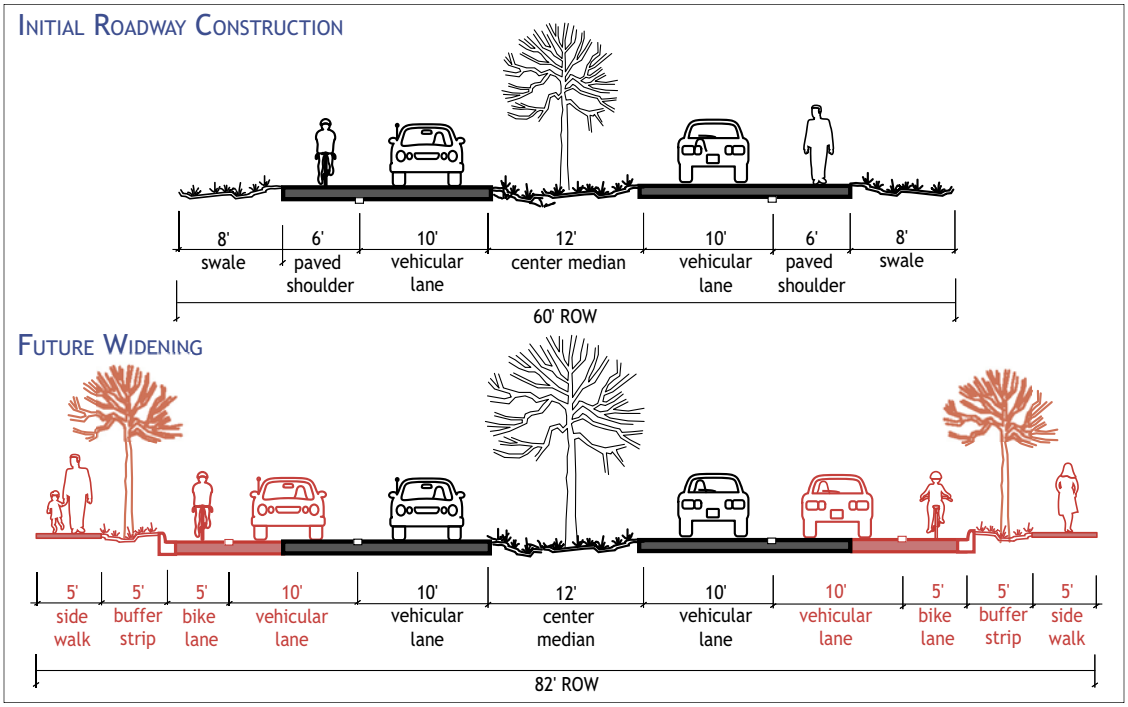
▶ Roadway Cross-Section

Keawe Street is envisioned to be a four-lane parkway with a landscaped median that will create a northern gateway into Lahaina Town from the Bypass. This design would be an extension of the existing street found between the Honoapi'ilani Highway and Kupuohi Street. However, the County is currently planning to construct the initial Keawe extension as a two-lane roadway.

Workshop participants recognized the need for a phasing plan that will ensure key project components are included in the initial design, and remain once the roadway is widened to four lanes. These components include bicycle and pedestrian accommodation and appropriate landscape plantings that can be established prior to future street widening. A safe transition from the existing four-lane to two-lane design is also important, particularly for bicyclist safety.

▶ Phasing Plan

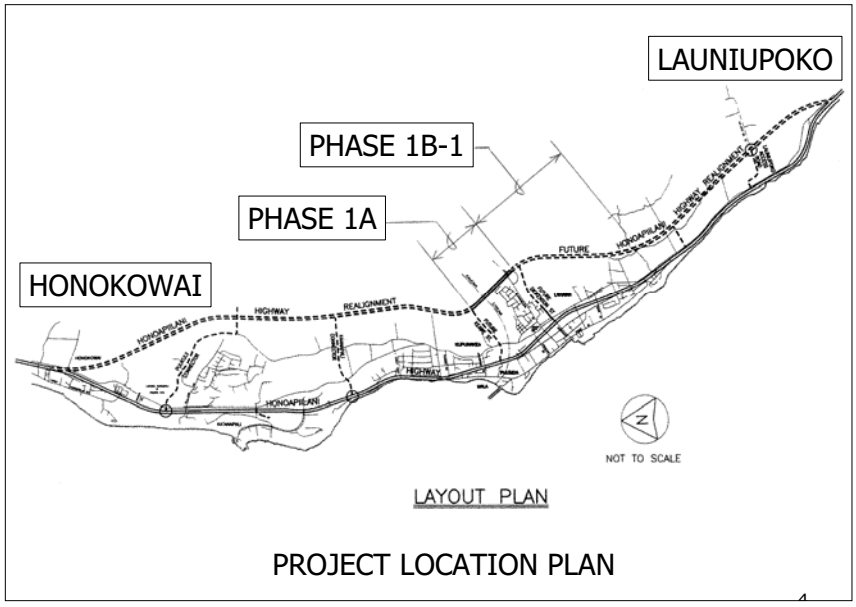
Since the Design Workshop duration did not allow time to flush out phasing details for this project, Charlier Associates, Inc. developed the following plan for implementation of the design objectives stated by workshop participants. A primary objective is to get the landscape median plantings in as part of the initial project. The landscaped median could be constructed with curb-and-gutter or as a simple landscaped swale, as depicted in the illustration below. Including natural drainage swales and paved shoulders on the sides of the initial design will allow for future widening to a four-lane parkway cross-section. As an interim solution until surrounding land uses generate increased pedestrian activity, pedestrians can share the paved shoulder accommodations with bicyclists.



Detail of workshop recommendations for Keawe Street improvements through phased implementation

Lahaina Bypass Phase 1A

The Hawai‘i Department of Transportation (HDOT) has begun a design-build project to realign the Honoapi‘ilani Highway from Honōkowai to Launiupoko. This nine-mile project is often referred to as the Lahaina Bypass. The roadway will ultimately be built to a four-lane highway section with two northbound lanes and two southbound lanes within a minimum 150-foot right-of-way.



PROJECT LOCATION PLAN

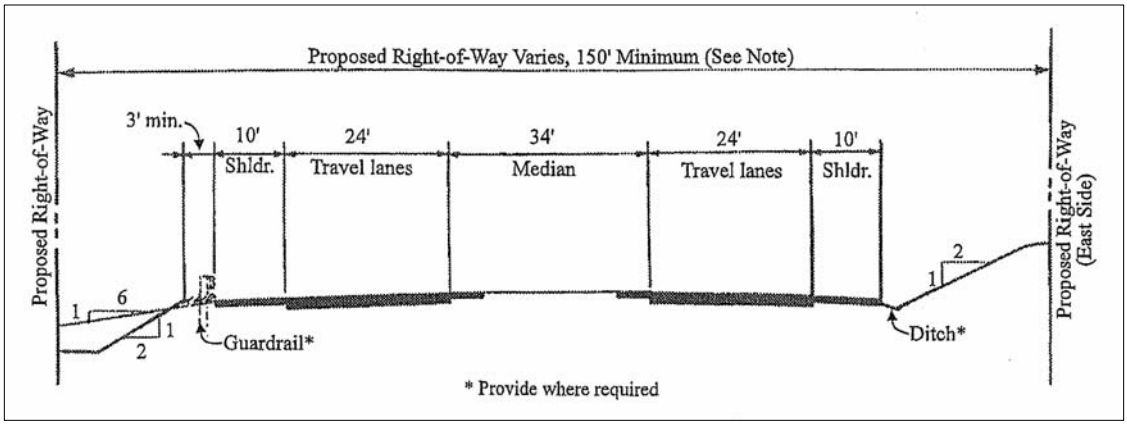
Connectors planned along the route include three north of Lahaina located at Pu‘ukoli‘i, Ka‘anapali and Wahikuli; three within Lahaina including Keawe Street (which replaced the original Kapunakea Street connector), the Lahainaluna Road-Bypass Access, and a third connector in the Puamana area. The originally proposed Dickenson Street connector will no longer be implemented.

According to the project’s Final Supplemental Environmental Impact Statement (FEIS), dated April 2002, the Base Project will join the existing highway south of Lahaina at the Launiupoko Wayside Park Access Road. Additional discussions are underway to potentially continue with a Launiupoko Extension that would move the highway onto a more mauka alignment south toward Olowalu.

Phase-1A Concept Plan

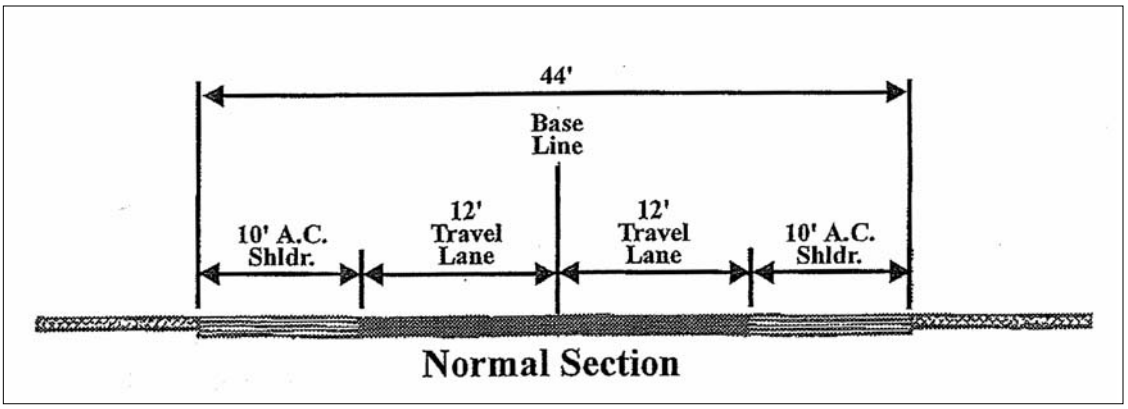
Phase-1A, Federal Aid Project #NH-030-1(35)R, runs from the future Keawe Street Extension to Lahainaluna Road. Design notice to proceed was awarded on January 8, 2007.

This design-build project will construct two lanes of the ultimate four-lane highway for a 3,400-foot segment. Also included are two major bridge structures (a grade separation structure at Lahainaluna Road and the Kahoma Stream bridge), design and relocation of utilities (permanent and temporary), improvements to Kelawea Mauka Park, and design treatment for Archaeological Site 2484.



HDOT Ultimate Typical Section for Modified Project

One of the modifications made to the HDOT Base Project through the EIS process was to designate the Bypass as a bike route and revise the typical cross-section to accommodate this use by including 8- to 10-foot paved shoulders. A 30- to 34-foot median is also planned as part of the ultimate typical section. However, the normal section initially proposed to be constructed for Phase 1 consists of 44 feet of pavement without a median, with truck climbing lanes added where needed.



HDOT
Phase 1 Plans for
Modified Project

Design Workshop Recommendations

Workshop participants first and foremost acknowledged that West Maui has been waiting for the Lahaina Bypass for a long time. A Final EIS for the Base Project was accepted in 1991, and a supplemental EIS for a Modified Project was completed in 2002. Now, in 2007, a design-build contract has been awarded and the community desires this project to move forward as quickly as possible by following these strategies:

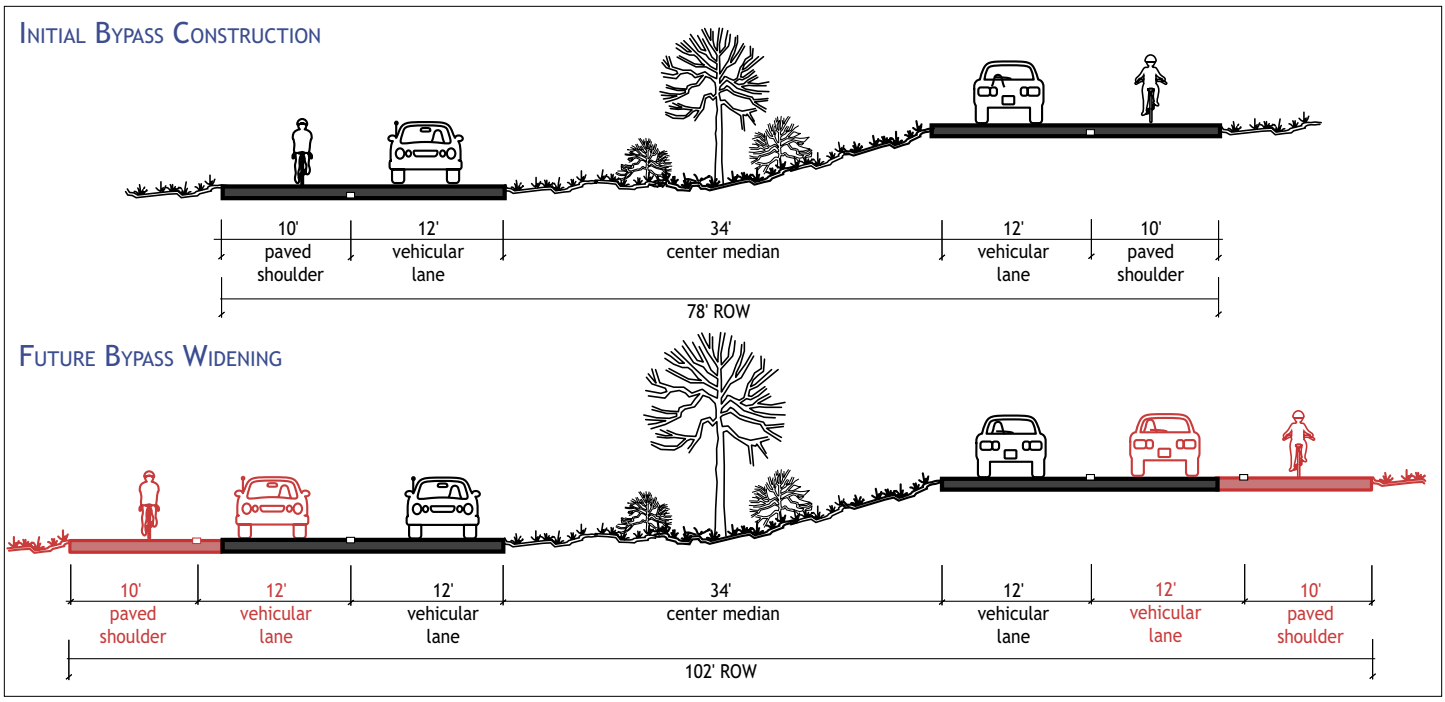
▶ Stay on Schedule

There was broad consensus to avoid any changes in the design of Phase 1A that would trigger another Supplemental EIS study. Any design modification to Phase 1A should be considered only if it minimizes schedule delays toward a completed project.

▶ Initial Cross-Section Design

Three major points of consensus were reached regarding the roadway cross-section design for the Lahaina Bypass after considerable discussion during the workshop.

1. The Bypass should have a landscaped median between the north and southbound lanes. It was agreed that a landscaped median would create a more pleasant driving environment for those using the facility, and would reduce the visual impact of the Bypass for those looking mauka from Lahaina. This recommendation is consistent with the Modified Project ultimate typical section.
2. The north and southbound lanes should be at split grade, with the northbound (mauka) lanes higher up the slope than the southbound (makai) lanes. In other words, the two directions are terraced along the hillside, working with the natural contours. This enhances the experience of northbound drivers as vistas to the ocean are opened. It would also further reduce the visual impact of the Bypass for those looking mauka from Lahaina.
3. Similar to the Keawe Street recommendations, it was agreed that initial construction of the Bypass should include one lane in each direction on either side of the raised, terraced median. It was agreed that the benefits listed above should begin immediately rather than building a single 44-foot pavement width and incorporating the median once the second pair of lanes is built.



