



*Chapter Three:*

## 3.0 MULTI-MODAL PROGRAM AND RECOMMENDATIONS

Through most of this plan the focus has been on Hele-On bus service as the heart of transportation services in the County. The Hele-On analysis work was progressed in light of the goal to create a multi-modal transportation system. This Chapter focuses on other multi-modal and non-vehicular modes, the role they can play, and steps to be taken to improve their viability and usefulness.

### 3.1 RIDE SHARING

Three forms of Ride-sharing will be discussed: carpools, vanpools, taxi, and the newest form, transportation network companies such as Uber and Lyft.

*Carpools* have long been an option for getting somewhere. They are negotiated and implemented on a person to person basis. Some employers provide incentives such as preferred parking locations or assistance in forming carpools. The 2016 American Community Survey indicated that of the 81,650 workers in Hawai'i County aged 16 and older, 74 percent drove alone to work, 12.3 percent carpooled, and 1.4 percent used public transportation. The remaining 12.3 percent work at home, walk, taxi or use other means to get to work.

There is evidence that quite a lot of ridesharing is taking place through hitching a ride from someone. In the on-board passenger survey, 36.5% said they would "ride with someone" if the bus were not available to them for that ride. Further, 18.1% said they were dropped off by someone to get to the bus stop.

*Vanpools* are an option gaining renewed interest. Several years ago a vanpool program was sponsored by the State Department of Transportation, but that was ended. Currently, Enterprise Hawai'i is extending leases for people to form vanpools for up to 15 passengers. It is a turnkey program that includes insurance, maintenance and repairs, fuel, registration, taxes, and emergency service.

Cost of this option offered by Enterprise varies according to the number of miles being travelled. As an example, a commute of 160 miles round trip from Hilo to Kona would cost a total of \$2,400 per month, or \$160 per person assuming a 15-member vanpool. This does not compare favorably to the monthly bus pass of \$60. However, the picture changes greatly if there is a subsidy. The C&C Honolulu subsidizes vanpools at \$500 each per month. Further, some employers can choose to subsidize a vanpool in order to achieve guaranteed service and flexibility.

Why would the County choose to subsidize vanpools? Table 3-1 demonstrates how a subsidy for three vanpools (equivalent in capacity to one bus) would result in a \$6.00 per trip savings for each trip taken. Therefore, subsidizing vanpools is a very attractive option for long distance commute trips for people going to the same location, in particular from some more remote areas requiring commute travel.

The recommendation for Vanpool is for the county to enter a two year demonstration program, subsidizing up to 25 vanpools at up to \$1000 each per month. This

Table 3-1. Comparisons of Ride Share Costs & Subsidy to Commuter Bus

Characteristic	Commuter Bus	Vanpool
Passengers	50	15 x 3 = 45
Daily Boardings	100	90
Cost	\$1,000 day	\$2,400 month each
	\$30,000 month	\$7,200 for 3
Passenger Boardings	3,000 month (30 days)	1,800 month (20 days)
\$1.5 bus ticket (\$60 per month)	\$4,500 month fares	\$2,700 month fares
Subsidy	\$25,500 month	\$4,500 month for 3
		\$1,500 per vehicle
Net Subsidy per Passenger Trip	\$8.50	\$2.50

would still leave a participant cost of \$90 per month which is higher than the \$60 bus fare, but perhaps employers can also participate in the subsidy. Total program annual cost if at capacity (25 vanpools): \$300,000.

**Taxi.** MTA has already been innovative in offering a shared taxi program. It costs passengers \$2 for a coupon and is allowed towards any ride of four miles or less. The program has been very popular, over 156,600 taxi rides were taken. In FY 2016, the taxi program cost was \$679,000 and it continues to grow.

This program can be expanded to other parts of the island. It is recommended that the Council consider a requirement that companies with over five cabs be required to participate in the program. Also, it is timely to consider an increase in fares due to the excellent but highly subsidized service that is provided. A cost of \$4 to \$5 per coupon should be considered.

