# KAUA'I SHORT-RANGE TRANSIT PLAN

**Final Report** 



ΝE

February 2018



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# **EXECUTIVE SUMMARY**

Imagine a world where getting around Kaua'i is safe, reliable, simple, easy to understand, and stress free. Anywhere you travel—whether the daily commute, the local grocery store, visiting family, a trip to the beach, or heading to the airport—the process is seamless. **Reliable and convenient transit service can be an important part of this world**.

The Short-Range Transit Plan (SRTP) is a blueprint to improve transit over a five-year timeframe. In addition, it provides a long-term vision for public transportation on Kaua'i. The plan draws heavily from community feedback, which has been a central component of the overall planning process. Truly, this SRTP is a plan created by the people of Kaua'i.

The executive summary provides an overview of the SRTP, and specifically answers the following five questions. Additional information is available in the full plan document and appendices.

Why a Short-Range Transit Plan? What have we heard from the community?

What are the key themes? How do we improve transit on Kauaʻi?

What is the timeline?

#### How does the Short-Range Transit Plan relate to the Transit Feasibility Study?

Two transit-related plans have been underway over the past two years: the Transit Feasibility Study (TFS), and the Short-Range Transit Plan (SRTP). Each plan covers different elements associated with transit on Kaua'i. The TFS focuses on developing a long-term vision, identifying potential transit revenue sources, and determining the feasibility of transit for the North Shore and South Shore. By contrast, the SRTP addresses short-term service priorities, transit marketing and information materials, paratransit, fares, and organizational needs. In addition, the SRTP fills in the geographic gaps of the TFS by providing a more detailed analysis of Līhu'e and the West Side.

Ultimately, the SRTP consolidated all information and findings from both planning efforts. As such, this report is the final plan document for both the TFS and SRTP. The TFS is fully integrated as part of the SRTP.



## WHY A SHORT-RANGE TRANSIT PLAN?

The purpose of the SRTP is to improve transit on Kaua'i. From the riders' perspective, this means better serving the mobility needs of residents and visitors alike—by making transit more useful, convenient, and easy to understand. From an operational perspective, it means making service more cost-effective and reliable.

In a broader sense, improving transit means shaping the future transit system for Kaua'i, and helping policy-makers understand the costs and benefits of different transit improvement strategies.

This is important to Kaua'i for three broad reasons:



Without a shift in travel patterns, Kaua'i will struggle to maintain the rural character and high quality of life that are so highly valued by residents and visitors alike. Kaua'i County has experienced rapid growth in the number of residents and visitors during the past 45 years, and continued growth is anticipated in the coming decades. By 2035, the resident population is projected to increase by 24%, and the number of visitors to the island is expected to grow by 25%.<sup>1</sup>



**In 2014, traffic and roads were cited as the aspect of Kaua'i that visitors liked least.** Tourism is the largest industry in Kaua'i County, and one in four people on Kaua'i at any given time are visitors. A significant challenge facing Kaua'i is the fact that tourism growth and resident quality of life is impacted by the need for infrastructure improvements to handle traffic and congestion. Traffic has become an increasingly important issue for locals and visitors alike.



Among elected leaders, community leaders, and transportation experts there is nearly universal recognition that past strategies for handling congestion on Kaua'i will not work in the future. Overall, there is a high level of agreement that something needs to happen to change the transportation direction on the island as well as a general sense of urgency that solutions need to be implemented sooner rather than later.

<sup>&</sup>lt;sup>1</sup> Sources: Kaua'i General Plan Update (2017), based on a baseline year of 2015 for population and 2016 for visitors.



# WHAT HAVE WE HEARD FROM THE COMMUNITY?

#### Stakeholder Engagement

Engagement with stakeholders and the broader community was a central component of the Short-Range Transit Plan. Key stakeholders included: community groups, resort associations, employees, government officials, The Kaua'i Bus operators and other staff, and the Kaua'i Visitors Bureau.

Stakeholders provided suggestions for improving transportation options and reducing congestion, while ensuring that Kaua'i remains a livable place for residents and a desirable destination for visitors. Figure ES-1 paraphrases some of the key input provided by stakeholders, as it relates to transit on Kaua'i.

Figure ES-1 Key Examples of Stakeholder Input





#### **Community Engagement**

Community engagement activities included: an on-board survey; a *Design Your Own Transit System* online participatory budget tool; two focus groups for information materials and transit marketing; six open houses; eight pop-up community engagement activities; and two online surveys. Figure ES-2 paraphrases some of the key feedback provided by the community over the course of the planning process, as well as some key numbers associated with the engagement efforts.







### WHAT ARE THE KEY THEMES?

During the planning process, certain general themes emerged regarding transit on Kaua'i. The themes, which are listed in this section, are important considerations for our strategies moving forward.



Kaua'i Cannot Rely Solely on Building New Roads. While some spot improvements may be possible, most large infrastructure projects aren't feasible—environmentally or financially. With a growing number of residents and visitors, Kaua'i cannot depend on all visitors renting a car. (According to the 2014 Kaua'i Visitor Survey, 89% of visitors rent a car.) Other transportation options, including transit, must be available.

#### **Transit Should Be Seamless and Easy to Understand.** Currently, transit on Kaua'i can be challenging to understand and navigate. Information materials (including the website, printed guides, and signage) should be clear and attractive—for

residents and visitors alike.



Increasing Numbers of Visitors to North Shore Sites Pose a Challenge to Maintaining the Quality of Cultural and Ecological Resources. Key challenges include access to Kē'ē Beach and Hā'ena State Park, access to Kīlauea Point Lighthouse, and employee transport between resorts and North Shore locations such as Hanalei, Princeville, and Kīlauea.

# 

#### Aloha for All Visitors Should Begin Immediately upon

**Arrival**. Airport-to-resort transport is generally recognized as a very important component of the overall picture and solution. The current arrival experience, especially for visitors not renting a vehicle, is not as welcoming as it could be. F Transportation solutions cannot be developed in a vacuum.



The Kaua'i Bus Should Engage in Long-Range Transit Planning. There are significant opportunities for The Kaua'i Bus to include a plan for operations expansion, capital expansion, improved passenger facilities, support facilities, and marketing.





# **One-Lane Bridges on the North Shore are a Historic Resource.**

Between Princeville and Hanalei, cars crossing the one-lane bridge can create delays of up to 30 minutes. Between Hanalei and Hā'ena, concerns include one-lane bridges congestion, safety, visibility, and ecological sensitivity. The bridges are also artifacts of historical and cultural value. New solutions must protect the historic, environmental, and cultural resources in the area.



There are opportunities for cost savings within the existing transit system. The SRTP identifies ways to increase the efficiency of scheduling and operations for both fixed-route and paratransit service. Cost savings can be reallocated to support improvements to service in other areas of the system.



**Congestion on the East Side Creates a Bottleneck for the Entire Island.** A significant portion of traffic on the island must circulate via the East Side district of Kapa'a and Wailuā. Island-wide circulation mixes with local traffic at this location, creating a bottleneck and a high level of congestion between Kapa'a and Līhu'e.



Local Circulation is an Issue on the South Side. Three key challenges include limited transit options in locations such as Po'ipū and Kōloa, resort employee parking, and new development currently in various stages of permitting that could increase traffic. Another issue is the limited options for local circulation within South Side communities, despite relatively short distances.



As bus service increases, so does ridership. Historical ridership data for The Kaua'i Bus suggests that increased service corresponds with increased ridership. As such, there are opportunities for more frequent buses and earlier/later service, as well as improvements to first last mile connections (trips to and from transit)—which can be difficult due to land use patterns and topography.

**Increased** transit

supports maintaining

Kaua'i's character.



# HOW DO WE IMPROVE TRANSIT ON KAUA'I?

This plan consists of 13 chapters. The first six chapters set the stage by outlining existing conditions and summarizing community input into the plan. The remaining seven chapters each represent a category of strategies to improve transit on Kaua'i: Fixed-Route Operations Plan, Paratransit Plan, Capital and Infrastructure Plan, Marketing Plan, Fare Analysis, Organizational Assessment, and Financial Plan. A road map to the chapters is shown in Figure ES-3.

#### Figure ES-3 Summary of Action Items

Chapter	What is it about?	What are the action items?
1-6 Introduction and Existing Conditions	<ul> <li>Chapters 1 through 6 are the Introduction and Existing Conditions chapters.</li> <li>Chapter 1: Introduction</li> <li>Chapter 2: Market Analysis</li> <li>Chapter 3: Planning Context</li> <li>Chapter 4: Existing Fixed-Route Transit Services</li> <li>Chapter 5: Transit Operator Interviews</li> <li>Chapter 6: Community Engagement</li> </ul>	These chapters set the stage for the rest of the report, but do not provide any action items.
7 Fixed-Route Operations Plan	Fixed-route transit is transit that follows a set schedule and routing. For The Kaua'i Bus, this means mainline and shuttle routes. The Fixed-Route Operations Plan presents short- range strategies (0–5 years) as well as the long- term transit vision for The Kaua'i Bus (more than 5 years). It also provides guiding principles for transit planning.	<ul> <li>Implement "quick wins" strategies</li> <li>Reinvest service efficiencies gain through improved scheduling into short-term service priorities</li> <li>Implement recommendations for systemwide operational changes</li> <li>Pursue long-term vision</li> </ul>



Chapter	What is it about?	What are the action items?
8 Paratransit Plan	Paratransit is on-demand transit, typically reserved for people with mobility challenges. The Paratransit Plan chapter outlines key challenges associated with providing paratransit service on Kaua'i, as well as goals, strategies, expected outcomes, and implementation strategies.	<ul> <li>Implement fare recommendations to create fare incentives to use fixed-route service</li> <li>Implement changes to age eligibility requirements</li> <li>Establish trip limits for age-eligible riders</li> <li>Require in-person assessment for ADA eligibility</li> </ul>
9 Capital and Infrastructure Plan	Capital and infrastructure—e.g., vehicles, shelters, and operating and maintenance bases —are required for transit provision. The Capital and Infrastructure Plan outlines recommended capital improvements, including: bus stops, fleet needs, facilities (including maintenance and operating bases), and technology.	<ul> <li>Coordinate with HDOT and the County of Kaua'i to establish new stops—and associated infrastructure, like pedestrian crossings—where recommended</li> <li>Take into account fleet needs when implementing short-term priorities</li> <li>Consider cameras for transit vehicles for safety purposes</li> <li>Consider the implementation of smartphone-based fare payment technology</li> </ul>
10 Marketing Plan	Transit marketing involves materials and strategies that are necessary for riders to understand and use transit. The Marketing Plan lays out the markets for transit, marketing goals, five marketing strategies, and next steps for evaluating the impact of marketing changes.	<ul> <li>Update maps and printed materials</li> <li>Develop a new, updated comprehensive website for The Kaua'i Bus; develop a social media presence <ul> <li>This includes making The Kaua'i Bus information available in General Transit Feed Specification (GTFS) format</li> </ul> </li> <li>Update The Kaua'i Bus brand <ul> <li>Improve signage and other passenger bus stop amenities</li> <li>Implement a marketing campaign for The Kaua'i Bus</li> </ul> </li> </ul>



Chapter	What is it about?	What are the action items?
11 Fare Analysis	Fares are what passengers pay to ride transit. The Fare Analysis provides an overview of existing fare categories, products, and revenues; lists fare best practices relevant to The Kaua'i Bus; and makes recommendations based on the findings and input from stakeholders.	<ul> <li>Implement fare recommendations to create fare incentives to use fixed-route service</li> <li>Create a day pass</li> <li>Create bulk pass purchase options for institutions</li> <li>Increase monthly pass prices</li> <li>Consider the implementation of smartphone-based fare payment technology</li> </ul>
12 Organizational Assessment	Organizational assessments help understand needs associated with human resources. This Organizational Assessment proposes potential operational changes to address existing challenges. It also outlines expected outcomes, and offers guidance for implementation.	<ul> <li>Build transit planning capacity</li> <li>Build GIS, analysis, design, and communications capacity</li> <li>Improve fleet utilization and assign vehicle cleaning to non-driver staff</li> <li>Generate turn-by-turn route instructions for operators</li> <li>Create an operating manual</li> </ul>
13 Financial Plan	Financial plans assess the costs and funding sources for transit. This Financial Plan helps determine how to fund the various strategies found in the SRTP. It outlines existing revenue sources, potential new revenue sources, cost savings strategies, and next steps for ensuring financial sustainability.	<ul> <li>Pursue partnerships with businesses and resorts</li> <li>Investigate bulk pass partnerships</li> <li>Pursue establishment of Business Improvement Districts</li> <li>Determine scale of service efficiencies achievable through the scheduling process and reinvest in short- term service priorities</li> </ul>



#### **CHAPTER 7: FIXED-ROUTE OPERATIONS PLAN**

The Fixed-Route Operations Plan (Chapter 7) presents a short-range plan for fixed-route transit operations for The Kaua'i Bus. The plan addresses quick wins and short-term priorities for service. This Plan also recommends systemwide operational changes to help The Kaua'i Bus achieve its goals in accordance with guiding principles, followed by a longterm vision for The Kaua'i Bus developed as part of the Transit Feasibility Study.

#### **Quick Wins**

The "quick wins" are low-cost, high-impact strategies to improve the overall understandability and functionality of the network. They entail no new ongoing operating costs in terms of service hours, and as such should be implemented in the immediate term.





#### Systemwide Operational Changes

Systemwide operational changes also do not require any new service hours. As a result, they do not increase operating costs on an ongoing basis and should be prioritized during the implementation phase of this plan. Proposed systemwide operational changes include the following:



Make stop names easy to understand. Several current stops use business names, which are prone to change. They should instead be based on street names and/or public property (e.g., parks, neighborhood centers).



Make route names easy to understand. Route names use long numbers and change by direction. This is confusing for riders. Instead, route numbers should be short and should not change based on direction.



Incorporate traffic data when generating route schedules. Certain trips are consistently late by a wide margin relative to their scheduled times, which is a deterrent to fixed-route transit use.



Buses should only stop when a person is waiting at a stop or a rider requests a stop. For typical bus routes, stopping at every stop results in unnecessarily long running times.





Provide turn-by-turn maps for all routes to all drivers. Turn-byturn maps eliminate the ambiguity associated with providing service among operators. For example, some drivers may use one street for a route, while others may use an entirely different street. This results in confusion among riders and on-time performance issues.

Establish a protocol for on-call stops that results in them being eliminated, upgraded to standard stops, or converted to all-day on-call stops. On-call stops—especially those with specific time windows—are both confusing for riders and difficult to accommodate in schedules.



Ensure the last trip of each route is inbound, to reduce time spent "Out of Service". Several routes have long deadhead segments (segments where buses are not in service but need to travel from one location to another). This out-ofservice time can be reallocated to in-service time by modifying the way trips are scheduled.



#### **Short-Term Service Priorities**

Prioritized short-term improvements for The Kaua'i Bus service were developed as part of this effort. Funding for implementation of these priorities will be identified through a scheduling efficiency effort underway in early 2018, with the purpose of identifying efficiencies within the existing route structure and potentially reducing vehicle fleet requirements to operate existing service. While it likely will not be possible to implement all identified priorities, The Kaua'i Bus will implement as many as possible within the existing budget. Additional funding would be required for any remaining service priorities. Short-term service priorities include the following:



**1. Hourly weekend service**. Provide hourly bus service on weekends for all routes that currently operate on weekends.



2. Later weekend service. Make the weekend span of service equal to the weekday span of service for all routes.



3. Later weekday service. Provide one to two additional later trips for all routes during weekdays.



**4. More service for Wailua.** Adjust the alignment for the Wailua Mainline. Increase service for Wailua with a Wailua-Kapa'a shuttle.



5. More weekday peak service. Provide 30-minute service between Kalāheo and Kapa'a during the AM and PM peaks.



6. More weekday midday service. Provide 30-minute service between Kalāheo and Kapa'a during the midday (between AM and PM peaks).

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7. More service for the Lihue Shuttle. Increase service for the improved Lihue and Puhi Shuttles that will supersede the existing Lihue Shuttle.



8. New West Side Shuttle: Create a new shuttle connecting Kalāheo, Hanapepe, and 'Ele'ele (including Hanapepe Heights).









#### **Long-Term Vision**

This Short-Range Transit Plan is in large part a short-term blueprint for transit improvements. However, this section provides a long-term vision for the transit network—what The Kaua 'i Bus should work towards over the next 10 years.

The vision includes both more service and new routes. In particular, it proposes more frequent buses, adjustments to routing for existing routes, a set of new peak express routes, and three recreation-oriented shuttles. Figure ES-5 summarizes the vision on a map.

Existing fixed-route bus service offered by The Kaua'i Bus costs approximately \$4.3 million per year. The preferred plan will cost an estimated \$8.4 million per year. As such new revenue would be needed to support bus service expansion toward the level proposed in the long-term vision.

The long-term vision was developed in 2015 by County of Kaua'i staff in collaboration with stakeholders, as well as extensive community input.



#### Figure ES-5 Long-Term Transit Vision





#### CHAPTER 8: PARATRANSIT PLAN

The Paratransit Plan (Chapter 8) outlines The Kaua'i Bus' near-term plan for paratransit service. It begins by outlining key challenges associated with providing paratransit service on Kaua'i as well as the impacts of these challenges. It then explains the goal of the paratransit plan, the strategies aimed at achieving that goal, and the expected outcomes of these strategies. Ultimately, this plan provides a path forward to ensure the sustainability and high quality of The Kaua'i Bus paratransit service.

#### Challenges

Paratransit on Kaua'i faces four key challenges: (1) high costs relative to fixed-route, (2) low fares relative to fixed-route, (3) difficult-to-access fixed-route stops, and (4) generous age eligibility requirements.



As a result, The Kaua'i Bus paratransit has seen a 21% increase in demand over the past six years, from 68,000 trips to 82,000 trips annually. This is higher than several similar agencies across the United States. Ultimately, the increase in demand for paratransit has put a strain on existing resources: riders increasingly experience issues with on-time performance and other service quality issues due to paratransit operating above capacity and Kaua'i Bus continues to spend an increasing percentage of the annual operating cost to support paratransit.



#### **Strategies**

Four strategies will help The Kaua'i Bus to accomplish its goal for paratransit: (1) create fare incentives to use fixed-route service, (2) change age eligibility requirements, (3) establish trip limits for age-eligible riders, and (4) require in-person assessments for ADA eligibility.



#### **Expected Outcomes**

The proposed strategies in the Paratransit Plan are expected to result in three broad outcomes:

- **More fixed-route riders.** This plan will results in more seniors and people with disabilities riding fixed-route service when they are able to. This is because of higher paratransit fares, stricter eligibility rules, more accurate eligibility process, and trip limits for riders without ADA eligibility. At the same time, the cost of a fare for using fixed-route service for these riders would decrease by 50%.
- **Lower share of paratransit costs.** The share of paratransit costs will rise less quickly than its current rate. Population growth suggests that paratransit costs will not *decrease* outright in the future. However they will not increase disproportionately fast, which is currently the case.
- **Better quality paratransit.** As a result of lower demand on paratransit relative to fixed-route, it will be possible to provide high quality paratransit service to those who need it most—with fewer challenges associated with on-time performance and capacity.



#### **CHAPTER 9: CAPITAL AND INFRASTRUCTURE PLAN**

Transit infrastructure and capital investments, like vehicles, stops, and software, are critical to implementing other parts of the plan. The Capital and Infrastructure Plan (Chapter 9) outlines short-term capital needs for The Kaua'i Bus, and identifies longer-term needs for further analysis. It focuses on four categories: (1) bus stops, (2) the vehicle fleet, (3) facilities and infrastructure improvements, and (4) technology. Key strategies include:

- Coordinate with HDOT and Kaua'i County to establish new stops at key locations—including on highways. The stops listed in this chapter increase the reach of transit to new markets, and help to reduce deviations from the highway for the mainline routes<sup>2</sup>. The new stops should use best practices in rural bus stop design—including pedestrian crossings on highways—as laid out in this chapter, as well as Appendix H.
- Consider fleet requirements when implementing fixed-route strategies. For strategies in Chapter 7, no new vehicles are needed to implement quick wins, systemwide operational changes, and the first four short-term priorities. However, a small number of new vehicles may be necessary for short-term priorities 5 through 8. Vehicle needs will depend on ongoing scheduling efficiency practices and future paratransit demand<sup>3</sup>.
- Continue planning for the Civic Center Transit Services Building and the Kapa'a Triangle Transfer Facility. The Civic Center Transit Services Building will make transit customer service more accessible for riders, and the Kapa'a Triangle Transfer Facility will improve service for all routes that serve Kapa'a. In addition, The Kaua'i Bus should (1) evaluate the feasibility of maintenance and operating bases in Kekaha and/or Hanalei, and (2) analyze the capacity of the current maintenance facility to determine space and equipment needs.
- **Implement General Transit Feed Specification (GTFS) data.** GTFS allows transit information to be visible to riders from their smartphones, and is an important part of transit IT infrastructure.
- Acquire software necessary for transit planning and communications. Acquire GIS and design software in order to assist with transit planning, information materials design, and external communication.
- **Consider security cameras in vehicles.** Security cameras can be used for several purposes, including resolving complaints, investigating accidents, and training staff. The Kaua'i Bus should evaluate their feasibility.
- **Consider smartphone-based fare payment technology.** Smartphone-based fare systems may be able to provide seamless payment options for riders—including visitors—at a lower cost than conventional fare collection.

<sup>&</sup>lt;sup>2</sup> In general, the intent is to keep mainline routes on highways where feasible, and to provide local service with shuttles.

<sup>&</sup>lt;sup>3</sup> The scheduling efficiency analysis will reduce vehicle needs. Paratransit demand is expected to remain relatively flat (see Chapter 8).



### CHAPTER 10: MARKETING PLAN

Service improvements and changes must go hand-in-hand with marketing approaches if The Kaua'i Bus is to be an integral part of the island's social, employment, tourist, and mobility network. Successful marketing means The Kaua'i Bus must work closely with the diverse group of organizations who are already marketing the region and may be ideal partners in supporting transit use. The Marketing Plan (Chapter 10) addresses the marketing-related challenges facing The Kaua'i Bus by defining goals and recommending actions to achieve them. The actions presented cater to the unique characteristics of transit on Kaua'i.

Five primary strategies were identified to improve marketing for The Kaua'i Bus. The strategies are based on input from community outreach, stakeholder interviews, and focus groups—as well as general best practices in transit marketing.



**Update maps and printed materials.** Printed materials—whether in print or posted online as PDFs are the primary way that customers currently access transit information. The current materials are difficult to understand, and a key barrier to attracting new riders. They are also a source of frustration among existing riders. Updated maps and schedules are a critical first step in better overall transit marketing for The Kaua'i Bus.



**Develop a new website for The Kaua'i Bus; develop a social media presence.** The website is the first location that many riders and prospective riders attempt to access transit information. It should be simple and intuitive for both existing and prospective riders—including visitors to Kaua'i. In addition, social media can be used to provide updates and attract new riders.

In addition to a standalone website, The Kaua'i Bus should focus on implementing General Transit Feed Specifications (GTFS) data in order to be present on Google Maps, as well as other websites and apps.



**Update The Kaua'i Bus brand.** The Kaua'i Bus brand is neither well-understood, nor widely used. Both riders and non-riders find it more safari-oriented than transit- or Kaua'i-oriented and don't think it is sufficiently "aloha." At the same time, people do have generally positive associations with The Kaua'i Bus. This strategy seeks to build on this, by updating the brand.



**Improve signage and other passenger bus stop amenities.** This strategy focuses on continuing the efforts to establish improved signage and passenger information at bus stops and on buses.



**Implement a marketing campaign for The Kaua'i Bus.** In order to increase visibility among residents and visitors alike, The Kaua'i Bus needs to show itself off using marketing campaigns.









### **CHAPTER 11: FARE ANALYSIS**

The Fare Analysis (Chapter 11) lays out a plan to improve the way fares are structured and collected for The Kaua'i Bus. It establishes fare-related goals, outlines existing conditions, presents best practices, and provides a set of conceptual fare scenarios and recommendations. Ultimately, this document provides a roadmap for fare-related changes for The Kaua'i Bus that balance the needs of riders with the financial sustainability of the agency.

The following fare recommendations incorporate results from reviewing national best practices, evaluation of fare scenarios, and refining concepts with Kaua'i Bus:

- Offer a discounted fixed-route monthly pass for Seniors. Create a discounted fixed-route monthly pass for seniors, aged 65 years and over, people with disabilities, and youth (start at \$20, increase by \$5 in two years).
- **Create a one-day pass.** Create a one-day pass, priced at \$4, that is valid on all mainline and shuttle routes. In general, best practice is to price day passes at 2-3 times the price of a one-way fare. Setting the price at \$4 is consistent with peer transit agencies in Honolulu and Maui who both offer a day pass priced at twice the one-way fare. A day pass would benefit riders making a round trip or multiple transfers. A scratch-off style is recommended for paper passes, as this fare media does not require additional technology to validate/date stamp and unused passes do not expire. Additionally, if The Kaua'i Bus develops a smartphone app for fare payment, the day pass should be made available for purchase through the app. Visual validation by The Kaua'i Bus operators onboard the bus is recommended for app-based fares.
- **Establish a reduced fixed-route fare for ADA-eligible riders.** The Kaua'i Bus should offer a discounted fare (50% of base fare) on mainline and shuttle routes to ADA-eligible passengers.
- **Create a 10-ride paratransit pass.** Eliminate paratransit monthly pass and create a 10-pass product (\$20 for ADA and \$40 for age-eligible).
- **Increase the price of the monthly pass.** The price of a monthly pass has increased every year for three years, ending in 2015—yet still provides a considerable discount from the base fare. Kaua'i Bus should increase the monthly pass cost by \$5 per year over the next two years with a goal of pricing the pass at \$50/month in two years.
- **Discontinue the annual pass.** The annual pass brings in very little revenue and are only available for purchase at The Kaua'i Bus office in Lihue. It is recommended that the annual pass be eliminated in favor of pursuing an enhanced bulk pass program.

Fare policy recommendations include establishing guidelines for fare increases and farebox recovery, expanding bulk pass programs, and considering best practices for flash pass deployment on vehicles.



#### **CHAPTER 12: ORGANIZATIONAL ASSESSMENT**

The Organizational Assessment (Chapter 12) describes the personnel needs and overall organizational changes required to ensure the ongoing success of The Kaua'i Bus. Ridership has been growing, and the agency will need more staff—not less—to keep up with demand. Furthermore, investments in specific skill sets will be critical to help the system improve and grow. Similarly, changes to certain operating procedures, including the creation of standard operating procedures, will be essential to making the most out of the limited funding available to accommodate growth in years to come.

Based on interviews and communications with staff, The Kaua'i Bus is faced with five key operational challenges: (1) a general staff shortage; (2) no capacity or staff dedicated to transit service planning, (3) limited technical capacity with respect to GIS, data analysis, design, and internal/external communications, (4) bus drivers are often given official and unofficial responsibilities that do not involve driving buses, and (5) there is no single source of agency-wide standard operating procedures.

As a result, the Organizational Assessment proposes five changes to the organizational structure and operating procedures of The Kaua'i Bus:





### CHAPTER 13: FINANCIAL PLAN

Most of the strategies in the SRTP require funding in order to be carried out. The Financial Plan (Chapter 13) helps determine how to fund the strategies found in this plan. The most promising funding strategies are described below.



#### Service Efficiencies

Improving scheduling efficiency —essentially, scheduling of transit operator shifts—is the most promising way for The Kaua'i Bus to provide more service hours without increasing costs in the very near-term. The results will determine how much efficiency can be funneled back into the strategies listed in this plan—specifically, the efficiencies gained will be used to implement the fixed-route strategies in the Fixed-Route Operations Plan (Chapter 7) in the order in which they are listed. The magnitude of cost savings will be determined in late 2017/early 2018.



#### **Bulk Passes**

In recent years, growing numbers of transit agencies have teamed with universities, employers, or residential neighborhoods to provide universal transit passes. These passes typically provide unlimited rides on local or regional transit providers for low monthly fees, often absorbed entirely by the employer, school, or developers.



#### **Business Improvement District (BID)**

BIDs are created to provide supplemental services and improvements within a geographically defined area. The tax collected from properties in a BID can be used for a variety of services, including transit, streetscape improvements, placemaking, maintenance, façade improvements, and marketing.



## WHAT'S THE TIMELINE?

Implementing the SRTP is easier said than done. The timeline below helps to frame phasing for different parts of the plan. It is intended as a rough guideline only. Actual implementation will depend on available resources and opportunities.

	Immediate Term 0-1 years	Short Term 2-3 years	Medium Term 4-5 years
<b>Chapter 7:</b> Fixed-Route Operations Plan	<ul> <li>Implement all quick wins</li> <li>Change route and stop names</li> <li>Incorporate traffic into schedules</li> <li>Eliminate on-call and drop-only stops</li> <li>Reduce time spent out of service</li> <li>Change bus stop request protocol</li> </ul>	<ul> <li>Short-term priorities (subject to available funding)</li> <li>Explore partnerships with private sector for recreation-oriented shuttles</li> </ul>	<ul> <li>Short-term priorities (subject to available funding)</li> <li>Explore partnerships with private sector for recreation-oriented shuttles</li> <li>Create implementation plan for long-term vision</li> </ul>
Chapter 8: Paratransit Plan	<ul> <li>Adjust fares</li> <li>Change age eligibility</li> <li>Establish trip limits</li> <li>Establish protocol for in-person assessments</li> </ul>	<ul> <li>Monitor changes in paratransit demand and adjust policies as necessary</li> </ul>	<ul> <li>Monitor changes in paratransit demand and adjust policies as necessary</li> </ul>
Chapter 9: Capital and Infrastructure Plan	<ul> <li>Establish stops for Puhi Shuttle</li> <li>GTFS data (for Google Maps, etc.)</li> <li>Continue communications with HDOT and other County departments regarding bus stop needs</li> <li>Install GIS and design software</li> </ul>	<ul> <li>Establish stops on local streets</li> <li>Monitor fleet needs based on implementation of short-term priorities (and paratransit demand)</li> <li>Assess feasibility of smartphone- based fare payment</li> <li>Develop plan for Kapa'a Triangle Transfer Facility</li> <li>Assess feasibility of satellite baseyards</li> <li>Assess suitability of present maintenance facility</li> </ul>	<ul> <li>Establish on-highway stops and associated infrastructure (e.g., signals, rectangular rapid flashing beacons, etc.)</li> <li>Assess feasibility of security cameras</li> </ul>


	Immediate Term 0-1 years	Short Term 2-3 years	Medium Term 4-5 years
Chapter 10: Marketing Plan	<ul> <li>Interim system map and schedule update</li> </ul>	<ul> <li>Update The Kaua'i Bus brand</li> <li>Update maps and printed materials</li> <li>Develop new website</li> <li>Improve signage and stop amenities</li> </ul>	<ul><li>Develop social media presence</li><li>Implement marketing campaign</li></ul>
Chapter 11: Fare Analysis	<ul> <li>Create one-day pass</li> <li>Create a 10-ride paratransit pass</li> <li>Establish discounted fixed-route fares and passes</li> <li>Consider eliminating annual pass</li> </ul>	<ul> <li>Increase monthly pass price</li> </ul>	<ul><li>Increase monthly pass price</li><li>Evaluate effects of fare changes</li></ul>
Chapter 12: Organizational Assessment	<ul><li>Turn-by-turn route instructions</li><li>Separate drivers from vehicles</li></ul>	<ul><li>Build planning and technical capacity</li><li>Create an operating manual</li></ul>	
Chapter 13: Financial Plan	<ul> <li>Service efficiencies (including scheduling efficiency analysis)</li> </ul>	<ul> <li>Pursue bulk passes with large employers</li> </ul>	<ul> <li>Explore partnerships with BIDs for recreation-oriented shuttles</li> </ul>

# **1** INTRODUCTION

The purpose of the Short-Range Transit Plan (SRTP) is to establish a both a road map for The Kaua'i Bus over a five-year timeframe, and a vision for longer-term change. To do so, it addresses the strengths and opportunities associated with transit on Kaua'i, and provides a menu of possible actions depending on available funding. The strategies presented in this plan aim to improve transit mobility, while boosting cost effectiveness. This plan also lays out implementation guidance that make costs and benefits clear to policymakers.

The SRTP does not exist on its own. It embodies the goals and direction of the Multimodal Land Transportation Plan (MLTP, adopted January 2013) and incorporates the analyses and findings from the Kaua'i Transit Feasibility Study (TFS). This approach means the plan addresses transit mobility through the broader lenses of environmental sustainability, quality of life, population and job growth, development patterns, and economic prosperity—all of which are interrelated.

### How does the Short-Range Transit Plan relate to the Transit Feasibility Study?

Two transit-related plans have been underway over the past two years: the Transit Feasibility Study (TFS), and the Short-Range Transit Plan (SRTP). Each plan covers different elements associated with transit on Kaua'i. The TFS focuses on developing a long-term vision, identifying potential transit revenue sources, and determining the feasibility of transit for the North Shore and South Shore. By contrast, the SRTP addresses short-term service priorities, transit marketing and information materials, paratransit, fares, and organizational needs. In addition, the SRTP fills in the geographic gaps of the TFS by providing a more detailed analysis of Līhu'e and the West Side.

Ultimately, the SRTP consolidated all information and findings from both planning efforts. As such, this report is the final plan document for both the TFS and SRTP. The TFS is fully integrated as part of the SRTP.



## HOW IS THIS REPORT STRUCTURED?

This report contains 13 chapters. This introduction (Chapter 1) sets the stage for the SRTP. Chapters 2 through 6 outline the existing conditions associated with transit on Kaua'i, and lay the groundwork for the strategies presented in subsequent chapters. Chapters 7 through 13 outline the plan's strategies, expected outcomes, and implementation guidance, based on findings from the existing conditions. Additionally, a series of case studies appear throughout the document to provide insight into best practices throughout the transit industry.

### **Existing Conditions**

- **Chapter 2. Market Analysis**: This section analyzes a series of factors within the County of Kaua'i that determine the demand for transit, indicate the current use of transit services, and influence the type of transit needed. This includes size, distribution, and density of population and employment, urban form and land uses, socio-economic characteristics, and location of major landmarks and tourist destinations.
- **Chapter 3. Planning Context**: A summary of relevant planning documents and current policies is provided to identify goals, practices, and actions that relate to transit service in the County of Kaua'i, including the Kaua'i Transit Feasibility Study.
- **Chapter 4. Existing Fixed-Route Transit Services**: This section includes a history of the system, the current Kaua'i Bus network, an overview of the fixed-route system, peer review, and route-by-route performance evaluation.
- Chapter 5. Transit Operator Interviews: A summary of interviews conducted with Kaua'i Bus operators in February 2016 to gain a thorough understanding of operating conditions and opportunities for transit service on Kaua'i.
- **Chapter 6. Community Engagement**: Guided by a Public Outreach Plan, this section highlights findings from stakeholder interviews, an on-board survey, online surveys and the project website, focus groups, and in-person community engagement activities.



#### **Strategies**

- **Chapter 7. Fixed-Route Operations Plan**: This section outlines the goals and principles that guide transit planning for The Kaua'i Bus, followed by four sets of strategies—minor alignment changes, systemwide operational changes, service priorities (for both mainline and shuttle routes), and implementation and phasing.
- **Chapter 8: Paratransit Service Plan**: This chapter outlines key challenges associated with providing paratransit service on Kaua'i, and presents goals, strategies, expected outcomes, and implementation strategies for The Kaua'i Bus paratransit service.
- **Chapter 9: Capital and Infrastructure Plan**: This section outlines recommended infrastructure improvements to facilitate implementation of the preferred operating plan, including new fleet vehicles; security cameras; a new transfer facility and various infrastructure projects requiring coordination with the County; new, improved, or relocated bus stops, and improvements to maintenance and operating support facilities.
- **Chapter 10. Marketing Plan**: The Marketing Plan lays out the markets for transit, marketing goals, five marketing strategies, and next steps for evaluating the impact of marketing changes.
- Chapter 11. Fare Analysis: This chapter provides an overview of existing fare categories, products, and revenues; lists fare best practices relevant to The Kaua'i Bus; presents fare change scenarios and their implications; and makes recommendations based on the findings from the scenarios and input from stakeholders.
- **Chapter 12: Operational Assessment**: This chapter outlines The Kaua'i Bus' existing organizational structure and key operating challenges. It then proposes potential operational changes to address these challenges, outlines expected outcomes, and offers guidance for implementation.
- **Chapter 13: Financial Plan**: This chapter helps determine how to fund the various strategies found in the SRTP. It covers financial topics including existing revenue sources, potential new revenue sources, cost savings strategies, and next steps for ensuring sustainable funding for The Kaua'i Bus' services.



### Appendices

The plan contains 10 appendices, each of which provide additional detail on specific topics. These include:

- Appendix A: Longitudinal-Employer Household Dynamics (LEHD) Area Analysis
- Appendix B: Public Outreach Open-Ended Comments
- Appendix C: Briefing Sheets
- Appendix D: On-Board Survey Instrument
- Appendix E: On-Board Rider Survey Open-Ended Comments
- Appendix F: Existing Marketing Assessment
- Appendix G: Existing Paratransit Services
- Appendix H: Pedestrian Access to Transit and Seamless Integration
- Appendix I: Public-Private Revenue Sharing Models
- Appendix J: Transit Feasibility Study Public Outreach

# **2 MARKET ANALYSIS**

This chapter analyzes a series of factors within the County of Kaua'i that together affect the demand for transit. The market for transit service is largely defined by:

- **Population and employment density**, which are the strongest indicators of transit demand. Larger numbers of people living and working in proximity leads to a stronger market for transit.
- **Socio-economic characteristics,** such as low incomes, zero-car households, youth and seniors, and people with disabilities, have a higher likelihood of using transit, and are therefore a critical part of market demand.
- **The location of major landmarks and tourist destinations** indicate where people desire to travel. This

While these factors each indicate demand for transit, other factors influence transit use. These include development patterns, land uses, pedestrian infrastructure<sup>1</sup>, and the convenience of other transportation alternatives<sup>2</sup>.

This market analysis is organized into three parts. The first part, **Transit Potential**, presents five factors associated with population and employment density: population density, population growth patterns, employment density, major employers, and land setting types. The second part, **Transit Need**, presents six socioeconomic factors—low-income population, median household income, population with disabilities, population aged 65 and over (seniors), population aged 0–17 (youth), zero-vehicle households—as well as a composite Transit Needs Index. The third part is a **Travel Demand Analysis**, which illustrates where people on Kaua'i are travelling.

<sup>&</sup>lt;sup>1</sup> Nearly all transit riders walk to and from the bus on at least one end of their trip, and thus the pedestrian environment strongly affects ridership. Industry standards suggest that transit riders are willing to walk one-quarter mile to a bus stop. However, with a pedestrian-friendly built environment, riders are commonly able to walk longer distances to transit.

<sup>&</sup>lt;sup>2</sup> For example, areas with minimal traffic congestion and ample free parking will attract fewer transit riders. Thus, even in cases where the market for transit is large, service must be designed appropriately to appeal to local markets and consider the broader travel environment.



### **KEY FINDINGS**

Key findings from the market analysis include:

- In general, population and employment are clustered in towns along the perimeter of the island. Līhu'e, Kōloa-Po'ipū, Princeville, and Kapa'a are major population and employment centers. The level of transit service generally follows population density.
- Many of Kaua'i County workers live either on the East Side or the South Side of the Island. Workers that live on
  the North Shore are more spread out, with a lower density of people per acre, making the North Shore challenging
  to serve with transit. Employment density is less evenly distributed across towns on the island due to large resorts
  and hotels on the coast. Overall, most jobs are on the East Side and in Lihu'e.
- Tourism is the largest industry in Kaua'i County. One in four people on Kaua'i at any given time are visitors. The largest private employer is The Grant Hyatt in Po'ipū, which employs nearly 800 people. Individual sites of significant employment can generate additional transit demand.
- First last mile connections (*i.e.*, connections to and from bus stops) can be difficult to provide due to low population and employment densities and separated, car-oriented land use patterns. Implementing park-and-ride lots could provide a potential solution for some passengers.
- Balancing coverage and efficiency in areas of low density and high need presents a challenge for transit. Service becomes more expensive to provide per passenger due to fewer riders. The tension between achieving equity in transit services while also generating revenue is a challenge.
- Low-income populations have a higher-than-average propensity to use transit and are less likely to have access to
  a private vehicle. Many of those living in poverty live in or near Līhu'e. Median household income can also shed
  light on propensity to use transit. Places with the lowest median household income include portions of the North
  Shore, Līhu'e, Kalāheo, and the West Side.
- People with disabilities, people that are 65 years or older, or people younger than 18 years are all groups that have a higher likelihood to rely on transit for mobility for physical or legal reasons. Those over 65 years and younger than 18 years tend to live in the Hanamā'ulu or Līhu'e area. Places with a higher density of people with disabilities are Līhu'e, Hanamā'ulu, Wailuā, and Kapa'a.
- Many of the demographic measures culminate into a transit needs index, which is calculated based on those populations that tend to rely more on transit. Towns throughout Kaua'i County scored high in the transit needs index, including Līhu'e, Wailuā, Kapa'a, Anahola, Kīlauea, Kalāheo, 'Ele'ele, Hanapēpē, Waimea, and Kekaha.



- Zero-vehicle households rely on transit more heavily through choice, financial reasons, or legal reasons. These households tend to live in or around Līhu'e and Kekaha.
- Travel between groups of traffic analysis zones (TAZs) is dominated by trips between the South and East side of the island, with Līhu'e as the hub. Trips within TAZ groups account for approximately 30% of all travel on the island, and Līhu'e sees, by far, the most travel within its TAZ group.

### **TRANSIT POTENTIAL**

Transit service is generally most effective and efficient in areas with high concentrations of people and businesses. The reach of transit is generally limited to between one-quarter mile and one-half mile of transit stops. Therefore, the size of the travel market is directly related to the density of people and jobs. Areas and corridors with higher density support higher frequencies, while lower-density communities support different types of transit services, including lower frequency, demand response, or park-and-ride service.

## **Population Density**

The distribution and density of population is a key factor influencing the viability of transit service because most riders walk to and from the bus on at least one end of the trip. Higher-density communities have more people within walking distance of bus routes, and thus are stronger markets for transit.

As shown in Figure 2-1, population distribution is spread throughout the perimeter of Kaua'i, with the northwest side of the island largely unpopulated. The towns with the highest density of people per acre are Kekaha, Hanapēpē, Līhu'e, Hanamā'ulu, Wailuā, Kapa'a, and Kīlauea. In general, transit coverage reflects density levels across the Island, with the densest coverage occurring in Līhu'e. Līhu'e is the largest employment center on the island and maintains the island's primary airport. The main seaport and the island's cruise ship terminal is located nearby at Nāwiliwili Bay, directly southeast of Līhu'e, and can be found on Figure 2-8.



#### Figure 2-1 Residential Population Density





### **Population Growth**

The population of Kaua'i has been steadily growing over the past 40 years, and projections predict this trend to continue at least through 2035. Figure 2-2 shows the population distribution by area of Kaua'i, with both 2010 figures and 2035 projections. With a projected annual growth rate of 1.0%, Kaua'i is expected to grow in population from 67,091 in 2010 to 88,013 residents by 2035. Levels of population growth anticipated between 2010 and 2035 in each Kaua'i County Planning Area are shown in Figure 2-3.

Given that Kaua'i is such a popular tourist destination, the "de facto" population—the average daily number of people on Kaua'i at any given time, including visitors and excluding residents temporarily absent—is a more accurate representation of the population present. The de facto population is expected to grow from 82,101 in 2010 to 107,915 in 2035.<sup>3</sup>

County Planning Areas	2010	2035	% Growth
Līhuʻe	14,683	23,456	60%
Kōloa-Poʻipū-Kalāheo	11,696	16,855	44%
Hanapēpē-'Ele'ele	6,157	7,094	15%
Waimea	5,561	6,566	18%
Hanalei (North Shore)	8,002	8,933	12%
Kawaihau-Kapa'a (East Kaua'i)	20,992	25,110	20%
Total	67,091	88,013	31%

	Demulation Distribution by	County Dianning Area
Figure Z-Z	Population Distribution b	y County Planning Area

Source: Appendix D, discussion draft 2016 Kaua'i General Plan, "Socioeconomic Analysis and Forecasts (February 2014)"

<sup>&</sup>lt;sup>3</sup> Source: Appendix D, discussion draft 2016 Kaua'i General Plan, "Socioeconomic Analysis and Forecasts (February 2014)"



#### Figure 2-3 Population Growth Estimates (2010-2035)



Data Sources: U.S. Census Bureau, Hawai'i Department of Transportation, Central Federal Lands Highway Division, ESRI



## **Employment Density**

Understanding the size and distribution of employment is also a critical part of understanding travel demand and markets. This is because work trips are the most frequent reason for travel and often result in predictable trip patterns. In addition, transit that serves areas of high employment density provides key connections to job opportunities.

The sources of information for the employment density and the home/work locations of workers are the 2013 Longitudinal Employer-Household Dynamics (LEHD) and 2013 American Community Survey. The LEHD data program and American Community Survey are part of the U.S. Census Bureau and provide important information on where people live and work, education and income level, and other demographic topics.

As seen in Figure 2-4, most of the jobs in Kaua'i County are located in or around Līhu'e. Another high concentration of jobs is in Kōloa and the Po'ipū beach area, where several luxury hotels are located. Other employment centers on the island include Wailuā, Kaua'i Veterans Memorial Hospital, and Princeville, where additional luxury resorts are located.

#### **Home Locations of Workers**

As shown in Figure 2-5, the vast majority of Kaua'i County workers live in Līhu'e, on the East Side, or on the South Side of the island. Kapa'a, Wailuā, and Līhu'e have the highest density of home locations of workers. On the South Shore, Po'ipū and Kōloa also have a notable density of county worker home locations.

