



# HONOLULU BIKESHARE ORGANIZATIONAL STUDY

## Final Report



**June 2014**  
**City and County of Honolulu**  
**Department of Planning and Permitting**

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# 1 INTRODUCTION

Honolulu is a highly urbanized collection of neighborhoods and districts exhibiting unique urban transportation issues. Honolulu's mobility challenges are different from those found on the mainland. These challenges stem from geographic constraints (the core travel corridors are wedged between the ocean and the mountains, *makai* and *mauka* of the H1 freeway), high levels of transit use that create capacity issues on the urban bus system, cultural reliance on the automobile, and rapid urbanization. Coupling these issues with some of the nation's worst traffic congestion and the need to develop a more sustainable island transportation system, Honolulu understands that it cannot expand the capacity of the roadway system to meet its mobility needs.

The City and County of Honolulu and its various public sector partners have made concerted efforts to accommodate ever-increasing demand for transportation, while balancing the need to create vibrant, economically sustainable, and ecologically sound communities. Bikeshare has been identified as one tool in the urban transportation toolbox to meet resident, employee, and visitor mobility needs. It also supports various concurrent and interconnected initiatives including the implementation of the Honolulu Authority for Rapid Transportation (HART) rapid transit system, transit-oriented community development, and various state-led energy, livability, and health initiatives.

Reflecting on this interplay of mobility challenges and synergized efforts for sustainable urban mobility, the City and County of Honolulu, the State of Hawaii and its diverse set of public and private partners have collaboratively determined to implement a bikeshare system in urban Honolulu with the potential to expand the program to other cities and counties across the state. In May 2012, a Hawaii Clean Energy Initiative (HCEI) Transportation Vehicle Miles Traveled (VMT) reduction working group and the State Department of Health identified bikeshare as a key strategy for reducing vehicle miles traveled (VMT) and achieving healthy outcomes.

This led to the creation of a Bikeshare Working Group (BWG) with the goal of bringing a public bikeshare program to Honolulu. The Bikeshare Working Group is a collaborative group of private and partners and individuals, including the City and County of Honolulu, the State of Hawaii, the U.S. Environmental Protection Agency (EPA), private foundations, non-profits, and educational institutions like the University of Hawaii at Manoa and Hawaii Pacific University. The BWG has been an instrumental partner to this planning process, helping to shape the bikeshare discussion and examine strategies for how to best implement bikeshare in Honolulu and across Hawaii.

Supported by the BWG, the City and County of Honolulu funded this Bikeshare Organizational Study (launched in July 2013). This study accomplishes the following tasks:

- Identifies the vision, goals, and objectives for bikeshare
- Engages key stakeholders
- Develops an organizational and governance strategy for Honolulu
- Creates a high-level business plan, bikeshare demand analysis, and feasibility assessment

- Develops an RFP to solicit a turnkey bikeshare contractor

The Bikeshare Organizational Study Final Report is an implementation-oriented planning document that summarizes the organizational strategy and business plan effort. The report serves as a blueprint for implementing bikeshare in Honolulu and is organized as follows:

- Chapter 2 examines and assesses the various **organizational structures** that can administer and operate a bikeshare system and makes a formal recommendation appropriate for Honolulu and the objectives established by stakeholders.
- Chapter 3, the first part of the business plan, develops an **initial phase system plan** based on demand analysis and ridership forecast results and establishes a conceptual phasing plan based on demand factors and future growth around HART stations.
- In the second part of the business plan, Chapter 4 establishes the **capital and operating costs** of the initial phase system plan as well as the pre-launch costs required to get the recommended administrative organization up and running.
- The final component of the initial system's business plan, Chapter 5 offers a cross section of funding options available to Honolulu and develops a **funding strategy** appropriate to meet the capital and operating costs detailed in Chapter 4.
- Chapter 6 presents an implementation strategy including an **interim action plan** to move the future bikeshare program to the pre-launch phase.
- The **Appendix** provided at the end of the plan details the plan's cost assumptions.

As a planning document, this report makes assumptions based on the experience of existing bikeshare programs operating in similar environments. Therefore, the entities tasked to administer and operate the bikeshare system may need to adjust assumptions as necessary. That said, all organizational, demand, and financial analyses conducted during this study employ as much locally relevant data and assumptions as feasible.

## WHAT IS BIKESHARE AND WHAT ARE ITS POTENTIAL BENEFITS TO HONOLULU?

Bikeshare is a low-cost, flexible public transportation service that provides on-demand access to a network of publically-rentable bicycles. Public bicycles are distributed across a service area at fixed destination-based station locations. With the ability to make point-to-point trips, bikesharing systems generally accommodate shorter trips that replace less efficient auto and transit trips (trip lengths average between one and three miles).

With over 30 systems operating in the United States as of January, 2014, and over one hundred more in planning or pre-implementation stages, bikesharing is the fastest growing form of public transportation in the United States. Not only is bikeshare transforming how people move around cities, it has demonstrated the ability to improve local environmental health, energy sustainability, quality of life, public health, and economic activity, among other key urban livability indicators. No other form of public transportation is able to unlock such wide ranging benefits for the same modest level of capital and operating investment.

Bikeshare's image and safety record has been excellent since the first system began operations in the U.S., and Hawaii's residents can expect the following cross-section of bikeshare benefits.





Image from DecoBike

**Transportation efficiency:** Bikeshare expands mobility, creates new bicyclists, and reduces automobile use. In some systems, up to 50% of users expressed that they make more trips.<sup>1</sup> Approximately 25-45% of bikeshare trips replace a vehicle trip.<sup>2</sup> Bikeshare also helps improve transit efficiency and reduce urban core crowding on transit. In Washington DC, 25% of Capital Bikeshare users switched from a short transit trip. In neighborhoods underserved by transportation options or with inefficient public transit routing (e.g., loop routes), bikeshare can expand mobility and access options, improve connections to transit, reduce transit wait times, and even eliminate the need to transfer between routes or transit services.

**Last mile connectivity:** The Honolulu Authority for Rapid Transportation (HART) rail transit project, scheduled to begin operations in 2017 (first 10 miles only) and be completed by 2019, projects an estimated 116,300 weekday passenger trips by the year 2030. With 70% of Oahu's residents living within the HART corridor, quick and convenient access between HART stations and destinations will be required. Bikeshare systems in other cities with rapid transit service have seamlessly provided these transit connections. Likewise, TheBus' transfer rate hovers around 40% of all passengers. The heavy weight on transfer activity signals a potential service gap that can be accommodated by bikeshare.

**Job creation:** Based on the experience of peer bikeshare systems and the recommended initial system size, a bikeshare system in urban Honolulu would create roughly 10-15 new full time jobs and 10-20 part time positions.<sup>3</sup> As the system expands to other communities and islands, this figure will increase.

**Healthier cities:** Many people in Honolulu and throughout Hawaii are afflicted with preventable diseases related to inactivity and sedentary lifestyles. Roughly 9% of Oahu adults have diabetes, while 21% are clinically obese based on Body Mass Index (BMI).<sup>4</sup> Similarly, roughly 22% of Oahu adults do not engage in regular physical activity. Bikeshare is a tool that can reverse these trends and exhibits far greater health benefits than their perceived and actual risks.<sup>5</sup> In the first six years of Paris' Velib system, users burned a combined 19 billion calories. This upward trend in active

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<sup>1</sup> Velib' Website, "Now We Know You Better;" ([http://www.velib.paris.fr/les\\_newsletters/10\\_aujour\\_d\\_hui\\_nous\\_vous\\_connaissans\\_mieux](http://www.velib.paris.fr/les_newsletters/10_aujour_d_hui_nous_vous_connaissans_mieux)).

<sup>2</sup> Based on 2012 Denver B-Cycle and Capital Bikeshare data.

<sup>3</sup> More information related how these numbers were derived is provided in Chapter 3.

<sup>4</sup> Hawaii Health Data Warehouse (2011). *Behavioral Risk Factor Surveillance System*. <http://www.hhdw.org/cms/index.php?page=brfss-reports>.

<sup>5</sup> Rojas-Rueda D, de Nazelle A, Tainio M, Nieuwenhuijsen MJ (2011). The health risks and benefits of cycling in urban environments compared with car use: health impact assessment study", *British Medical Journal*: 343:d4521.

transportation and increased physical activity is likely to be replicated in Honolulu, as other systems have reported up to 66% of surveyed users stating increased bicycling *outside of bikeshare use* since subscribing.



Image from Nelson\Nygaard

**Cleaner and more sustainable cities:** Bikeshare contributes to broader environmental goals by getting people out of cars, thereby reducing VMT, GHG emissions, air pollution and dependence on petroleum. In 2012, Capital Bikeshare trips resulted in 1.2 million pounds of carbon emissions avoided and reduced 4.4 million VMT. Paris' Velib system has saved 274 million pounds of carbon emission since beginning operations in 2007.

**Economically productive cities:** The retail spending behavior of bicyclists is well documented. In Portland, shoppers arriving by bicycle spend 20% more each month than those arriving by car (spending less per trip, but making more trips). Bikeshare has been linked to increased retail activity and contributes to more lively and active mixed use and retail districts. In the Twin Cities, bikeshare users spend a net extra \$150,000 at businesses adjacent to bikeshare stations (purchases that would not have been made without bikeshare). This figure would be compounded in Honolulu by the sheer number of annual visitors and the large number of employees concentrated in Oahu's urban core.




**Competitive cities:** Cities are actively participating in a global marketplace with people choosing where they want to live, employers choosing where to locate, and consumers choosing where to make their next vacation and spend their disposable income. In order to attract employers, a talented workforce, and visitors; cities must offer amenities that make a place livable and easy to navigate. This is particularly challenging for Honolulu as it actively competes with domestic *and* Asian destinations. Of the U.S.'s top ten vacation destinations, Honolulu is the only major tourist market without a bikeshare system on the ground or in some phase of implementation. Nearly every city with a convention center either has a system, has it funded, or has selected a vendor. This is not the

case in Honolulu. Likewise, creating a bikeable city is increasingly attractive to people looking for places to live and people seeking vacations without renting a car. Cities like Chicago and Seattle are investing in bicycle infrastructure and programs as a tool to entice a young and talented workforce who is increasingly attracted to vibrant, diverse urban places.<sup>6</sup>

## Community Benefits

As mentioned above, bikeshare can help communities achieve important community livability, energy, and quality of life goals. Based on the recommended system size at initial roll out as well as projected ridership, urban Honolulu can achieve the following community benefits:<sup>7</sup>

**Figure 1 Projected Community Benefits of Bikeshare in Initial Phase, Urban Honolulu**

Benefit		Metric
 <b>Health</b>		141-173 million calories and 45,000 pounds of fat burned each year
		566,000-692,000 hamburgers burnt annually
 <b>Environmental/ Energy</b>		4.3 million in potential annual VMT savings
		3.9-4.3 million estimated pounds of carbon saved annually
 <b>Economic</b>		33-36 new jobs created directly by bike share operations
		\$195,000-\$255,000 net increase in retail spending near stations (conservative estimate)
		\$2.5 million in potential annual savings from reduced driving

<sup>6</sup> Angie Schmitt (2013). "Chicago, Seattle Mayors Spar Over Bike Lanes, Tech Workers", Streetsblog: <http://dc.streetsblog.org/2013/02/21/chicago-seattle-mayors-spar-over-bike-lanes-tech-workers/>

<sup>7</sup> The projected community benefits were modeled by extrapolating the experiences and results of existing bikeshare systems across North America and Europe, including Capital Bikeshare (Washington DC area), NiceRide MN (Twin Cities), Vélib (Paris), and others.



## COMMUNITY VISION AND OUTCOMES OF BIKESHARE IN HAWAII

Determining an appropriate approach to governing and operating bikeshare as well as right-sizing a system is guided by locally desired outcomes. Between July and September of 2013, over 200 stakeholders from the public, private businesses, institutions, advocacy groups, health care, public safety, the bicycling industry, government, and others were provided an opportunity to talk about their vision for bikeshare in Honolulu, on Oahu, and in Hawaii. This resulted in the following vision statement:

*Bikeshare is not merely a mobility tool. It is a means to achieve an end: to create great urban neighborhoods where people's daily needs can be met within a 20-minute walk, a quick bike ride, or a transit trip. Bikeshare makes it easier to affordably and safely navigate our neighborhoods, unlocking myriad health, economic, and environmental benefits for the broader community.*

During the stakeholder engagement process, over 30 key themes emerged. These themes represent the desired outcomes for healthier, more sustainable, and more economically vibrant communities, to which bikeshare is a contributor. They include:

- Bikeshare **elevates quality of life in Honolulu**, creating livable, clean, and quiet neighborhoods.
- Bikeshare enables residents to **live healthier, happier more social lives**.
- Bikeshare **expands transportation options**, increasing walking, bicycling, and enabling more people to use transit.
- Bikeshare **aligns with state energy goals** and reduces oil consumed for transportation
- Bikeshare **fills gaps in the transit system** and reduces crowding on TheBus.
- Bikeshare seamlessly **integrates with TheBus and the future HART rail system**—aiding the City's goals for **transit-oriented community development**.
- Bikeshare stimulates **public support for expanding bicycle infrastructure**.
- Bikeshare **expands to other satellite locations and counties**, spreading the benefits of bikeshare to many Hawaii residents.
- Bikeshare **stimulates local economic development**, business enterprise, and retail sales.
- Bikeshare **provides a tourist amenity** that many visitors have come to expect in destination cities.
- Bikeshare **creates an intergenerational bicycling culture in Honolulu** that normalizes the bicycle for transportation and recreation.
- Bikeshare **helps reduce traffic congestion** and improve automobile and transit travel times.



Image from Nelson\Nygaard

## IS BIKESHARE FEASIBLE IN HONOLULU?

Based on the experience of existing bikeshare systems and their metrics for success, urban Honolulu is well-equipped to support a successful and sustainable bikeshare system. A high-level feasibility determination based on known bikeshare demand factors is presented in Figure 2. These factors include urban form factors (population, employment and destination density, and amenities such as parks and programs), visitor population and hotel capacity, policy and planning support, political support, partner availability, topography, weather, bikeway availability and quality, investment, and advertising potential.

Chapter 6 presents key risks and sensitivities that might impact the bikeshare implementation timeline and the long-term success of the bikeshare system.

**Figure 2 Bikeshare Readiness Matrix**

What Makes Bikeshare Work?	Readiness Level	Characteristics in Honolulu
<b>Urban Form</b>	<b>High</b>	Honolulu's dense linear development pattern consists of a variety of destinations serving a variety of travel markets (commuters, shoppers, visitors, students, etc.). Interspersed throughout this linear band of development are well used parks, civic spaces, and land uses that serve residents' daily needs.
<b>Visitor Population and Hotel Capacity</b>	<b>High</b>	Oahu accommodates over 5 million visitors per year, 2.8 million of which come from the mainland and 2.3 million arrive from international origins. Roughly 45% of international visitors originate from Japan—a fairly price insensitive market. Urban Honolulu has 22,241 of Oahu's 35,126 hotel rooms (not including private rental units). <sup>8</sup> That's compared to over 33,000 and 110,000 rooms in San Francisco and Chicago, respectively.
<b>Policy and Planning Support</b>	<b>High</b>	Bikeshare supports a broad number of local, regional, and statewide planning and policy initiatives, including the Governor's New Day Plan, various portions of the State Planning Act, the Statewide Transportation Plan and Transit-Oriented Development strategies, implementation of the state/local Complete Streets policies, Hawaii Clean Energy Initiative Vehicle Miles Traveled Plan, Department of Health's Healthy Hawaii Initiative, State Physical Activity and Nutrition (PAN) Plan, the City and County's Primary Urban Center Development Plan and Neighborhood Transit-Oriented Development Plans, the Oahu Bike Plan, and Oahu Regional Transportation Plan 2035 (OMPO), among many others.
<b>Political Support</b>	<b>High</b>	Mayor Caldwell and Governor Abercrombie have expressed strong support for implementing bikeshare and have both appointed staff resources to ensure implementation. Support extends beyond the public sector as some of Honolulu's largest employers and industry stakeholders (including the hotel/tourism, health care, education, and private ground transportation industries) have indicated strong support for developing a bikeshare system.