**Transportation Network Companies** are entering into partnerships with transit agencies elsewhere to provide single trip options. There are several possibilities for Hawaii County:

- Enter an agreement to allow Uber and Lyft to participate in the shared taxi program currently available. Coupons are sold worth \$2 (this study recommends having a higher price and value) for an under four mile ride in Hilo and Kailua-Kona. With Uber and Lyft, this program could be extended to any part of the island under the same conditions.
- The State Department of Transportation Airports Division granted a temporary permit in December 2017 for a three-month pilot program with Uber and Lyft to allow pick-up and drop-off at two designated locations

at Honolulu International Airport. The companies will pay Airport Division seven percent of the prearranged trip fares. More and more travelers expect to have this option available to them, and it can be anticipated that this demonstration will eventually extend to airports statewide, including Kona and Hilo. No subsidies are involved; pricing is dynamic and on a bid basis negotiated prior to the passenger choosing their driver.

- MTA could have an agreement for emergency support when there is a bus breakdown. In this case, MTA would pay the full cost of rides as a customer service to riders who are stranded and cannot wait for a new bus to arrive.
- MTA can make accommodations at the hubs with signed locations to allow the TNC drivers to pick up and drop off passengers needing a final ride to their destination.

### 3.2 BICYCLE MODE

**Bicycling** has always been an inexpensive, healthy, and environmentally desirable option for travel. Bike is a reasonable option for distances under 3-4 miles. The county-owned buses all have bike racks with two positions as a standard feature. This is usually enough, but not always. However, during the public meetings, people complained that when the tour buses are used in service, they do not have bike racks. Since it cannot always be predicted when a (substitute) tour bus may have to be used, this is an uncertainty introduced to bike riders. One recommendation of this study is that the County move as quickly as possible to use all County owned buses. In the meantime, this problem will remain and the only recommendation is to post the information on the web site and/or APP so bike riders can plan accordingly.

Another challenge for bike riders is the lack of suitable biking facilities on most roads. Since both the State and the County have adopted Complete Streets policies, this should slowly change: each time a new road is built, it needs to accommodate bicyclists and pedestrians. Retrofit treatments can occur when an existing road is repaired or paved. But the most effective method would be a proactive Bike Plan to build bike facilities as well as place bike racks around developed areas. The last Bike Plan for Hawaii County was developed in 1979.

**Bike Share** has been active in Kona since August 2016. It was financially supported by the County in partnership with PATH (Peoples Advocacy for Trails Hawaii) with an initial \$250,000 for equipment, shipping, and one year of insurance plus salary for an Operations Manager who maintains the bikes and stations and re-balances the bikes as required. In Kona, there are three stations with 32 bikes (each station accommodates 15 bikes when full). However, for balancing purposes, the ideal ratio is 2 docking ports per bike to insure that there is always a place for users to dock the bike at the end of their trip. The Bike Share Program is ripe for expansion: in Kona for 4-7 more stations; in Hilo for an initial 8-10 stations; and in Waimea for an initial 3-4 stations. The initial

cost per station, which includes 7 bikes, kiosk and lighting plus tools and spare parts is \$43,750 plus \$8,300 for shipping and installation or \$52,000 rounded.

The recommendation therefore is to fund \$780,000 over two years for a total of 15 new stations and 105 bikes. To this should be added \$120,000 per year for each of three years to continue the operations, balancing, customer service, publicity, and administration of the program. Usage fees should be established to cover up to half the operational cost with the goal of becoming self-sustaining.

### 3.3 SUMMARY OF MULTI-MODAL RECOMMENDATIONS:

- 1) **Van Pool Subsidy Program: \$300,000 annual**
- 2) **Continue Taxi Voucher Program: \$1,000,000 annual**
- 3) **Emergency support contract with transportation network companies: \$100,000 annual**
- 4) **Expand bike share: \$120,000 annual plus \$750,000 one-time capital cost**

Figure 3-1 A. Bike Share Station in Kailua-Kona



Figure 3-1 B.



Figure 3-1 C.



### 3.4 ALTERNATE FUEL FOR GROUND TRANSPORTATION

As a policy directive, MTA has tried alternative biofuels in place of diesel, but this has not been completely successful, either for mileage or for how the alternate fuels sometimes clog the fuel lines causing performance problems. This is a problem that has been experienced by other properties, so it is not unique in any way to the alternate fuel used here.

