

SECTION 4:

DIGITAL REQUIREMENTS

A focus on disseminating real-time information for bus and rail arrivals will increase confidence in the newly expanded transit system, priming the existing bus riders to also become advocates for rail. Real-time information by definition requires digital delivery tools. These tools can take many forms, such as mobile apps for trip planning and fare purchase or real-time displays of transit information in public locations.

Digital System Tools

TOD Wayfinding digital components would ideally be a mix of both digital signage and mobile app components. This ensures seamless movement and availability of information where users need it, in the format that is most helpful for that location. Mobile apps can access information from anywhere and allow for pre-trip planning and confirmation on-route. Installed digital signs can be invaluable for a quick read when trying to make a transit connection or for unplanned trips and also benefit non-smartphone users.

The data source for these digital tools should come from the City's Lōkahi system, which is made readily available to developers through APIs as described in the previous section. Lōkahi stores both internal information as well as metadata from tens of thousands of outside sources. The vast majority of the real-time information comes from federal, state, and local government. Other external transportation providers include Biki, Uber and Lyft. Having this consolidated source of data with an API to access it simplifies the development of digital tools.

MOBILE APPLICATION FEATURES

There are many different types of content that can be delivered by mobile apps to assist urban wayfinding. Maps, real-time transit information, parking availability, bikeshare, community events, interpretive walking tours...the list goes on. For TOD neighborhoods there are three app functions that would be the most useful for meeting TOD goals. In priority order they are:

- Multi-Modal Transportation Access
- Neighborhood Context (Wayfinding Maps / Information for Destinations; Public Service / Community News and Events; Promotion for Local Businesses)
- Marketing via Social Media / Gamification

These features could be realized as individual apps or any combination of two or more features. However, it is important to consider that without the transit component, the app would not be as supportive of the overall TOD concept. It is also important to understand that an overloaded app is less likely to be used. Apps need to be intuitive to use, and this is most easily achieved when it is built for a single purpose.

Multi-Modal Transportation Access

Introducing a new mobile app for transit before opening the rail would ensure current riders are already using and trusting new digital tools. Then, once the rail becomes part of the system, they will be more likely to add rail transit to their journey because they will be confident in having the information required to make transfers and complete multi-modal trips. The most critical functionality for a TOD wayfinding app is Multi-Modal Transportation trip planning with real-time arrival information and incorporated fare payment. This could be accomplished by making improvements to and re-branding the DaBus2 app or adding more functionality to the planned HOLO card app.

The City's current effort for consolidating fare payments for all public transit options through the HOLO card is a perfect catalyst for a robust transit app. A "HOLO card app" is the natural progression and would ideally give users the ability to add money to their card, plan a trip by entering point-to-point information, and get real-time information on transit arrivals. The HOLO card, as a public transit model, includes TheBus, TheHandiVan, and, in the future, rail. Multi-modal movements could be enhanced by including bikeshare and car share as options when displaying point-to-point trip planning results. This would require coordinating bikeshare locations, real-time information on availability of bikes, and real-time information on car share wait times. Because all of this information is already available in a workable format via Lōkahi (or, for Uber and Lyft, publicly online), the coordination between these stakeholders is minimal.

If these improvements are to be made by re-branding and replacing the DaBus2 app, there may be more hurdles to cross. DaBus2 app would need increased functionality for both route planning and fare payment. It would be wise to solicit feedback via an in-app survey to explore the drawbacks of the current app as users see it and make sure this is improved in the new app. This should be done as soon as possible, so as to create as large a loyal user base as possible on the app before the rail information is included.

Regardless of which app becomes the de facto transit app for Honolulu, when the new version of the app is ready to launch, the City should begin promoting it in as many ways as possible: fliers, social media, local events, press. For users who have DaBus 2.0 app already installed, there should be a push notification to alert them about the new app and prompt them to download it. These are the most likely initial users, so making sure they are pushed to the new, improved version will be essential to its success.

Neighborhood Context

There are any number of additional app features that could be beneficial to the TOD Wayfinding system. Wayfinding maps with information for neighborhood destinations, public service messages or community news and events, or promotion for local businesses are all potential app features. These features may not be within the intended scope of the HOLO system and rather more suited to third-party developers. A curated and managed representation of all of this information is possible, as long as third party developers use the City's API to pull content from Lōkahi.

If the City **were** to sponsor a TOD Wayfinding app, it should include neighborhood contextual items that directly support the goals of TOD. Wayfinding maps and destination information on a mobile app would match the on-street installed signage. The mobile map background and content should match the neighborhood wayfinding map that would be installed on-street. The mobile version would have the added benefit of being able to carry much more granular information than static maps or directional signs. For example, there could be a tab for historical information about a particular site based on the user's detected location.

Public service messaging and community event information are typically expected as a city service to the residences of a neighborhood, and therefore natural candidates for a City-sponsored app. Local businesses can easily be included via the app's map capability. However, the app also provides the opportunity for businesses to promote themselves through in-app advertisements, coupons, or proximity based notifications.

Marketing via Social Media / Gamification

Gamification involves applying typical elements of game playing (e.g. point scoring, competition with others, rules of play) to other areas of activity, typically as a marketing technique to encourage engagement with a product or service. In the case of TOD, it could be used to encourage both multi-modal transportation use and the activation of neighborhoods, creating a different set of opportunities for meeting TOD goals.