<sup>8</sup> State of Hawaii Department of Business, Economic Development & Tourism, 2012 Visitor Statistics

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<b>Partner Availability</b>	<b>High</b>	The Bikeshare Working Group was borne out of a collaborative group of partners, including representatives from the City and County of Honolulu, various State departments, the U.S. EPA, private foundations, non-profits and educational institutions like the University of Hawaii at Manoa and Hawaii Pacific University.
<b>Topography</b>	<b>Moderate</b>	Honolulu's core travelshed is located in the flat basin between the mountains and ocean. Some pockets of demand like areas mauka of the H1 freeway would require users to overcome 3% grades.
<b>Weather</b>	<b>High</b>	Honolulu exhibits year round sunshine. Weather is suitable for year round operation. Humidity may play a role in the commuter market's ridership.
<b>Bikeway Availability</b>	<b>Low</b>	Limited bikeway coverage and narrow, uncomfortable bikeway conditions would discourage bikeshare use. Extensive bikeway development is required to encourage broader levels of bicycling and bikeshare use in the future.
<b>Investment/Development</b>	<b>High</b>	Capital investment coupled with redevelopment in dense urban districts like Kaka'ako will ensure the continued land use intensity and programming for events needed to support short urban trips made by bikeshare.
<b>Advertising Potential</b>	<b>Moderate</b>	Sponsorship and advertising programs will need to be implemented consistent with State law and City and County ordinances.



Image from Richard Masoner

## 2 RECOMMENDED ORGANIZATIONAL STRUCTURE

Several factors influence the selection of a bikeshare organizational model, including the vision and needs of local organizers, funding availability, the reliance on public and/or private funding, and local organizational capacity. Many North American bikeshare organizations are structured as partnerships between the public and private sector. Even where private sponsorship funding is used and/or a non-government organization governs bikeshare operations, public sector commitment has been a critical bellwether since bikeshare is a form of public transportation operating largely on public rights-of-way. The most commonly employed operating models in North America include the following:

**Option 1: Publicly-owned, operated by a private turnkey operator<sup>9</sup>.** In this case, a city or region contracts with a private turnkey operator. The public entity managing the system often owns the capital (bikes, stations, etc.) and is responsible for establishing a sustainable funding strategy. Decision-making is typically guided by an advisory committee, but is managed through a conventional municipal governance process. This operating model has been used in Washington D.C. (Capital Bikeshare), and Boston (Hubway), among others.

**Option 2: Non-profit owned and operated.** Under this model, a private, non-profit organization (either pre-existing or established specifically for administration) manages, owns, and operates the bikeshare system. This includes managing a customer service call center, remote system surveillance, and redistribution efforts, maintaining bicycle and station maintenance, and providing administrative services, marketing, fundraising, etc. Decision-making is handled by a Board of Directors, which often includes major private sector sponsors and elected leaders. Nice Ride Minnesota is an example of an operating non-profit in North America.

**Option 3: Administrative non-profit.** Another example of a private, non-profit (either pre-existing or established specifically for administration) is one that owns and administers the system. A non-profit is formed to oversee all duties, except for day-to-day operations. The difference between this and the *non-profit owned and operated* is that the administrative non-profit does not operate the system. Instead, the non-profit often leads fundraising efforts, prepares purchase orders for bikeshare equipment, selects an operator, and markets bikeshare services. That said, the non-profit can require the turnkey operator or a third party specialist to fulfill any of these tasks as part of the service agreement. An administrative non-profit typically contracts a turnkey private operator to implement the system roll out and operate the system. Strategic decision-making is handled by a

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<sup>9</sup> A “turnkey operator” refers to a private, for profit vendor business that provides bikeshare services. There are several such companies operating in North America. While their role and responsibility varies from city to city, most turnkey operators are, under contract, responsible for delivering bikeshare bikes and docking stations, managing communications and software systems, operating and maintaining the bikes and docking stations, and redistributing bicycles as needed. Turnkey operator may also play a role in marketing, funding development, expansion planning, and other administrative tasks.

Board of Directors. Examples of this operating model include Denver B-Cycle, Puget Sound Bikeshare (planned for the Seattle region), and Portland Bikeshare (planned).

**Option 4: Privately owned and operated.** In this case, a private operator is procured to operate the system, while maintaining control of the capital. The private operator also takes ownership of fundraising, if necessary (e.g., in some cases, enough user revenue is generated to fund the system). A private operation offers public agencies less control of system size and growth; this depends largely on the private operator's ability to generate revenue and their strategy to turn a profit. This model offers public agencies limited requirement for staff time dedicated to bikeshare and completely transfers risk to the private operator. Examples of this operating model include DecoBike in Miami Beach and Citibike in New York City.

**Option 5: Publicly-owned and operated.** In this case, the public agency—be it a city, county, regional government, transit agency, or state entity—procures and owns the bikeshare bikes, docking stations, and supporting equipment and manages the day-to-day operations of the system. This includes managing a customer service call center, remote system surveillance, and redistribution efforts, maintaining bicycle and station maintenance, and providing administrative services, marketing, fundraising, etc. This operating model has been used in European and Asian cities (most notably in Guangzhou, China) due to their ability to secure greater public monies to support bikeshare as a core urban transportation service. There are no North American examples.

**Option 6: Owned and operated as part of a street-furniture advertising contract.** This operating model uses major street furniture advertising contracts (e.g. JCDecaux as funder, manager, and operator). The model relies entirely on the revenue potential drawn from bikeshare station sponsorship and advertising. Due to Honolulu's strict public right-of-way sign code and the community value of limiting visual clutter in the public view shed and streetscape, this operating model is not viable. *Therefore, this operating model was not assessed.*

## ORGANIZATIONAL ASSESSMENT

The following evaluation criteria were used to select the preferred organizational model for bikeshare in Honolulu and Hawaii:

- Capital ownership (responsibility over capital depreciation and replacement)
- Operational transparency
- Profit and risk sharing
- Operating expertise
- Fundraising capacity
- Ability to innovate
- Expansion potential (Oahu and statewide)
- Staff capacity/organizational interest
- Key stakeholder support

The *ability to innovate* and *expansion potential (statewide, later phase)* criteria are included in response to broadly expressed stakeholder interests. Key stakeholders and elected leaders were interested in organizational models that allowed capacity for future statewide expansion. These criteria provide opportunity for geographic equity, which is particularly important given potential state funding support.





The comparison matrix displayed on the following page summarizes the advantages and challenges of each model as they relate to Honolulu. Based on the assessment, a statewide **administrative non-profit model (Option 3)** is recommended for implementation. Key reasons for this recommendation include:

- Ability of a non-profit to achieve key bikeshare system objectives, including the potential to support statewide expansion.
- Ability of a non-profit organization to secure public, private, and non-profit funding sources, including public grant funding, general funds, non-profit contributions, and sponsor support. Potential private and institutional sponsors in Honolulu expressed a strong support for a non-profit organizational structure.
- Liability risk is assumed by a private turnkey operator.
- Offers the City and County of Honolulu and potentially other counties the ability to influence station locations, compared to other models where the private operator has more control over service area definition and station locations.
- Provides opportunity for a fresh image and separation of bikeshare organization from existing political and public process constraints (i.e., ease of contracting, negotiations with private entities, etc.).
- Puts operations in the hands of an experienced private operator, while allowing a local organization to control the mission and ensure broader system objectives are being met.
- Limits public agency and private sponsor risk of liability, underperformance, failure, and the potential negative public response to any of these conditions.
- Positive response to non-profit bikeshare organization from Honolulu-based private and public sector stakeholders and key elected leaders.

During the planning process, a broad coalition of project partners from the City and County of Honolulu, State of Hawaii, U.S. Environmental Protection Agency, non-profit sector, and private sector decided to name the administrative non-profit Bikeshare Hawaii to reflect the organization's statewide mission. The non-profit will be referred to as Bikeshare Hawaii throughout this Plan.

**Figure 3      A Tale of Two Non-Profits**

 Seattle Region	 Twin Cities
<ul style="list-style-type: none"> <li>▪ Similar origins as Honolulu (Bike Share Partnership)</li> <li>▪ ED with non-profit background, no business/law background</li> <li>▪ Board largely comprised of public sector officials</li> <li>▪ Initial private sector sponsor interest stymied</li> <li>▪ Prolonged implementation process (over 3 years)</li> <li>▪ Implementation in Spring 2014</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mayor-driven process</li> <li>▪ ED with law and active recreation non-profit background</li> <li>▪ Board largely comprised of private sector leaders</li> <li>▪ Immediate private sector sponsor</li> <li>▪ Streamlined implementation (18 months)</li> <li>▪ Expansion after first operating year!</li> </ul>

Puget Sound Bike Share and Nice Ride Minnesota are two bike share non-profits with two very different implementation experiences. Honolulu's new non-profit bikeshare organization should use the experiences of these two organizations as it moves toward implementation. **Note:** Bikeshare in the Twin Cities is owned and operated by Nice Ride MN.

Figure 4 Honolulu Bikeshare Organizational Assessment

Selection Factor Organizational Type (and recommendation)	Capital Ownership	Operational Transparency	Profit Sharing and Risk/Liability	Operating Expertise	Fundraising Capacity	Ability to Innovate	Citywide and Statewide Expansion Potential	Staff Capacity/ Organizational Interest	Key Honolulu Stakeholder Support
<b>1. Publically-owned, privately operated by a private turnkey operator</b> <i>Not recommended.</i>	Public entity owns equipment and must deal with depreciation and replacement.	<b>Moderate - High.</b> Public entity controls system parameters and growth and establishes operator contract price.	<b>Moderate – High level of risk.</b> Financial risk assumed by public entity (i.e., City/County or State). Turnkey operator takes on liability risk/coverage.	Private operator provides operating expertise; public entity provides management capacity.	<b>Low – Moderate.</b> Private and institution funding/sponsorship opportunities limited when compared with non-profit model.	<b>Moderate.</b> Other than fare media integration, new technologies determined by private operator capabilities.	<b>Moderate-High.</b> Better penetration into areas underserved by other transportation options. Statewide expansion requires inter-municipal agreement on operating and maintenance standards, as well as revenue and cost sharing.	<b>Low interest.</b> Requires additional FTEs with skills to manage program.	Limited interest expressed.
<b>2. Non-profit owned and operated</b> <i>Not recommended.</i>	Non-profit organization owns equipment and must deal with depreciation and replacement—as opposed to a public entity.	<b>Moderate.</b> Board of Directors provides transparency to all sector partners.	<b>Low – Moderate level of risk.</b> Financial risk and liability assumed by non-profit. Growth depends on net revenue including user fees and sponsorship. Revenue is not shared with a private operator.	Limited operator experience can reduce service quality, reliability, and customer satisfaction.	<b>High.</b> Non-profit organization is best positioned to secure public and private funding and can serve as a reliable pass through for public funds.	<b>Moderate-High.</b> Nimble enough to use net revenue to experiment with new vehicle, mobile, and station technology.	<b>High.</b> Non-profit sets inter-municipal expansion agreements on operating and maintenance standards, as well as revenue and cost sharing. Expansion guided by financial sustainability and responsiveness to mission.	<b>Moderate interest.</b> Limited impact on City/County staff capacity except for public sector representation on the non-profit's Board. Existing staff could support program for minor in kind services.	Moderate interest expressed.
<b>3. Administrative non-profit</b> <i>Recommended for implementation due to minimal public sector risk, ability to attract private support, and ability to expand operations to lower demand neighborhoods and, eventually, other counties.</i>	Non-profit or turnkey operator own equipment and must deal with depreciation and replacement—as opposed to a public entity.	<b>Moderate.</b> Board of Directors provides transparency to all sector partners.	<b>Low level of risk.</b> Financial risk assumed by non-profit. Turnkey operator takes on liability risk/coverage.	Private operator provides operating expertise; non-profit's goal is to achieve broader mission.	<b>High.</b> Non-profit organization is best positioned to secure public and private funding and can serve as a reliable pass through for public funds.	<b>Moderate.</b> Other than fare media integration, new technologies determined by private operator capabilities.	<b>High.</b> Non-profit sets inter-municipal expansion agreements on operating and maintenance standards, as well as revenue and cost sharing. Expansion guided by financial sustainability and responsiveness to mission.	<b>High interest.</b> Limited impact on City/County staff capacity unless there is public sector representation on the non-profit's Board. Existing staff could support program for minor in-kind services.	High level of support across stakeholder groups.
<b>4. Privately-owned and operated</b> <i>Not recommended.</i>	Private company owns equipment and must deal with depreciation and replacement—as opposed to a public entity.	<b>Very low.</b> Private operator sets system parameters for growth and service area.	<b>Low level of risk.</b> Risk assumed by private operator. Profit is not shared and system growth depends on operator growth strategy.	Private operator provides operating expertise.	<b>Moderate - High.</b> Private operator fully responsible for funding. Risk to public is low, but expansion capacity may be severely limited.	<b>Low-Moderate.</b> New technologies determined by private operator capabilities and impact on profitability.	<b>Low.</b> Expansion is dependent on profitability, limiting system growth and application in less urban settings.	<b>Low interest.</b> Limited impact on City/County staff capacity. Existing staff could support program for minor in-kind services.	Limited interest expressed.
<b>5. Publicly-owned and operated</b> <i>Not recommended.</i>	Public entity owns equipment and must deal with depreciation and replacement.	<b>Very High.</b> Public entity controls system parameters and growth and operates the system using their own procedures.	<b>High level of risk.</b> Financial risk and liability assumed by public entity.	Limited operator experience can reduce service quality, reliability, and customer satisfaction.	<b>Low – Moderate.</b> Private and institution funding/sponsorship opportunities limited when compared with non-profit model.	<b>Low.</b> Innovative applications depend on cost and fundraising ability.	<b>Moderate-High.</b> Better penetration into areas underserved by other transportation options. Statewide expansion requires inter-municipal agreement on operating and maintenance standards, as well as revenue and cost sharing.	<b>Very low interest.</b> Requires additional FTEs with skills to manage program.	No interest expressed.

**Evaluation scale:**

Evaluation is based on each criterion's impact on the City and County of Honolulu as well as their ability to meet the basic goals and objectives established by the Bikeshare Working Group (BWG)—an ad hoc group made up of public sector, private sector, non-profit, and citizen representatives that was created to explore opportunities for bikeshare implementation. Please note that Option 6 was not assessed due to limitations associated with local sign code regulations.

XXX	Ideal condition	XXX	Desirable condition	XXX	Neutral condition	XXX	Undesirable condition
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### 3 RECOMMENDED INITIAL PHASE PLAN

This section illustrates the results of the demand analysis and presents the recommended service area for initial phase implementation. This Plan does not determine the number of phases or the extent of service expansion. Future expansion decisions will be made by the Bikeshare Hawaii Board subject to the availability of operating surplus or other funding. Therefore, this Plan uses “Initial Phase” instead of Phase 1. The section also illustrates conceptual station placement based on target station spacing parameters and adjusted for destination location and orientation toward the street.

#### DEMAND ANALYSIS AND METHODOLOGY

Using the underlying assumption that the bikeshare system would be administered by Bikeshare Hawaii, a statewide non-profit organization and operated by a private vendor-operator, the initial phase system plan was developed in a way that attracts the highest demand travel markets and greatest sponsorship opportunity possible. It was deemed critical for the non-profit to establish a base service area that could sustainably operate bikeshare and perhaps help finance future expansion given the concentrated visitor market’s demand for short trip mobility and limited cost sensitivity.

The initial phase plan recommended by Nelson\Nygaard (the consultant) was determined by a weighted composite index methodology using a variety of bikeshare demand factors characterized as *Reside | Work | Recreate | Move | Shop*. These demand categories and their underlying demand factors are proven indicators of bikeshare use propensity in systems across North America. The approach employed is financially-conservative. Equity factors were deliberately reserved for future phase expansion to

**Figure 5 The “Reside | Work | Recreate | Move | Shop” Demand Analysis Approach**

CATEGORIES	FACTORS
<b>Reside</b>	Population density
<b>Work</b>	Employment density
<b>Recreate</b>	Major destinations
<b>Move</b>	Multi-use development
<b>Shop</b>	Hotel room density
	Parks/recreational facilities (with programming)
	Transit ridership
	Transit dependency/Equity
	Bikeway proximity
	Topography
	Grocery/supermarket (retail proxy)
	Parking pricing and utilization

The Initial Phase System Plan and its underlying demand analysis uses the *Reside | Work | Recreate | Move | Shop* approach

Source: Nelson\Nygaard

ensure the system can be sustainably anchored in the initial phase. This “business-like approach” to system roll out will expand coverage carefully in order to ensure long-term sustainable operations and establish trust of future system sponsors and investors. This is a similar approach used in the Twin Cities’ Nice Ride Minnesota system (i.e., core demand launch and outward expansion as financial sustainability and community wide support is established)—an approach that has allowed their system to grow sustainably while helping to build a broad culture of bicycle transportation.

The demand factors employed for this Plan (shown above) are based on available data. Prior to generating demand scores, each demand factor was weighted based on the local context’s influence on the demand factor’s relative influence on trip making and mode choice. Demand scores were illustrated using a heat mapping approach. This approach conveys spatially relative demand and offers a good sense for where station density would be greatest (see the following section for more information on the station density parameters applied to the initial system plan).