Decreased dependence on fossil fuels remains a strong State and County goal. Specifically, the goal is to achieve 100% Clean Energy by 2045 and 75% by 2030. As of June 2017, Hawai'i County was at 54% (twice the statewide level). Focus up to now has been on clean energy to produce electricity, but the new emphasis has shifted to the transportation sector.

The four County Mayors committed to 100% renewable ground transportation by 2045 as part of the Aloha+ Challenge. In December 2017 the Mayors and counties furthered that goal by signing proclamations that committed them to moving the public and private ground transportation systems to 100 percent renewable fuel sources. The intention is to reduce carbon dioxide emissions and fossil fuel imports, to ensure a more resilient future. The Big Island goal is consistent with the goals of the Paris Climate Agreement to reduce greenhouse gas emissions and keep global warming below 1.5 degrees Celsius. In addition to electric power, renewable biofuels and hydrogen will likely become more prevalent.

One method being strongly eyed right now is to purchase Electric Vehicles which are considered non-polluting. This is certainly consistent with goals in the Hawai'i County General Plan and sentiments expressed by the public during the PIM meetings. Walk the Talk.

The downside, however, is that right now electric buses are in high demand and they cost 30% more than what a diesel bus costs. It is expected that the cost of electric vehicles and battery technology will drop as current investments advance the state of the art.

Another issue for electric in Hawai'i County will be driving range. Today's range is 150-200 miles, which will be too little for the cross island trips. Therefore more immediate use will be for the circulators and shorter routes. It is not desirable for the bus to have to come in mid-day for a re-charge or battery swap.

Therefore, the recommendations for electric buses are:

- **Do NOT convert any existing buses**
- **Charging stations must be sited and installed**
- **Purchase 1-2 electric busses and vans to see how well they handle Hawaii County roadways and distances**
- **Do not begin purchase of electric buses in quantity for five years until they have been shown road-ready in Hawai'i County and the price has come down**
- **Aim to achieve the clean energy goal for vehicles by 2045**
- **Seek out state or federal incentives, grants, and subsidy programs for electric vehicles and if electric buses have proven productive, start acquiring them until the entire fleet is all electric**

**Discussion:**

Several comments received from the public asked to move into having transit be electric and more environmentally sensitive. This could be seen as an underlying principle for the community. One commenter supplied extensive vendor information about manufacturing electric vehicles stating they now offer a 12-year warranty and can customize (kilowatt hours) to meeting customers range requirements. Los Angeles County has committed to an all-electric fleet.