Detail of workshop recommendations for constructing the Lahaina Bypass through phased implementation

There are a few technical items to consider as the Bypass proceeds with this consensus design. First, landscaped medians are more expensive and additional funding will likely be required. Second, a split grade roadway is challenging for intersections. Both north and southbound lanes must taper to the same grade at each intersection to allow for turning movements on and off the bypass. The spacing of intersections will therefore need to be planned early in the process, as discussed under access control regarding the Bypass Phase 1B-1 project. Finally, special provisions may be needed for emergency vehicle access between north and southbound lanes.

▶ Timing with Keawe Street

It is critical that the Keawe Street Extension is completed at the same time as the Bypass Phase 1A. Workshop participants fully understand that Phase 1A will be of limited value until the Keawe roadway section is built, as previously discussed under the Keawe Street Extension. Thus, coordination is needed between HDOT and Maui County.

▶ Drainage

The Lahaina Bypass is a large capital project built within and cutting across the base of the Lahaina hillside. Workshop participants recognized the opportunity for the Bypass to intercept sheet flow water draining off of the Lahaina hills, although this opportunity is greater in Phase 1B where the roadway traverses undeveloped lands.

Lahaina Bypass Phase 1B

The FEIS completed in 2002 for the Bypass included Phases 1A and 1B. HDOT plans to award Phase 1B-1, generally running from Lahainaluna Road to Hokiokio Place, as a design-bid-build contract, but a design notice-to-proceed has not been given and right of way has not been purchased. Thus there is a bit more leeway in potential design modifications that can be made to this segment of the project, as long as a Supplemental EIS and the subsequent delay in project implementation does not occur.

Design Workshop Recommendations

In addition to Bypass issues and opportunities previously summarized, Phase 1B-1 generated additional workshop discussion as follows:

▶ Preserving Traditional Access Rights

In 1850, the Hawaiian legislature enacted a statute to protect the rights of tenant farmers to continue to reside and cultivate crops on the lands where they resided. Although much of this legislation has been repealed, one important section remains defining the traditional gathering rights of native Hawaiians. The Hawai‘i Revised Statues section 7-1 (HRS 7-1) states, among other things, that the traditional access routes mauka to makai must be preserved for native Hawaiians (Source: Native Hawaiian Rights Handbook and No ke Ola Pono o ka Lahui Hawai‘i: The Protection and Perpetuation of Customary and Traditional Rights as a source of Well-Being for Native Hawaiians).

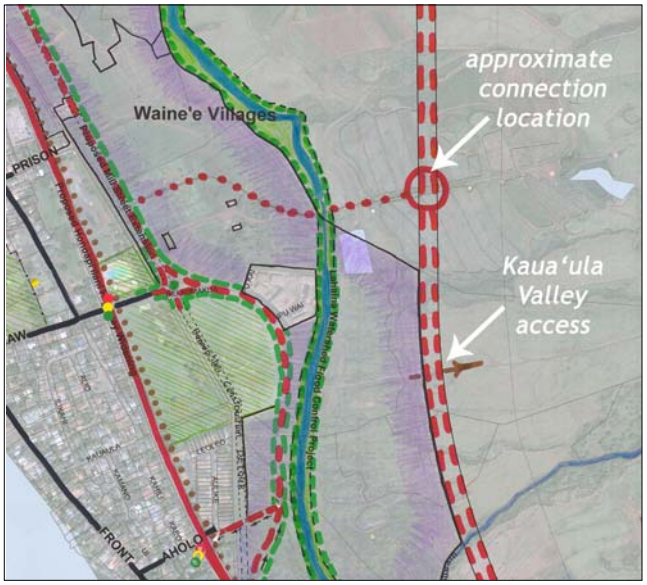
Phase 1B of the Lahaina Bypass was recognized during the workshop to be a potential barrier to maintaining traditional access rights. A consensus quickly developed among all participants of the workshop to create an underpass at Kaua‘ula Road, mauka of the flood control project, to maintain access to the Kaua‘ula Valley. This underpass would create access from the Kaua‘ula Valley into the Waine‘e Village development continuing to Shaw Street, and down into Lahaina. It was also concluded that where the road follows the traditional Hawaiian travel route it should be named Kaua‘ula Road. Upon deviating from this traditional corridor it should change names to Shaw Street.

▶ Access Control

The Design Workshop facilitated considerable discussion about the number of roadway connections to Phase 1B of the Bypass, with two prevailing schools of thought:

1. Keep the Bypass as a high-speed, limited access roadway to maintain the true nature of a “bypass.”
2. Design the Bypass to be a part of the local roadway network with multiple at-grade intersections.

Workshop participants who felt that the Bypass should have limited access points expressed viewpoints that much of the traffic currently on Honoapi‘ilani Highway is pass-through traffic originating in central Maui and terminating in points north of Lahaina, such as Ka‘anapali and Kapalua. This group was concerned that too many connections would discourage pass-through traffic from using the Bypass. Too many connections would minimize the travel time savings of the Bypass and thus encourage pass-through traffic to remain on Honoapi‘ilani Highway.



Detail of Lahaina Bypass connection and the Kaua‘ula Valley Access location

Workshop participants who felt that the Bypass should have multiple connections thought that much of the traffic on Honoapi‘ilani Highway is actually local traffic. This group felt that restricting access to the Bypass would prevent many local trips from occurring on this facility. Instead, ensuring multiple connections to the Bypass would create additional capacity for local circulation within Lahaina, effectively alleviating some of the current congestion now experienced on Honoapi‘ilani Highway.

The consensus plan merged the two prevailing schools of thought. In addition to the EIS proposed connections at Keawe Street, Lahainaluna Road and in the Puamana area, it was decided that there may be an additional connection made between Dickenson Street and Shaw Street. The exact location of this connection will be left to future planning efforts by Maui County.

▶ Defining Open Space

The mountainside backdrop behind Lahaina is widely believed by Lahaina residents to be one of the most important community assets and worthy of preservation. During the workshop, an idea was developed to designate all lands mauka of the Bypass Phase 1B-1 as open space. Currently there is little pressure on these lands to be developed due to poor access and lack of water. Reaching these mauka lands by vehicle entails driving across rough gravel roads. Once the Bypass is completed, however, vehicular access to these areas will improve and development pressure will increase on both sides of the roadway.

Other communities throughout the United States use development features to designate open space. In 1959, citizens of Boulder, Colorado created a charter amendment to prohibit water service above a certain line along the hillside. This line followed an existing water channel used to transport irrigation water from Boulder Creek to agriculture lands south of the city. Known commonly as the “blue line” in reference to the water system, this amendment has had the long-standing effect of preserving vistas of the Flatirons, and allowing for public use of the dramatic hillside.

▶ Greenway Buffer

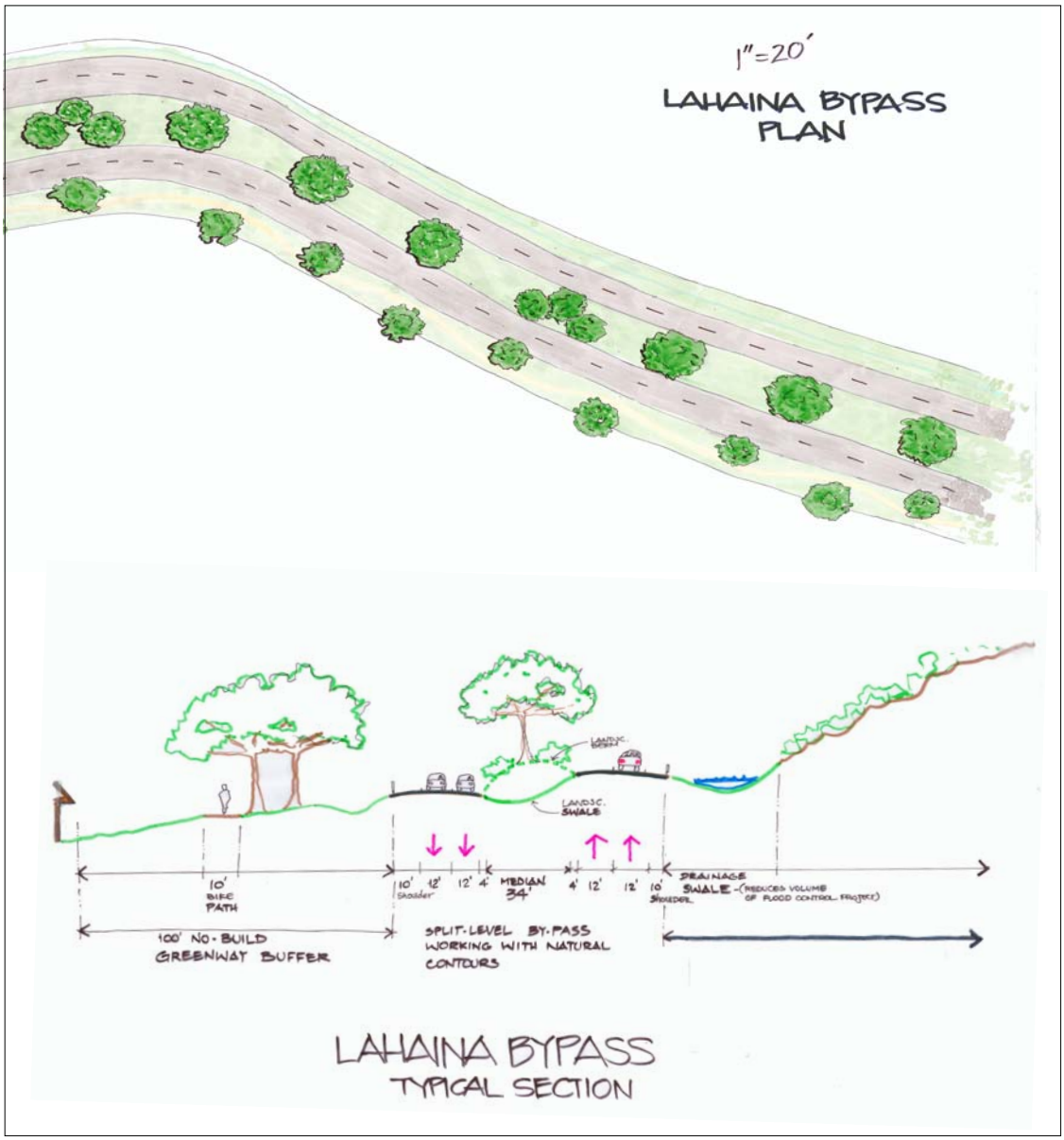
Discussions about integrating the Bypass design and stormwater solutions stemmed from various alternative plans generated on Day 2 of the Design Workshop. Several of the small groups began to explore the concept of a “greenway” or linear park being developed along the Bypass. Based on experience on other West Maui projects, participants recognized the likelihood to designate a 100-foot no-build buffer immediately adjacent to the highway.

On the makai side, where adjacent resident populations have access, this buffer could function as a linear park with a meandering multi-use path for bicycling, jogging and other recreational pursuits. On the mauka side of the roadway, the buffer could serve to naturally collect and infiltrate part of the storm flows that would otherwise end up in the proposed Lahaina Flood Control drainage channel.

▶ Drainage

As mentioned in the Lahaina Bypass Phase 1-A project section, workshop participants recognized the opportunity for the Bypass to intercept sheet flow water draining down off of the Lahaina hills. There was consensus among the group that if in fact some of the drainage capacity could be incorporated into the Bypass design and construction, there would be several community-wide benefits.

The benefit most discussed was that capacity requirements of the flood control channel could



Plan and Cross-Section Views of the Lahaina Bypass corridor as drawn by Workshop Participants

be reduced. This could have the potential benefit of narrowing the width of the flood control channel, thereby reducing the impact this project has on the community.

While all workshop participants understood the importance of flood control, the original design for a geometric, grass-lined channel was met with concern that it would divide communities mauka and makai of the project. The flood control channel would be fenced in and difficult to cross, and generally become something to which residential development would turn its back to. The concrete Kahoma stream channel was cited as a design that the community wanted to avoid. If the Bypass could take some of the drainage capacity, it was largely agreed that the flood control project could be modified and would have more of an opportunity to become a community asset.

As the workshop progressed and ideas began to synthesize, additional questions were raised

regarding overall flood control for the project study area. Participants questioned the need for an additional flood water outlet to be constructed at the Puamana Beach Park, and wondered where the water that may be collected at the Bypass would eventually flow. Phase 1B of the Bypass extends past the Kaua'ula Stream, which could have some potential as an outlet. More research is needed to understand if this stream channel could accept the quantities of water the Bypass drainage system might create, and if a retention pond may ultimately be necessary.

Another drainage factor to be considered as related to the Bypass is that the cross slope at the location of the new roadway is very shallow. The length of a potential Bypass drainage system (Lahainaluna Road to Kaua'ula Stream) is approximately 6,000 feet. The elevation between these two points, however, only drops 125 feet. If water is to flow along the mauka side of the Bypass to the Kaua'ula Stream, the drainage channel will need to drop at a more substantial grade.