## **SERVICE AREA DEFINITION**

The initial phase service area and future phase expansion opportunities were defined based on four main factors:

- Connectedness of demand clusters/destination density
- Network barriers (both bikeway network barriers that can be improved and street network connectivity challenges that may be difficult to overcome)
- Geographic constraints (e.g., topography, waterways, etc.)
- Connections to HART Stations (for future phase expansion opportunities)

The recommended initial service area (shown in Figures 8 and 9 on pages 3-66 and 3-77) encompasses a 5.14 square mile area spanning from Honolulu’s Chinatown district to Waikiki—bounded by the H1 freeway, but extending up to UH Manoa. This service area would serve the Chinatown, Downtown, Hawaii Capital Historic District, Kaka`ako, Ala Moana, McCully-Mo`ili`ili, Waikiki, and Lower Manoa Valley neighborhoods.

Other potential pockets of demand noted by stakeholders that could be tapped into as provisional extensions of the initial service area include Kalihi (serving a multi-modal residential community and Honolulu Community College), Makiki (serving dense pockets of residents, including significant UH Manoa student and faculty populations), and Kaimuki and Chaminade University. These are considered provisional demand centers due to their highly peaked travel patterns, lack of connectivity or comfortable bicycle access to the core cluster of bikeshare demand, or their proximity to major barriers like canals/waterways or the H1 freeway. These provisional launch locations could possibly be included in the initial service area if sufficient funding were to become available; but would likely require supporting bikeway investment to better link them to the recommended initial phase’s cluster of contiguous bikeshare demand.

## **Initial Launch Scenarios, Station Spacing, and Station Locations**

The initial launch plan includes two capital investment scenarios based on moderate and optimal station densities. Spacing, density, and sizing details of the Optimal and Moderate Density Scenarios are summarized in Figure 6. The Optimal Density scenario is based on a 183-station network, while the Moderate Density scenario enjoys a less dense, yet well-connected 141-station network. This equates to average station spacing of 810 feet and 952 feet, respectively. Both



scenarios encompass the same service area. In both scenarios, station spacing varies roughly by relative demand in different districts. In the Optimal Density scenario, denser station spacing levels of 600 feet is applied to higher demand districts like Waikiki and Downtown, whereas most other districts provide station spacing of about 900 feet. In the Moderate Density scenario, these spacing standards increase to 700 feet and 1,000 feet, respectively.

These station spacing and station density standards are not applied arbitrarily. Rather, they represent the experiences of some of North America’s most successful bikeshare systems in cities with similar density and development patterns as Honolulu. More information related to station spacing and density standards are provided in the following section.

**Figure 6 Proposed Initial Phase System Size Scenarios**

Characteristics	Optimal Density Scenario	Moderate Density Scenario
Area	5.14 sq. mi.	5.14 sq. mi.
Number of stations	183	141
Number of bicycles	1,676	1,340
Number of docks	3,149	2,520
Station density	36 stations per sq. mi.	27 stations per sq. mi.
Average station spacing (based on network distance)	810ft	952ft
Dock-bike ratio	1.88	1.88

**Note:** Final station density and average spacing may vary depending on the final station location plan.

Preliminary station locations shown in Figure 8 and Figure 9 were assigned across the street network (not including alleys) based on recommended station spacing standards established above. The station locations were then adjusted based on several factors including:

- Entrances of key destinations (including major tourist attractions)
- Major transit transfer locations
- Future HART stations and TOD locations
- Streets with bicycle infrastructure (conversely, shying away from high volume, high speed streets)
- Recreational hubs (multi-use path connections)

The final station locations should be further refined to provide direct station access from destinations and ensure stations’ spatial requirements adhere to local codes.

## Future Expansion Phases

Expansion of the bikeshare system beyond the initial phase service area will depend on additional study, public outreach, bikeshare initial success, and partnership opportunities. As illustrated in Figure 7, expansion areas could include neighborhoods directly adjacent to the initial phase such as Kalihi, Makiki, Kapahulu, Palama and Kaimuki. Expansion to these demand centers would likely require bicycle connectivity improvements to encourage use.

Additional expansion phases are expected to include satellite service areas not continuously connected with the initial phase service area. Such expansion phases could include HART stations and TOD neighborhoods, Armed Force Base station clusters at Kaneohe Bay, Joint Base

Pearl Harbor-Hickam, and Wheeler Air Force Base, as well as satellite neighborhood clusters in Kailua, Salt Lake, Mililani Town, Ewa/Ewa Beach, and the North Shore.

Implementation timeframes for these expansion opportunities depend on a variety of factors, including transit-oriented development surrounding HART stations, the fiscal health of the non-profit after initial launch, Board of Director decision-making, as well as funding availability for station subsidization and sponsorship. The latter factor will be particularly influential on the military bases as substantial interest in bikeshare was voiced by base planners.<sup>10</sup> Generally, HART and the City's TOD program envision opening up remote clusters of bikeshare stations as each rail station is completed and redevelopment opportunities are realized. Bikeshare Hawaii and the City and County of Honolulu should work with HART to incorporate bikeshare stations as low cost elements in the design and capital funding of rail stations.

A hallmark of Bikeshare Hawaii will be its statewide mission. While the results of initial demand analysis are focused on the island of Oahu, numerous communities on other islands have bikeshare potential equal or greater than the potential future expansion areas pinpointed in Figure 7. While this may be the case, the scope of this study was limited to the City and County of Honolulu. As such, conditions on neighbor islands were not analyzed. Expansion opportunities across the state will need to be evaluated before the program can adequately prioritize and finalize expansion plans beyond Oahu.

While some communities in Hawaii are well-suited for a station-based bike share system, less urban communities might be better served by different operating systems or bikeshare technologies. See the case study below for an example of an emerging bike share technology.

### Concierge-Based Bikeshare:

#### *Targeting the local, visitor, and recreational market on neighbor islands*

The conditions required to operate a successful point-to-point, station-based bikeshare system discount the ability of less urban communities to support a bikeshare satellite system. Station-based systems could be particularly challenging on neighbor islands with small pockets of residential demand for short trips and larger pockets of visitor and recreational demand. To meet this complex challenge, hybrid systems are being developed to meet both residential and visitor demand.



Proposed design for Nice Ride Center bicycles would be lighter than station-based bike share bicycles.

Image from Nice Ride MN

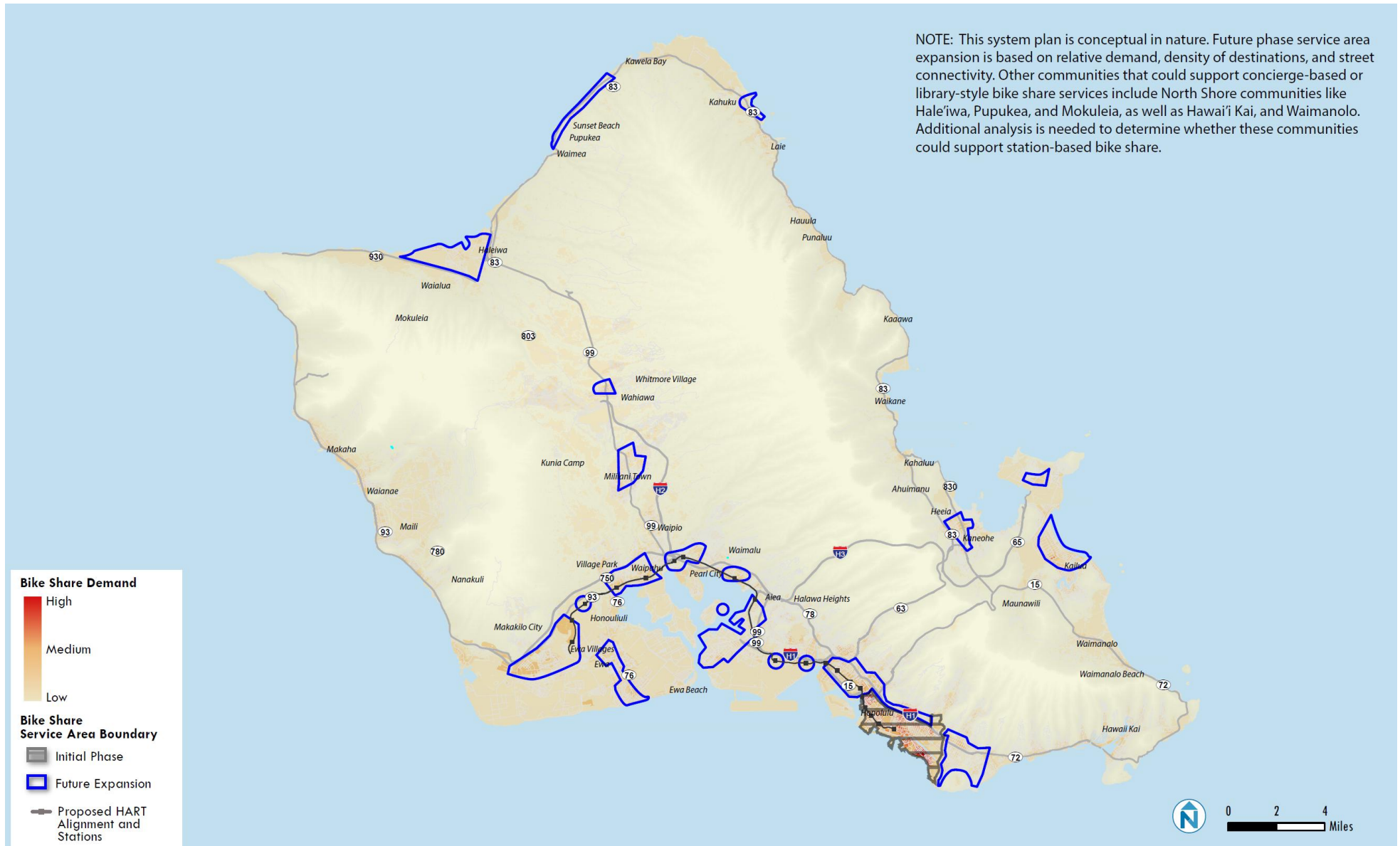
One of Nice Ride Minnesota's interests in bikeshare is to determine whether traditional, station-based bikeshare service delivery is well-suited for communities that are less urban than the Twin Cities. As part of their growth strategy, Nice Ride Minnesota envisions centrally staffed "Nice Ride Centers," with a fleet of lighter rental bikes with bike locks, lights, fenders, and cargo-space. These bicycles are intended for daily transportation, but versatile for mid-distance recreational use. Applying the Nice Ride Center concept in outlying island cities like Hilo, Kihei, and Kapa'a, several bikeshare centers could be located in the core of each city as a substitution for station-based bike share. Such a system would need a different pricing structure, but it could use the same fare media for inter-island use.

<sup>10</sup>Bikeshare is being included as a transportation investment opportunity in ongoing military base master plan efforts.

# HONOLULU BIKESHARE ORGANIZATIONAL STUDY | FINAL REPORT

## City & County of Honolulu Department of Planning and Permitting

**Figure 7 Initial Phase Service Area and Future Expansion Opportunities**

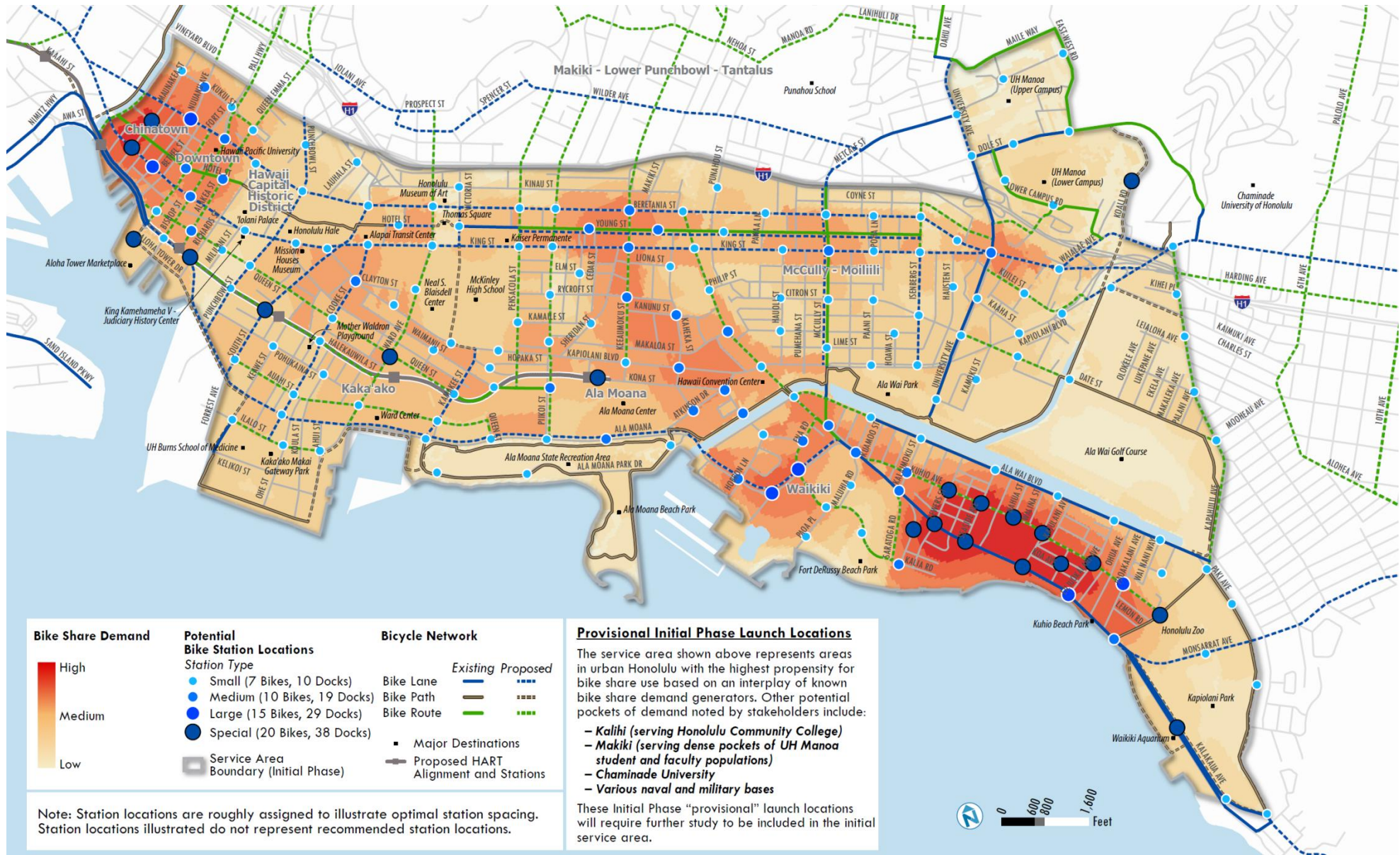




# HONOLULU BIKESHARE ORGANIZATIONAL STUDY | FINAL REPORT

## City & County of Honolulu Department of Planning and Permitting

Figure 8 Initial Phase System Plan (Optimal Density Scenario)

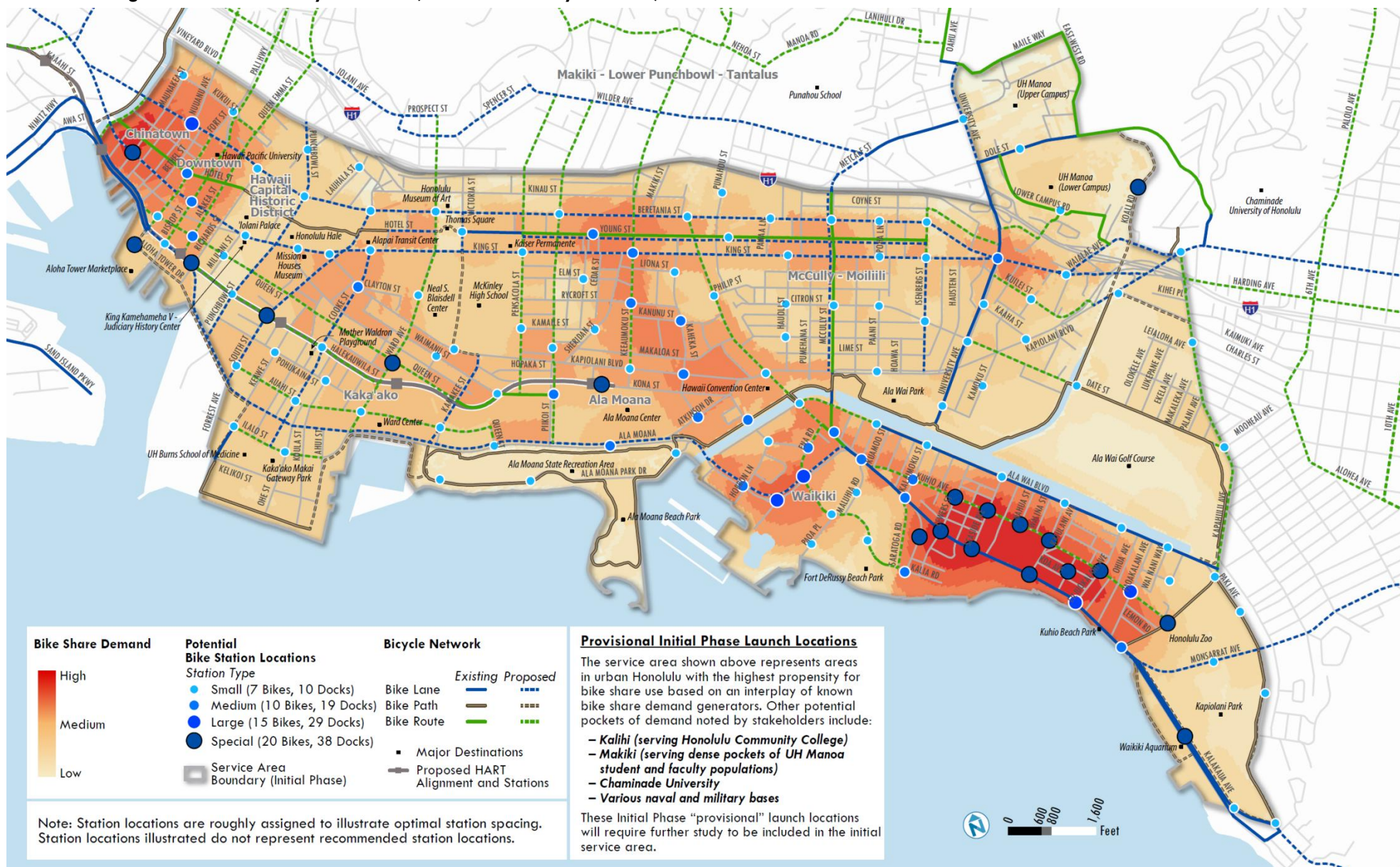




# HONOLULU BIKESHARE ORGANIZATIONAL STUDY | FINAL REPORT

## City & County of Honolulu Department of Planning and Permitting

Figure 9 Initial Phase System Plan (Moderate Density Scenario)





## SYSTEM PARAMETERS

The following system parameters will aid Bikeshare Hawaii's system planning efforts and decision-making in determining when to expand the service area. Factors include station spacing and density, expansion criteria and sizing, station types, dock-bicycle ratio, and measure of success.

