

**JUNE 2015**

# **HONOLULU COMPLETE STREETS IMPLEMENTATION STUDY LOCATION REPORT**

## **McCully Street from Ala Wai Boulevard to Kapiolani Boulevard (FINAL)**



**City & County of Honolulu  
Department of Transportation Services**

Prepared by  
SSFM International

**SSFM**  
INTERNATIONAL

With  
Blue Zones  
Gary Toth Associates

This page has been left blank intentionally.

# Summary: McCully Street, from Ala Wai Boulevard to Kapiolani Boulevard

*Primary Urban Center Planning Area, Waikiki Sub-Area, District IV*

## NEED FOR PROJECT

Between Ala Wai Boulevard and Kapiolani Boulevard the McCully Street bridge is one of three crossings of the Ala Wai Canal into Waikiki. Many workers in Waikiki live in the McCully- Moiliili Neighborhood on the mauka side of the canal, and this bridge is their only route across the canal. Many of these individuals walk or bike, and the current bike and pedestrian infrastructure is substandard.

The bridge and its approaches are currently prioritized for motor vehicle travel. Applying Complete Streets to this location will allow this important access point to Waikiki to become far more safe and comfortable for bicyclists and pedestrians. In particular, correcting the current hazardous conditions for bicyclists will encourage more use of that mode travelling to and from Waikiki for residents, commuters and tourists.

## SUMMARY OF RECOMMENDATIONS

The recommendations are intended to encourage all modes without eroding vehicle Level of Service.

- Eliminate the right turn ramp from McCully Street bridge SB to Ala Wai WB. Connect the reclaimed space with the existing planted channelization island to create a park.
- Reduce McCully Street makai of the Canal from three lanes to two. Reduce lane widths, provide bike lanes and a contra-flow buffer in the mauka bound direction.
- Eliminate one right turn lane from Ala Wai Boulevard to the bridge. Use reclaimed space to extend the WB bike lane to the bridge. Eliminate the right turn signal.
- Extend the Ala Wai bike lane across McCully Street to the intersection with Kalakaua Avenue, potentially routing it through the new park.
- Move back the parapet on the north side of Ala Wai Boulevard to provide a wider sidewalk.
- Reduce lane widths on the bridge to 9 feet and create two 6 foot wide bike lanes, one in each direction.



## COST BREAKDOWN

Total: \$1,577,711.52

Design: \$116,867.52

Construction: \$1,460,844.00

## Table of Contents

Part One: Introduction, Study Area, & Need for Project .....	1
What are Complete Streets?.....	1
Study Area.....	1
Need for Project.....	3
Existing Land Use, Transportation Facilities, and Usage Patterns .....	3
Land Use, Transportation Facilities and Traffic Accidents .....	3
Usage Patterns .....	6
Part Two: Field Work and Key Findings .....	9
Stakeholder Input .....	9
Findings .....	10
Part Three: Recommended Application of Complete Streets Concepts.....	15
Complete Streets Recommendations .....	15
Conceptual Illustrations of Recommendations.....	15
Description of Recommendations .....	15
Part Four: Implementation .....	23
Part Five: Cost Sheet .....	27

## List of Figures

Figure 1 Study Area.....	2
Figure 2 Existing Land Use, Transportation Facilities, and Accidents in the Study Area .....	5
Figure 3 Concepts for McCully Street and Ala Wai Boulevard.....	21

## List of Tables

Table 1 Existing Usage Patterns along California Avenue.....	6
Table 2 Proposed Design Changes to McCully Street .....	18

# Part One: Introduction, Study Area, & Need for Project

## **WHAT ARE COMPLETE STREETS?**

Complete Streets is a transportation policy and design approach. It aims to create a comprehensive, integrated network of streets that are safe and convenient for all people whether traveling by foot, bicycle, transit, or automobile, and regardless of age or ability. Complete Streets moves away from streets designed with a singular focus on automobiles towards a design approach that is context-sensitive, multi-modal, and integrated with the community's vision and sense of place. The end result is a road network that provides safe travel, promotes public health, and creates stronger communities.

Implementing Complete Streets requires integrating transportation with community planning. Changes are brought about by transforming the built environment. Engineers, planners, architects, landscape architects, and urban design professionals work along with health providers, business leaders, elected officials, community organizations, and residents to promote Complete Streets implementation. Actively engaged community members in Complete Streets are important participants and stakeholders. They help to ensure that efforts are relevant to the community's use, values, and priorities for the neighborhood.

The State of Hawaii adopted Complete Streets in 2009 and required each County to follow suit. In May 2012, the Honolulu City Council adopted a "Complete Streets" policy and passed Ordinance 12-15. The City and County of Honolulu is now taking aggressive steps to implement Complete Streets by updating policies, applying guidelines during maintenance and paving projects, and designing projects in specific locations. The City and County of Honolulu selected fourteen sites across the island of Oahu for in-depth study to illustrate how Complete Streets can be applied in a specific location. This report describes one of the selected sites and presents recommendations to implement Complete Streets at that location.

## **STUDY AREA**

The study area involves McCully Street from Ala Wai Boulevard to Kapiolani Boulevard. It is located in the Waikiki Sub Area of the Primary Urban Center, in City Council District IV (Figure 1).



## **NEED FOR PROJECT**

The McCully Street bridge is one of only three crossings of the Ala Wai Canal into Waikiki. Many of the workers in Waikiki live in the McCully-Moilili Neighborhood on the mauka side of the canal and this bridge is their only route across the canal. Many of these individuals walk or bike, and the current pedestrian and bicycle infrastructure is substandard because the bridge and its approaches are prioritized for motor vehicle travel. This is described in the next section. The McCully Street bridge has been identified as one of the gaps in the Lei of Parks Shared-Use Path. As a key route into and out of Waikiki, the McCully Street bridge area has an opportunity to better accommodate all modes while serving as a gateway into Honolulu's main tourist area.