#### **Work Locations of Residents**

As seen in Figure 2-6, employment density is spread throughout the perimeter of the island. Resort locations are located along the North Shore, South Shore, and East Side of Kaua'i. Many large employers are located in Princeville. However, few Kaua'i workers live on the North Shore and subsequently must commute to North Shore employment. Additionally, jobs are also located on the East Side and in Līhu'e, with half of all jobs concentrated in Līhu'e. The island's primary airport and seaport are also located near Līhu'e. The Līhu'e Airport operates many inter-island flights daily, and the main seaport for Kaua'i is located at Nāwiliwili Bay, directly southeast of town.

#### **Additional Home and Work Location Analysis**

Area-specific analysis was conducted using 2013 LEHD data for the North Shore, East Side, South Shore, West Side, Kapa'a, Līhu'e, and the Līhu'e Airport. These maps are provided in Appendix A.



#### Figure 2-4 Employment Density

















### **Major Employers**

In addition to understanding employment generally, this market analysis also considers the service area's largest employers. Discrete sites of significant employment can generate additional demand for transit beyond the underlying demand of the surrounding area. In addition, these sites are often easier to serve with transit, since a large number of workers need to travel to and from the same work site location—in some cases at similar times.

Tourism is Kaua'i's largest industry, and nearly one in four people on Kaua'i at any given time are visitors. The largest private employer in Kaua'i County is The Grand Hyatt in Po'ipū. According to the State of Hawai'i open data portal, the other top five major employers in Kaua'i County are Wilcox Memorial Hospital, Marriott-Kaua'i Beach Club, and the Kaua'i Veterans Memorial Hospital (Figure 2-8). Figure 2-7 provides a list of all employers on Kaua'i with 250 or more employees.<sup>4,5</sup>

Princeville is home to a cluster of large, upscale resorts on the North Shore. Līhu'e is the island's primary employment center with hotels, a community college, a shopping center, a hospital, the main airport and seaport. The Samuel Mahelona Memorial Hospital in Kapa'a is another major employer on the East Side. On the South Side is a set of major beach towns, Kōloa and Po'ipū, where the Grand Hyatt Hotel and the Sheraton-Kaua'i Resort are located.

Rank	Employer	Location	Business Description	Number of Employees
1	Grand Hyatt-Kaua'i Resort & Spa and Business Center	Kōloa	Hotels & Motels	500-999
2	Wilcox Memorial Hospital	Līhu'e	Hospitals	500-999
3	Marriott-Kaua'i Beach Club	Līhu'e	Hotels & Motels	500-999
4	Kaua'i Veterans Memorial Hospital	Waimea	Hospitals	500-999
5	St. Regis-Princeville Resort	Princeville	Hotels & Motels	250-499
6	Walmart	Līhu'e	Department Stores	250-499
7	Sheraton-Kaua'i Resort	Kōloa	Hotels & Motels	250-499

#### Figure 2-7 Top Employers in Kaua'i County

<sup>4</sup> Military employment is not available in the list of major employers, including PMRF. PMRF would be in the Top 10 employers if it were reported. <sup>5</sup> At the time of writing, Kaua'i Community College (KCC) was not included in this list due to data reporting issues. However, KCC employs between 100-249 employees, and was the 20<sup>th</sup> largest employer as of 2017. In addition, its Fall enrollment in 2016 was 1,401 students. The location of KCC is

shown in Figure 2-8.



Rank	Employer	Location	Business Description	Number of Employees
8	Samuel Mahelona Memorial Hospital	Kapa'a	Hospitals	250-499
9	Kaua'i Medical Clinic	Līhu'e	Physicians & Surgeons	250-499
10	Wyndham Vacation Rentals	Kapa'a	Vacation Rentals	250-499
11	Quintus Resorts LLC	Princeville	Resorts	250-499
12	Kaua'i Coast Resort-Beachboy	Kapa'a	Resorts	250-499
13	Kaua'i Beach Resort	Līhu'e	Hotels & Motels	250-499
14	Westin-Princeville Ocean Resort	Princeville	Hotels & Motels	100-249
15	Princeville Wine Market	Princeville	Shopping Centers & Malls	100-249
16	Kaua'i Police Department	Līhu'e	Sheriff	100-249
17	Marriott-Waiohai Beach Club	Kōloa	Hotels & Motels	100-249
18	Marriott-Kaua'i Lagoons	Līhu'e	Hotels & Motels	100-249
19	Creative Partition Systems	Līhu'e	Dry Wall Contractors	100-249
20	Du Pont Pioneer	Waimea	Seeds & Bulbs-Wholesale	100-249
21	Outrigger Kiahuna Plantation	Kōloa	Condominiums	100-249
22	Costco	Līhu'e	Wholesale Clubs	100-249
23	Courtyard-Kaua'i At Coconut	Kapa'a	Hotels & Motels	100-249
24	Kapa'a High School	Kapa'a	Schools	100-249
25	Kaua'i High School	Līhu'e	Schools	100-249
26	Akita Enterprises Ltd	Līhu'e	Buses-School Transportation Service	100-249
27	Wilcox School	Līhu'e	Schools	100-249
28	Palms Restaurant	Kapa'a	Full-Service Restaurant	100-249
29	Keoki's Paradise	Kōloa	Full-Service Restaurant	100-249
30	Kmart	Līhu'e	Department Stores	100-249
31	Kapa'a Elementary School	Kapa'a	Schools	100-249



Rank	Employer	Location	Business Description	Number of Employees
32	Duke's	Līhu'e	Full-Service Restaurant	100-249
33	Home Depot	Līhu'e	Home Centers	100-249
34	Aston Aloha Beach Hotel	Kapa'a	Hotels & Motels	100-249
35	Waimea High School	Waimea	Schools	100-249
36	Poʻipū Bay Resort Golf Course	Kōloa	Golf Courses	100-249
37	Chiefess Kamakahelei Middle School	Līhu'e	Schools	100-249
38	Kaua'i Island Utility Co-Op	Līhu'e	Electric Companies	100-249
39	BASF-Chemical Co	Kekaha	Chemicals-Manufacturers	100-249
40	Kapa'a Middle School	Kapa'a	Schools	100-249
41	Hale Kapuna Heritage Home	Kōloa	Nursing & Convalescent Homes	100-249
42	Kaua'i Community Correctional	Līhu'e	State Govt-Correctional Institutions	100-249
43	Allerton Garden Tours	Kōloa	Botanical Gardens	100-249
44	Securitas Security Svc USA	Līhu'e	Security Guard & Patrol Service	100-249
45	District Court	Līhu'e	State Government-Courts	100-249
46	Līhu'e Airport-LIH	Līhu'e	Airports	100-249
47	County of Kaua'i Fire Department	Waimea	County Government-Fire Protection	100-249
48	Brennecke's Beach Center	Kōloa	Full-Service Restaurant	100-249
49	Gaylord's	Līhu'e	Full-Service Restaurant	100-249
50	King Kaumuali'i Elementary School	Līhu'e	Schools	100-249
51	National Tropical Botanical Garden	Kalāheo	Botanical Gardens	100-249
52	West Kaua'i Medical Center	Waimea	Hospitals	100-249
53	Syngenta	Kekaha	Seeds & Bulbs-Wholesale	100-249
54	Extra Holidays	Princeville	Resorts	100-249
55	Safeway	Kapa'a	Grocers-Retail	100-249



Source: State of Hawai'i (as provided by InfoGroup)

#### Figure 2-8 Top Employers (2014)





# Land Setting Type

The island is dominated by an extinct volcano in its center, Mount Wai'ale'ale. The interior terrain of the island contains a series of steep mountains and deep valleys that are inaccessible to motorized transportation. Because of this, the bulk of the island is undeveloped forest land. In Figure 2-9, land setting type is shown according to the Transportation Recreational Opportunity Spectrum (TROS) developed by the Central Federal Lands Highway Division. Areas shown range from urban to primitive.



Figure 2-9 Land Setting Type



Source: Central Federal Lands Highway Division



### **TRANSIT NEED**

Above all else, public transportation is a mobility tool. Certain population subgroups are more likely to use transit than other modes as their primary means of local and regional transportation. These groups include youths, senior citizens, persons with disabilities, zero-vehicle households, and residents living below the poverty line. Identifying areas with relatively high concentrations of these groups can help determine where the need for transit service is greatest. To do so, the percentage of the total population that each sub-group represents in a given Census block group was calculated. However, a high transit need does not necessarily mean that traditional fixed-route transit will work in an area. Population density and total population are relevant factors of potential transit ridership. In some locations, the percentage of the total population that is likely to use transit is high, but the total population density is still quite low, meaning that the transit potential of the area is also low.

### **Low-Income Population**

Household income is a strong indicator of a higher-than-average propensity to use transit. People with lower incomes are less likely to be able to have reliable access to a private vehicle and thus are more likely to use transit. This analysis used the Census classification of poverty status to define and identify low-income individuals. Since disposable income is largely a factor of household size and household income, the Census considers household income and the number of members in the household in classifying a household as above or below the poverty line.

In 2013, the poverty threshold in Hawai'i for a family of four was set at an annual income of \$27,090. For an individual, this threshold was \$13,230. As seen in Figure 2-10, many of those living in poverty on Kaua'i live in or near Līhu'e. Other places with a higher density of households per acre living in poverty are located on the East or South Side and include Kapa'a, Kalāheo, 'Ele'ele, and Kekaha. The outlying areas, particularly to the north, have a very low density of low-income households.

### **Median Household Income**

As previously discussed, households with lower incomes are less likely to own a vehicle and more likely to be dependent on public transportation. Figure 2-11 shows the areas in Kaua'i County with the highest median household income. Most of these locations are on the North Shore near Kīlauea and Princeville or on the far West Side. Places with the lowest median household income include portions of Hanalei, Līhu'e, Kalāheo, 'Ele'ele and Kekaha.



## **Population with Disabilities**

Members of the population with disabilities are more likely than other groups to rely on public transit. Those who live close enough to a fixed route (and who are physically and mentally capable of riding) can make use of regular The Kaua'i Bus services. For those who are unable to ride the bus due to physical distance or who need special assistance, The Kaua'i Bus also offers door-to-door paratransit services. As shown in Figure 2-12, higher densities of people with disabilities live in Kapa'a, Wailuā, Līhu'e, Hanapēpē, and Kekaha. These communities may require unique solutions to improve mobility options for people with disabilities.

## **Senior Population**

Older adults (those 65 years and older) are more likely to ride transit than the general population for a variety of reasons, including increased (relative to the larger population) incidence of an inability to own or operate a private vehicle. Older adults are an important focus market for transit because this demographic group is increasing dramatically. Nationally, the number of older adults is expected to increase to approximately 70 million people by 2030, representing 20% of the total population, compared to 13% in 2010.

Figure 2-13 shows the density of residents age 65 years or older, with the highest concentration of these residents in Hanamā'ulu. Smaller concentrations of residents 65 years or older are located in Kekaha, Waimea, Hanapēpē, 'Ele'ele, Kalāheo, Līhu'e, Kapa'a, and Princeville.

# **Youth Population**

Youth are more likely than many other age groups to rely on transit services, both out of necessity (for those too young to drive) and by choice (for those who opt to live car-free).

Figure 2-14 shows the density of residents younger than 18 years, with the highest concentration in the Hanamā'ulu and Līhu'e area. Kaua'i Community College is also close to Līhu'e and is an important destination for youth populations.

### Households without Access to a Vehicle

Households without access to a vehicle represent a particularly strong market for transit. In some cases these residents are car-free by choice, while others are unable to drive for legal or financial reasons. Identifying clusters of this group helps identify areas that have transit-dependent riders.



The U.S. Census Bureau identifies households that have no access to a vehicle to help determine demographic concentrations of people who may require special transportation services. These concentrations may need transportation services to assist the elderly or disabled, but also may be used to plan for emergency transportation services for situations such as hurricane evacuation or other events.

Figure 2-15 shows the density of zero-vehicle households, with large concentrations located in the Hanamā'ulu and Līhu'e area. Kekaha also has a notable proportion of zero-vehicle households.

### **Transit Needs Index**

A transit needs index was calculated based on a point system that accounts for percentages of low-income households, zero-vehicle households, youth population, seniors, and population with disabilities. Scores are assigned for levels of each cohort by Census block group and then totaled on a scale of 25 points. While this analysis serves as a mechanism to anticipate transit needs, it does not serve as the only guiding principle for route alignments—successful transit systems also rely heavily on population and employment density.

Figure 2-16 shows the transit needs index, with the highest levels of transit need in Līhu'e, Hanamā'ulu, Wailuā, Kapa'a Kalāheo, 'Ele'ele, and Kekaha.



#### Figure 2-10 Households in Poverty





#### Figure 2-11 Median Household Income





#### Figure 2-12 People with Disabilities





#### Figure 2-13 Senior Population





#### Figure 2-14 Youth Population





#### Figure 2-15 Density of Zero-Vehicle Households





#### Figure 2-16 Transit Needs Index





# **TRAVEL DEMAND ANALYSIS**

### Methodology

This section examines travel between different regions of the island, grouped together by transportation analysis zone (TAZ). All types of trips, including work, school, and other, were analyzed using 2013 data from the Hawaii Department of Transportation's (HDOT) regional travel demand model. The primary inputs for the model are socioeconomic data (i.e., housing, employers, land uses), roadway networks, and National Household Transportation Survey data, thereby allowing the model to predict origins, destinations, and the shortest distances between them. The model assumes that the majority of trips are produced by households and attracted by jobs. Due to relatively low shares of transit use, there was no mode choice consideration developed as part of the analysis. In other words, all travel is assumed to be made by private automobile. The model predicts visitor trips by incorporating data accounting for parks, cultural attractions, and visitor accommodations. To measure trip generation for visitors, attractions were geolocated and assigned visitor counts based on data from the Hawai'i State Data Book. To calculate trip origins for visitors, visitor accommodation units were geolocated based on assessor data, including records for hotels, motels, and dormitories by parcel. Total visitor trips predicted were compared to the Visitor Plant Inventory and adjusted within each TAZ to match.

The boundaries for the TAZ groupings can be seen in Figure 2-17. Figure 2-18 shows trips between groups of TAZs. While trips may originate or terminate within any area of a zone, in this case they are displayed as occurring between a designated centroid in each zone. Figure 2-19 shows trips that occur within TAZ groups.

# Inter-TAZ Group Travel

Travel within Kaua'i is dominated by trips between TAZ groups (153,538 compared to 63,910 trips within TAZ groups). Most inter-TAZ travel occurs on the South and East sides of the island, with the primary origin/destination being Līhu'e. The two highest trip pairs are between Līhu'e and Puhi (15,886 trips) and between Wailuā and Kapa'a (10,263 trips). Travel activity is also high (6,000 or more) between Līhu'e and Kapa'a and between Līhu'e and Wailuā. Trips between Līhu'e and Po'ipū and between Līhu'e and Kalāheo/Lāwa'i account for over 3,000 daily trips each. Other high-activity origin-destination pairs (not including Līhu'e) are between Hanalei and Princeville, Kapa'a and Hanamā'ulu, Puhi and Po'ipū, and Po'ipū and Kōloa/'Ōma'o (Each accounting for 3,000 trips or more. It should be noted that there are no trip pairs between 5,000 and 6,000 and no trip pairs between 7,000 and 10,000).



Additional origin-destination pairs with significant travel activity (between 2,000 and 3,000 trips) include Princeville and Kīlauea, Hanamā'ulu and Wailuā, Hanamā'ulu and Līhu'e, Kapa'a and Puhi, Wailuā and Puhi, Puhi and Kalāheo/Lāwa'i, and Hanapēpē/'Ele'ele and Kalāheo/Lāwa'i.

West of Hanapēpē, origin-destination pairs account for fewer than 2,000 trips each. The same is true for the northeast shore between Kapa'a and Kīlauea.

# Intra-TAZ Group Travel

Trips within TAZ groups account for approximately 30% of all travel on the island. As can be seen in Figure 2-19, just over half of TAZ groups see less than 500 trips that begin and end within their boundaries. Līhu'e sees by far the most intra-TAZ travel with 20,772 trips, followed by Kapa'a (9,902 trips) and Po'ipū (8,149 trips). Princeville is the only area on the North Shore that generates high intra-TAZ travel with 5,522 trips. Other areas on the island with notable travel activity within their respective TAZs (between 2,500 and 5,000 trips) include Puhi, Kalāheo/Lāwa'i, and Wailuā.
















Figure 2-19 Kaua'i County Travel Patterns within TAZ Groups

# **3 PLANNING CONTEXT**

This chapter summarizes existing planning documents, and identifies the goals, policies, and action items that relate to transit service on Kaua'i. The plans reviewed in this chapter include:

- Kaua'i Multimodal Land Transportation Plan (2013)
- Kaua'i Kākou: Kaua'i County General Plan (draft, 2017)
- Hā'ena State Park Master Plan (2015)
- Kaua'i Tourism Strategic Plan Update 2016-2018 (2015)
- Kōloa-Poʻipū Area Circulation Plan (2007)
- Federal-Aid Highways 2035 Transportation Plan for the District of Kaua'i (2014)
- South Kaua'i Community Plan (2014)
- Kapa'a Transportation Solutions (2015)
- Kaua'i National Wildlife Refuge Complex Comprehensive Transportation Planning Study (2017)

### **KEY FINDINGS**

Several key findings emerged from the plan review:

- Interest in accommodating a growing population while preserving the rural character and high quality of life associated with Kaua'i
- Strong desire to maintain a **shared community vision** for the island
- Need for a balanced, multimodal transportation system that manages congestion
- Infrastructure should help **reduce congestion** caused by new development and increases in tourism



### KAUA'I MULTIMODAL LAND TRANSPORTATION PLAN

The MLTP outlines the steps the County of Kaua'i will take to achieve a balanced multimodal transportation system through the planning horizon year 2035. The most pressing transportation challenge will be to accommodate a growing population while preserving the rural character and high quality of life that is so important to the people of Kaua'i. The plan includes six programs as part of implementing an island-wide multimodal transportation network: a transit program, a bicycle program, a pedestrian program, a county roads program, an agriculture transportation program, and a land use program.

### **Existing Conditions**

The Kaua'i Bus began offering fixed-route service in 1990 and now currently offers eight fixed-route bus lines as well as paratransit service. Ridership on The Kaua'i Bus system has grown rapidly over the last five years. According to rider survey data taken in 2011, most people are using The Kaua'i Bus for longer trips. With the exception of trips within the Līhu'e district, only a small portion of trips began or ended in the same district. About 40% of transit riders were commuting to work or school, and nearly 75% of riders walked to their bus stop. The average walking distance to their bus stop was 0.4 miles, higher than typical walk distance averages compared to other areas of the U.S.

### **Transit Program 2035 Goals**

- **Continuing to accelerate the recent growth in transit ridership.** Strategies include increasing operating revenue, external funding, and county transit appropriations, and using savings and increased funding to ramp up transit services. The 2035 transit mode share policy target is nearly 4% of daily trips, which is equivalent of 18,000 weekday riders (up from 1,600 in 2010—a roughly tenfold increase).
- **Improving facilities at and near bus stops.** A major component of the Mayor's Holo Holo 2020 program includes installing shelters at every bus stop. Other bus stop improvements, such as improving sidewalks and crosswalks around bus stops, received strong support from the public. Implementation should be based on a prioritized system that accounts for the relative number of boardings at each stop location.
- **Revise operating revenue structure.** The Plan recommends adjusting monthly pass prices to be more in line with 25 to 35 times the single-ride rate. Implementing a discounted, bulk-rate commuter pass for employers and large institutions can boost transit ridership at little expense to employers. Modernizing on-board fare collection can help speed boarding times and can improve service planning decisions with anonymous, fine-grain data.



- **Improving transit information.** To build ridership and make it easier for users to plan their trips, digital services can offer real-time ride information based through a mobile phone application. Digital service can also help marketing by displaying routes, schedules, fares and passes in an easy-to-use platform.
- **Improving service planning.** The Kaua'i Bus's long commuter routes are the backbone of the County transit network, attracting bulk of daily ridership. Over the mid-term, The Kaua'i Bus will place priority on routes that benefit weekday commuters. Additionally, The Kaua'i Bus will implement new, local circulators within towns. This could also involve a sustained market for park-and-ride lots to support the mainline routes.
- **Converting the fleet to sustainable energy sources.** The majority of The Kaua'i Bus fleet is powered by diesel engines. To ensure The Kaua'i Bus can operate within available County resources, meet rapidly growing demand for transit service, and avoid potential supply disruptions, the fleet must be converted to a more sustainable engine or fuel type.

## KAUA'I KĀKOU: KAUA'I COUNTY GENERAL PLAN

The General Plan seeks to manage growth and bring the community together to accept factual circumstances, assess future challenges, and craft coherent solutions over a 20-year planning timeframe. Kaua'i Kākou, a running theme throughout the document, means that "everyone must work together to define and implement a shared vision for our island." The plan's general framework focuses on how the island can manage growth and achieve its four main goals of sustainability, health, uniqueness, and equity. To achieve this vision, the plan puts forth nineteen policies that articulate the County's path forward based on responses from a community wide survey. Additionally, the plan lays out a land use map implementation strategy based on twelve new land use designations that are designed to manage growth. As of September 2017, the planning process is still ongoing, but a Planning Commission Draft has been released.

### **Vision and Goals**

- **A Sustainable Island.** Growing responsibility to meet the needs of current and future generations without depleting resources.
- **A Healthy and Resilient People.** Increasing health, vitality, and resilience of communities through improving the natural, built, and social environment and responding to impacts from climate change.
- **A Unique and Beautiful Place.** Stewardship and protection of the natural, cultural, social, and built environment assets that are of value to the community.



- **An Equitable Place, with Opportunity for All.** Fostering diverse and equitable communities with vibrant economies, access to jobs and housing, and a high quality of life.
- Figure 3-1 General Plan Framework



### Land Transportation Sector Actions

Concerns over aging infrastructure and traffic congestion were frequently expressed in workshops and outreach events in all districts on the Island. The MLTP was used as a framework for the actions in this plan to achieve a balanced system for transportation users.



#### **General Actions**

General actions include supporting the implementation of the MLTP and promoting a balanced transportation system. Strategies include:

- Coordinate transportation planning with land use
- Require that Transportation Impact Analysis Reports include a project's potential to encourage mode shift
- In all Community Plans, include how transportation facilities can support economic revitalization

Other strategies to support a balanced transportation system come through partnerships:

- Collaborate with HDOT to achieve mode shift goals for walk, bicycle and transit trips
- Develop and apply a "least cost planning" and "practical design" into transportation planning and projects
- Include Kaua'i County Long Range Planning members into the Transportation Coordinating Committee
- Enhance community partnerships to achieve roadway maintenance goals
- Reduce greenhouse gas emissions and reliance on imported fuel

### **County Roads**

Most of the island's roads and local streets are County roads, and maintaining safe roads to serve vehicles, buses, and other modes is important. The County's road program is driven by several key principles: limit road widening, accommodate all modes of transportation, protect scenic road corridors, support freight transport, reduce excessive speeding, improve the safety of streets for all users, and prevent future traffic growth.

### **Transit Program**

Expanding transit ridership is the most efficient way to accommodate alternatives to driving and limiting traffic growth. Through more transit shelters, a shuttle network, and improvements to the transit system, Kaua'i can achieve a mode share target of 4% of all daily trips by transit in 2035. Building on ridership growth from 2007 to 2011, improving the transit network also supports residents and businesses facing increases in fuel costs and cost of living.

### **Pedestrian Program**

Many towns on Kaua'i were originally designed for walking, and this walkable structure is still intact in many places. Improvements for people who walk, coupled with economic revitalization can help make walking a comfortable way to get



to school, work, and to shopping in all communities. The County set a mode share goal of 12% of all person trips by walking by 2035.

#### **Bicycle Program**

Improving the bicycle facilities and safety will encourage more people to take trips by bike, which promotes health, and enables residents and visitors to enjoy the natural beauty of Kaua'i. Completing a bicycle network benefits both residents and visitors, encourages economic revitalization, and must be well-connected and integrated with other transportation planning. The bicycle mode share goal is 8% of all person trips by 2035.

#### **Parking Management**

High-activity areas on Kaua'i experience acute parking shortages. Compact town centers where people park once and walk to multiple destinations is something that draws people to local businesses and historic buildings. Kaua'i's parking strategies should accommodate multiple town design contexts and development patterns.

# HĀ'ENA STATE PARK MASTER PLAN

Located on the northwestern corner of Kaua'i's North Shore, Hā'ena State Park is roughly 66 acres in area, contains significant cultural and ecological resources, and is a major attraction for residents and visitors alike. The Hā'ena State Park Master Plan was completed in July 2015 and built on a 2001 draft master plan for the Division of State Parks of the Department of Land and Natural Resources. Together with a 32-member community advisory committee, the plan describes the current context and needs of the park as well as proposed solutions for traffic and parking congestion.

### **Needs of the Park**

The main unresolved transportation issue for  $H\bar{a}$ 'ena State Park is parking congestion and access to the park during peak visit times. The parking lot nearest the park entrance is unpaved, unsigned, and unstriped, which leads to informal and inefficient visitor parking patterns. Visitors also park alongside the roadway or highway within the park, despite the posted "no parking" signs.

Currently, there is no public transportation service to Hā'ena. In 2014, The County of Kaua'i provided a grant to a private shuttle operator, Experience Kaua'i, for a pilot project to supplement transit service between Princeville and  $K\bar{e}'\bar{e}$  to evaluate ridership and the potential to reduce traffic along the North Shore. Funding to support the shuttle was not renewed in the 2015-2016 County budget.



#### **Potential Solutions**

- The Master Plan recommends closing the highway within the park to general traffic, which will effectively
  eliminate the illegal parking that currently occurs along the highway. Parking will be simplified and better
  organized by limiting it to two lots and encouraging the use of the shuttle or transit system being planned for the
  North Shore. This could include a shuttle from a remote parking facility in Princeville. If the transit system proves
  to be successful, some of the additional parking proposed could be converted to other uses.
- Another recommendation of the plan is to manage the number of visitors permitted inside the Park and provide real-time information as to when the parking facilities are full. The limited parking could force visitors to plan ahead and may encourage visitors to use a shuttle, if available. This could also limit congestion experienced by North Shore communities.
- In all preferred scenarios, the park seeks to reduce reliance on parking for private vehicles. While the Division of State Parks system is unlikely to initiate its own shuttle service, several options for a shuttle system are identified in the Master Plan including extending the County public transit service to Kē<sup>(</sup>ē, contracting with a third party operator to provide the service, allowing independent private shuttles to stop at the park, or a combination of the above. The Master Plan also identifies a proposed shuttle stop, with sheltered seating areas along the turnaround at the entry to the park.
- If a shuttle service is implemented, it has the potential benefit of serving multiple populations including residents in addition to visitors, depending on the stop locations, frequency, cost, and quality of service.

## KAUA'I TOURISM STRATEGIC PLAN UPDATE

The Kaua'i Tourism Strategic Plan Update 2016-2018 reflects the desires and input of Kaua'i's tourism stakeholders in both the private and public sectors. The development of the plan was guided by a 20-member advisory group that met seven times during 2014-2015. One of the main challenges of this plan is the fact that Kaua'i's tourism growth and resident quality of life is impacted by the need for infrastructure improvements to handle traffic and congestion during peak visitor season. In a 2012 visitor survey for the Federal-Aid Highways 2035 Transportation Plan for the District of Kaua'i, roads, traffic, construction, road signs, and lack of street lights were the top complaints of visitors. Figure 3-2 shows Kaua'i County resident and visitor population, as derived from Office of Economic Development data. Priority strategies were identified as part of the plan and are listed below.



### **Priority Strategies**

- Support traffic management systems to address and reduce traffic congestion and improve pedestrian safety, which could include developing feeder roads to mitigate traffic, improving street design and town centers, developing bus and shuttle service from airport to resort areas and within resort areas, and creating pedestrian networks in resort areas.
- Advocate for lifting the cap on existing Transient Accommodation Tax (TAT) funds distributed to counties, thus increasing the allocation to Kaua'i for services and infrastructure that support the island community.
- Advocate for significant progress and/or completion of essential infrastructure improvements, including congestion relief routes in Kapa'a; traffic circulation improvements for north and south Kaua'i; implementation of Kōke'e and Hā'ena State Park Master Plans; and cruise ship harbor improvements.
- Support efforts to increase safety and security for visitors and residents at public places, such as beach parks, events, harbors, and cultural sites.
- Support the development of consistent, accurate signage to assist visitors and residents, which might include
  providing easy directions; identifying communities and cultural/historic sites; identifying areas that are
  dangerous; and providing interpretive methods to educate/enhance cultural, natural, and historical sites where
  appropriate.

	2000	2010	2020
Resident Population	58,463	67,091	74,693
Resident Population Annual Growth Rate	1.24%	1.39%	1.08%
Visitor Count (rounded)	1,075,000	1,033,000	1,186,000
Visitor Count Annual Growth Rate	-1.25%	-0.39%	1.48%
Average Daily Visitor Census	18,041	19,548	23,941
De Facto Population	75,200	82,101	92,485
De Facto Population Annual Growth Rate	9.93%	0.88%	1.20%

#### Figure 3-2 Kaua'i County Resident and Visitor Population (2000-2020)

Source: Kaua'i Tourism Strategic Plan Update 2016-2018



### **Destination Communities**

Destinations communities are often dependent on visitors or seasonal residents from outside the community for the health of the local economy. Because of the high number of non-residents traveling to the location, adequate connections and accessibility from the airport as well as other key links to regional destinations are essential. Furthermore, once visitors arrive in the community, they must be able to reach their local accommodations as well as other tourist destinations such as shopping, services, and entertainment. For communities located near natural resources-including the beaches and preserved lands in the County of Kaua'i—access roads can become heavily congested and parking lots can frequently fill beyond capacity.

Since natural resources are often a compelling component of destination communities, simply "building the way out of congestion" is not an option. A coordinated effort from local stakeholders is necessary to relieve congestion issues in destination communities. Solutions should be multipronged to encompass parking, bicycle, pedestrian, and transit infrastructure in addition to roadways and land use.

### **Case Study: City of Aspen**

#### Managing Transportation Demand in a Resort Community

In the early 1990s, traffic congestion plagued Aspen, CO, a charming destination community featuring a world-class ski resort.

Recognizing the importance of the issue, planning efforts sought to limit vehicle trips into Aspen, provide efficient valley-wide mass transit, provide access to jobs for workers unable to afford Aspen's high housing costs, move people within and around the city without automobiles, create a less congested downtown, enhance pedestrian mobility, improve bikeways, and provide practical car storage facilities on the outskirts of town.

Planners recognized that locals and visitors would be willing to use parking facilities located outside of town if mobility within town was enhanced with frequent and accessible shuttle services. In the same way, the transit service would only be used if drivers were discouraged from bringing their cars into town.

Parking fees were implemented in 1995 with the intention of discouraging drivers from using downtown streets for free, long-term parking. In conjunction, an inexpensive demand response van service and a free shuttle from outlying park-and-ride facilities were introduced to provide transportation choices. Frequency and the number of trips were also increased on regional express commuter transit service. The response to these transportation interventions was overwhelmingly positive, and transit ridership increased substantially as a result.

Source: TCRP Report 22: The Role of Transit in Creating Livable Metropolitan Communities





# KŌLOA-PO'IPŪ AREA CIRCULATION PLAN

The Kōloa-Poʻipū Area Circulation Plan (April 2007) is a broad-based community planning effort to address existing traffic flow concerns, mitigate the traffic impacts of significant new development during the next 15 years (through 2020), and create a more balanced transportation system that includes all travel modes within Kauaʻi's South Shore. The plan was created through a partnership involving local residents, developers, Kauaʻi County, Poʻipū Beach Resort Association (PBRA) and other interested stakeholders. Public transportation is becoming an increasingly important component of Kauaʻi's transportation system. The following key themes describe the plan's public transit project recommendations.

### **Key Themes of Public Transit Project**

- The plan calls for two transit rider markets to be addressed by future service improvements: resort and service employees who work in the area and live in other parts of the island (particularly the Waimea area and the Līhu'e-Kapa'a area); and residents, tourists/visitors and employees traveling between Kōloa Town and Po'ipū Beach. See Figure 3-3 for a map of recommended public transportation connections.
- One recommended transit project is an employee destination shuttle service that would provide work transportation for resort and other employees who live outside the Koloa- Po'ipu area to major employment destinations within the area. The shuttle would run from centralized, convenient locations in Waimea and Lihu'e to Po'ipu Beach, stopping at major hotels and resorts. The service would be coordinated to match major shift schedules. This service would help employees that are unable to live close to their place of work.
- A second recommended transit project is a Koloa Town- Po'ipū Beach shuttle, circulating frequently between communities at 15-minute headways. The shuttle would connect residents and tourists/visitors with local shops and attractions and could potentially funnel ridership to The Kaua'i Bus mainline route. The transit vehicles could be trolley buses painted in style that reflects the unique character of the community.
- Both transit shuttle recommendations would be coordinated with inter-town service reduce the demand for The Kaua'i Bus local transit, so that The Kaua'i Bus could focus service on mainline haul, or cross-island, trips. The shuttles would be privately funded by the resort community and would not require any County funding.



- KOLOA RD **Public Transportation** Connections Destination Service Circulator Service Recommended **Proposed Internal Circulation** Public Transportation Major Road Connections **Minor Road** - Western Bypass 1 Inch equals 2,646 feet Parks and Golf Courses **Proposed Development Bound** 010a-10 IDU Study Area AREA CIRCULATION PL
- Figure 3-3 Recommended Public Transportation Connections

Source: Koloa-Po'ipū Area Circulation Plan



# FEDERAL-AID HIGHWAYS 2035 TRANSPORTATION PLAN FOR THE DISTRICT OF KAUA'I

The federal-aid highways move goods and people around Kaua'i and are shared by all modes of land transportation including freight, motorists, transit, bicyclists, and pedestrians. Besides major thoroughfares, these highways often serve as part of the commercial core in small towns along their route. The plan is an update to the Kaua'i Long-Range Land Transportation Plan developed in 1997, and defines current contexts, needs, goals for multimodal solutions for Kaua'i and a path to implementation. This plan applies to all federal-aid highways as part of the National Highway System and all other public roads except those federally classified as local roads or rural minor collectors. Potential solutions to infrastructure needs are categorized as safety projects, capacity projects, security and resiliency projects, and transit projects.

## Federal Facilities on Kaua'i

Facilities classified as the National Highway System on Kaua'i are: Route 50 (Kaumuali'i Highway between Rice Street and Maluhia Road), Route 51 (Kapule Highway/Rice Street between Nāwiliwili Road and Kūhiō Highway), Route 56 (Kūhiō Highway between Rice Street and Mailihuna Road), Route 58 (Nāwiliwili Road between Wa'apa Road and Kaumuali'i Highway), and Route 570 (Ahukini Road between Kūhiō Highway and 0.06 miles east of Kapule Highway).

#### **Potential Solutions to Infrastructure Needs**

- Congestion is an issue on the roads and highways on Kaua'i due to the unique geography of the island. Many
  communities are situated around the perimeter with a single road connecting them. Creating bypass roads or
  alternate routes could help maintain operations during incidents and provide emergency access to communities.
- All transit routes begin and end in Līhu'e, the hub of transit service and employment on Kaua'i. Both transit
  ridership and congestion is expected to increase on Kaua'i. Transit operations will have to be coordinated with
  planned infrastructure and improvements to optimize future shared roadway performance. Improved traffic
  operations on these shared roadways is necessary in order to provide efficient transit service if expected demand
  is to be accommodated.
- Kaua'i has 23 miles of bicycle infrastructure consisting of signed shared roadways, bike lanes, and protected bike lanes. Bike Plan Hawai'i and communities on the island are also recognizing multifaceted benefits from recreational activity as a means of transportation.



- Because all trips start or end with a pedestrian trip, sidewalks, crosswalks and paths are a critical part of the transportation system. The federal highway system has few sidewalks, and most of the sidewalks are concentrated on the eastern side of the island.
- Transit projects are key contributors to helping Kaua'i achieve its future multimodal goals as well as other goals and objectives such as safety and capacity goals. A comprehensive transit system can extend the length of pedestrian and bicycle trips. Additionally, transit vehicles can accommodate more people, reducing congestion.
- The Kaua'i Bus long range plans include installing shelters at bus stops, improving access to stops, adding
  passenger amenities, implementing real-time transit tracker and information, adding Wi-Fi on buses and at stops,
  improving maps and schedules, increasing service frequencies, extending hours of service, upgrading the fleet to
  larger buses, and developing new park-and-rides.
- Another method of transportation planning includes reducing the transportation infrastructure funding needs through land use planning and transportation demand management strategies (*e.g.*, better pedestrian and bicycle infrastructure, more transit service, ridesharing programs, parking pricing in high demand areas, employee trip reduction strategies).

### SOUTH KAUA'I COMMUNITY PLAN

The 2014 South Kaua'i Community Plan is a long-range plan update to the 1978 Kōloa-Po'ipū-Kalāheo Development Plan. The plan is framed by a twenty-year horizon and balances growth and community development with local rural character. The planning district includes 11,000 residents and the towns of Po'ipū, Kukui'ula, Kōloa, 'Ōma'o, Lāwa'i and Kalāheo. One of the nine guiding principles of the Community Plan includes developing a multimodal, pedestrian-friendly transportation system to reduce dependence on the automobile, improve safety, and promote a healthy lifestyle.

- The County of Kaua'i Department of Public Works is currently working on updating their street design standards to incorporate complete streets concepts, which encourages communities to shift from vehicle-centered metrics to pedestrian safety and improvement in the quality of life.
- The PBRA formed a committee and tested a shuttle during the holiday season of 2013. The route circulated primarily along the coast serving the resorts, shopping centers and beaches. The shuttle operated between 10 a.m. and 10 p.m. with 30-minute service Friday through Sunday and cost \$2 per person. The test shuttle was not continued because it was not profitable as structured. There is renewed interest in an improved shuttle with an adjusted schedule.



- While there is no bicycle infrastructure in the South Kaua'i Planning District, cyclists are allowed to use any of the island's public roads. The bicycling experience can range from fairly pleasant on roads with slow and low traffic volumes to hazardous on roads with high speeds.
- The County of Kaua'i has received Safe Routes to School funding for pedestrian and bicycle improvements for communities in South Kaua'i. Improvements have included flashing beacons near Kalāheo Elementary School, lighted crosswalk systems, road restriping, bike lanes, and a paved shoulder.
- The main mode of travel to work is the automobile and most people in Census Designated Places (CDP) of South Kaua'i work outside their place of residence. See Figure 3-4 and Figure 3-5 for commute behavior for each community.







Source: South Kaua'i Community Plan

Source: South Kaua'i Community Plan

- For the South Kaua'i Community Plan, surveys and feedback from residents identified the following as important transportation needs of their district:
  - Safe streets for children to walk and bicycle
  - Walk/bicycle facilities connecting homes to schools, parks and beaches
  - More frequent bus service
  - Shelters at bus stops
- Figure 3-6 outlines the proposed bus routes and priority shelter locations as a result of public workshops where community constituents shared their observations and visions for the system. The top comments received included: service efficiency and expansion (62%) and amenity improvements (29%).





Figure 3-6 Proposed Bus Routes and Priority Shelter Locations

Source: South Kaua'i Community Plan 2014



### **KAPA'A TRANSPORTATION SOLUTIONS**

The Kapa'a Transportation Solutions study builds upon previous studies to develop and prioritize projects that will provide the most benefit for project cost and considers physical, fiscal, and social feasibility. The purpose of the study is to develop near- to mid-term transportation solutions to address mobility and congestion challenges. The study area is bounded by the intersection of Kūhiō Highway and Kapule Highway to the south, Kapa'a Stream to the north, Wailuā Homesteads to the west, and the Pacific Ocean to the east. Four components of the project purpose are:

- Improve mobility for all modes of transportation
- Develop near-term and mid-term solutions to address mobility and congestion needs
- Assess feasibility of near-term and mid-term solutions to shorten the project delivery process linking planning, environmental assessment, and project delivery
- Integrate sustainable highway efforts, including consideration of multimodal transportation and access; environmental, social, and economic impacts; safety; affordability; and accessibility

### **Potential Solutions**

Potential solutions were identified after an analysis of existing conditions while working closely with advisory committees. The methodology used to identify potential solutions was based on plan evaluation criteria and was then prioritized, with stakeholder input, to list the top potential solutions. Transit and shuttle services were evaluated separately from other infrastructure projects because transit service projects are implemented and operated by the county's transit agency, The Kaua'i Bus, and are funded in part by the county and by the Federal Transit Administration (FTA). Prioritized potential solutions related to transit and shuttle services are shown in Figure 3-7.



Project Number	Primary Project Type	Area	Project Name	Project Description	Timing	Cost Estimate
44	Transit	Wailua/ Waipouli/Kapaa	Kauai Bus - Mainline Service	Improve frequency of mainline transit service through Kapaa and Wailua.	< 5 years	\$218,000/year
45	Transit	Wailua/ Waipouli/Kapaa	Kauai Bus - Shuttle Service	Provide shuttle service throughout the day to serve Wailua Homestead residents.	< 5 years	\$109,000/year
41	Economic Vitality	Wailua/ Waipouli/Kapaa	Private Shuttle Service	Create a private shuttle between major Kapaa hotels and a designated location in historic Kapaa town, to reduce visitor vehicle trips.	< 5 years	\$360,000/year

Figure 3-7	Prioritized Potential Solutions for Transit and Shuttle Services
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Source: Kapa'a Transportation Solutions 2015

In addition to transit-specific potential solutions, other infrastructure projects were grouped by their collective benefits and results. Based on this transportation systems analysis, the Kapa'a Transportation Solutions effort recommends for implementation the priority projects listed in Figure 3-8 and Figure 3-9. These are projects that best meet the purpose, goals, and objectives of this effort in a financially constrained manner. Other projects identified in the study may be pursued by the County of Kaua'i or the State of Hawai'i to achieve other goals, such as implementing Safe Routes to School. The report also highlights the importance of transit to achieving several project goals that would benefit from transit solutions including:

- Developing transportation system projects that support land use
- Reducing congestion within Wailuā and Kapa'a
- Promoting transit use
- Preserving and enhancing Kaua'i's natural environment

The Kapa'a Transportation Solutions were developed using a context sensitive solutions framework and incorporated goals and objectives beyond traditional transportation-oriented goals and objects to reflect the context of Kapa'a.



Figure 3-8	Priority	Project	Recomme	endations
	THORE		<b>NCCONTIN</b>	Judations

Project Number	Project Type	Project Location	Project Description	Cost Estimate
6 (Group A)	Commuter Local	Temporary Kapaa Bypass Road, north of Olohena Road	Add one lane in the northbound direction, including pedestrian and bicycle facilities. Improve the intersection at Kuhio Highway and the Temporary Kapaa Bypass Road (northern terminus).	\$22,560,000
<b>27</b> (Group A)	Commuter Local	Kuhio Highway between Temporary Kapaa Bypass Road and Kuamoo Road	Add one southbound lane along Kuhio Highway with improvements at major intersections.	\$30,000,000*
33 (Group A)	Commuter Local	Kuhio Highway at Kuamoo Road	Provide shared left/right and right-only turn movements from Kuamoo Road approach during contraflow operations to improve queue/delay. Provide adequate right turn storage length.	\$613,000
17, 31, 34 (Group A)	Local	Kuhio Highway – Traffic Signal Optimization	Modify existing signal timing to optimize signal operation and reduce queueing length along Kuhio Highway at Kukui Street, Haleito Road, and Kuamoo Road.	\$1,124,000
38 (Group B constrained)	Commuter	Kuhio Highway between Kuamoo Road and Kapule Highway	Add one southbound lane.	\$43,458,000
			SUBTOTAL COST (fiscally constrained):	\$67,750,000
8 (Group B)	Local	Kapaa New Park	Create a direct access from Kapaa New Park to the Temporary Kapaa Bypass Road, including bicycle/ pedestrian access between the existing park and proposed soccer park.	\$4,102,000
<b>16, 20</b> (Group B)	Business	Intersection improvements in downtown/historic Kapaa Town	Improving the Niu Street intersection with Kuhio Highway would relieve traffic at Lehua Street and at Kukui Street by giving vehicles another option to access the highway. Closing the east leg of Kukui Street would allow the intersection to shrink, making it easier for pedestrians to cross.	\$642,000
3 (Group B)	Commuter Local	Hauaala Road at Kuhio Highway	Terminate the eastern end of Hauaala Road with a cul-de-sac. Create a new connection from Hauaala Road to the Temporary Kapaa Bypass Road. (This project should be complete after (or with) the Temporary Kapaa Bypass Road is widened for two- way travel – Project 6).	\$3,924,000
24 (Group B)	Business Local	Eggerking Road Extension	Extend Eggerking Road to connect with the Temporary Kapaa Bypass Road (combine with Project 23, if feasible).	\$6,453,000
23 (Group B)	Business Local	Pouli Road Extension	Improve Pouli Road and extend mauka to connect with the Temporary Kapaa Bypass Road (combined with Project 24, if feasible).	\$24,406,000

Source: Kapa'a Transportation Solutions 2015

#### Figure 3-9 Priority Project Locations



Source: Kapa'a Transportation Solutions 2015



# KAUA'I NATIONAL WILDLIFE REFUGE COMPLEX COMPREHENSIVE TRANSPORTATION PLANNING STUDY

This transportation planning study is focused on developing an implementation plan for improved transportation infrastructure within the Kīlauea Point National Wildlife Refuge. Due to significant private vehicle congestion at the parking at Kīlauea Point, motorists often park in undesignated spaces that potentially harm endangered wildlife habitat and requires several staff members to manage parking during visitor hours. Arriving by bicycle or on-foot is prohibited, as the Refuge feels it is not safe due to the volume of vehicles, low visibility, and steep grade of the approach.

## **Proposed Actions**

Working with federal partners, the Refuge project team developed a set of short-, medium-, and long-term strategies for implementation.