### Station spacing and density standards

The benefit of a dense network of stations boils down to *time* from a user access standpoint and *money* from a bicycle redistribution standpoint. Bikeshare Hawaii should ensure customers can access a bicycle within a 5-minute walk and provide numerous locations for docking options if a station's docks are full. The gold standard of station spacing was originally established by Paris' Vélib bikeshare system, which boasts a station density of 28.5 stations per square mile (citywide). This equates to roughly one station every 900 feet—a standard that other systems strive to support. That said, station density can differ throughout the service area since districts typically exhibit relative levels of bikeshare demand (as is the case in downtown and Waikiki versus lower demand locations like Kaka`ako). The challenge is to maintain station density and spacing standards without placing stations:

- On the same block (unless on a long block face with enough demand); or
- Less than two blocks from each other (due to street connectivity).

As the system expands, station spacing and density standards will likely need to be loosened to account for the lack of destination density, street connectivity, and bike share propensity. A recommended minimum standard is one station every 1,300 feet or 15 stations per square mile.

**Figure 10 Station Density and Spacing Comparison**

System	Stations	Bikes	Station density (#/mi <sup>2</sup> )	Station spacing (average feet apart)
Honolulu (optimal)	183	1,676	36.0	810
Honolulu (moderate)	141	1,340	27.0	952
CitiBike (New York City)	330	6,000	26.4	~900
Capital Bikeshare (DC)	231	1,850	5.6	~1200
Divvy Bikes (Chicago)	222	2,200	6.7	~1200
DecoBike (Miami Beach)	115	1,000	53.4	~600

### Expansion criteria and sizing

Expanding the initial 5.14 square mile system boundary to include a network of satellite operations will require the non-profit to address a variety of different factors. Potential expansion criteria may include the following provisions:<sup>11</sup>

<sup>11</sup> Specific metrics should be developed and monitored by the Board of Directors.

- Available funding
- System performance, which can be measured in terms of productivity (trips per dock per day, revenue generation, ability to spur community development, etc.)
- Public support, in the form of broad public acceptance of the system and community support for expansion
- Private and public partner support
- Community and business requests for expansion (including other communities on Oahu and neighbor islands)
- Financial sustainability through user fees and ability of the initial phase service area to support future expansion
- Compact, mixed-use, transit-oriented development resulting from the opening of the HART rail system
- Addressing equity issues and under-served neighborhoods
- A density of destinations that can support a network of stations-- roughly maintaining the station spacing and density standards listed above
- High-demand origin-destination pairs for smaller satellite expansion (which would likely be an option for the UH West Oahu station area)

## **Dock-bicycle ratio**

Providing enough dock availability at trip destinations to quickly end a bikeshare trip is a critical reliability factor that can develop a long-term or annual subscription user rather than a one-time or once-per-year user. Much like traditional public transit, the utility of bikeshare may only be realized if the service is perceived as efficient and reliable. Stranding users at full stations should be avoided as much as possible. Therefore, a 1.9 docks per bike ratio is recommended to ensure bikes can be reliably returned at stations near users' intended destination and to reduce redistribution costs. This is a similar ratio utilized in other North American systems.

Station should be sized based on projected demand, actual use rates (once the system is operating), and proximity to major demand generators. For example, although maintaining the same 1.9:1 dock-to-bike ratio, a neighborhood retail center would likely require less docks and bikes than the Hawaii Convention Center, which would create large pulses during large conventions.

## **Sample station types**

The number of bicycles and docks at any given station was established by determining the relative demand of each station location and applying an appropriate station size to meet that demand.<sup>12</sup> Larger stations were designated for locations that have massive demand throughout the day or during peak flows (e.g., after the ending of a Convention Center event). These peak flows often require redistribution shortly thereafter. As shown in Figures 7 and 8, station accommodations can range between 7 bicycles with 10 docks and 20 bicycles with 38 docks. This range roughly adheres to the dock-bicycle ratio standard listed above. The final station designs will include station sizes that vary slightly from this sample station typology.

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<sup>12</sup> Station sizing and design will need to be refined during next phase of implementation.

## Measures of Success

Other system metrics that are often employed to determine bikeshare system success and health include cost recovery and system productivity. System productivity can be further segmented by the type of market a station is serving (e.g. daily commuter stations, visitor-based stations, and equity stations).

**Cost recovery:** In many cities, bikeshare systems recover all or nearly all of their annual operating costs (including Nice Ride Minnesota in the Twin

Cities, Capital Bikeshare in Washington D.C., and Denver's B-Cycle). Other systems like Miami Beach's DecoBike are actually turning a profit (as a private owner/operator, DecoBike does not disclose its financials). Due to the likely high volume of tourist use in Honolulu, bikeshare in urban Honolulu will likely operate a net positive profit that can be reinvested in the system and used for system expansion.

**Productivity:** The number of bikeshare trips per bike per day is one industry standard for measuring bikeshare system productivity. In some ways, the success of a system is determined by the layout/density of stations across the service area, but also, system success is determined by the density of potential bikeshare users, including residents and visitors. Figure 11 below displays varying levels of productivity in systems across the U.S. Upon system launch, Bikeshare Hawaii should monitor trips *per dock* per day as it measures both system productivity and system efficiency (i.e., the ability of the system operator to efficiently balance the system).

Other metrics being tracked by bike share systems include membership, safety, fleet maintenance (or the inverse, percentage of fleet in service), station full/empty occurrences (tied to system reliability), and even supplemental metrics like retail influence, among others. Bikeshare's impact on broader sustainability issues such as mode share, vehicle miles traveled (VMT) reduction, and energy use can also be tracked.



Segmenting productivity by user market is an important measure to understand ridership trends and assign new strategies to attract ridership in growth markets.

**Figure 11 Bikeshare Productivity in Select Systems (Trips Per Bike Per Day)**

System	Trips Per Bike Per Day	Number of Bikeshare Bikes	Number of Bikeshare Stations
<b>Capital Bikeshare</b> (Washington DC)	2.7	1,850	231
<b>Divvy Bikes</b> (Chicago)	1.4	2,200	222
<b>Nice Ride Minnesota</b> (Twin Cities)	0.8	1,300	170
<b>DecoBike</b> (Miami Beach)	3.5	1,000	115
<b>CitiBike</b> (New York City)	7.0	6,000	330

## 4 SYSTEM CAPITAL AND OPERATING COSTS

Developing and operating a bikeshare system includes three different cost elements: interim phase start-up costs, initial and future phase capital costs, and ongoing operating costs. This chapter presents planning-level cost estimates for each. Cost forecasts are also provided for system capital expenditures and operations for the next five years, including system expansion and their associated increases in operating costs. Any forecasts beyond five years are subject to highly speculative cost assumptions and are therefore not included.

### INTERIM PHASE START-UP COSTS

Early action steps in forming the Bikeshare Hawaii and launching the bikeshare operation represent a key funding challenge. Basic non-profit infrastructure, staffing, administrative, and final planning and design activities need to be established to begin the bikeshare implementation process, including fundraising. Costs incurred during the Interim Phase will support:

- Executive Director salary
- Website design and programming
- IT and Systems
- General supplies and materials
- Travel and other expenses
- Legal fees
- Insurance
- Station location planning and design
- Community outreach
- RFP development

Based on detailed cost estimates (presented in the Appendix), the Interim Phase will cost between \$333,000 and \$558,000. The high end of the cost range includes funds for station location planning and community outreach. These two activities are time and cost intensive and, thus, are recommended for completion earlier in the implementation process.

It is recommended that Bikeshare Hawaii conduct station location planning and outreach as a separate effort from the vendor contract and system set-up and launch. This will allow for this potentially time-consuming process to start earlier and can include a team with a more tailored set of experience, including local knowledge and design expertise.

### INITIAL PHASE CAPITAL COSTS

Initial phase capital costs include all bikeshare equipment and activities related to installation including the bicycle fleet, solar docking stations (kiosk and platforms), bicycle and station assembly, bicycle and station spare parts, maintenance and redistribution vehicles, and station site planning and permitting. The total initial capital costs for each initial phase implementation scenario are presented below. If the bikeshare non-profit is only able to secure funding to roll out

the Moderate Density station scenario; the organization should seek to expand the system over time and achieve the Optimal Density station network.

- **Optimal Density scenario:** \$11.8 million (one time cost)
- **Moderate Density scenario:** \$9.2 million (one time cost, with incremental expansion investments to achieve the Optimal Density station network)

Although no decision has been made about equipment, these costs are based on the selected bikeshare vendor providing 7-speed bicycles, rather than a fleet with less gearing. While the initial phase service area is relatively flat, bicycles with more gearing can accommodate larger hills that serve demand near UH Manoa and mauka of the H1 freeway. The total cost difference between 3- and 7-speed bicycles is roughly \$65,000-\$85,000 depending on the system size scenario. To account for the high cost of shipping equipment to Hawaii, most capital costs include a 25% shipping markup.

## ONGOING OPERATING COSTS

Anticipated annual operating costs generally consist of operations facilities and equipment, general, administrative, and operations staff, administrative and maintenance activity, and IT, website, and other communication-related costs. Planning-level costs for Honolulu's two initial phase implementation scenarios are:

- **Optimal Density scenario:** \$3.2 million per year
- **Moderate Density scenario:** \$2.8 million per year

All system start-up costs and ongoing operating costs are summarized in Figure 12. Detailed initial capital and ongoing operating costs are presented in the Appendix. As the system expands, capital expenditure and ongoing operating costs will increase. Figure 13 presents projected 5-year capital and operating costs.



Fleet rebalancing and other labor intensive activities like bicycle maintenance are key operating cost considerations.  
Image from Nelson\Nygaard



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**Figure 12 Summary of Proposed Start-up, Capital, and Operating Costs for Interim Phase**

	Capital/Start-Up	Annual Operating
<b>Interim Phase System Start-Up (both scenarios)</b>	\$333,000-\$558,000	
<b>Optimal Density Scenario</b> (1,676 bicycles, 183 stations)	\$11,800,000	\$3,232,000
Cost/station	\$64,517	\$17,662
Cost/bike	\$7,044	\$1,929
<b>Moderate Density Scenario</b> (1,340 bicycles, 141 stations)	\$9,200,000	\$2,787,000
Cost/station	\$65,018	\$19,769
Cost/bike	\$6,841	\$2,080
<b>TOTAL: Optimal Density Scenario*</b>	\$12,133,000	\$3,232,000
<b>TOTAL: Moderate Density Scenario*</b>	\$9,533,000	\$2,787,000

**Note:** All costs are planning-level.

\*Total capital costs include costs for station location planning and community outreach.

**Figure 13 Bikeshare Hawaii Five-Year Cost Summary**

	Pre-launch	Year 1	Year 2	Year 3	Year 4	Year 5
<b>Capital</b>						
Start-up	\$558,000					
Initial Phase (Optimal density)		\$11,800,000				
Initial Phase (Moderate density)		\$9,200,000	\$2,600,000			
Future Phase*			\$1,290,000	\$1,290,000	\$1,290,000	\$1,290,000
<b>Operating</b>						
Initial Phase (Optimal density)		\$3,232,000	\$3,232,000	\$3,232,000	\$3,232,000	\$3,232,000
Initial Phase (Moderate density)		\$2,787,000	\$2,787,000	\$2,787,000	\$2,787,000	\$2,787,000
Future Phase			\$353,245	\$353,245	\$353,245	\$353,245
<b>OPTIMAL DENSITY TOTAL</b>	\$558,000	\$15,032,000	\$4,875,245	\$4,875,245	\$4,875,245	\$4,875,245
<b>MODERATE DENSITY TOTAL</b>	\$558,000	\$11,987,000	\$7,030,245	\$4,430,245	\$4,430,245	\$4,430,245

**Note:** All costs are planning-level.

\*Future year expansion assumes a conservative 20 new station per year expansion assumption.

## 5 FUNDING STRATEGY

Establishing a bikeshare system that can maintain long-term financial sustainability is the primary objective of this business plan. Honolulu is in a unique position to have a thriving bikeshare system. Its tropical climate and year-round visitor population will contribute to demand for bikeshare and create more consistent cash flow than that experienced in many other U.S. cities with seasonal constraints to bicycling. Hawaii's bikeshare system will benefit from the volume of domestic and international tourists, since visitors tend to be less price sensitive when using bikeshare. While there are various limiting factors that impact funding availability in Honolulu, Bikeshare Hawaii's funding strategy is rooted in the influence of Oahu's tourist market. While the bikeshare system is focused on benefits to local communities and individuals seeking alternatives to crowded buses and congestion, it is the tourist market that will largely fund the system. Likewise, the visitor market's influence offers an attractive opportunity to help finance system expansion into:

- Areas that are underserved by transportation services (but might not exhibit substantial bikeshare demand);
- Satellite service areas; and
- Neighbor islands.

The following sections recommend a fare structure for Honolulu's initial bikeshare system, forecast ridership for the first five years of operation, identify funding options and revenue streams, and recommend a revenue share that will likely help pay for the system. The end of this chapter establishes a sample financing plan that can be used to fund the initial capital investment needed to launch the system.

### USER PRICING STRUCTURE

Bikeshare Hawaii must establish a fare structure that attracts annual, monthly, and daily (casual) customers to the system, while generating enough revenue to help pay for the system. Honolulu's proposed pricing scheme—presented in Figure 14 on the following page—includes fare categories for long-term (e.g., annual, monthly, 5-day, 3-day), and 24-hour subscriptions, as well as overage fees for users that intend to keep a bicycle undocked beyond the 30-minute free ride period. The proposed pricing structure is based on existing peer bikeshare systems, local cost of living factors, and visitor market demographics and spending patterns. The proposed pricing structure ensures the system primarily serves the short trip travel market, while limiting competition with other private transportation services like bike rentals (more suitable for long-term rental periods), taxis, and private shuttles. The proposed pricing also maintains the ability to attract inefficient short transit and taxi trips to bikeshare.

All North American bikeshare systems offer free ride periods ranging between 30 minutes and an hour. We recommend Bikeshare Hawaii use a 30-minute free ride period (after initial daily or long-term subscription payment) to encourage shorter trips, keep bicycles in circulation, maintain

bicycle availability, and ensure the system can generate revenue. Bikeshare Hawaii may decide to increase the free ride period to 45 minutes; however, this would likely negatively impact system revenue. A final pricing structure should be approved by the Bikeshare Hawaii Board of Directors.