## **EXISTING LAND USE, TRANSPORTATION FACILITIES, AND USAGE PATTERNS**

### ***Land Use, Transportation Facilities and Traffic Accidents***

McCully Street is classified as an urban minor arterial and has a posted speed limit of 25 mph. Its bridge crossing makes it one of the more critical mauka-makai roads in eastern Honolulu. It loads and unloads much of Waikiki and distributes vehicles to neighborhoods such as McCully-Moilili and Kapahulu, or brings them to H-1. McCully Street also is the primary pedestrian and bicycle access between Waikiki and McCully-Moilili. There are 34,000 daily vehicular trips across the bridge. Data is not available for pedestrian and bicycle usage, but observed pedestrian usage is high, and bicycle usage is considered moderate.

There are heavy vehicle volumes on the Ala Wai Boulevard westbound approach to the bridge, with a daily volume of 39,200. At the bridge, 13,700 daily vehicles make a right-turn and travel across the canal. Double right-turning lanes have been installed to accommodate these turning vehicles. This comes at the expense of the bike lane on Ala Wai Boulevard, which is discontinued about 800 feet east of the bridge to make room for the second turn lane. Ala Wai Boulevard has a posted speed limit of 35 mph.

Traffic on Kapiolani Boulevard at McCully Street is even higher, at 45,600 vehicle trips a day. No turning movement volumes were available.

The McCully Street bridge is approximately 70 feet wide. The bridge has two through lanes and one right-turn lane in the mauka direction separated by a 4 foot wide bike lane. A dedicated right-turn lane exists on the mauka side of the canal. McCully Street has two through lanes in the makai direction, expanding to a third lane on the bridge and continuing through the intersection. It becomes four lanes on the makai side of Ala Wai Boulevard. A portion of the fourth lane is used for on street parking for the Royal Aloha Building.

Right-turns from McCully Street to Ala Wai Boulevard in the makai direction are handled first by a right-turn lane, and then a channelized right-turn. During the walk audit, it was clear that these two movements are redundant and increase the challenge for pedestrians trying to get to Waikiki. Concrete paved sidewalks on McCully Street and Ala Wai Boulevard are 7-8 feet wide in most areas, except on the bridge, where they narrow to about 6 feet wide. Pedestrian space is also encumbered by utilities on McCully Street between Ala Wai Boulevard to Kapiolani Boulevards. Pedestrians approaching the bridge

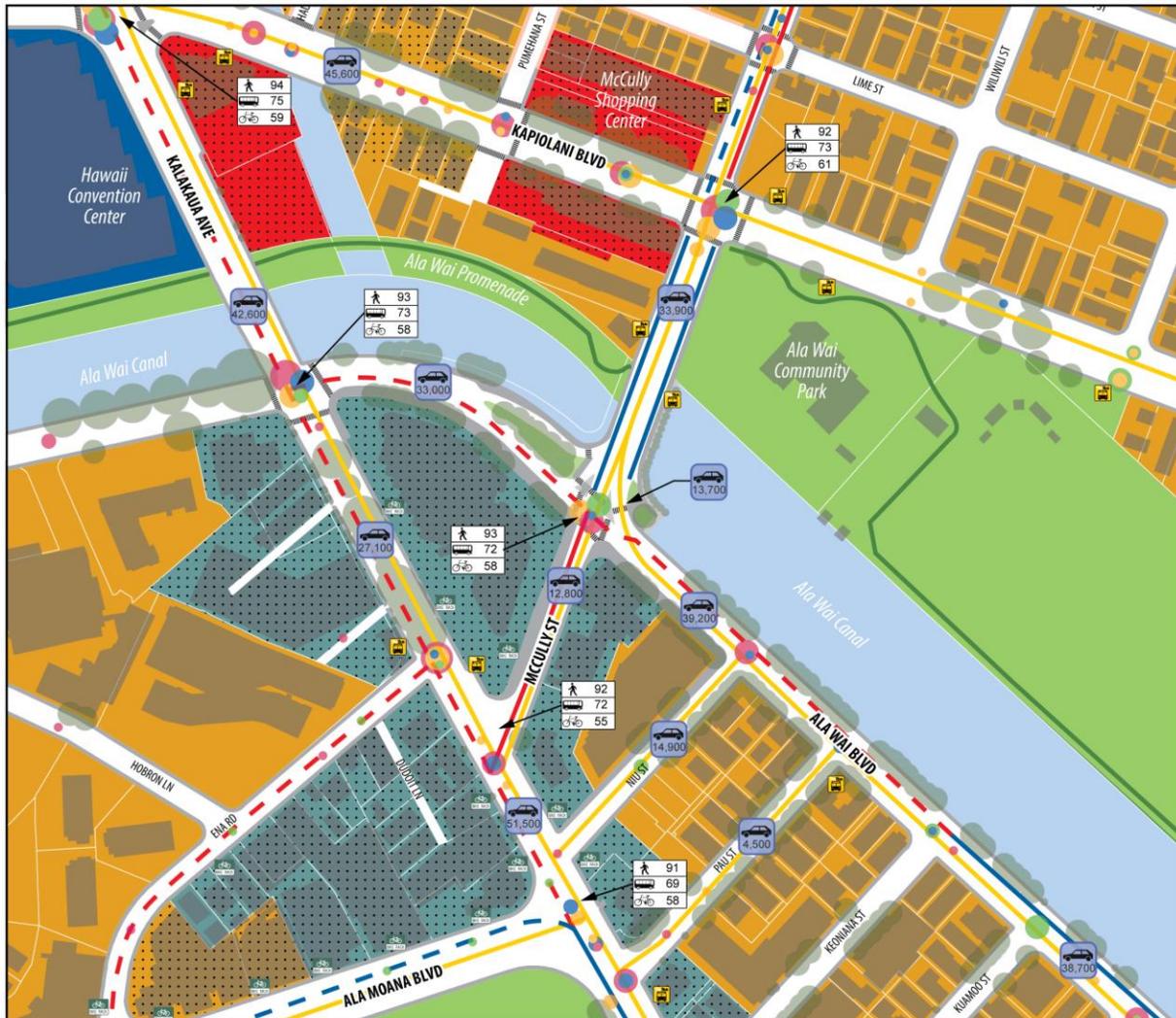
westbound along Ala Wai Boulevard are faced with sidewalks that narrow to 3.5 feet in width due to a parapet that protects storm water infrastructure that runs across the bridge. A dedicated right-turn phase prioritizes motor vehicles and reduces available pedestrian crossing time. In the makai direction, the bike lane ends and is replaced as a sharrow once across Ala Wai Boulevard.