#### **Access Management Tools**

The team developed five recommendations for access management strategies that could help mitigate the chronic parking congestion inside and outside of the Refuge gate: an entrance fee, reservation or timed entry system, Intelligent Transportation System (ITS) and Visitor Information Tools, and parking lot management and reconfiguration.

#### **Shuttle Analysis**

One recommendation to reduce congestion is to implement a shuttle system to transport visitors to the Refuge from offsite hubs. Employing a mandatory shuttle can effectively replace private vehicles at Kīlauea Point, allowing the Refuge to accommodate expected increases in visitation to the island and the Refuge in coming years without having to take up more space for parking on the Refuge property.

The team developed two scenarios for shuttle analysis, depending on availability of funds: implementing shuttle-only access or a phased approach. Both involve short-term (0-3 years) and medium- and long-term (3+ years) actions. The shuttle would require all visitors to the Refuge to arrive via shuttle or on-foot, and private vehicle access would be prohibited. If the short-term pilot is successful, the Refuge would work with the County to expand shuttle routes and pick-up points.



#### **Pedestrian and Bicycle Connections**

A number of recommendations were made in order to improve the modes of transportation in Kīlauea Town and leading to the Refuge from the town and other parts of the island, as well as improving access within the park. Recommendations for Kīlauea Road and in Kīlauea Town include traffic calming on Kīlauea and Kolo Roads, extending the bicycle trail to Kīlauea Point Overlook, and improving the crosswalk of Kūhiō Highway. Due to existing physical constrains within the Refuge, further study is needed to improve the access of pedestrians and bicyclists in certain parts of the park, particularly Kīlauea Point.

#### Signage

The plan includes recommendations for adding, updating or replacing signs for access to the Point at the KPNWR as well as the Hanalei Overlook in the short-, medium-, and long-term, acknowledging the needs for refuge identification, wayfinding, and safety.

# **4 EXISTING FIXED-ROUTE TRANSIT SERVICES**

This chapter describes the current service available through The Kaua'i Bus, and how it compares to other transit agencies with similar characteristics. This chapter is made up of four parts:

- **Historical Context.** This section outlines the history of The Kaua'i Bus, including certain key operating indicators between 2008 and 2013.
- **Fixed-Route Service.** This section explains the scheduled bus service currently provided by The Kaua'i Bus. It includes both (1) mainline service, which covers a longer distances and primarily operates along highways and arterial streets; and (2) shuttle service, which covers smaller geographic areas with tighter spacing between stops.
- **Peer Review.** The peer review compares The Kaua'i Bus to other transit agencies with similar characteristics across the United States.
- **Route-by-Route Evaluation.** This section describes each of system's fixed routes, including alignment characteristics, service span, headway, destinations served, ridership, and schedule adherence. Ridership maps accompany each description. These maps depict boardings and alightings at each stop for each direction based on aggregated data collected during April, May, and June of 2015. The Līhu'e Shuttle uses data from August of 2016 to reflect the recent addition of half hour headways during midday service.

### **HISTORY OF THE SYSTEM**

The Kaua'i Bus began in the 1970s as a service that was initially set up to serve the senior population, with a fleet of ten buses managed by the County of Kaua'i's office of Elderly Affairs. Fixed-route service began in 1990 with four routes between Kapa'a and Līhu'e. Island-wide service began in 1992, made possible in part from Federal Emergency Management Agency (FEMA) funds following Hurricane Iniki. The system saw ongoing financial troubles beginning in 1994. However, since 2004, bus routes and schedules have seen periodic expansion with the availability of new funds and vehicles.



Figure 4-1 below shows historic operating indicators at the systemwide level (fixed-route and demand-response service combined). From 2008 to 2015, operating expenses per revenue hour decreased by 11.2%. Due to a steady increase in fare revenues during this time, the farebox recovery ratio saw a marginal increase (from 8.6% to 10.9%), with the highest farebox recovery ratio in 2013 at 11.9%.

The total number of fleet vehicles increased from 48 to 67, from 2008 to 2014, with the average age of fleet remaining relatively constant until 2014, when 21 vehicles were purchased. The Kaua'i Bus accepted delivery of 20 new fixed-route vehicles to replace vehicles in the fleet that were well beyond their useful life. These vehicles have bike racks that hold three bicycles, resulting in the ability to increase the number of bicycles transported. The Kaua'i Bus also accepted a cutaway vehicle for demand-response use from Enhanced Mobility of Seniors and Individuals with Disabilities funding. Again in FY 2015, The Kaua'i Bus accepted 20 additional vehicles to replace those in the fleet beyond useful life. The Kaua'i Bus was also provided four used buses from the City and County of Honolulu's Department of Transportation Services, as a way to pilot the use of larger transit vehicle feasibility on some routes. Figure 4-1 shows the existing Kaua'i Bus network.

	2008	2009	2010	2011	2012	2013	2014	2015
Operating Cost per Revenue Hour	\$125	\$117	\$135	\$91	\$99	\$103	\$107	\$111
Fare Revenues	\$282,594	\$320,617	\$438,946	\$544,979	\$661,161	\$752,573	\$750,372	\$806,084
Farebox Recovery (%)	8.6	8.4	9.6	11.1	11.1	11.9	11.0	10.9
Fleet Vehicles	48	48	57	56	56	56	67	64
Average Age of Fleet (years)	6.0	6.7	6.6	6.2	5.5	6.5	4.1	4

#### Figure 4-1 Historic Operating Indicators

Source: National Transit Database and The Kaua'i Bus



Figure 4-2 The Kaua'i Bus Network





### FIXED-ROUTE SYSTEM OVERVIEW

The Kaua'i Bus offers six fixed-route lines, five of which offer service seven days a week. The Mainline is composed of three routes that run along the perimeter of the island, from Kekaha in the southwest to Hanalei on the north coast (connecting in Līhu'e in the southeast). The Mainline also includes a commuter line that offers limited trips between Wailua and Līhu'e on the East Side (essentially a shortened version of the route that continues to Hanalei). Headways on the Mainline range from every 30 to 60 minutes with service spanning from 5:30 a.m. to 10:40 p.m. The shuttles operate every hour and run between 6 a.m. and 10 p.m.

Figure 4-3 shows performance indicators for fixed-route service from 2008 to 2015, according to data derived from the National Transit Database (NTD), and information provided by The Kaua'i Bus. During this time, both annual revenue hours and passenger trips increased. However, being that ridership increased at a slower rate, systemwide productivity saw a slight decline (from 15.2 to 12.0 boardings per revenue hour). Figure 4-4, Figure 4-5, and Figure 4-6 show fixed-route performance indicators by year.

	2008	2009	2010	2011	2012	2013	2014	2015
Passenger Trips	395,757	493,633	507,356	536,801	747,236	781,791	819,950	795,923
Revenue Hours	26,106	32,633	34,132	54,078	59,904	61,152	63,648	66,518
Boardings per Revenue Hour	15.2	15.1	14.9	9.9	12.5	12.8	12.9	12.0

#### Figure 4-3 Fixed-Route Performance Indicators

Source: National Transit Database and The Kaua'i Bus





Figure 4-4 Passenger Trips



## **Ridership and Productivity**

Detailed route-level information for The Kaua'i Bus can be found at the end of this chapter. These route profiles contain a brief description of each route, including strengths and weaknesses as well as the location of boardings and alightings. A list of high ridership stops is provided as well. System performance measures (daily boardings, service hours, and productivity) are shown in the following charts. Ridership and productivity numbers were calculated from aggregated data collected during April, May, and June of 2015. Service hours were calculated using a combination of route schedules and estimated travel times.

### Weekday System Performance

Three mainline routes and three shuttles operate service on weekdays. Figure 4-8 below shows average daily boardings among weekday routes. Hanalei Mainline Route and Kekaha Mainline Route have the highest average daily boardings with 874 and 725, respectively. The Kōloa Shuttle and the Wailua Mainline Route have the lowest average daily boardings with 64 and 30, respectively.

As can be seen in Figure 4-9, the longest routes, Kekaha and Hanalei, also have the most daily service hours with 57.7 and 51.7 respectively, above the system average of 26.9. The Kōloa Shuttle and the Wailua route have the lowest daily service hours with 11.5 and 4.5, respectively.

Figure 4-10 shows productivity for weekday routes. The Kapahi Shuttle and Hanalei route have the highest productivity with 23.6 and 16.9 boardings per service hour, respectively. The Kōloa Shuttle and the Wailua route have the lowest productivity with 11.8 and 6.6 boardings per service hour respectively.



Figure 4-7 Average Daily Ridership by Stop (2015)



Note: Līhu'e Shuttle data is from 2016 to account for the recent addition of trips and a modified alignment











Figure 4-10 Weekday Routes: Boardings per Service Hour





#### Weekend System Performance

Two Mainline routes and three Shuttles operate service on the weekends. Figure 4-11, below, shows that Hanalei and Kekaha have the highest average daily boardings among weekend routes with 374 and 218, respectively. The Kapahi Shuttle and Kōloa Shuttle have the lowest average daily boardings with 77 and 53, respectively.

In Figure 4-12, Kekaha and Hanalei have the highest daily service hours with 18.1 and 16.8, respectively. The Kōloa Shuttle and Kapahi Shuttle have the lowest daily service hours with 5.0 each.

In Figure 4-13, Hanalei and the Kapahi Shuttle have the highest productivity with 22.3 and 15.5 boardings per service hour, respectively. The Kōloa Shuttle has the lowest productivity, with 10.6 boardings per service hour.



Figure 4-11 Weekend Routes: Average Daily Boardings







Figure 4-13 Weekend Routes: Boardings per Service Hour





### High Ridership Stops

The following table (Figure 4-14) provides a list of bus stops with total daily stop activity of more than 50 passengers.

Stop Name	On	Off	Total	Routes Served
Kukui Grove - First Hawaiian Bank	262	237	499	Kekaha Mainline, Līhu'e Shuttle, Wailua Mainline
Kapa'a Skate Park	227	185	412	Hanalei Mainline, Wailua Mainline, Kapahi Shuttle
Līhu'e Civic Center	172	179	352	Hanalei, Kekaha Mainline, Līhu'e Shuttle, Wailua Mainline
Wal-Mart	124	84	208	Hanalei Mainline, Kekaha Mainline, Līhu'e Shuttle, Wailua Mainline
Kalāheo Neighborhood Center	84	94	178	Kekaha Mainline, Koloa Shuttle
Wilcox Hospital	52	83	135	Hanalei Mainline, Kekaha Mainline, Līhu'e Shuttle, Wailua Mainline,
Hanalei Center/Post Office	65	63	128	Hanalei Mainline
КСС	50	70	120	Kekaha Mainline, Hanalei Mainline, Wailua Mainline
Kīlauea Gym	50	47	98	Hanalei Mainline
Keala'ula 'Ele'ele	51	47	98	Kekaha Mainline
Kapa'a High School	38	39	77	Kapahi Shuttle
A/C Kapahi Food Mart	35	40	75	Kapahi Shuttle
Kalāheo Post Office	45	30	75	Kekaha Mainline
Kaumakani Thrifty Mart	34	31	65	Kekaha Mainline
Laukona Rd-500	29	35	64	Hanalei Mainline, Wailua Mainline
A/C Princeville Library	51	12	63	Hanalei Mainline
Kojima Store	21	37	58	Kapahi Shuttle, Hanalei Mainline
'Elepaio/lo 200	27	29	56	Kekaha Mainline
Waimea 1st Hawaiian Bank	12	43	55	Kekaha Mainline
Ishihara Market	43	12	55	Kekaha Mainline
Princeville Shopping Center	9	46	55	Hanalei Mainline

### Figure 4-14 High Ridership Bus Stops



### **PEER REVIEW**

This section seeks to evaluate The Kaua'i Bus's performance in relation to other systems with similar attributes: small cities with rural character, a strong visitor market, and/or transit systems in an island context. These peers include the Hele-On Bus (Hilo, HI), Capital Transit (Juneau, AK), Key West Transit (Key West, FL), The Wave (Tillamook, OR), Redwood Coast Transit (Crescent City, CA), and The Maui Bus (Wailuku, HI). Comparison data was retrieved from 2013 NTD data, the most recently-available operational statistics.

## How Does The Kaua'i Bus Fixed-Route Service Compare to Peer Systems?

Six peers were selected to provide a basis of comparison for fixed-route transit service on Kaua'i. Indicators reviewed as part of the peer analysis included passenger trips, revenue hours, passenger trips per revenue hour, number of vehicles in fleet, fare revenues, average fare, farebox recovery ratio, and total operating expenses. The Kaua'i Bus's fixed-route performance in relation to the peer group is shown in Figure 4-15.

Measure	The Kaua'i Bus	Peer Group Minimum	Peer Group Maximum	Peer Group Average	The Kaua'i Bus % from Average
Passenger Trips	781,791	114,176	2,210,425	885,726	-11.73%
Revenue Hours	61,152	15,478	88,066	47,518	+28.69%
Passenger Trips per Revenue Hour	12.78	6.08	51.49	19.54	-34.60%
Number of Vehicles in Fleet	56	14	60	29	+92.00%
Fare Revenues	\$752,573	\$171,481	\$2,527,311	\$802,966	-6.28%
Average Fare	\$0.96	\$0.31	\$2.29	\$1.23	-22.16%
Farebox Recovery Ratio	11.93	6.22	37.06	19.00	-37.19%
Operating Expenses per Revenue Hour	\$103	\$64	\$118	\$87	+19.13%

#### Figure 4-15 Fixed-Route Performance Indicators

Source: National Transit Database 2013



The following figures illustrate The Kaua'i Bus' fixed-route performance in relation to each peer agency. Among three of the eight measures, The Kaua'i Bus ranks above the peer group average. For the remaining five measures, The Kaua'i Bus ranks below average.

- In the revenue hours (Figure 4-17), number of vehicles in fleet (Figure 4-19), and total operating expenses (Figure 4-23) categories, The Kaua'i Bus ranked +28.69%, +92.00%, and +59.59% above average.
- In passenger trips (Figure 4-16), passenger trips per revenue hour (Figure 4-18), fare revenues (Figure 4-20), average fare (Figure 4-21), and farebox recovery ratio (Figure 4-22), The Kaua'i Bus ranks below average.
   Specifically, in the farebox recovery ratio, The Kaua'i Bus ranks 37.19% below average for the peer group.

Overall, peer analysis revealed room for improvement in relation to comparable systems. Among the eight measures, The Kaua'i Bus ranks below the peer group average, particularly in terms of farebox recovery ratio, passenger trips per revenue hour, and average fare. The Kaua'i Bus ranks third in terms of total operating expenses—60% above the mean for the peer group—but does not attract corresponding ridership. There may be opportunities to increase ridership through restructuring of The Kaua'i Bus fixed-route system as well as adding service.







Figure 4-17 Fixed-Route Revenue Hours












#### Figure 4-20 Fare Revenues









#### Figure 4-23 Total Operating Expenses





# **ROUTE-BY-ROUTE EVALUATION**

This section presents performance summaries for all Kaua'i Bus routes. The summaries include route descriptions and route strengths and weaknesses. Aside from the Līhu'e Shuttle, all routes in this section calculate ridership and productivity using aggregated data collected during April, May, and June of 2015. The Līhu'e Shuttle uses data from August of 2016 to reflect the recent addition of half hour headways during midday service. Service hours for all routes were calculated using a combination of route schedules and estimated travel times.

# Hanalei Mainline Route

#### Description

The Hanalei Mainline Route connects Līhu'e with Hanalei on the north side of the island. Service operates primarily along Highway 56, the Kūhiō Highway. Running from south to north, the route passes through Līhu'e, Hanamā'ulu, Wailua, Kapa'a, Anahola, Kīlauea, Princeville, and Hanalei. The Hanalei Mainline offers one daily weekday express trip in the southbound direction between Kapa'a and Līhu'e at 7 a.m.

The route operates from 5:58 a.m. to 10:40 p.m. on weekdays and from 7:15 a.m. to 5:48 p.m. on weekends.

### **Boardings and Productivity**

Hanalei Mainline has the highest average daily ridership for both weekday and weekend routes (with 874 and 374 boardings,

respectively). Areas with the highest weekday boarding and alighting activity include: Kapa'a Skate Park (200), Kukui Grove Shopping Center (183), and Kīlauea Gym (97).

Among weekday routes, it has the second-highest productivity, with 16.9 boardings per service hour. On weekends, it has the highest productivity, with 22.3 boardings per service hour. On weekdays, it is most productive during midday service hours (20 boardings per service hour). Its most productive segment is on the East Side between Kapa'a and Wailua (25.6 boardings per service hour). Its least productive segment is on the North Shore between Kīlauea and Ke'alia Beach (between 10 and 14 boardings per service hour).

	At a Glance	
Weekday	Span	5:58 A.M. – 10:40 P.M.
	Frequency (minutes)	30-60
	Boardings	874
	Service Hours	51.7
	Passengers per Service Hour	16.9
Weekend	Span	7:15 A.M. – 5:48 P.M.
	Frequency (minutes)	60-120
	Boardings	374
	Service Hours	16.8
	Passengers per Service Hour	22.3









# Kekaha Mainline Route

### Description

The Kekaha Mainline Route connects the Pacific Missile Range Facility (PMRF) with the South Shore and Līhu'e. Running from west to east, the route passes through Pacific Missile Range Facility, Kekaha, Waimea, Hanapepe, 'Ele'ele, Kalāheo, and Līhu'e. Service primarily operates along Highway 50, the Kaumuali'i Highway. On weekdays, there is one morning express trip at 6:15 a.m. between Kekaha and Līhu'e with limited stops in between. There is also a 4:45 p.m. express trip in the reverse direction that provides drop-only service at limited stops once departing Līhu'e.

The route operates from 5:30 a.m. to 10:42 p.m. on weekdays and from 6:30 a.m. to 5:51 p.m. on weekends.

	At a Glance	
Weekday	Span	5:30 A.M. – 10:42 P.M.
	Frequency (minutes)	30-60
	Boardings	725
	Service Hours	57.7
	Passengers per Service Hour	12.6
Weekend	Span	6:30 A.M. – 5:51 P.M.
	Frequency (minutes)	60-120
	Boardings	218
	Service Hours	18.1
	Passengers per Service Hour	12.0

#### **Boardings and Productivity**

Kekaha Mainline Route has the second-highest average daily ridership for both weekday and weekend routes (with 725 and 218 boardings, respectively). Areas with the highest weekday boarding and alighting activity include Kukui Grove Shopping Center (196) and Līhu'e Big Save (112).

Among weekday routes, Kekaha ranks in the middle for productivity with 12.6 boardings per service hour, slightly below the system average of 14.4. Among weekend routes, Kekaha has the second-lowest productivity with 12.0 boardings per service hour, below the system average of 15.5. On weekdays, its most productive segment is between Elepaio Road/Akialoa Road and Waimea Athletic Field (21.4 boardings per service hour). Its least productive segment on weekdays is between PMRF North Gate and Elepaio Road/Akialoa Road (0.7 boardings per service hour). However, it should be noted that this segment only services on-call pickup stops and/or drop-off only stops.









# Wailua Mainline Route

### Description

The Wailua Mainline Route connects Wailua with Līhu'e. Running from north to south, the route passes through Kapa'a, Wailua (deviating west on Kuamoo Road to serve Wailua Homesteads), and Līhu'e. Service primarily operates along Highway 56, the Kūhiō Highway.

The route operates from 6:40 a.m. to 6:27 p.m. on weekdays. In essence, although labeled as a "mainline" route, this is more of a commuter route with very limited service. The route has two trips from Kapa'a to Līhu'e in the morning and three trips from Līhu'e to Kapa'a in the afternoon (one during midday and two during p.m. peak service hours).

At a Glance			
Weekday	Span	6:40 A.M. – 6:27 P.M.	
	Trips	5 One-way Trips	
	Boardings	30	
	Service Hours	4.5	
	Passengers per Service Hour	6.6	

#### **Boardings and Productivity**

The Wailua Mainline Route has the lowest average daily ridership for weekday routes with 30 boardings. Areas with the highest weekday boarding and alighting activity include: Wailua Homesteads Park (18), Kukui Grove Shopping Center (8), and Līhu'e Walmart (7).

Among weekday routes, Wailua has the lowest boardings per service hour with 6.6. Of the two segments that make up this route, the segment between Wailua Homesteads Park and the KCC Bus Shelter is more productive with 8.1 boardings per service hour. The less productive segment is between Kapa'a Skate Park and Wailua Homesteads Park with 4.3 boardings per service hour.









# Kapahi Shuttle

## Description

The Kapahi shuttle operates in and around Kapa'a. Service operates primarily along Kawaihau Road. The route serves Kapa'a Middle School, Skate Park and Library, Kapahi Park, Kapa'a High School, and Mahelona Medical Center.

The route operates from 6:33 a.m. to 10:05 p.m. on weekdays and from 7:05 a.m. to 5:05 p.m. on weekends.

#### **Boardings and Productivity**

The Kapahi shuttle has the third-highest average daily ridership for weekday routes with 296 boardings, below the system average of 333 boardings. Areas with the highest weekday boarding and alighting activity include: Kapa'a Skate Park (206), Kapa'a High School Pavilion (77), and A/C Kapahi Food Mart (75).

	At a Glance	
Weekday	Span	6:33 A.M. – 10:05 P.M.
	Frequency (minutes)	60
	Boardings	296
	Service Hours	12.6
	Passengers per Service Hour	23.6
Weekend	Span	7:05 A.M. – 5:05 P.M.
	Frequency (minutes)	60-120
	Boardings	77
	Service Hours	5.0
	Passengers per Service Hour	15.5

Among weekday routes Kapahi has the highest boardings per service hour with 23.6. Among weekend routes, Kapahi has the second-highest productivity with 15.5 boardings per service hour, on par with the system average. On weekdays, the most productive segment of this route is between Kapa'a Middle School and Kapahi Park with 31.3 boardings per service hour. The least productive segments of this route are between Kapahi Park and Kapa'a Skate Park (19.6 boardings per service hour) and between Kapa'a Skate Park and A/C Mahelona Hospital (19.5 boardings per service hour).









# Kōloa Shuttle

## Description

The Kōloa Shuttle connects Kōloa with Poʻipū and Kalāheo on the South Side of the island. Service operates primarily along Highway 530, Kōloa Road, and Poʻipū Road. The route serves Kalāheo Neighborhood Center, Kōloa Neighborhood Center, Grand Hyatt Resort, and Poʻipū.

The route operates from 6:15 a.m. to 9:58 p.m. on weekdays and from 7:15 a.m. to 5:58 p.m. on weekends.

### **Boardings and Productivity**

The Kōloa Shuttle has the third-lowest average daily ridership for weekday routes with 135 boardings, well below the system average of 333 boardings. For weekend routes, Kōloa has the lowest average daily boardings with 53. Areas with the highest weekday boarding and alighting activity include: Kalāheo Neighborhood Center (101), Kōloa Post Office (25), and Kōloa School (25).

	At a Glance	
Weekday	Span	6:15 A.M. – 9:58 P.M.
	Frequency (minutes)	60
	Boardings	135
	Service Hours	11.5
	Passengers per Service Hour	11.8
Weekend	Span	7:15 A.M. – 5:58 P.M.
	Frequency (minutes)	60-120
	Boardings	53
	Service Hours	5.0
	Passengers per Service Hour	10.6

The Kōloa Shuttle has the third-lowest productivity among weekday routes (6.6 boardings per service hour) and the lowest among weekend routes (10.6 boardings per service hour). On weekdays, its most productive segment is between Kalāheo Neighborhood Center and Kōloa School with 20.3 boardings per service hour. Its least productive segment is between Kōloa Post Office and Kalāheo Neighborhood Center with 4.5 boardings per service hour.





Figure 4-28 Koloa Shuttle Average Weekday Daily Boardings and Alightings



# Līhu'e Shuttle

### Description

The Līhu'e Shuttle circulates around the city of Līhu'e. Service operates primarily along Highway 56, the Kūhiō Highway, Highway 51, the Kapule Highway, Highway 58, and Nāwiliwili Road. The route serves the Līhu'e Airport, Kaua'i Fifth Circuit Courthouse and additional destinations within Līhu'e.

The route operates from 5:55 a.m. to 10:05 p.m. on weekdays and from 7:55 a.m. to 5:05 p.m. on weekends.

### **Boardings and Productivity**

Among weekday and weekend routes, the Līhu'e Shuttle ranks in the middle for average daily weekday and weekend ridership with 322 and 107 daily boardings, respectively. Areas with the highest weekday boarding and alighting activity include: Kukui Grove First Hawaiian

Bank at Kukui Grove Shopping Center (112), the Civic Center (100), and Walmart (74).

Among weekday routes, it has the third-highest productivity, with 13.8 boardings per service hour. Among weekend routes, it ranks in the middle, with 15.3 boardings per service hour. On weekdays, its most productive segment is between Kukui Grove First Hawaiian Bank and the airport (22.1 boardings per service hour). Its least productive segment is between Rice Shopping Center and the airport (5.7 boardings per service hour)<sup>1</sup>.

At a Glance			
eekday	Span	5:55 A.M. – 10:05 P.M.	
	Frequency (minutes)	30-60	
	Boardings	322	
$\geq$	Service Hours	23.3	
	Passengers per Service Hour	13.8	
Weekend	Span	7:55 A.M. – 5:05 P.M.	
	Frequency (minutes)	60-120	
	Boardings	107	
	Service Hours	7.0	
	Passengers per Service Hour	15.3	

<sup>&</sup>lt;sup>1</sup> Segment-level productivity described here is from aggregated data collected during April, May, and June of 2015. Route-level ridership, service hours, and productivity are from August 2016 (reflecting the addition of half-hour headways during midday service).







# **5 TRANSIT OPERATOR INTERVIEWS**

Bus operators are critical to a successful agency and have unique insight into the transit system. This chapter presents findings from interviews with The Kaua'i Bus operators conducted on February 18, 2016. The interviews leveraged operators' expertise in order to better understand operating conditions, and to identify opportunities for improving service. Specifically, the interviews shed light on (1) passenger trends, (2) paratransit, (3) fixed route on-time performance, (4) fixed route suggestions, (5) operating challenges, (6) safety, and (7) internal operations.

# **KEY FINDINGS**

Key issues identified by operators include:

- Eligibility requirements allow for many customers to use paratransit service, whether they are ADA eligible or not.
- On-time performance is an issue for fixed-route service, and congestion is sometimes worse on weekends and holidays.
- There is need for increased service on some routes during weekends and 30-minute headways on weekdays.
- Operators noted the need to get rid of the on-call stop at Haraguchi Farms, citing a narrow access road, and low ridership at the stop.
- There is need for an in-house safety officer and some difficulty exists enforcing the rider code of conduct on some buses.

# PASSENGER TRENDS

• Seeing a definite change in the attitudes of young people—kids learn to use the bus at an early age, and it's relatively normal to them to think of taking the bus to go shopping and for other types of trips.



# PARATRANSIT

- A typical paratransit shift involves serving approximately 20-25 passengers.
- There are instances in the system where a paratransit vehicle will pick up a passenger not located on a fixed-route bus route (up the hill in Kapahi, for example) and drop them off to connect to mainline service. This could be a strategy for future service implementation.
- Paratransit service allows passengers to take more bags on the bus compared to fixed-route service.
- Several drivers mentioned a preference for paratransit service versus fixed-route service—passengers are more appreciative.
- Sometimes elderly passengers are on the bus for a long period of time.
- One driver commented that the quality of newer vehicles is not as good as previous vehicles.
- Most paratransit passengers are pretty good about calling ahead and cancelling when necessary. Generally, noshows are not a big problem.
- There are issues with passengers not being ready on time. Technically only have three minutes to be ready, but there are instances where the passenger will call dispatch to say "I'll be right out," and the driver will be stuck waiting for another 7 to 10 minutes. A policy change should be considered to help with this issue.
- Several drivers commented that a lot of passengers are abusing the paratransit system—requirements for eligibility should be reevaluated.

# FIXED ROUTE ON-TIME PERFORMANCE

- Overall, there are a lot of concerns about on-time performance.
- The worst traffic is in Kapa'a, and it affects fixed-route and paratransit service. When it's raining, traffic is even worse. Fridays in Kapa'a can be bad as well. Traffic starts after the contraflow ends, and it can take 40 minutes to travel from Big Save to Brick Oven.
- One driver commented on the 11:25 a.m. route to Hanalei—even at that time, there can be an issue getting through Līhu'e. Traffic starts from Safeway.
- Car accidents on the highway tend to happen most often by the golf course and Anahola.
- Traffic can also be notably worse on weekends and holidays.
- Bus bunching happens pretty often during the busy times. Current practice is to have the first bus do drops only.



# **FIXED ROUTE SUGGESTIONS**

- Some routes in the system are really long (from Hanalei, for example). Can be an issue for people needing to go to the bathroom.
- From Hanalei, most people travel to Līhu'e, including Walmart, Wilcox, and the airport.
- Some people live in Puhi and work in Hanalei, such as the taro fields at Haraguchi Farms.
- There is some need to adjust hours of service on the weekends to better match weekday service.
- Shuttles are needed in Līhu'e, Kapa'a, Kōloa, and Hanapēpē-'Ele'ele
- 30-minute mainline service is needed.
- More bus shelters are needed.
- A couple of trips per day are needed at the Pacific Missile Range Facility.
- There are very few passengers on the Kapahi shuttle early on Sunday. Some churchgoers to the high school.
- There are some opportunities for shuttle service in Hanamāʿulu/Puhi. In some instances, people are walking a mile and a half, and better feeder routes would help.
- When implementing the North Shore Shuttle, it will be good to keep in mind ADA/complementary paratransit.

# **OPERATING CHALLENGES**

- Multiple drivers mentioned a desire to eliminate the on-call stop at Haraguchi Farms. It is a very narrow road with tourist traffic as well as endangered bird nesting sites. Anecdotally, there are fewer passengers using this stop—several people who used to work there now work in Princeville, and there are only about three people who work at Haraguchi Farms currently. Drivers recommended having the farm pick up passengers in Hanalei or Princeville.
- Another issue at Haraguchi Farms are instances where someone calls to make a standing reservation, and no one shows up. For on-calls, drivers recommend having people call in every day. Standing reservations should not be allowed.
- On the other hand, there is an on-call stop in Hanalei at 9:50 p.m. This is a deadhead trip—drivers recommend adding it to the official schedule.
- The stop at Friendship House in Kapa'a is a challenge—there is no easy place for a full-size bus to turn around.
- There are issues at stops at the library in Kapa'a and Ishihara Market (Waimea). Parking stalls are really close to the bus stop, and drivers can have trouble having enough space to put the lift out.



- There are turnaround difficulties at the Moloa'a fruit stand (Route 400/500 between Anahola and Kilauea).
- Need to consider traffic light timing, especially when making left turns.
- Some drivers have difficulty seeing over bicycles in the front bike rack when they have extra cargo (such as milk crates) attached.

# SAFETY

- Safety can be an issue. Historically, police department response time is really slow—sometimes a half hour or more.
- An in-house safety officer would be useful.
- There is a frequent issue of people drinking a lot in Hanalei and taking the bus back. This can sometimes cause issues for drivers.
- There are some instances of passengers begging on the bus.
- Some passengers drink alcohol on the bus.
- The hygiene of some passengers can be an issue.

## **INTERNAL OPERATIONS**

- Operators choose bids (trips included in their shift) by seniority
- There is a need to look at overtime—drivers are asked very frequently to work extra hours.
- Kaua'i Bus operators are not technically union staff—everyone is actually "appointed," and thus they are covered by collective bargaining agreement but cannot strike. This policy is likely a carryover from the history of system expansion after Hurricane Iniki. This holds for anybody in the transportation agency. They have lost mechanics because of this—they got jobs at other County agencies to have better protection.
- Obtaining vacation time can be tough for newer operators. Only three people at a time can take vacation, and vacation days are chosen by seniority.

# **6 COMMUNITY ENGAGEMENT**

Keeping the public engaged is a central component of this plan. The purpose of community engagement for this plan is to obtain feedback from current riders, key stakeholders, and the general public, regarding transit needs and potential improvements. Engagement provides the following three key benefits:

- Builds consensus among stakeholders. Agency representatives, policymakers, business interests, and transportation advocates often have conflicting objectives and competing community goals. Building consensus allows these separate players see the larger picture, by exploring mutual benefits and tradeoffs.
- **Gives the community a voice.** Engagement the public both stay informed, and articulate what they want. Ultimately, it results in a plan that better addresses the challenges and needs of the community.
- **Increases public buy-in**: Engagement helps develop local enthusiasm for the plan. In other words, engagement makes this the community's plan.

This chapter contains a summary the different types of engagement that took place over the course of this planning effort:

Stakeholder outreach

Focus groups

- Project website
- On-board survey

- Public events
- Online recommendations survey

Design Your Own Transit System survey

Additional information on community engagement is available in Appendices B, E, and J. Open-ended comments received during the outreach process are available in Appendix B, open-ended comments from the on-board survey are available in Appendix E, and additional detail about public outreach conducted as part of the Transit Feasibility Study is available in Appendix J.



# **STAKEHOLDER OUTREACH**

Several key stakeholders provided transit- and mobility-related feedback at different stages between 2015 and 2017.

# 2015

In 2015, 14 stakeholder groups—representing a variety of different organizations—shed light on the challenges and opportunities associated with transit and mobility in general:

- Kaua'i County Council Members
- Kaua'i Mayor Bernard Carvalho, former Managing Director Nadine Nakamura, and current Managing Director Wallace Rezentes
- Kīlauea Neighborhood Association
- The Kaua'i Bus
- Hawai'i Department of Transportation (HDOT)
- Kaua'i Visitors Bureau
- Kaua'i County Office of Economic Development
- Po'ipū Beach Resort Association
- Royal Coconut Coast Resort Association
- Transit Advisory Committee
- Transportation Coordinating Committee
- Wailuā-Kapa'a Neighborhood Association
- Princeville Resort Association
- Princeville at Hanalei Community Association

## **Key Themes**

Several key themes emerged from the stakeholder interviews. Overall, the stakeholders agree that something needs to happen to change the transportation direction on the island. In particular:



- **Kaua'i Cannot Rely Solely on Building New Roads**. Kaua'i cannot build out of the traffic issues that are present today. As the number of visitors continues to grow, the island cannot sustain or depend on the concept that all visitors must rent a car. Transportation demand management offers potential solutions.
- **Prioritize Solutions.** There is a general sense of urgency that some solutions need to be put in place sooner rather than later.
- **Context-based Solutions**. There is general agreement that the issues of the North Shore, East Side, and South Side may have some common elements, but each area has challenges that are unique and will require context-based solutions.
- **Long-Range Transit Planning**. Opportunities for The Kaua'i Bus include a plan for operations expansion, capital expansion for support facilities, and marketing.
- **Innovative Financing**. There could be opportunities for a new shuttle through partnerships in the spirit of kokua. Any future shuttle services should be integrated with The Kaua'i Bus system.
- **Seamless Customer Experience**. To the transit customer (commuter, resident, or visitor) the improved system must appear and act as one entity. Schedules, information, and fare collection must be coordinated and simple for the user.
- **Visitor's First Impression**. Airport-to-resort transport is generally recognized as a very important part of the overall picture and solution. The current arrival experience, especially for visitors not renting a vehicle, is not as welcoming as it could be.
- **On the North Shore**, three key challenges include access to Kē'ē Beach and Hā'ena State Park, access to Kīlauea Point Lighthouse, and employee transport between resorts and North Shore locations such as Hanalei, Princeville, and Kīlauea. Improvement to these transportation challenges will benefit other travelers in the area.
- **On the East Side**, three key challenges include traffic in Kapa'a, congested local circulation on Kūhiō Highway, and resort employee transport and parking.
- **On the South Side**, three key challenges include transit access in locations such as Poʻipū and Kōloa, resort employee parking, and new development currently in various stages of permitting that has potential to increase current congestion. Another issue is local circulation within communities, from resorts to parks and to shopping centers.



# 2016 and 2017

Stakeholders provided additional feedback during interviews in October 2016 and May 2017. These meetings included representatives from the Mayor's Office, Hanapepe Economic Alliance, Kaua'i Community College (KCC), the Līhu'e Business Association, County Agency for Elderly Affairs, the Friendship House, Kaua'i Adult Day Health, and the Waimea Easter Seals.

The discussions in October 2016 followed an interview guide that covered current and future travel needs for the island, goals for transit, any barriers for achieving goals, what Kaua'i residents or visitors need/want from transit, markets where transit does not serve well, and specific capital or infrastructure needs.

The purpose of the meetings in May 2017 was to learn the opinions of key community and non-profit stakeholders that work closely with those who use or could take advantage of improved transit services—particularly paratransit.

A briefing sheet was distributed at selected stakeholder discussions to give additional background on the SRTP and can be found in Appendix C.

#### **Key Themes**

- **Paratransit should serve those who need it.** The SRTP should investigate strategies to improve paratransit service quality, which could include travel training, eligibility requirements, or feeder service. Loose eligibility is hampering paratransit service and weakening access for those who have limited travel options. Increasing access to the fixed-route network for capable individuals is an overarching goal. One possible idea is for paratransit to implement the use of zones to improve service.
- The Kaua'i Bus staffing levels could be increased to ensure transit is meeting existing and future demand. The Kaua'i Bus is currently understaffed and could require increases in funding to reach adequate staffing levels.<sup>1</sup> If increased funding is necessary, funding burdens should be spread out fairly across users of the transportation system. Additionally, understanding where and when new development is occurring on Kaua'i is important to maintaining a functioning transit system. New development can mean increased demand for transit and road space.
- Make it easier and more comfortable for people to use The Kaua'i Bus. Increasing frequency and span of service on weekdays and weekends will help grow ridership. Current and potential riders value frequent service

<sup>&</sup>lt;sup>1</sup> As a part of the SRTP process, an organizational assessment will study appropriate staffing levels for The Kaua'i Bus.



to activity centers (e.g., Kukui Grove), rather than spreading transit service out over a large area. In many cases, the bus does not currently work for people with strict schedules because of service infrequency. One business owner cited the need to come in to the shop at the end of the day to help close down so that employees can get on the last bus home.

Improving access to stops and creating a pleasant passenger waiting environment will help grow ridership. Stakeholders recommended adding shelters on both sides of the street, more safe sidewalks to bus stops, and more safe crosswalks with lighting (e.g., signalized crossings or flashing beacons). One stakeholder noted that rider conduct rules and enforcement should diligently address foul language and public intoxication. Additional recommendations from stakeholders included more readily available information about transit services.

- Support a balanced transportation system. Transit has the potential to alleviate traffic problems on the island because it can move more people. Both residents and visitors alike want more travel options, instead of feeling like the only option is driving a private vehicle. A bus-only lane to bypass traffic could drastically improve travel time and the bus riding experience. Initiatives in Līhu'e include a plan for the town core, which seeks to create connections for active modes, including strengthening the connection behind the elementary school. Another bike trail from Kapa'a to Līhu'e is expected to be built. With a robust bicycle network, bicycle parking should be available at every bus stop, along with shade and solar power. Parking for vehicles is also an issue, in Līhu'e and beyond. If transit was a viable option, people would have more freedom to avoid parking challenges and leave their car at home.
- **Consider the travel needs of Kaua'i Community College Students.** Students generally enjoy using The Kaua'i Bus, although traffic and travel time are complaints that some have voiced, and stakeholders noted that a stigma exists for students who rely on the bus. Access to the school is a concern for students with families, a full-time job, and/or living in the North Shore or West Side. Suggestions to improve service include creating a Līhu'e Shuttle that includes KCC, reinstating the Kē'ē Beach route, providing other routes to serve major attractions, and providing free Wi-Fi. Students also request increased frequency of bus service (every 30 minutes during 6 a.m. to 8 a.m.), so that they can ride and get to class on-time (classes usually start on the hour and end on :50).

About 1,400 students are enrolled at KCC, and student IDs are observed as a bus pass with registration (mandatory), which adds \$24 per semester. Student home locations from Fall 2016 are mapped by zip code in Figure 6-1. More than 26% of students live in the 96766 zip code (Līhu'e), followed by 24% from 96746 (Kapa'a and Wailua). Twenty-four percent live in South Shore zip codes, with most of these from 96756 (Kōloa, Po'ipū, and 'Ōma'o) and 96741 (Kalāheo). Students residing in West Side and North Shore zip codes comprise 13% and 7% of the overall student body.









# **PROJECT WEBSITE**

A project website was built to serve as a portal for customers, stakeholders, and the general public to view a description of the study and regular status updates, public meeting announcements and recaps, links to online surveys, information on how to provide feedback, and links to downloadable project deliverables. The website, Kaua'ibusplan.com, went live prior to stakeholder meetings and the on-board survey conducted in October 2016. A screenshot of the website can be found in Figure 6-2.

Figure 6-2 Project Website





# **ON-BOARD SURVEY**

As part of the Short-Range Transit Plan, during October 2016, 318 on-board surveys were collected on The Kaua'i Bus, asking riders about their travel behavior, demographic information, potential improvements for the system, and destinations the system should serve. Using daily ridership data, rider populations were estimated for each route by splitting ridership in half (assuming that most riders will travel round trip on a given route during the day). Surveys were then distributed with the aim of obtaining a statistically representative samples for each route. In total, 311 surveys were collected, with statistical representation achieved for all routes at a 95% confidence interval, +/- 5%. The survey instrument is included in Appendix B.

Overall takeaways from the survey include the following:

- The vast majority of surveyed riders are full-time residents with strong representation from the South Shore and East Side
- Many riders are long-time customers (38% have been riding for more than five years)
- Over half of riders take the bus four or more days per week
- Sixty-seven percent of respondents are employed full- or part-time, of which the highest share work in the resort/hospitality/tourism industry
- Nineteen percent of surveyed riders are students (most of whom are college students)
- The most represented age group is 45 to 59 year olds, with roughly equal representation among 25 to 44 year olds and riders aged 60 and older
- Most riders rely on printed schedules and the Kaua'i Bus website for bus information, but many would like to have more accessible information, such as bus schedules linked to Google Maps on their phones
- Roughly 40% of riders made a transfer to complete their trip
- Most riders (62%) pay their fare in cash
- The majority of riders (57%) said they regularly commute to Līhu'e for work, school, or errands, followed by Kapa'a (21%) and Hanalei (19%)
- The most preferred destinations for running errands/recreation were Kukui Grove, Walmart, Hanalei, and Kapa'a Town
- Seventy percent of riders want to see more weekend service, with 50% of riders also requesting more frequent service
- The Safeway in Līhu'e was the most requested location for a bus stop



# Where Were Surveys Distributed?

Figure 6-3 below shows the distribution of surveys by route, which has the same order of magnitude as daily ridership totals for each route. In other words, Hanalei and Kekaha Mainline routes, which have the highest and second-highest daily ridership, had the highest and second-highest amount of survey responses.

Figure 6-3 Routes Used by Respondents to Complete Their Trip (Multiple Responses Allowed)





#### Are riders locals or visitors?

As can be seen in Figure 6-4, the vast majority of survey respondents are residents of Kaua'i (93%). Four percent of survey respondents are visitors, and 3% are part-time residents.



## Where do riders live?

Among survey respondents, there is roughly equal representation from the West Side and East Side (27% each). Eighteen percent of respondents were from Līhu'e, followed by the North Shore (16%) and the South Shore (12%).

Figure 6-6 shows the individual communities where respondents live. The most represented communities were (in order of magnitude) Līhu'e, Kīlauea, Kapa'a, Kekaha, Kapahi, Hanapepe, Waimea, and Kalāheo.







#### Figure 6-6 Community Home Location (Residents Only)





#### How often and how long do riders take The Kaua'i Bus?

There is a strong representation of frequent riders who have been with the system for many years. The highest percentage of respondents (43%) have been riding between one and five years, followed by 38% who have been riding for more than five years. More than half of respondents ride four or more days per week, followed by 26% who ride two to three days per week.



#### Figure 6-7 Longevity of Ridership



### What proportion of riders are employed or full-time students?

The highest share of respondents are full-time employees (43%), followed by 24% who are part-time employees. The vast majority of riders surveyed (82%) are not students. Eleven percent attend college, with 8% attending high school or middle school.



Figure 6-9 Employment Status



#### Where do employed riders work?

Among full- and part-time working respondents, the highest share work in the resort/hospitality/tourism industry (27%), followed by 22% who work in retail/shopping. The next-most represented sector—"other"—includes construction workers, volunteers, non-profit employees, and artists.



Figure 6-11 Employment Sector (Full- and Part-Time Workers)



### How old are riders?

Nearly one-third of respondents are between the ages of 45 and 59, followed by 24% aged 18 to 44 and 23% aged 60 and over.

Figure 6-12 Respondent Age



#### How do riders get information about The Kaua'i Bus?

Nearly half of respondents use a printed schedule to access transit information, followed by 47% who use The Kaua'i Bus website and 43% who read schedules at the bus stop. Seventy percent of riders reported to having a smart phone.



Figure 6-13 How Riders Access Transit Information (Multiple Responses Allowed)



# **Profile of Trips**

As mentioned at the beginning of this section, individual route representation among respondents is roughly proportional to overall ridership for each route. The highest share of respondents reported to riding the Hanalei and Kekaha Mainline routes (46% and 42%, respectively), followed by the Līhu'e and Kapahi Shuttles (16% each), the Kōloa Shuttle (9%), and the Wailua Mainline (4%).

## When did trips begin?

Figure 6-14 shows the time at which riders began their trip; nearly half of riders (43%) boarded the bus between 6 a.m. and 9 a.m. About equal number of respondents began their trip midday between 9 a.m. and 3 p.m. (27%), as those that began their trip in the afternoon between 3 p.m. and 6 p.m. (23%). Very few respondents started their trip before 6 a.m. or after 6 p.m.