The Southern Connector

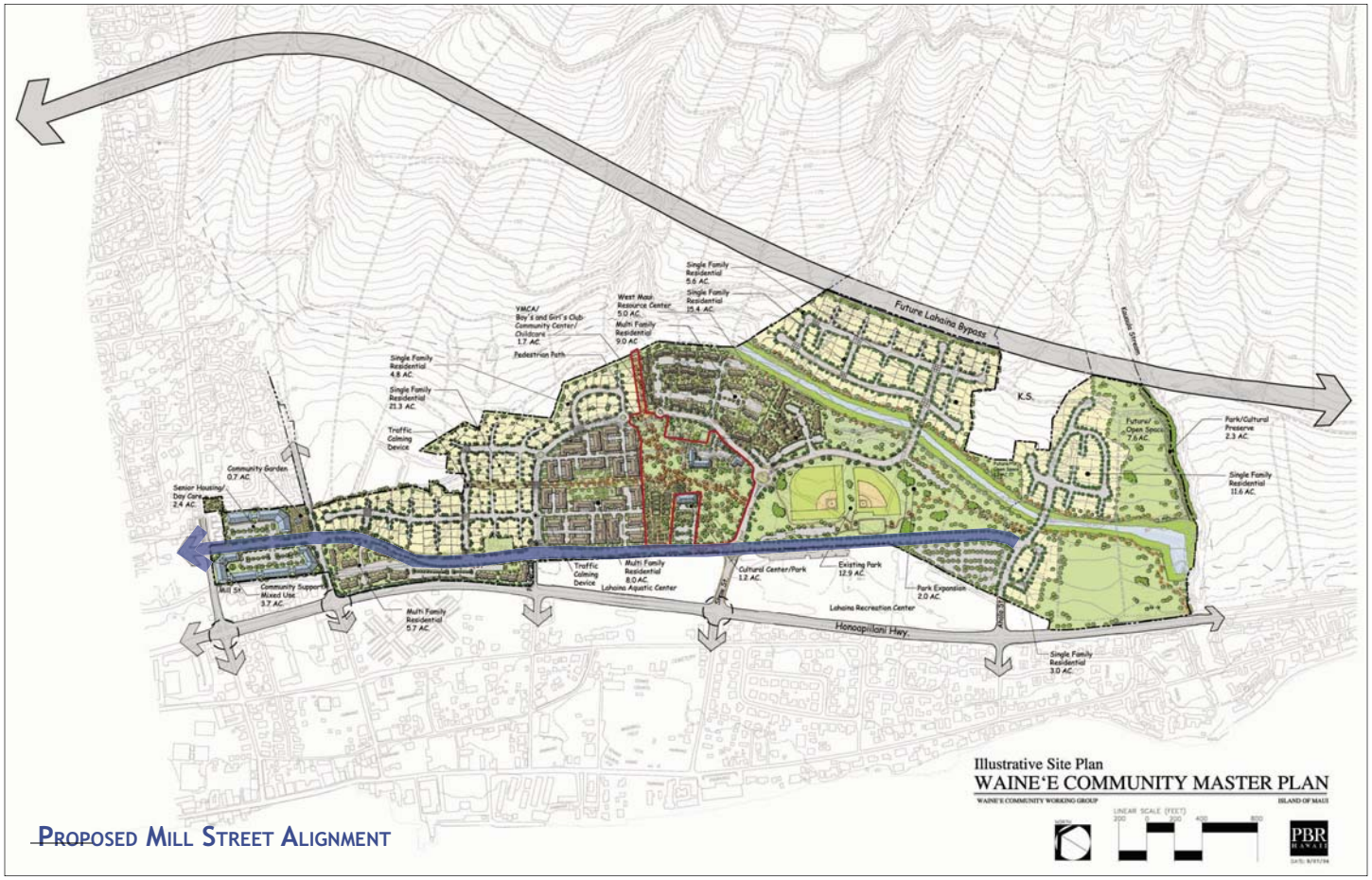
Existing outlet of Kaua'ula Stream under the cane haul road bridge

South of the Design Workshop study area, Bypass Phase 1B-2 is requiring a supplemental EA to examine a potential adjustment to the Base Project to realign the route mauka of the existing highway from Launiupoko to Olowalu. Hokiokio Place will likely serve as the interim connector from the Honoapi'ilani Highway to the Bypass, with Hawai'i DOT planning an eventual connector in the Puamana area as part of Phase 1B-2. Several design workshop participants saw many merits in keeping the southern Lahaina Town connector routing on Hokiokio Place. This roadway's parkway design with landscaped center median was viewed as a nice community gateway feature. Hawai'i DOT will need to determine if this connection is feasible to meet the intent of the conceptual Puamana connector.

Mill Street Extension

The proposed Mill Street Extension generally follows a former cane haul road that runs immediately mauka of and parallel to the Honoapi‘ilani Highway, from Keawe Street to Aholo Road, and potentially further north and south.

Design of this project is being funded by Intrawest as traffic mitigation for the Honua Kai project, and roadway design and entitlement will be administered by the Ka‘anapali Development Corporation (KDC).



Waine‘e Master Plan depicting proposed Mill Street as route through the future Waine‘e community

The Concept Plan

The Mill Street Extension is in the initial planning stages and no design concept had been prepared for the roadway prior to the Lahaina Transportation Design Workshop. A design contract and survey work are expected in early 2007. Exact right-of-way width is unknown, but is estimated to be less than 45 feet.

Per the Waine‘e Community Master Plan, the extension alignment is envisioned to shift mauka of the existing Mill Street and old cane haul road where it crosses Lahainaluna Road and traverses the former Pioneer Mill Site. Moving southward, the alignment had been proposed to follow the former cane haul route to Aholo Road.

Development of the corridor as a local street will provide enhanced connectivity to Lahaina Town, and offers potential to serve as a construction detour for use by Hawai‘i DOT during the Honoapi‘ilani Highway widening project.

Design Workshop Recommendations

To provide direction to the developers of this future street corridor, workshop participants offered the following recommendations:

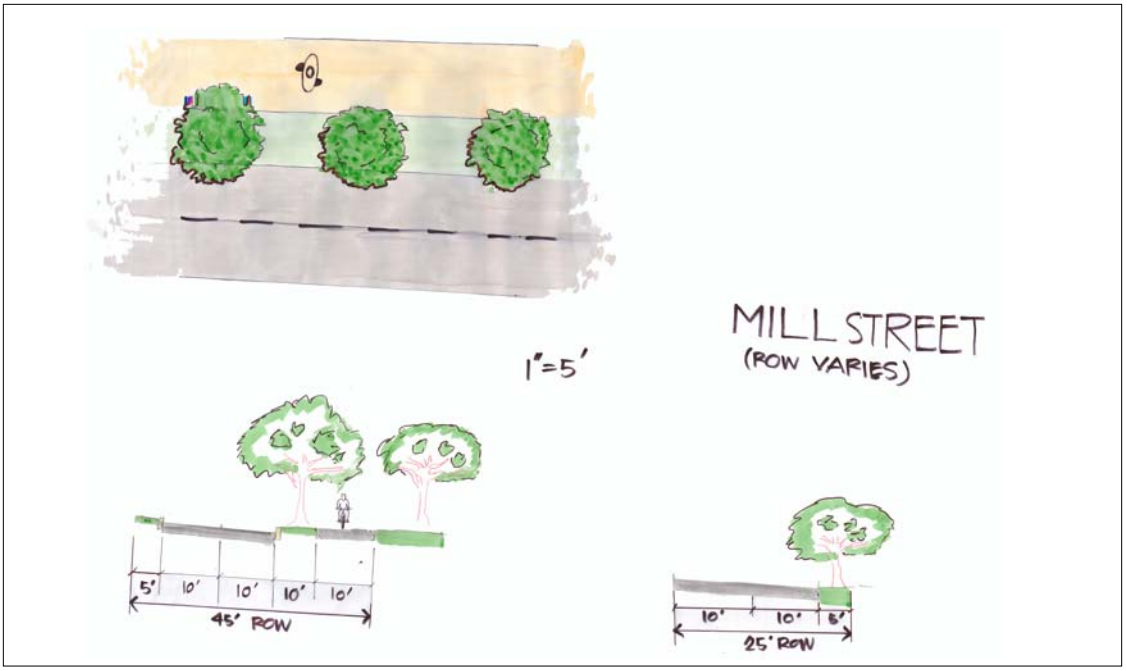
▶ Roadway Cross Section

Mill Street should be a two-lane local street. It was widely agreed that this would add additional north/south motor vehicle capacity, provide some congestion relief from Honoapi'ilani Highway, and offer additional route options for local circulation between Keawe Street and Aholo Road. The existing bridge over the Kahoma stream flood channel at Mill Street is in good condition and thought to be adequate for connecting the new roadway to Keawe Street.

Workshop participants discussed the variations in width that currently exist within the Mill Street corridor. Although precise surveying has not yet been done, best estimates are that the corridor right-of-way varies from 25 to 45 feet. Most important to be accommodated within this space will be two 10-foot travel lanes. Narrower lanes were deemed not feasible since this corridor is intended to be turned over to Maui County as a public street.

Second highest priority is for continuous pedestrian accommodation for the entire length of the corridor. The occasionally constricted right-of-way will make pedestrian facilities impossible in some spots. However, these narrow locations are thought to be adjacent to parklands and thus pedestrian accommodation should be able to continue as an easement on the adjacent properties. At minimum, a 5-foot sidewalk should be provided. If there is room, a 10-foot wide multi-use path is desired to be built to accommodate both pedestrians and bicyclists — particularly child cyclists who will likely use this corridor to access the Boys and Girls Club, the Lahaina Recreation Center and the Aquatic Park at Shaw Street.

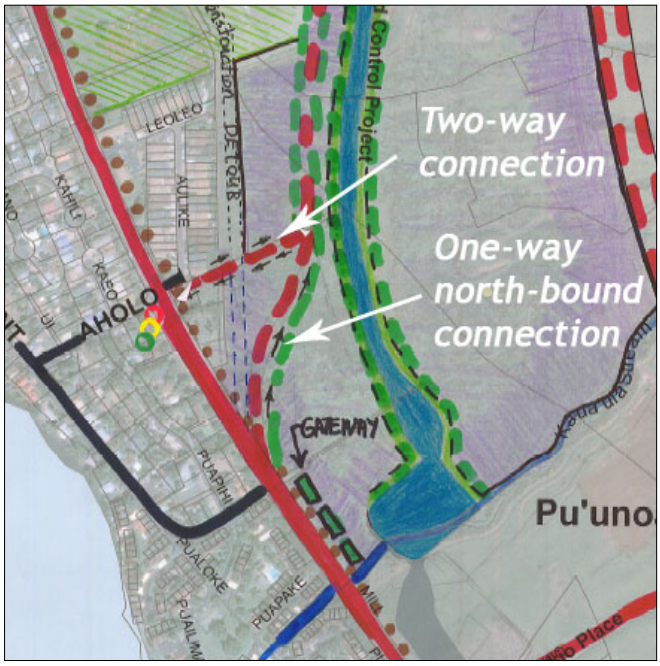
Remaining right-way width is desired to be used for "greening" of the corridor by providing a landscape buffer to separate sidewalk from street. Where space allows, on-street parking may be provided on one side of the street.



Illustrations of the Mill Street Extension drawn by Design Workshop participants to show a multi-use path parallel to a small, local street

▶ Southern Terminus

There was considerable discussion in the workshop regarding the Mill Street connection to the Honoapi‘ilani Highway at the southern terminus. Originally, Mill Street was proposed to cross Kaua‘ula Stream on the existing bridge. Upon further discussion, however, it was thought that this bridge is too narrow and a new bridge would have to be constructed, making the project more difficult and expensive. Workshop participants therefore explored concepts to connect the north-bound lane of Mill Street at the same location just north of Front Street proposed for a Hawai‘i DOT construction detour during the Honoapi‘ilani Highway widening project. The north-bound connection should come off of Honoapi‘ilani Highway at an angle, as would a slip ramp off of a highway. This design would avoid the need to build a new right turn lane on the highway in advance of the Aholo Road intersection.



Detail of the connections between the Honoapi‘ilani Highway and the southern terminus of Mill Street

The initial south-bound terminus of Mill Street is thus recommended to be at Aholo Road, although there was interest by some participants in continuing to explore if Mill Street could be extended south to Hokiokio Place if the Lahaina Watershed Flood Control Project is redesigned. Either way, Aholo Road should remain a two-way local street. Traffic heading mauka off of the Honoapi‘ilani Highway will be light, given the slip ramp design previously discussed. The need for south-bound traffic on Mill Street/Aholo Road to turn left onto Honoapi‘ilani Highway will require a signalized intersection.

▶ Coordination with the Construction Detour

The construction of the Honoapi‘ilani Highway widening project requires the temporary narrowing of the highway to a single lane. To maintain adequate traffic flow during construction, Hawai‘i Department of Transportation proposes using the Mill Street corridor as a temporary detour for one lane of north-bound traffic. This would require grading, subsurfacing and paving of this corridor to handle the predicted quantity of detour traffic.

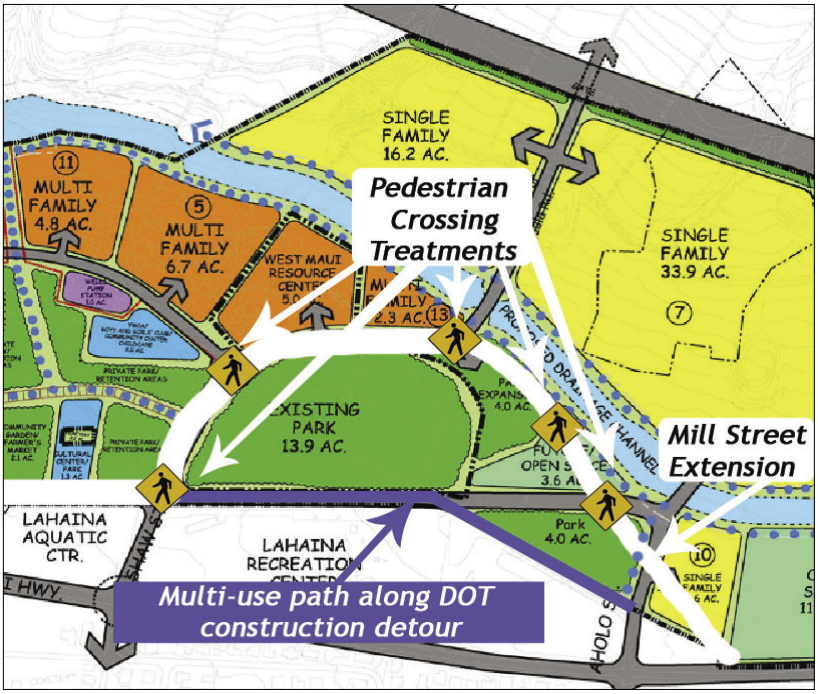
It was widely agreed upon in the workshop that, when on the same alignment as the future Mill Street Extension, improvements to the cane haul road required for the Honoapi‘ilani Highway detour should be built to minimize future roadway demolition and reconstruction. In the areas around the parklands discussed following, the construction detour road may be built to minimum design standards, but should be a paved surface at least 10-feet wide that can function as a future multi-use path running between Shaw Street and Aholo Road.

Workshop participants recognized two benefits to this approach. First, some of the funding to improve this corridor, including surveying, grading and some drainage could come from HDOT as part of the construction detour project. Second, if the detour project proceeds with no consideration of the ultimate design and use of this corridor, it is likely that the pavement laid for the detour would have to be removed before construction of the final street could be built. This was widely recognized as being inefficient and contributing to a more costly project.

Thus, workshop participants agreed that coordination between the two projects will be critical to ensure that early investment in the detour can be adapted to the long-term Mill Street Extension project.

▶ Routing around the Park

Workshop participants were concerned that the Mill Street corridor slices between the Lahaina Recreation Center and the West Maui Ball Fields. They felt that this destroyed synergy between the recreation facilities and created a safety issue for kids crossing this street. To address these concerns, workshop participants felt that Mill Street should be rerouted around the ball fields on the existing Shaw Street alignment in front of the Na Hale O Waine'e Resource Center. Following this alignment for the street would enable a section of the former cane haul road to be added to the park, offering opportunity to create a larger, more cohesive park and/or have a multi-use path for bicycling and walking activities without vehicular conflicts.



Detail of the proposed Mill Street Extension routing around the park and the recommended pedestrian crossing treatments. This graphic also represents the conversion of the existing Mill Street Corridor into a multi-use path.

Several important issues must be addressed if Mill Street proceeds to be directed around the West Maui Ball Fields. First, the additional traffic that will be placed on this connection may make mauka-makai pedestrian connections across the combined Shaw/Mill segment difficult. The Conceptual Master Plan for the Waine'e Community shows 13.8 acres of multi-family housing in addition to the West Maui Resource Center located mauka of the proposed street alignment around the park. Special pedestrian crossing treatments will thus be critical to ensure pedestrian safety, particularly neighborhood children trying to access the park facilities. These may include a combination of pedestrian activated flashing lights, raised crosswalks, center medians at crossing locations, curb extensions to reduce crossing distance and adequate signage.