There are two driveways on the Diamondhead side of the section of McCully between Ala Wai Boulevard and Kalakaua Avenue, One leads to a residential high rise, and one to a small business lot.

Due to the complexity of the intersections on both sides of the bridge, the accident history is relatively high for all modes. At the Ala Wai Boulevard/McCully Street intersection, there were 12 accidents that involved cars/trucks; eight motorcycle/mopeds; three pedestrians and one bicyclist. At the Kapiolani Boulevard/McCully Street intersection, there were 10 accidents that involved cars/trucks; seven involving motorcycles/mopeds; five involving pedestrians, and four involving bicyclists.

Figures 2 depicts existing land use, transportation facilities, and traffic accident data within the study area. The land use immediately adjacent to the project site on the makai side of the Ala Wai Canal is Resort Mixed use, transitioning to apartments starting one block east of McCully Street. On the mauka side the Ala Wai Community Park lines the Canal with apartments across Kapiolani Boulevard. The McCully Shopping Center straddles Kapiolani Boulevard on the west side of McCully Street, wrapped by apartments to the south and west. The Waikiki Beach Promenade lines the Canal west of McCully Street.

Figure 2 Existing Land Use, Transportation Facilities, and Accidents in the Study Area



0' 100' 200' 300' 400' NORTH

Source: City and County of Honolulu, Department of Planning & Permitting, Honolulu Land; \*www.walkscore.com



**McCully St from Ala Wai Blvd to Kapiolani Blvd**

**Bicycle Facilities**

Existing=Solid, Proposed=dashed

- Lane
- Path
- Route
- Bicycle Racks

**Transit Facilities**

- Bus Route
- Bus Stop

**Walk Scores**

- Walk Score
- Transit Score
- Bike Score

**Traffic Accidents**

- 1 crash
- 2 crashes
- 3-9 crashes
- 10+ crashes

- Red = Car/Truck,
- Orange = Motorcycle/Moped,
- Blue = Bicyclist,
- Green = Pedestrian

**Traffic Counts**

- Average Daily Traffic

**Street Trees**

- Canopy Diameter

**Existing Land Use**

- Apartment
- Apartment Mixed Use
- Business Mixed Use
- Institutional
- Park/Open Space
- Resort Mixed Use

**Pedestrian Facilities**

- No Sidewalk
- Sidewalk
- Crosswalk

**Usage Patterns**

Table 1 describes existing usage patterns by pedestrians, bicyclists, vehicles, and transit users in the study area. Pedestrian traffic is high as this is a major connection to and from Waikiki. Bicycle use is moderate.

There are 10 stops in the study area, five of which are on McCully Street. Table 1 lists the stops and average daily ridership of each stop within the study area. These stops provide access to seven routes, with destinations within the Waikiki area, Nuuanu, Pearl Harbor, Salt Lake, and the University of Hawaii at Manoa. The average daily ridership in 2012 was 4,095.