### **Fare payment**

Honolulu's bikeshare system should employ credit/debit card-based online payment for monthly and annual subscriptions. Daily or multi-day subscriptions can be purchased via kiosk payment systems using a credit/debit card. Access to bikes is provided with either fare cards/key fobs (for annual or monthly subscriptions) or a unique code that can be dialed directly into the docking station (for all other subscriptions). The bikeshare non-profit should develop a program with local banks and retailers to offer payment options for unbanked populations. This would likely include a debit form of payment that can be recharged at bank locations or select retail locations. Information on multimodal fare integration is provided in Chapter 6. In addition, Bikeshare Hawaii should allow debit card access without requiring significant deposits, as is done in other systems. Since insurance losses from theft have turnout to be very small or non-existent in systems across the U.S., deposits should be not be factored into fare payment.



A Capital Bikeshare customer purchases a 24-hour subscription at a payment kiosk.

Image from Velo Joy

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**Figure 14 Proposed Pricing Structure and Overages**

***Proposed Pricing Structure***

Peer System	Days of Operation	System Size	Subscription Type					
			Annual pass	Monthly pass	7-day pass	5-day pass	3-day pass	24-hour pass
Miami Beach DecoBike*	365	115 stations/1,000 bikes	\$180	\$35	-	-	-	\$24
Capital Bikeshare**	365	231 stations/1,850 bikes	\$75	\$25	-	\$15	-	\$7
Chicago Divvy Bikes	365	222 stations/2,200 bikes	\$75	-	-	-	-	\$7
Bay Area Bike Share	365	70 stations/700 bikes	\$88	-	-	-	\$22	\$9
Honolulu (proposed)***	365	183 stations/1,676 bikes	\$75	\$30	-	\$20	\$13	\$6

***Proposed Overage Fees***

Peer System	Annual Subscription Overages			24-hour Subscription Overages		
	30-60 minutes	60-90 minutes	Add. 30 minutes	30-60 minutes	60-90 minutes	Add. 30 minutes
Miami Beach DecoBike*	\$4.00	-	-	-	-	-
Capital Bikeshare**	\$1.50	\$4.50	\$6.00	\$2.00	\$4.50	\$8.00
Chicago Divvy Bikes	\$1.50	\$4.50	\$6.00	\$2.00	\$4.50	\$8.00
Bay Area Bike Share	\$4.00	\$11.00	\$4.00	\$4.00	\$11.00	\$4.00
Honolulu (proposed)	\$1.50	\$4.50	\$6.00	\$2.00	\$4.50	\$8.00

**Note:** Some peer pricing includes taxes while other are the price shown plus tax.

\*DecoBike annual pass is for unlimited 30 minute rides. There is also a \$300 option for unlimited 60 minute rides. Monthly pass is for 30 60-minute rides. There are also several hourly passes. This rate schedule is structure like a traditional bike rental.

\*\*Capital Bikeshare also includes an annual subscription payment program for \$84.

\*\*\* This is a conservative (low) pricing structure. The Bikeshare Hawaii Board of Directors may want to choose higher rates, based on demand.

## RIDERSHIP AND REVENUE FORECASTS

Forecasting user-generated revenue from the initial phase service area is based on two basic assumptions:

- The system's propensity to generate trips
- How price sensitive users are to paying overage fees<sup>13</sup>

A bikeshare pivot model developed by Nelson\Nygaard was used to forecast estimated bikeshare ridership for the initial system rollout. A pivot model is a way to estimate ridership potential based on known demand factors of existing bikeshare systems in comparable cities. The model aggregates factors assumed to be associated with ridership coupled with current system statistics. Adjustments are made to remove some of the influences that may distort current ridership figures. With these adjustments made it is possible to estimate ridership by "pivoting" off the average ridership of existing peer systems and adjusting outlier ridership phenomena based on known ridership factors.

Three peer bikeshare systems were chosen for this analysis based on similarities of scale, city characteristics, and likely operational needs. The three systems analyzed include Miami Beach DecoBike; Chicago Divvy; and Capital Bikeshare (Washington, DC).

### Ridership

Based on the bikeshare pivot model analysis, the model forecasts 1,644,000 annual trips in the Moderate Density scenario and 2,010,000 annual trips in the Optimal Density scenario at maturity (i.e., the system is broadly accepted and well marketed, any launch challenges have been fixed, and cultural shift begins). This assumes the system is operating 365 days per year. Figure 15 summarizes each scenarios'

### Bikeshare user markets in Honolulu

Market segmentation is critical to this study's analysis. Resident users have a very different set of mobility needs than employees or visitors. Three primary bikeshare markets are present in Honolulu:

**Resident market:** This market includes residents of urban Honolulu neighborhoods seeking to make short trips between key destinations or seeking last-mile transit connections. The residential market is currently limited due to Honolulu's auto-oriented culture. An even smaller segment of residents seeking weekend recreation options is present. Like the visitor/tourist market (below), this market may make limited use of a station-based, short trip-oriented bikeshare system, but would attract many more recreational, long-term touring bike trips (mostly made by private bike rental).

**Visitor/tourist market:** Oahu attracts over 5 million visitors per year—45% of which originate from Japan. According to the Department of Business, Economic Development & Tourism (2012), the average visitor stays just under 9 days on the island and spends \$232 per day. While visitors are not sensitive to price, they also value cheap on-demand transportation. Due to their length of stay, price insensitivity, and willingness to do outdoor activities, the visitor market would make up the bulk of use in a station-based and short trip-oriented bikeshare system. The large number of visitor-oriented destinations that are out of walking distance would be well-served by bikeshare.

**Commuter market:** This market includes employees and students throughout urban Honolulu seeking access to job centers, particularly downtown, UH Manoa, Kaka'ako, and Waikiki. Like the resident market this market is limited due to cultural attachment to driving, although Honolulu's sizeable transit mode share (roughly 6%) signals demand for mid-day circulation and transit connections.

<sup>13</sup> Overage fees are escalating charges imposed when a bicycle is not returned within 30 minutes of the original time of access.



ridership by month at Year 2 (maturity). Forecast monthly ridership corresponds to Oahu's monthly visitor flows. Like Oahu's monthly inbound visitor statistics, bikeshare ridership is likely to peak in July and August.

**Figure 15 Initial Phase Ridership Forecast by Month (at Year 2)**

Month	Initial Phase: Optimal Density	Initial Phase: Moderate Density
January	160,000	130,700
February	150,200	122,900
March	166,000	135,800
April	152,400	124,600
May	162,600	133,000
June	175,100	143,200
July	188,200	154,000
August	191,000	156,200
September	159,200	130,200
October	160,000	130,900
November	161,600	132,200
December	183,700	150,300
<b>TOTAL (rounded)</b>	<b>2,010,000</b>	<b>1,644,000</b>

**Note:** All projections are planning-level.

## Annual and 24-hour Subscription and Fee-Based Revenue

As demonstrated in Figure 16, the vast majority of users in Honolulu will be casual users (roughly 70 to 80%) largely from the visitor market, and they will access the system with a 24-hour subscription. By Year 2, between 351,750 and 402,000 24-hour subscriptions would be purchased annually in the Optimal Density scenario and between 287,700 and 328,800 24-hour subscriptions would be purchased annually in the Moderate Density scenario.

The 24-hour subscription market is anticipated to make between 80-120% more trips than the annual subscription user market in both capital investment scenarios. After Year 2, annual and 24-hour subscriptions would increase roughly 5%.

Even using conservative assumptions related to user trip rates and trip duration, Honolulu's strong visitor market will lead to substantial subscription and overage fee revenue. As detailed in Figure 17, the Optimal Density scenario is estimated to generate between \$4.4 and \$6.3 million annually, compared to \$3.6-\$5.3 million generated in the Moderate Density scenario. The initial phase system would generate roughly 40-80% more user overage fee revenue than subscription revenue.

*Note: This ridership forecast and market segmentation assumes a conservative estimated annual member base, although it is similar to annual membership figures seen in Boston and Minneapolis.*

**Figure 16 Year 2 Projected Trips by User Market and Scenario**

Scenario	Casual (24 hr) Trips	Casual (24 hr) Subscriptions	Annual Trips	Annual Subscriptions
<b>Optimal Density Scenario</b>	1,407,000-1,608,000	351,750-402,000	402,000-603,000	3,350-5,030
<b>Moderate Density Scenario</b>	1,150,800-1,315,200	287,700-328,800	328,800-493,200	2,740-4,110

Note: This ridership forecast and market segmentation assumes a conservative estimated annual member base, although it is similar to annual membership figures seen in Boston and Minneapolis.

**Figure 17 Summary of Year 2 Subscription and Overage Fee Revenue Ranges**

	Optimal Density	Moderate Density
<b>User fee revenue (see Figure 14)</b>		
Annual user fee revenue	\$43,500-\$65,300	\$44,800-\$67,200
24-hour user fee revenue	\$3,110,300-\$5,177,900	\$2,508,700-\$4,500,600
<i>Subtotal*</i>	\$2,699,000-\$4,438,000	\$2,190,000-\$3,864,000
<b>Subscription revenue (see Figure 14)</b>		
Annual subscription revenue	\$251,300-\$377,300	\$205,500-\$308,300
24-hour subscription revenue	\$2,110,800-\$2,412,000	\$1,726,200-\$1,972,800
<i>Subtotal**</i>	\$1,742,000-\$1,864,000	\$1,424,000-\$1,525,000
<b>TOTAL REVENUE (rounded)</b>	<b>\$4,441,000-\$6,302,000</b>	<b>\$3,614,000-\$5,389,000</b>

\*Subtotal incorporates a 5% non-collection and 10% vendor profit discount.

\*\*Subtotal incorporates separate 10% discounts for vendor profit, Employee Benefit Reductions (annual subscriptions only), and 24-hour subscription giveaways.

**Note:** All projections are planning-level. Revenue levels shown above are estimated to be met by Year 2 of operation.

The ridership and revenue findings above demonstrate the anticipated financial sustainability of the initial phase system. Honolulu's 5-year trip and subscription estimates are presented in Figure 18. The escalation in ridership in Year 3 results from increased annual subscriptions stemming from the opening of the HART rail system and gaining popularity from the local and visitor 24-hour subscription markets. As the program gains traction and the utility of the system becomes more widely understood, ridership will increase. A gradual build in ridership is common among the rollout of many bikeshare systems. Due to the difficulty of projecting longer-term increases in ridership, Figure 18 shows no growth beyond Year 3. Therefore, these projections are intentionally conservative.

The Operating Profit/Loss metric is an important input into the system's funding strategy. Based on the financial forecast, the Optimal Density scenario initial phase system would likely operate in the black in the first year of operation. The Moderate Density scenario would likely operate a deficit in Year 1 (signifying the need for financing for operations), but becomes profitable by Year 2. Enough revenue is likely to be generated to cover operations and perhaps fund part or all of system expansion to other Oahu communities and eventually neighbor islands. This is reflected in this business plan's funding and financing strategy (see the end of this chapter).

**Figure 18 Initial Phase Five-year Ridership and User Revenue Projection**

	Year 1	Year 2	Year 3	Year 4	Year 5
<b>Optimal Density</b>					
Ridership	1,507,500	2,010,000	2,110,500	2,110,500	2,110,500
Revenue	\$3.3-\$4.7 million	\$4.4-\$6.3 million	\$4.7-\$6.6 million	\$4.7-\$6.6 million	\$4.7-\$6.6 million
Operating Cost	\$3.2 million	\$3.2 million	\$3.2 million	\$3.2 million	\$3.2 million
Operating Profit/Loss	\$0.1-\$1.5 million	\$1.2-\$3.1 million	\$1.0-\$3.4 million	\$1.0-\$3.4 million	\$1.0-\$3.4 million
<b>Moderate Density</b>					
Ridership	1,233,000	1,644,000	1,726,200	1,726,200	1,726,200
Revenue	\$2.7-\$4.0 million	\$3.6-\$5.4 million	\$3.8-\$5.7 million	\$3.8-\$5.7 million	\$3.8-\$5.7 million
Operating Cost	\$2.8 million	\$2.8 million	\$2.8 million	\$2.8 million	\$2.8 million
Operating Profit/Loss	\$(0.1)-\$1.2 million	\$0.8-\$2.6million	\$1.0-\$2.9 million	\$1.0-\$2.9 million	\$1.0-\$2.9 million

## Productivity and Cost Effectiveness Validation

To the validate Honolulu’s bikeshare ridership and revenue forecast, key productivity and cost effectiveness metrics were compared with the experience of existing bikeshare systems in peer cities. Metrics used in this cross-examination include subscriptions per bike and trips per bike per day. Systems used for this analysis include Capital Bikeshare, Denver B-Cycle, Boston Hubway, and Nice Ride Minnesota (Miami Beach DecoBike and Chicago Divvy are not used due to data availability issues).

After assessing these key performance metrics (summarized in Figure 19), ridership and revenue forecasts for Honolulu’s bikeshare system are authenticated as reasonable.

**Productivity:** In Year 1, Honolulu’s initial phase system is forecast to produce 2.5 trips per bike per day. By Year 2, this will increase to 3.3 in the Optimal Density scenario. This compares favorably to other systems and is nearly identical to Capital Bikeshare (2.6 trips per bike per day). Honolulu’s projected productivity is higher than Denver B-Cycle, Boston Hubway, and Nice Ride Minnesota, but lower than the CitiBike program in New York.

**Cost effectiveness:** Using the annual subscriptions per bike metric, Honolulu is positioned on the low end of its peers (at 3.0 annual subscriptions per bicycle in Year 1). This is reflective of Honolulu’s existing bicycle mode share (roughly 2.3%) and lower residential population in the initial service area compared to other cities. Honolulu’s residents will more likely serve as part of the 24-hour subscription market until utility of the system is realized, as the rail system is developed and last mile connectivity is needed in neighborhoods adjacent to the stations, and as comfort increases.<sup>14</sup> Adjusting for CitiBike and Capital Bikeshare’s fairly anomalous cost

<sup>14</sup> Data from the American Community Survey suggests that this is already happening. Between 2011 and 2012, bicycle commuting increased 92% (from 1.2 % to 2.3 %). This is the largest single year increase in bicycle commute mode share of the nation’s top 20 bicycling cities—even higher than the likes of Portland, OR, Minneapolis, MN, and Washington, DC.

effectiveness performances in Year 1, Honolulu's cost effectiveness is within the reasonable range of other peer bike share systems.

**Figure 19 Productivity and Cost Effectiveness Forecast Validation (Year 1)**

<b>System</b>	<b>Bicycles</b>	<b>Annual subscriptions<sup>1</sup></b>	<b>Annual trips<sup>2</sup></b>	<b>Trips per bike per day</b>	<b>Annual subscriptions per bike</b>
<b>Honolulu (Optimal Density)</b>	1,676	3,350	1,507,500	2.5	3.0
<b>NYC CitiBike<sup>3</sup></b>	4,474	95,418	5,852,000	6.6	21.3
<b>Capital Bikeshare (DC only)</b>	1,100	18,900	1,045,000	2.6	17.2
<b>Denver B-Cycle</b>	500	1,785	103,000	0.6	3.6
<b>Boston Hubway</b>	610	3,620	138,000	0.6	5.9
<b>Nice Ride Minnesota</b>	600	1,295	101,000	0.5	2.2

<sup>1</sup> Represents Honolulu's low end annual subscription estimate for Year 2.

<sup>2</sup> Honolulu's Year 1 ridership projections are used to compare Year 1 ridership from existing systems.

<sup>3</sup> CitiBike data as of December 10, 2013. Productivity and ridership is based on 198 days in operation. Number of bicycles is based on bicycle availability on launch date.

## FUNDING AND REVENUE OPTIONS

Although the ridership and user-generated revenue forecast suggests that user revenue from Honolulu's initial phase system launch is sufficient to cover operating costs and potentially part of the capital costs, user revenue alone cannot finance the initial capital in full and is unlikely to be sufficient to cover expansion to all areas where future phases might be desirable. A diverse funding strategy is necessary to ensure a long-term, sustainable bikeshare operation.

Bikeshare often operates as a public-private venture. Most successful bikeshare programs receive funding from a diversity of public and private sources, and each sector's participation strengthens the ability to leverage funding. Although frequently touted as a private market approach to transportation; bikeshare programs almost always require some public funding to launch and maintain the operation. More recently, private investment has shouldered much of the capital and operating investment as a way to leverage bikeshare's positive impact on social, environmental, and economic goals in their own public outreach campaigns. The private sector's willingness to contribute signals future success to potential program sponsors, the media, and the public.

The following sections summarize funding options available for Honolulu's initial phase system launch.

### Public funding and grants

Numerous federal agencies offer funding streams that bikeshare programs across the country have used to help cover capital and operating costs. These include the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), and the U.S. Department of Energy (DOE).