Second, the Conceptual Master Plan for the Waine'e Community depicts additional park space added to the south of the existing park facilities. Rerouting Mill Street as discussed would require right-of-way acquisition along the edge of the proposed park expansion, next to the Flood Control Project. A second safe pedestrian street crossing will be needed to allow people to access the park from the multi-use path proposed along the drainageway.

Finally, south of Aholo Road, the need for additional right-of-way to accommodate the one-way right-hand slip lane will require a reconfiguration of proposed single-family housing and open space as shown on the Conceptual Waine'e Master Plan.

▶ Crossing Lahainaluna Road

Most workshop participants believed that the Mill Street project would increase the need for a new signalized intersection at Lahainaluna Road and Mill Street. Many people felt that a signal would be necessary at this intersection if Mill Street is to fully function as a local circulation route. Some people, however, disagreed with installing another signal on Lahainaluna Road as there were concerns that the morning congestion leading to the schools would become even worse with an additional signal. It was ultimately decided that a proposed traffic signal would be shown on the final plan, but additional study needs to be done to address the concerns raised in the workshop.

▶ Private vs. Public Funding

There was a general agreement among workshop participants and Lahaina residents that publicly-funded transportation projects take exceptionally long to complete. Residents referenced the Lahaina Bypass which has been in process for 20 years. Many concerns were raised regarding the potential for the Mill Street project to be built within a reasonable timeframe if left strictly to public funding. In addition to the extended timeframe for general capital improvement projects in West Maui, Mill Street would need to be reclassified as a collector road facility before any State or County funding could be awarded to the improvement of this corridor. The reclassification process would take additional time and money since use of Federal funds usually requires completion of an Environmental Assessment or Environmental Impact Study, and other collector streets in Lahaina, most likely Waine'e Street, would need to be redesignated to the local street category.

Given the above constraints for public funding, it was proposed in the workshop that private funding should be leveraged to construct the Mill Street improvement project. In West Maui there are a number of large developers that have constructed private transportation projects quickly and efficiently. Numerous new developments are occurring north of Lahaina in Kapalua and Ka'anapali and it was widely recognized that the congestion in Lahaina poses a problem for employees and guests trying to reach these new developments from central Maui. The private developers may therefore have an interest in funding the Mill Street corridor improvement project if it could be shown to alleviate congestion on Honoapi'ilani Highway.

Additionally, Maui County has adopted enabling legislation for an impact fee system for all new development to mitigate the additional automobile traffic that will be placed on local roads. This impact fee system is detailed in the October 2006 study Maui Island Traffic Impact Report and Comprehensive Roadway Master Plan, by Kaku Associates. The report forecasts future traffic volumes on Maui highways due to new development and the proposed highway improvements necessary to meet the new demands. Although the Mill Street project is not included in the report's list of proposed projects, money allocated to this project could be credited toward the impact fee responsibility of each new development.

Specific details of private funding still need to be discussed. It was, however, consensus among workshop participants that private funding is an important part of this project.

▶ Utilities

During the site walk, the Design Team discussed the dominant presence of numerous overhead utility lines within the Mill Street corridor. Charlier Associates recommends that funding be found for a concerted effort to bury these utilities as part of the upcoming corridor investments.

Overhead utility lines distract from views along the Mill Street corridor and can require significant maintenance

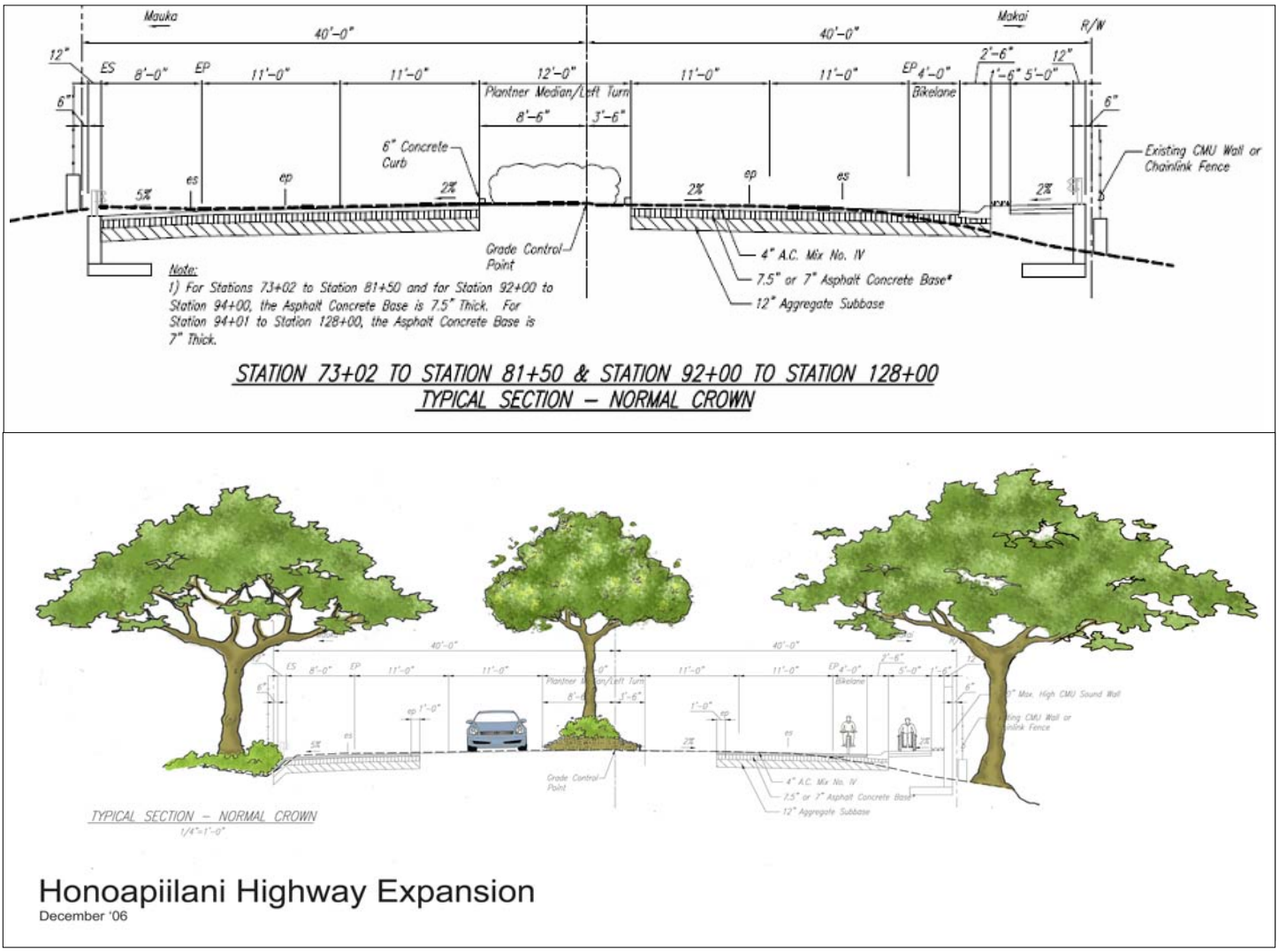
Honoapi‘ilani Highway Widening

The Honoapi‘ilani Highway (Route 30) serves as the current gateway into Lahaina Town, and the only access route available to parts of the island located north of Lahaina. Most of the Honoapi‘ilani Highway has been widened to accommodate four lanes of through travel, two in each direction, due to increasing traffic volumes on West Maui. Local and regional residents are increasingly frustrated with traffic congestion on the remaining two-lane roadway segment within Lahaina Town and the resulting back-ups occurring at signals. Both through-travel regional trips and local circulation trips within the community are impeded since this roadway currently tries to accommodate both functions without any parallel routes available.

The Hawai‘i Department of Transportation (HDOT) is thus preparing to apply for funding in 2007 to widen approximately one mile of roadway, from Lahainaluna Road to Aholo Road.

The Concept Plan

HDOT is in the process of completing an Environmental Assessment (EA) for the Honoapi‘ilani Highway widening project. The Draft EA was released in May 2006, and subsequent public process has resulted in proposed modifications to the conceptual plan including construction of a separate bike lane and sidewalk, and incorporation of a landscaped median as in the illustrations below.



Proposed Hawai‘i DOT cross-sections of the Honoapi‘ilani Highway widened to four lanes

Design Workshop Recommendations

To widen or not widen the Honoapi‘ilani Highway proved the most difficult issue for workshop participants to resolve. They recognized that the advantages of a two-lane facility include creating and embracing a sense of place, enhancing aesthetics, maintaining an acceptable distance from the highway to adjacent structures, providing enhanced bicycling and walking facilities, and improving safety for people trying to cross the highway at intersections. Keeping a narrower roadway was also thought to encourage Maui to explore and implement transit alternatives sooner, and force the Mill Street Extension and Lahaina Bypass projects to move forward at a faster pace.

The disadvantages of keeping the roadway as a two-lane facility include potential delays in funding opportunity, congestion relief and future private development projects. Concerns were expressed that a narrower Honoapi‘ilani Highway and associated enhanced street connectivity may reduce the ability of the Bypass to function as a free-flow commuter route and increase the cumulative transportation infrastructure costs for the area.

Ultimately, participants in the Lahaina Transportation Design Workshop decided to move forward with a group recommendation to support highway widening if the following criteria could be met:

▶ Landscaping

Workshop attendees only supported the widening of Honoapi‘ilani Highway with the inclusion of landscaping. At the workshop, the Hawai‘i DOT provided a modified Environmental Assessment cross-section for the Honoapi‘ilani Highway, shown opposite page. There was strong support for the large quantity of landscaping depicted in this graphic. In addition, workshop participants liked the idea of including native plant species to the largest extent possible.

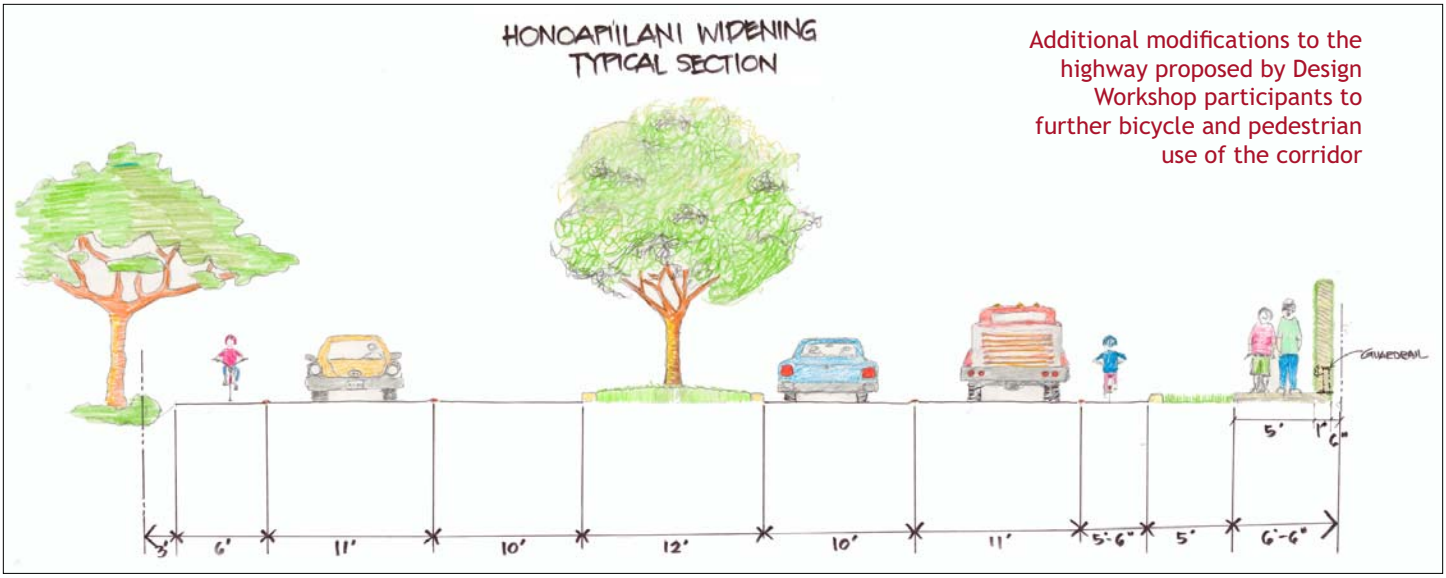
Three problems were discussed regarding the DOT’s proposed landscape design. First, none of the landscaping shown in the drawings has been included in the budget for the highway widening, nor is there budget for maintenance and upkeep of the landscaping. Additionally, the drawings include trees that are located outside the highway right-of-way. Since the DOT has no control over private property, it is not guaranteed that these trees would be included. This is particularly important as many of the workshop participants supported the plan only with the inclusion of the trees.

▶ Bicycle and Pedestrian Accommodation

The consensus to proceed with the widening of the highway was contingent upon bicycle facilities in both the north- and south-bound directions and improved pedestrian facilities as part of a redesign of the proposed Honoapi‘ilani Highway. The modified HDOT cross-section included a four-foot southbound bike lane and an eight-foot shared-use shoulder for the northbound bicycle traffic, as depicted opposite.

Workshop participants developed a further modified roadway cross-section, as depicted on the following page, with six-foot bike lanes in each direction and a five-foot sidewalk with a five-foot planting strip separating the sidewalk from the roadway. Given the constrained right-of-way, the group was unable to locate pedestrian facilities on the mauka side of the highway.

As this cross-section proceeds to implementation, there are several specific issues that should be addressed. Given the proximity to the highway and the lack of pedestrian treatment at the intersections, pedestrians should be highly discouraged from using the edge strip of land on the mauka side of the highway. Instead, pedestrians mauka of the highway should



Additional modifications to the highway proposed by Design Workshop participants to further bicycle and pedestrian use of the corridor

be instructed to cross over to the sidewalk on the makai side. Signs should be erected at intersections, the place where most pedestrians will first meet the highway. The likely need to construct noise walls and retaining walls within this 3-foot mauka edge space may help prevent this problem.

Special attention also needs to be paid to the construction of the bike lanes. A lateral seam within a lane creates a potential hazard for bicycle riders, as slight vertical differences between asphalt and concrete can throw a cyclist. Curb-and-gutter construction is therefore recommended to extend the entire width of the bike lane. Extending the gutter pan to the adjacent travel lane, as shown in the first photo below, increases the effective width of the bicycle facility. If the transition between the gutter pan and the roadway is within the bike lane, the effective width of the bike facility is reduced as in the second photo.

Construction of a wide bicycle lane (4 to 5 feet wide is standard) requires careful design of all intersections so that cars do not use the wide bike lane as a right-turn lane and diminish the functionality of the space for cyclists.