**Table 1 Existing Usage Patterns along California Avenue**

Pedestrian use	High. This intersection a major connection to and from Waikiki.
Bicycle use	Moderate
Transit use: Average Daily Ridership (Source: <i>Global Stop Summary by Trip, TheBus, 2012</i> )	<p><u>Stops</u></p> <p>Kalakaua Ave + Ena Rd (Stop ID 147) - 833 Average Daily Ridership (ADR)</p> <p>Kalakaua Ave + McCully St (Stop ID 31) - 756 (ADR)</p> <p>Kalakaua Ave + Pau St (Stop ID 30) - 259 (ADR)</p> <p>Kapiolani Blvd + McCully St (Stop ID 1016) - 903 (ADR)</p> <p>Kapiolani Blvd + McCully St (Stop ID 363) - 838 (ADR)</p> <p>Kapiolani Blvd + Opp Paani St (Stop ID 364) - 108 (ADR)</p> <p>Kapiolani Blvd + Paani St (Stop ID 3049) - 84 (ADR)</p> <p>McCully St + Ala Wai Blvd (Stop ID 424) - 256 (ADR)</p> <p>McCully St + Kapiolani Blvd (Stop ID 423) - 6 (ADR)</p> <p>Pau St + Ala Wai Blvd (Stop ID 233) - 50 (ADR)</p> <p><u>Boardings and Alightings by Route</u></p> <p>Route 2 - Waikiki-School-Middle - 1603 (ADR)</p> <p>Route 3 - Kaimuki-Salt Lake - 708 (ADR)</p> <p>Route 4 - Nuuanu-Punahou - 114 (ADR)</p> <p>Route 9 - Kaimuki-Pearl Harbor - 352 (ADR)</p> <p>Route 13 - Liliha-Waikiki-University - 411 (ADR)</p> <p>Route A - City Express! A - 805 (ADR)</p> <p>Route 2L – Waikiki-School-Middle Limited - 103 (ADR)</p>
Daily Vehicular Volumes (Source: <i>Historical Traffic Station Maps, HDOT, 2013</i> )	<p>Ala Moana Blvd between Kalia Rd / Ena Rd and Kalakaua Ave (2012) - 25,200</p> <p>Ala Moana Blvd: Hobron Ln to Kalia Rd (2009) - 45,900</p> <p>Ala Moana Blvd: Kalia Rd to Kalakaua Ave (2010) - 26,200</p> <p>Ala Wai Blvd: Kalaimoku St to Olohana St (2013) - 38,700</p> <p>Ala Wai Blvd: McCully St to Kalakaua Ave (2013) - 33,000</p> <p>Kalaimoku St: Kuhio Ave to Ala Wai Blvd (2013) - 5,300</p> <p>Kalakaua Ave: Ala Wai Blvd to Ena Rd (2013) - 27,200</p> <p>Kalakaua Ave: Kapiolani Blvd to Ala Wai Blvd (2013) - 42,600</p> <p>Kalakaua Ave: McCully St to Ala Moana Blvd (2011) - 51,500</p> <p>Kalakaua Ave: Pau St to Keoniana St (2013) - 38,000</p>

HONOLULU COMPLETE STREETS PROJECT IMPLEMENTATION STUDY

	<p>Kapiolani Blvd: Atkinson Dr to Kalauokalani Way (2010) - 65,300</p> <p>Kapiolani Blvd: Hauoli St to Pumehana St (2011) - 45,600</p> <p>Kapiolani Blvd: University Ave. to Date St (2012) - 38,100</p> <p>Kapiolani Blvd: Paani St to Hoawa St (2013) - 46,600</p> <p>McCully St: Ala Wai Blvd to Kapiolani Blvd (2013) - 34,000</p> <p>McCully St: Date St to Citron St (2011) - 27,000</p> <p>McCully St: Kalakaua Ave to Ala Wai Blvd (2013) - 12,800</p> <p>Niu St: Ala Wai Blvd to Kalakaua Ave (2013) - 14,900</p> <p>Pau St: Kalakaua Ave to Ala Wai Blvd (2013) - 4,600</p>
<p>Peak periods (Source: <i>Historical Traffic Station Maps</i>, HDOT, 2013)</p>	<p>Ala Moana Blvd: Kalia Rd/Ena Rd and Kalakaua Ave - 7:15 to 8:15 AM, 5:00 to 6:00 PM</p> <p>Ala Moana Blvd: Hobron Ln to Kalia Rd - 7:00 to 8:00 AM, 4:00 to 5:00 PM</p> <p>Ala Moana Blvd: Kalia Rd to Kalakaua Ave - 7:00 to 8:00 AM, 6:00 to 7:00 PM</p> <p>Ala Wai Blvd: Kalaimoku St to Olohana St - 7:15 to 8:15 AM, 4:00 to 5:00 PM</p> <p>Ala Wai Blvd: McCully St to Kalakaua Ave - 7:15 to 8:15 AM, 4:30 to 5:30 PM</p> <p>Kalaimoku St: Kuhio Ave to Ala Wai Blvd - 8:00 to 9:00 AM, 4:00 to 5:00 PM</p> <p>Kalakaua Ave: Ala Wai Blvd to Ena Road - 7:15 to 8:15 AM, 4:15 to 5:15 PM</p> <p>Kalakaua Ave: Kapiolani Blvd to Ala Wai Blvd - 7:30 to 8:30 AM, 4:15 to 5:15 PM</p> <p>Kalakaua Ave: McCully St to Ala Moana Blvd - 7:30 to 8:30 AM, 3:00 to 4:00 PM</p> <p>Kalakaua Ave: Pau St to Keoniana St - 7:30 to 8:30 AM, 3:30 to 4:30 PM</p> <p>Kapiolani Blvd: Atkinson Dr to Kalauokalani Way - 7:30 to 8:30 AM, 4:30 to 5:30 PM</p> <p>Kapiolani Blvd: Hauoli St to Pumehana St - 7:15 to 8:15 AM, 4:30 to 5:30 PM</p> <p>Kapiolani Blvd: University Ave. to Date St - 7:00 to 8:00 AM, 3:00 to 4:00 PM</p> <p>Kapiolani Blvd: Paani St to Hoawa St - 7:15 to 8:15 AM, 3:30 to 4:30 PM</p> <p>McCully St: Ala Wai Blvd to Kapiolani Blvd - 8:00 to 9:00 AM, 5:00 to 6:00 PM</p> <p>McCully St: Date St to Citron St - 8:00 to 9:00 AM, 4:15 to 5:15 PM</p> <p>McCully St: Kalakaua Ave to Ala Wai Blvd - 7:45 to 8:45 AM, 5:15 to 6:15 PM</p> <p>Niu St: Ala Wai Blvd to Kalakaua Ave - 7:30 to 8:30 AM, 4:00 to 5:00 PM</p> <p>Pau St: Kalakaua Ave to Ala Wai Blvd - 8:00 to 9:00 AM, 3:45 to 4:45 PM</p>
<p>Accident History (Sources: <i>State of Hawaii Motor Vehicle Accident Reports</i>, Honolulu Police Department, Records Division, 2011-2014)</p>	<p>Ala Wai Blvd and McCully St: 1 Bicyclist Accident, 12 Car/Truck Accidents, 8 Motorcycle/moped Accidents, 3 Pedestrian Accidents.</p> <p>Kapiolani Blvd and McCully St: 4 Bicyclist Accidents, 10 Car/Truck Accidents, 7 Motorcycle/Moped Accident, 5 Pedestrian Accidents</p> <p>Along McCully St between Ala Wai Blvd and Kapiolani Blvd: 7 Motorcycle/Moped Accidents</p> <p>Ala Wai Blvd and McCully Intersection: 3 Car/Truck Accidents, 1 Motorcycle/Moped Accident</p>

This page has been left blank intentionally.