The opportunities can range from using apps to directly incentivize transit use to encouraging people to patronize local businesses through gamification. For example, The Miles app rewards users for how they travel, no matter which form of transportation they take. This type of model could work for TOD by specifically rewarding people for using the rail to travel between TOD neighborhoods. Creating competition between users could also act as an incentive for choosing particular modes of transportation and serve to highlight sustainability goals. For example, The app could reward users for meeting goals toward reducing their carbon footprints. Each transit ride, choice to use a bike, or steps walked could earn credit toward future rides or discounts at local businesses.

INSTALLED DIGITAL SIGNAGE

Providing digital signs with information about bus, rail, bikeshare, and rideshare in outdoor, public locations is an important part of a robust digital toolkit. Installed digital signage has different functionality and uses depending on whether it is an outdoor or indoor application. As discussed in Section 2, outdoor digital is highly restricted in Honolulu and the specific implementation will need further discussion around potential modifications to the City's sign code. ***Any recommendations for outdoor digital signage included in the TOD Wayfinding Master Plan are for discussion purposes only.***

Outdoor Transit Hubs

Readily visible real-time arrival information at transit locations could be as simple as an LED display strip at bus stops— a very basic solution found in many cities. Bus Transit Centers which have large numbers of routes might need a more screen-based solution such as the one currently at Kalihi Transit Center, but improvements to legibility are required. Screens such as these benefit all riders, especially those without smart phones. It also increases confidence and eases transit use for people who may not be regular transit riders.

At rail stations, where there may be opportunities for outdoor digital signs that can be positioned away from vehicular sight lines, a more feature-rich solution could be considered. These are the places at which the information is most useful — when people are making decisions about what to do next. Digital signs could provide real-time arrival information for the rail as well as nearby bus routes, walking time / bike availability of the nearest bike stops, and neighborhood alerts or event notices. Including these at rail stations could increase the ease of multi-modal trips, which will be especially important in the early phase of the rail and as the bus system is reorganized.

In order to install these screens, the City should select a third-party provider of both hardware and software. It is unlikely that the best hardware option will also provide the best software option, so it will likely have to be two separate providers. A simple setup that is durable is required — for example, screens surrounded by some amount of plastic casing so they cannot be vandalized. The software should be capable of providing real-time information from multiple feeds (the City’s for public transit and others for bikeshare, rideshare etc.) and be easily updated to include rail options in the future. It should also provide enough design flexibility to allow the user interface to be coordinated with the static wayfinding system.

Typical costs for outdoor hardware have a broad range. Fully functioning outdoor digital kiosks can run anywhere from \$50k-\$100k to cover weather-proofing and installation for both power and data. The software to provide a multi-modal mobility solution is generally on a per month / per location basis and would have a similarly varying range depending on the functionality.

POTENTIAL LOCATIONS FOR DIGITAL SIGNAGE WITHIN BUILDINGS

Kroc Community Center
 Longs Drugs near Hō’ae’ae Station
 Select High-Traffic Retail at Pouhala Station
 Leeward Community College near Hālaulani Station
 Regal Cinemas, Home Depot, Walmart near Waiawa Station
 Pearl Harbor Historic Sites Visitor Center
 Navy Marine Golf Course & Hickham Memorial Theatre
 Throughout Ala Moana Center
 The student center at University of Hawai’i at West O’ahu
 Whole Foods Market Queen at Kaka’ako
 Hawai’i Convention Center
 IBM Building

Indoor Private Buildings

Adding digital signage inside of key buildings is essential for several reasons. One, it services non-smartphone users, of which there are still many, who cannot access a digital app. Two, it serves as a reminder for those who do have smartphones but may not yet have downloaded the app. Three, it turns information about transportation into a constant, adding to the possibility of behavior change for users who have considered using transit but have not yet taken that step. The more people become familiar with the presence of this information and the options available, the more likely they are to try something new.

Having digital signage in buildings engages developers and property owners of commercial and multifamily real estate. These partnerships provide a mutually beneficial opportunity by promoting rail ridership and neighborhood exploration. Digital signage in buildings gives owners and operators of property the opportunity to be a part of the destinations in the TOD system, makes their properties main information hubs particularly dedicated to the transit information that their occupants or visitors can use, and allows people to perceive access to their property as multi-functional.

Theoretically, the signage gives them a way to create deeper engagement between people and the property. This buy-in is essential to reaching larger numbers of potential riders, and will also provide for a situation in which digital signage outside of buildings is not allowed due to the current sign code. The content should be reflective of the overall wayfinding principles, which in this case includes: as much nearby real-time mobility information as makes sense for each location, nearby destinations as determined by TOD Criteria for Destination Inclusion, a messaging section for alerts or possible advertisements, and routine information such as time and weather.

The City of Seattle entered into a similar type of public-private partnership to include real-time transportation information in various buildings throughout the downtown area. In this particular model, the City paid for the setup and first year of maintenance of the displays, and the properties were then responsible for any ongoing subscription and maintenance fees past the first year. The buildings selected were a mix of commercial, residential, and retail. The project was part of the City’s overall goal of reducing single-occupancy vehicle trips in the downtown core, which was successful.

Indoor transit signs are most useful at locations such as Ala Moana Center and UH West O‘ahu, both of which have large numbers of people traveling throughout. For places such as campuses that may be large enough to have their own shuttle system, it would be optimal for them to include real-time tracking for the shuttles into the transportation display. Utilizing the TDM code to require indoor transportation information displays may be the best way to implement this tool. Indoor signs have fewer logistical considerations making them more affordable and easier for building owners and developers to get up and running.

Typical costs for 45”–60” televisions run about \$500, and similar to outdoor, there would be monthly costs per location. These costs could be funded by the building developers themselves, but they could also choose to shop out space on the screens to advertisers.