Photos showing differences in the usable width of a bicycle lane per location of the gutter pan seam

▶ Collapsibility

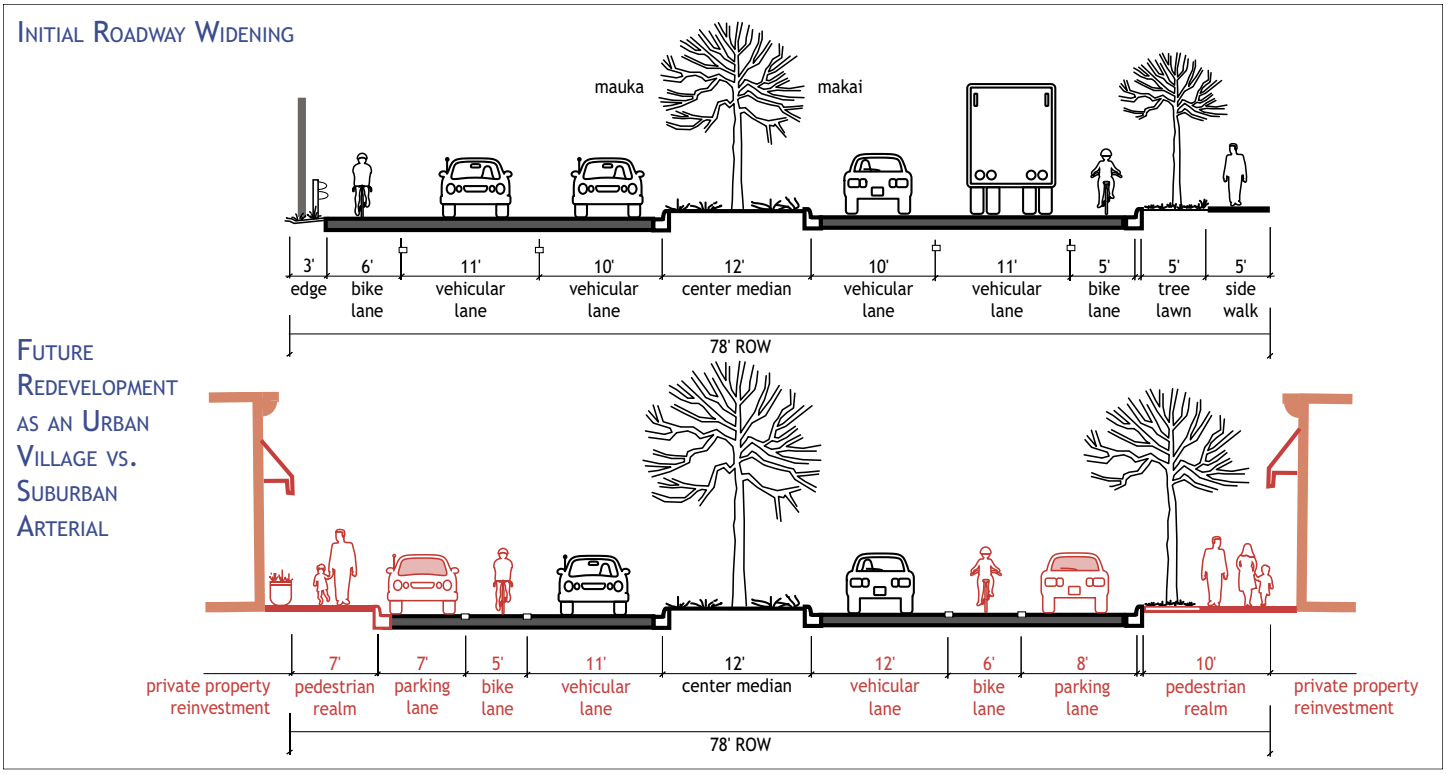
Many people supported the widening of Honoapi‘ilani Highway only if the design included the ability for the highway to be reduced to two lanes in the future once the Bypass and Mill Street Extension were complete. Although it was mentioned that a lane reduction rarely occurs in practice, workshop participants felt comforted knowing the decision to go to four lanes could someday be reversed.

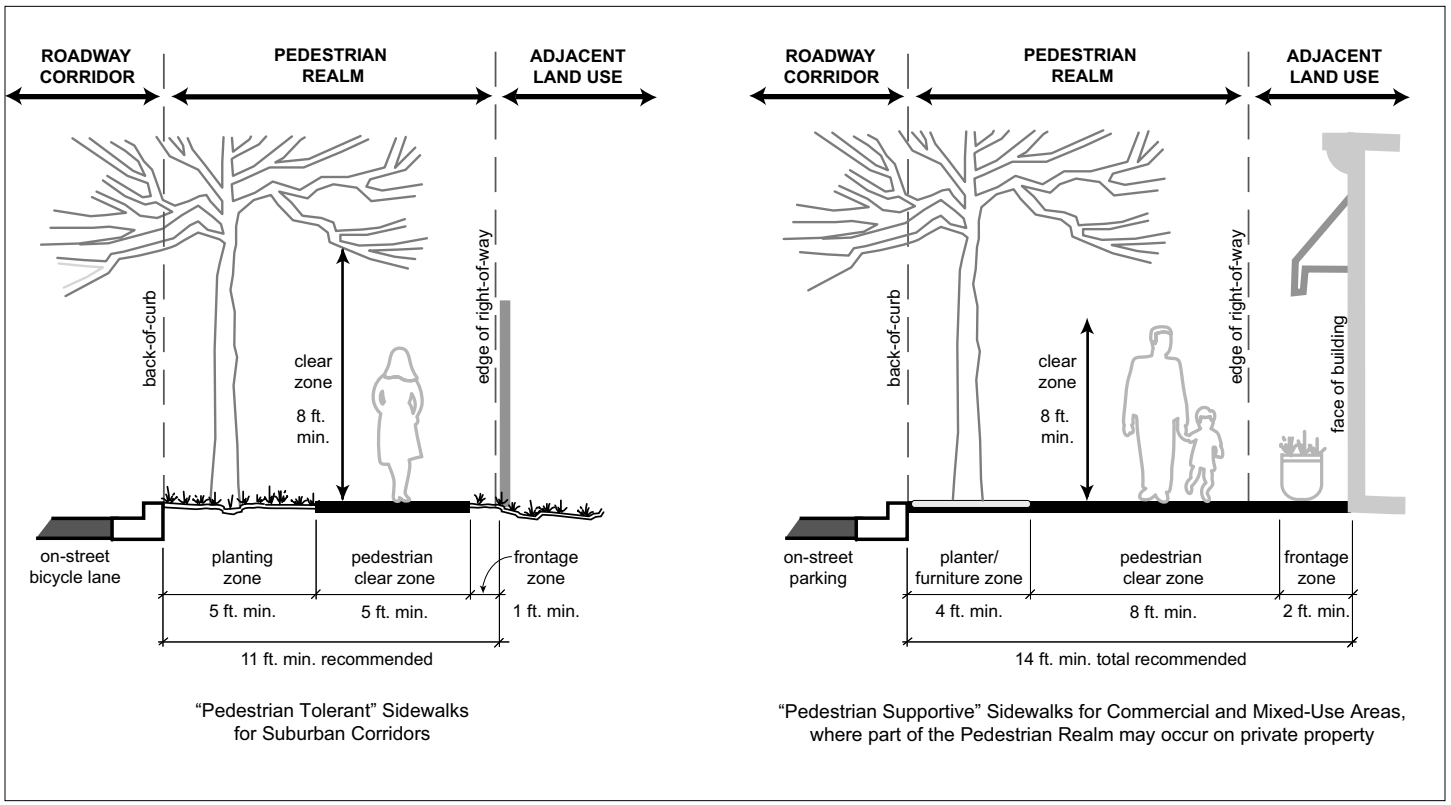
Although collapsibility was discussed during the workshop, it will only be possible with a major retrofit on the makai side of the highway. For the two south-bound lanes to be reduced to one, the underground drainage system installed with curb-and-gutter construction would have to be relocated approximately 10 feet closer to the median. This is a large and expensive undertaking. The mauka side does not have this problem as the current design does not include curb-and-gutter.

As an alternative, Charlier Associates, Inc. developed an additional cross-section following the Design Workshop that shows how this highway can revert to a two-lane street as part of an urban village setting rather than remaining a suburban arterial street. The retrofit includes on-street parking without considerable public expenditure to redesign roadway drainage systems.

It was widely recognized that as soon as the Honoapi‘ilani Highway is widened and again when the Lahaina Bypass opens, a cycle of change will occur along the existing Honoapi‘ilani Highway corridor — most likely bringing disinvestment and decline. Over time, implementation of an urban village streetscape will bring private investment back into the corridor with new buildings fronting a future “Honoapi‘ilani Street” with vibrant pedestrian activity. For this to happen, the pedestrian realm will need to redeveloped to urban standards.

Detail of recommendation for reversion of the Honoapi‘ilani Highway back to a two-lane urban street with private reinvestment of adjacent properties





"Pedestrian Tolerant" Sidewalks for Suburban Corridors

"Pedestrian Supportive" Sidewalks for Commercial and Mixed-Use Areas, where part of the Pedestrian Realm may occur on private property

Charlier Associates recommendations for effectively addressing various components of the pedestrian realm

▶ The Pedestrian Realm

The pedestrian realm is more than just a sidewalk. It is the area located between street and building frontage, and includes a planter/furnishings zone, a clear pedestrian through zone, and a frontage zone at the face of buildings. For future retrofit and redevelopment of the Honoapi'ilani Highway to occur, this area will need to be enhanced from suburban "pedestrian tolerant" conditions to a more urban "pedestrian supportive" environment as depicted above.

- **The Furnishings Zone** – This area lies between the curb and sidewalk to provide a buffer from street traffic and allow for the consolidation of elements like utilities (poles, hydrants, kiosks, etc.), street furniture (benches, signs, etc.) and street trees planted in tree wells. On the mauka side of the collapsed roadway, there is no space for a furnishings zone. On-street parking will provide the only separation between street and sidewalk.

- **The Pedestrian Clear Zone** – This is the portion of the sidewalk that is specifically reserved for pedestrian travel. In planning vibrant pedestrian space, it is important to recognize that walking, especially strolling and lingering, is a social activity. For any two people to walk together, 5 feet of sidewalk space is a bare minimum. For two pairs of pedestrians to meet and pass, 8 feet is needed.

- **The Building Frontage Zone** – Most pedestrians don't feel comfortable walking immediately adjacent to a wall or fence. At minimum, pedestrians prefer to keep at least two feet of "shy distance" away from a building wall. As the Honoapi'ilani Highway redevelops, additional sidewalk space may be desired to be provided on private property to allow for an adequate pedestrian clear zone and building frontage zone.

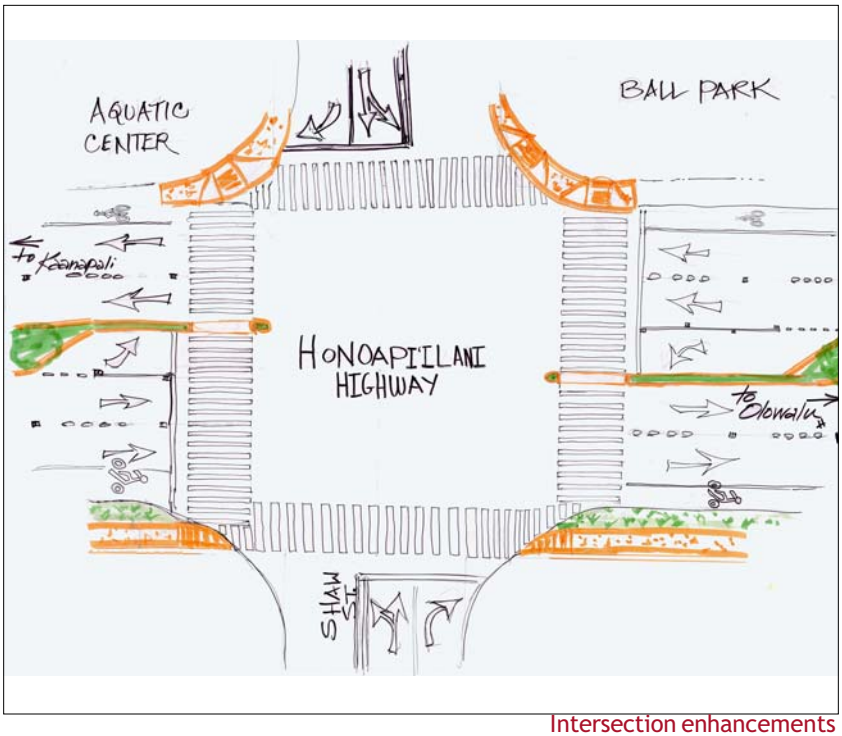
▶ Intersection Design

Workshop participants recognized the decreased safety for pedestrians of all ages to cross a widened Honoapi‘ilani Highway and expressed great concern for the safety of children who use this corridor. As noted by the group, a wider highway creates a longer crossing distance, additional points of conflict, and general faster motor vehicle speeds.

There was broad consensus within the group that intersections should be designed to maximize pedestrian safety. There was specific concern for the large number of kids crossing the highway at Shaw Street due its proximity to the Aquatic Center and the Lahaina Recreation Center.

Several specific design improvements may be considered to create the level of pedestrian safety called for in the workshop:

- **Shorter Curb Radii** — Curb radii should be as tight as possible to decrease the roadway crossing distance for pedestrians while also decreasing the speed at which cars can round the corner.
- **Sidewalk Ramps** — With shorter curb radii, there should be sidewalk ramps in both crossing directions rather then one ramp directed diagonally to the center of the intersection. This especially improves the safety for those in wheelchairs.
- **Pedestrian Refuge** — The workshop drawing correctly shows the crosswalk cutting through the median, giving pedestrians a safe location halfway across the road. This should be a minimum of two feet wide.
- **Directional Signage** — As noted earlier, there are no pedestrian facilities on the mauka side of the highway. Intersection design should ensure that all pedestrians cross the highway to access the sidewalk on the makai side of the highway.



Intersection enhancements recommended during the Lahaina Transportation Design Workshop

While these designs were drawn for the Shaw intersection, the principles of pedestrian accommodation should be applied to all Honoapi‘ilani Highway intersections within Lahaina.

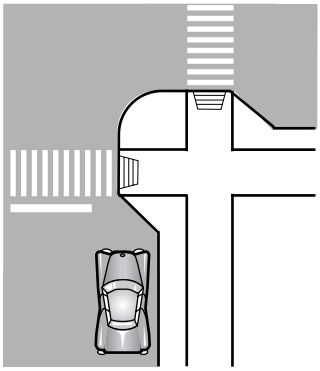
Future Improvements

When the corridor reverts back to a two-lane street, additional retrofit of all intersections is encouraged. Most notably, the future presence of on-street parking will enable curb extensions to be constructed. These bulb-outs extend into the parking lane to improve visibility between pedestrians and motorists, reduce the curb radius, slow motor vehicle speeds, and shorten pedestrian crossing distances. Curb extensions also prevent parked cars from blocking sidewalk curb ramps and restricting sight lines at corners.

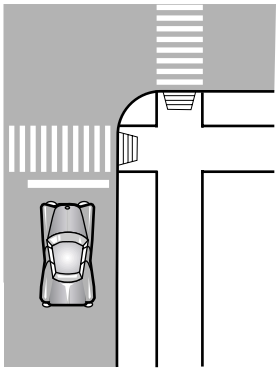
The curb ramp is the slope that allows pedestrians to make the transition in grade from a raised sidewalk to a street or driveway. Federal regulations require that public entities give priority to providing accessible curb ramps per the Americans with Disabilities Act (ADA) in all transportation projects. Curb ramps may be perpendicular, parallel, or a combination, as long as they provide adequate level landing areas at both the top and bottom of the ramp.