Figure 6-14 Time Respondents Began Trip



#### How many riders make transfers?

As shown in Figure 6-15 below, 39% of respondents said that they transferred or would be making a transfer to complete their trip. Among those who reported riding two routes, the most common transfer pairs were between Hanalei Mainline and Kapahi Shuttle, followed by Kekaha Mainline and Koloa Shuttle.

Figure 6-15 Percent of Respondents Making Transfers



#### How do riders pay for transit?

Figure 6-16 shows how riders paid for their bus fare, the majority of which (62%) paid in cash, followed by 28% using a Frequent Rider Monthly Pass and 6% using a Frequent Rider 12 Month Pass.



Figure 6-16 Fare Media



#### What are riders' primary destinations for work, school, or errands?

Respondents were asked to indicate the primary location they travel to (or would like to travel to) on the bus for work, school, or running errands. As shown in Figure 6-17 below, more than half (57%) chose Līhu'e, followed by 21% who chose Kapa'a, and 19% who chose Hanalei. The top South Shore destination was Po'ipū (12%), and the top West Side destination was Waimea (10%).






#### What are riders' primary destinations for recreation or shopping?

In addition to commute patterns, riders were asked to pick the top three places they travel to (or would like to travel to) on the bus for recreation and shopping. The top destinations were Kukui Grove (40%), Walmart (34%), Hanalei (28%), Kapa'a Town (26%), and Hā'ena State Park (23%). Top West Side destinations included Waimea Canyon (19%) and Salt Pond Park (17%). The top South Shore destinations were Po'ipū Beach Park (15%) and Old Kōloa Town.

Figure 6-18 Recreation and Shopping Destinations (Multiple Responses Allowed)





#### What would riders like to see improved?

Riders were asked to select three options from a list of potential service improvements. The most frequent response was more weekend service (70%), followed by more frequent service (50%). Respondents were much more likely to prefer later bus service (29%) than earlier bus service (17%). They were also more likely to prefer faster service (18%) over more reliable service (14%).



Figure 6-19 Desired Service Improvements (Multiple Responses Allowed)



# **Open-Ended Questions**

In addition to the multiple choice options, riders were also able to provide open-ended comments for suggested service improvements. Here, riders reiterated the sentiment that there is not enough service on weekends, with 31 specifically requesting increased weekend and holiday service. Many people expressed that they work on weekends, and need reliable transportation to get to and from work. Others requested expanded morning and evening hours.

Nine respondents asked for a stop at the Safeway at Līhu'e. Other repeat stop requests included locations in Kōloa, 'Ele'ele, and Urgent Care. Additionally, riders requested expanded on-call bus options. Another major request was for more accessible schedules. Riders would like to see the schedules linked to Google Maps so that they can see which bus they need to catch from their phones. More bike racks and luggage racks were also mentioned as a desired service improvement. All open-ended comments are included at the end of the report in Appendix E.



## **DESIGN YOUR TRANSIT SYSTEM**

An online survey collected information from The Kaua'i Bus riders and non-riders on the island. The survey consisted of a "Design Your Transit System" tool that presented 22 strategies that could be used to improve the Kaua'i Bus system. The tool cited the benefits of each strategy in the areas of ridership, speed and availability, access, passenger experience, and environment. The tool also presented relative costs for each strategy, and survey respondents were given a budget of 20 dollar signs to work with—respondents were instructed to select the strategies most important to them while staying within the budget. A screenshot of the survey can be found in Figure 6-25.

There were 198 responses to "Design Your Transit System" tool<sup>2</sup>. Figure 6-21 ranks the preferences for transit improvements by percentage of responses from all respondents (including frequent riders, infrequent riders, and non-riders).

# **Design Your Transit System Key Findings**

Findings from the survey include the following:

- **Provide more frequent service and hours of service** the top three responses were more frequent service on weekdays (58%), more hours of service on weekends (53%), and more frequent service on weekends (49%).
- Bus stops and customer information is also important participants choose add more convenient bus stop locations (45%), improve route/schedule information (39%), install lighting at major bus stops (38%), install real-time arrival information (34%) as the next more important improvements.
- **Increase service on the North Shore and to Wailuā Homesteads** 32% of participants selected adding service to the North Shore, and 29% of participants would like to see more service to the Wailuā Homesteads.
- In contrast, survey participants placed less emphasis on new peak express service (8%) or new shuttle connections (10%) on the South Shore and West Side.

Additionally, 199 people responded to the second portion of the survey in SurveyMonkey, which asked participants how often they ride transit and if they had any additional open-ended comments for the study. A total of 124 open-ended comments were recorded. According to these results, 28% of respondents never ride transit, 34% are infrequent riders (either less than once a month, or 1-2 times a month) and 38% are frequent riders (once a week, 2-3 days per week or 4-6

<sup>&</sup>lt;sup>2</sup> As of January 23, 2017



days per week). See Figure 6-20 for a breakdown in rider type who participated in the survey. Highlighting potential transit improvements based on rider type is helpful in order to target growth in a specific rider or potential rider market.

Of the frequent riders (38% of total responses) who participated in the survey, the top three transit improvements focus on additional transit service. Sixty-one percent (61%) want more hours of service on weekends, 59% want more frequent service on weekdays, 53% want more frequent service on weekends, and 51% want more convenient bus stop locations. See Figure 6-22 for how frequent riders rank transit improvements.

Infrequent riders (34% of total responses), had the same top three transit improvements as the frequent rider group: provide more frequent service on weekdays (55%), provide more frequent service on weekends (51%), and provide more hours of service on weekends (49%). See Figure 6-23 for a breakdown of transit improvements by infrequent riders.

For the non-rider or potential-rider group, the top priority to improving the transit system is to provide more frequent service on weekdays (61%). The second priority is to provide more hours of service on weekends (46%), and the third priority is to add service to Wailuā Homesteads (45%).



Figure 6-20 Design Your Transit System Responses by Rider Type



#### Figure 6-21 Design Your Transit System Results: Overall Responses



Note: Percentages reflect the percent of respondents who selected each improvement option relative to the total number of respondents. Multiple responses were allowed. As a result, percentages do not add up to 100.



#### Figure 6-22 Desired Improvements Among Frequent Riders



Note: Percentages reflect the percent of respondents who selected each improvement option relative to the total number of frequent rider respondents. Multiple responses were allowed. As a result, percentages do not add up to 100.



#### Figure 6-23 Desired Improvements Among Infrequent Riders



Note: Percentages reflect the percent of respondents who selected each improvement option relative to the total number of infrequent rider respondents. Multiple responses were allowed. As a result, percentages do not add up to 100.



#### Figure 6-24 Desired Improvements Among Non-Riders



Note: Percentages reflect the percent of respondents who selected each improvement option relative to the total number of non-rider respondents. Multiple responses were allowed. As a result, percentages do not add up to 100.



#### Figure 6-25 Design Your Transit System Screenshot





# **MARKETING FOCUS GROUPS**

Two focus groups took place on Kaua'i in March 2017 as part of the Marketing Plan of the SRTP. The first<sup>3</sup> included current riders of The Kaua'i Bus, while the second<sup>4</sup> included both non-riders and infrequent riders.

Several key points emerged:

- Both focus groups found The Kaua'i Bus information materials difficult if not impossible to use. This includes the print schedules, website, and lack of information in Google Maps. Participants from both focus groups suggested developing a color-coded system map, schedules, larger fonts, using less jargon, stop names that are easy to understand, other fare payment methods, a website with an easy-to-use interface, and some kind of smartphone application. Both groups said that a timepoint-based schedule would be preferable if it meant easier-to-read schedules with colors and larger fonts. Both focus groups also suggested that more information is better than less, in order to avoid confusion among first-time users.
- Both focus groups mentioned that visitors (including visitors from other Hawaiian islands) are a large and untapped potential market for transit usage. Both groups said they would welcome The Kaua'i Bus working to attract more tourist riders. Many people—in particular young people—would prefer to avoid renting a car when visiting. As a result, both groups suggested that more transit-related information should be available at the airport, as well as better service to and from the airport. It is worth noting that this was consistent among riders and non-riders.
- In terms of transit vehicle amenities, participants in both groups said that buses should be equipped with more bike racks, and should also have surf board racks. Many current riders had experienced a situation where they had to wait an hour for the next trip because a bus had a full bike rack.
- With respect to branding (Figure 6-26) the two focus groups had mixed opinions.
  - **Participants in both groups did not know what the vegetation in The Kaua'i Bus logo was supposed to be** and thought the brand looked more safari-oriented than transit-oriented.
  - Participants in the current rider focus group had a slightly more favorable view of The Kaua'i Bus brand overall.

<sup>&</sup>lt;sup>3</sup> 10 participants, 7 women, 3 men, ages 18 to 67.

<sup>&</sup>lt;sup>4</sup> 9 participants, 5 women, 4 men, ages 32 to 71.



- **Both riders and non-riders reacted favorably to a modestly altered brand** (Concept B), with more dramatic use of the grass motif and additional colors. However, nearly no members of either group found the dramatically altered brand (Concept C) desirable.





<sup>&</sup>lt;sup>5</sup> Note that these brands are not based on an actual branding exercise for The Kaua'i Bus. They were used only to gauge the reaction among focus group participants regarding changes to branding.



# **COMMUNITY ENGAGEMENT ACTIVITIES**

A variety of community engagement activities were used to provide information about the Transit Feasibility Study and SRTP planning efforts, as well as collecting input from the public.

# **Open Houses**

### November 2015

Discussions with the community targeted both residents and visitors and included an online survey, a project website, and three open house meetings held in November 2015 on the North Shore (Kīlauea), East Side (Kapa'a), and South Shore (Kōloa). In total, 43 people (including community members, business owners, organizers, and County Council members) came to share their opinions and learn about the proposed shuttle concepts. Through these efforts, the outreach team sought to present initial findings from the existing conditions report, learn about travel behavior and perceptions of island traffic, and receive public input on the conceptual shuttle design.

The primary transportation concern among residents and visitors relates to increasing traffic levels on the island. Many attribute the traffic problems to an increasing number of visitors (most of whom rent a car during the entirety of their stay). Repeat visitors and part-time residents have also expressed concern related to growing traffic problems they have noticed over time. While some fear that growing congestion will compromise the rural character of their communities, most commuters are primarily concerned with spending less time stuck in traffic. Overall, most riders and non-riders expressed approval of the conceptual shuttle design, the areas covered, and the proposed routes. Some outreach participants said they will need to see the operational details (schedules, transfers, etc.) before making a decision, while others said they will need to see how the project will be funded. Other participants gave specific route recommendations for the network. Open-ended comments from these meetings are available in Appendix B. Additional detail about this outreach activity is available in Appendix J.

### January/February 2017

Open houses were held in three locations in January/February 2017 to provide the community with information about the SRTP and allow the opportunity to provide feedback. A total of 22 community members attended meetings held at the Kapa'a Neighborhood Center, Līhu'e Neighborhood Center, and Waimea Easter Seals. Six poster-size boards provided an introduction to the SRTP, key findings from existing conditions, ridership, a summary previous community input, information about marketing, and initial findings related to paratransit.



# **Pop-Up Meetings**

Pop-up workshops are mobile events that bring the project to the places where people are already gathering, including participation in already-planned local events and meetings sponsored by different local groups, such as community festivals or meetings of community organizations. Pop-up workshops offer the opportunity to gather the opinions of people who might not otherwise attend a public meeting and can include several types of standalone activities that can be completed quickly, such as dot map activities, paper/tablet surveys, sharing of brief educational materials, and gathering comments.

A series of pop-up meetings were held in July 2017 to introduce the public to initial SRTP recommendations and strategies. Activities were conducted at eight grocery stores throughout the island, and the team interacted with a total of 614 people, as shown in Figure 6-27. Educational materials about the project were provided about the SRTP, along with a link to the project website and online survey.

Day	Location	Number of People
Monday, July 17	Walmart	39
Tuesday, July 18	Waimea Big Save	64
Tuesday, July 18	Eleele Big Save	88
Wednesday, July 19	Kōloa Big Save	64
Wednesday, July 19	Līhu'e Times Supermarket	116
Wednesday, July 19	Kapa'a Big Save	130
Thursday, July 20	Hanalei Big Save	44
Thursday, July 20	Princeville Foodland	69
Total		614

Figure 6-27	Pon-I In Worksho	n Attendees h	I ocation	( hulv	2017
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# **ONLINE RECOMMENDATIONS SURVEY**

Following the development of a proposed set of recommendations for the SRTP, an online survey was presented to the public. The survey—open from July 13 to September 6, 2017—allowed the community to provide feedback on the proposed strategies. The survey collected 139 respondents. Open-ended comments from the survey area available in Appendix B.

# Survey Results

People were asked about four sets of proposed changes for The Kaua'i Bus: **fixed-route service**, **paratransit service**, **fares**, and **rider information**.

Overall, the respondents received the proposed changes favorably. A majority of survey respondents said they "like" the proposed changes for all categories. While most respondents supported the paratransit and fare changes, the percent who said they "don't like these changes" was 16% and 14% respectively—higher than for fixed-route service and information for riders (3% and 2% respectively). Figure 6-28 summarizes responses to the recommendations survey.

Category	"I like it!"	"I like it but I have concerns."	"I don't like these changes."	Total responses
Fixed-Route Service	66%	31%	3%	139
Paratransit Service	59%	25%	16%	122
Fares	56%	31%	14%	117
Information for Riders	85%	13%	2%	114

Figure 6-28 Tell Us What you Think about the Proposed Changes

### **Comments on Proposed Fixed-Route Service Changes**

There were 76 comments on the proposed fixed-route service changes. The following chart summarizes the major themes of comments as well as the volume of comments received on those issues.



#### Figure 6-29 Comments on Fixed-Route Service Changes (*n*=76)



Key themes from 76 public comments on the fixed-route service proposal (in order of volume of responses):

- Most comments expressed a positive response to the proposed changes.
- Many respondents requested more weekend service and more evening or late-night service.
- A number of respondents cited the importance of easy access to the Kuhio Medical Center and Wilcox Hospital, with hopes that bus stops could be placed so as to allow the shortest walking distance possible to these locations.
- Commenters also called for more bus stops in general on all routes.
- Other common comments were concerns about the cost of the proposed changes for the system, suggesting that tax dollars need to be used more responsibly.
- Additional comments included requests for easier access to Walmart, better service to the airport, and better service to other locations such as Wailua Homesteads, the animal shelter, and Omao.



#### **Comments on Proposed Paratransit Service Changes**

Overall, comments on the proposed changes to paratransit service expressed concern, although a number of respondents wanted to see expanded paratransit service with reduced costs to riders.

Figure 6-30 Comments on Proposed Paratransit Service Changes n=45



Key themes from public comments on proposed changes to paratransit service are (in order of volume):

- The most common comment was opposition to the proposed increase to the age eligibility threshold. Respondents were concerned that this would increase the barrier for many riders who depend on the service.
- Many respondents were also concerned with the fare cost of the service for riders, particularly those with low incomes.
- A number of respondents commented that the paratransit service was being taken advantage of by riders who were not truly in need. Some respondents suggested that this increased costs for users who were truly dependent on the service.



- Many respondents called for the service to find more creative sources of additional funding in order to not raise costs or cut service.
- An equal number of respondents commented that the paratransit program used too many taxpayer dollars and that the barrier to entry for use should be increased
- Some respondents opposed the proposed limit on rides for paratransit age-eligible users.
- An equal number of respondents suggested that a) the service use smaller vehicles to save money and better serve riders b) they supported the proposed changes and c) that they supported the increased age eligibility threshold. Reasons for supporting the threshold ranged from curbing abuse of the system to better managing its budget.

#### **Comments on Proposed Fare Changes**

Overall, comments on the proposed fare changes were largely supportive, with particular excitement and support shown for the proposed single day pass.





Key themes from public comments on the proposed fare changes are (in order of volume):

- The most enthusiastic and common comments were those expressing support for the concept of a single day pass.
- A large number of respondents also expressed support for the proposed fare changes at large.



- An equal number of respondents, however, expressed concern about fare increases for riders, particularly for those with low incomes.
- Many respondents expressed support for the annual pass and opposed eliminating it. Two respondents were particularly concerned with the concept of providing this bulk discount only to employees of large businesses.
- A number of survey respondents posed questions about the changes, requesting additional information about fares and general service provision.
- A large number of respondents called on the system to additionally raise fares, mostly with the intention of producing more revenue for the system.
- Many respondents commented on the importance of maintaining fare discounts for senior citizens.

#### **Comments on Proposed Ridership Information Changes**

By and large, comments on proposed ridership information changes were supportive and enthusiastic. Some respondents outlined specific ideas they thought would be prudent to incorporate into the proposed changes.





Key themes from public comments on the proposed ridership information changes are (in order of volume):

• Support for the proposal was far and away the most common response to the survey. Some respondents were enthusiastic, using words like "amazing", "GOOD", and "Thank you!"



- Almost as many respondents requested a real-time bus location service that would allow riders to track buses and know when they are running behind schedule.
- Respondents also requested that schedules be easier to both access and understand.
- An equal number of respondents suggested that system maps be provided to visitors, to encourage them to use public transportation.
- Survey respondents also requested large fonts on printed and digital materials, to make it easier for those with limited vision to read.

#### **Overall Comments**

There were 31 additional comments entered in the "additional comments" portion of the survey.

Figure 6-33 Overall Comments



Key takeaways were (in order of volume of responses):

- Respondents reported a desire for more bus stops, in general. Some respondents called out specific locations for bus stop addition while others requested more stops systemwide.
- A number of respondents requested that costs be kept low, thereby reducing the amount of taxpayer dollars spent on the service.
- Many respondents asked for improved access to Wilcox Hospital and Kuhio Medical Center.
- Many respondents supported the proposed changes.



• An equal number of respondents called for more service for island visitors, thereby reducing auto congestion on the roads caused by tourists and other resort visitors.

Other notable comments included:

- Acquiring electric buses for a future fleet, and making existing buses more comfortable.
- A request for more detail on the proposed changes so the public could more usefully comment.
- Requests for increased cleanliness on buses and an improved rider code of conduct.

### Who Responded to the Survey?

#### **Respondent Demographics**

The vast majority of online survey respondents (95%) were full-time residents of Kaua'i. Only one survey respondent was a part-time Kaua'i resident, and visitors to the island made up 4% of respondents. Of the 112 respondents who reported their disability status, 8% had a disability that prevented them from accessing fixed-route transit.

The vast majority of respondents were above the age of 34, as shown in Figure 6-34. Only three respondents under the age of 25 completed the survey. A significant portion of respondents were senior citizens (65 or older).



Figure 6-34 What is your age? (*n*=111)



Most survey respondents were regular or semi-regular riders of The Kaua'i Bus—37% reported using the bus at least once each week. Roughly one-quarter of respondents were irregular users of the bus, riding less than once per month. Less than 25% of respondents reported never riding The Kaua'i Bus.





# **7 FIXED-ROUTE OPERATIONS PLAN**

This chapter outlines strategies to improve fixed-route service for The Kaua 'i Bus over a five-year timeframe. The five-year strategies are divided into quick wins, systemwide operational changes, and short-term priorities.

- **Quick wins.** Quick wins are route-specific alignment and stop order changes to boost efficiency and make transit easier for riders to understand. These do not require additional service hours, and as such should be prioritized.
- **Systemwide operational changes.** These changes—which are not specific to any given route—improve the quality and efficiency of transit without requiring additional service hours. Therefore, these should also be prioritized at an early stage of implementation.
- **Short-term priorities.** Short-term priorities are route-specific strategies that require additional service hours, (*e.g.*, later service, more frequent service). The degree to which these can be implemented depend on identifying ways to increase efficiency and recycle the gains into additional service hours. In the case that additional funding becomes available, it can be used to implement short-term priorities. However, the implementation of short-term priorities is not contingent on new funding sources.

Following the three sets of strategies listed above, the Fixed-Route Operations Plan concludes with a long-term vision to guide transit growth beyond five years.





# **GUIDING PRINCIPLES**

The recommendations discussed in this chapter are based on six transit planning principles. These principles, described below, serve as the foundation for all service improvements. They are commonly understood to increase transit ridership.

- **Service should be simple.** First and foremost, for people to use transit, service should be designed so that it is easy to use and intuitive to understand. This applies not only to the routing and scheduling of service, but also to the information presented to customers at the stop and on passenger information materials.
- Service should operate at regular intervals. In general, people can easily remember repeating patterns, but have difficulty remembering irregular sequences. For this reason, routes should operate at regular, or "clockface" (*i.e.*, 15-, 30-, or 60-minute) frequencies to the extent possible.
- **Routes should operate along a direct path.** The fewer directional changes a route makes, the easier it is to understand. Conversely, circuitous alignments are disorienting and difficult to remember. Routes should not deviate from the most direct alignment unless there is a compelling reason, such as to provide service to a major ridership generator. In such cases, the benefits of a deviation must be weighed against the inconvenience caused to passengers already on board.
- **Routes should be symmetrical.** Routes should operate along the same alignment in both directions to make it easy for riders to know how to get back to where they came from. In cases where such operation is not possible due to one-way streets or turn restrictions, routes should be designed so that the opposite directions parallel each other as closely as possible.
- Routes should serve well defined markets. To make service easy to understand and to eliminate service duplication, routes should be developed to serve clearly defined markets. Ideally, corridors should be served by only one route unless the routes are complementary (such as providing greater over-all service frequency where it is warranted), or serve different functions in the transit network (such as local vs. express trips).
- Service should be well coordinated. At major transfer locations, schedules should be coordinated to the greatest extent possible to minimize connection times. In corridors with multiple routes, schedules should be strategically staggered to avoid bus bunching and to maximize the over-all service frequency in the corridor.



### **QUICK WINS: ROUTE ALIGNMENT AND STOP CHANGES**

This section lists quick wins for The Kaua'i Bus: strategies that make the system more functional and easier to understand, without requiring new costs in the form of service hours. Quick wins largely involve changes to route alignments and stops. These should be tackled first—alongside systemwide operational changes—because of their low cost of implementation. Note that, despite not adding service hours, quick wins require labor to implement.

In addition to alignment and stop changes, this plan proposes changing the name of each route. This is because focus groups found the existing route numbers difficult to understand.<sup>1</sup> Like the alignment and stop order changes, changing route names does not require additional service hours. However, when changing the name of a route, it must also change in all public-facing materials, including the system map, schedules, website, and GTFS data.

Different quick wins exist for each route. Figure 7-1 summarizes the changes.

Route	Proposed Name	What Are the Alignment and Stop Changes?	Why Is This Important?
Kekaha Mainline (400/500)	Kekaha Mainline (A Line)	<ul> <li>Serve Waimea Athletic Field before KVMH for inbound trips.</li> <li>Serve PMRF and Syngenta for certain trips only.</li> </ul>	<ul> <li>Waimea Athletic Field and KVMH have the same stop order inbound and outbound, resulting in a difficult-to-understand route alignment (and system map) with no performance benefits to riders or operators. Route alignments should be easy for riders to understand. Reversing the stop order for Waimea Athletic Field and KVMH for inbound trips—to the expected order of stops—makes the alignment much easier to understand.</li> <li>By making PMRF and Syngenta on-call stops, it is necessary to be able to accommodate them in driver schedules, even when they aren't served. Instead, by converting this stop to selected trips only (with no on-call) this leftover time can be recycled into additional service.</li> <li>Serving PMRF costs an additional \$28 (round trip) relative to trips that end in Kekaha. This plan proposes serving PMRF and Syngenta only when the cost per passenger trip does not dramatically exceed the average (\$6.39). This would result in two AM trips to PMRF and three PM trips from PMRF.</li> </ul>

#### Figure 7-1 Low-Cost Route Alignment Changes and Recommendations (No New Service Hours Required)

<sup>&</sup>lt;sup>1</sup> Focus group participants confused route numbers with departure times in the schedules. They also did not understand why route numbers changed for inbound and outbound segments. Among transit agencies, it is more common for each route to have a single route number, with inbound and outbound segments specified by the terminus (e.g., "to Hanalei") or direction (e.g., "Northbound"). See the Marketing Plan (Chapter 10) for more information.



Hanalei Mainline (100/200)	Hanalei Mainline (B Line)	<ul> <li>Eliminate Haraguchi Farm stop.</li> </ul>	<ul> <li>Ohiki Rd is a narrow, one-lane road with narrow bridges. The road and bridges are not suitable for transit vehicles.</li> <li>The stop requires a long deviation from the highway along Ohiki Rd. Deviations should be limited on mainline routes in order to improve travel times.</li> <li>The stop has an average of 1.29 weekday boardings and 2.68 weekday alightings. This is the poorest performance of all stops for the Hanalei mainline.</li> </ul>
Wailua Mainline (800/850)	Wailua Mainline (D Line) Wailua Shuttle (Route 5)	<ul> <li>Make stop order and alignment consistent for inbound and outbound trips.</li> <li>Consider serving the Wailua-Kapa'a segments of this route as a shuttle.</li> </ul>	<ul> <li>The stop order between the Wailua Homesteads stop and the Eiwa St stop is unnecessarily complicated in the inbound direction. As a result, schedules and routing are difficult to understand.</li> <li>The purpose for the complex stop order was to accommodate shift start times at a Big Save in Līhu'e that no longer exists. As a result, there is no longer a reason to modify the stops. Also, shift start times should typically be accommodated with schedule changes, not routing changes.</li> <li>Inbound trips do not serve Hanamā'ulu's two stops (Kuhio Hwy/Hanamā'ulu Rd and Kuhio Hwy/Laukona St). However, because outbound trips serve them, inbound trips should do the same.</li> </ul>
Līhu'e Shuttle (70)	Līhu'e Shuttle (Route 1) Puhi Shuttle (Route 2)	<ul> <li>Serve Līhu'e Gardens and Eiwa St in the reverse direction.</li> <li>Do not reverse order of stops at HMSA.</li> <li>Address on-call stops.</li> <li>Split into two shuttles: Līhu'e and Puhi.</li> <li>Operate both shuttles in both directions instead of as loops.</li> <li>New alignments presented in Figure 7-2.</li> </ul>	<ul> <li>The stop order is the same in both directions for two segments: (1) between Eiwa St and Līhu'e Gardens, and (2) between HMSA and Kmart. This results in confusion in understanding the schedule and route alignment. It also creates possible ambiguity for operators.</li> <li>On-call stops cause scheduling problems and on-time performance issues. As a result, they should be converted when possible into full-fledged stops or eliminated. When on-call stops are absolutely necessary, they should be on-call all day rather than just for a certain period. Period-specific on-call stops are difficult for riders to understand and wasteful from a scheduling perspective.</li> <li>The Līhu'e Shuttle is already more-or-less a bi-directional route, but is listed as a loop. By formally changing it to a bi-directional route, all stops should be served in both directions.</li> <li>The Līhu'e Shuttle currently doesn't serve Puhi (including KCC) despite these being relatively high demand transit areas. By splitting the Līhu'e Shuttle into a Līħu'e segment and a Puhi segment, both areas can be served with a simpler alignment for both shuttles.</li> </ul>



Kōloa	Kōloa	<ul> <li>Operate in both directions</li></ul>	<ul> <li>The Kōloa shuttle is already more-or-less a bi-directional route, but treated as a loop. Loops are inherently more difficult to understand and less convenient for riders, and thus experience lower ridership.</li> <li>The one-way segments of the Kōloa Shuttle do not increase its coverage (the typical reason for operating a one-way loop)—they simply only stop in one direction.</li> </ul>
Shuttle	Shuttle	instead of a loop. <li>New alignment presented in</li>	
(30)	(Route 3)	Figure 7-2.	
Kapahi/ <b>Kapa'a</b> Shuttle (60)	Kapahi Shuttle (Route 4)	<ul> <li>Make this a bidirectional route with all stops in both directions.</li> <li>Eliminate "Drop Only" stops.</li> </ul>	<ul> <li>"Drop Only" stops make it difficult for riders to understand the routing of this shuttle, and do not add utility.</li> <li>The bidirectional route makes scheduling easier.</li> </ul>









Figure 7-3 Concept and Proposed Alignment for the Līhu'e Shuttle











# SYSTEMWIDE OPERATIONAL CHANGES

Systemwide operational changes improve the efficiency and quality of service without requiring additional service hours. As a result, they do not increase operating costs on an ongoing basis and should be prioritized during the implementation of this plan. Figure 7-5 summarizes the systemwide operational changes.

Note that, while systemwide operational changes require no additional operating costs, the strategies listed below nonetheless require labor to implement. In other words, the effort they require does not take the form of ongoing, additional hours on the part of transit operators.

What Is the Change?	How Do We Do It?	Why Is This Important?
Make stop names easy to understand	<ul> <li>Make stop names easier to understand to both visitors and residents</li> <li>Base stop names on street names instead of business names where possible</li> <li>In some cases, stops can take on names that are not street names (<i>e.g.</i>, parks, neighborhood centers, post offices)</li> <li>Refrain from using "A/C" in stop names</li> </ul>	The current practice of using business names and other non-street names is problematic because businesses are prone to changing name or changing hands. <b>Streets</b> , <b>parks</b> , <b>and community buildings</b> , <b>by contrast</b> , <b>very</b> <b>rarely change names</b> . In addition, they are typically identifiable on web-based maps. The schematic system map prepared for the SRTP provides appropriate street- based stop names. Regarding "A/C", its use is not commonly understood by a lay audience and therefore confusing.

Figure 7-5 Systemwide Operational Changes (No New Service Hours Required)



What Is the Change?	How Do We Do It?	Why Is This Important?
Make route names easy to understand	<ul> <li>Rename Mainline routes to letters <ul> <li>Kekaha Mainline: A Line</li> <li>Hanalei Mainline: B Line</li> <li>Wailua Mainline: D Line</li> </ul> </li> <li>Rename Shuttle routes to numbers <ul> <li>Lihue Shuttle: Route 1</li> <li>Puhi Shuttle (proposed): Route 2</li> <li>Koloa Shuttle: Route 3</li> <li>Kapahi Shuttle: Route 4</li> <li>Wailua Shuttle (proposed): Route 5</li> </ul> </li> <li>Maintain route names/numbers for inbound and outbound trips</li> <li>Identify the route direction by specifying its terminus, e.g., "Route 1 to Hanama'ulu" or "A Line to Kekaha"</li> </ul>	Focus groups of both riders and non-riders found the current route numbering confusing. This is especially true for the Mainline routes, which can be confused with times of the day ( <i>e.g.</i> , Route 500 vs. 5:00 AM). For typical transit agencies, routes maintain the same number whether inbound or outbound. This means that a rider only needs to know one route number in order to make a round trip without transfers. Specifying the terminus location makes it clear where a trip will end. This is especially useful for routes where the terminus changes by time of day. For example, some westbound Kekaha Mainline trips will end at PMRF, while other will end at the previous timepoint.
Incorporate traffic information when generating route schedules.	<ul> <li>When possible, use existing running times to develop schedules based on actual bus speeds and GPS coordinates.</li> <li>When existing running times are not available, use Google Maps traffic information, adjusted by time of day as needed. Then use a factor to adjust for the fact that buses will make more stops than private cars. In these cases, it is extremely important to conduct test runs to ensure that schedules are accurate.</li> </ul>	<ul> <li>Current riders indicated that certain routes are consistently late by a wide margin relative to their scheduled times. This is a deterrent to fixed-route transit use.</li> </ul>
Buses should only stop when a person is waiting at a stop or a rider requests a stop.	<ul> <li>Establish and write a formal policy.</li> <li>Train operators based on the policy.</li> <li>Remove signage in buses saying not to use the stop request mechanisms.</li> </ul>	<ul> <li>Stopping at every stop is typically reserved for high-capacity transit routes that have tens of thousands of daily boardings (<i>e.g.</i>, subways).</li> <li>For typical bus routes, stopping at every stop results in unnecessarily long running times.</li> <li>By reducing the running times of routes, it may be possible to increase service without additional funding.</li> </ul>



What Is the Change?	How Do We Do It?	Why Is This Important?
Provide turn-by-turn maps for all routes to all drivers.	<ul> <li>Confirm prescribed routing for each route.</li> <li>Generate maps (using GIS software or in Google Maps) that display each route's alignment.</li> <li>Generate a list of turns and stops associated with each route.</li> <li>Provide the map and turn-by-turn information to each operator.</li> <li>Enforce prescribed alignments using periodic Automated Vehicle Location (AVL) data checks.</li> </ul>	<ul> <li>Turn-by-turn maps eliminate the ambiguity associated with providing service among operators. For example, some drivers may use one street for a route, while others may use a different street. This results in confusion among riders and on-time performance issues in general.</li> </ul>
<ul> <li>Establish a protocol for on-call stops that results in them being:</li> <li>Eliminated</li> <li>Upgraded to standard stops (or occasional) stops</li> <li>Converted to all-day on-call stops</li> </ul>	<ul> <li>Select a ridership threshold necessary to warrant a bus stop.</li> <li>If an existing on-call bus stop is above this threshold, upgrade the on-call stop to a standard stop. In some cases, these stops may only have service for certain trips, (<i>e.g.</i>, recommendation for PMRF and Syngenta)</li> <li>If an existing on-call stop is below this threshold, either eliminate the stop (where possible) or convert it to an all-day on-call stop. Note that this option should be avoided whenever possible.</li> </ul>	<ul> <li>On-call stops—especially those with specific time windows—are both confusing for riders and difficult to accommodate in schedules. Typically, it is easier to simply convert on-call stops to standard stops.</li> <li>When The Kaua'i Bus converts to a system where the bus does not stop at all stops, the rationale for differentiating on-call and standard stops will become less relevant.</li> </ul>
Reduce time spent "Not in Service" by modifying schedules and using more specific terms.	<ul> <li>Reallocate time spent out of service with time spent in service.         <ul> <li>Identify routes that don't terminate their last trip inbound.</li> <li>Add one inbound trip to these routes.</li> </ul> </li> <li>Use more specific terms for other vehicle activities when possible (e.g., "To Līhu'e Base" or "In Training" or "Express")</li> </ul>	<ul> <li>Several routes have very long deadhead segments (segments where buses are not in service but need to travel from one location to another). This out-of-service time can be reallocated to in-service time by modifying the way trips are scheduled.</li> <li>When buses are frequently seen out of service, it sends a negative message to the community.</li> </ul>



## **SHORT-TERM SERVICE PRIORITIES**

This section provides an overview of prioritized short-term improvements for The Kaua'i Bus. Funding for implementation of these priorities will be identified through scheduling efficiency effort currently underway. The scheduling study will identify efficiencies within the existing route structure and potentially reduce vehicle fleet requirements to operate existing service. These efficiencies can be recycled into service hours associated with the short-term priorities. Figure 7-6 lists the short-term priorities. Figure 7-7 summarizes short-term priorities (as well as quick wins) on a map.

While it likely will not be possible to implement all identified priorities, **The Kaua'i Bus will implement as many improvements as possible within the existing budget.** Additional funding would be required for any remaining service priorities.

Priority	What Is It?	Why Is It Important?	Which Routes?	What Is the Annual Cost? <sup>2</sup>
1. Hourly Weekend Service	Provide hourly bus service on weekends for all routes that currently operate on weekends.	<ul> <li>Outreach activities indicated that more frequent weekend service was a high priority among community members.</li> <li>Later weekend service makes the bus more viable for weekend activities for both residents and visitors.</li> </ul>	<ul> <li>Mainlines: Hanalei (400/500), Kekaha (100/200)</li> <li>Shuttles: Puhi, (Proposed) Līhu'e (70), Kōloa (30), Kapahi (60)</li> </ul>	Operate all weekend service hourly during existing span of service: \$175,000
2. Later Weekend Service	Make the weekend span of service equal to the weekday span of service for all routes.	<ul> <li>Outreach activities indicated that later weekend service was the highest priority among community members.</li> <li>Later weekend service makes the bus more viable for weekend activities for both residents and visitors.</li> </ul>	<ul> <li>Mainlines: Hanalei (400/500), Kekaha (100/200)</li> <li>Shuttles: Puhi, (Proposed) Līhu'e (70), Kōloa (30), Kapahi (60)</li> </ul>	Extend hourly weekend service to operate from 6 a.m 10 p.m.: \$398,000

Figure 7-6	Short-Term	Service	Priorities	for	The	Kaua'i Rus
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 $<sup>^{2}</sup>$  These estimated annual costs will be offset by implementing efficiencies in the current system.



Priority	What Is It?	Why Is It Important?	Which Routes?	What Is the Annual Cost? <sup>2</sup>
3. Later Weekday Service	Provide an additional 1 to 2 later trips for all routes during weekdays.	<ul> <li>Outreach activities indicated that later weekday service was a high priority among community members.</li> <li>Later weekday service allows more workers in the service industry to use transit for commute purposes.</li> <li>Later weekday service allows more residents and visitors to use transit for evening activities, e.g., shopping, restaurants, and visiting friends and family.</li> </ul>	<ul> <li>Mainlines: Hanalei (400/500), Kekaha (100/200)</li> <li>Shuttles: Puhi, (Proposed) Līhu'e (70), Kōloa (30), Kapahi (60)</li> </ul>	Extend weekday service until midnight on all routes: \$328,000
4. More Service for Wailua <sup>3</sup>	Adjust the alignment for the Wailua Mainline route. Increase service for Wailua with a Wailua-Kapa'a shuttle.	<ul> <li>Outreach activities indicated that more service to the Wailua Homesteads and Wailua Houselots was a high priority among community members.</li> <li>See Quick Wins for alignment and stop order changes to the Wailua Mainline.</li> <li>Wailua-Kapa'a Shuttle would use existing Mainline alignment between the Homesteads, Houselots, and Kapa'a.</li> </ul>	<ul> <li>Mainlines: Wailua (800/850)</li> <li>Shuttles: Wailua (Proposed)</li> </ul>	Operate hourly service for Wailua from 6 a.m 10 p.m. daily: \$254,000
5. More Weekday Peak Service	Provide 30-minute service between Kalāheo and Kapa'a during the AM and PM peaks	<ul> <li>Outreach activities indicated that more frequent peak weekday service was a high priority among community members.</li> <li>More frequent peak service reduces crowding on buses.</li> <li>More frequent peak service means schedules that serve more workers' commute patterns.</li> </ul>	<ul> <li>Mainlines: Hanalei (400/500), Kekaha (100/200)</li> </ul>	Add 30-minute service during weekday peak periods on Kekaha and Hanalei Mainlines: \$347,000

<sup>&</sup>lt;sup>3</sup> This increase in service for Wailua would take the form of a Wailua-Kapa'a Shuttle, in line with the long-term vision (Figure 7-9).



Priority	What Is It?	Why Is It Important?	Which Routes?	What Is the Annual Cost? <sup>2</sup>
6. More Weekday Midday Service	Provide 30-minute service between Kalāheo and Kapa'a during the midday (between AM and PM peaks)	<ul> <li>Outreach activities indicated that more frequent midday weekday service was a high priority among community members.</li> </ul>	<ul> <li>Mainlines: Hanalei (400/500), Kekaha (100/200)</li> </ul>	Extend 30-minute weekday service to operate from 5:30 a.m 6 p.m. on weekdays on Kekaha and Hanalei Mainlines: \$347,000
7. More Service for <b>the Līhu'e</b> Shuttle	Provide 30-minute service for the Līhu'e Shuttle on weekdays and weekends	<ul> <li>The improved Līhu'e Shuttle will provide critical connections between mainline routes, employment nodes, and the Līhu'e aiport. As such, it is a key part of the transit experience for residents and visitors alike.</li> </ul>	<ul> <li>Shuttles: Līhu'e (70)</li> </ul>	Provide 30-minute weekday service from 7 a.m. – 6 p.m. for the Līhu'e Shuttle: \$193,000
8. New West Side Shuttle	Create a new shuttle connecting, Hanapepe (including Hanapepe Heights), 'Ele'ele and Köloa.	<ul> <li>Outreach activities indicated that a shuttle service connecting neighborhoods in the west side would be helpful for the community.</li> <li>No shuttles operate west of Kalāheo, which results in gaps in service coverage.</li> <li>A West Side Shuttle allows the mainline route to deviate less frequently from the highway, and in turn increase its average speed and reliability.</li> </ul>	<ul> <li>Shuttles: West Side Shuttle (Proposed)</li> </ul>	Hourly shuttle service to connect Hanapepe and 'Ele'ele with Kōloa from 6 a.m 7 p.m. daily: \$708,000

In addition to the short-term priorities listed above, The Kaua'i Bus should continue seeking partnerships with businesses and resorts to establish shuttles in the North Shore, East Side, and South Shore, including the potential for establishing Business Improvement Districts (BIDs) to raise revenue for local services. Local shuttles in areas that are otherwise difficult to serve may be a key element of these districts. Additionally, airport-to-resort connections and partnerships should continue to be pursued. For more information on these shuttles might look like, refer to "recreation-oriented shuttles" in the Long-Term Vision (below). **Note that partnerships with the business community will not affect the Līhu'e Shuttle, the proposed Puhi Shuttle, the Kapa'a/Kapahi Shuttle, or the proposed West Side Shuttle.** 

More information about BIDs and the schedule efficiency process is available in the Financial Plan (Chapter 13).


### Figure 7-7 Map of Proposed Short-Term Changes





## LONG-TERM VISION

This section presents the long-term vision for The Kaua'i Bus service. The vision includes service and routing improvements to mainline, express, and local shuttle routes. The preferred way forward is a collaborative effort between County of Kaua'i staff, key stakeholders, and the general public. This chapter describes the initial concept, preferred concept, operating plan, and potential phasing for service implementation.

## **Initial Concept**

The initial transit concept, developed in October 2015, provides a vision of what transit service could look like on Kaua'i. This concept was presented to the public at open house meetings and an online survey in order to gather feedback. Figure 7-8 shows the initial transit concept.

Overall, most riders and non-riders expressed approval of the conceptual shuttle design, the areas covered, and the proposed routes. Some outreach participants said they will need to see the operational details (schedules, transfers, etc.) before making a decision, while others said they will need to see how the project will be funded. Other participants gave specific route recommendations for the network. Input received from the public was used to refine the initial concept.

## **Preferred Concept and Operating Plan**

After receiving public input on the initial concept, a preferred concept was developed to include operational detail for enhancing transit service on Kaua'i. Figure 7-9 presents a map of the preferred concept.

The preferred concept includes three mainline routes, four peak express routes, four core local shuttles, and three potential recreation-oriented shuttles. The three recreation-oriented shuttles would be contingent on alternative funding sources and/or partnerships with the business community. All other routes would be planned, operated, and funded by The Kaua'i Bus.

The preferred scenario has an estimated fixed-route operating cost of approximately \$8.4 million per year. By comparison, current service costs roughly \$4.3 million per year. (Both numbers exclude the cost to provide paratransit service.) As a result, new revenue would be needed to support bus service expansion. Figure 7-10 lists the characteristics and costs associated with the preferred scenario.



### Figure 7-8 Initial Transit Long-Term Concept





#### Figure 7-9 Preferred Long-Term Concept





Figure 7-10	Preferred Long-Term	Transit Concept for Kaua	i
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Route	Peak Frequency (Minutes)/ Number of Trips	Off-Peak Frequency (Minutes)	Weekend Frequency (Minutes)	Weekday Service Span	Weekend Service Span	Total Annual Cost		
Mainline, Express, and Local Shuttles								
Hanalei-Līhu'e Peak Express	4 Peak Trips	-	-	4 Peak Trips	-	\$154,000		
West Side-Po'ipū Peak Express	6 Peak Trips	-	-	6 Peak Trips	-	\$81,000		
Poʻipū-Līhuʻe Peak Express	6 Bi-Directional Peak Trips	-	-	6 Bi-Directional Peak Trips	-	\$231,000		
Kekaha-Līhu'e Mainline Express	60	60	60	5 a.m 10 p.m.	5 a.m 10 p.m.	\$1,372,000		
Kalāheo-Kapa'a Mainline	60	60	60	5 a.m 10 p.m.	5 a.m 10 p.m.	\$1,372,000		
Hanalei-Līhu'e Mainline	60	60	60	5 a.m 10 p.m.	5 a.m 10 p.m.	\$1,372,000		
Līhu'e and Puhi Shuttles	60	60	60	6 a.m 10 p.m.	7 a.m 7 p.m.	\$600,000		
Kapahi-Wailua Shuttle	60	60	60	6 a.m 8 p.m.	8 a.m 7 p.m.	\$354,000		
West Side Shuttle	90	90	90	6 a.m 7 p.m.	6 a.m 7 p.m.	\$350,000		
Subtotal						\$5,886,000		
Potential New Recreation-Orient	ted Shuttles (Propos	ed for Future A	Iternative Reve	nue Sources)		·		
East Side Beach Bus	45	45	45	9 a.m 8 p.m.	9 a.m 8 p.m.	\$592,000		
South Shore Shuttle	30	30	30	8 a.m 10 p.m.	8 a.m 10 p.m.	\$377,000		
North Shore Shuttle	30	30	30	8 a.m 8 p.m.	8 a.m 8 p.m.	\$1,292,000		
Kīlauea Lighthouse Shuttle	4 Trips per Hour	4 Trips per Hour	-	10 a.m 4:30 p.m. (Tues - Sat)	-	\$250,000		
Subtotal						\$2,511,000		
Total Cost for Proposed Service								



### North Shore Service

The North Shore would include four routes: enhanced service from Hanalei to Līhu'e, as well as two new shuttle services.

- **Hanalei-Līhu'e Peak Express:** This route will provide four peak directional trips between Hanalei and Līhu'e, with two trips originating in Hanalei in the morning and two trips originating in Līhu'e in the afternoon.
- **Hanalei-Līhu'e Mainline:** This route will provide all-day service between Hanalei and Līhu'e. Service will operate from 5 a.m. to 10 p.m. at 60-minute frequencies.
- North Shore Shuttle: The North Shore Shuttle will provide all-day connections between Kīlauea and the "end of the road" at Kē'ē Beach in Hā'ena State Park. Service will be offered at 30-minute frequencies from 8 a.m. to 8 p.m. Combined with Hanalei-Līhu'e Mainline service, residents in Hanalei, Princeville, and Kīlauea will have service every 30 minutes or better throughout most of the day.
- Kīlauea Lighthouse Shuttle: This shuttle is being designed in conjunction with efforts currently underway by the Kīlauea Point National Wildlife Refuge to reduce the number of vehicles at the refuge. A shuttle will be offered every 10 minutes during times the refuge is open.<sup>4</sup> Four trips per hour will provide service between Kīlauea Town and Kīlauea Point.<sup>5</sup> Two additional trips per hour will be provided via the North Shore Shuttle, allowing visitors to travel seamlessly between Kīlauea Point and Kē'ē Beach.