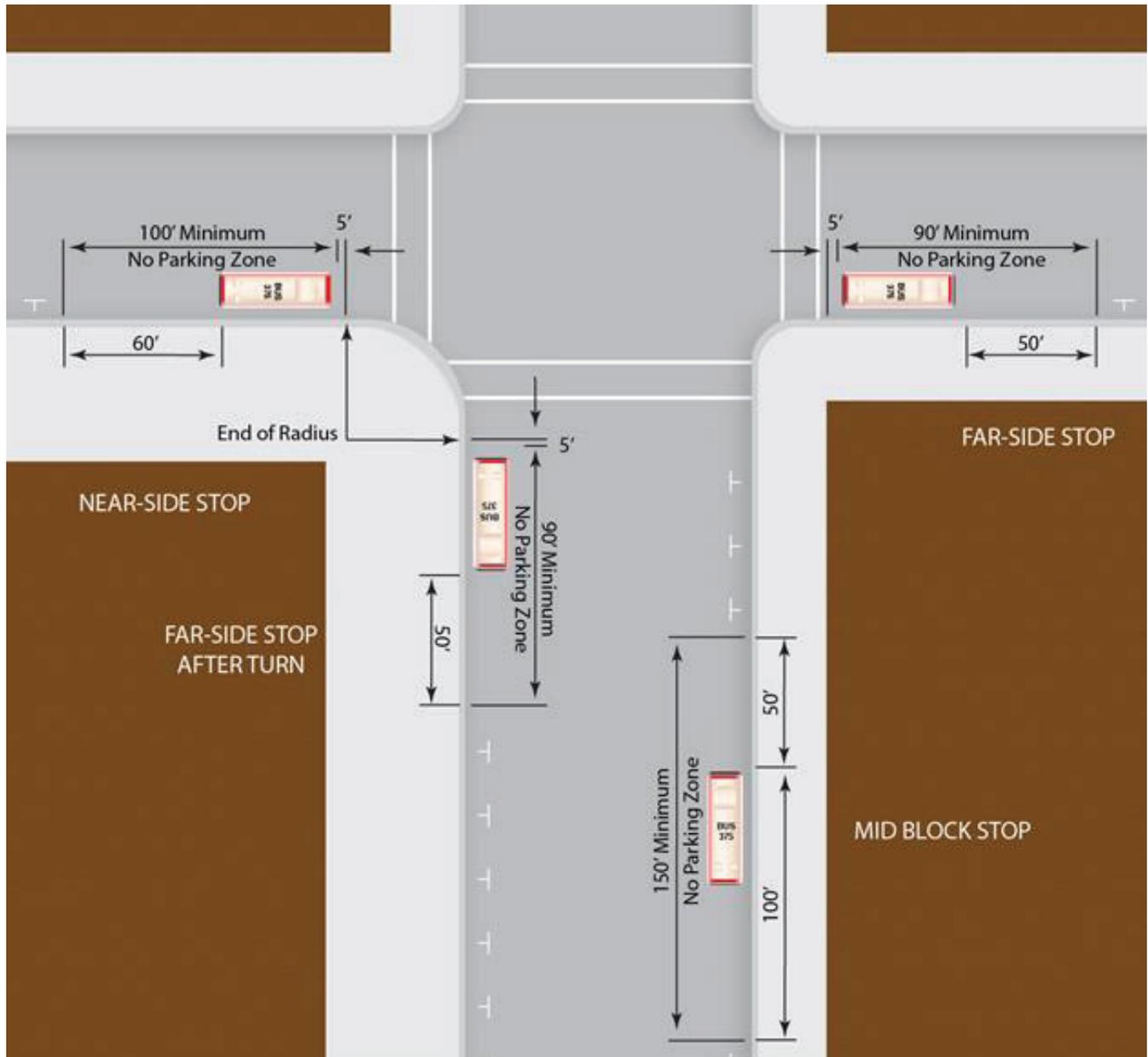
### 3.5 DESIGN RECOMMENDATIONS

As the County moves in the direction of a multi-modal transportation system, it is important to create design standards for streets and roads, for bus pull outs, bus shelters and bus stops, hubs, park & ride lots, information displays, and signage.

A sample of a design recommendation for placement of bus stops is shown in Figure 3-3.

In addition, for service to expand into the desired hub and spoke pattern throughout the communities in Puna District, many roads will have to improve before bus service can operate there. The County is embarking on studies that examine the methods for making these improvements as well as the legal options on privately owned roads. Towards that end, standard roadway geometrics for horizontal and vertical elements, sight distance, depth and strength of pavement and shoulders should be developed to inform the work on these roads.

Figure 3-2: Design Recommendation for Bus Stop Placement



Credit: Michele Weisbart, Michele Designs

A sample of a possible standard for developing two way lanes along a sixty-foot collector that would have buses on it and also bike lanes is shown in Figure 3-3. It comes from the *Honolulu Complete Streets Design Manual*.

As the County moves forward with its Complete Streets program, a design manual will prove helpful. There are many resources for developing a full array of design standards, including for bus stops, shelters, and hubs.

American Public Transit Association (APTA). *Design of On-Street Transit Stops and Access from Surrounding Areas*.

Institute of Traffic Engineers (ITE)/Congress for New Urbanism. *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach* (2010).

American Association of State Highway and Transportation Officials (AASHTO). *Policy on Geometric Design of Highways and Streets, 5th Edition* (2004).

AASHTO. *Guide for the Development of Bicycle Facilities*. (2000).

AASHTO. *Guide for the Planning, Design, and Operation of Pedestrian Facilities* (2004).