## Part Two: Field Work and Key Findings



*A walking audit brought together 15 participants from the City and County of Honolulu, State agencies, and community stakeholders.*

### STAKEHOLDER INPUT

The findings of this report are informed by input received from participants in a walking audit within the project limits conducted on January 21, 2015. Local stakeholder participation for the audit included neighborhood board chair Ron Lockwood. Dan Alexander represented the Hawaii Bicycling League (HBL). Representing SSFM International, Inc. was Alan Fujimori, Michael Motoki, and Kailey Porter; other consultants were Dan Burden and Samantha Thomas of Blue Zones and Gary Toth of Gary Toth Consulting. Others participants were:

- City and County of Honolulu Department of Transportation Services (DTS): Mark Garrity, Mark Kikuchi, Shawn Butler, Randall Kurashige, Yamato Milner, Chris Sayers, Rika Uechi, Craig Chung, and Erron Redoble;
- Department of Facilities Maintenance (DFM): Roger Dona and Dexter Akamini
- Hawaii State Department of Health (DOH): Heidi Hansen-Smith.
- University of Hawaii at Manoa: Selina Stasi

The findings are discussed in the following section.

## FINDINGS

This section summarizes key findings based on observations made by the consultant team with input from Department of Transportation Services staff, and state and local stakeholders. These inform the recommendations summarized in the next section.

*Finding: The sidewalks on the bridge are narrow and constricted by utilities.*

The existing sidewalk on the McCully Street bridge is about 6 feet wide on both sides, but the guardrail and utilities reduce the sidewalk to about 3 feet wide in some places. This creates multiple pedestrian choke points and is a major barrier to pedestrian mobility in the area. Given the high pedestrian usage in the area, the sidewalk should be wider to provide a more comfortable walking environment.



*Utility poles exist within the sidewalk on both sides of the street, constraining pedestrian movement.*

*Finding: The bike lanes on the McCully Street Bridge are narrow and surrounded by vehicular lanes.*

Bike lanes on the McCully Street Bridge are just 4 feet wide and sandwiched between two vehicular lanes.



*During the audit, participants observed several bicyclists in very uncomfortable situations surrounded by cars.*

*Finding: Bicycle lanes on Ala Wai Boulevard end as they approach the McCully Street intersection.*

The elimination of the bicycle lane on Ala Wai Boulevard on the westbound approach to the McCully Street bridge forces bicyclists onto the sidewalk or into flowing traffic. This is unsafe for bicyclists and creates unnecessary confusion for motorists. Ideally, the bicycle lanes would continue through the intersection and connect with existing bicycle lanes on the McCully Street bridge.



*Bicyclists are forced on to the sidewalk or to mix with vehicular traffic.*

*Finding: Most motorists on Ala Wai Boulevard queue in the right-most-turn-lane.*

Even during heavy traffic flow, one of the two right-turn lanes from Ala Wai Boulevard to the bridge is lightly used. This may be because motorists are allowed right-turn on red only in the curbside lane. Even vehicles intending to make a through or left-turn on McCully Street tend to stay in that lane. This not only raises questions about the reasonableness of eliminating the bike lane, but also creates a cross weave situation for vehicles jockeying for position in the through, left and right-turning lanes once on the bridge. This can cause congestion and can increase the hazard for bicyclists.



*A long queue of cars in the right-most turn-lane.*

*Finding: The long ramp for right-turns from McCully Street to Ala Wai Boulevard is redundant and sparsely used.*

During our audit, participants noted that vehicles tended to make right-turns at the Ala Wai Boulevard intersection by bypassing the exclusive right-turn ramp.



*The secondary dedicated right-turn ramp is underutilized.*

*Finding: Drainage infrastructure constricts sidewalk space.*

The configuration of the structure carrying the sidewalk over a drain pipe reduces the sidewalk width to 3 feet at the approach to the McCully Street bridge. DTS staff offered that this may be corrected by cantilevering a sidewalk extension over the pipe.



*The drainage conveyance and parapet constricts available sidewalk space.*

*Finding: Makai of Ala Wai Boulevard, the bike lanes diminish to a sharrow.*

Makai of Ala Wai Boulevard, bicycle lanes on the McCully Street bridge transition to sharrows in the makai bound direction, and are not present in the mauka bound direction. This makes for an uncomfortable biking environment. DTS participants familiar with the area believe this is one of the many factors reducing bike use, particularly for tourists.



*Bicyclist and motorists must share the same space beginning makai of the Ala Wai Boulevard and McCully Street intersection.*

*Finding: The McCully Street bridge offers scenic views of Waikiki.*

The McCully Street bridge has placemaking potential. It provides pedestrians with a scenic view of both the Ala Wai Canal and Diamond Head and is a major gateway into Waikiki. There are a number of barriers that impede placemaking. First, planters used to screen out the drainage infrastructure block views of the water and Diamond Head. Second, narrow sidewalks abutting a busy road prevent pedestrians from stopping and enjoying the view.