The two new shuttles would be recreation-oriented shuttles contingent on future alternative revenue sources, which could include partnerships with the business community.

### **East Side Service**

The preferred scenario offers a vastly enhanced level of service in Kapa'a and Līhu'e, as well as four shuttle routes to provide improved circulation within the East Side.

- Līhu'e Shuttle: The Līhu'e Shuttle would provide local connections between Hanama'ulu, Downtown Līhu'e, and the airport. (Implemented as part of short-term plan.)
- **Puhi Shuttle:** The Puhi Shuttle would provide location connections between KCC, the Puhi neighborhood, Kukui Grove, Nawiliwili, and Downtown Līhu'e. (Implemented as part of short-term plan.)

<sup>&</sup>lt;sup>4</sup> As of 2016, the Kīlauea Point National Wildlife Refuge is open from 10 a.m. to 4 p.m. Tuesday through Saturday

<sup>&</sup>lt;sup>5</sup> Site will be confirmed at a future date



- **Kapahi-Wailua Shuttle:** This route would provide local circulation between Kapahi, Wailua Houselots, and Wailua Homesteads every 60 minutes. Extension of service deeper into the Homesteads is contingent on reconstruction of several one-lane bridges. Select trips will also provide service to Kapa'a Middle School during school start and end times.
- Kalāheo-Kapa'a Mainline: This route will provide all-day service between Kalāheo and Kapa'a from 5 a.m. to 10 p.m. While this route will operate every 60 minutes, trip times will be offset with service originating in Kekaha and Hanalei to effectively provide service at 30-minute frequencies between Kalāheo and Kapa'a.
- **East Side Shuttle:** New shuttle service will be offered to enhance accessibility to East Side recreation sites, including Lydgate, Ke'alia Beach, and Anahola Beach Park.

The Līhu'e Shuttle, Puhi Shuttle, and Kapahi-Wailua Shuttle would be core local shuttles funded and operated by The Kaua'i Bus. By contrast, the East Side Shuttle would be recreation-oriented and may be contingent on alternative revenue sources including partnerships with the business community.

### South Shore/West Side Service

Including the Kalāheo-Kapa'a Mainline described above in the East Side section, six routes would serve the South Shore and West Side. Service on the West Side was evaluated at a high level only.

- West Side-Po'ipū Peak Express: This route is oriented to provide service to West Side residents working at resorts along the South Shore in Po'ipū. This route will provide six peak directional trips, with three trips originating in Kalāheo in the morning and three trips originating in Po'ipū in the afternoon. Timed transfers between express trips will be provided in Kalāheo, and trip times on this route will be coordinated with known shift times at South Shore resorts.
- Po'ipū-Līhu'e Peak Express: This route will offer six bi-directional peak trips to serve workers in Po'ipū and Līhu'e. The bi-directional nature of this service means that three morning trips and three afternoon trips will originate in both Po'ipū and Līhu'e.
- Kalāheo-Kapa'a Mainline: As mentioned under the East Side section, this route will provide all-day service between Kalāheo and Kapa'a. Trip times will be offset with service originating in Kekaha and Hanalei to provide 30-minute frequencies along the entire segment of this route.
- **Kekaha**-Līhu'e **Mainline**: This route provides mainline service between Kekaha and Līhu'e. It is proposed to operate every 60 minutes from 5 a.m. to 10 p.m. This route will also offer select trips to PMRF in accordance with shift times.



- West Side Shuttle: This route is proposed for future implementation as funding allows and will provide local circulation for residents of Hanapēpē (including Hanapēpē Heights) and Kōloa. Service would be offered at a 90-minute frequency from 6 a.m. to 7 p.m. <sup>6</sup> This route is expected to serve a large proportion of residents, particularly those working at South Shore resorts and in Kōloa, as well as residents looking for improved connections to mainline service.
- **South Shore Shuttle:** The South Shore Shuttle is designed to provide frequent all-day service between Koloa and Po'ipū. The route will operate every 30 minutes from 8 a.m. to 10 p.m. and will provide enhanced mobility in the South Shore for both residents and visitors, as well as transfers to Koloa mainline service.

The West Side Shuttle would be funded and operated by The Kaua'i Bus as a core local shuttle. By contrast, the South Shore Shuttle will provide both local access and recreation-based access. The Kōloa Shuttle already exists as a county operated service. The long range vision sees this service both increasing in frequency and span of service to better serve the recreational market. These improvements will be contingent on alternative revenue sources including partnerships with the business community.

### Shuttle Marketing and Branding

As shuttle service are implemented on the island, the recreation-oriented East Side Shuttle, South Shore Shuttle, North Shore Shuttle, and Kīlauea Lighthouse Shuttle should be branded and marketed separately from The Kaua'i Bus. Specialized branding will assist with ridership growth and enhance the legibility of these services for both residents and visitors. At the same time the fare system and information about these Shuttles should be integrated with the island wide service to provide all transit users with a more seamless experience.

<sup>&</sup>lt;sup>6</sup> More frequent service could be offered with additional funding

# 8 PARATRANSIT SERVICE PLAN

This chapter presents The Kaua'i Bus' near-term plan for paratransit service. It begins by outlining key challenges associated with providing paratransit service on Kaua'i as well as the impacts of these challenges. It then explains the goal of the paratransit plan, the strategies aimed at achieving that goal, and the expected outcomes of these strategies. Ultimately, this plan provides a path forward to ensure the sustainability and high quality of The Kaua'i Bus paratransit.

Additional information and analysis about existing paratransit services is available in Appendix G.





### **KEY CHALLENGES**

Paratransit on Kaua'i faces four key challenges: (1) high costs relative to fixed-route, (2) generous age eligibility requirements, (3) difficult-to-access fixed-route stops, and (4) low fares relative to fixed-route .



- High costs relative to fixed-route. Paratransit costs four times as much as fixed-route service to provide on average. More importantly, the marginal cost of new paratransit trips is roughly the same as the average cost per passenger, but the marginal cost of new fixed-route trips is very low. In other words—the cost of each additional rider on paratransit increases total operating costs. By contrast, each additional rider on fixed-route transit increases efficiency and reduces the overall operating cost per passenger.
- Generous age eligibility requirements. Many current paratransit riders are eligible for the service based
  only on their age: more than half of paratransit trips currently serve seniors who are not ADA certified under the
  Americans with Disabilities Act (ADA). Several of these trips could be served by mainline or shuttle service.
- **Fixed-route bus stops can be difficult to access.** Population and employment densities on Kaua'i are low, and many parts of the island are largely car-oriented. This makes it challenging to provide fixed-route service stops that are easy to access on foot or with a mobility device. Indeed, more than half of paratransit riders indicate that they could ride The Kaua'i Bus fixed-route service but are unable to reach existing stops.
- **Low fares relative to fixed-route.** Paratransit fares are lower than fixed-route fares. As a result, there is no financial incentive for paratransit-eligible riders to use fixed-route service—even when they are able to.



## **IMPACTS OF THE CHALLENGES**

As a result of the four challenges above, The Kaua'i Bus paratransit has seen a 21% increase in demand over the past six years, from 68,000 trips to 82,000 trips annually. This is higher than several similar agencies across the United States.<sup>1</sup> Ultimately, the increase in demand for paratransit has put a strain on existing resources: riders increasingly experience issues with on-time performance and other service quality issues due to paratransit operating above capacity.

## GOAL

As a result of the challenges outlined above, this plan lays out a goal for providing paratransit service on Kaua'i that balances the need to serve those who require paratransit while ensuring that quality does not deteriorate as a result.

# Goal of the Paratransit Plan: To meet the mobility needs of seniors and people with disabilities, while ensuring the long-term sustainability of paratransit.

### **STRATEGIES**

Four strategies will help The Kaua'i Bus to accomplish its goal for paratransit: (1) create fare incentives to use fixed-route service, (2) change age eligibility requirements, (3) establish trip limits for age-eligible riders, and (4) require in-person assessments for ADA eligibility.



<sup>&</sup>lt;sup>1</sup> Other agencies included in the paratransit peer review were: Longview, WA; Hawai'i Island; Walla Walla, WA; Glenwood Springs, CO; Fairbanks, AK; Grants Pass, OR; Crescent City, CA; and Tillamook, OR. It should be noted that all agencies had lower paratransit demands than Kaua'i by a relatively wide margin.



### Fare Incentives to Use Fixed-Route Service

Currently, paratransit-eligible riders who face the choice between fixed-route and paratransit have an incentive to use paratransit—even if they are able to take fixed-route service. This is a problem because The Kaua'i Bus wants to encourage fixed-route service for people who are able to take it to leave sufficient paratransit capacity for those who need it most.

Because of the current impact of the fare incentives, this plan proposes an increase in one-way paratransit fares to \$2 for ADA-eligible riders and \$4 for riders who are only eligible for paratransit based on their age. The expected outcome of this change is to incentivize people to take fixed-route service when they are able to do so.

To offset the burden of the increase in fares, this plan also proposes a 50% reduction in the price of a fixed-route monthly pass for seniors and ADA-eligible riders using fixed-route transit services. This change should result in an overall reduction in out-of-pocket transit costs for the majority of seniors and ADA-eligible riders, and a simultaneous reduction in paratransit demand. Chapter 9 provides more information on the discount fixed-route pass.

## **Changes to Age Eligibility**

The current age eligibility threshold for using paratransit is 60 years of age. Few transit agencies in the US offer paratransit eligibility solely on age. Of the agencies who do offer age only eligibility they have higher age eligibility thresholds, Far more common is that agencies only provide paratransit service for ADA-eligible riders. This plan proposes two new age eligibility thresholds:

- Age eligibility at 65. At 65, riders become eligible for paratransit based on their age. This means they can take up to 10 paratransit trips per month with a fare of \$4 per one-way trip. This is not considered to be ADA paratransit service.
- **ADA eligibility at 85.** At 85, riders become automatically ADA-eligible for paratransit. This means they can take an unlimited number of paratransit trips per month with a fare of \$2 per one-way trip. This change also reduces the administrative burden of recertifying ADA eligibility for a large segment of riders for whom the process is difficult, seems unnecessary, and often causes fear for the riders that they are about to lose eligibility.

The next subsection provides more information on trip limits for paratransit riders who are not ADA-eligible.

## **Trip Limits for Age Eligible Riders**

There are currently no paratransit trip limits for any paratransit rider. Trip limits for ADA eligible riders are prohibited by federal regulation, but no such regulations apply to riders eligible based only on their age. In order to reduce demand for



paratransit among riders who are able to use fixed-route service, this plan proposes a monthly 10-trip limit on paratransit trips for riders aged 65 to 84 who are not ADA-eligible. Exceptions for this limit include work trips and dialysis trips.

### **In-Person Assessments**

In order to determine ADA eligibility for paratransit, this plan proposes a combination of paper applications and inperson interviews, with functional assessments for a subset of applicants. This combination approach would replace the current paper-only eligibility process.

A functional assessment is:

In an in-person functional assessment, applicants' eligibility is based on their ability to perform a number of tasks that simulate the steps required for a bus ride. This usually consists of an initial interview, followed by an indoor or outdoor (or combination) walk or roll up and down curbs and curb cuts, observation of applicants' ability to walk up to approximately <sup>3</sup>/<sub>4</sub> mile, a gait and balance test, ability to cross at a signalized and unsignalized intersection, and ability to perform a variety of other tasks, such as handling change or transit information.

This plan considered two approaches to undertaking functional assessments:

- 1. Establish an arrangement with the eligibility assessment contractor in O'ahu in which a staff person from that vendor conducts bi-weekly assessments in Kaua'i over either one or two days, depending on application volumes.
- 2. Contract local rehabilitation clinics—which employ individuals with relevant training and professional backgrounds—to conduct the assessments. This is the approach used on Hawai'i Island.

The second approach provides four advantages:

- 1. **Greater speed and flexibility.** Relying on someone who is off-island reduces the flexibility of being able to conduct assessments more or less frequently as application volumes fluctuate. This would also impact the ability to meet the time requirements for completion of applications within 21 days.
- 2. **Lower costs.** An O'ahu vendor may charge a higher rate than a local professional, in addition to the burden of travel expenses.
- 3. **More local familiarity.** A locally-trained professional may have more credibility than one from O'ahu. Community members may be more likely to trust a resident who is familiar with local conditions.
- 4. **Better contract terms.** The second approach allows The Kaua'i Bus to be less dependent on a contract of another agency (e.g., from O'ahu), which may have different needs and/or unfavorable terms.



As such, this plan proposes the second approach to conducting functional assessments. A case study from Hawai'i County is provided below, as well as the proposed implementation process for in-person assessments.

## Case Study: Hawai'i County

#### Hele-On Kako'o Paratransit Eligibility Program

The Big Island's eligibility program was implemented a month before ADA paratransit service was initiated in July 2016. The agency conducted two rounds of solicitations because the first Request for Proposals was so broad that vendors submitted unrealistically high bids.

Approximately 80 to 90% of applicants are required to come in for an assessment, with the balance of determinations based on the application and medical verification. The assessments have been contracted out to two physical therapy clinics—one on each side of the island—and they are conducted by either physical therapists or occupational therapists. The agency pays \$150 per completed assessment, including coordinating transportation to the assessment, completing all the paperwork and client contact, in addition to the actual conduct of the in-person interview and functional assessment.

For applicants with cognitive disabilities, the contractors employ the Functional Assessment of Cognitive Transit Skills (FACTS) test. FACTS is the only assessment tool developed and validated to specifically predict the abilities of persons with cognitive disabilities to use fixed-route transit. The test was developed in 1996 by Access paratransit in Pittsburgh and can be relatively easily administered by staff without a professional background. This is usually only required in a small percentage of applications received.

While the contractors make recommendations on the applicants' eligibility, the final decision is made by the transit agency staff person responsible for overseeing the contracts. During the first year of assessments, more than 100 were completed, and the vast majority received unconditional eligibility, with just a few denials and no conditional eligibility.

It is anticipated that the outcomes for Kaua'i would be closer to the best practice models in other eligibility programs, in which a quarter to a third of applicants receive conditional eligibility, and that the quality of the information provided on those applicants' conditions is sufficient to determine if there are certain trips that can be made on fixed route, whereas others will require paratransit.





#### Implementation of In-Person Assessments

If The Kaua'i Bus chooses to contract with local rehabilitation clinics for in-person eligibility, an implementation plan will need to be developed that will include the following steps:

- 1. **Finalize the design of the eligibility model**, including items such as the percentage of applicants who are likely to be invited for an in-person assessment versus those who are determined via paper application/medical verification/telephone interview, whether a medical verification will be required, whether the application should be submitted ahead of the assessment or brought to the assessment (or whether there is even a need for an application form), and other details.
- 2. **Determine the class of professionals who will be conducting the assessments**, such as those with a rehabilitation background or individuals who have experience in the disability community and other skills, but are not necessarily physical therapists.
- 3. **Identify the potential entities that could serve as eligibility contractors**, and reach out to them to explain how the program would work, including sharing the Paratransit Eligibility Manual that was developed by Easter Seals Project ACTION.
- 4. **Develop the scope of work and performance measures** and conduct a solicitation process to identify and select a contractor.
- 5. Train contractors and implement the program.
- 6. Monitor contractor performance and implement improvements as needed.

To maximize the effectiveness of the in-person eligibility program, dispatchers will also need to be trained on how to handle trip requests from registrants who are determined conditionally eligible. It is anticipated that due to other policy recommendations intended to incentivize use of fixed route transit and disincentivize the use of non-ADA based paratransit, there will likely be a significant increase in ADA paratransit applications. However, the requirement for in-person assessments may moderate the level of demand as individuals who have been riding paratransit but could actually use fixed-route service are less likely to apply for ADA certification.



## **EXPECTED OUTCOMES**

The proposed strategies in the Paratransit Plan are expected to result in three broad outcomes, which in turn work to address the goal established earlier in the plan.

# Goal of the Paratransit Plan: To meet the needs of seniors and people with disabilities, while ensuring the long-term sustainability of paratransit.

- **Outcome 1: More fixed-route riders.** This plan will result in more seniors and people with disabilities riding fixed-route service when they are able to. This is because of higher paratransit fares, stricter eligibility rules, more accurate eligibility process, and trip limits for riders without ADA eligibility. At the same time, the cost of using fixed-route service for these riders would decrease by 50%.
- **Outcome 2: Lower share of paratransit costs.** The share of paratransit costs will rise less quickly than its current rate. Population growth suggests that paratransit costs will not *decrease* outright in the future. However they will not increase disproportionately fast, which is currently the case.
- **Outcome 3: Better quality paratransit.** As a result of lower demand on paratransit relative to fixed-route, it will be possible to provide high quality paratransit service to those who need it most—with fewer challenges associated with on-time performance and capacity.

# **9 CAPITAL AND INFRASTRUCTURE PLAN**

Capital<sup>1</sup> and infrastructure—like vehicles, stops, and software—are necessary components of transit provision. Without them, transit cannot exist. This chapter outlines short-term capital needs for The Kaua'i Bus, and flags longer-term needs for further analysis. It includes four parts:

- Bus stops. This section provides guidance<sup>2</sup> on bus stop design, and identifies places where additional stops are needed, or where existing stops require improvements.
- **Vehicle Fleet.** This section estimates the vehicle needs associated with (1) current service, (2) the scheduling efficiency effort—including "quick wins", (3) short-term priorities, and (4) the long-term vision.
- **Facilities and additional infrastructure improvements.** This section explains where new transit facilities, such as transfer centers and satellite baseyards, may be necessary to support the changes listed in the Fixed-Route Operations Plan (Chapter 7).
- **Technology.** The technology touches on technological infrastructure, including GTFS, security cameras, smartphone-based fare collection, and transit planning software.



<sup>&</sup>lt;sup>1</sup> In this context, capital refers to capital goods, such vehicles, buildings, stops, and software. For more information on *funding* (which is sometimes referred to as "capital" in other contexts—not in the SRTP) see **Chapter 13: Financial Plan.** 

<sup>&</sup>lt;sup>2</sup> Appendix H provides additional information on (1) pedestrian access to transit, (2) stop considerations for rural highways, and (3) seamless connections between modes, e.g., walking, biking, transit, and cars.



## **BUS STOPS**

New bus stops and stop improvements are important for the success of the Fixed-Route Operations Plan (Chapter 7). Bus stops that are well designed and conveniently located help to make transit useful and pleasant. For example, bus shelters provide cover from rain, and signalized crosswalks allow people to reach their stop safely. In places where no stops exist, additional stops can open up transit to new markets.

The Kaua'i Bus faces two key challenges associated with bus stops: comfort, and stops on highways.

- Comfort. According to a 2015 online survey, "comfort while waiting for bus" ranked lowest in terms of customer satisfaction. As such, comfort for people waiting for the bus should be a top priority when implementing stops or stop improvements. To this effect, The Kaua'i Bus has made considerable progress by installing several new bus shelters. But, the effort needs to be expanded to provide thee amenities at more bus stops.
- Stops on highways. Highway stops are difficult to implement for two reasons. First, highway rights-of-way fall within state jurisdiction instead of county jurisdiction. This means special coordination with the Hawai'i Department of Transportation (HDOT) is necessary. Second, vehicles travel at high speeds on highways relative to local streets. As such, highway stops warrant special crossing treatments, such as traffic signals, rectangular rapid flashing beacons, roundabouts designed to prioritize pedestrian crossing, etc. The purpose of these treatments is to slow vehicle traffic to the point that pedestrians can safely cross the highway and that drivers can more easily see pedestrians crossing and have more time to react. Appendix H offers examples of how other areas in the US and internationally have addressed this issue, particularly in rural areas.

With these considerations in mind, this section outlines (1) the stops that The Kaua'i Bus currently serves, (2) stops needing improvements or places where new stops are necessary, and (3) design guidelines for bus stops on Kaua'i.

## **Existing Bus Stops**

This section explains how many stops The Kaua 'i Bus serves, what infrastructure they possess, and how they are maintained. It sets the stage for bus stop improvements and design guidelines in subsequent sections.

The following bullets summarize information about The Kaua'i Bus' current stops.

- The Kaua'i Bus currently serves 121 stops.
- 34 stops have shelters. An additional 29 shelters will be installed by the end of 2018.
- Roughly three-quarters of all stops have print schedules posted. Schedules are updated, as needed, by The Kaua'i Bus staff.



 Bus stop maintenance (cleaning, repairs, paint, etc.) is not consistent across all stops. Stops located on Kaua'i County parks are maintained by Parks & Recreation personnel. Stops located on private property are largely maintained by the property owner. All other stops are maintained in different ways by different County departments (typically a combination of Public Works and Parks & Recreation).

### **Stops and Stop Improvements Needed**

This section lists new stops and stop improvements that are needed as part of the SRTP. These are important for three reasons:

- **Fill in gaps in transit coverage.** New stops allow existing transit routes to serve more people and destinations.
- **Make routes more symmetrical** (*i.e.*, stops on both sides). New stops across from existing stops mean passengers can embark and disembark at the same location. This makes the transit network more useful, and easier to understand.
- **Improve the experience of riders waiting for a bus.** Infrastructure like bus shelters and benches make the waiting experience more comfortable for riders.

As a corollary, new stops and stop improvements complement the Fixed-Route Operations Plan (Chapter 7).

Figure 9-1 lists the proposed bus stops and bus stop improvements. Figure 9-2 through Figure 9-7 show photos of the stops referenced in the table.

Certain changes require coordination with the Hawai'i Department of Transportation (HDOT). In particular, stops planned along highways should have the following characteristics:

- Space for a pull-out or an off-street location for passenger boarding and alighting.
- A safe means for people to cross the highway to access the stop, *e.g.*, a crosswalk and rectangular rapid flashing beacon (RRFB).

Appendix H provides additional information on pedestrian access to bus stops and safe crossing treatments.



Stop	Area	Requires HDOT Coordination?	What Is the Change?	Why Is this Important?	Routes	Photo
Kuhio Highway at Ke'alia Beach (Mauka)	East Side	Yes	Add a shelter to the southbound stop across from Ke'alia Beach.	<ul> <li>Improve waiting conditions for riders accessing the bus.</li> </ul>	<ul> <li>Hanalei–Līhu'e Mainline (400)</li> </ul>	Figure 9-2
Kuhio Hwy at Oxford Street (Makai)	Līhu'e	Yes	Widen the sidewalk at the stop.	<ul> <li>Narrow clearance for pedestrians.</li> <li>Cramped conditions for people waiting for the bus.</li> </ul>	<ul> <li>Līhu'e Shuttle (70)</li> <li>Līhu'e–Hanalei Mainline (500)</li> <li>Kekaha– Līhu'e Mainline (100)</li> <li>Wailua–Līhu'e Mainline (850)</li> </ul>	Figure 9-3
Kuhio Highway at Kapuna Road and Wailapa Road/Puu Pane Road	North Shore	Yes	Add two sets of stops (two in either direction) at Wailapa Road/Puu Pane Road and at Kapuna Road. Note: Pedestrian safety is a particular concern at these locations, given high traffic speeds and lack of marked pedestrian crossings	<ul> <li>Increase transit coverage between Moloa'a and Kīlauea.</li> </ul>	<ul> <li>Līhu'e–Hanalei Mainline (500)</li> <li>Hanalei–Līhu'e Mainline (400)</li> </ul>	Figure 9-4, Figure 9-5
Kuhio Highway at Princeville Airport	North Shore	Yes	Add two on-highway stops (one in either direction) on the Kuhio Highway at Princeville Airport Note: Pedestrian safety is a concern at this locations, given high traffic speeds and lack of marked pedestrian crossings	<ul> <li>Provide transit access to Princeville Airport (including employees)</li> </ul>	<ul> <li>Līhu'e–Hanalei Mainline (500)</li> <li>Hanalei–Līhu'e Mainline (400)</li> </ul>	N/A

### Figure 9-1 Summary of Proposed Bus Stops and Bus Stop Improvements



Stop	Area	Requires HDOT Coordination?	What Is the Change?	Why Is this Important?	Routes	Photo
Kaumuali'i Highway at 'Ōma'o Road	South Shore	Yes	Add two on-highway stops (one in either direction) on the Kaumuali'i Highway at 'Ōma'o Rd. <sup>3</sup> Note: Additional infrastructure improvements may be desired to improve transit pedestrian accessibility. This is a location where pedestrian crossing safety is a major consideration and will require careful evaluation of options before proceeding to install stops at this location.	<ul> <li>Improve transit access for 'Öma'o.</li> </ul>	<ul> <li>Kekaha– Līhu'e Mainline (100)</li> <li>Proposed West Side Shuttle</li> </ul>	Figure 9-6
Kuhio Highway at Kapa'a Safeway (northbound)	East Side	Yes	One new northbound stop. Note: Finding a way to pull the bus off the road in this location will be a challenge.	<ul> <li>Improve access to Safeway, Foodland Waipouli, and other retail destinations.</li> </ul>	<ul> <li>Kapahi Shuttle (60)</li> </ul>	Figure 9-7
Kukui'ula Shopping Village	South Shore	No	Two new stops (one in either direction) on Lāwa <sup>•</sup> i Road by the southern entrance of Kukui'ula Shopping Village.	<ul> <li>Improve access to retail destinations at Kukui'ula.</li> </ul>	<ul> <li>Köloa Shuttle (30)</li> </ul>	Figure 9-8
Eiwa Street (Līhu'e Civic Center)	Līhu'e	No	Add site activation amenities, ( <i>e.g.</i> , food vendors or a pop-up market) and pedestrian amenities ( <i>e.g.</i> , better lighting or other street furniture).	<ul> <li>Improve safety at Eiwa Street stop.<sup>4</sup></li> <li>Provide amenities to the public and people waiting for the bus.</li> </ul>	<ul> <li>Līhu'e Shuttle (70)</li> <li>Proposed Puhi Shuttle</li> <li>All Mainline routes</li> </ul>	Figure 9-9

<sup>&</sup>lt;sup>3</sup> 'Ōma 'o Road should be investigated in more detail as part of the County's corridor management planning process, with particular attention to performance for automobiles, transit, and bicycles.

<sup>&</sup>lt;sup>4</sup> At engagement activities in July 2017, community members pointed out that the Eiwa Street stop feels isolated and unsafe despite its important status as a key transfer point in the bus network. This is due to its location in a large surface parking lot that is deserted nights and weekends with no street-level activity in the vicinity.



Stop	Area	Requires HDOT Coordination?	What Is the Change?	Why Is this Important?	Routes	Photo
Puhi neighborhood stops	Līhu'e	No	Add stops in Puhi neighborhood for the proposed Puhi Shuttle Note: An assessment will be necessary to determine the precise location of each stop.	<ul> <li>Improve transit coverage in the Puhi neighborhood, and connections to Downtown Līhu'e and KCC.</li> </ul>	<ul> <li>Proposed Puhi Shuttle</li> </ul>	N/A
Poʻipū and Kōloa local stops	South Shore	No	Add westbound and northbound stops for the proposed alignment changes to the Koloa Shuttle Note: An assessment will be necessary to determine the precise location of each stop.	<ul> <li>Provide service in both directions for the improved Koloa Shuttle alignment.</li> </ul>	<ul> <li>Kõloa Shuttle (30)</li> </ul>	N/A
Kapahi neighborhood stops	East Side	No	Add westbound stops that mirror eastbound stops for the Kapahi Shuttle Note: An assessment will be necessary to determine the precise location of each stop.	<ul> <li>Provide service in both directions for the Kapahi Shuttle.</li> </ul>	<ul> <li>Kapahi Shuttle (60)</li> </ul>	N/A



Figure 9-2 Ke'alia Mauka (East Side), looking south (left) and north (right)



Source: Nelson\Nygaard



Figure 9-3 Mauka (left) and makai (right) bus shelters at Walmart and Wilcox Hospital (Līhu'e)



Figure 9-4 Kapuna Road facing north (left) and south (right) from Kuhio Highway (North Shore)



Source: Nelson\Nygaard



Figure 9-5 Wailapa Road/Puu Pane Road facing west (left) and east (right) from Kuhio Highway (North Shore)



Figure 9-6 Kaumuali'i Highway facing north (left) and south (right) at 'Ōma'o Road (South Shore)



Source: Nelson\Nygaard



Figure 9-7 Kuhio Highway facing south (left) and north (right) at Kapa'a Safeway (East Side)







Source: Nelson\Nygaard



Figure 9-9 Eiwa Street (Civic Center) bus stop and approach facing south



### Kaua'i Bus Stop Design Guidelines

The Kaua'i County bus stop design guidelines provide suggested guidelines on the placement and design of bus-related facilities and amenities, including considerations for bus stop locations, bus turnouts, and signs, benches, and shelters at bus stops. This chapter summarizes the guidance from Kaua'i County and the State of Hawai'i.

### Accessibility for People with Disabilities

New stop proposals should be evaluated by The Kaua'i Bus staff and if approved, upgraded to Americans with Disabilities Act (ADA) accessibility standards. ADA accessibility standards require that each bus stop include a landing pad with a minimum width of 60 inches and minimum depth of 96 inches. Bus stops should also connect to adjacent sidewalks or pedestrian paths. Many transit systems go beyond ADA minimums and provide a landing pad for the rear door of the bus. The addition of landing pads, connecting sidewalks, and amenities such as seating and shelters enhance the customer experience.

### **Bus Stop Location**

The Kaua'i County bus stop design guidelines recommend the following regarding bus stop locations:

- Stops should be spaced approximately 1,300 feet apart in residential and commercial areas.
- In rural areas, spacing of stops should be based on factors such as curb space, existing stop locations, passenger convenience and safety, and destinations.
- Bus stop placement is contingent on many factors; far-side bus stops (at the far side of an intersection) are encouraged.
- Roadways and intersections with bus stops should be designed to accommodate the size, weight, and turning movements of buses.
- Bus stop zone design varies depending on placement. Mid-block bus stop zones should be a minimum of 150 feet.

### **Bus Turnouts**

Bus turnouts are recessed bus stop zones that enable traffic to move around a bus when passengers are boarding and alighting. Bus turnouts must be sited carefully to provide adequate sight distance for bus operators to safely re-renter the traffic stream while minimizing schedule delay and increased transit passenger travel time. Bus turnouts should be considered at selected locations where passenger volumes and the flow of traffic could be significantly impeded by stopped transit buses. Bus turnouts may also be needed at locations where traffic speed exceeds 40 miles per hour.



The Kaua'i bus stop guidelines recommend turnouts for streets without curbs and gutters. The guidelines also suggest following TCRP recommendations to provide turnouts in places where: traffic in the curb lane exceeds 250 vehicles in the peak hour, traffic speed is greater than 40 mph, passenger volumes are higher than 20 to 40 boardings per hour, peak period dwell time exceeds 30 seconds per bus, layovers are expected, or when sight distances justify a turnout. Bus turnouts along State highways should be constructed consistent with HDOT standards. Per HDOT regulation, stops planned along highways will require space for a pull-out or will need to be accommodated at an off-street location.

The minimum recommended width for bus turnouts is 10 feet to provide sufficient space to enable bus operators to properly maneuver the bus and avoid conflict with adjacent traffic. Finally, the 2013 Statewide Pedestrian Master Plan and Hawaii Pedestrian Toolbox outlined best practices for rural area bus stops dimensions. Figure 9-10 illustrates recommended rural bus stop dimensions.



Figure 9-10 Rural Bus Stop Preferred Best Practices

Source: HDOT, Pedestrian Access to Transit, https://hidot.hawaii.gov/highways/files/2013/07/Pedest-Tbox-Toolbox\_6-Pedestrian-Access-to-Transit.pdf



### **Bus Stop Amenities**

Bus stops amenities enhance the customer experience by increasing comfort and perceived safety while reducing perceived waiting times. The provision of bus stop amenities typically varies among urban, suburban, and rural areas. According to the online survey conducted as part of the Transit Feasibility Study, "comfort while waiting for bus" ranked lowest in terms of customer satisfaction. Kaua'i bus stops currently have a range of passenger amenities, as shown in the images in Figure 9-11.

In urban and suburban areas, it is more common to provide a shelter, bench, and trash receptacle, along with the bus sign and passenger waiting area. In rural areas, bus stops may be simply a bus sign, designated curb space, or widened shoulder. The best practice is to provide a bus stop design that maximizes convenience, safety, and security for passengers.





Source: Nelson\Nygaard

### Lighting

Though not the responsibility of the transit agency, adequate street lighting is an important consideration for designing and locating bus stops. Where possible, transit stops should be located within 30 feet of an overhead light source. A minimum distance of 15 feet between a shelter and light pole is recommended. Lighting should be oriented so that shelters do not cast a shadow on waiting passengers. Ideally, human-scaled lighting should be installed to create a pedestrianfriendly environment. An option worth exploring given the abundance of sunlight on Kaua'i is to consider installation of solar lighting at bus shelters and potentially at stops without shelters. These can be low-level lights that do not direct light



skyward to avoid interference with shearwater flight paths and can be installed to be active only when people are present. Any lighting must comply with conservation agreements to protect sea birds.

Midblock stops and rural areas have unique lighting considerations. Midblock crossings at bus stops should be well lit to enhance safety. In rural areas, efforts should be made to maximize safety and security of bus stops through proper lighting. When utility services are unavailable, solar lighting should be considered. Solar lighting has the additional benefits of reducing operating costs and maintaining functionality during blackout periods.



## **VEHICLE FLEET**

This section is a general outline of transit fleet requirements over the life of the SRTP. It presents information on the current fleet, as well as fleet needs associated with the changes proposed in the Fixed-Route Operations Plan (Chapter 7).

## **Current Fleet**

The Kaua'i Bus currently operates 55 transit vehicles, all of which are smaller than typical 40-foot buses. Of these, 19 are buses with a seating capacity of 30 or more passengers, 21 are small buses with a seating capacity between 16 and 23 passengers, and 15 are vans with a seating capacity between 14 and 19 passengers. All vehicles are capable of carrying wheelchairs. Figure 9-12 summarizes The Kaua'i Bus' current transit fleet.

Туре	Number of Vehicles	Passenger Capacity	Wheelchair Capacity	Purpose
Bus (30+ passengers)	19	31 to 33 passengers	2 wheelchairs	Mainline, Shuttle
Bus (<30 passengers)	21	16 to 23 passengers	2 to 5 wheelchairs	Mainline (off-peak), Shuttle, Paratransit
Van (<30 passengers)	15	14 to 19 passengers	4 to 5 wheelchairs	Paratransit

Figure 9-12 Current Fleet Summary Table

## Fleet Needs

Figure 9-13 summarizes the fleet needs associated with existing service, quick wins (as well as the scheduling efficiency analysis<sup>5</sup>), short-term priorities, and the long-term vision. Key points include:

- The Kaua'i Bus currently uses **28 buses** for its fixed-route service. However, of these, nine vehicles are used for a combination of paratransit and fixed-route service.
- The scheduling efficiency analysis and quick wins will reduce the number of necessary vehicles. Based on a preliminary analysis, the number of vehicles required to operating the existing level of fixed-route service will be between 15 and 18 vehicles.
- The first four Short-Term Priorities require no new vehicles.

<sup>&</sup>lt;sup>5</sup> The quick wins and scheduling efficiency analysis are grouped together because the quick win changes are incorporated into the scheduling efficiency analysis.



- Short-Term Priorities 5 and 6—which would increase mainline service between Kalāheo and Kapa'a—require three new vehicles.
- Service every 30 minutes for the Līhu'e Shuttle requires one additional vehicle.
- A new West Side Shuttle requires one additional vehicle.
- The long-term vision requires between 20 and 22 total vehicles, plus any recreation-oriented shuttles. Therefore, it may require additional vehicles depending on changes in paratransit demand and funding for recreation-oriented shuttles.

In large part, the degree to which new vehicles will be necessary hinge on two overarching factors: (1) the results of the scheduling efficiency analysis, and (2) changes in paratransit demand<sup>6</sup>.

Change	What Is It?	Vehicles Needed
Existing Service	The Kaua'i Bus currently requires 28 vehicles for fixed-route peak service. Due to the way vehicles are currently allocated to operators, 28 vehicles are needed for fixed-route service over the course of a weekday, of which nine vehicles provide a combination of fixed-route and paratransit service.	28 9 provide both fixed- route and paratransit
Quick Wins (and Scheduling Efficiency Analysis)	The purpose of the quick wins and scheduling efficiency analysis are to provide the same amount of service more efficiently. They will therefore <b>reduce fixed-route vehicle needs</b> .	15-18 total
Short-Term Priorities	<ol> <li>Hourly weekend service</li> <li>Later weekend service</li> <li>Later weekday service</li> <li>More service for the Wailua Mainline</li> </ol>	No new vehicles
	<ul><li>5. More weekday peak mainline service</li><li>6. More weekday midday mainline service</li></ul>	+3
	7. More service for the Līhu'e Shuttle	+1
	8. New West Side Shuttle	+1

#### Figure 9-13 Fleet Needs Summary Table

<sup>6</sup> The Kaua'i Bus' current fleet includes 40 vehicles that are suitable for mainline and shuttle service. (Typically a fleet should have 20% of its vehicles available as spares in case of breakdowns or other unexpected occurrences.) Therefore, increasing the size of the fleet may not be necessary—even for the combined long-term vision and short-term priorities—depending on how demand for paratransit changes over the next five years. For more information on paratransit changes, see Chapter 8.



Change	What Is It?	Vehicles Needed
Long-Term Vision	Mainline, express, and local shuttles	20-22 total
	Recreation-oriented shuttles	+5

### **Recreation-Oriented Shuttle Vehicles**

For the recreation-oriented shuttles identified in the long-term vision (East Side Beach Bus, South Shore Shuttle, and North Shore Shuttle) a great deal depends on the degree to which the private sector wishes to participate. For example, if one of the resort associations and local business groups decide to establish a Business Improvement District to operate one of the shuttles, that may or may not require The Kaua'i Bus to acquire more vehicles for the service.

Resort area shuttles should be fun and unique in order to stand out from The Kaua'i Bus' standard vehicles. For example, trolley-style vehicles are used in Kona and Waikiki to provide shuttle service for tourists (see Figure 9-15). At a minimum, shuttle vehicles should be wrapped with images to convey the different service (see Figure 9-16).







Figure 9-15 Kona Trolley (Left) and Waikiki Trolley (Right)



Source: Explore the Big Island and Aloha Hawaii

Figure 9-16 Okinawa Beach Shuttle



Source: Kariyushi



### **Case Study: Downtowner Shuttle (multiple locations)**

Downtowner, Inc. partners with cities and local business sponsors to provide localized shuttle services using six-passenger electric Gem Carts custom manufactured by Polaris Industries, and drivers who are trained as tour guides. They resemble regular electric cars with windows, doors and air conditioning that make for a more comfortable experience. Gem Carts are equipped with two iPad screens on which riders can view videos and information about the city, businesses, events, and announcements.

Currently, Downtowner has operating contracts in several U.S. cities, including Tampa in Florida and Manhattan Beach in southern California. Downtowner provides localized shuttle service in small downtown service areas as a strategy to alleviate traffic and parking congestion in popular destinations. Services are typically free for customers and are funded through advertising and sponsorships. In Tampa, FL, Downtowner service began operating in October 2016 in a 2.3-square mile service area in downtown Tampa. The service is available fare-free to customers, with funding provided by an agreement with the Downtown Tampa Partnership. Passengers hail a ride through a mobile app. The first year operating budget was \$1.0 million. The business plan anticipates that the service will pay for itself through sponsorships and advertising. After seven months of operations the shuttles have provided 100,000 rides. The Manhattan Beach Downtowner began operating in Feburary 2017 as a demonstration project. Similar to Tampa, service is free to passengers and only within a small downtown service area.

Figure 9-17 Downtowner Shuttle Vehicles in Tampa, FL (left) and Manhattan Beach, CA (right)



Source: Tampa Bay Times (left), City of Manhattan Beach (right)



### FACILITIES AND ADDITIONAL INFRASTRUCTURE

This section outlines existing transit facilities available to The Kaua'i Bus, and provides preliminary information on other facilities that would benefit transit service on the island, as identified by the County of Kaua'i, HDOT, and this planning process:

- Potential satellite baseyard facilities
- The planned Civic Center Transit Services Building
- The proposed Kapa'a Triangle Transfer Facility
- Improvements to the Wailua Homesteads one-lane bridges.

### **Existing Facilities**

All facilities available to The Kaua'i Bus—administrative, operational, maintenance, customer service, and vehicle lots—are currently located at its base at 3220 Hoolako Street in Līhu'e. The buildings on the site include the Administrative Building and the Repair Shop Building. The vehicle lot is large enough to accommodate the existing fleet. Regarding existing facilities, items of note include:

- Given that the scheduling efficiency analysis and short-term priorities do not affect fleet requirements, additional transit vehicle parking lot space will not be necessary in the short term. However, additional space may be required to implement the long-term vision, depending on which short-term priorities carry over, and the vehicle needs associated with recreation-oriented shuttles.
- Regardless, satellite baseyards with storage space for transit vehicles may be beneficial to the system in order to make scheduling and operations more efficient. See the Satellite Facilities section for more information, below.
- Unlike lot space, expansion may be warranted for vehicle maintenance facilities. An analysis should be
  undertaken to determine how much additional space is needed for vehicle repairs, and whether expansion is
  feasible. If not feasible, alternate locations and strategies for maintenance (such as moving heavy repair to another
  site) should be evaluated as it appears the current maintenance facility is inadequate to meet the needs of the
  present day service.


# **Satellite Baseyard Facilities**

Strategically located satellite baseyard facilities can improve operating efficiency by reducing the amount of deadhead time a bus spends between the yard and the beginning or end of a route. This is especially true for routes that begin in Kekaha and Hanalei. In these cases, deadhead from the Līhu'e base can be nearly one hour.

In the immediate term, no new baseyard facilities are needed. However, when resources become available to increase peak mainline service, The Kaua'i Bus should investigate whether baseyards in Hanalei or Kekaha (or both) are feasible.

# **Civic Center Transit Services Building**

Customer-oriented transit services (*e.g.*, lost and found, inquiries, pass purchasing) are currently located at the Kaua'i Bus baseyard at 3220 Hoolako Street in Līhu'e. This site is not easy to reach by transit, and therefore poses a barrier to riders.

The Līhu'e Town Core Mobility and Revitalization project, funded by a federal Transportation Investment Generating Economic Recovery (TIGER) grant, includes the renovation of the Piikoi building (former Big Save) at the Līhu'e Civic Center for customer-oriented transit services. This new location adjacent to the Eiwa Street bus hub will be easier to access by riders. It will also provide public restrooms and a location for paratransit eligibility assessments. For more information on paratransit, see Chapter 8.

# Kapa'a Triangle Transfer Facility

The skate park at Kapa'a Town Park is currently the de facto transfer facility in Kapa'a. While this site is suitable from a space perspective, it is not ideal from a route planning perspective. Mainline routes must deviate one-quarter mile from the Kuhio Highway in order to reach the stop. A transfer center closer to the highway would have four benefits:

- Allow riders to more easily transfer between routes with a better waiting environment.
- Move transfer activity closer to the commercial core of Kapa'a.
- Reduce the deviations necessary for mainline routes, resulting in faster, more reliable service.
- Serve as a space for layover and recovery.

A potential transfer facility in Kapa'a could be located in the space currently occupied by a triangular public space at the intersection of Kuhio Highway and Ulu Street (near Ohia Street). This new facility would replace ultimately replace the transfer location at the skate park at Kapa'a Town Park.

Items to further investigate include:



- The placement of bus stops
- Pedestrian crossings
- Potential signal priority at nearby intersections to facilitate bus movement

Figure 9-18 Kuhio Highway looking south (left) and north (right) at Ulu Street (Kapa'a)



Source: Nelson\Nygaard

# Wailua Homesteads One-Lane Bridges

The County plans to improve one-lane bridges in Wailua Homesteads to accommodate heavier vehicles, including school and transit buses. Once finished, these bridges will be able to accommodate fixed-route bus service, which will provide an opportunity to expand transit coverage.

Figure 9-19 One lane bridges in Wailua Homesteads



Source: Nelson\Nygaard



# **TECHNOLOGY**

This section explains four key technologies that The Kaua'i Bus should consider pursuing in the short term: (1) the General Transit Feed Specification, (2) security cameras, (3) smartphone-based fare collection, and (4) transit planning-related software. Each is explained elsewhere in other chapters, with the exception of security cameras.

# **General Transit Feed Specification**

The General Transit Feed Specification (GTFS) is a common format for public transportation. It is part of the information infrastructure of most transit agencies, and allows platforms like Google Maps to show transit information to users. This in turn allows users to plan transit trips from third-party applications and websites. The Kaua'i Bus should compile and make its GTFS data available as soon as possible. Additional information on GTFS is available in Chapter 10.

# **Security Cameras**

Security camera systems on transit vehicles are increasingly used among U.S. transit agencies to enhance the safety and security of passengers, drivers, and transit facilities.

The addition of cameras to transit vehicles can provide a greater sense of security for drivers and passengers, assist law enforcement, and reduce liability complaints. Buses tend to have two to six cameras on the interior and one to six cameras installed on the exterior.<sup>7</sup> Typically, cameras are also equipped with a microphone to record audio near the bus driver and fare box. Types of equipment include DVR, wireless cellular modems, audio recording equipment, and wireless radios. Video and audio can be stored in a recorder on the bus and be available remotely. When Wi-Fi is available on buses, camera systems can allow real-time video streaming as well as remote downloads to view footage. As the use of cameras in transit vehicles becomes more widespread, many newer vehicles now come pre-equipped with surveillance equipment.