Federal Highway Administration. *Designing Sidewalks for Access: Best Practices Guide* (2001).

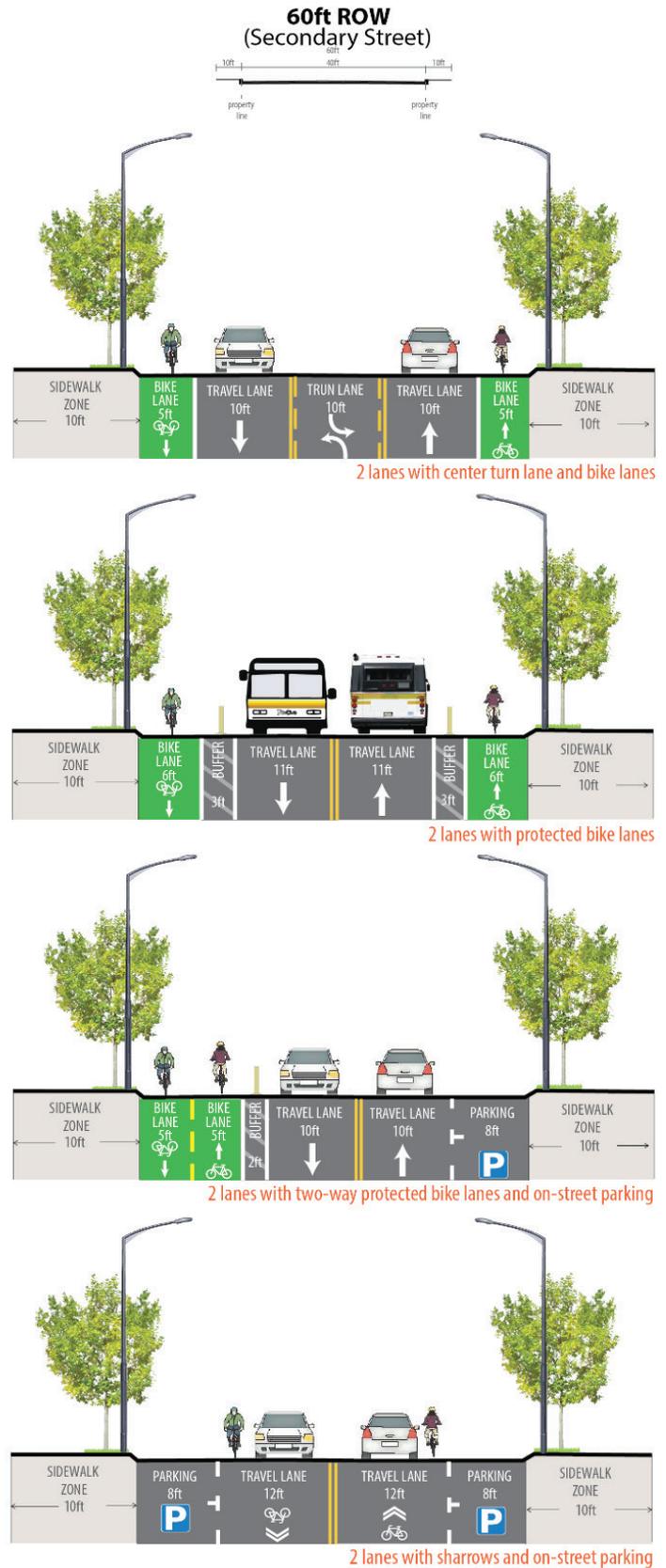
FHWA. *Manual for Uniform Traffic Control Devices (MUTCD)*. 2009.

Transportation Cooperative Research Board. *Report 19, Guidelines for the Location and Design of Bus Stops* (1996).

New York City, Department of Design and Construction. *Active Design Guidelines: Promoting Physical Activity and Health in Design* (2010)

City & County of Honolulu. *Complete Streets Design Manual* (2016)

**Figure 3-3. Recommended Design Profile for Multi-modal Treatments**



Credit: Lulu Chun, SSFM International  
Source: Honolulu Complete Streets Design Manual