Good intersection design practice suggests that all pedestrians enter a crosswalk at the same point. A single diagonal curb ramp at a street corner often requires those using a wheelchair or pushing a stroller to follow a different crossing route than other pedestrians. This creates a problem with turning vehicles since a driver may not check for pedestrians entering a crosswalk from unexpected locations. Therefore, paired, perpendicular curb ramps that lead directly into crosswalks are preferred. This is design is especially easy to implement when built on a curb extension.

Charlier Associates recommendations for future improvements to intersection design



Pair of perpendicular curb ramps with curb extensions and on-street parking



Pair of perpendicular curb ramps aligning with crosswalks

▶ Transit

Workshop participants agreed that the design of Honoapi‘ilani Highway should include the ability for high capacity transit to be integrated into the right-of-way in the future. Although this was not a focus of the workshop, the highway corridor was designated a High Capacity Transit Route and should be designed to be “transit-ready.”

Over 50 companies and 2,400 employees recently participated in a West Maui Travel Survey. The survey collected valuable information about employee commute patterns including travel times, travel mode, and residential and employment locations. The study included a set of recommendations for Transportation Demand Management programs that would reduce the commuter burden of West Maui commuters by providing alternatives to driving alone to work.

The results of this study were presented on Day Two of the Design Workshop. Particularly relevant to the workshop was the additional transit activity recommended for the Honoapi‘ilani Highway corridor. The study recommended additional direct transit service between central Maui (Kahului and Wailuku) and West Maui (Lahaina, Ka‘anapali and Kapalua). The Honoapi'ilani Highway corridor should incorporate transit-ready design to accommodate the additional transit service that will occur.

The biggest factor in making transit work on Maui will be the density, quality, mix of land uses, and walkability of the development (and redevelopment) along main transit routes. Strategies to keep transit from being stuck in traffic – exclusive lanes, priority at signals, vehicles with multiple doors and low floors for quick boarding – should be combined with transit-ready corridor development strategies. Making transit work will require creating safe and comfortable environments around each stop, including a complete network of sidewalks, safe street crossings, bus shelters, and street lighting.

Planning ahead to maximize potential transit ridership is a concept known as transit-ready development. Though the majority of adults make most of their trips by auto, an enhanced island-wide transit system and accompanying transit-ready development would improve mobility for the nearly one-third of the population who can't drive – children and aging parents, those with disabilities, and those who can't afford a car.

Transit-ready development prepares for future transit expansion by designing communities and road networks for maximum efficiency of all transportation modes. Elements of transit-ready communities include:

- A mix of land uses.
- Pedestrian-friendly layout with sidewalks buffered from traffic by planting strips with street trees.
- Safe pedestrian crossings of streets.
- Encouragement of cycling, both for single trips and as part of longer transit trips, by providing bicycle parking at bus stops and bike racks on buses.
- An "urban" street grid (providing plenty of connections instead of cul-de-sacs).
- Public facilities designed as transit targets.
- Appropriate housing densities to support transit.

Existing transit use of the Honoapi'ilani Highway corridor.

The West Maui Commuter Needs Survey

This study was an outgrowth of an initiative by human resource managers at West Maui resorts who were concerned about the effects of daily commuting on their employees. To improve travel conditions for workers, it is essential to understand current travel patterns and needs. This survey was designed to provide information about origins and destinations of work commute trips, the duration and distance of the work commute, vehicle occupancy rates, and the financial burden commuting imposes on West Maui employees. The results are being used to formulate short- and long-term solutions to address the challenges these employees face, including opportunities for new transit routes, carpooling and vanpooling.

There was a 36% response rate from the 151 employers selected to participate in the survey. A total of 2,433 completed questionnaires were received, yielding an employee response rate of 24%. Key findings include:

- 71% of employees drive alone to work
- 35% of employees travel 25 miles or more each way
- 76% of drivers park for free
- 53% of employees don't know where the nearest bus stop is from their house

Recommendations from this study include:

- Developing new transit routes between Central and West Maui
- Transportation Allowance Program for employees
- Incentives for increased carpool use
- Development of a regional EcoPass program
- Development of a Guaranteed Ride Home Program
- Transportation Management Association

For more information visit the project website: www.westmauitravel.net.

Lahaina Watershed Flood Control

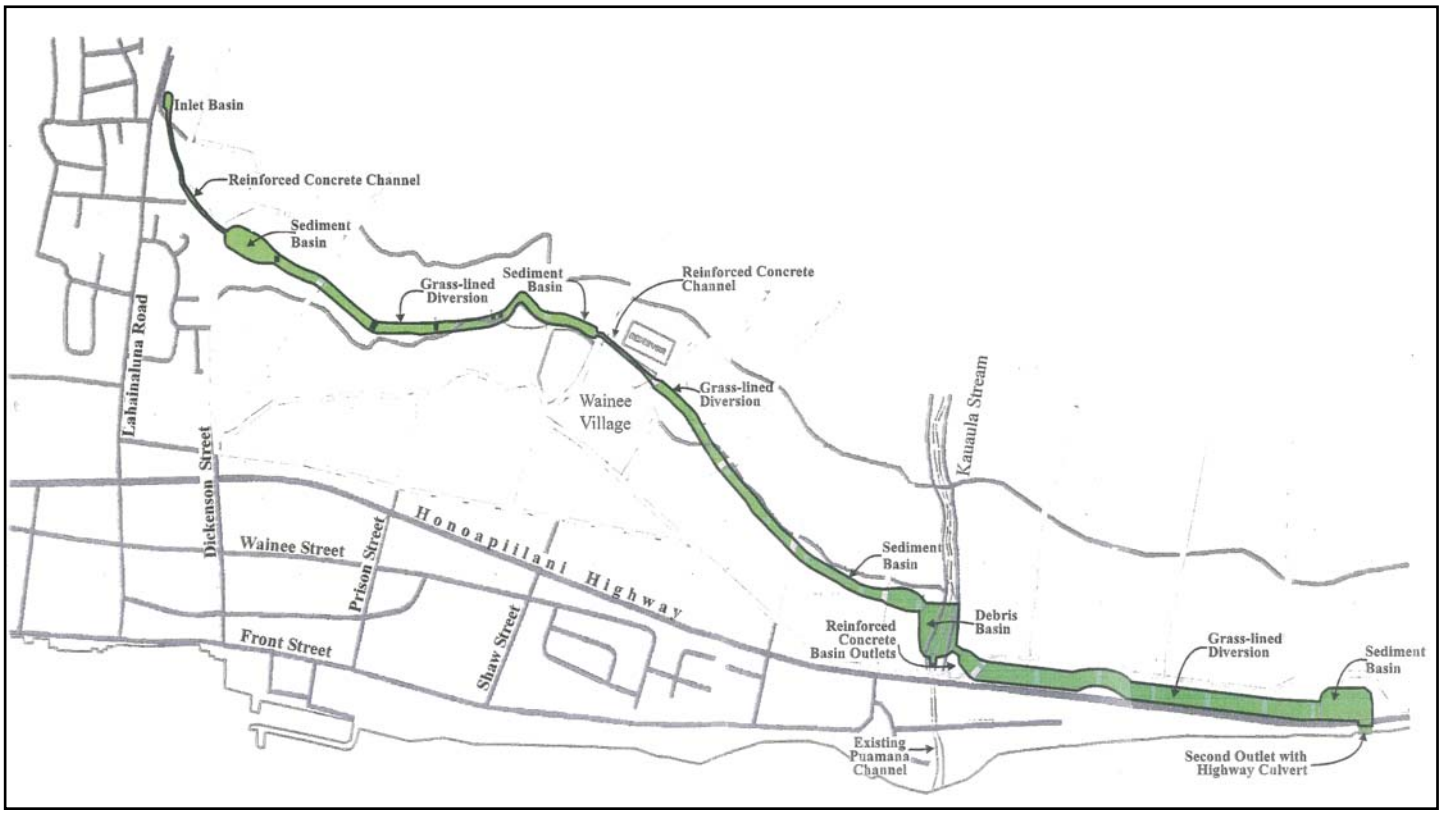
The United States Department of Agriculture, Natural Resources Conservation Service (USDA, NRCS) is working with the Maui County Department of Public Works and Environmental Management and the West Maui Soil and Water Conservation District to implement the first phases of the long-planned Lahaina Watershed Flood Control Project.

A floodwater diversion system in the 5,250-acre Lahaina Watershed is proposed to reduce flooding and erosion problems on land and relieve the effects of excess sedimentation on nearshore coral reefs. The drainage control channel is proposed to begin at Lahainaluna Road and extend past Puamana Park to the "guard rails" surf spot. The project is designed to provide a 100-year level of flood protection.

Drainageway Concept Plan

A Final Environmental Impact Statement for the Lahaina Watershed Flood Control Project was completed in December 2003. The project's design concept involves constructing a floodwater diversion system that includes a geometric grass-lined channel, with reinforced concrete channel sections near Lahainaluna Road and adjacent to the Waine'e Reservoir, three sediment basins, and a large debris basin at Kaua'ula Stream. In addition, a 3,600-foot long grass-lined channel is proposed to continue to a sediment basin and second shoreline outlet in the area known as "Guard Rails."

The first construction phases of the Lahaina Diversion Channel will begin with the new outlet and culvert under the Honoapi'ilani Highway and proceed northwest, immediately parallel to the highway, to Kaua'ula Stream.



NRCS plans for the Lahaina Watershed Flood Control Project

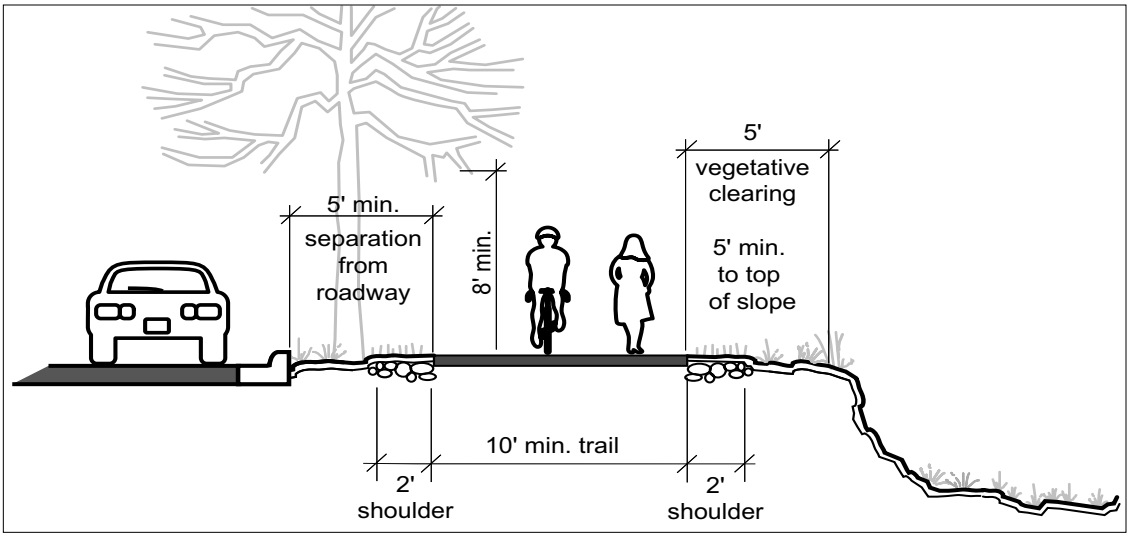
Design Workshop Recommendations

Workshop participants recognized that enhanced flood control is needed for Lahaina Town. However, rather than the large, fenced-off geometric grass channel proposed by the Natural Resources Conservation Service, there is desire to have a more natural "greenway" corridor that can become a community amenity and asset. In summary, issues raised repeatedly during the workshop included:

1. Should the historic flow down Kaua'ula Stream be rerouted to reach the ocean at a location farther south?
2. Is the 3,600-foot channel extension needed?
3. Will minimum flows be maintained at Kaua'ula Stream for native fish species that need to spawn upstream?
4. Should the channel be deep and narrow, or shallow and wide?
5. Can the Lahaina Bypass take part of the stormwater capacity to allow design of a smaller channel?

▶ Greenway Trail

Workshop participants wanted multi-use paths included on the mauka and makai sides of the flood control project. It was felt that the paths would mitigate the impact this large project will have on the community as well as strengthen the regional path network. The path system along the drainage channel is also depicted on the Conceptual Master Plan for the Waine'e Community, and is envisioned to be an extension of the Pali to Puamana Bike Path.



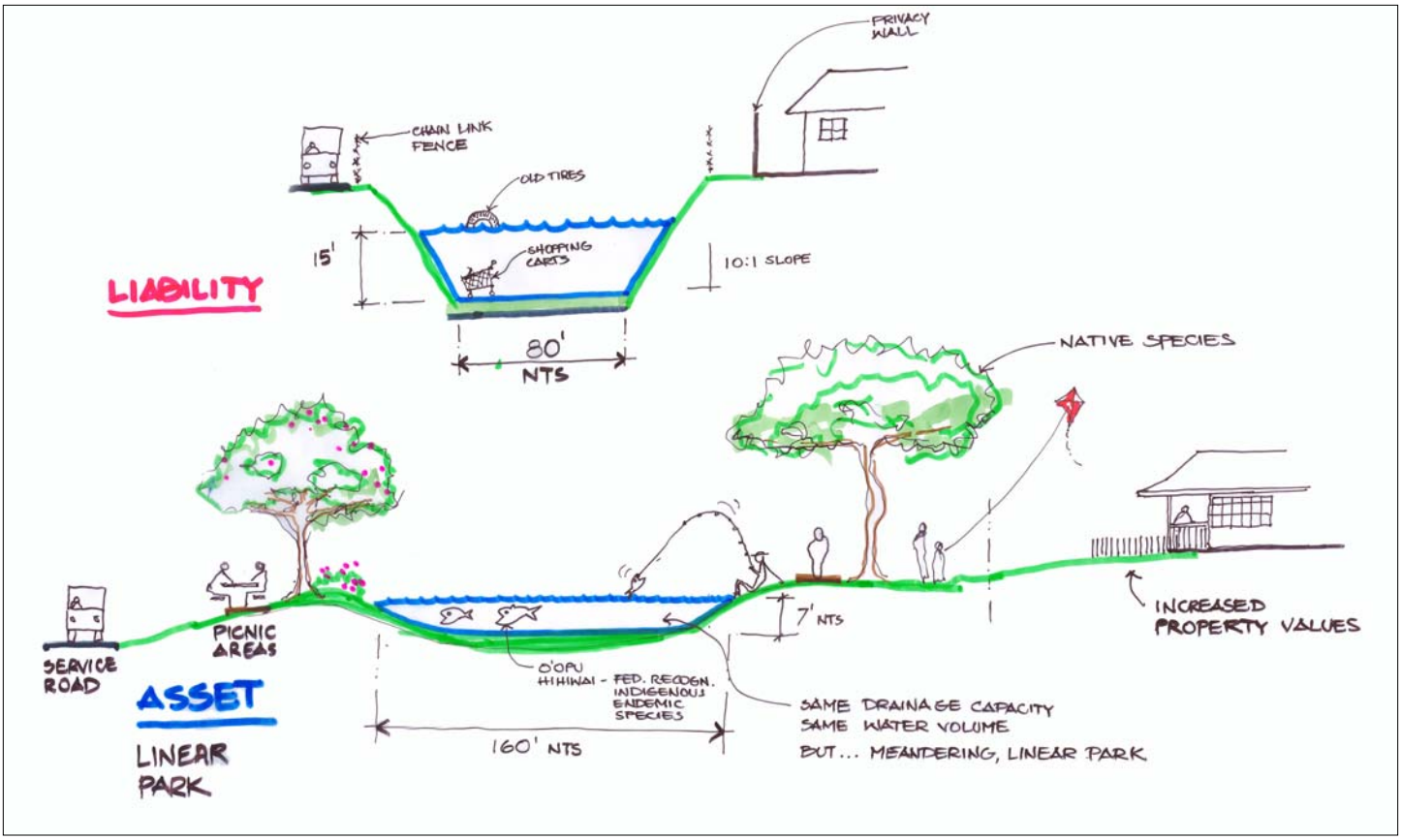
Charlier Associates recommendations for designing multi-use paths to national bicycle facility design standards

▶ Channel Cross Section

The design presented by the NRCS includes an 80-foot wide channel, 15 feet deep, enclosed by a 4-foot high vinyl-clad chain link fence and maintenance roads on the top of the banks that would be usable for bikes. Many workshop participants feared that this design will sever mauka neighborhoods from makai neighborhoods within the Lahaina community. Constructing crossings would be both difficult and expensive. In response to these concerns, there was considerable discussion about redesigning the Flood Control Project to create a regional asset rather than a barrier between communities.