# Figure 9-20 Security cameras at the front of the bus on O'ahu



Source: Jeff Widener, The Honolulu Advertiser

<sup>&</sup>lt;sup>7</sup> TCRP Synthesis 123 Onboard Camera Applications for Buses (2016)



Video and audio recording can provide an extra level of security and can be very effective in addressing a number of issues that can occur:

- Resolve customer complaints. When there is a complaint, video and audio recordings captured by cameras provide a robust tool for addressing customer concerns and can provide the information needed to take appropriate action.
- Accident investigations. Exterior facing cameras can provide an objective view of what occurred leading up to an accident involving a bus. Onboard video systems usually are equipped to provide

Figure 9-21 Onboard Camera on MBTA Bus



Source: Panasonic

additional data beyond the visual and audio including indicating when the driver applied brakes and whether turn signals were deployed. Depending on camera placement, the actions of the driver are visible and can determine where the driver was looking prior to the incident.

- **Insurance claims**. When a customer files a complaint about being injured on a bus or at a transit facility, the video and audio can show exactly what happened assuring that only legitimate claims are processed.
- Assist law enforcement. If an accident occurs in front of a bus but doesn't involve the bus, a forward facing camera can assist police investigating the accident as it is possible the accident was captured by the camera. Likewise, if a suspect is known or thought to have boarded a bus, onboard cameras can assist police in identifying and possibly apprehending the individual. Cameras at transit facilities can assist in the same manner.
- **Identify inappropriate behavior**. Video can be used to identify individuals who are engaging in inappropriate behavior. Many systems have been able to apprehend and seek restitution from individuals.
- Training.
- Passenger counting.

The use of video and audio in bus operator disciplinary matters has been controversial for some agencies. For example, when TheBus in Honolulu installed cameras on their fleet in 2010 they faced initial pushback from the union supporting drivers—TheBus employees were concerned that audio and video information could be used against them. To address this issue, transit systems have entered into MOU's with the unions representing their drivers that video will only be used for disciplinary actions when an event such as a customer complaint or accident occurs triggering the viewing of the video. On the other hand, some transit systems do regularly use random viewing of video for training purposes, clearly stating that



no record of disciplinary action will be made as a result of these random checks. Common policies relating to surveillance of drivers include: no surveillance/monitoring of bus operators; only random/glancing views of bus operators; and continuous view of bus operators but no "mining" for discipline reasons.

Installing camera systems on transit vehicles is not cheap. Installing onboard surveillance camera systems on 302 buses for the city and county of Honolulu cost was a multimillion-dollar contract.<sup>8</sup> A recent camera project for Golden Gate Transit cost \$900,000 to replace 80 obsolete camera systems, an average of \$11,250 per bus.<sup>9</sup> Some agencies leverage security grants to help fund surveillance programs.

### What Needs to Occur for Implementation?

- Onboard and transit facility video and recording equipment have become indispensable to many transit systems. As with any hardware and software procurement, it is essential to plan for proper training of individuals, establish protocols, and incorporate long-term updates and replacement in capital plans.
- Unions representing bus drivers, or operators themselves, should be involved early on in the process of
  implementing cameras on transit vehicles and at transit facilities to ensure buy-in. At some transit agencies,
  operators have expressed concern regarding privacy. To address this issue, transit systems have entered into
  MOUs with the unions representing their drivers and created policies that govern the surveillance of operators.

## Smartphone-Based Fare Collection

Riders expect simple payment methods for transit passes. Unfortunately, fare collection infrastructure is typically costly to implement. As such, a smartphone-based payment system may be a relatively easy way to allow riders to pay for transit electronically, without needing expensive devices for reading farecards. More information on smartphone-based fare collection is available in Chapter 11.

# **Transit Planning Software**

Transit planning is critical to providing high-quality transit service. In addition to skills and expertise, transit planning requires certain software applications. Specifically, ArcGIS (or an equivalent GIS application), Adobe Illustrator, and

<sup>&</sup>lt;sup>8</sup> <u>https://www.rrmediagroup.com/News/NewsDetails/NewsID/8849</u>

<sup>&</sup>lt;sup>9</sup> http://www.masstransitmag.com/news/12354034/golden-gate-transit-buses-have-new-security-cameras



Adobe InDesign are nearly universal tools used by transit planners. Figure 9-22 provides more information on each of these software programs.

|--|

Software	What Does It Do?	Does the County Have It?	How Important Is It?
ESRI ArcGIS	ArcGIS is mapping software. It allows planners to map streets, highways, routes, stops, demographic data, and any other information relevant to transit provision. In particular, ArcGIS lets planners:	Yes. The Kaua'i Bus can simply ask the Kaua'i County IT department for access to ArcGIS.	High importance Note: Training or new staff would be needed to use ArcGIS.
	<ul> <li>Produce turn-by-turn route maps for operators, as well as a system map and route maps for riders</li> </ul>		
	<ul> <li>Identify the impacts of route changes by overlaying transit information and demographic information</li> </ul>		
Adobe Illustrator	Illustrator is graphic design software. It allows planners to generate more attractive maps than ArcGIS is capable of producing. It also allows planners to produce visually compelling graphics and charts.	No. The Kaua'i Bus would have to purchase its own license. The minimum cost of an Adobe Creative Cloud license is roughly \$50 per month.	Medium importance Note: Training or new staff would be needed to use Illustrator.
Adobe InDesign	InDesign is publishing software. It allows planners to produce graphics-rich rider guides, schedules, documents, posters, presentations, information boards, advertisements, etc.	No. However, Adobe InDesign is included with an Adobe Creative Cloud license (see Adobe Illustrator, above).	Medium importance Note: Training or new staff would be needed to use InDesign.

For further detail on staff needs for transit planning, including GIS, design, and communications, see Chapter 12.

# **10 MARKETING PLAN**

Service improvements and changes must go hand-in-hand with marketing approaches if The Kaua'i Bus is to be an integral part of the island's social, employment, tourist, and mobility network. Successful marketing means The Kaua'i Bus must work closely with the diverse group of organizations who are already marketing the region and may be ideal partners in supporting transit use.

This plan addresses the marketing-related challenges facing The Kaua'i Bus by defining goals and outlining strategies to achieve them. Additional information and analysis about existing marketing practices is available in Appendix F.

# **APPROACH**

The Marketing Plan includes four steps. The first two steps are in large part found in Appendix F. Steps 3 and 4 form the basis of this chapter.

- 1. **Assess current marketing activities.** This effort found that marketing has been a low priority among staff given the attention and resources needed for day-to-day transit operations. Existing marketing activities are presented at the beginning of each strategy in this plan.
- 2. **Determine challenges facing riders and non-riders.** The Marketing Plan lays out the challenges that existing and potential riders experience with The Kaua'i Bus, including its branding and information materials. These challenges emerged from responses to surveys, focus group discussions, and meetings with staff (including drivers and dispatchers).
- 3. **Establish transit markets and marketing goals.** Based on the preliminary findings and feedback, the marketing team defined a series of markets and goals for serving those markets.
- 4. **Develop transit marketing strategies.** This plan presents a strategic marketing approach that synthesizes opportunities and provides strategies to address The Kaua'i Bus' marketing goals.



# **MARKETS FOR TRANSIT**

Six primary markets are identified as crucial to The Kaua'i Bus' efforts to provide information about services, enhance informational tools, and attract new riders. The strategies presented in this plan address many of these markets, but the purpose of identifying them is to provide a checklist to The Kaua'i Bus, suggesting that each market should be considered in future information and outreach efforts. These markets are as follows:



# **Existing Users of The Kaua'i Bus**

In one sense, existing users are a captive audience. The improvements recommended as part of the service plan will enhance the experience for people who depend on The Kaua'i Bus service, and should encourage more use of the system. Even though many existing riders are comfortable with the system and knowledgeable about how it works (due to their experience with the system), even current riders have limited access to information, particularly about the routes they do not use often. In addition, current users need to be better informed of policies on fixed-route, shuttle, and paratransit service.



### Commuters

Commuters represent an important market for The Kaua'i Bus, with work and school trips representing about 30% to 45% of users (depending on the data source). Implementing routes that are more direct and improving frequencies should help to support a larger commuter market. Currently, some routes are indirect—40% of riders transfer to make a trip—and existing routes and shuttles are not designed to compete with private automobiles. Certainly persons without other mobility options are the most likely to consider transit, but persons with jobs served by The Kaua'i Bus routes can be encouraged to use transit if The Kaua'i Bus provides good information, offers routes that meet rider needs, and considers incentives for using transit, including potential employer-focused incentives.





# **High School and Middle School Students**

Young residents represent one of the most promising markets for fixed-route transit. Young residents who become comfortable with The Kaua'i Bus and regard it positively will not only consider riding, but also will understand its value for the community and support it in the future.



## Tourists

With beaches, mountains and attractions, Kaua'i is an important tourist destination. Little has been done in terms of marketing to cultivate transit use among tourists, who typically rent cars on the island. Through partnerships, opportunities exist to market the upgraded services to visitors both before they arrive on the island and during their visit as a convenient tourist-focused alternative to driving.



## **Older Adults and People with Disabilities**

Many of The Kaua'i Bus' current users are older adults and people with disabilities. While many ADA-eligible riders use paratransit service, with proposed improvements to frequency and updates to shuttles and fixed-route services, some of these individuals may prefer the flexibility fixed-route transit offers. Improvements in facilities, bus stop amenities, accessible stop locations and equipment, and passenger information can help The Kaua'i Bus to better serve these markets.



## **Employers**

One of the best means for providing quality public information about The Kaua'i Bus, based on input from project stakeholders, is to build partnerships with major employers, including the resort industry and visitor attractions, that are served by transit. The Kaua'i Bus is encouraged to meet with major businesses and secure commitments for their participation in promoting The Kaua'i Bus. For example, The Kaua'i Bus could undertake a pilot program with an interested employer that would subsidize pass sales for employees and may qualify the employer for a tax incentive in doing so.



# **MARKETING GOALS**

Through the analysis of existing assets, underserved markets, and opportunities for improvement, four general goals were developed for marketing The Kaua'i Bus: (1) develop awareness of The Kaua'i Bus, (2) offer simplified and comprehensive information, (3) focus on increasing ridership, and (4) develop partnerships for ongoing and future support.



# 1. Develop Awareness of The Kaua'i Bus

One of the best means for providing quality public information about The Kaua'i Bus, based on input from project stakeholders, is to build partnerships with major employers, including the resort industry and visitor attractions, that are served by transit. The Kaua'i Bus is encouraged to meet with major businesses and secure commitments for their participation in promoting The Kaua'i Bus. For example, The Kaua'i Bus could undertake a pilot program with an interested employer that would subsidize pass sales for employees and may qualify the employer for a tax incentive in doing so.



# 2. Offer Simplified and Comprehensive Information

The Kaua'i Bus offers printed information that was described as "confusing" or "complicated" by participants in focus groups. Maps are "hard to read" or "unclear" and schedules make sense "if you know the area well." The website was deemed "not very useful." Bus operators and customer service staff (on the phone) provide helpful guidance and information, but given The Kaua'i Bus' lean staff, a critical goal is to develop the tools and resources necessary to foster independence and self-reliance, reduce inconsistencies in how information is provided, and simplify the experience of using The Kaua'i Bus. Achieving this goal benefits existing riders as well as new riders.





# 3. Focus on Increasing Ridership

Some might question the value of targeting ridership increases on routes that are sometimes overcrowded, but ultimately The Kaua'i Bus is judged on how efficient an operation it is, and higher ridership per hour is a measure of productivity.

The Kaua'i Bus has successfully captured much of the transit-dependent market, but other markets do not use the service to their potential. To increase market share, the approach is to focus on strategies that improve service, provide incentives (through cost savings or time savings when one travels around the island on a bus), and upgrade the product though investment in passenger amenities and information tools, reducing any stigma around using the bus, and elevating the overall experience so that The Kaua'i Bus is genuinely easy, enjoyable, and reliable.



## 4. Develop Partnerships for Ongoing and Future Support

The Kaua'i Bus' experience collaborating with local jurisdictions, employers, human service agencies, tourist attractions, and other important destinations on the island is limited. Successful transit projects and initiatives are rarely shouldered by a transit agency alone. Instead, transit agencies enter into partnerships: with community colleges for pass incentive programs, major employers for specialized services to meet the needs of employees, or visitors bureaus to promote the amenities offered in a community. Among the island's largest employers are hotels (e.g., the Grand Hyatt and Marriott Kaua'i Beach Club) and medical centers (e.g., Wilcox Memorial Hospital and Kaua'i Veterans Memorial Hospital), as well as others. If the Kaua'i Bus is to lead the conversation with regard to transit design and transit investment—and wants to be seen as innovator in developing mobility solutions for the island—a key responsibility of staff should be to seek and enter into collaborative agreements and marketing partnerships with institutions and organizations. Ultimately, these partnerships may lead to increased ridership, funding opportunities, affordable marketing, and better public support for investment in The Kaua'i Bus.



# **MARKETING STRATEGIES**

This section outlines five strategies aimed at improving marketing for The Kaua'i Bus. The strategies are based on input from community outreach, stakeholder interviews, and focus groups—as well as general best practices in transit marketing.

- 1. **Update maps and printed materials.** Printed materials—whether in print or posted online as PDFs—are the primary way that customers currently access transit information. These are difficult to understand, and a key barrier to attracting new riders. They are also a source of frustration among existing riders. Updated maps and schedules are a critical first step in better overall transit marketing for The Kaua'i Bus.
- 2. Develop a new, updated comprehensive website for The Kaua'i Bus; develop a social media presence. The website is the first location that many riders and prospective riders attempt to access transit information. The current website does not provide information in an intuitive way, and is another source of both confusion and frustration among riders and prospective riders. Similarly, The Kaua'i Bus does not take advantage of social media to market itself and provide service updates. An online strategy is therefore critical.
- 3. **Update The Kaua'i Bus brand.** The Kaua'i Bus brand is neither well-understood, nor widely used. Both riders and non-riders find it more safari-oriented than transit- or Kaua'i-oriented and don't think it is sufficiently "aloha." At the same time, people do have generally positive associations with The Kaua'i Bus. This strategy seeks to build on this, by updating the brand.
- 4. **Improve signage and other passenger bus stop amenities.** This strategy focuses on continuing the efforts to establish improved signage and passenger information at bus stops and on buses.
- 5. **Implement a marketing campaign for The Kaua'i Bus.** In order to increase visibility among residents and visitors alike, The Kaua'i Bus needs to show itself off using marketing campaigns.



### 1. Update Maps and Printed Materials

Transit agencies have traditionally made their printed materials—route maps, schedules, service information—the embodiment of their marketing approach. This has changed in the last five years as websites and mobile app platforms have replaced the information delivery tools for transit riders, but The Kaua'i Bus' users indicated they rely on the printed schedules, and staff reported they frequently print and distribute printed schedules as the supplies are depleted.

### **Existing Conditions**

A transit system that gets numerous infrequent riders (e.g., visitors to the island) requires investment in printed information about the service. The Kaua'i Bus has had significant challenges in preparing materials that are easy to understand and that can make an individual comfortable that she or he has all of the necessary information tools to use the transit system with confidence.

The Kaua'i Bus prints only individual black-and-white schedules designed in Microsoft Excel. The Kaua'i Bus has no route-by-route maps—no black-and-white printed maps are available on the route schedules to provide a reference where the route travels. The Kaua'i Bus also has no systemwide printed map.

In the focus groups with riders and non-riders, participants lamented the lack of a useful map of The Kaua'i Bus routes



Existing System Map for Kaua'i Bus System

Source: County of Kaua 'i

Figure 10-1

and considered examples from other places. Nearly all participants said that color-coded maps with routes that match schedule colors would be useful. While some participants liked the simplicity of a small schematic map that was shown as an example, most indicated a preference for a topographic-based map detailing routes, bus stops and all major landmarks. It was noted that people unfamiliar with the system or the island would benefit from a map that could be used not only for navigating transit, but also for navigating the island in general, with the majority of non-riders saying that more information is better than less: that detail is reassuring and ambiguity can be "stressful."

The current Paratransit Rider's Guide is a small folded brochure with a nonstandard version of the Kaua'i Bus logo, printed in a small typeface that is not easy for people with limited vision to read.



### Recommendations

The Marketing Plan provides seven recommendations to update maps and other printed materials for The Kaua'i Bus. The overarching purpose of these recommendations is to make them both more engaging and easier to understand.

Recommendation	What Is It?	Why Is It Important?
Develop an overlay system map and a schematic <sup>1</sup> system map	<ul> <li>Create an overlay style system map—to scale—that shows the following items:         <ul> <li>All routes (differentiated by route type)</li> <li>Major landmarks, <i>e.g.</i>, hotels, shopping centers, beaches, trailheads, schools, public services, and other points of interest</li> <li>Inset maps for areas with multiple routes</li> </ul> </li> <li>Create a schematic (subway style) system map—not to scale—that shows the following items:         <ul> <li>All routes at a glance</li> <li>The order of stops for each route</li> <li>Where routes connect</li> </ul> </li> </ul>	System maps are the <b>most important tool for riders</b> to understand how routes work together. <b>Overlay system maps</b> allow people who are less familiar with the system to orient transit with the existing street network as well as points of interest. This is the most important system map. <b>Schematic system maps</b> (subway style maps) allow riders to view the system at a glance, and know where stops and key transfer points are located. Both types of maps should be available online, in print materials, and when possible at stops.
Create full color, timepoint-based schedules	<ul> <li>Create schedules for routes that provide bus arrival time at timepoints only</li> <li>Use colors for routes that are consistent with other print materials and bus stop signage</li> <li>Represent bus trips as rows instead of columns</li> </ul>	Timepoint-based schedules provide two advantages over schedules that list every stop. (1) They are <b>more compact</b> . As a result, all schedules can fit on the rider guide (on a single poster-sized page). (2) Timepoints make it easier to schedule routes, and in turn <b>improve on-time</b> <b>performance</b> . Their downside is that riders must calculate arrival times for stops between timepoints. However, with GTFS data, arrival times are interpolated for intermediate stops.

Figure 10-2 Recommendations for Strategy 1

<sup>&</sup>lt;sup>1</sup> A draft schematic map was developed as part of the SRTP (Figure 10-3).



Recommendation	What Is It?	Why Is It Important?
Create a full color rider guide	<ul> <li>Develop a print rider guide brochure that includes the following information:         <ul> <li>Overlay system map</li> <li>Schematic system map</li> <li>Route schedules (with clear differentiation between weekday, weekend, and holiday service)</li> <li>Fare information<sup>2</sup></li> <li>Telephone and web resources</li> <li>Information for people with disabilities</li> <li>Rules or guidelines</li> <li>Holidays</li> <li>Title VI information</li> </ul> </li> </ul>	Clear and comprehensive information must be available to riders of The Kaua'i Bus. <b>A rider guide provides a summary of all information needed to ride the bus</b> . Note that special brochures geared to students or specific employee groups may be appropriate in addition to an overall rider guide. Also, rider guide information should be available to view in display cases at bus stops.
Create a how-to guide for experiencing Kaua'i without a car Develop a full	<ul> <li>Create a brochure in collaboration with tourism organizations that outlines opportunities for exploring the island without a car</li> <li>The brochure should be visually engaging and include similar information to the rider guide—with more detail on recreation-oriented activities, hotels, and getting to/from the airport.</li> <li>Update the existing Paratransit Rider's Guide to make it mean visually engaging and enclude similar information activities and enclude activities.</li> </ul>	Tourism is a key industry on Kaua'i, and visitors should have the option to use transit to get around the island instead of renting a car. When visitors choose transit, they reduce congestion, benefit the environment, and save money. A guide to visiting Kaua'i without a car is a critical part of encouraging tourists to use transit. A paratransit rider guide explains how paratransit works
color paratransit rider guide	<ul> <li>Make the design complementary to the rider guide described above</li> </ul>	and who is eligible. It is a necessary component of transit information materials.

<sup>&</sup>lt;sup>2</sup> In addition to fare pricing, this section must include information on where different types of passes can be purchased. In addition to networks



Recommendation	What Is It?	Why Is It Important?
Stock guides at key locations	<ul> <li>Develop a plan to distribute, stock, and update rider guides at key locations, including:         <ul> <li>Locations where transit passes are sold</li> <li>Chamber of Commerce</li> <li>Medical facilities</li> <li>Visitor centers</li> <li>Schools</li> <li>Hotels</li> <li>City offices</li> <li>Businesses</li> <li>Displays at town centers, tourist areas, grocery stores, and human services agencies</li> </ul> </li> <li>Make rider guides available online</li> </ul>	Rider guides are useful only when people are able to access them. This means they must be available at a variety of locations, as well as only. Note that keeping displays up-to-date can be a large job shared by a variety of staff members, or done via a contract with a regional distribution company.
Market existing transit pass vendor locations and expand network of pass vendors	<ul> <li>Make it clear on both print and online materials where transit passes can be purchased</li> <li>Work to increase the number of locations where transit passes are available for purchase</li> </ul>	The experience of <b>purchasing transit passes should be</b> <b>easy to understand and convenient</b> . Promoting existing pass vendors and increasing the number of vendors are two ways to make it easier to acquire transit passes.







A conceptual system map developed for this SRTP could be used in combination with a more comprehensive yet-to-be developed overlay map.



# 2. Develop a New, Updated Comprehensive Website for The Kaua'i Bus; Develop a Social Media Presence

Transit agencies of all sizes include a great deal of information about their services on the internet: maps, service information and alerts, service changes, special event information, etc. Transit agencies typically choose a clear and succinct web page URL to maintain consistency with posted signage and reduce confusion. Increasingly, transit agencies have also expanded their web presence onto social media websites such as Facebook or Twitter where more direct communication to existing and potential riders is possible. When Facebook or Twitter users "like" or "follow" the transit agency's page or account, these users receive real-time notice of any updates that the agency makes, whether regarding special offers or service alerts. Other agencies allow riders to sign up for email newsletters to stay informed of any service changes or other news.

### **Existing Conditions**

The Kaua'i Bus website is a very simple webpage on the County's site. The landing page provides a general overview of the system and a contact information section which personalizes the link, indicating inquiries should be addressed to Celia Wooton-Mahikoa, the Executive on Transportation, and includes her photo, a mailing address, telephone number, fax number, and a general email address. The other web pages provide information about the bus, including a new GIS-based electronic map on a Bing platform, several downloadable information tools, and basic information about the services offered by The Kaua'i Bus.

The route information available is effectively the electronic version of the simple black-and-white photocopied brochures used currently by The Kaua'i Bus (Figure 10-4). Additional downloads include accessibility and paratransit service information. The website does not include a color system map in any printable formats. All information is provided only in English.



The current website for The Kaua'i Bus can be unreliable. Attempts to view the system map sometimes results in an error message as the online GIS files are queried. Navigation buttons are shown on the left

Source: The Kaua'i Bus



When functioning properly the site provides an electronic map of all bus routes. Source: The Kaua'i Bus



E'	<b>F</b>	<b>F</b>	<b>O</b>	<b>C</b> . I I I.
Figure 10-4	Example of	Existing	Unline	Schedule

LIHUE - HANALEI	11	M-F	M-F	M-F	M-F	M-F	M-F	M-F	M-F	M-F	M-F	M-F	M-F	M-F	M-F	M-F	M-F	M-F	M-F	M-F
MAINLINE	÷.,	500	500	500	500	500	500	SS/Hol	500	SS/Hot	500	500	500	500	SS/Hol	500	500	500	600	500
KCC PERFORMING ARTS CENTER		5:25	5:55	6:25	7:25	8:25	9:25	10:25	11:25	12:25	1:25	2:25	3:25	3:55	4:25	5:25	6:25	7:25	8:25	9:25
& KAUMUALII HWY - AVC KCC		5:25	5:55	6:25	7:25	8:25	9:25	10:25	11:25	12:25	1:25	2:25	3:25	3:55	4:25	5:25	6:25	7:25	8:25	9:25
6. KUKUI GROVE - FIRST HWN BANK		5:30	6:00	6:30	7:30	8:30	9:30	10:30	11:30	12:30	1:30	2:30	3:30	4:00	4:30	5:30	6:30	7:30	8:30	9:30
LINUE CIVIC CENTER		5:38	6:08	6:38	7:38	8:38	9:38	10:38	11:38	12:38	1:38	2:38	3:38	4:08	4:38	5:38	6:38	7:38	8:38	9:38
& WAL-MART		5:40	6:10	6:40	7:40	8:40	9:40	10:40	11:40	12:40	1:40	2:40	3:40	4:10	4:40	5:40	6:40	7:40	8:40	9:40
SUN VILLAGE		OIC	O/C	OIC	O/C	O/C	O/C	O/C	OIC	OIC	O/C	O/C	O/C	O/C	OIC	OVC	O/C	O/C	OIC	O/C
& WILCOX HOSPITAL FOYER		5:42	6:12	6:42	7:42	8:42	9:42	10:42	11:42	12:42	1:42	2:42	3:42	4:12	4:42	5:42	6:42	7:42	8:42	9:42
LAUKONA RD		5:45	6:15	6:45	7:45	8:45	9:45	10:45	11:45	12:45	1:45	2:45	3:45	4:15	4:45	5:45	6:45	7:45	8:45	9:45
C. PETER RAYNO PARK		5:46	6:16	6:46	7:46	8:46	9:46	10:46	11:46	12:46	1:46	2:46	3:46	4:16	4:46	5:46	6:46	7:46	8:46	9:46
COURTYARDS AT WAIPOULI		5:53	6:23	6:53	7:53	8:53	9:53	10:53	11:53	12:53	1:53	2:53	3:53	4:23	4:53	5:53	6:53	7:53	8:53	9:53
COCONUT MARKETPLACE		5:54	6:24	6:54	7:54	8:54	9:54	10:54	11:54	12:54	1:54	2:54	3:54	4:24	4:54	5:54	6:54	7:54	8:54	9:54
& KAPAA MISSIONARY CHURCH		5:56	6:26	6:56	7:56	8:56	9:56	10:56	11:56	12:56	1:56	2:56	3:56	4:26	4:56	5:56	6:56	7:56	8:56	9:56
& KAPAA HONGWANJI MISSION		5:59	6:29	6:59	7:59	8:59	9:59	10:59	11:59	12:59	1:59	2:59	3:59	4:29	4:59	5:59	6:59	7:59	8:59	9:59
PONO KAI	100	6:00	6:30	7:00	8:00	9:00	10:00	11:00	12:00	1:00	2:00	3:00	4:00	4:30	5:00	6:00	7:00	8:00	9:00	10:00
KAPAA SKATE PARK	1	6:03	6:33	7:03	8:03	9:03	10:03	11:03	12:03	1:03	2:03	3:03	4:03	4:33	5:03	6:03	7:03	8:03	9:03	10:03
KAPAA LIBRARY		6:06	6:36	7:06	8:06	9:06	10:06	11:06	12:06	1:06	2:06	3:06	4:06	4:36	5:06	6:06	7:06	8:06	9:06	10:06
KAPAA N/C - KUHIO HWY		6:07	6:37	7:07	8:07	9:07	10:07	11:07	12:07	1:07	2:07	3:07	4:07	4:37	5:07	6:07	7:07	8:07	9:07	10:07
& FRIENDSHIP HOUSE		OIC	O/C	OIC	O/C	O/C	O/C	O/C	OIC	OIC	OIC	O/C	O/C	OIC	OIC	OVC	O/C	O/C	OIC	O/C
KEALIA BEACH		6:11	6:41	7:11	8:11	9:11	10:11	11:11	12:11	1:11	2:11	3:11	4:11	4:41	5:11	6:11	7:11	8:11	9:11	10:11
KUKUIHALE RD	1.11	6:15	6:45	7:15	8:15	9:15	10:15	11:15	12:15	1:15	2:15	3:15	4:15	4:45	5:15	6:15	7:15	8:15	9:15	10:15
ANAHOLA POST OFFICE		6:16	6:46	7:16	8:16	9:16	10:16	11:16	12:16	1:16	2:16	3:16	4:16	4:46	5:16	6:16	7:16	8:16	9:16	10:16
MOLOAA FRUIT STAND		6:20	6:50	7:20	8:20	9:20	10:20	11:20	12:20	1:20	2:20	3:20	4:20	4:50	5:20	6:20	7:20	8:20	9:20	10:20
KILAUEA FOOD MART		6:29	6:59	7:29	8:29	9:29	10:29	11:29	12:29	1:29	2:29	3:29	4:29	4:59	5:29	6:29	7:29	8:29	9:29	10:29
6. KILAUEA GYM	and a	6:32	7:02	7:32	8:32	9:32	10:32	11:32	12:32	1:32	2:32	3:32	4:32	5:02	5:32	6:32	7:32	8:32	9:32	10:32
ANAINA HOU (O/C)	-	OIC	O/C	OIC	O/C	O/C	O/C	O/C	OIC	OIC	O/C	O/C	O/C	OIC	OIC	OVC	O/C	O/C	OIC	O/C
PRINCEVILLE SHOPPING CTR		6:40	7:10	7:40	8:40	9:40	10:40	11:40	12:40	1:40	2:40	3:40	4:40	5:10	5:40	6:40	7:40	8:40	9:40	10:40
HARAGUCHI FARM		OIC	O/C	OIC	O/C	O/C	O/C	O/C	O/C	OIC	OIC	O/C	O/C	OIC	OIC	OVC	O/C	Drep Only	Drop Only	Drep Only
& HANALEI POST OFFICE		6:47	7:17	7:47	8:47	9:47	10:47	11:47	12:47	1:47	2:47	3:47	4:47	5:17	5:47	6:47	7:47	Drep Only	Drop Only	Drep Only
& OLD HANALEI COURTHOUSE	-	6:48	7:18	7:48	8:48	9:48	10:48	11:48	12:48	1:48	2:48	3:48	4:48	5:18	5:48	6:48	7:48	Drep Only	Drop Only	Drep Only
CL OLD THEFTEL DODITINGOUL	_	0.10	1.10	1.10	0.40	0.10	10.10	11.10	14.14	1.10		0.40	1.10	0.10	0.10	0.40	1.14	Didy Gilly	Direk only	Dide diay

Source: The Kaua'i Bus

The site design is simple and clean, if not enticing, and navigation of the site is relatively straightforward. Although the county's navigation buttons are on the top of the page, bus information navigation buttons are along the left side of the window as shown in this image. For most pages it is necessary to scroll down to read all of the information; paratransit information downloads are at the bottom of the Paratransit Overview page.

In the focus group with non-riders, many participants were disappointed with the website. Some participants who had used the website were unable to get the information they needed because they found the resources limited or confusing. Comments from existing riders were equally negative, with participants indicating the website map is too cluttered, that is it is hard differentiate routes and that the graphics are "overwhelming."

Many transit agency marketing directors will comment that the quality of a transit agency's web site affects riders' or potential riders' perception of the level of service they can expect from the agency. Web users accustomed to bold, bright,



and concise social media services (*e.g.*, Twitter) now expect the same of websites, including those of transit providers. Successful transit agency websites, therefore, are those that include lots of graphics and concise, clear, and targeted information about the service.



Comparing the website home page for The Kaua'i Bus with a system of a similar size in Denton County, Texas (DCTA). The DCTA website has navigation buttons across the top, includes a trip planner function, clear graphics, consistent colors and up-to-date alerts about system changes.

### Recommendations

This section presents 11 recommendations to develop an effective web presence for The Kaua 'i Bus, including on social media. This will allow the agency to connect with key markets, as well as commuters and tourists who are accustomed to social media.



### Figure 10-5 Recommendations for Strategy 2

Recommendation	What Is It?	Why Is It Important?
Implement General Transit Feed Specifications (GTFS) data	<ul> <li>GTFS data makes transit information accessible to Google Maps as well as other transit websites and applications.</li> </ul>	By implementing GTFS data, riders can plan trips through their preferred application—whether from a computer or a smartphone. Increasingly, this is the preferred way to plan trips among riders. Furthermore, when GTFS data is not available, riders may
		incorrectly assume that transit service is not available.
Reorganize and continually update website content	<ul> <li>Make the visual design simple, attractive, and consistent</li> <li>Make important information clear, readily available, and seamless: service alerts, system map, route schedules and maps, fares, and paratransit information</li> </ul>	The website is the most important place for many if not most riders to access information about <b>The Kaua'i Bus</b> . It is also likely the first place that visitors will see if they wish to experience Kaua'i without a car. Therefore, it is critical that information on the website be clear, seamless, and oriented toward the rider.
	<ul> <li>In general, information that is more important should be placed higher and closer to the left than information that is less important</li> </ul>	A well-designed website also reduces phone inquiries, which are costly to address.
Remove superfluous information	<ul> <li>Only provide information that is necessary for riders on the website</li> <li>Remove information that is internally-oriented, or else place a link to it at the very bottom of the page. Internal information includes things like the Transit Advisory Committee notes, ridership reports, etc.</li> </ul>	The presence of superfluous information makes it harder to find necessary information.
Make the website mobile-friendly	<ul> <li>Make website responsive, <i>i.e.</i>, adaptable to any device, including mobile phones and tablets</li> </ul>	Many users will access the website from a mobile device, in conjunction with Google Maps. It is therefore important that the website function well on mobile phones.
Continually update the website	<ul> <li>Ensure that information on the website is updated on an ongoing basis and, to the extent possible, in real time</li> <li>Ensure that information is consistent on all parts of the website and in print materials         <ul> <li>Which routes are considered mainline routes vs. shuttle routes</li> </ul> </li> </ul>	Transit information is only useful if it is accurate and up to date. Keeping the website up to date is critical to keeping the public informed. It also projects trustworthiness and confidence.



Recommendation	What Is It?	Why Is It Important?
	<ul><li>Route numbers and stop names</li><li>Schedule editions</li></ul>	
Provide static system maps	<ul> <li>Provide both system maps (see "Update Maps and Printed Materials", above) on the website—either on the main page or from a highly-visible menu item.</li> </ul>	A system map that is immediately visible or easy to locate allows people—both current riders and those unfamiliar with the system—to orient themselves, and determine which routes they may need to take.
Consider providing fare purchasing options on the website	<ul> <li>Consider making pass purchasing available through and app and/or the website (see Flash Passes in Chapter 11: Fare Analysis)</li> </ul>	Web-based fare purchasing capabilities (through an app or the website or both) allow (1) residents to purchase tickets without going to a brick-and-mortar vendor, and (2) visitors to purchase tickets in advance of their trip, without worrying about farecards being mailed.
Improve website accessibility features	<ul> <li>Use large text and a reasonable amount of contrast between background and foreground items</li> <li>Ensure that the website can be read by screen readers</li> </ul>	Websites with large text and a suitable amount of contrast are useful for people with limited vision. Screen readers are necessary for visually impaired people who need to use the website.
Include real-time arrival and departure information	<ul> <li>Make real-time arrival and departure information available</li> </ul>	Real time information is helpful for trip planning among people who use Google Maps or other third party applications. It is also useful to have real-time information available on the website for reference, <i>e.g.</i> , service alerts or trip status.
Acquire a new domain name	<ul> <li>Consider purchasing another domain name for The Kaua'i Bus website, <i>e.g.</i>, thekauaibus.org</li> </ul>	A standalone domain name provides the agency with greater flexibility in its marketing efforts. It allows the website to stay "on brand" and remove other County of Kaua'i information that is not relevant to transit.
Actively manage social media	<ul> <li>Manage Facebook and Twitter accounts using trained staff</li> <li>Inform riders of service changes and other updates using social media</li> <li>Consider consolidating facebook and twitter activity using HootSuite or another similar software package</li> </ul>	Using Facebook and Twitter is the easiest and most effective way to reach people with news and updates. Similarly, it allows people to more easily engage with The Kaua'i Bus by whichever means they prefer. Facebook and Twitter are also important channels for promoting The Kaua'i Bus.



## 3. Update the Kaua'i Bus Brand

Branding is about creating an image for a product or service—attributes that an individual assigns to the product based on their feeling about the brand. When these attributes are assigned, the brand identity makes it easy to understand and recognize. This applies not only to consumer products but also to services like transit systems.

### **Existing Conditions**

The Kaua'i Bus has been building its brand in recent years by expanding the use of visual elements of its logo to promote a better understanding of the service's coverage. The logo is simple, with three words in all capital letters: THE KAUA'I BUS in a serif typeface. The word Kaua'i is in a boldface style while the words The and Bus are underlined. The name "The Kaua'i Bus" stands atop a rectangular section of a repeating grass pattern, identified by transit staff as sugarcane. Some on staff indicated that the green pattern is attractive and connotes elements of the island's verdant landscape, while others perceive it as an abstract nature pattern.





The Kaua'i Bus logo (left) and an existing transit vehicle (right) Source: County of Kaua'i (left), Nelson\Nygaard (right)

It should be noted that the logo is not always consistently applied. Some versions of the logo on bus stop signs show the pattern above the text and the words are printed in a different typeface. On the vehicles, the typeface is also slightly different and rather than using a block of the green pattern, it extends around the bus. The lines under the words 'The' and 'Bus' are lined up under the text on some versions and shifted slightly on other.

In focus groups with current riders and non-riders, no participants recognized the grass as sugarcane or Guinea grass and most people felt the logo was not reflective of Kaua'i. Others described the logo design as simple, reminiscent of zebra



stripes, boring or dated, or utilitarian, although some noted it was pretty and understandable. A key comment from users and nonusers alike was that it would be nice to have a brand that better illustrates the service as unique to Kaua'i considering elements of the shape of the island, flora and fauna, or local culture.

The Kaua'i Bus has an official tagline: *Holomua Kaua'i Me Ke Aloha*—Moving Kaua'i with Aloha. It relates distinctly to Kaua'i in its local reference and commonly used greeting. Its application on the buses is very subtle—a serif italic typeface visible above the rear window. It is not used on printed materials or on the webpage.

Buses are white with the grass logo design on the side under the windows. While white buses are economical to paint and maintain, many transit agencies have moved away from white buses. Residents of many communities elsewhere have expressed in surveys and focus groups that they assume white cutaway buses are primarily for people with disabilities or older adults, and when people unfamiliar with The Kaua'i Bus system observe paratransit vehicles in operation (the same vehicles are used for both fixed routes and paratransit), they may not see themselves as potential users.

In focus groups, current riders of The Kaua'i Bus said that buses should be more "aloha" (they talked about flowers, roosters, hula dancers, etc.), and felt that if the current brand imagery is maintained, it would be more attractive when repositioned on the bus as larger and more dramatic. Few riders were excited about an aggressive livery redesign with buses fully covered by colors other than white. Non-riders were open to more colorful buses, talking about the importance of making them more attractive. They suggested that a different bus design might be more compelling to tourists.

#### **Recommendations**

Many of the other strategies in this chapter define key elements of developing the brand for The Kaua'i Bus, but the visual representation of the brand should not be overlooked. Although the logo and visual identity should ideally be updated to reflect the island, local culture, local colors or other community assets, staff indicated a desire to maintain the existing logo in the short term. The recommendation is for enhancements to and adaptation of the existing logo in the short term, with consideration of a comprehensive rebranding in the future.

#### REFRESH THE EXISTING BRAND

Without a complete rebranding, the Kaua'i Bus could evaluate different approaches to refreshing and modernizing the transit agency logo. For example, a very simple update might soften the font slightly and remove dark lines from the text and the graphic. A more comprehensive change might consider different typefaces, the introduction of additional colors, selecting elements of the graphic as a representative icon, or eliminating the word "The" and referring to the system as Kaua'i Bus. A couple of conceptual examples are shown below:





More extensive rebranding might introduce new imagery and colors, along with a new name for the system. The Kaua'i Bus is encouraged to consider a slightly updated design of the logo and use it on bus stop signs, all collateral materials, and for new bus orders so it can be phased in over time.

### EXPAND USE OF THE LOGO AND TAGLINE

Expanded use of the logo is appropriate to strengthen The Kaua'i Bus brand. A set of design standards would ideally be adopted by the agency to ensure that all partners and County departments apply the logo in a consistent manner, using the background colors, accompanying typefaces, and preferred images. Elements of the logo could be repositioned as necessary.

A tagline is often used to support the representation of a brand or make the brand more memorable or easier to identify. The existing tagline could appear on buses and bus shelters as a reminder of The Kaua'i Bus' important role in the local transportation network. The Kaua'i Bus in encouraged to expand use of the tagline on printed materials, the website, and in advertising.





A number of agencies have taken liberties with their logos on vehicles, repurposing elements of them to fit the shape of a bus. Source: Nelson/Nygaard (left), Deerfield Moover (center), City of Asheville Community Relations (right)

### LOCALIZE BRANDING

With a relatively linear transit network that wraps around the island, consideration could be given to branding specific parts of the service as unique types of operations, which could be used on bus stop signs, in printed informational materials and on route maps and schedules. For example, services could be specially branded as "North Shore Service" or "West Side Service" just as local shuttles can be more uniquely branded as such, with different indicators, colors and signage.

### IMPROVE THE APPEARANCE OF BUSES

The Kaua'i Bus could rethink its traditional use of white buses or modify the logo for the vehicles. Some sketch examples below illustrate how the look and feel of buses can be made more dramatic if logo elements are increased in size or repositioned on the buses.



An adapted bus concept with larger logo and imagery (left) and with a different background (right)



### 4. Improve Signage and Other Passenger Amenities

It is important to maximize the casual marketing value of information services such as signage. Information sources should always present the necessary information as clearly and concisely as possible. Ultimately, clear information is the best marketing.

### **Existing Conditions**

Informal communications are prevalent for The Kaua'i Bus. While occasional notices are posted on the bus, The Kaua'i Bus has no formal social media presence, message board for riders, or printed system maps. What The Kaua'i Bus does have is an informal network for providing information by word of mouth, with friendly and knowledgeable bus operators who serve as frontline ambassadors for the system.

Signs on buses are especially important because they allow The Kaua'i Bus to educate riders about destinations, and although The Kaua'i Bus vehicles have overhead destination signs in the front of the vehicle and along the passenger boarding side, this information is not shown on the driver side or at the back of the vehicle. Buses frequently display "Not in Service" on the head sign when deadheading or in paratransit mode, which provides an unwelcome message to potential users. Telephone information is shown on the back of vehicle, but no website information is available on vehicles or is readily visible at bus stops.

Better bus stops have shelters, seating and schedule information. Bus stops signs are visible at most stops, although they have limited information printed on them. In a focus group with existing riders, it was noted that comprehensive, systemwide information would be useful at all bus stops because users need information about the



Existing signage on The Kaua'i Bus vehicles Source: Nelson/Nygaard



The Kaua'i Bus stop amenities at a key stop include shelter, benches, a bus stop sign, and schedule information Source: Nelson/Nygaard

services that are available for transfers and connections to other locations on the island.



### **Recommendations**

This section provides five recommendations to improve the quality and visibility of information provided on buses and at stops: (1) provide informative bus stop signage, (2) consider real-time information at key stops, (3) make bus signage clearer, (4) develop informational tools for drivers, and (5) consider refining policies for baggage, bicycles, and surfboards.

Recommendation	What Is It?	Why Is It Important?
Provide informative bus stop signage	<ul> <li>Aim to include routes served, information about frequency, and contact information (phone, website) at all stops</li> </ul>	Comprehensive bus stop signs show people who are not familiar with The Kaua'i Bus that it exists and might be available to them.
	<ul> <li>Orient bus stop signs perpendicular to the road and try to ensure that they are well lit, and visible from a distance</li> <li>At stops with adequate space, include a system map and schedules for all routes</li> </ul>	They also reassure riders that they are at the correct location to board a specific route. Bus stop signs should ideally be oriented perpendicular to the road so they can easily be seen by approaching pedestrians and by drivers.
		MST

Figure 10-6 Recommendations for Strategy 4



Shelter systemwide map in Santa Cruz, California (left); bus stop signs with comprehensive information in Monterey, California (center) and Portland, Oregon (right) Source: Nelson/Nygaard



Strategy	What	t Is It?	Why Is It Important?				
Consider real-time information at key stops	<ul> <li>Consider the viability of re departure times for key sto Kapa'a Skate Park, and th</li> </ul>	al-time LED signs that display ops, <i>e.g.</i> , Līhu'e Civic Center, ie airport	Real-time information helps riders—especially visitors and riders without smartphone—to know when the next departure will take place.				
			Chapel Hill Transit 2:01 Not Persone D-Eastowne 4:43 F-Colony Woods 24:64 M-Ch Hill Lib 35:80 U-Bowles Drive 13:28				

Real-Time Information at Transfer Locations (Fort Worth, TX and Chapel Hill, NC) Source: Nelson\Nygaard



Strategy	What Is It?	Why Is It Important?
Make bus signage clearer	<ul> <li>Identify route destination(s) on the front of the bus (and when possible on the back of the bus) e.g., "Route 1 to Hanamā'ulu via Downtown Līhu'e" or "A Line to Kekaha"</li> <li>Place the phone number and website on the sides of the bus</li> <li>Limit the use of "Not in Service" (<i>e.g.</i>, only for outbound deadhead segments) <ul> <li>For inbound deadhead segments, use terminology like "To Base"</li> <li>For express or limited pick-up segments, use terminology like "Express" or "Special"</li> </ul> </li> <li>Simplify route numbers/names and how they are displayed on buses (for more information, see Systemwide Operational Changes in Chapter 7: Fixed-Route Operations Plan)</li> </ul>	Vehicle signage (front and back) provides a service to riders, pedestrians, and automobile drivers, giving them immediate information about where the bus is traveling. In addition, including a phone number and website address on the outside of the bus enables it to function as a moving marketing tool, so interested people know where to go for information about The Kaua'i Bus. Focus groups of both riders and non-riders found the current route numbering confusing. This is especially true for the Mainline routes, which can be confused with times of the day (e.g., Route 500 vs. 5:00 AM). When frequently visible, the presence of "Not in Service" can send a negative signal to passers-by.
Put print materials in buses	<ul> <li>Make print materials (including rider guide) available in buses</li> </ul>	Individuals who require online or printed materials after boarding the bus can get that information more easily.
Consider refining policies for baggage, bicycles, and surfboards	<ul> <li>Consider refining policy toward (and capacity to handle) baggage, bicycles, surfboards, and boogie boards</li> <li>Where changes are not possible, ensure that existing baggage policies are clearly visible to riders and prospective riders</li> </ul>	Marketing to visitors, and residents taking part in recreational activities, is an important way to improve transit ridership on Kaua'i.