Bikeshare programs nationwide have received federal and state awards through open communication and collaboration with state departments of transportation and metropolitan planning organizations, such as the Oahu Metropolitan Planning Organization (OMPO). As a relatively new component to the transportation system, bikeshare has unique barriers to implementation. For this reason, administrative non-profits and local agencies have centered discussions on how bikeshare will address challenges such as air quality, job access, transit ridership, and public health. The federal and state grants discussed below will require the non-profit and the City and County of Honolulu to address these challenges while coordinating grant writing with the Hawaii Department of Transportation (HDOT), OMPO, the Hawaii Department of Health (HDOH), the State Energy Office and the Hawaii Department of Accounting and General Services (DAGS).

### **Federal Funding Sources**

**Congestion Mitigation and Air Quality (CMAQ) Improvement Program.** Bikeshare funding from FHWA most frequently comes through the CMAQ Improvement Program. Recipients of these funds include government agencies and private, non-profit organizations, particularly in urban areas that do not meet National Ambient Air Quality Standards. Even though Hawaii meets these standards, the State still receives approximately \$10.5 million per year in maintenance funding that may be used for bikeshare program development and capital procurement. To initiate this grant process, the non-profit and its public sector partners will need to request OMPO to place bikeshare on the list of Transportation Improvement Program (TIP) projects. Likewise, coordination with HDOT is critical to ensure livability-oriented investments that reduce congestion and further clean air efforts—like bikeshare—are considered for CMAQ awards. Programs that have benefited from this funding source include Boston Hubway, Bike Chattanooga, and Capital Bikeshare, among others. None of those programs required local match grants.



Roughly 80% of Capital Bikeshare's initial system launch and 75% of its expansion to Arlington was funded by CMAQ funds.  
Image from Nelson\Nygaard

**Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21).** The current federal transportation bill, MAP-21, includes a grant program for alternative transportation projects called the Transportation Alternatives Program (TAP). Because the grant program has just begun, only a handful of bikeshare programs have benefited from this revenue source. For example, Puget Sound Bike Share, an administrative non-profit, received a \$750,000 Transportation Alternatives Program grant administered through the Washington Department of Transportation. HDOT will administer the final TAP apportionment, so the non-profit and its public sector partners need to communicate bikeshare's relatively minor funding needs and major benefits to HDOT for funding consideration. Of the federal revenue sources on the list, the TAP is one of the most flexible, but also one of the most competitive. Program sponsors will need to underscore the ways in which bikeshare will help achieve state and local goals.

**National Infrastructure Investments (formerly Transportation Improvements Generating Economic Recovery, or TIGER Discretionary Grants).** This highly competitive USDOT grant program focuses on multimodal transportation projects that better connect communities to centers of employment, education, and services and that hold promise to stimulate long-term job growth. Several bikeshare systems, including Chicago, have received TIGER grants. The City and County of Honolulu recently applied for a \$7.1 million TIGER6 grant to help fund the bikeshare system and related bikeway projects.

**Federal Transit Administration (FTA).** The FTA offers an additional set of bikeshare funding sources. Bikeshare funding from FTA generally comes with the stipulation that the system must directly enhance transit service. Therefore, the non-profit needs to work with the City and County of Honolulu and TheBus to consider ways in which bikeshare can support and enhance transit service. While transit capital funding received by HART or TheBus could qualify

to be used for bike infrastructure, these revenue sources compete for funding with transit operations and other capital needs. Options include the following:

- **FTA 5316 Job Access Reverse Commute** funds can be used if the bikeshare stations help connect lower-income residents and employees to jobs and job training sites.
- **FTA 5307 Urbanized Area Formula Program** funds stipulate that pedestrian and bicycle access projects are eligible for funding. The challenge is that this may compete with funding for TheBus. Coordination with the City and County of Honolulu is required.
- **FTA Bus Livability Discretionary Grants** (unallocated Section 5309 Bus and Bus Facilities monies) fund projects that fulfill the six livability principle of the Interagency Partnership for Sustainable Communities. Bicycle infrastructure and bikeshare are eligible if the bikeshare stations are oriented toward bus stop integration. Bikeshare Hawaii should work with the City and County of Honolulu to determine how the stations can best achieve this objective.
- **FTA 5311 Rural and Small Urban Areas** for future phase capital development in smaller communities (particularly on the neighbor islands).
- **FTA 5309 New Starts** funding part of the HART rail system could be used for station procurement as this would constitute an eligible station access improvement.

**Centers for Disease Control and Prevention (CDC).** The CDC's Division of Nutrition, Physical Activity, and Obesity cooperative agreements, Prevention and Public Health funds, and the Communities Putting Prevention to Work Program provided funding to help communities reduce obesity rates. Boston Hubway, Nashville B-Cycle, and San Antonio Bikeshare have received this grant by considering the public health benefits bikeshare brings to cities. The statewide bikeshare non-profit needs to demonstrate bikeshare's potential public health impacts on obesity, type 2 diabetes, and air quality when applying for public health grants. Partnering with local public health organizations and the State Department of Health will help reinforce the positive health impacts of bikeshare, build support for the program's implementation, and demonstrate to the CDC that the groundwork for meeting health goals has been laid.

**U.S. Department of Energy (DOE).** Numerous bikeshare programs have benefited from DOE's Energy Efficiency and Conservation Block Grant program. The grant program's goal is to reduce fossil fuel emissions and reduce total energy use. These grants benefit projects that support these goals and also spur economic development. Denver B-Cycle and San Antonio Bikeshare received this grant after stipulating emissions reductions and potential vehicle miles traveled savings. Working with the business community, and local business associations in particular, may inform Bikeshare Hawaii on economic development opportunities. This may result in a stronger case for why Bikeshare Hawaii should receive the DOE grant.

**Other federal grants.** Other opportunities for funding may come through coordination with other federal programs. For instance, the FHWA Central General Lands Highway Division has funded opportunities to support transportation connections to federal lands such as national parks and national wildlife refuges. There may be opportunities to support infrastructure and mobility improvements to support efforts such as bikeshare and bike/pedestrian infrastructure improvements, especially as it relates to transit and multi-modal transportation opportunities. Developing clusters of bikeshare stations that connect historic and cultural sites and national monuments to transit nodes may make bikeshare eligible to receive funding. For example, there may be a specific opportunity to connect the World War II Valor in the Pacific National Monument to the Pearl Harbor Trail/Leeward Bikeway and the Aloha Stadium rail station.

## State and Local Funding Sources

A small number of bikeshare programs have relied on state funding, either directly from the state departments of transportation, departments of health, or through universities. The University of Minnesota, for instance, provided \$150,000 for the start-up of Nice Ride Minnesota. The Florida Department of Transportation granted \$300,000 to Broward B-Cycle (Fort Lauderdale), covering about 28% of the start-up costs. Many bikeshare programs also receive local government funding for either capital or operating costs, along with technical support from staff.

The **Hawaii State Department of Health** has committed \$1 million toward bikeshare capital from their Healthy Hawaii Initiative tobacco settlement special funds. In addition, the Hawaii Tourism Authority (HTA) has several grant programs for projects that enhance livability and protect the state's natural areas. HTA's Natural Resources Program offers grants up to \$100,000 to support projects that improve both the visitor and resident enjoyment of natural areas, especially frequently visited areas like Diamond Head State Monument. This could be used to purchase station equipment for park or beach locations.



The **City and County of Honolulu** has allocated \$1 million towards a bikeshare program in the FY15 capital budget, along with a unanimous resolution of support for bikeshare from the City Council. The City has also funded new bike lane improvements, including Honolulu's first protected bike lane which is scheduled to be installed on King Street in late 2014. The City's Department of Transportation Services and Transit-Oriented Development Program have formed an interdepartmental working group to assist the new non-profit with system planning, station siting, and permitting issues.

## Private foundations, grants, and one-time gifts

Although public grants are more common revenue sources, private and institutional grants are small, but common elements of bikeshare funding.

The Robert Wood Johnson Foundation helped fund the planning of bikeshare programs and other bicycle initiatives. The Bristol-Myers Squibb Foundation, Lilly Endowment, Richard King Mellon Foundation, and the Ruth Mott Foundation helped fund bike projects and may provide a new source for bikeshare revenue. Companies such as REI have provided grants of less than \$50,000 on bike projects through the Bicycle Friendly Community Grants Program. Trek Bicycle has also given money to bicycle projects through the Bicycles Belong Program. Private universities served by the system may also help pay for bikeshare programs. For instance, Nice Ride Minnesota received \$30,000 from Macalester College to help fund a station at their campus.

Other bikeshare programs have considered smaller private donations from individuals and small businesses. The City of Boulder launched a fundraising program that focused on small gifts of about \$20 to fund capital costs. Larger one-time gifts from institutions, charitable groups, and individuals may also generate sizable amounts of capital.

A variety of private organizations and social investment brokerages on Oahu have expressed interest in providing financial assistance and in-kind support for bikeshare in Hawaii. Many mission-based organizations align with bikeshare's goals, and thus, would be good candidates for



financial partnership. The Ulupono Initiative has already expressed interest in providing financial and in-kind assistance.

## Corporate and/or university wellness programs and benefits packages

Corporate membership programs reduce motor vehicle trips and may be an excellent revenue generator, especially with multi-year contracts. Employers may choose to add bikeshare membership to healthcare and wellness programs. Numerous businesses participating in the stakeholder involvement events and other coalitions like the Hawaii Health at Work Alliance expressed interest in participating in bikeshare benefit programs. Public and private universities also participated in the stakeholder discussions, and have the potential to include bikeshare membership as a benefit in student activities fees.

## Sponsorship and advertising

Sponsorship and advertising is one of the primary funding sources used to cover capital and operating costs in systems across North America. Private companies or other organizations, such as financial groups or health insurance companies, have provided up to 100% of the capital costs for some programs. Sponsors raise the revenue to ensure the system is fully funded and also build relationships with other community partners to support and promote the system.

Advertising, a mechanism frequently employed by sponsors or program operators to generate revenue, has appeared at kiosks, on street furniture, and on the bicycles themselves. As opposed to sponsorship, companies that advertise through bikeshare infrastructure do not necessarily play a role in promoting or managing the system. This report does not currently assume benefits from advertising revenue. Bikeshare Hawaii should explore and implement sponsorship and advertising programs consistent with state law and city and county ordinances.

### Sponsorship types

Different bikeshare programs have raised revenue through a variety of sponsorship types, each of which come with different challenges and opportunities. Three of the most common sponsorship types are explained below:

**Title or Presenting Sponsor.** In these programs, the sponsor integrates its brand directly into the bikeshare system. The color and logos appear on bikes, and the title of the system includes the sponsor's name. The term of commitment typically ranges between 3-5 years with first right of refusal on renewal. Examples of title sponsors include London's Barclays Cycle Hire and New York City's CitiBike. The advantage for the sponsor is brand exposure during the launch of the program, and the sponsor in turn funds a significant percentage, often up to 100% of the capital costs for the exclusivity provisions.<sup>15</sup>

The municipality, however, will have a limited input on the aesthetics of the bikes, stations, and kiosks. Under this sponsorship type, the system sponsor may seek other corporate partners. These secondary sponsors, called presenting sponsors, may also place their logo on the bicycle or serve as the official payment sponsors. Examples of presenting sponsors include New Balance in

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<sup>15</sup> Although some systems are fully funded by a title or presenting sponsor, 30-40% is a more typical level of investment.

Boston's Hubway system and Blue Cross Blue Shield of Minnesota in Nice Ride Minnesota's system.



Salt Lake City's GreenBike program has a presenting sponsorship from Select Health and a basket sponsorship (a type of presenting sponsorship) from Rio Tinto.

Image from SLC Bike Share

No Fortune 500 companies are located in Hawaii, but stakeholder outreach found that there are a number of local health care organizations, hotels, businesses, and other organizations that have the resources and interest to enter into a sponsor agreement.

There is also potential for multiple presenting sponsorships. While a single title or presenting sponsor might yield a larger upfront capital investment and reduce efforts during the second wave of sponsor negotiations, it is unclear if this model is well suited to the Honolulu market. An alternative is to seek multiple presenting and major sponsors. This would make sponsorship more accessible to smaller businesses to invest in the system and reduce competition for a smaller number of sponsorships. Potential drawbacks to this approach may include the effort required to secure and maintain numerous sponsors and that brand recognition may become diluted with a broader set of sponsors.

While Honolulu represents a fairly small and specialized business market (highly oriented toward tourism and hospitality), it is yet to be known what sponsorship revenue can be generated from international companies hailing from Japan, Korea and China.

**Major Sponsor.** Major sponsors contribute revenue to the system and receive some privileges, such as advertising on marketing material or exclusive advertising rights on the bicycles or at kiosks. Major sponsors, however, do not have their company name attached to the bikeshare program title, and they may have only a limited role in choosing the bike color, system design,

and marketing campaigns. This sponsorship type brings in less revenue for the program than title sponsorship, but system operators have more control over aesthetics and marketing.



In July 2013, Seattle Children's Hospital became a \$500,000 major sponsor of the future Puget Sound Bike Share system and will receive employee memberships to the bikeshare program as well as marketing exposure.

**Station Purchase Sponsor.** Universities, private businesses, and organizations frequently purchase stations to ensure employees have easy access to their campuses by bicycle. Several public agencies, universities, and businesses have expressed interest and are already considering budgeting for station funding. Station sponsor opportunities are often located at large employers or major hotels. Private developers and large resorts have expressed interest in sponsoring stations on or near their properties, and new developments being planned around rail transit stations are including bikeshare in their projects.

**Figure 20 Bikeshare Sponsorship Types**

Sponsor Type	Investment Level	Benefits
<b>Title or Presenting Sponsor</b>	\$1 - \$2.5 million (lump sum or 3-5 year incremental payment)	Logo on all bikes and materials and media
<b>Major Sponsor</b>	\$100,000 - \$500,000	High exposure on bike share materials and media
<b>Station Purchase Sponsor</b>	Roughly \$65,000 per station (or more depending on the station design)	Guarantee station at corporate site, logo on website

**Note:** Actual investment levels may vary. For the purposes of this study, the investment levels detailed above correspond to sponsorships secured in similar markets.

## Advertising

Local and state sign codes should be reviewed thoroughly prior to finalizing the program's advertising opportunity and strategy. However, we believe using sponsor logos on bicycles conforms to Article 7 Section 21 of the Municipal Code. Title or presenting sponsor logos on bicycles would likely constitute a "Portable sign" as defined in Section 21-7.20 and conforms to applicable standards ("Not to exceed 16 square feet in sign area or 16 feet in height above ground level"). In addition, sponsor logos would constitute a conforming sign as encoded in Section 21-7.30. For businesses which sponsor a bikeshare station on their own property within close proximity to their operations, appropriate sponsor signage or sponsor plaques at the station should also be evaluated as an opportunity.

**Advertising on stations may not play a significant role in system financing or the user interface.** Advertising has traditionally served as a small, but important component of funding bikeshare operations. Although relatively small in monetary terms compared to the overall development budget; advertising commitments and partners can help show community support and interest, which can influence larger sponsors and funders to support the program.

While traditional advertising needs to be consistent with state law and city and county ordinances, the non-profit should also capitalize on emerging alternative advertising revenue opportunities such as web- and smart phone-based app advertising, “base-of-basket” advertising, and promotional opportunities like business reward programs and random user prizes (e.g., Divvy’s #RedBike program<sup>16</sup>). These emerging advertising options may comprise only a small share of the non-profit’s operating revenue (e.g., less than 5%). Much of the value of this strategy is to promote the system and its benefits rather than generate revenue.

### **Other opportunities**

The Honolulu bikeshare program may also choose to leverage Hawaii’s renewable energy industry resources to sponsor solar docking stations. Community partners may sponsor the implementation of solar panels and will in turn have a small decal acknowledging their contributions (e.g., “This bikeshare station is powered by Company X”).

Moreover, local businesses, such as stores, hotels, and restaurants, may choose to make contributions to stations that are sited near their store. Bikeshare Hawaii may choose to follow in the footsteps of other bikeshare programs by providing promotions and coupons on their website and in newsletters. Coupon books featuring bikeshare station-adjacent businesses provide a promotional opportunity and may build community support for the program.

## **RECOMMENDED FUNDING STRATEGY AND FINANCING PLAN**

The funding of Honolulu’s bikeshare system could take shape in a number of different ways, due to the wide range of funding options and methods for allocating user fee-generated revenue to cover costs. This section presents a recommended funding strategy based on estimated costs presented in Chapter 4, current funding availability, and projected revenue. The recommendation below represents a conceptual funding scenario for the interim pre-launch phase, initial capital costs, and ongoing operating costs. In reality, there are many options and the final funding approach will be dependent on sponsor response, grant funding opportunities, and other factors. This funding strategy could be adjusted if the non-profit is able to secure a larger share of public grants, title sponsorship, major sponsorship, or station sponsorship than assumed below.