*Scenic views are blocked by planters.*

*Finding: The connection from the Ala Wai shared-use path to the Ala Wai Promenade is not direct*

The Ala Wai promenade makes up a key link in the City’s Lei of Parks concept. However, at McCully Street, path users must divert hundreds of feet out of their way to cross at a marked crosswalk. This detracts from the path’s usability. For first-time users, there is also no signage directing people where and how to cross.



*Path users often jaywalk (left) to take the most direct path rather than use the signaled crossings. The connection between the Ala Wai shared-use path (right) to the Ala Wai Promenade is disjointed.*

# Part Three: Recommended Application of Complete Streets Concepts

This section describes the recommended application of Complete Streets concepts for the McCully Street Bridge and Ala Wai Boulevard approaches. It includes a written description of recommendations accompanied by illustrative drawings. The Complete Streets principles incorporated are:

- Encourage multiple modes of transportation, particularly walking and biking
- Promote safety for all modes of transportation
- Adjust the design speed of the road to match and reinforce the posted speed limit of 25 mph
- Promote safer street crossings, and
- Strengthen the sense of arrival

## COMPLETE STREETS RECOMMENDATIONS

### *Conceptual Illustrations of Recommendations*

Figure 3 provides an overview of the proposed changes to McCully Street and Ala Wai Boulevard within the study area.

These recommended changes are described in the following section and summarized in Table 2.

### *Description of Recommendations*

The recommendations for McCully Street and Ala Wai Boulevard are described below and shown on Figure 3. Table 2 is a summary list of all recommendations, the before and after effect.

#### **A) Reclaim the channelized right-turn lane from McCully Street bridge to Ala Wai Boulevard.**

- Eliminate the right-turn ramp from the McCully Street bridge makai bound to Ala Wai Boulevard westbound (towards Ala Moana). Start by closing off the ramp via a “Lighter, Quicker, Cheaper” experiment, perhaps linking it with a programmed event that attracts attention and people.
- Connect the reclaimed space with the existing planted channelization island to create a mini park or public space.

**B) Reconfigure right-turn lanes from Ala Wai Boulevard to McCully Street.**

- Eliminate right-most turn lane on Ala Wai Boulevard westbound to the bridge. This will allow continuation of the bike lane on Ala Wai Boulevard westbound, which currently disappears 900 feet south of the bridge.
- Eliminate the signal that controls the right-turn on the bridge. Create a right-turn on red; this will compensate for loss of right-turn capacity created by elimination of a lane and may in fact reduce queuing. This could be tested via paint for a few months.



*Traffic Signal for Right-Turns onto McCully Street Bridge.*

**C) Extend the Ala Wai Boulevard bicycle lanes to the intersection with Kalakaua Avenue.**

- Continue the Ala Wai Boulevard bike lane across McCully Street all the way to the intersection with Kalakaua Avenue.
- Immediately north of McCully Street, the extended bike lane could be routed through the new park created via Recommendation A.
- West of this new park between the merge of the existing right-turn ramp to the cross hatched markings, bike lanes can be installed by reducing vehicular lanes to 10 feet wide and by moving the mauka side curb back.
- As an interim measure, the bike lane can be striped at 3 feet wide until the curb can be moved and the island just northbound of the bridge can be reduced in size.

**D) Implement a road diet on McCully Street makai of Ala Wai Canal.**

- Reduce the roadway from three through lanes to two, shrink lanes to 10 feet wide, and eliminate on street parking of the Diamond Head side of the street.
- Use the reclaimed space to create bike lanes with wide buffers on both sides of the street.

**E) Widen pedestrian space at the northeast corner of Ala Wai Boulevard and McCully Street.**

- Move back the parapet on Ala Wai Boulevard near the bridge to allow the sidewalk to be expanded.
- Remove the right-most-turn lane (see Recommendation A) and extend the curb to increase pedestrian space.

**F) Enable safer pedestrian crossings by shortening crossing distances and slowing vehicular traffic.**

- At the southwest corner of McCully Street and Kapiolani Boulevard, reduce turning radius to shorten pedestrian crossing distances and reduce vehicle speed.
- On the right-turn lanes at Ala Wai Boulevard and McCully Street, install raised crosswalks in the center of the turn channel, increasing visibility of pedestrians as well as calming traffic.



*Raised crosswalks in slip lanes, Boulder CO.*



*Paint and gravel extension in New York City.*

**G) Improve multimodal mobility over the McCully Street bridge.**

- Reduce the lane widths on the bridge to 10 feet wide and create two 5 feet wide bike lanes.
- Eliminate the third makai-bound through lane that appears on the McCully Street bridge as it approaches the Ala Wai Boulevard intersection. Use this space to create a pedestrian median.