People agreed that the channel sides should be grassed-lined rather than concrete, as the channel through which Kahoma Stream flows was cited as a design that the community wanted to avoid. Workshop participants strongly voiced that they would like to see a drainage feature

resembling a shallow, meandering stream to the greatest extent possible. With this design, a linear park could be added to one or both sides of the channel, and homes with proximity to the channel would actually increase in property values. People would be able to easily walk across a project of this type without the need for an engineered pedestrian bridge. A wide and shallow design was thought to have the same capacity for flood waters as the original narrow and deep NRCS design.



Graphic illustrating desired modifications to the drainage project

▶ Coordination with Other Projects

Phase 1B of the Bypass may offer potential to incorporate some drainage capacity mauka of the new roadway. If drainage can be incorporated into this transportation project, this may create a significant capacity reduction for the Lahaina Watershed Flood Control Project. Coordinated planning for the extension of Dickenson Street is also needed as the northern terminus of the channel will need to shift slightly mauka to accommodate this street connection.

▶ Southern Terminus

The design presented by the Natural Resource Conservation Service responded to Puamana owner concerns and included a second outlet to the ocean at the "Guard Rails" surf spot, near Puamana Beach Park. This would add an additional 3,600 feet of drainage channel just mauka of Honoapi'ilani Highway. Workshop participants voiced concerns over including this second outlet in the flood control project. It was felt that this section was unnecessary, could cause undesirable effects at Puamana Beach Park, and could stop traditional flow of the Kaua'ula Stream except during periods of heavy rains. This may prohibit native fish migration up the Kaua'ula Stream, including the O'opu and Hihiwai (federally recognized endemic species) and could potentially trigger the HRS 7-1 legislation. The final workshop consensus plan therefore shows only one outlet for the Lahaina Watershed Flood Control Project at the current Kaua'ula Stream outlet point.

The Big Picture

Morning traffic congestion on the Honoapi‘ilani Highway and afternoon backups on Lahainaluna Road

Circulation Network

There was considerable discussion in the workshop regarding the transportation network in Lahaina Town. Most workshop participants agreed that the existing network is incomplete, concentrating much of the traffic onto two corridors – the Honoapi‘ilani Highway for north-south traffic and Lahainaluna Road for mauka-makai traffic. The incomplete network has resulted in congestion for much of the day, but particularly in peak travel periods. Workshop participants spent considerable time discussing what efforts need to be taken to increase connectivity for Lahaina, which would relieve congestion on these two major roads.

▶ North-South Travel

It was widely recognized in the workshop that most north-bound and south-bound trips use Honoapi‘ilani Highway. Front Street and Waine‘e Street, the only other alternative routes, are used primarily for access to shops, restaurants and homes, and do not function well for circulation and travel through Lahaina.

The addition of the Lahaina Bypass and the Mill Street Corridor projects were strongly supported by workshop participants. These two projects would add to the north-south travel options and are believed to help build a stronger transportation network. Additionally, the widening of the Honoapi‘ilani Highway is believed to alleviate some of the congestion now experienced on this corridor.

▶ Mauka-Makai Travel

A similar concentration of traffic occurs for mauka-makai trips mauka of the highway. Lahainaluna Road is the only road serving the Lahaina schools and the Kelawea Mauka Subdivision. The surrounding street network is disconnected and indirect, discouraging motorists from using alternate routes. Lahainaluna Road experiences severe congestion during school peak hours. Other mauka-makai connections include Dickenson Street, Prison Street, Shaw Street and Aholo Road, but they do not offer alternative choices to travel mauka-makai.

On the north end of Lahaina Town, Keawe Street connects the Honoapi‘ilani Highway to existing businesses mauka of the highway. Workshop participants agreed that the extension of Keawe Street to Phase 1A of the Lahaina Bypass is a critical component of a completed transportation network. There was consensus that the Keawe Street extension would relieve congestion from Lahainaluna Road, similar to the congestion relief that the Mill Street Project would have on Honoapi‘ilani Highway.

▶ Emergency Evacuation Routes

There were several group discussions regarding the need for additional evacuation routes out of Lahaina. Currently there is only one corridor into and out of town: the Honoapi‘ilani Highway. Workshop participants were concerned that during an evacuation this facility could be severely congested or blocked from a landslide, flood or other natural disaster. The addition of Mill Street, the Lahaina Bypass and the widening of Honoapi‘ilani Highway will give local residents more options in case of an emergency evacuation.

Two Types of Traffic

Workshop participants identified two types of traffic that occur in Lahaina: local circulation and regional through traffic. It is unclear what percentage of the total each type of traffic makes up. Some people felt that the traffic on Honoapi‘ilani Highway is largely composed of local traffic. Others felt that much of the traffic currently on Honoapi‘ilani Highway is regional traffic originating in central Maui and terminating in points north of Lahaina such as Ka‘anapali and Kapalua. The two types of traffic are interrelated in many ways. The following section discusses how each project covered in the workshop addresses both local and regional travel.

The projects and the resulting transportation network are depicted on page 16 as drawn by members of the Design Team on the final day of the Lahaina Transportation Design Workshop. When completed, this interconnected system of local and regional routes will provide a variety of travel options for multiple types of trips.

▶ Honoapi‘ilani Highway Widening

Widening the highway to four lanes increases vehicle capacity for both local circulation and regional travel. Until the Bypass is fully completed, the Honoapi‘ilani Highway will continue to accommodate most of the regional travel through Lahaina. Thus, in the near term, increasing the capacity of this corridor will decrease delays now experienced by regional traffic.

During this same period, the project will also likely improve local circulation by alleviating any regional cut-through traffic currently occurring on the side streets and making the highway more attractive for local motor vehicle trips. Upon widening, the traffic signal synchronization will need to be readjusted to allow for enhanced local circulation as additional queuing lanes are provided on the highway.

The roadway cross-section designed in the workshop included north- and south-bound bike lanes and a sidewalk on the makai side of the highway. This would provide residents with additional travel options within this corridor for short local trips.

▶ Mill Street Extension

The Mill Street Extension is primarily a local circulation project, and strongly desired to be designed as a small local street. Most regional traffic will use the Honoapi‘ilani Highway and later the Bypass for pass-through travel, whereas local circulation will use Mill Street.

The extension of Mill Street will also improve regional travel somewhat by removing some of the local traffic that now uses Honoapi‘ilani Highway. The Mill Street Extension will also provide an alternate route for emergency evacuation.

▶ Shaw Street

The most mauka portion of the existing Shaw Street is desired to become part of Mill Street as it routes around the West Maui Regional Park activity areas. As such, it will fulfill primarily local circulation needs.

▶ Lahaina Bypass

At full build out, the Lahaina Bypass will be a regional travel project. As a high-speed, low-access facility, it will fulfill the true nature of a bypass.

In the near term, the Bypass will be used by local circulation traffic as an alternative to Lahainaluna Road. Phase 1A will carry almost entirely local traffic, as it will be difficult for regional traffic to access. In the long term, the completed Bypass will help with local circulation by removing regional traffic from Honoapi‘ilani Highway and allowing this corridor to serve the needs of local residents.

▶ Keawe Street Extension

The Keawe Street Extension will improve local circulation by adding a mauka-makai connection up to the Bypass. This will pull some of the traffic off of Lahainaluna Road, especially during peak periods. Almost no regional traffic will use Keawe Street until Phase 1B of the Bypass is completed.

▶ Dickenson Extension

Currently, Dickenson Street mauka of the Honoapi’ilani Highway adds little to the network circulation, serving only as access to a small number of residential properties. To help alleviate congestion off of Lahainaluna Road, and to increase the strength of the network, workshop participants decided that Dickenson Street should be extended. Workshop participants decided to extend Dickenson from Front Street across Honoapi’ilani Highway and connect with Lahainaluna Road at Kalena. It was believed that this would relieve congestion off of Lahainaluna Road in the area where it is most needed – at the Honoapi’ilani Highway intersection. Since constructing two bridges across the currently proposed Lahaina Watershed Flood Control Project was considered cost prohibitive, it is desired to realign the channel slightly to accommodate this extension.

▶ Puamana Connector

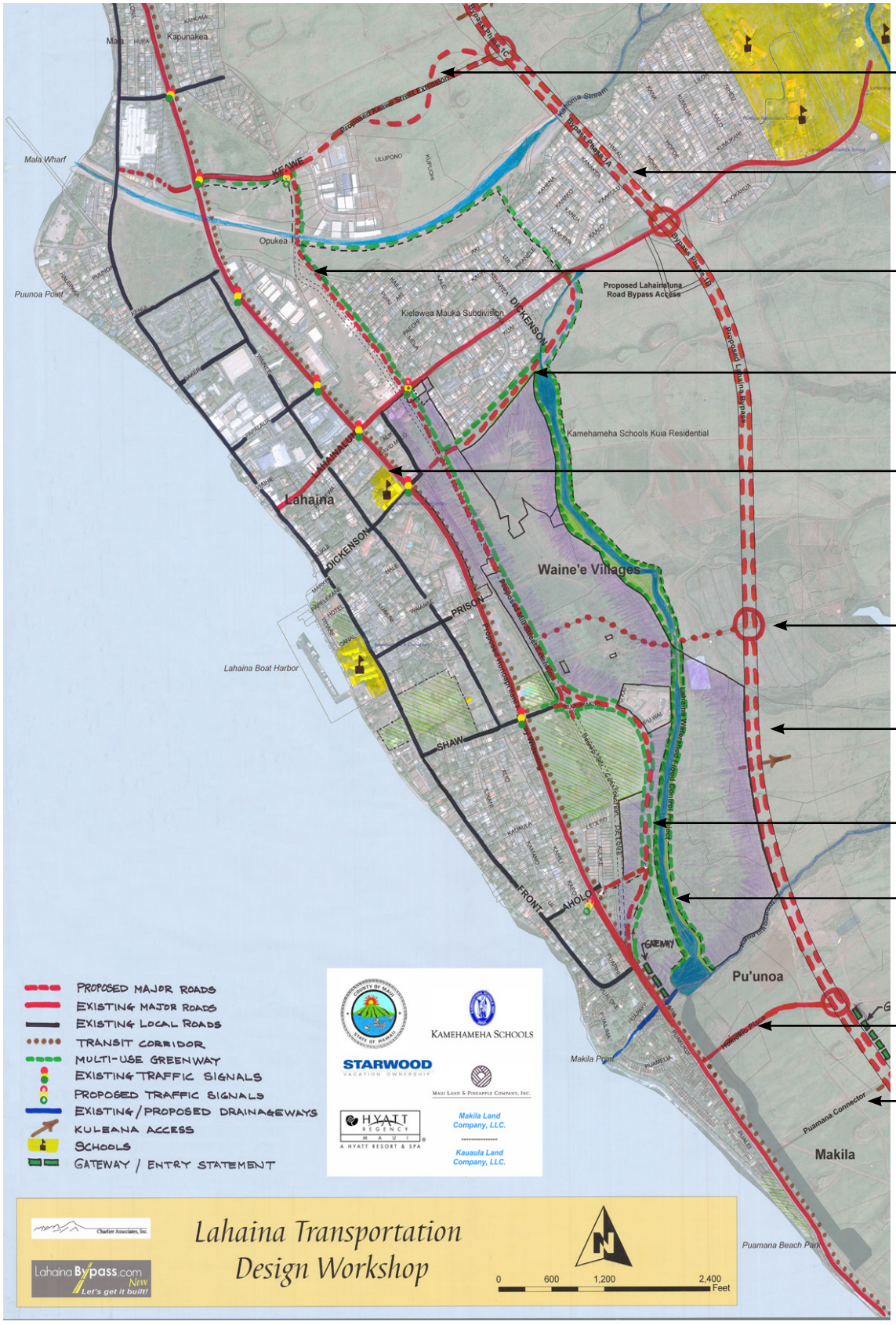
The Hawai‘i DOT has planned a conceptual connector to be built in the Puamana area as part of the Bypass Phase 1B-2 and will be utilizing Hokiokio Place as an interim connector for Phase 1B-1. This roadway will serve primarily regional trips, offering people a southern option for accessing the Bypass from the Honoapi‘ilani Highway. Design Workshop participants felt that the logical location for the permanent access road would be Hokiokio Place.

Details of the potential realignment of the Bypass mauka of the existing highway from Launiupoko to Olowalu were not discussed in detail as part of the study area within Lahaina Town. Future DOT planning will determine the ultimate southern connector for regional trips coming into this part of Lahaina.

Hokiokio Place developed with landscaped parkway

▶ Additional Bypass Connector

A final proposed street project will benefit both local and regional trips for new development proposed mauka of the Mill Street alignment. This new connector, which falls in between Dickenson Street and Shaw Street and would connect Mill Street to the Bypass, would serve the Ka‘anapali Development Corporation’s Waine‘e community and potential development that may occur in the future Kamehameha Schools Kuia Residential area.


Keawe Street Extension
Lahaina Bypass Phase 1A
Mill Street Extension
Future Dickenson Extension
Honoapi'ilani Highway Widening
Future new connector street
Lahaina Bypass Phase 1B-1
Shaw Street
Lahaina Watershed Flood Control Project
Hokiokio Place
Puamana Connector
Kapunakea
Maui
Mala Wharf
Opukea
Puunoa Point
Kielawea Mauka Subdivision
Proposed Lahainaluna Road Bypass Access
Kamehameha Schools Kuia Residential
Lahaina
Waine'e Villages
Lahaina Boat Harbor
Pu'unoa
Makila Point
Makila
Puamana Beach Park
KEAWE
DICKENSON
PRISON
SHAW
FRONT
AHOLO
FREEWAY
PROPOSED MAJOR ROADS
EXISTING MAJOR ROADS
EXISTING LOCAL ROADS
TRANSIT CORRIDOR
MULTI-USE GREENWAY
EXISTING TRAFFIC SIGNALS
PROPOSED TRAFFIC SIGNALS
EXISTING/PROPOSED DRAINAGEWAYS
KULEANA ACCESS
SCHOOLS
GATEWAY / ENTRY STATEMENT
KAMEHAMEHA SCHOOLS
STARWOOD
VACATION OWNERSHIP
MAUI LAND & PINEAPPLE COMPANY, INC.
HYATT REGENCY MAUI
A HYATT RESORT & SPA
Makila Land Company, LLC.
Kauaula Land Company, LLC.
Charlier Associates, Inc.
LahainaBypass.com
Let's get it built!
Lahaina Transportation Design Workshop
0
600
1,200
2,400
Feet

Bicycle Circulation

Of course, network circulation goes beyond motor vehicle traffic. Pedestrian and bicycle circulation is critically important to a complete transportation network. Lahaina is fortunate to have a year-round mild climate and relatively flat terrain in downtown. Workshop participants agreed that bicycle facilities were an important part of the Lahaina transportation network.