The key features of the recommended funding strategy are as follows:

- Public funds and grants will fund some, but not all of the initial capital investment

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<sup>16</sup> The Divvy #RedBike is a promotional program that offers prizes for those who rent or film the lone red bicycle in the fleet. People that ride or photo-document the red bicycle with the hashtag #divvyred can enter to win gift certificates from local companies. In August 2013, annual Divvy memberships were given to the 25th, 50th, 75th, 100th, 200th and 300th people who rented the red bike. This is a small way to generate excitement about the system and distinguish it from other programs across the nation.



- Private sponsorship and gifts will be needed to fund initial capital, but may be less necessary for future expansion
- Revenue from user-generated fees and subscriptions will likely cover operating costs, in full
- Excess revenue from operations is expected and can be used for initial capital financing and future system expansion

Figure 21 summarizes the strategy's funding elements and their likely ranges.

### Interim Funding Strategy

Private contributions, bridge sponsorship (e.g., small initial contribution with full sponsorship amount contingent on fundraising and implementation progress), and in-kind support should cover 70% of the Interim Phase costs. The other 30% should come from public sector general funds or grants. One option is to use public sector funds to finance station location planning and community outreach.

**Figure 21 Potential Funding Strategy for Bikeshare Hawaii**

Funding Element (cost)	Funding Type	Share
<b>Interim Launch Phase</b> \$333,000-\$558,000	Public grants/general fund	\$100,000-\$168,000 (~30%)
	Private foundation awards	\$233,000-\$390,000 (~70%)
	In-kind staff time and equipment	N/A
<b>Capital</b> \$9.2-\$11.8 million (one time)	Title or presenting sponsorship	\$3.0 - \$5.0 million (~25-50%)
	Federal Grants	\$2.0-\$5.0 million (~20-50%)
	Local and State funding	\$1.0 - \$3.0 million (~10-30%)
	Major sponsorships and private organization gifts	\$1.0 million (~8-11%)
	Station purchase sponsorships (minimum 20 stations)	\$1.0 million (~8-11%)
<b>Ongoing Operating</b> \$2.8-\$3.2 million (annual)	User-generated subscription and fee revenue	\$2.8-\$3.2 million (100%) <sup>1</sup>
	Alternative advertising revenue sources (app-/web-based advertising, bottom-of-rack advertising, direct business marketing via discounts)	TBD/Optional supplement (less than 5%; can tie in with the non-profit's marketing strategy)

<sup>1</sup> Depending on the amount of sponsor support and grant funding secured prior to system launch, the non-profit may need to finance the initial operating subsidy as part of the capital financing plan.

**Note:** Funding types and their share of total funding were determined by current funding commitment, available funding (reasonably likely to be secured), and stakeholder discussions with potential funders.

### Capital Funding Strategy

Starting up the system will cost between \$9.2 and \$11.8 million to procure initial bikeshare stations, bicycles, and other capital needs. To secure the requisite funding, Bikeshare Hawaii will need to leverage initial funding from the City and State to secure Federal grants, with; title/presenting sponsorships, and station sponsorships covering the balance of the capital costs.

## Operating Funding Strategy

Based on the recommended initial system size, annual operating costs will range between \$2.8 and \$3.2 million. The system is projected to generate between \$4.4 and \$6.3 million in user fee and subscription revenue by Year 2—enough to pay for 100% of operating costs and to invest back into system expansion.

**Initial operating subsidy.** To make up the *potential* cost in delayed fee revenue or potential lag in popularity in Year 1, the non-profit should assume 50% of the anticipated Year 1 operating revenue will be delayed. To make up the other half of operating revenue, the non-profit should secure a 50-50 mix of station sponsor (25%) and grant funding sources (25%) for initial operating subsidies. Initial operating subsidy is not incorporated into the recommended funding strategy detailed in Figure 21 because initial operating funds secured by the non-profit's executive director is not known and could vary substantially.

## 6 MOVING BIKESHARE FORWARD

The Governor of the State of Hawaii, Neil Abercrombie, and Honolulu Mayor Kirk Caldwell both expressed support for the recommended administrative non-profit organizational model and an eagerness to move forward with implementation as quickly as possible. The bikeshare planning process garnered strong support from local stakeholders including business owners, business improvement districts, private transportation services (shuttles, taxis, and bike rentals),<sup>17</sup> education institutions, the tourism and hospitality industry, land developers, and health care organizations. These community and neighborhood leaders generally agree that bikeshare is an exciting and transformative transportation option that can unlock health, economic, social, and environmental benefits. For many people in Hawaii, bikeshare cannot come soon enough.

As recommended in the organizational model and the results of the demand and financial analysis, the City and County of Honolulu and the State of Hawaii teamed up with public and private sector partners to establish Bikeshare Hawaii as a non-profit organization with the objective of developing and administering bikeshare in January, 2014. This chapter presents recommended implementation steps and solutions to implementation challenges.

### IMPLEMENTATION CHALLENGES

The following section identifies potential challenges to implementing the initial phase of a bikeshare system in urban Honolulu or achieving the system's ridership potential. Each challenge is supported by a recommended solution or mitigation that addresses each challenge. In some cases, a recommended solution will require coordination between agencies or even departments within agencies. This is particularly the case with recommended bikeway network implementation actions.

#### Limited bicycle infrastructure

The initial phase service area is not well served by bikeways. Providing a well-connected network of safe and comfortable bikeways in Honolulu and other expansion areas is important in making the general public to feel that the system is safe, enable more casual riders, and lay the groundwork for system expansion.

The challenge is that the \$65 million Oahu Bike Plan has typically only been supported by roughly \$1 million per year for bicycle projects, although that is being augmented in the FY'15 budget by

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<sup>17</sup> Bikeshare supports other public and private transportation services. Rather than viewing bikeshare as a competitor, representatives from all walks of transportation services and operations in Honolulu noted that bikeshare would largely benefit their businesses. This view was shared by representatives from the shuttle, taxi, transit, and bicycle rental industries. In many cases, these noted that bike share would benefit their business by either alleviating demand (mostly benefiting TheBus and private shuttles) or eliminating the need to serve short, inefficient trips (particularly in the case of taxis). They also noted that bike share would support one-way trips to shopping or downhill trips and possibly encourage the use of shuttles, transit, or taxis for their return trip.

Complete Streets and transit station access investments. Many people mentioned the need to implement cycle track improvements that go above and beyond the adopted Oahu Bike Plan (this was echoed by many participants during the Developer/Landowner focus group meeting). A citywide bicycle wayfinding system was also viewed as a key investment.

**Solution:** Both prior to and after bikeshare is launched, the City and County of Honolulu should focus investment on bikeway implementation and a network of wayfinding signs. Since this study began, the City and County of Honolulu has made significant commitments to bicycle infrastructure. The City's street re-paving initiative is working to include complete street recommendations for bike and pedestrian facilities where financially feasible. A cycle track is being designed and implemented this year on King Street, and additional opportunities throughout this core area are being considered for improvements.

Priority bikeway improvements identified in the Oahu Bike Plan and Neighborhood TOD Plans include:

- Kapiolani Boulevard bike lanes or cycle track
- King Street bike lane or two-way cycle track
- Potential separated multi-use path on the south side of Ala Moana Boulevard
- Punchbowl Street bike lanes or cycle tracks
- South Street bike lanes or cycle tracks
- Cooke Street bike lanes
- Piikoi Street bike lanes
- Pensacola Street bike lanes
- McCully Street bike lanes
- Improved bicycle facilities and wayfinding for riders traveling between the Waikiki and the Ala Moana neighborhoods (particularly on Ala Wai Boulevard between McCully Street and Ala Moana Boulevard)

The City and County Department of Transportation Services (DTS) has received funding for bikeshare and Complete Streets implementation in the adopted FY2015 budget.

### **Education and Cultural Awareness**

An often repeated message voiced by community stakeholders is that Honolulu and areas beyond the urban core are culturally-oriented toward automobile travel and do not understand the needs and benefits of people on bicycles. Helmet use was also a concern. While there was general agreement amongst City and County staff and local stakeholders that helmet vending was not an acceptable or attractive operating requirement, many stakeholders saw an opportunity to use the bikeshare program to educate the public about helmets and encourage their use.

**Solution:** In addition to bikeway implementation (see recommendation above), the initial bikeshare launch needs to be supported by a visible and effective awareness campaign that educates people about bikeshare's benefits and how to drive in the presence of cyclists. There needs to be a coordinated strategy of infrastructure improvements, education, marketing, and enforcement. This could be coupled with helmet sponsorships, or programs that provide discounted or free helmets.

## Seed Funding

Identifying the initial funding to begin non-profit operations represents the most immediate challenge to implementing bikeshare. Bikeshare Hawaii has no dedicated funding source, so initial seed funding needs to be identified to get the non-profit up and running.

**Solution:** The Interim Action Plan (below) recommends identifying one or more interim lead fundraisers. More detail is presented below.

## INTERIM ACTION PLAN

Key project stakeholders, including the City and County of Honolulu, the State, and private sector leaders agree that an interim “bridge” phase is needed to move the current effort forward under the direction of the recommended administrative non-profit structure. The following Interim Action Plan and supporting recommendations are intended to guide the project partners through key initial activities prior to hiring the non-profit’s Executive Director.

These seven actions are recommended for execution over the next four months. Please note the following steps do not necessarily need to be approached in the order shown below. These steps could be completed in varying order depending on how the program unfolds and what entities become involved.

### 1. Establish the bikeshare non-profit

The first step in implementing bikeshare is to form and register an independent 501(c)3 non-profit with the state and federal government. As previously noted, Bikeshare Hawaii was formally created in January, 2014 as a non-profit organization with the mission to build the organizational and funding capacity required to implement and administer a public bikeshare program.

### 2. Establish Board of Directors

A Board of Directors should be established to guide the development of the bikeshare non-profit and establish initial protocols and bylaws. Critical roles for the Board would be to finalize and approve non-profit bylaws, establish the working relationship with the fiscal host, hire an Executive Director, and begin early sponsorship discussions. The bylaws may be amended when the Executive Director is hired and as the non-profit’s Board of Directors is expanded. We recommend the Board consist of five to seven representatives, including a Governor appointee, a Mayor appointee, and 3-5 representatives from the private sector, non-profit sector, or from other institutions (such as universities). Established funders should be given priority on the Board.

A small group of key BWG personnel from the City, the US EPA, the Hawaii DOH and the US National Park Service has been meeting weekly to help push forward the implementation of bikeshare in Honolulu. Upon the creation of Bikeshare Hawaii, this smaller group has been designated as the “Technical Advisory Committee to the Board of Directors of Bikeshare Hawaii. While this Committee has no authority to act on behalf of Bikeshare Hawaii; it will continue to meet regularly and will serve as a resource to the Bikeshare Hawaii Board of Directors as it moves forward with implementation.

**Next Steps and Responsibility:** The Advisory Committee to the Board was convened in December 2013 to draft founding documents and select founding members of the Board of Directors. As of completion of this Plan, a Board of Directors has been established, with initial members in place from the public and private sector.



### **3. Identify and retain resources to support non-profit development**

Professional and organizational resources need to be secured, formed, or identified to support the development of the non-profit organization. Key supporting needs for the Interim Phase include:

- Securing pro bono legal services to help file for 501(c)(3) status and craft a working draft of the non-profit's bylaws (to be finalized by the non-profit's Board and Executive Director).
- Establishing a Government Support Working Group including representatives from the City and County of Honolulu, the State Office of Planning, the Department of Health, the Governor's office, and US EPA Region 9. The Working Group can provide support on items such as permitting and siting stations, media outreach, public sector funding development, and fare integration. The City and County has agreed to dedicate a significant number of public employee hours to coordinate issues regarding permitting and other activities required to expedite bikeshare program development.

**Next Steps and Responsibility:** The Technical Advisory Committee to the Board should meet on a regular basis to identify implementation challenges and brainstorm ideas for how to overcome these challenges. The Committee should also produce a work plan that can be used to prioritize implementation tasks and convey the public sector's in-kind support for bikesharing. The Committee should identify potential candidates for pro-bono legal support. As of the completion of this report, legal services have been secured.

### **4. Establish an interim communications and media strategy**

During the Interim Phase, and until Bikeshare Hawaii has hired an Executive Director, all media communication should be coordinated by the City and County of Honolulu's communications director. Technical support can be provided by the City and County of Honolulu's Transit-Oriented Development (TOD) program, and Department of Transportation Services (DTS). Messaging should be high level, focusing on the City and County's role in conducting an organizational study and business plan as well as the level of support and partnership between the Mayor and Governor. This message should remain until Bikeshare Hawaii has hired an Executive Director, who will then, along with the Board of Directors, become the "face" of the project to the media and the public.

Once the Executive Director is hired and brought up to speed, he or she should lead all communications and media activities. This is critical to ensure the non-profit builds brand recognition, trust, and a rapport within the community and with potential funders. Likewise, channeling all future communication through the Bikeshare Hawaii will create a consistent message that limits confusion as to which entity is leading the bikeshare program.

In addition, we recommend beginning community outreach after the Bikeshare Hawaii is operating and has developed its own outreach strategy. This should ideally start in months 4 and 5 of the bikeshare program's implementation timeline. Outreach activities that should be considered include (but are not limited to):

- Online public process or a Textizen campaign for station siting
- "Name your system" campaign
- "Design the bike" campaign (bicycle color and design elements)
- Twitter feed and Facebook page

- Website and blog development
- Interactive community workshops
- Pre-launch public service announcement and education campaigns

**Next Steps and Responsibility:** Per recent discussions with public sector staff, media communications should be coordinated by the City and County of Honolulu communications director. The agreed upon communications and media strategy should be employed effective immediately.

## **5. Compile letters of financial commitment**

To document current financial and resource commitments to bikeshare implementation, the project team should secure letters of financial commitment from any potential funders that intend or have already committed funds toward bikeshare capital investment. Letters should be sought from the City and County, the State, and any private entity that has committed financial or resource support (or intends to request in future budgets). During initial funding meetings with local businesses, non-profits, and institutions, the following potential initial funding and support activities were identified:

- *State Department of Health:* \$1 million from the department's portion of the tobacco settlement special funds have been set aside for bikeshare implementation. The State Department of Health has potential funding available for initial media strategy planning and campaign (from the Injury Prevention and Healthy Hawaii Initiative programs). The State has also committed to working with the City to streamline the permitting and environmental processes to facilitate the efficient siting and placement of bikeshare stations.
- *City and County of Honolulu:* The City has included bikeshare implementation funding in the adopted FY2015 capital improvements program budget. The City DTS has included funding requests for bikeshare and Complete Streets implementation in their preliminary proposed FY2015 budget. The City and the State has also committed to streamlining the permitting and environmental processes to facilitate the efficient siting and placement of bikeshare stations.

The City is also working on amending the Land Use Ordinance (zoning code) to create TOD overlay zones along the planned rail corridor. As part of this process, they are studying strategies that would provide development incentives to developers in return for provision of community benefits, which could include providing bikeshare stations.

- *Health care organizations:* Several health care organizations (including HMSA, Kaiser Permanente, UHA and Hawaii Pacific Health) have expressed preliminary interest in various levels of sponsorship.
- *The University of Hawaii at Manoa:* The University has discussed including funding for 2-3 stations in its FY2015 budget.
- *Other local employers:* A number of major employers expressed substantial interest in purchasing or sponsoring bikeshare stations at the Health at Work Alliance monthly meeting in October 2013.
- *Local Solar Companies:* Several solar companies have expressed interest in station and major sponsorship. This is a potential major funding source particularly if there is opportunity to leverage their interest in providing solar power services.

- *Developer Support:* A number of large-scale developers have expressed interest in funding stations at their developments and providing easements to facilitate bikeshare station access.

**Next Steps and Responsibility:** Based on this list of initial funding opportunities, Bikeshare Hawaii should begin seeking initial letters of commitment from the various responsible State, City and private entities that have expressed an interest in providing funding, or which have been identified as potential sources of funding. Similar letters committing staff time to supporting permitting and siting efforts should also be provided.

## **6. Identify one or more interim lead fundraisers**

To manage and extend the reach of Honolulu’s bikeshare fundraising effort during the Interim Phase, seed fundraising discussions for Bikeshare Hawaii need to be limited to a few key individuals. Having someone from the private sector or a local foundation take over this role – preferably someone who would serve on the Board of Directors – would help build confidence with other potential funders.

**Next Steps and Responsibility:** The Board of Directors should immediately identify one or more lead fundraisers. This point person should develop a basic “pitch book” with supporting sales materials that can be used to secure “interim funding” on behalf of the Board.