**Table 2 Proposed Design Changes to McCully Street**

	CURRENT	AFTER RECOMMENDATIONS ARE IMPLEMENTED
Type of Facility	Urban Minor Arterial.	Same.
Street Width	McCully St from Ala Wai Blvd to Kalakaua Ave: ~42'. McCully St from Kapiolani Blvd to Ala Wai Blvd: ~70'.	Same.
Posted Speed Limit	35 mph on Ala Wai Blvd, 25 mph on McCully St.	Same.
Crosswalk Length (longest)	75' McCully St and Kapiolani Blvd (south leg).	70' McCully St and Kapiolani Blvd (south leg).
Number of lanes	McCully St from Ala Wai Blvd to Kalakaua Ave: three makai bound left-turn lanes and one parking lane/left-turn lane. McCully St from Kapiolani Blvd to Ala Wai Blvd: two makai bound through lanes, one mauka bound left that transitions to an additional makai bound through, two mauka bound through lanes, and one mauka bound right-turn lane. 4' bike lanes in each direction.	McCully St from Ala Wai Blvd to Kalakaua Ave: three 10' makai bound left-turn lanes, 5' makai bound bike lane, 5' mauka bound contra-flow bike lane with 3' buffer. McCully St from Kapiolani Blvd to Ala Wai Blvd: two makai bound through lanes, one mauka bound left, two mauka bound through lanes, and one mauka bound right-turn lane. 5' bike lanes in each direction.
Distance to side streets	~605' from Kapiolani Blvd to Ala Wai Blvd, ~480' from Ala Wai Blvd to Kalakaua Ave.	Same.
Driveways	2 driveways Diamondhead side of section between Ala Wai Blvd and Kalakaua Ave leading to 1 residential high rise, 1 to small business lot.	Same.
Parking	Metered on street parking on the west facing side of McCully St between Ala Wai Blvd and Kalakaua Ave (2 Hr limit, allowed between 7:00 AM to 6:00 PM).	On street parking is removed.
Sidewalks	7-8' concrete sidewalks in most areas on McCully St and Ala Wai Blvd. However, sidewalks narrow across the bridge to ~6'. Utilities constrict pedestrian space on McCully St between Ala Wai Blvd to Kapiolani Blvd.	Same.
Transit Routes / Stops / Shelters	There are ten bus stops within a quarter mile of the project site, which provides access to seven bus routes.	Same.
Proximity to future rail	Not within the City DPP's TOD planning area (i.e., ¼ mile of a rail station).	Same.

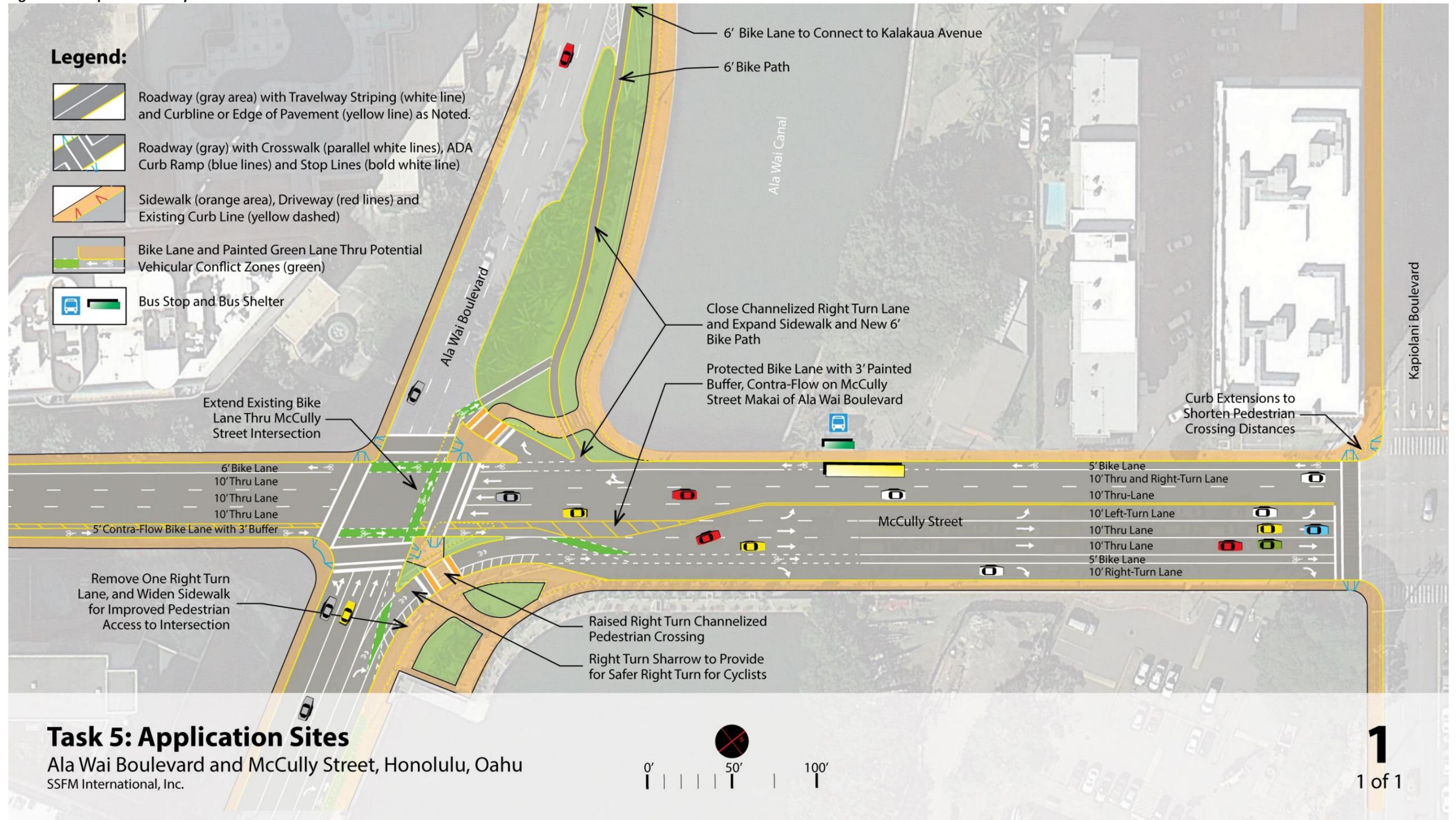
HONOLULU COMPLETE STREETS PROJECT IMPLEMENTATION STUDY

---

Bicycle features	~4' bike lanes on both sides of McCully St. Sharrows on other sections of McCully St in the project study area. Ala Wai Blvd has a bike route. ~10' shared use bike path throughout the Lei of Parks. Bike rack located in the Lei of Parks.	McCully St from Ala Wai Bd to Kalakaua Ave: 5' makai bound bike lane, 5' mauka bound contra-flow bike lane with 3' buffer.  McCully St from Kapiolani Blvd to Ala Wai Blvd: 5' bike lanes in each direction.
Nearby Schools	Hawaii Tokai International College is about 0.25 miles away.  King William Lunalilo Elementary School is 0.35 miles away.	Same.
Nearby Institutions	Ala Wai Community Park, Hawaii Convention Center.	Same.