# **Case Study: TheBus**

#### **Baggage Policies**

Baggage handling for transit riders can be an important element of a seamless travel experience. Particularly on Kaua'i, consideration of baggage policies should be considered given the high proportion of visitors as well as beach and resort destinations. Typical baggage policies permit cargo that can be stored under a passenger's seat or on a passenger's lap. It should not spill over into an adjacent seat or otherwise interfere with other passengers. The table below highlights baggage policies from TheBus in Honolulu, and a case study from San Diego is presented as well. The Kaua'i Bus should consider a review of current baggage policies to ensure the agency is continuing to meet customer needs.

Description of Article	Maximum Number	Maximum Size
Medium-sized brief case, duffle bag, or small metal bag caddy on wheels	1 per person	22" x 14" x 9"
Grocery bags a passenger can carry in arms		
Small backpack/day pack without metal frame		
Mini lawn chair without legs	2 per person	
Metal framed child carrier (passenger must remove while traveling on bus)	1 per person	
Collapsible baby stroller (any variety, folded, with baby removed)	1 per person	
Band instrument such as guitar, trombone, etc.	1 per person	Reasonably sized
Beach mat not covered with sand or other debris		
Skateboard carried or held on lap (not to be used on board)	1 per person	
Soft boogie board without skeg or fin, dried and washed clean of sand and other debris	1 per person	48" in length
Golf club or detachable fishing pole properly covered or in container with no sharp edges	3 per person	48" in length
Small pet in enclosed container that conforms to the baggage policy size		
Sports equipment (tennis racket, baseball bat, etc.)		
Courses TheDuc		



## Case Study: San Diego Metropolitan Transit System

#### **Baggage Policies**

The San Diego Metropolitan Transit System (SDMTS) has developed a series of policies related to baggage handling on transit vehicles.

Passengers can bring the following items on board transit vehicles:

- Boogie boards and surfboards under 6' long
- Collapsible fishing poles
- Collapsible bicycles
- Wheelchairs
- Walkers

Strollers and small shopping carts that do not exceed 30" tall, 18" wide, and 18" deep (not including handle and/or wheels).

Drivers have the discretionary authority to determine if cargo is too big or dangerous to be transported. Riders are limited only to items that can be boarded in a single trip onto the vehicle without assistance from another person. Additionally, the interior area near any door must remain clear, as this area is considered a main emergency exit.

SDMTS's Route 992 (Airport Shuttle) is exempt from size and quantity limitations because the Airport Shuttle is designed to handle large amounts of luggage and packages.



Source: SDMTS



# 5. Implement a Marketing Campaign for The Kaua'i Bus

The primary objective for a marketing campaign should be to (1) provide good public information and (2) convince residents and visitors that the extensive service enhancements, improved frequencies, more direct routing, new route naming/numbering conventions and updated look for The Kaua'i Bus is about putting customers first and making the system a solid mobility option. Timing a new campaign as a way to reintroduce the public to the updated version of The Kaua'i Bus is encouraged.

### **Existing Conditions**

The Kaua'i Bus does not have a marketing campaign in place or dedicated marketing staff to implement a marketing campaign. The transportation executive is responsible for overseeing marketing, which she carries out along with some staff support. Without a marketing plan, the transit system has invested very limited resources in marketing (and public information tools and resources) and has not developed any strategic marketing initiatives to carry forward.

Several informal marketing and outreach strategies are carried out by The Kaua'i Bus, even though these are not considered by staff as part of an overall campaign:

- Requests for occasional public presentations and outreach related to day-to-day services and planned service changes.
- Basic signage for bus interiors.



A campaign by Orange County to promote transit to the beach and other destinations Source: Orange County Transportation Authority



Riverside Transit promotional campaign Source: HyattWard Advertising

Although staff reported inclusion of information about The Kaua'i Bus in the official Kaua'i Travel Planner, no information on The Kaua'i Bus is provided in the most recent printed guides or on the gohawaii.com website, which encourages visitors to rent a car.



### **Strategies**

Although awareness of The Kaua'i Bus is good, infrequent riders likely do not know where some bus stops are located and may be unfamiliar with frequencies, travel times and service hours. Implementing enhancements recommended in this SRTP are important, but perhaps just as important is providing information to the public about these improvements.

Staff are encouraged to build on the momentum of this plan and provide regular, informative notices to the public about the service and proposed service changes. Reassessing responsibilities within The Kaua'i Bus may help facilitate a more coordinated outreach approach.

Areas of emphasis for the marketing campaign for The Kaua'i Bus, based on feedback from both rider and non-rider groups, are as follows:

- Improvements to the quality of information about how to use the system
- General ease of use
- Friendly, hometown service
- Affordability

### ORGANIZATIONAL ROLES

An organizational structure that assigns responsibility for oversight/management of marketing activities to a single individual or department may be appropriate. This individual would coordinate all marketing and information functions and ensure that all informational materials, outreach presentations, posters, car cards, and capital investments have a consistent look and feel and maintain a consistent marketing message. See Organizational Assessment (Chapter 12) for more information.

### PRINT ADVERTISEMENTS ARE APPROPRIATE

The most critical advertising opportunities include (1) any public meetings that would be required prior to the implementation of the recommended service changes, (2) the rollout of service changes, and (3) any service changes implemented at a later date.



Local publications provide opportunities to share new maps and service information. Source: The Garden Island, for Kaua'i



# DEVELOP PARTNERSHIPS FOR PUBLIC INFORMATION AND ADVERTISING CAMPAIGNS

The Kaua'i Bus is encouraged to piggyback on local public information and advertising campaigns. While The Kaua'i Bus works with numerous partners to ensure it meets the demands of residents to travel to work, for shopping, for school, and other reasons, no formal marketing partnerships exist. The Kaua'i Visitors Bureau, various vacation operators, Hawaiian Airlines, Kaua'i Chamber of Commerce, and other organizations that advertise via presentations, travel brochures, in inflight magazines, through informational campaigns, and via printed and electronic newsletters represent partnership opportunities. For example, The Kaua'i Visitors Bureau stages energetic publicity campaigns to promote local businesses and attract visitors, and a marketing partnership with The Kaua'i Bus—in which the Visitors Bureau has expressed interest—could support this effort. Overall, The Kaua'i Bus would benefit from working with these organizations and other local boosters to improve the dissemination of transit information on the island.

### ENGAGE IN ONGOING PUBLIC RELATIONS

Advertising need not always be expensive. Some of the best advertising The Kaua'i Bus can do get is by word of mouth and by making use of free access to the public and the press. The Kaua'i Bus enjoys some free press coverage

and some government-related coverage. In addition, by participating in local special events, the system can gain further public exposure.

#### ACTIVELY SEEK OUT OPPORTUNITIES TO PRESENT INFORMATION ON THE KAUA'I BUS

Transit education programs in the schools and at senior centers, in addition to rider education programs can maintain ridership and build support for The Kaua'i Bus. Ensuring transit staff are available for community presentations and working to get them on the calendar to speak at major events (or to school or senior groups) about using transit is an excellent way for inexpensive public information. Public speaking not only allows one to get across a simple message regarding services and availability, but also allows the speaker to educate potential riders how to use The Kaua'i Bus, making them better riders. An effective speaker might allow the audience to address concerns about using The Kaua'i Bus





Kaua'i Visitors Bureau Travel Planner

Source: Kaua'i Visitor's Bureau'i



service, allaying fears and explaining the benefits of transit. Such speaking engagements also are good opportunities for distributing promotional items and information brochures.

### **REGULARLY PREPARE PRESS RELEASES**

In addition to public speaking, The Garden Island and Kaua'i Midweek, websites and travel blogs, radio stations, as well as Ho'ike Kaua'i Community Television, regularly seek informative news items and are glad to make available news in the public interest. Because The Kaua'i Bus is a community service, published press releases can amount to regular media exposure. Writing press releases does not have to be labor intensive and is an excellent means of free advertising.

### SCHEDULE THE KAUA'I BUS' PARTICIPATION IN MORE COMMUNITY EVENTS

The Kaua'i Bus staff indicate that they participate in special outreach events—activities and festivals as appropriate—to provide exposure to the system, but they do not aggressively pursue these activities. In some communities, the buses work as part of a coalition with other service providers who regularly participate in job training events, community fairs, senior outreach programs, and youth efforts. Most robust participation is not necessary to ensure the community fully embraces the value of The Kaua'i Bus, but more strategic participation at tourist events and workforce development efforts could benefit the system's overall public perception.

### **REBOOT THE TRANSIT ADVISORY COMMITTEE**

Many transit agencies have enjoyed and value an ongoing source of input and staff assistance through effective management of their Transit Advisory Committee, usually comprised of key stakeholders, major organizations, riders, and others who can help the provider, like The Kaua'i Bus, implement its strategic plan.

### FOCUS ON EMPLOYERS

Building partnerships with employers can be a valuable tool, and many transit agencies work with employers to involve them in the transit outreach process, promoting services via message boards, subsidizing pass sales for employees, etc.


### **EVALUATION OF MARKETING IMPACTS**

Even with the implementation of the service and marketing recommendations, **The Kaua'i Bus may remain unaware of its successes** (or have more dissatisfied customers than are known). Individuals will make an effort to complain if something goes wrong; rarely do they take the time to offer praise. Knowing the customer service issues that may arise can help The Kaua'i Bus staff to make service modifications or take other corrective actions as needed.

**The Kaua'i Bus must monitor its marketing and public information progress.** When providing good customer service, transit users can call to describe poor experiences or problems with bus rides. A telephone number alone, however, is often not enough to encourage somebody to call. The Kaua'i Bus users may be more comfortable, or may find it easier, to provide feedback using comment cards, on-board surveys, or via the website.

A monitoring program will provide important information about the effectiveness of the marketing and public information efforts. Evaluating the marketing program enables The Kaua'i Bus staff to reevaluate marketing goals and identify new strategies. Even the most successful businesses will admit that marketing is a trial-and-error process. Evaluating marketing efforts enables The Kaua'i Bus to enhance the most successful programs and shift resources away from programs that have either reached their greatest success or require a change in emphasis.

To evaluate the success of the program, The Kaua'i Bus is encouraged to **conduct follow-up on-board bus surveys or focus groups.** These surveys or focus groups can help to evaluate any facet of an individual's travel decision-making process, overall familiarity with services, and the effectiveness of The Kaua'i Bus information distribution network.



### **SUMMARY**

Taken together, the marketing strategies presented above will support transit as an integral part of daily life on the island. Buses help reduce congestion, provide affordable mobility, and sport The Kaua'i Bus brand that incorporates local imagery, instilling a sense of connection to the island and local pride among riders and non-riders alike. Figure 10-7 summarizes the key marketing program opportunities discussed in this chapter.

These marketing strategies are used by midsize and countywide transit agencies to increase public awareness about available public transportation services. They range from small-scale enhancements to websites and printed information to more robust branding and social media efforts. While some of the strategies are basic, there are many creative approaches that can be taken to publicizing public transit and better informing users of The Kaua'i Bus operations. When combined as part of a larger strategic transit service enhancement program, **these strategies can help to increase ridership and improve the public perception of transit**, while building transit's role in connecting Kaua'i.

Strategy	Actions
Strategy 1:	<ul> <li>Develop an overlay system map and a schematic system map (both in color).</li> </ul>
Update maps and printed	<ul> <li>Create full color, timepoint-based schedules.</li> <li>Create of these has idea as idea</li> </ul>
materiais	<ul> <li>Create a full color rider guide.</li> <li>Create a haw to guide for exercise Kovati without a con</li> </ul>
	<ul> <li>Create a now-to guide for experiencing Kauan without a car.</li> </ul>
	<ul> <li>Develop a full color paratransit rider guide.</li> </ul>
	<ul> <li>Stock guides at key locations.</li> </ul>
	<ul> <li>Market existing transit pass vendor locations and expand network of pass vendors.</li> </ul>
Strategy 2:	<ul> <li>Implement GTFS data.</li> </ul>
Develop a new, updated	<ul> <li>Reorganize and continually update website content.</li> </ul>
comprehensive website for The	<ul> <li>Remove superfluous information.</li> </ul>
Kaua'i Bus; develop social	<ul> <li>Make the website mobile-friendly.</li> </ul>
media presence	<ul> <li>Continually update the website.</li> </ul>
	<ul> <li>Include a static systemwide map on the website, in addition to the other features.</li> </ul>
	<ul> <li>Consider providing fare purchasing options on the website.</li> </ul>
	<ul> <li>Include real-time arrival and departure information.</li> </ul>
	<ul> <li>Improve website accessibility features.</li> </ul>

Figure 10-7	Summary	of Recommended	Program
J			



Strategy	Actions
	<ul> <li>Integrate GTFS information to provide real-time arrival and departure information.</li> <li>Acquire a new demain name</li> </ul>
	<ul> <li>Foster a social media presence.</li> </ul>
Strategy 3:	Refresh and modernize the transit agency logo.
Update the Kaua'i Bus Brand	<ul> <li>Expand the use of a consistent logo to strengthen The Kaua'i Bus brand. Develop design standards.</li> <li>Expand the use of the tegline on printed materials, the website, and in advertising.</li> </ul>
	<ul> <li>Expand the use of the tagine on printed materials, the website, and in adventising.</li> <li>Consider branding specific parts of the service as unique types of operations.</li> </ul>
	Consider bus redesign.
Strategy 4:	<ul> <li>Improve bus stops. Provide stop and frequency information, as well as a contact telephone number or wobsite.</li> </ul>
Improve signage and other passenger amenities	<ul> <li>Consider real-time information at key stops.</li> </ul>
	Update route naming/numbering convention and apply consistently. Use this information on the vehicles.
	<ul> <li>Consider refining policies and capacity for bicycles, surfboards/boogie boards, and baggage.</li> </ul>
Strategy 5:	<ul> <li>Increase staffing for marketing.</li> </ul>
Implement a marketing	<ul> <li>Develop and publish print advertisements.</li> </ul>
campaign for The Kaua'i Bus	<ul> <li>Coordinate with other entities on local public information and advertising campaigns.</li> </ul>
	<ul> <li>Engage in ongoing public relations.</li> </ul>
	<ul> <li>Actively seek out opportunities to present information on The Kaua'i Bus.</li> </ul>
	<ul> <li>Regularly prepare press releases.</li> </ul>
	<ul> <li>Schedule The Kaua'i Bus' participation in more community events.</li> </ul>
	<ul> <li>Reboot the Transit Advisory Committee.</li> </ul>
	<ul> <li>Build relationships with employers.</li> </ul>

# **11 FARE ANALYSIS**

This chapter lays out a plan to improve the way fares are structured and collected. It establishes fare-related goals, outlines existing conditions, presents best practices, and provides a set of conceptual fare scenarios and recommendations. Ultimately, this document provides a roadmap for fare-related strategies for The Kaua'i Bus that balance the needs of riders with the financial sustainability of the agency.





# GOALS

Because there is no one right way to design a fare collection system, goals and objectives help contextualize what challenges Kaua'i Bus is trying to solve. It is important to define goals at the beginning of analysis so that the preferred recommendations are certain to uphold the agency's vision. Goals and objectives for the fare analysis include:

- **Encourage farebox recovery in keeping with best practices.** Evaluate the fare structure, including pass pricing and transfer policies, to ensure that The Kaua'i Bus is receiving adequate farebox revenues.
- Encourage balanced pricing between passes and regular fare. The price of a monthly pass still provides a considerable discount from the base fare. This fare analysis seeks to determine whether monthly and annual pass prices are where they should be based on the cash fare for both fixed-route and paratransit services.
- **Maintain affordability for low-income populations.** Maintaining affordability for seniors, Medicaid card holders, and vulnerable populations is important in this fare analysis. At the same time, the fare structure should provide incentives for customers with a choice to use fixed-route services instead of paratransit whenever possible.
- **Establish best practices for regular fare increases.** This fare study will outline recommended practices for periodic increases in the base fare or pass pricing.
- Assess the relationship between transfers and farebox recovery. Many passengers are currently
  transferring from shuttles to mainline service. This fare analysis will look at the implications of adopting a
  standardized fare on both services and allowing free transfers between services.

These goals are used as a reference throughout the analysis and are key factors in the development of fare structure scenarios and policy recommendations.



# **EXISTING CONDITIONS**

# **Fare Categories**

There are four main categories for The Kaua'i Bus fixed-route transit fare products: general public, reduced fare, children, and students. Each is described briefly below:

Figure 11-1 Fare Categories

Category	Description
General Public	Adult fares are a full-fare category and do not require any additional identification beyond valid fare payment.
Reduced	Reduced fares are available for youth (ages 7-18) and seniors (ages 60 and above). The reduced fare is 50% of the price of the general public fare. According to Federal rules, no more than half of the peak fare for fixed route transit can be charged for seniors, people with disabilities, and Medicare cardholders. This fare analysis will explore ways for The Kaua'i Bus to offer a discounted fare on fixed-route transit to ADA-eligible passengers.
Children	Children six years and younger ride free.
Student	Kaua'i Community College (KCC) students with a current student ID ride free. About 1,400 students are enrolled at KCC, and student IDs are observed as a bus pass with registration (mandatory), which adds \$24 per semester.

The Kaua'i Bus offers several fare and pass options for riders. These options are single ride fares, monthly passes, and annual passes. The current Kaua'i Bus fare structure is detailed in Figure 11-2. The following section describes the Kaua'i fare structure and fare products in more detail.



#### Figure 11-2 Fare Structure

Fare Type	Price
Mainline Routes	
General Public	\$2.00
Reduced Fare (Seniors/Youth)	\$1.00
Children	Free
Transfers	N/A
Shuttle Routes	
General Public	\$0.50
Reduced Fare (Seniors/Youth)	\$0.25
Children	Free
Transfers	N/A
Passes	
Monthly Pass	\$40.00
12-Month Pass	\$400.00

# **Pass Products**

The Kaua'i Bus offers two transit pass options: a monthly pass a 12-month pass. Pass prices are discounted over regular cash fares for Mainline transit services, though the amount of the discount varies by pass product. Figure 11-3 shows the "multiplier" for each of Kaua'i Bus' pass products—in other words, the number of one-way rides that a customer would have to take to break even using the pass product.

Pass products are valid on Mainline and Shuttle fixed route transit service, as well as paratransit service.



#### Figure 11-3 Pass Products

Pass Product	Price	Multiplier
Monthly Pass	\$40.00	20
12-Month Pass	\$400.00	200

### **Monthly Pass**

Similar to many transit agencies, The Kaua'i Bus offers frequent riders a monthly pass. The pass is based on the calendar month and can be purchased on the 20<sup>th</sup> of the previous month. The Kaua'i Bus does not offer a reduced rate monthly pass.

The multiplier for the Monthly Pass is 20 trips. This means that an employee using transit to travel to work must take, on average, one ride per weekday for a pass to "break even."

Monthly passes are available at several locations in the county: the Lihue Civic Center, Menehune Food Marts in Kilauea, Kapahi, and Kekaha, and the Kaua'i Bus office. Customers can also mail a check and have a monthly bus pass mailed to them.

### **Annual Pass**

Annual passes are only available for purchase at the The Kaua'i Bus office in Lihue. They are priced at \$400, or the equivalent of 10 months of monthly passes. The multiplier for the Monthly Pass is 200 trips. This means that an employee using transit to travel to work must take, on average, less than one ride per weekday for a pass to "break even."

### Kaua'i Community College Student 'Fare Free'

Students at Kaua'i Community College ride free on Kaua'i Bus Mainline and Shuttle transit routes. The "fare free" bulk pass agreement between KCC and Kaua'i Bus has been in place since 2013. KCC students pay \$24 per semester in student fees in exchange for the transit pass.



# **Revenue and Ridership by Fare Type**

Figure 11-4 shows a breakdown of farebox revenues by fare type, including Kaua'i Community College students and contracts with human service agencies for paratransit service. This is based on FY 2015 ridership and FY 2016 revenue data collected from Kaua'i Bus. The highest share of Kaua'i Bus farebox revenue is from Mainline cash fares (39%). The next highest shares of farebox revenues (29%) is from monthly passes, followed by paratransit (20%). Key takeaways from this breakdown are:

- Annual pass brings in very little revenue—just 2% of all revenues—and is used by less than 10% of riders.
- Mainline monthly pass ridership is higher than cash fare ridership, but mainline cash fare revenues are higher.
- Shuttles bring in very little revenue compared to the number of passengers they serve.
- Paratransit revenues are largely from contracts







# **BEST PRACTICES**

This section provides an evaluation of fare policies and best practices across the transit industry. The first section explores the process of implementing a fare change to help frame a fare increase policy for Kaua'i Bus going forward. Next, bulk pass programs that provide transit passes to employers are discussed. Finally, best practices in fare distribution and collection options are presented.

### **Fare Increases**

The process of implementing a fare change involves consideration of several key factors. When considering a fare change, an agency may consider:

- **Farebox recovery:** Is there a systemwide goal that will drive future fare increases?
- **Fare types:** Are there opportunities to simplify or expand fare options when implementing a fare increase?
- **Fare collection:** Are there opportunities to implement new technologies, practices, or policies to streamline fare collection?

A new fare policy must balance multiple conflicting goals. Any changes to the existing fare structure must balance the tradeoff between ridership and revenue. For example, although an increase in fares would result in higher revenues for The Kaua'i Bus, it would also result in a decrease in ridership. One option is to institute a fare increase schedule to implement a fare increase over multiple steps or years to minimize the financial impact on riders and ridership impacts on the agency.

Likewise, prices for different fare media should be set with the impacts to revenues and ridership in mind. Price points for different fare media (such as one-way fare, day passes, and monthly passes) create different incentives for users and pass buyers. Other considerations for implementing a fare increase include customer experience, technical operations, timing a change in fares with a service change, financial processes, system operation, and accessibility to vulnerable populations.

Ultimately, any changes in fare policy should be practical for The Kaua'i Bus service and align with systemwide goals. Once agency goals and desired outcomes have been determined, there are several actions that should be taken as part of the fare change process. These include:

• **Involve the public:** Proposed fare changes should include extensive public outreach, to both riders and nonriders, to educate the public about any changes and obtain valuable public feedback. The rationale for any fare increase should be clearly messaged to the public, as well as any associated improvements.



- **Revise customer information:** Once changes have been agreed upon, customer information (such as websites, brochures, apps) should be updated in a timely manner.
- **Monitor results:** allow opportunity to review and fine-tune the fare structure following implementation.

The following sections discuss federal and local requirements for implementing a change in fare or fare policy, including discussion of FTA requirements, public participation, and local regulations. Figure 11-5 provides an overview of an agency's approach to fare changes.





### **Bulk Rate Passes**

In recent years, growing numbers of transit agencies have teamed with universities, employers, or residential neighborhoods to provide universal transit passes. These passes typically provide unlimited rides on local or regional transit for low monthly fees, often absorbed entirely by the employer, school, or developers. Transit agencies typically offer the bulk passes at a discounted rate that is negotiated periodically with the university, employer, or neighborhood.

Bulk pass sales provide numerous benefits to transit riders, transit agencies, communities, developers, and employers, as discussed in Figure 11-6. While bulk pass programs tend to be affiliated with bus service, in most cases they are part of a broader multi-modal transportation strategy that includes guaranteed ride home programs, improved bike programs, carshare programs, carpooling/vanpooling strategies, and often, increased parking rates.



#### Figure 11-6 Bulk Pass Program Benefits

Beneficiary	Bulk Pass Benefit
	Free access to transit
Transit Riders	Rewards existing riders, attracts new ones
	For employees who drive, making existing transit free can effectively create convenient park-and-ride shuttles to existing underused remote parking areas
	Provides a stable source of income
Transit Agencies	Increases transit ridership, helping to meet agency ridership goals
	Can help improve cost recovery, reduce agency subsidy, and/or fund service improvements
Communities	Reduces traffic congestion and increases transit ridership
Communities	Reduces existing, unmet, and future growth in parking demand
Developers	Bulk pass programs can benefit developers if implemented concurrently with reduced parking requirements, which consequently lower construction costs
Developers	Providing free cost transit passes for large developments provides an amenity that can help attract renters or home buyers as part of a lifestyle marketing campaign
Employoos/Employers	Reduces demand for parking on-site
Employees/Employers	Provides a tax-advantaged transportation benefit that can help recruit and retain employees

Source: City of Pasadena Traffic Reduction Strategies Study, 2007

### **Negotiations and Pricing**

A review of existing universal transit pass programs found that the annual per-employee fees are between 1% and 17% of the retail price for an equivalent annual transit pass.<sup>1</sup> The principle of employee or residential transit passes is similar to that of group insurance plans—transit agencies can offer deep bulk discounts when selling passes to a large group with universal enrollment, on the basis that not all those offered the pass will actually use them regularly. The key to success is

<sup>&</sup>lt;sup>1</sup> Source: City of Pasadena Traffic Reduction Strategies Study, 2007.



to spread the costs of the trips so that the cost per person remains quite low. The reason behind the shared cost is that additional transit riders benefit drivers by reducing traffic and parking congestion.

### **Federal Tax Incentives**

There are potential tax benefits for both employers and employees participating in employee pass programs. If employers fund the pass, it can be offered as a benefit that is not subject to payroll taxes, and it qualifies as a tax-deductible expense for the company. If the pass is paid for by the employee, the payroll amount reserved for the pass is no longer treated as taxable salary. The IRS limit for the 2017 tax year is up to \$255/month per employee for public transportation.

### Marketing

For bulk pass programs to be successful, they must be properly marketed. This is a measure that costs little in relation to many other strategies, but can reap large rewards in increased ridership and ultimately greenhouse gas reduction. Measuring the effects of marketing campaigns can be difficult, but in general making sure the public is aware and knowledgeable about available transit service is a critical step in attracting riders. Marketing should capitalize on the cost benefits to riders and the environmental benefits associated with the program, as well as including information about how to use transit and/or other transportation programs. A variety of marketing strategies are shown in Figure 11-7.

Marketing Strategy	Program Description
Information Kiosk	An on-site information kiosk provides information on transit routes, schedules, and fares; carshare and vanpool ridematching services; bicycle maps and resources; and other ways to help people travel by using alternative modes.
Transportation Coordinator	A Transportation Coordinator is a trained, designated employee on-site who is responsible for providing transportation options information to employees and facilitate employee surveying.
Individualized Marketing	Individualized marketing campaigns typically target a neighborhood, corridor, or employment site. These campaigns provide individualized marketing travel options materials in a designated area to encourage people to use alternative modes.



### **Employer Bulk Pass Programs**

Employer bulk passes are a useful tool for transit agencies to create additional revenue sources and attract ridership. Depending on the number of passes offered, the program can offer discounts that are attractive to employers. Employers that are unable or unwilling to cover the costs of transit benefits can still incentivize employees to purchase quarterly passes through the pre-tax transit benefit program. Employers can administer this program either through a payroll service company, or if they use in-house payroll, by contracting through a commuter benefit provider. Employers often offer a bulk pass as part of a larger transportation demand management (TDM) program that seeks to promote more efficient modes of travel to work by employees. Employer-based bulk

# Case Study: ORCA Business Passport and Business Choice (Seattle, WA)

#### Employee Bulk Pass Program

King County Metro offers two models of providing ORCA passes for employees through its employer commute services program.

- The ORCA business passport program is only available as an employer-provided benefit. The pass provides a \$5.75 trip value that is eligible anywhere ORCA cards are accepted. The business passport is an annual transit pass that must be purchased for all benefits-eligible employees. Additionally, the employer must subsidize at least 50% of the cost of each pass. Businesses with 20-499 employees, or as few as 5 employees for employers in downtown Seattle and Bellevue, pay standard pricing. Businesses with over 500 employees receive a subsidy and several add-ons including a "home free guarantee" (HFG), and 100% subsidy of vanpool and vanshare. Pricing is based on the location of the company and estimated ridership.
- The ORCA business choice pass program offers monthly passes or e-purse deposits at retail prices. There is no requirement to purchase passes for all employees—employers may purchase as many or as few as needed. The pricing is based on the length of the transit trip. For both programs, the total monthly costs cannot exceed the federal limit of \$255 per month.

pass programs can be accompanied by complementary programs such as guaranteed ride home, which provides an occasional subsidized ride for commuters who use alternate modes in the event of an emergency or other unforeseen event. The structure of employer pass programs varies throughout the U.S. Three examples—King County Metro, Alameda-Contra Costa (AC) Transit, and Denver Regional Transportation District (RTD)—offer best practices for pricing of pass programs.



### Case Study: RTD Business EcoPass (Denver, CO)

#### Employee Bulk Pass Program

Denver RTD's Business EcoPass provides unlimited usage of RTD services. It is an annual transit pass purchased by a company and its employees or a collection of residences. Similar to AC Transit's policy, companies purchase the EcoPass for all full-time employees with an option to include part-time employees. Transit service levels are also accounted for through a tiered pricing structure (Figure 11-8). Pricing for businesses is determined by two factors—location of the business (and corresponding level of service for that area) and total number of full-time employees or total number of full/part-time employees on the payroll. Contract minimum rates apply for businesses with a per-person rate that equals less than the contract minimum.

Additionally, Boulder County offers a multi-year EcoPass discount (60% off of the first year's purchase price, 30% off of the second year's contract price) to all businesses and neighborhoods signing up for their initial EcoPass contract. EcoPass is also tax deductible to employers and tax free to employees.

		Cc	ost per Employ	vee per Year (2	016)		
Service Level Area	Number of Employees	Contract Minimum Per Year	1-24 Employees	25-249 Employees	250-999 Employees	1,000-1,999 Employees	2,000+ Employees
A: Outer Suburban	1-10 11-20 21+	\$1,150 \$2,300 \$3,448	\$98	\$85	\$75	\$64	\$60
B: Major Transit Centers	1-10 11-20 21+	\$2,108 \$4,215 \$6,322	\$209	\$189	\$173	\$160	\$151
C:Downtown Denver CBD	1-10 11-20 21+	\$2,874 \$5,748 \$8,621	\$532	\$493	\$470	\$459	\$434
D: DIA and home businesses	1-10 11-20 21+	\$2,874 \$5,748 \$8,621	\$544	\$522	\$483	\$470	\$445
Source: Denver RTD						•	

Figure 11-8 Denver RTD Business EcoPass Pricing Structure (2016)



### Case Study: AC Transit EasyPass Program (Oakland, CA)

#### Employee Bulk Pass Program

The EasyPass program offered by AC Transit is established for a defined employee pool—for example, all full-time employees or all employees who live in AC Transit's service district. According to AC Transit policy, employers must provide passes for all employees in the defined pool regardless of current or anticipated usage, and EasyPass is not refundable or transferable to anyone else. Pricing of EasyPass is based on a tiered system that factors in the size of the participant pool and level of transit service (Figure 11-9). Employers pay an annual per-participant price based on the matrix shown below. Employers can choose to subsidize the cost of the pass (in part or in whole) or to pass the cost on to employees as a group benefit.

	ļ	Annual Price Per Part	icipant by Number of	Program Participant	S
Level of Transit Service	100-500	501-1,000	1,001-5,000	5,001-10,000	10,001+
1	\$121	\$103	\$86	\$68	\$51
2	\$108	\$93	\$78	\$64	\$48
3	\$93	\$82	\$69	\$58	\$45
4	\$81	\$70	\$62	\$53	\$43

#### Figure 11-9 AC Transit EasyPass Pricing Structure

#### Source: AC Transit

Note: Level of Transit Service is a numerical score that reflects the frequency and concentration of commuter bus service available within the ¼ mile of worksite(s). Scores range from 1-4 with 1 representing the highest level of service and 4 the lowest. Only peak-hour service is considered when calculating a score, and adjustments are made for gaps in service, impediments to pedestrian access, and whether the lines in the immediate vicinity provide service to and from San Francisco or the Peninsula.

### Bulk Rate Passes: Lessons Learned for Kaua'i Bus

- Large employers in Kaua'i County (250 employees or more) that are served by transit are strong candidates for participants in a potential bulk pass program, which would increase revenue and boost ridership.
- Being that most employers in Kaua'i County are not as large as the ones served by the agencies in the case studies, Kaua'i Bus would need to adjust its discount categories if it were to move forward with a bulk pass program.
- Employer-based bulk rate pass programs can be complemented by other programs such as guaranteed ride home, to provide a full range of options for commuters.



### **Fare Collection and Distribution**

If there is a desire to deploy some of options explored above as well as differential pricing for residents and visitors, there is a need to assess how this can be accomplished in a secure, low cost, and easily administrated manner. This section discusses the pros and cons of new technologies as they relate to fare distribution and collection.

There are a growing number of options for transit fare collection that have been emerging over the past decade. Advancements in mobile phone technology, banking, and payment systems have made methods for paying one's fare more numerous than they have ever been before.

Allowing more choices for purchasing fares and paying fares can attract riders (especially younger people who are more accustomed to innovative payment options for other goods and services) and reduce dwell times—therefore, speeding up service. Adding new options can be appropriate when fare equipment needs to be replaced, but also as an add-on when forming new partnerships with employers, business groups, or neighborhoods.

While technology has changed rapidly, it should not necessarily dictate fare policy or potential fare alternatives. On the contrary, new technology options should follow and support the desired fare policies and products agreed upon for the transit agency. No single technological option should be implemented simply for being the "latest technology."

Implementation of new (and existing) technologies should have the following considerations:

- **Operations** (dwell time, driver enforcement, fare evasion)
- Planning (additional ridership and revenue data)
- **Distribution** (fare outlets, ticket vending machines, online portals, etc.)
- Maintenance (cost to maintain fareboxes and supportive networks)
- **Costs/Revenues** (cost of fare collection, opportunities to increase revenue)
- **Customer experience** (ease of payment, convenience, support)

### **Day Passes**

Fare media options for day passes include scratch-off style passes, pre-printed passes with the date for every day of the year, tickets that are validated by machine, printing a ticket or receipt on-board, and app-based passes.

Scratch-off style passes have been used by BCTransit in Victoria and TTC in Toronto. They were also used, up until June 2017, for Honolulu's The Bus' 4-Day pass product. The benefits of scratch-off style passes are that they do not require additional technology to validate or date stamp, and they are "shelf stable" meaning there is no expiration on unused



passes. Because they don't expire, scratch off passes can be distributed at stores, transit stations, or pre-purchased and distributed by human service agencies and resorts.

Figure 11-10 Examples of Scratch-Off Day Pass Products from TTC (left) and BCTransit (right)

Hold Expires March 31, 2010
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Images from TTC Transit and BCTransit

The Bus in Honolulu's recent fare change eliminated their 4-Day pass and free transfers in June 2017 in favor of a day pass that can be purchased directly from the driver.

BCTransit in Victoria, BC recently switched from a scratch-it style to passes that are pre-printed for every day of the year. The pass is only available for purchase onboard the bus from the driver with \$5 cash (exact fare required) or two tickets. Pre-printed passes are thought to cut down on the potential for fraud. However, they cannot be distributed through stores, human service groups, or resorts, and cannot be stored for later use by the agency. Printing a full run of passes for each day of the year is likely a more expensive option.

TriMet, in Portland, Oregon, offers paper day passes that can be pre-purchased and used any time. They are sold individually and in packs of ten. The paper day pass is validated differently on TriMet bus and TriMet rail services. Rail



customers can validate their day passes at machines on the platform and show them to the operator. Bus customers must trade their unvalidated pass with the driver for a receipt that is valid for the rest of the service day. TriMet also provides day passes through a smartphone-based app, which is discussed in the next section.

### **Smartphone Payment**

Smartphone payment offers an increase in customer convenience over paper or smart card payment as well as potential operational savings. Smartphone payments eliminate the need for customers to procure and carry a physical fare payment media, may reduce delay in fare payment (by reducing cash in the system), and reduce the volume of passes that must be processed by the farebox (potentially lowering maintenance costs). Unlike other fare technology options, smartphone payments typically require users to have a linked credit card or banking account.

While payment via smartphone offers several advantages, there are a few meaningful disadvantages since smartphones are only owned by a portion of the transit-riding public. In addition, the use of a smartphone fare payment option relies on customers to enter their bank account information, credit card, or debit card information, which is not an option for customers who rely on cash. While this market share is growing, smartphone payment options only can serve as a supplement to an existing fare collection system until smartphone ownership is standard. Currently, several vendors exist that provide this technology including Token Transit, Masabi, Moovel (formerly GlobeSherpa), and Unwire. The following table summarizes the pros and cons of smartphone fare payment.

Benefits	Drawbacks
<ul> <li>Fare products can be accessed through one's smartphone – no need for separate fare distribution outlets</li> <li>Various means to validate media (visual, scan, proximity)</li> <li>Customers can purchase fare products at any time, and any location</li> <li>Operational savings</li> <li>Reloadable</li> <li>Faster boarding</li> <li>Retains bus tickets if phone is lost or stolen</li> <li>Lower upfront cost for agency and users</li> </ul>	<ul> <li>Visual validation of fare products could add dwell time. However, some studies suggest that flash passes may in fact be faster than processing individual magnetic cards or smart cards.</li> <li>Access issue for those who do not have a smartphone with data plan or a linked credit card/bank account</li> <li>Need to supplement existing fare payment options (smart card or magnetic stripe)</li> <li>Requires smartphone</li> <li>Cannot make purchase with cash</li> <li>Requires WiFi or internet to activate ticket</li> </ul>

Figure 11-11 Benefits and Drawbacks of Smartphone Enabled Fare Payment



### **Flash Pass**

The simplest implementation of smartphone payment is to allow riders to use their phone as a "flash pass" that is visually validated by the bus operator when they board the bus. This strategy does not require any additional hardware to be installed and can be implemented with few other hurdles. The primary drawback is that this method requires additional attention of the operator to validate fare media. This is addressed in several ways, as discussed in the following case studies.

# Case Study: Flash Pass (Portland, OR)

#### Smartphone payment app

The example at right is from the TriMet system in Portland, which has launched a mobile payment app that uses this visual validation system (similar to the flashing of paper passes/tickets). As part of their fare products, transfer media have been eliminated and all cash one-way payments (\$2.50) provide a "2.5 hour" ticket upon fare payment, which can be used for transfers during that time window.

The app used for TriMet's flash pass was developed by Moovel, and is one of the more expensive options for smartphone payment due to the complexity of creating animations and other custom elements. Once a pass has been activated, the smartphone app uses colors, animation, and a date stamp to indicate the pass has been activated. These measures are in place to prevent fraudulent use of the passes, an ongoing concern for TriMet.



# Case Study: Token Transit App (Reno, NV)

#### Smartphone payment app

RTC Ride is the public transportation system for the greater Reno/Sparks region of Nevada. In 2016, RTC Ride began offering a smartphone mobile app for fare payments. The agency did not want to invest in new equipment, but wanted to expand opportunities for customers to purchase and use fares. The flash pass feature on a smartphone was considered a relatively easy, low-cost solution, especially with increased growth in smartphone ownership.

The app was developed by Token Transit based in California. RTC Ride released a request for proposals to develop the app and also considered bids from Xerox, Passport, and Masabi. Both Passport and Masabi include a fixed monthly



cost if fare revenues fail to meet a certain level. Token Transit charges RTC Ride a fee for each transaction. Wrapped into the fee is the cost of developing the app. Token Transit also provides customer support for any issues with the app, such as a customer hitting the wrong fare product type. Token Transit partners with Stripe to handle payment details.

After downloading the app to a smartphone, the customer enters their banking information. The app simulates the features of a ticket vending machine, and allows customers to purchase all fares and rider categories. Once purchased, the passes are saved in a 'wallet' within the app. The customer then clicks the pass to activate. The app allows the agency to send out alerts letting customers know about free ride days or other discounts. Passes can also be purchased for other people and sent to their smartphone using their phone number (the recipient must download the app). This feature has been used as a promotion for conference attendees in the region and by social service agencies for their clients.

Upon boarding, the driver visually validates the tickets. The tickets have three security features to prevent fraudulent use: an image that changes daily (highlighting local landmarks), a background color that changes daily, and a moving image that shows the current time.

Within six months after launching, the app is being used to pay fares on 5% of all trips, including all fare types and categories. RTC Ride offered the following lessons learned during implementation of the flash pass:

- There have been few incidents between operators and customers. Operators are told to be more lenient with the new technology and err on the side of the customer, especially in the beginning.
- The largest obstacle for many customers was downloading the app. Although many people have smartphones for internet access, many have not downloaded apps. RTC Ride's customer service has helped people with this process.
- Creating an option to send a ticket to someone's phone allows social service agencies to send tickets to a client's
  phone instead of ordering passes in the mail.
- Consider providing an initial discount to attract riders.
- Work with all transit agency departments early on, particularly Finance, Customer Service, and Operators.
- Smartphone fare payments will eventually allow for capping, allowing riders to ride free the remaining month once they spend the equivalent of a monthly pass on other fares. This ensures equity for passengers who elect to purchase several multi-day or day passes or may not be able to afford the upfront cost of a monthly pass.

Your Phone is Your Pass to Ride! RTC Passes On Your Phone Source: RTC





### Lessons Learned for Kaua'i Bus

- Scratch pass-style fare products can be provided without needing additional technology and have no expiration.
- App-based passes can complement paper passes and be visually validated by operators. Colors, images, and movement can all be used to indicate a pass has been activated and prevent fraud. Having customers, not operators, activate the pass by tapping the screen is preferred.
- Creating an option to send a ticket to someone's phone allows social service agencies to send tickets to a client's phone instead of ordering passes in the mail.



# FARE CONCEPTS AND SCENARIOS

The purpose of this section is to revisit the key findings from national best practices and introduce a range of fare concepts for further analysis and review. Fare concepts are strategies that may be used to meet the goals and objectives described earlier in this chapter. However, concepts are preliminary. Some concepts may continue on to be further refined as part of an alternatives package while others will not.

Fare scenarios are more specific and combine select concepts that can be compared against one another. This chapter describes three specific scenarios. Following the analysis of fare scenarios, a series of fare recommendations will bring together various concepts to make a final fare policy and structure recommendation. This analysis demonstrates the ridership and revenue impacts of a recommended fare structure and pass multipliers.





# **Fare Concepts**

In keeping with the fare analysis goals, the following fare concepts were considered as part of the evaluation process in this study:

- Generate Revenue Through the Farebox. While The Kaua'i Bus seeks to keep the service affordable for customers, the agency must also balance farebox recovery each year. For example, the multipliers for monthly passes are on the low end compared to passes offered by similar agencies. The Kaua'i Bus offers additional discounts to youth/students and seniors. According to Federal rules, only a discount on non-peak period cash fares is required; additional pass discounts are simply a community benefit.
- Provide fare incentives to use fixed-route transit (instead of paratransit). The Kaua'i Bus could consider increasing the fare for demand response service to equal the regular fixed-route fare for ADA-eligible passengers and twice the regular fixed-route fare for age-eligible passengers in keeping with industry standard. Furthermore, an increase in demand response fares may help shift a proportion of riders to fixed-route service, which is substantially less expensive to operate. Another option for incentivizing the use of fixed-route service over paratransit service is to eliminate unlimited passes (monthly, annual) for paratransit service.
- **Provide additional fare products to improve rider experience and increase ridership.** The Kaua'i Bus can offer new fare products, such as a 10-trip passbook for paratransit and a 5-Day Pass for fixed-route service, to improve rider experience, minimize administrative burden, and increase ridership.
- **Comply with Federal regulations.** Additionally, The Kaua'i Bus should offer a discount on fixed-route transit to ADA-eligible passengers. According to Federal rules, no more than half of the peak fare for fixed-route transit can be charged to seniors, people with disabilities, and Medicare cardholders.
- **Implement New Bulk Pass Programs.** Kaua'i Bus should implement additional bulk pass programs to encourage ridership and revenue growth.



### **Fare Model Approach and Assumptions**

Specific concepts related to potential fare structure and pricing changes were developed to evaluate potential impacts to Kaua'i Bus ridership and revenue. The fare model developed for this project is based on existing ridership and revenue data (FY 2015) and assumptions on average fare per passenger for each fare product. This information is then used as a baseline to understand order of magnitude changes to fare revenues as a result of pricing changes.

Consumption of transit, like other goods and services, reacts to cost. Significant research over time has examined the sensitivity of transit ridership to fare increases. In transit, the standard measurement of sensitivity to fare changes means that for every 10% increase in fares, ridership will decrease by 3% (and vice-versa).

As such, elasticity factors are common in fare modeling, as they define the price sensitivity of riders to fare changes. An elastic factor suggests a larger change in ridership relative to a fare change. An inelastic factor suggests a relatively small change in ridership relative to a fare change. The model has been structured to use a relatively inelastic factor (-0.33) which is consistent with industry standards for regular fares; additionally, the model incorporates a "reduced" elasticity factor (-0.21) to account for observations associated with student, elderly, and disabled patrons.<sup>2</sup> Using these elasticity factors, ridership changes (on a fare product basis) are determined from the proposed fare increase or decrease. A new average fare for each fare product is also calculated from the percentage change in the fare product price. Finally, multiplying the new ridership estimate by the new average fare produces a revenue estimate for that fare product.

It should be cautioned that any estimation model is an approximation based on a set of assumptions and is highly dependent on accurate data inputs to ensure quality outputs. The fare model bases ridership and revenue changes strictly on price variation. Qualitative factors such as customer simplicity or other factors are not considered here, but are certainly factors in reality that influence ridership and revenue levels. Based on the perceived simplicity gains, it is likely that ridership benefits in each alternative are understated. As a result, the findings in this memo are simply estimates but offer a valuable means to compare different alternatives against one another.