Several new multi-use paths were recommended for Lahaina, forming the backbone of the bicycle network. The flood control project originally proposed using a maintenance road as a bike path, but both the Design Workshop network plan and the Conceptual Waine'e Master Plan show multi-use paths on both sides of the channel. Additionally, workshop participants would like to see multi-use paths in the Mill Street Corridor, along the Dickenson Extension and for a short section of the Kahoma Stream channel.

These multi-use paths will be supplemented with on-road facilities. Bicycles are, by law, vehicles and entitled to use all area streets and roadways unless expressly prohibited.

Local streets such as Front, Waine'e and Shaw are to remain low-speed, mixed-traffic streets where bicycles are expected to mix with motor vehicle traffic. The Honoapi'ilani Highway project will include north- and south-bound bike lanes, the Lahaina Bypass will have paved shoulders, and workshop participants would also like to see designated shoulders or bike lanes on the Keawe Street extension to complete connectivity for cyclists.

Paved shoulders on the existing Honoapi'ilani Highway

Putting it All Together

The graphic on the opposite page was developed by workshop participants and shows the consensus plan with regard to network circulation. Solid lines represent existing facilities and dashed lines represent proposed facilities. The road facilities drawn in red depict the major roads where most motor vehicle traffic will occur. The road facilities drawn in black are roads that will be used for local circulation and access only. Dashed green lines on the graphic represent proposed multi-use path locations.

A couple of minor routing changes are recommended by Charlier Associates, Inc. to make this network function more efficiently for bicycles. Ten-foot wide multi-use paths are not needed immediately parallel to the future Mill Street Extension as it routes along Shaw Street, but sidewalks a minimum of five feet wide should be provided on both sides of this street. The multi-use path should instead continue along the cane haul road alignment, utilizing construction detour pavement that will be put down from Shaw Street to Aholo Road. A multi-use path should also be provided along Aholo Road from the cane haul road alignment to the path on the makai side of the drainage channel. Connections will also need to be made to the south across the Lahaina Watershed Flood Control Project and Kaua'ula Stream to link this local network with the regional Pali to Puamana Bike Path.

"I really enjoyed participating in the West Maui Transportation Workshop. I didn't plan to attend all 4 days, but it was so much fun, I couldn't resist. Jim Charlier & his great consultant team did a remarkable job of bringing together very diverse viewpoints. "All" we have to do now is get those West Maui projects moving, with the designs & criteria we agreed to."

– Mike Foley

"The Lahaina Bypass Design Workshop was an excellent example of grassroots planning in which the community was listened to and their concerns respected. The final recommendations represented a consensus of views. An accomplishment that everyone involved in the process can view with satisfaction."

– Tom Blackburn-Rodriguez

Policy Highlights

Early in the Lahaina Transportation Design Workshop, participants recognized that more than design issues need to be addressed in order to resolve the issues in relating the proposed projects to each other (see Day Two issues and opportunities, pages 6-7). Policy issues regarding funding, project coordination and implementation schedule also proved to be critical.

Throughout the course of the workshop, workshop attendees returned to these issues repeatedly and wrestled with questions regarding how to design certain areas, and how the projects would work with each other through phased implementation.

Implementation Timing

Each project has its own unique set of planning, design and funding requirements that influence its implementation schedule. When federal funds are used on a project, the project sponsor is required to go through a National Environmental Policy Act (NEPA) process. NEPA requires agencies to integrate environmental values into their decision-making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions. To meet this requirement, government agencies prepare a detailed statement known as an Environmental Impact Statement (EIS), or an Environmental Assessment (EA) if the project does not significantly affect the environment.

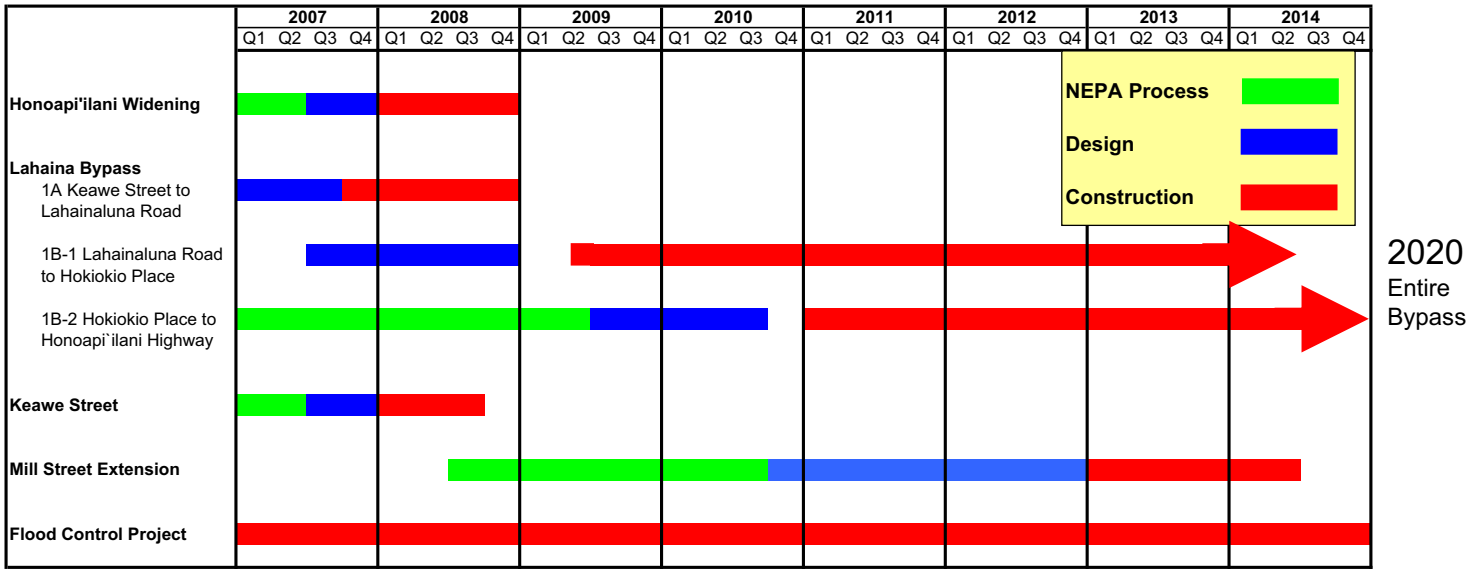
The timeline below graphically shows the anticipated NEPA process, design and construction schedules that are anticipated for each project at the time of the Lahaina Transportation Design Workshop.

The anticipated order of project completion is as follows:

1. Honoapi‘ilani Highway

The Hawai‘i DOT is currently in the EA process on the Honoapi‘ilani Highway widening project and is revising their initial project design to address public concerns with noise, traffic detours, bicycle and pedestrian facilities and landscaping. Revised design plans, which are to include key components that helped workshop participants arrive at consensus with regards to widening,

Estimated Project Timelines



are anticipated this spring to enable this project to move forward on an expedited schedule. If the construction funding application for 2008 is successful, the Honoapi‘ilani Highway will likely be the first of the projects to be completed.

2. Bypass Phase 1A

The FEIS for Phase 1A is completed and a design-build contract was awarded in January 2007, with construction along the Ikena alignment from Keawe to Lahainaluna Road to be completed within 750 days.

3. Keawe Street

The Maui County project to extend Keawe Street needs to continue to be accelerated so that it can be completed simultaneously with Phase 1A for the initial segment of the Bypass to provide the intended congestion relief to Lahainaluna Road. Keawe Street is in the NEPA phase right now, with completion anticipated by May 2007. Construction is scheduled to begin December 2007 or January 2008 and is estimated to take six to nine months.

4. Lahaina Watershed Flood Control Project

An EIS was completed in 2003 and bids have been received for the first phases of construction beginning makai at the channel outlet, but land acquisition and access issues need to be resolved before project implementation can begin. Project implementation will continue north and mauka as funding becomes available. While the initial phases of this project may be completed relatively soon, overall construction is anticipated to occur in several phases over an eight-year period.

5. Mill Street Extension

This project is still in an early conceptual stage, with site survey work to begin in 2007. Design has been funded by Intrawest and will be administered by Ka‘anapali Development Corporation. Assuming state and federal funding will be sought to build this project, an Environmental Assessment for Mill Street is anticipated to begin mid-2008. If federal funds are used, the street network in Lahaina Town will also need to be functionally reclassified — most likely turning Waine‘e Street and possibly other collectors into local streets so that Mill Street can be designated as a collector to qualify for funding. If private funding sources can continue to be used, the process can be simplified and the project schedule can be expedited.

6. Bypass Phase 1B-1

The EIS for all phases including Phase 1B-1 has been completed. A design consultant for Bypass Phase 1B-1 was selected in December 2006 and contract procurement is in progress, with construction targeted to begin in the spring of 2009. The design and construction of Phase 1B-2 will follow Phase 1B-1.

7. Connector streets between Honoapi‘ilani Highway & the Bypass

The last piece to eventually be implemented would be a future project by Maui County to study the need for and design of an additional local connector street somewhere between Dickenson and Shaw streets. At the southern end of the Design Workshop study area, Bypass Phase 1B-2 is requiring a supplemental EA to examine a potential adjustment to the Base Project to realign the route mauka of the existing highway from Launiupoko to Olowalu. Hokiokio Place will likely serve as the interim connector from the Honoapi‘ilani Highway to the Bypass, with Hawai‘i DOT planning an eventual connector in the Puamana area as part of Phase 1B-2.

At the northern end of our study area, Bypass Phase 1C is not envisioned to require a supplemental EA to move forward with future construction to Honōkowai. Included in Phase 1C will be additional connectors providing access between the Bypass and the existing Honoapi‘ilani Highway at Pu‘ukoli‘i, Ka‘anapali and Wahikuli.

Consensus Plan Highlights

In general, Design Workshop participants were able to come to agreement on plans for the Lahaina Bypass, the Mill Street Extension, the Flood Control Project and the Keawe Street Extension. However, the group wrestled with the decision to widen the Honoapi'ilani Highway or keep it as a two-lane roadway. The group ultimately arrived at a consensus plan that, primarily due to the timing of the projects and the inability to transfer funding between projects, included an enhanced four-lane Honoapi'ilani Highway corridor.

The consensus plan, its component drawings and a slide show summarizing key policy recommendations were presented Friday evening by the design team and workshop participants to an audience of approximately 100 people. Highlights of the plan include:

1. *All projects shall proceed on current/expedited schedules*
   Workshop participants fully appreciate the work completed to date by the Project teams to improve existing transportation conditions in West Maui, and want to continue to support efforts to move these projects forward.

2. *Proposed project modifications shall minimize schedule delays*
   This means that only minor changes were recommended for projects with an approved Environmental Impact Statements so as not to trigger a supplemental EIS process.

3. *County, private or other non-federal funding shall be used to accelerate projects wherever feasible*
   Innovative public-private partnerships should be encouraged to allow some of the projects to move forward without waiting and competing for federal funds.

4. *Every project shall address HRS 7-1*
   Within the study area, this includes protecting stream flows for native fish species and preserving traditional Hawaiian mauka-makai access routes.

5. *All new projects shall be "Great Streets"*
   Transportation corridors shall move traffic but shall also reflect local character, be green, work for pedestrians, bicyclists, transit and automobiles, provide mobility, allow people to walk comfortably and safely, contribute to economic vitality, and create a sense of place.

In summary, workshop participants agreed to agree on the following policy points as presented in the Friday night presentation:

▶ Honoapi'ilani Highway Widening

Workshop participants support this project moving forward as a four-lane roadway if and only if the final Environmental Assessment and protect funding includes these key components:

- Landscaped median – as wide as possible
- Preserving and protecting existing trees and vegetation outside of right-of-way
- Further enhance bicycle/pedestrian components

Additional desired modifications to the Honoapi‘ilani Highway:

- Design for “Collapsibility” by planning for future modifications to go from a suburban four-lane highway down to a two-lane urban corridor
- Make the project better for bicycling and walking by:
  - Narrowing lane widths to add room for enhancements without compromising safety
  - Widening the landscape strip next to the sidewalk
  - Enhancing pedestrian crossing at intersections, particularly Shaw Street
- Modify plantings to include native species

▶ Lahaina Bypass

Workshop participants fully support that the Bypass moves forward... now. Only minor changes shall be allowed to Phase 1A and Phase 1B-1 to enable the project to stay on schedule and not trigger a Supplemental EIS.

Proposed project modifications:

- Add an underpass to accommodate mauka-makai access into Kaua‘ula Valley (HRS7-1).
- Construct the landscaped median as part of the initial construction by building half of each side of the highway.
- Consider having the Bypass serve as “blue line” for restricting development mauka of Lahaina Town.
- The Bypass shall be a full access controlled highway. This means that future development is not desired to make new connections, with one exception.
- After the ultimate Bypass construction is completed, one additional connection between Dickenson and Shaw streets may be considered. Maui County and/or developers shall be encouraged to lead in providing the planning, design, funding and construction of this connection.

▶ Keawe Street Extension

Workshop participants fully support extending Keawe Street as a critical component of Bypass Phase 1A. We would like to see the initial design of this project include the following:

- Meander the route to minimize steep grades.
- Continue the existing roadway cross-section design as a landscaped parkway with center median.
- Include on-street bicycle lanes and sidewalks, also part of the existing cross-section.

▶ Lahaina Watershed Flood Control Project

We fully support the need for flood control. However, the Design Workshop process revealed the following priority modifications to be considered:

- Modify or relocate the Kaua‘ula Stream outlet to enable native species such as o‘opu and hihiwai to travel upstream for spawning (HRS7-1).
- Consider eliminating the 4000-foot channel extension south of Kaua‘ula Stream.

Other potential modifications that should be explored more fully:

- Intercept part of storm flows in a drainage feature incorporated into the mauka design of the Lahaina Bypass.
- Build a smaller drainage channel in current location if a mauka Bypass drainage facility can handle part of the needed capacity.
- Design the project as a shallow, wide greenway with bicycle/pedestrian facilities, rather than a fenced-in geometric channel.
- Coordinate drainage plans between the Bypass and Flood Control projects.

▶ Mill Street Extension

We fully support expediting this project with the following conditions:

- It is developed as a two-lane local street.
- Explore routing the new street mauka of the West Maui Regional Park activity areas.
- Mill Street is desired to extend south of Aholo if the Lahaina Watershed Flood Control project can be modified.
- Consider private and/or impact fee funding to expedite this project.
- Timing of the Mill Street Extension should not affect the timing of either the Honoapi’ilani Highway widening or Bypass construction.