## **7. Hire an Executive Director**

More than any one person, the non-profit Executive Director will be instrumental in the program’s success. Finding the right person is important. Key qualifications for the Executive Director position are presented in Figure 22 on the following page.<sup>18</sup>

Other important attributes include experience with board management and getting board resolutions passed; understanding of local permitting processes and permit expediting; and the ability to run a “lean” organization.

**Next Steps and Responsibility:** The Board of Directors should finalize a set of requirements and desired attributes for the Executive Director position and determine a selection process for hiring the best candidate. The Board should then advertise the position broadly to attract as many qualified candidates as possible. If sufficient funding is available, the Board should seek to hire an Executive Director under a contract of at least two years to ensure stability through the implementation process. It is also advisable to structure the Executive Director’s contract with financial incentives for securing sponsorship deals, hitting implementation targets, and meeting system performance measures.

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<sup>18</sup> These qualifications are based on the real experience of current bikeshare non-profit Executive Directors.

**Figure 22 Key Executive Director Qualifications**

Characteristic	Description
<b>Business and/or legal acumen</b>	Starting up and running a successful bikeshare non-profit will require extensive understanding of local business and legal frameworks. Contract writing and strong negotiation skills will also be a critical skill set when negotiating with the turnkey operator and the City on issues of liability, ownership, station siting, etc. Likewise, experience with non-profit management is an attractive skill.
<b>Communications and partnership building experience</b>	Successful bikeshare non-profits have many supportive partners and rely on public and private sector support. Good interpersonal skills and the ability to negotiate private sponsor and public sector interests are critical.
<b>Understanding of Honolulu and statewide politics</b>	The ideal candidate will need to navigate local and statewide politics to maintain progress towards initial start-up.
<b>Fundraising experience and ability to identify innovative funding sources</b>	Fundraising is one of the most important tasks of an Executive Director. It is important for a candidate to have intimate knowledge of the local business environment and relationships with key businesses, the tourism industry, major institutions, and others interested in investing in sustainability initiatives.
<b>Experience or understanding of business operations (bikeshare operations or otherwise)</b>	Because the recommended operating model is an administrative non-profit, it is not critical that the Executive Director knows service operations. However, experience in this area would help ensure quality control and the ability to produce contracts with appropriate performance metrics.

## BEYOND THE INTERIM PHASE

Once the Executive Director has been hired, he or she will serve as the face of the organization and will lead all remaining implementation activities with the support of the Board. The following actions should be undertaken after the Executive Director has been hired.

### Capital Fundraising

Perhaps the most pressing action to be pursued after the hiring of the Executive Director is identifying and securing capital funding. Capital funding will likely come from a diverse set of sources including public grants, foundation grants, sponsorship, and private gifts/contributions, among others. See the funding and revenue section in Chapter 5 for more information.

**Next Steps and Responsibility:** Capital fundraising is the Executive Director's primary role. While he or she could garner fundraising support from the contracted vendor/operator and other champions, this is a core responsibility of the Executive Director. It is critical for the Executive Director to not only secure funds for implementation, but also develop relationships with potential funders and prominent supporters with community influence.

## RFP development

A critical next step is to develop and release a vendor/operator request for proposals (RFP) that achieves the stated goals of the program and meets some of the logistical needs of Bikeshare Hawaii. The RFP stipulates the needs of the program and sets basic expectations for the future vendor/operator contract. Requirements may include vendor responsibility for fundraising, marketing, detailed station site design and performance monitoring, as well as bicycle design, payment and transactional requirements, thresholds for local staffing, and even opportunities to experiment with new technology and docking station design. For example, some recent procurement processes have required vendor/operators to integrate community assets into the design of docking stations, such as bike parking, lighting, seating, healthy vending machines, and even parklets.

**Next Steps and Responsibility:** A Draft RFP has been developed as part of the Organizational Study process. The Bikeshare Hawaii Board of Directors and Executive Director will work to finalize the RFP based on the program's needs and values.

## Design and implement initial station planning and siting process

Station siting and outreach to local communities and property owners represents one of the most time intensive elements of the bikeshare implementation process. This process should start before the turnkey operator is hired. A consultant should be hired to begin the process of locating stations, right-sizing stations for land use and geometric constraints, conducting spatial planning in station vicinities, and developing concept designs for bikeshare station locations. In addition to these tasks, the planning work should identify potential impacts including parking loss, sidewalk furniture zone needs, and coordination with bike infrastructure. The technical team working on this project will need to include specialists in business engagement and education.

**Next Steps and Responsibility:** Scoping language for the station planning and design work needs to be developed so the RFP can be advertised and the consultant can begin work as soon as funding is available.

## Integrate fare media (Longer-term action)

A key outcome of the stakeholder engagement effort was broad interest in consolidating and integrating fare media between TheBus, HART, and bikeshare. The vision is that transit customers can seamlessly navigate the transportation system using one fare media.

**Next Steps and Responsibility:** Fare media integration is a major undertaking that needs to begin early in the bikeshare implementation process. The non-profit and the contracted bikeshare vendor/operator should coordinate with TheBus and HART to integrate bikeshare, bus, rail and other fares into a single fare media (e.g., card, key fob, smart phone, or other). The City and County of Honolulu is currently studying new fare media and integration options and will proactively study opportunities to integrate bikeshare fares. City and County staff or Hawaii Bikeshare could conduct interviews with major bikeshare vendors to better understand their hardware and software platforms and capabilities for fare payment and integration with HART and TheBus.



## BIKESHARE IMPLEMENTATION TIMELINE

An 18- to 24-month timeframe can be expected between now and system launch. The timeline illustrated in Figure 23 summarizes key events to complete over a 24-month schedule. The timeline is not comprehensive, but is meant to provide enough detail to convey the time and activities required to launch a bikeshare system. Additional details related to specific launch activities (website development, hiring, smart phone app development, station deployment, etc.) and post-launch activities (system monitoring, growth planning, securing future year funding, etc.) will be developed by the non-profit's Executive Director and Board of Directors.

**Figure 23 Bikeshare Hawaii Implementation Timeline**

Month 1-4 <i>Interim phase activities</i>	Month 5-8 activities <i>Pre-vendor selection activities</i>	Month 9-24 <i>Pre-deployment activities</i>
<ul style="list-style-type: none"> <li>1: Establish non-profit</li> <li>2: Establish Board of Directors</li> <li>3: Identify and retain resources to support non-profit development</li> <li>4: Create interim communications and media strategy</li> <li>5: Compile letters of financial commitment</li> <li>6: Identify one or more interim lead fundraisers and secure seed funding</li> <li>7: Hire Executive Director</li> </ul>	<ul style="list-style-type: none"> <li>Capital Fundraising</li> <li>RFP Development</li> <li>Station planning and design</li> <li>Develop and implement a community outreach strategy</li> <li>Establish vendor selection committee</li> <li>Issue RFP</li> </ul>	<ul style="list-style-type: none"> <li>Select vendor/operator</li> <li>Brand and name system</li> <li>Complete detailed business plan</li> <li>Secure capital funding</li> <li>Obtain permits/use agreements</li> <li><b>Launch system</b></li> </ul>

## **APPENDIX**

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### Detailed Cost Estimates

## DETAILED PHASE 1 CAPITAL AND ASSOCIATED COSTS

### Optimal Density scenario

Cost element	Unit cost	Quantity	Cost
19 dock solar station, including kiosk and platforms (with 25% shipping markup)	\$46,000	183	\$8,418,000
Bikes	\$1,200	1676	\$2,011,200
Site Planning and Permitting (per station)	\$2,400	183	\$439,200
Station Assembly (per station)	\$1,200	183	\$219,600
Station Deployment Vehicle Costs (per station)	\$1,000	183	\$183,000
Bike Assembly (per bike)	\$75	1676	\$125,700
Map Production/Printing (per station)	\$75	183	\$13,725
Bike Spare Parts (per bike)	\$120	1676	\$201,120
Station Spare Parts (per station)	\$1,000	183	\$183,000
On-Street Bike Maintenance Vehicles	\$3,000	4	\$12,000
<b>Total</b>			<b>\$11,806,545</b>
<b>Total (ROUNDED)</b>			<b>\$11,800,000</b>
<i>per station</i>			<i>\$64,516.64</i>
<i>per bike</i>			<i>\$7,044.48</i>

**Note:** Assumes 183 stations with 3,149 docks and 1,676 bicycles  
**Note:** All projections are planning-level.

### Low estimate (Moderate Density Scenario)

Cost element	Unit cost	Quantity	Cost
19 dock solar station, including kiosk and platforms (with 25% shipping markup)	\$46,000	141	\$6,486,000
Bikes	\$1,200	1340	\$1,608,000
Site Planning and Permitting (per station)	\$2,400	141	\$338,400
Station Assembly (per station)	\$1,200	141	\$169,200
Station Deployment Vehicle Costs (per station)	\$1,000	141	\$141,000
Bike Assembly (per bike)	\$75	1340	\$100,500
Map Production/Printing (per station)	\$75	141	\$10,575
Bike Spare Parts (per bike)	\$120	1340	\$160,800
Station Spare Parts (per station)	\$1,000	141	\$141,000
On-Street Bike Maintenance Vehicles	\$3,000	4	\$12,000
<b>Total</b>			<b>\$9,167,475</b>
<b>Total (ROUNDED)</b>			<b>\$9,200,000</b>
<i>per station</i>			<i>\$65,017.55</i>
<i>per bike</i>			<i>\$6,841.40</i>

**Note:** Assumes 141 stations with 2,520 docks and 1,340 bicycles  
**Note:** All projections are planning-level.

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PRE-LAUNCH AND ON-GOING OPERATING COSTS

				OPTIMAL SCENARIO			MODERATE SCENARIO		
Cost element	Type	Unit cost	Benefits	Units	Non-Profit/ Pre-Launch Cost	Pre-Launch + Ongoing Operating Cost (post-launch)	Units	Non-Profit/ Pre-Launch Cost	Pre-Launch + Ongoing Operating Cost (post-launch)
EMPLOYEE EXPENSES									
General & Administrative									
Executive Director	FTE	\$100,000	\$50,000	1	\$150,000	\$150,000	1	\$150,000	\$150,000
Marketing and Public Relations	FTE	\$50,000	\$12,500	1	\$-	\$62,500	1	\$-	\$62,500
Finance and Accounting	FTE	\$50,000	\$12,500	0.25	\$-	\$15,625	0.25	\$-	\$15,625
Human Resources	FTE	\$40,000	\$20,000	0.25	\$-	\$15,000	0.25	\$-	\$15,000
General Administrative	FTE	\$40,000	\$20,000	1	\$-	\$60,000	1	\$-	\$60,000
Operations									
Operations Manager	FTE	\$55,000	\$27,500	1	\$-	\$82,500	1	\$-	\$82,500
Shift manager	FTE	\$45,000	\$22,500	3	\$-	\$202,500	3	\$-	\$202,500
Redistribution crew	FTE	\$30,000	\$7,500	18	\$-	\$675,000	15	\$-	\$562,500
IT Specialist	FTE	\$55,000	\$27,500	0.5	\$-	\$41,250	0.5	\$-	\$41,250
Station Techs	FTE	\$50,000	\$25,000	1	\$-	\$75,000	1	\$-	\$75,000
In-Field Bike Maintenance	FTE	\$30,000	\$7,500	3	\$-	\$112,500	2	\$-	\$75,000
In-Shop Bike Maintenance	FTE	\$45,000	\$11,250	6	\$-	\$337,500	5	\$-	\$281,250
DIRECT COSTS									
Operations & Equipment									
Facility/Warehouse Set up / Rent	sf	\$21	N/A	3000	\$-	\$63,000	3000	\$-	\$63,000
Furnishings (post-launch)	% rent cost	5%	N/A	N/A	\$-	\$3,150	N/A	\$-	\$3,150
Utilities (pre-launch)	set	\$400	N/A	1	\$-	\$400	1	\$-	\$400
Utilities (post-launch)	% rent cost	25%	N/A	N/A	\$-	\$15,750	N/A	\$-	\$15,750
Supplies and Equipment (pre-launch)	set	\$20,000	N/A	1	\$20,000	\$-	1	\$20,000	\$-



HONOLULU BIKESHARE ORGANIZATIONAL STUDY | FINAL REPORT  
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				OPTIMAL SCENARIO			MODERATE SCENARIO		
Cost element	Type	Unit cost	Benefits	Units	Non-Profit/ Pre-Launch Cost	Pre-Launch + Ongoing Operating Cost (post-launch)	Units	Non-Profit/ Pre-Launch Cost	Pre-Launch + Ongoing Operating Cost (post-launch)
Supplies and Equipment (post-launch)	per station	\$200	N/A	183	\$-	\$36,600	141	\$-	\$28,200
Redistribution Vehicles	vehicles	\$18,000	N/A	3	\$-	\$54,000	3	\$-	\$54,000
Maintenance Vehicles	(per mo)								
	vehicles	\$12,000	N/A	2	\$-	\$24,000	2	\$-	\$24,000
	(per year)								
Station relocation vehicle rental	# of relocations	\$750	N/A	15	\$-	\$11,250	12	\$-	\$9,000
Fuel	% vehicle cost	10%	N/A	N/A	\$-	\$8,925	N/A	\$-	\$8,700
Fuel (Pre-launch)	Fixed cost	\$600	N/A	1	\$600	\$-	1	\$600	\$-
IT & Communications									
Web Site Design and Programming	Fixed cost	\$20,000	N/A	1	\$20,000	\$-	1	\$20,000	\$-
System Software Setup	Fixed cost	\$50,000	N/A	1	\$50,000	\$-	1	\$50,000	\$-
Software License, Support, Upgrades	per mo/station	\$140	N/A	2196	\$-	\$307,440	1692	\$-	\$236,880
Station wireless communications	per mo/station	\$40	N/A	2196	\$-	\$87,840	1692	\$-	\$67,680
Employee Communications	employees	\$720	N/A	36	\$-	\$25,920	31	\$-	\$22,320
Customer service	per station (annual)	\$2,250	N/A	183	\$-	\$411,750	141	\$-	\$317,250
Bikeshare Launch & Upkeep Materials									
Marketing and Promotional Materials (pre-launch)	Fixed cost	\$60,000	N/A	1	\$60,000	\$-	1	\$60,000	\$-
Marketing and Promotional Materials (post-launch)	Fixed cost	100,000	N/A	1	\$-	\$100,000	1	\$-	\$90,000
Staff uniforms	employee (annual)	\$200	N/A	36	\$-	\$7,200	31	\$-	\$6,200

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				OPTIMAL SCENARIO			MODERATE SCENARIO		
Cost element	Type	Unit cost	Benefits	Units	Non-Profit/ Pre-Launch Cost	Pre-Launch + Ongoing Operating Cost (post-launch)	Units	Non-Profit/ Pre-Launch Cost	Pre-Launch + Ongoing Operating Cost (post-launch)
Bike parts	per bike (annual)	\$20	N/A	1676	\$-	\$33,520	1340	\$-	\$28,600
Station parts	per station (annual)	\$300	N/A	183	\$-	\$54,900	141	\$-	\$42,300
Annual bike replacement	% bicycle cost	1.5%	N/A	1676		\$30,168	1340		\$24,120
Map Design	Fixed cost	\$20,000	N/A	1	\$-	\$20,000	1	\$-	\$17,500
Station location planning and design (OPTIONAL)	Fixed cost	\$125,000	N/A	1	\$125,000	\$-	1	\$125,000	\$-
Community outreach (OPTIONAL)	Fixed cost	\$100,000	N/A	1	\$100,000	\$-	1	\$100,000	\$-
Other Administrative Direct Costs									
Legal (pre-launch)	Fixed cost	\$12,000	N/A	1	\$12,000	\$-	1	\$12,000	\$-
Legal (post-launch)	Fixed cost	\$15,000	N/A	1	\$-	\$15,000	1	\$-	\$15,000
Travel (pre-launch)	Fixed cost	\$12,000	N/A	1	\$12,000	\$-	1	\$12,000	\$-
Travel (post-launch)	Fixed cost	\$12,000	N/A	1	\$-	\$12,000	1	\$-	\$12,000
Insurance (pre-launch)	Fixed cost	\$8,000	N/A	1	\$8,000	\$-	1	\$8,000	\$-
Insurance (post-launch; includes liability, equipment, auto, worker's comp)	Fixed cost	\$80,000	N/A	1	\$-	\$80,000	1	\$-	\$80,000
Total					\$332,600-557,600	\$3,226,263		\$332,600-557,600	\$2,787,375
Total (ROUNDED)					\$333,000-558,000	\$3,226,000		\$333,000-558,000	\$3,787,000
Cost per station						\$17,662			\$19,769
Cost per bike						\$1,929			\$2,080