<sup>&</sup>lt;sup>2</sup> Source: TCRP Report 95, Chapter 12, Transit Pricing and Fares.



### Scenario 1: Generate Farebox Revenue

This scenario evaluates the ridership and revenue impacts of increasing shuttle and pass prices, as well as offering a 50% discount on fixed-route transit cash fares and passes to ADA-eligible passengers. Full-priced monthly and annual passes are increased to \$70 and \$700, respectively. Shuttle prices are increased to \$1 for general fare or \$0.50 for seniors/youth/ADA-eligible passengers. The reduced monthly pass is offered at \$35 and the reduced annual pass is \$350. The Scenario 1 fare structure is shown in Figure 11-12.

Figure 11-12	Scenario 1	Evaluation	Fare Structure
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Fare Category	Existing Fare	Existing Multiplier	Proposed Fare	Proposed Multiplier
Cash Fare - Mainline	\$2.00	-	\$2.00	-
Cash Fare - ADA Mainline	-		\$1.00	-
Cash Fare - Shuttle	\$0.50	-	\$1.00	-
Cash Fare - ADA Shuttle	-		\$0.50	-
Monthly Pass	\$40.00	20	\$70.00	35
Monthly Pass - ADA	-	-	\$35.00	35
Annual Pass	\$400.00	200	\$700.00	350
Annual Pass - ADA	-	-	\$350.00	350
Paratransit - Senior	\$1.00	-	\$4.00	-
Paratransit - ADA	\$1.00	-	\$2.00	-
Kaua'i Community College Student	Per semester rate based on agreement between KCC and Kaua'i Bus			



### Scenario 2: Provide Fare Incentives to Use Fixed-Route Transit

This scenario evaluates the ridership and revenue impacts of increasing paratransit cash fares to \$2 for ADA-eligible riders and \$4 for age-only eligible riders, as well as offering a 50% discount on fixed route transit cash fares and passes to ADA-eligible passengers. Additionally, this scenario evaluates the impact of offering a 10-Trip Passbook for paratransit and discontinues the use of unlimited passes for paratransit. The Scenario 2 fare structure is shown in Figure 11-13.

Fare Category	Existing Fare	Existing Multiplier	Proposed Fare	Proposed Multiplier	
Cash Fare - Mainline	\$2.00	-	\$2.00	-	
Cash Fare - ADA Mainline	-		\$1.00	-	
Cash Fare - Shuttle	\$0.50	-	\$0.50	-	
Cash Fare - ADA Shuttle	-		\$0.25	-	
Monthly Pass	\$40.00	20	\$40.00	20	
Monthly Pass - ADA	-	-	\$20.00	20	
Annual Pass	\$400.00	200	\$400.00	200	
Annual Pass - ADA	-	-	\$200.00	200	
Paratransit - Senior	\$1.00	-	\$4.00	-	
Paratransit - ADA	\$1.00	-	\$2.00	-	
10-Trip Passbook for Paratransit - Senior	pook for Paratransit -		\$40.00		
10-Trip Passbook for Paratransit - ADA	-		\$20.00		
Kaua'i Community College Student	Per semester rate based on agreement between KCC and Kaua'i Bus				

Figure 11-13 Scenario 2 Evaluation Fare Structure



# Scenario 3: Simplify Fare Structure

This scenario evaluates the ridership and revenue impacts of offering free service on shuttle routes, increasing paratransit cash fares to \$2, and offering a 50% discount on fixed route transit cash fares and passes to ADA-eligible passengers. Additionally, this scenario eliminates the Annual Pass. The Scenario 3 fare structure is shown in Figure 11-14.

Fare Category	Existing Fare	Existing Multiplier	Proposed Fare	Proposed Multiplier
Cash Fare - Mainline	\$2.00	-	\$2.00	-
Cash Fare - ADA Mainline	-	-	\$1.00	-
Cash Fare - Shuttle	\$0.50	-	Free	-
Monthly Pass	\$40.00	20	\$40.00	20
Monthly Pass - ADA	-	-	\$20.00	20
Annual Pass	\$400.00	200	-	-
Paratransit - Senior	\$1.00	-	\$2.00	-
Paratransit - ADA	\$1.00	-	\$2.00	-
Kaua'i Community College Student	Per semester rate based on agreement between KCC and Kaua'i Bus			



# Fare Scenario Summary

A summary of estimated ridership and revenue impacts for each scenario is shown in the following figures. Generate Farebox Revenue (Scenario 1) increases revenues but results in the largest decrease in ridership. Incentivize Fixed-Route (Scenario 2) would also result in a slight increase in revenues, and a more modest drop in ridership. Simplify Fare Structure (Scenario 3), which implements a fare free shuttle, results in the highest ridership increase and a small drop in revenues.

		Scenario 1: Generate Farebox	Scenario 2: Incentivize Fixed-	Scenario 3: Simplify
Fare Category	Existing	Revenue	Route	Fare Structure
Cash Fare - Mainline	\$2.00	\$2.00	\$2.00	\$2.00
Cash Fare - ADA Mainline	-	\$1.00	\$1.00	\$1.00
Cash Fare - Shuttle	\$0.50	\$1.00	\$0.50	\$0.00
Cash Fare - ADA Shuttle	-	\$0.50	\$0.25	\$0.00
Monthly Pass	\$40.00	\$70.00	\$40.00	\$40.00
Monthly Pass - ADA	-	\$35.00	\$20.00	\$20.00
Annual Pass	\$400.00	\$700.00	\$400.00	-
Annual Pass - ADA	-	\$350.00	\$200.00	-
Paratransit - Senior	\$1.00	\$4.00	\$4.00	\$2.00
Paratransit - ADA	-	\$2.00	\$2.00	\$2.00
Kaua'i Community College Student Pass	\$1.69	\$1.69	\$1.69	\$1.69
10-Trip Passbook for Paratransit - Senior	-	-	\$40.00	-
10-Trip Passbook for Paratransit - ADA	-	-	\$20.00	-
1-Day Pass - Mainline and Shuttle	-	-	-	-



#### Figure 11-16 Estimated Revenue and Ridership Impacts

Measure	Existing	Scenario 1: Generate Farebox Revenue	Scenario 2: Incentivize Fixed-Route	Scenario 3: Simplify Fare Structure
Total Annual Ridership	874,000	730,000	859,000	934,000
Change in Annual Ridership	-	(144,000)	(15,000)	60,000
Total Annual Fare/Fee Revenue	\$1,008,000	\$1,142,000	\$1,041,000	\$989,000
Change in Fare/Fee Revenue	-	\$133,000	\$32,000	(\$19,000)





All scenarios make The Kaua'i Bus ADA compliant by providing a 50% discount to ADA-eligible passengers on fixed-route service.



# FARE RECOMMENDATIONS

The following fare recommendations incorporate results from reviewing national best practices, evaluation of fare scenarios, and refining concepts with Kaua'i Bus.

# **Fare Pricing Recommendations**

- **Increase the price of the monthly pass.** The price of a monthly pass has increased every year for two years—yet still provides a considerable discount from the base fare. Kaua'i Bus should increase the monthly pass cost by \$5 over the next two years with a goal of pricing the pass at \$50/month in two years.
- **Offer a discounted fixed-route monthly pass.** Create a discounted fixed-route monthly pass for seniors aged 65 years and over, people with disabilities, and youth (start at \$20, increase by \$5 in two years).
- **Consider eliminating the annual pass.** The annual pass brings in very little revenue and are only available for purchase at The Kaua'i Bus office in Lihue. It should be considered for elimination, or increasing its price to the equivalent of 12 monthly passes.
- **Create a one-day pass.** Create a one-day pass, priced at \$4, that is valid on all mainline and shuttle routes. In general, best practice is to price day passes at 2-3 times the price of a one-way fare. Setting the price at \$4 is consistent with peer transit agencies in Honolulu and Maui who both offer a day pass priced at twice the one-way fare. A day pass would benefit riders making a round trip or multiple transfers. A scratch-off style is recommended for paper passes, as this fare media does not require additional technology to validate/date stamp and unused passes do not expire. Additionally, if The Kaua'i Bus develops a smartphone app for fare payment, the day pass should be made available for purchase through the app. Visual validation by The Kaua'i Bus operators onboard the bus is recommended for app-based fares.
- **Create a 10-ride paratransit pass.** Eliminate paratransit monthly pass and create a 10-pass product (\$20 for ADA and \$40 for age-eligible).
- **Establish a reduced fixed-route fare for ADA-eligible riders.** The Kaua'i Bus should offer a discounted fare (50% of base fare) on mainline and shuttle routes to ADA-eligible passengers.



### **Recommended Fare Structure**

A potential fare structure for future implementation is provided in Figure 11-18. Recommendations include increasing monthly pass costs by \$5 over the next two years, increasing paratransit cash fares to \$2 for ADA-eligible riders and \$4 for age-only eligible riders, and offering a 50% discount on fixed route transit cash fares and passes to ADA-eligible passengers. Full-priced monthly passes are increased to \$50 over two years, and the reduced price monthly pass is offered for \$25. Finally, this scenario eliminates the Annual Pass in favor of offering a Day Pass for fixed route service and 10-Trip Passbook for paratransit service.

Fare Category	Existing Fare	Existing Multiplier	Proposed Fare Year 1	Proposed Multiplier	Proposed Fare Year 2	Proposed Multiplier
Mainline	\$2.00	-	\$2.00	-	\$2.00	-
Mainline - ADA		-	\$1.00	-	\$1.00	-
Shuttle	\$0.50	-	\$0.50	-	\$0.50	-
Shuttle - ADA	-	-	\$0.25	-	\$0.25	-
Monthly Pass	\$40.00	20	\$45.00	22.5	\$50.00	25
Monthly Pass - ADA	-	-	\$20.00	20	\$25.00	25
Annual Pass	\$400.00	200	-	-	-	-
Paratransit - Senior	\$1.00	-	\$4.00	-	\$4.00	-
Paratransit - ADA	\$1.00	-	\$2.00	-	\$2.00	-
10-Trip Passbook for Paratransit - Senior	-	-	\$40.00	10	\$40.00	10
10-Trip Passbook for Paratransit - ADA	-	-	\$20.00	10	\$20.00	10
Day Pass	-	-	\$4.00	2	\$4.00	2

#### Figure 11-18 Recommended Fare Structure



Implementing the recommended fare structure would result in an 15% increase in revenues and a moderate (4.5%) drop in ridership.

Figure 11-19 Estimated Revenue and Ridership Impacts

Measure	Existing	Proposed	
Total Annual Ridership	874,000	835,000	
Change in Annual Ridership	-	(39,000)	
Total Annual Fare/Fee Revenue	\$1,008,000	\$1,156,000	
Change in Fare/Fee Revenue	-	\$148,000	

# **Fare Policy Recommendations**

### **Establish Guidelines for Fare Increases and Farebox Recovery**

Several factors need to be considered when raising fares, ranging from how fares are perceived by the transit riding public, whether they are "in-line" with peer agencies, to what is the "appropriate" ratio between passenger fares and operating costs. In the future, Kaua'i Bus should consider a transparent fare increase policy that enables more regular fare increases to stay in-line with inflation, farebox recovery, and other revenue-related trends. The following guidelines are provided for Kaua'i Bus' consideration:

- On a semi-annual basis, Kaua'i Bus should review the average fare, subsidy per passenger, and the farebox recovery ratio for transit services when developing the annual operating budget. If all three ratios are declining and costs to operate the service are increasing, consider a fare adjustment.
- Develop farebox recovery goals for different types of service, including fixed-route, zone, and demand response.
- Develop preferred policies for pass discounts and multipliers.
- Monitor the local consumer price index, and if increases are greater than 5% in any given year, consider increasing fares to keep pace with inflation.
- Monitor and track use of all passes and if there is a significant drop in sales with any fare product, consider a fare
  adjustment for that product. Similar to an underperforming route, underperforming fare products should be
  evaluated for adjustments or elimination.



- For all future fare increases, pass product prices should be rounded to the nearest dollar. Single-ride prices and/or day pass products should be rounded to the nearest quarter.
- Fuel prices should be considered as part of a fare adjustment policy. However, given the volatility in fuel prices, it may be difficult to use average cost of fuel as a consistent barometer for a fare increase policy.
- "Across the board" fare increases are simple and transparent, but will often create disproportionate impacts. These types of fare increases should be avoided unless supported by evidence that the strategy meets specific goals at the time of evaluation.
- These guidelines assume that service levels would remain constant. Fare increases paired with service level increases may be warranted assuming support exists for both. Fare increases paired with service cuts should be avoided when possible.
- "Premium" services, or services that offer a competitive time or comfort advantage over vehicle or transit alternatives, should continue to be considered for pricing at a higher level to differentiate the product.

### **Expand Bulk Pass Programs**

The Kaua'i Bus should continue to explore potential partnerships related to bulk pass programs, particularly for large employers in Kaua'i County. The benefit to major institutions is that a well-designed program provides a simple, packaged solution to help solve transportation access issues to their organization.

The Kaua'i Bus currently partners with Kaua'i Community College (KCC) to provide transit passes to KCC students. In 2013, KCC began offering student passes through a memorandum of agreement between KCC and Kaua'i Bus. Students pay \$24 per semester to register their student ID as a bus pass, allowing them to ride free on all Kaua'i Bus Mainline and Shuttle routes. Paratransit service is also available to KCC students who are ADA paratransit eligible.

Kaua'i Bus has the opportunity to expand their bulk pass program to large employers and other readily identifiable groups in the County, such as resort associations, to provide bulk rate passes to employees. Large employers in Kaua'i County (250 employees or more) that are served by transit are strong candidates for participants in a potential bulk pass program, which would increase revenue and boost ridership.

The largest private employer in Kaua'i County is The Grand Hyatt in Po'ipū. According to the State of Hawai'i open data portal, the other top five major employers in Kaua'i County are Wilcox Memorial Hospital, Marriott-Kaua'i Resort, and the Kaua'i Veterans Memorial Hospital. These major Kaua'i County employers represent potential opportunities to launch an



employer bulk pass program, increase revenue, and boost ridership. Figure 11-20 provides a list of all employers on Kaua'i with 250 or more employees that are served by transit. A map of large employers in provided in Chapter 2 of this report.

Figure 11-20 Top Employers in Kaua'i County served by Kaua'i Bus

Rank	Employer	Location	Business Description	Number of Employees	Kaua'i Bus Routes
1	Grand Hyatt-Kaua'i Report & Spa and Business Center	Kōloa	Hotels & Motels	500-999	Kōloa Shuttle
2	Wilcox Memorial Hospital	Līhu'e	Hospitals	500-999	Līhu'e Shuttle, Wailua-Līhu'e Mainline, Hanalei-Līhu'e Mainline, Kekaha-Līhu'e Mainline
3	Marriott-Kaua'i Resort	Līhu'e	Hotels & Motels	500-999	Līhu'e Shuttle
4	Kaua'i Veterans Memorial Hospital	Waimea	Hospitals	500-999	Kekaha-Līhuʻe Mainline
5	Walmart	Līhu'e	Department Stores	250-499	Līhu'e Shuttle, Wailua-Līhu'e Mainline, Hanalei-Līhu'e Mainline, Kekaha-Līhu'e Mainline
6	Sheraton-Kaua'i Resort	Kōloa	Hotels & Motels	250-499	Kōloa Shuttle
7	Samuel Mahelona Memorial Hospital	Kapa'a	Hospitals	250-499	Kapahi Shuttle
8	Kaua'i Medical Clinic	Līhu'e	Physicians & Surgeons	250-499	Līhu'e Shuttle, Wailua-Līhu'e Mainline, Hanalei-Līhu'e Mainline, Kekaha-Līhu'e Mainline
9	Wyndham Vacation Rentals	Kapa'a	Vacation Rentals	250-499	Wailua-Līhuʻe Mainline, Hanalei-Līhuʻe Mainline
10	Kaua'i Coast Resort- Beachboy	Kapa'a	Resorts	250-499	Wailua-Līhuʻe Mainline, Hanalei-Līhuʻe Mainline
11	Kaua'i Beach Resort	Līhu'e	Hotels & Motels	250-499	Wailua-Līhuʻe Mainline, Hanalei-Līhuʻe Mainline


### **Consider Best Practices for Flash Pass Deployment**

The simplest implementation of smartphone payment is to allow riders to use their phone as a "flash pass" that is visually validated by the bus operator when they board the bus. The Kaua'i Bus should consider best practices for deployment of this type of fare payment and the potential for future deployment.

# **Summary of Recommendations**

Fare recommendations for The Kaua'i Bus are comprised of fare pricing and fare policies to meet agency goals and align with peers. Figure 11-21 provides a summary of recommendations developed as part of the Kaua'i Bus fare study.

Figure 11-21	Fare Recommendations Summary
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Fare Recommendations		
Fare Pricing Recommendations	<ul> <li>Increase monthly pass pricing by \$5 over the next two years</li> <li>Offer 50% discount on fixed-route cash fares and passes to ADA-eligible riders</li> <li>Discontinue annual pass</li> <li>Create a 1-day pass for fixed-route transit service priced at twice the one-way fare</li> <li>Offer a 10-trip passbook for paratransit service and eliminate the paratransit monthly pass</li> <li>Increase paratransit cash fares to \$2 for ADA-eligible and \$4 for age-eligible riders and eliminate unlimited passes for paratransit</li> </ul>	
Fare Policy Recommendations	<ul> <li>Establish guidelines for fare increases and farebox recovery</li> <li>Expand bulk pass programs</li> <li>Consider best practices for flash pass deployment</li> </ul>	

# **12 ORGANIZATIONAL ASSESSMENT**

This assessment describes the personnel needs and overall organizational changes required to ensure the ongoing success of The Kaua'i Bus. Ridership has been growing, and the agency will need more staff—not less—to keep up with demand. Furthermore, investments in specific skill sets will be critical to help the system improve and grow. Similarly, changes to certain operating procedures, including the creation of standard operating procedures, will be essential to making the most out of the limited funding available to accommodate growth in years to come.

This chapter begins by outlining The Kaua'i Bus' organizational structure in terms of day-to-day operations, longer-term strategy, and reporting to elected officials. It then presents key challenges facing The Kaua'i Bus in terms of work capacity and operating procedures. The subsequent section lists the proposed changes to address these challenges, as well as the expected outcomes of the changes.





### WHO DOES WHAT?

The Transportation Agency, known colloquially and branded as The Kaua'i Bus, is an executive level administration of the County of Kaua'I, reporting directly to the mayor. Differentiated from other departments, all employees of Kaua'i Bus are mayoral appointees and not part of the standard county civil employment system. The Executive on Transportation reports directly to the Mayor and Council of the County of Kaua'i. Officially, the Mayor is recognized as the Department Head of the Transportation Agency. It is organized into three work clusters: Programs, Transit Safety, and Transportation Operations—each of which has a manager who reports to the Executive on Transportation. Figure 12-1 presents an overview of the organizational structure of The Kaua'i Bus, excluding the Mayor. The three work clusters are organized as follows:

- **Programs** includes two accounting staff managed by a Program Specialist.
- **Transit Safety** includes a team of seven mechanics and mechanical repair workers, as well as two Field Operation Clerks, all of whom are supervised by the Transit Safety Specialist.
- Transportation Operations comprises 93 employees<sup>1</sup> who tend to the day-to-day operations of The Kaua'i Bus, including paratransit dispatchers and bus drivers. Collectively, these staff work under the Transportation Operations Manager.

<sup>&</sup>lt;sup>1</sup> 56 full-time bus drivers, 21 part-time bus drivers, 5 part-time van drivers, 2 transportation operations assistants, and 9 clerk dispatchers









### **KEY CHALLENGES**

Based on interviews and communications with staff, The Kaua'i Bus is faced with five key operational challenges: (1) a general staff shortage; (2) no capacity or staff dedicated to transit service planning, (3) limited technical capacity with respect to GIS and data analysis, design, and internal and external communications, (4) bus drivers are often given official and unofficial responsibilities that do not involve driving buses, and (5) there is no single source of agency-wide standard operating procedures.

- **Staff shortage.** The Kaua'i Bus staff accomplish a remarkable amount of work with the staff available. This is both an achievement and a challenge—several tasks would be better accomplished with specialized staff rather than leftover time from nonspecialized staff. Staffing to increase the scale of transit operations will be difficult without a corresponding increase in staff levels.
- **No dedicated planning staff.** Partly owing to the general staff shortage, there is no dedicated staff assigned to transit service planning—a critical component of transit provision. With no dedicated planning staff, it is difficult for non-planners to carve out time for strategic thinking and technical matters associated with route planning.
- **Technical capacity limitations** with respect to GIS, data analysis, design, internal communications, and external communications. Many functions of typical transit agencies do not exist at The Kaua'i Bus. This includes:
  - **GIS** capacity to develop route and demographic maps.
  - Data analysis capacity to interpret and report on internal and external data.
  - **Design** capacity to develop and maintain visually engaging information materials.
  - Communications and marketing capacity to develop written materials, from internal manuals to external
    press releases.<sup>2</sup> Customer service/quality assurance staff is also needed to ensure customer satisfaction and
    respond to complaints.
- **Bus drivers are often given official and unofficial tasks that do not involve driving buses.** This includes a variety of tasks, such as folding information materials (unofficial) and fueling and cleaning buses (official).
- No standard operating procedures. Procedures are often based on precedent, norms, and ad-hoc written directives. It is therefore difficult to ascertain whether there is a "correct" way to do any given task. This even pervades the provision of service where a frequent customer complaint regards the order of stops and the route a bus takes on what should be a standard stop.

<sup>&</sup>lt;sup>2</sup> While The Kaua'i Bus has staff capable of writing internal and external communications, no staff is dedicated to these functions.



Additionally, The Kaua'i Bus is responsible for maintaining the County's small equipment pool—a very unusual practice for a transit agency. Currently, The Kaua'i Bus does not receive additional funding related to management time and use space in The Kaua'i Bus maintenance facility as part of this responsibility.

# **PROPOSED CHANGES**

As a result of the challenges listed above, this Organizational Assessment proposes five changes to the organizational structure and operating procedures of The Kaua'i Bus.

# **Build Transit Planning Capacity**

Transit planning is a critical component of transit agencies. Transit Planners provide technical expertise associated with all aspects of transit provision. Without dedicated planning staff, operations can become overly ad-hoc and lack strategic clarity. Planning staff are also typically important liaisons between departments, helping to ensuring that transit goals align with the broader goals of other departments.

This assessment proposes the creation of a Transit Planning work cluster, including at least one managerial position and one analyst position. A large team is not necessary, but dedicated staff is essential to the smooth functioning of any transit agency. Because funding is constrained at The Kaua'i Bus, and the agency is not large, the analyst position could be folded into a broader position that includes design and communications responsibilities as well. Similarly, one or both roles could be filled using external assistance from a contractor.

One very key role of this new work cluster would be to increase the transparency of The Kaua'i Bus by regularly creating and distributing reports on ridership and agency progress. These would not only be distributed to Mayor and Council, but also posted on the website for general public access.

# Build GIS, Analysis, Design, and Communications Capacity

This proposed change deals with the specific technical capacities—in addition to general transit planning expertise—needed by The Kaua'i Bus or an outside contractor.

This plan recommends building technical capacity in four key areas:

• **GIS** capacity to develop a variety of maps related to transit. These include route maps, demographic maps, origindestination maps, GTFS data, and so on. GIS is essential to making informed decisions about transit planning. One alternative in this specific area is to create a formalized agreement with the County's GIS department for a



specified number of hours. The expertise already exists within this department and there may be efficiencies gained by utilizing a singular source.

- **Data analysis** capacity to interpret and report on internal and external data. This typically overlaps with GIS, but can also include non-spatial data analysis: spreadsheets, databases, modeling, and data visualization. This is a function that could also be assigned to the planning cluster depending on the skills of the staff.
- **Design** capacity to develop and maintain visually engaging information materials. Information materials explain to riders how to use transit, and inform them of changes. Community engagement on Kaua'i has shown that poor information materials are a key deterrent to transit usage. This function may be suitable for contracting to a firm already on the island, rather than creating internal capacity. It is unlikely this function will be needed on a regular basis and would be more efficient if obtained on an, as-needed basis.
- Communications and marketing capacity to develop written materials and maintain a social media presence. Transit agencies must frequently produce well-written materials: information for riders, manuals for operators, press releases for the public, and internal reports for managers. Customer service/quality assurance staff is also important for interacting with customers, including ensuring customer satisfaction and responding to inquiries/complaints.

Because The Kaua'i Bus is a small transit agency, it may be possible for one employee to possess (or learn) all four skillsets. However, finding and training someone with these skills may be difficult. Therefore, external help from contractors may be a more feasible option for filling this need, especially in the short term. Regardless, the above are skills are important for the functioning of a transit agency, and should be made available one way or another.

# Separate Drivers from Transit Vehicles and Assign Vehicle Cleaning to Non-Driver Staff

Drivers are currently assigned specific transit vehicles and given the responsibility of fueling and cleaning them on their own. This results in two operational issues: (1) sub-optimal parking lot space management, and (2) quality control associated with vehicle cleanliness. Some operators take great care with the cleanliness of the vehicles while others are less obsessive about the cleanliness of the vehicle. The separation of drivers from specific vehicles and the addition of fueling and cleaning staff addresses both issues:



- 1. As service and the fleet grow, transit vehicle parking management will increasingly become an issue. By separating operators from vehicles, more vehicles can fit into a tighter space. Using this approach, any available transit vehicle<sup>3</sup> can be provided to the next operator who needs to run a trip.
- 2. Separating vehicles from operators also relieves the burden of vehicle fueling and cleaning from operators. Instead, they can focus on driving. At the same time, this improve the efficiency of the function and makes it easier to establish cleaning protocols and monitor quality over time.

# Generate Turn-By-Turn Route Instructions for Operators

Turn-by-turn route instructions are clear, step-by-step directions for transit operators to use when running any given route. The instructions eliminate any ambiguity associated with route alignments. For example, two drivers may determine that different roads are faster or more convenient for reaching a given bus stop—this difference in alignments between drivers creates issues with schedule adherence and also introduces confusion for riders.

# **Create an Operating Manual**

Operating manuals outline step-by-step instructions for dealing with both routine and complex functions among transit operators as well as other transit agency staff. The purpose of operating manuals is to maintain uniformity and a specified level of quality. Operating manuals also reduce ambiguity, confusion, and miscommunications among staff.

This is important for The Kaua'i Bus because several norms, conventions, and procedures are established on an ad-hoc basis, and where formal procedures do exist, they may not be easy to locate. Most transit agencies already have manuals like this and are eager to share them. This makes the process of creating an operator's manual less time consuming as it becomes a matter of using an existing document and customizing it to The Kaua'i Bus situation and operating practices.

<sup>&</sup>lt;sup>3</sup> Vehicles will still need to be arranged by type so that the appropriate vehicle is allocated for the appropriate trip. For example, paratransit vehicles are needed for paratransit trips, whereas fixed-route vehicles are needed for fixed-route trips.



### **EXPECTED OUTCOMES**

By implementing the changes specified above, The Kaua'i Bus would benefit in the following eight ways:

- Free up more time to plan and collaborate strategically among management staff and external organizations and departments
- Gain the capacity to produce and edit visually compelling rider information materials
- Gain the capacity to generate turn-by-turn directions for transit vehicle operators for all routes
- Gain the capacity to conduct ongoing transit service planning based on informed GIS and data analyses

- Gain the resources to develop copy for internal and external communications
- Establish clearer understanding of internal procedures among all staff members, including operators
- Better quality control for bus cleanliness and maintenance as well as focus more operator hours on providing safe, reliable service
- More efficient space allocation of existing bus parking facilities

# **FUTURE CONSIDERATIONS**

In Chapter 9 (Capital and Infrastructure Plan) there is discussion of the longer term need to establish operating bases in the more remote portions of the island. From an organizational standpoint, it would be a best practice to also consider decentralizing some of the operator supervision and service contingency management functions and attach them to these remote operating bases. Today any type of incident that has a direct impact on vehicles, staff, or riders—if the incident raises to a certain level—requires someone from the management team in Līhu'e to respond. If the incident is located in an outlaying area response time can be very long. Distributing supervisory functions to the remote operating facilities not only enhances supervision and service quality, but also allows a much faster response to incidents that occur away from the Līhu'e/Kapa'a area.

# **13 FINANCIAL PLAN**

Most of the strategies in the SRTP require funding in order to be carried out. The Financial Plan helps determine how to fund these strategies. It is structured as follows:

- **Existing revenue sources.** This section describes how current operations of The Kaua'i Bus are funded, both in terms of operating costs and capital costs.
- **Potential new revenue sources.** This section lists potential revenue sources that could become available to The Kaua'i Bus in the future, including financing mechanisms and costs for shuttle services.
- Service efficiencies and cost saving strategies. In addition to seeking new funding sources, cost savings will allow for the implementation of modest, short-term improvements in service. This section explains the ways in which The Kaua'i Bus will save costs, and recycle the savings into implementing the strategies in this plan—principally, more hours of transit service.

**Existing Revenue** 

Potential New Revenue Sources Service Efficiencies and Cost Savings



### **EXISTING REVENUE**

Existing revenue for The Kaua'i Bus is currently comprised of a mix of fares, local funds, and Federal assistance (Figure 13-1). Approximately 70% of existing operating revenue is generated from local funds, while 80% of capital revenue is generated at the Federal level. Diversifying revenue sources will provide opportunities for service expansion to better serve residents and visitors to Kaua'i. It should be noted that capital funds fluctuate from year to year depending on the level of capital activity planned for a particular year, such as purchasing replacement vehicles, or installing passenger shelters. The figure below provides a one year snapshot of capital funding that is on the higher side of normal.

	Operating Revenue	Capital Revenue	
Directly Generated Funds			
Fare Revenue	\$750,372	\$0	
Non-Federal Funds			
Donations	\$7,869	\$0	
Contract Revenues	\$208,213	\$0	
County Funds	\$4,819,922	\$556,223	
State Funds	\$0	\$0	
Federal Assistance			
FTA Capital Program Funds (5309)	\$0	\$2,137,734	
FTA Special Needs of Elderly Individuals and Individuals with Disabilities Formula Program Funds (5310)	\$0	\$87,158	
FTA Rural Area Formula Funds (5311)	\$1,020,058	\$0	
Total	\$6,806,434	\$2,781,115	

#### Figure 13-1 The Kaua'i Bus Revenues (2014)

Source: The Kaua'i Bus



# POTENTIAL NEW REVENUE SOURCES

This section lists 11 potential funding sources that could be considered in order to implement the SRTP strategies identified in previous chapters. Figure 13-2 presents each of the sources and its pros and cons.

Funding Source	Pros	Cons
Bulk Passes	Generates revenue while boosting ridership and allows employers to offer tax-deductible benefits	Participation is voluntary and would require extra payroll work for employers
Business Improvement District	Could be used to fund transit capital and operations. Funds could be controlled by those most likely to benefit.	Would require enabling legislation by Kaua'i Council and establishment of business improvement districts who would vote to levy assessments on themselves for specific improvements.
Hotel & TVR Property Taxes	Opportunity to raise TVR taxes (currently lower than hotel taxes)	Funds would not be guaranteed for transit
Voluntary Funding Programs	Funds generated would go directly to transit	Participation is voluntary, and funding may not be steady from year to year
US Fish & Wildlife Service Partnership	Potential new shuttle service would improve North Shore transit service	Funds can only be applied to routes directly serving Kilauea Point; US Fish & Wildlife have been non- committal regarding this option
State of Hawai'i	State is interested in reducing congestion at Kē'ē Beach	Long-term funding is not guaranteed; to date, the State has shown interest but no ability to fund a solution
Transient Accommodations Tax	Would not require raising additional taxes	State has been unwilling to reapportion funds to County, and funds would not be guaranteed for transit
Hotel Room User Fees	Could generate substantial revenue with minimal burden to visitors	Collecting new fees would require authorization from State Legislature
Rental Car User Fees	Could generate substantial revenue with minimal burden to visitors	Collecting fees would require authorization from State Legislature
Communities Facilities District	Could be used to fund transit capital projects	Would require property tax increase, and is not an allowed funding source for operations

Figure 12.2	Summary of Funding Source Dree and Cou	-
Figure 13-2	Summary of Funding Source Pros and Col	15



Funding Source	Pros	Cons
General Excise Tax Surcharge	Could be used to fund transit operations and other transit improvements	Would require additional political support at the County Council level. (Note, as of December 2017, The Council has authorized an extension of the GET to fund transportation improvements on Kaua'l, including the potential to invest funds in improving transit.)

Bulk passes and Business Improvement Districts (BIDs) are the most promising two options for near and mid-term implementation. A more detailed description of each funding source is presented below.

# **Promising New Funding Options**

### **Bulk Passes**

In recent years, growing numbers of transit agencies have teamed with universities, employers, or residential neighborhoods to provide universal transit passes. These passes typically provide unlimited rides on local or regional transit providers for low monthly fees, often absorbed entirely by the employer, school, or developers. Additional discussion about bulk passes in available in the Fare Analysis (Chapter 11).

### **Business Improvement District**

Hawai'i state law—see below for specifics—allows each county the option to pass an ordinance for the establishment of Business Improvement Districts (BID). These districts are created to provide supplemental services and improvements within a geographically defined area. The tax collected from properties in a BID can be used for a variety of services, including transit, streetscape improvements, placemaking, façade improvements, and marketing. As of September 2017, the County of Kaua'i is currently investigating the level of interest in pursuing BIDs on the island.

BIDs can also be used to finance community shuttles to alleviate vehicular congestion and promote sustainable transportation options. As an example, the Kailua Village Business Improvement District (KVBID) in Hawai'i County, contributes to a community shuttle to reduce congestion as well as to help manage parking demand (KVBID 2015 Annual Report). Potential partners on Kaua'i have expressed an interest in maintaining fiduciary control if they are contributing to a BID; the KVBID Board structure is also described as an example. Several steps would be required to enact enabling legislation; this process as well as a case study of KVBID is included in this section.



#### **Process for BID Enabling Legislation**

The State of Hawai'i has set up a multistep process for establishing BIDs. According to Hawai'i Revised Statutes Division 1. Government § 46-80.5, each county must enact an ordinance that allows for the creation of individual BIDs. This master ordinance sets parameters for the management of a BID and is detailed in the following excerpt from State law:

"...any county having a charter may enact an ordinance, and may amend the same from time to time, authorizing the creation of special improvement districts for the purpose of providing and financing supplemental maintenance and security services and such other improvements, services, and facilities within the special improvement district as the council of the county determines will restore or promote business activity in the special improvement district and making and financing improvements therein." § 46-80.5

Once a county has enacted an ordinance that allows for the creation of a BID, each individual BID must be authorized by an additional ordinance. A petition is then required by a substantial percentage of landowners in a specific geography that are looking to establish a BID.

For example, the County of Hawai'i requires that the petition must be signed "by landowners owning lands within the proposed district that have a real property tax assessed value of at least 25% of the total real property tax assessed value of all land in the proposed district" (Hawai'i County Code, Chapter 35 Section 10). If the County Council then determines to proceed with enacting the local BID, additional parameters need to be detailed in the proposed ordinance which specifies the duration of the BID, the boundaries, services to be provided, expenses, which parcels will be assessed, and the amount of bonds to be issued (if any) to finance supplemental improvements. A mailed notice of hearing is the next step for establishing a BID locally. Included in the mailed notice should be the full proposed ordinance which enables the establishment of the BID as well as the time and place of the first public hearing for all affected persons.<sup>1</sup>

<sup>&</sup>lt;sup>1</sup> If landowners owning over 50% of the total real property tax assessed value of all land in the proposed district file an official protest to the creation of the BID, proceedings will be halted for at least 90 days (Hawai'i County Code, Chapter 35 Section 13).



### **Case Study: Kailua Village Business Improvement District**

#### **Business Improvement District**

The County of Hawai'i has successfully adopted ordinances that enable BIDs, which has thus far resulted in the creation of the KVBID. The KVBID was created by local ordinance in 2007 after submitting a petition from the required threshold of local landowners and receiving a majority vote of the Hawai'i County Council (Hawai'i County Code, Ordinance 07 071).

KVBID members represent district landowners, commercial tenants, residents, and government officials. As outlined in the ordinance that established the KVBID, the Board has 17 members, 15 of which are voting members. Additionally, a majority of the Board members represent fee simple owners and lessees of land. The two nonvoting members of the board are the Director of Public Works (or designee) and the Director of Finance (or designee). Since the creation of the KVBID in 2007, between \$750,000 and \$840,000 has been collected on an annual basis. Property tax assessments made up 84% of the total District revenues in FY16. The remaining revenues come from events, grants, and other sources (Figure 13-3).





Source: Kailua Village Business Improvement District 2015 Annual Report

Specifically of interest is the Kona Trolley, which operates within Kailua Village. This service is operated by Roberts Hawaii, a private shuttle company, with a direct contribution of \$18,000 annually from the KVBID to make the service viable.<sup>2</sup> Additional funds for the service are generated by the \$2 per trip fare for passengers.

<sup>&</sup>lt;sup>2</sup> The current allocation from the KVBID budget is included as part of the Placemaking expense item referenced in Figure 13-4.



The KVBID works in partnership with the local resorts and businesses to promote the trolley to locals as well as to visitors. This service has seen recent success and has grown from 50,299 passengers to 81,255 passengers annually. Individual businesses along the trolley route can request stops at an additional cost.

Longer term, the KVBID Strategic Plan (2013-2018) has outlined plans to enhance Kona Trolley service through increased contributions from their annual operating budget. This partnership between local resorts, businesses, and the KVBID is a model that could be used on Kaua'i as local communities consider alternative forms of financing local transportation programs.



KVBID Kona Trolley Image from flickr user BarryFackler

### **Additional Potential Funding Options**

### Hotel and TVR Property Taxes

One option for increasing revenue funds at the county level is to raise taxes collected from hotels, resorts, and transient vacation rentals (TVRs). TVRs have lower tax rates than hotels and resorts, largely due to having typically fewer sources of revenue than a hotel or resort (e.g., restaurants, gift shops). While raising the rate equal to that of hotels is not likely feasible, partially raising the rate could prove to be a substantial source of revenue for the County. As it currently stands, however, there is no guarantee that the increased funds would be apportioned to transit operations or capital facilities.

### **Voluntary Funding Programs**

One possibility is to establish partnerships with resorts that would voluntarily contribute toward the funding of shuttles that serve their visitors and employees. For example, participating resorts that agree to collect an additional \$1 in daily visitor fees would be able to offer their employees and visitors "free" service on local routes. This type of partnership would likely require an interlocal agreement between the County and each resort to guarantee a steady funding source throughout a given year. However, it should be noted that steady funding from year to year would not be a guarantee.



### US Fish and Wildlife Service Partnership (Kīlauea Point National Wildlife Refuge)

County staff have been coordinating with representatives of the Department of Fish and Wildlife (DFW) to manage access to Kīlauea Point National Wildlife Refuge. DFW has indicated the potential for a shuttle that will mitigate possible interaction between visitors and the endangered nēnē. Depending on the outcome of the project, DFW could be a potential future partner to help implement shuttle services on the North Shore.

### State of Hawai'i

To date there is no state-level, dedicated funding source for transit on Kaua'i. However, the State has expressed interest in supporting tourism-oriented transit initiatives and helping to reduce congestion at Kē'ē Beach.

### **Transient Accommodations Tax (TAT)**

Currently, the State keeps a proportion of revenue generated from Transient Accommodations Taxes (TAT). If the County were able to acquire a portion of these funds, it would be able to do so without raising additional taxes. However, the State has thus far been unwilling to do this. Furthermore, allocation to the County's general fund would not guarantee that it would be used for transit.

### **User Fees on Hotel Rooms and Rental Cars**

Collecting fees based on tourist-related activities (such as renting hotel rooms and rental cars) could generate a substantial amount of revenue for the County without being overly burdensome to visitors. However, the County does not currently have the ability to collect a user fee on hotel rooms or rental cars, being that it would require new legislation to authorize a new user fee.

### **Communities Facilities District**

Although counties do not have the authority to establish Transit Benefit Areas, the County could establish a Communities Facilities District (CFD). CFDs typically allow counties to finance streets, sewers, and other basic infrastructure through a tax collected from properties that stand to benefit from the given project. While not typically used for transit operations, CFDs could be a viable option for transit capital projects.



### **General Excise Tax Surcharge**

The General Excise Tax (GET) is a statewide tax collected on the gross income of businesses. Currently, the minimum rate is 4%, with counties having the option to establish a one-half percent surcharge, for a total of 4.5%. In December 2017, the County Council approved a bill to establish the surcharge (Bill 2670) beginning in January 2019. The anticipated annual revenue of the GET surcharge is \$25 million, to be reserved for transportation improvements, including a combination of roads, bridges, land acquisition, and public transportation. The GET excise will remain in effect through December 2030.

# **Shuttle Service Costs and Financing**

Shuttle financing and costs can vary depending on their objectives and circumstances. Most often shuttles are small vehicles that one might experience at a hotel or airport. Often shuttles are operated by private transportation providers who recover the capital costs of the vehicle as well as the operating cost through a "unit of service" contract with some entity which may be a city, a TMA, a specific employer, a developer, a homeowners association, a transit agency, a county, or a retailer. Fares typically do not make up a significant portion of revenue and are more commonly used as a way to control access. Sometimes the vehicles are acquired as the result of a state or federal grant and the replacement cost is recovered as part of the operation.

Typical costs for a shuttle will range from \$50 to \$80 per revenue hour, depending on a number of factors including fuel costs and local labor rates.<sup>3</sup> The total annual cost of a shuttle will be a combination of the per-hour cost and the service provided. The Rancho CordoVan in Rancho Cordova, CA, for example, operates two routes with two buses. One route operates every 15 minutes, the other route every 45 minutes. The annual cost to operate the service is about \$270,000 per year or about \$8 per passenger with the current ridership of about 34,000 boardings per year.

The Emery Go-Round in Emeryville, CA is a much larger operation with three routes operating at a high level of service and ridership. Precise costs are difficult to determine as the costs for providing the service are a combination of materials and facilities provided by the TMA coupled with an operational contract with a private provider. But it appears the total annual costs are in the range of \$1.2 to \$1.5 million per year, or about \$1.00 per ride at current ridership level of 1.3 million boardings per year. A case study of the Emery Go-Round is provided below to describe funding partnerships for shuttle services.

Also noteworthy, new entrepreneurial services are popping up all over the US. Services like "the Downtowner" (<u>an</u> <u>example operating in Boca Raton, FL</u>) or services by software companies <u>Via</u> and <u>TransLoc</u>. Each of these may provide an opportunity for Kaua'i as these services and opportunities continue to be created and mature.

<sup>&</sup>lt;sup>3</sup> By comparison, the operating costs for The Kaua'i Bus are approximately \$76/hour



# Case Study: Emery Go-Round (Emeryville, CA)

#### Shuttle Service Funded through Public-Private Partnership

A shuttle service providing a connection between the MacArthur BART station in Oakland and major employment and retail centers in Emeryville, CA. The Emery Go-Round is free of charge and available to the general public. Service was initially administered by the City of Emeryville and was paid for through a public/private partnership. The shuttle evolved over the years and is now administered by the Emeryville Transportation Management Association (TMA), a non-profit organization whose purpose is to increase access and mobility to and from Emeryville businesses. The TMA and the shuttle service is currently funded through a property-based business improvement district (PBID), with all commercial and industrial property owners in the City paying a fee to support the TMA and shuttle services.

Service has expanded its hours of operation and frequency has increased in the past several years. Weekday service runs from 5:45 a.m. to 10 p.m., Saturday service is provided from 9:30 a.m. to 9:30 p.m., and Sunday service is available from 10:30 a.m. to 6 p.m. Headways range from 12 minutes during weekday peak hours to 45 minutes on weekends. Real-time arrival information for all routes is provided by NextBus. Riders can get arrival times either online or by calling a phone number and entering a code for a particular bus stop.

During peak hours, a majority of passengers are going to or from work. Midday travel carries a significant percentage of commuters, but half of the passengers have other trip purposes including shopping and school. Most passengers who use the shuttle during peak hours use it at least once a week, with many using it daily. Mid-day travelers use is less frequent.



Source: Emery Go-Round



### SERVICE EFFICIENCIES AND COST SAVINGS

Regardless of the availability of new funding sources, The Kaua'i Bus is currently evaluating the potential to find efficiencies in various operating procedures to fund additional transit service hours. The three primary mechanisms that are expected to reduce costs and/or anticipated future cost increases for The Kaua'i Bus in the short term are: (1) a scheduling efficiency plan (2) transferring paratransit demand to fixed-route service, and (3) improving information materials. The scheduling efficiency plan is the most promising way for The Kaua'i Bus to provide more service hours without increasing costs in the very near-term. The changes to paratransit and information materials also have the potential to reduce costs or at least diminish cost increases, but in a less immediate term as well as a less dramatic fashion. These two strategies are discussed in further detail in Chapter 8 (Paratransit Service Plan) and Chapter 10 (Marketing Plan). The runcut is described below.

# **Scheduling Efficiency Plan**

The Kaua'i Bus is currently undertaking a scheduling efficiency plan in order to determine how much efficiency can be funneled back into the strategies listed in this plan. Specifically, the efficiencies gained from the plan will be used to implement the fixed-route strategies in Chapter 7 in the order in which they are listed. The magnitude of cost savings will be determined in 2018.

Transit scheduling is a process by which blocks of trips are assigned to vehicles and then drivers are assigned to vehicles. In doing so efficiently, the objective is to minimize the amount of time when operators are not providing service as shown in the public timetable. These underutilized potions oftime can arise from excessive deadhead time, or excess time when not in service between trips. Note that some amount of dead time is needed between trips to allow for operator breaks as well as ensure the next trip can leave on time, providing more reliable service. But this time needs to be allocated based on actual operations and balanced by location to achieve the most optimal results. By rearranging the gaps in time, the same number of operators can deliver more service hours without any additional resources.