This page has been left blank intentionally.

Figure 3 Concepts for McCully Street and Ala Wai Boulevard



This page has been left blank intentionally.

## Part Four: Implementation

This section looks at the recommendations and sorts them according to how soon they can be implemented. Implementing actions are grouped and numbered to correspond to the Recommendations in the preceding section. Near-term actions are those that may be implemented immediately through incorporation into existing City paving, marking, or signage projects or maintenance funding. Mid-term actions are those that may require or warrant a longer planning horizon (1 to 5 years) due to logistical, financial, or other considerations. Longer-term actions are those that may require or warrant an even longer planning horizon (5 years and beyond).

### ***Near-Term Actions (0-1 year):***

#### **A) Reclaim the channelized right-turn lane from McCully Street bridge to Ala Wai Boulevard.**

- Use striping, bollards, and planters to close the right-turn ramp from the McCully Street bridge makai bound to Ala Wai Boulevard westbound (towards Ala Moana).
- Hold an event to attract attention and people.
- Create a temporary “experimental” park in the reclaimed space using planters, chairs, and tables.
- Place interpretative displays throughout the park that help visitors understand the Complete Street goals and engineering reasoning supporting the reallocation of space.



“Experimental” parks in reclaimed vehicular travelways.

#### **B) Reconfigure right-turn lanes from Ala Wai Boulevard to McCully Street.**

- Close off the curbside lane using paint and bollards or planters. Turn off or cover the right-turn signal.
- Until the final design is implemented, the reclaimed space would be used by bicyclists leaving the formal bike lane 900 feet south of McCully Street.

**C) Extend the Ala Wai Boulevard bicycle lanes to the intersection with Kalakaua Avenue.**

- After closing the right-turn lane (see Recommendation B), restripe the reclaimed space as a 5 foot wide bicycle lane. Connect to the existing bicycle lane on Ala Wai Boulevard.
- Stripe the continuation of the bicycle lane through the McCully Street intersection and denote the bike travel path using green pavement coloring and dotted white lines.
- Reroute bicyclists on to the newly closed channelized right-turn lane (see Recommendation A).

**D) Implement a road diet on McCully Street makai of Ala Wai Canal.**

- Restripe the roadway from three through lanes to two 10 feet wide travel lanes, and eliminate on street parking on the Diamond Head side of the street.
- Use the reclaimed space to create bike lanes with wide buffers on both sides of the street. Stripe a 5 foot wide bike lane in the makai bound direction, and a 5 foot wide contra-flow bike lane with a 3 foot wide buffer in the mauka bound direction.

**E) Widen pedestrian space at the northeast corner of Ala Wai Boulevard and McCully Street.**

- Near the parapet, use asphalt concrete (A/C) pavement (or similar) to temporarily extend curb into the reclaimed right-turn-lane (see Recommendation B). Make sure curb extension is flush with existing sidewalk.

**F) Enable safer pedestrian crossings by shortening crossing distances and slowing vehicular traffic.**

- Restripe the southwest corner of McCully Street and Kapiolani Boulevard.

**G) Improve multimodal mobility over the McCully Street Bridge.**

- Restripe lanes on the McCully Street bridge to 10 feet wide travel lanes, and 5 feet wide bike lanes.
- Remove the third makai bound through lane that appears on the McCully Street Bridge as it approaches the Ala Wai Boulevard intersection. Install planters or bollards in this area to create a pedestrian refuge island.



*Median in New York City, NY with colored and textured pavement, and protective planters.*

***Mid-Term Actions (1 to 5 years):***

- A) Reclaim the channelized right-turn lane from McCully Street Bridge to Ala Wai Boulevard.**
  - Formalize the closure of the channelized right-turn lane using A/C berms (or similar). Provide breaks in the berm to allow bicyclists to transition in and out of the new mini park area.
- B) Reconfigure right-turn lanes from Ala Wai Boulevard to McCully Street.**
  - Use A/C berms (or similar) to delineate the extent of the curb extension.
- C) Extend the Ala Wai Boulevard bicycle lanes to the intersection with Kalakaua Avenue.**
  - Extend the bike lane west of this new park. This can be done by restriping Ala Wai Boulevard vehicle lanes to 10 feet wide and moving back the curb on the mauka side from the existing right-turn ramp to the cross hatched markings that start about 120 feet from Kalakaua Avenue.
- D) Implement a road diet on McCully Street makai of Ala Wai Canal.**
  - Install physical barriers in the 3 foot wide contra-flow buffer to protect bicyclists from on-coming vehicles.
- E) Widen pedestrian space at the northeast corner of Ala Wai Boulevard and McCully Street.**
  - Reconstruct the drainage structure adjacent to the McCully Street bridge so that the parapet can be moved back to allow for a wider sidewalk.
  - Construct a concrete curb extension that is flush with the existing sidewalk to allow for a wider sidewalk.
- F) Enable safer pedestrian crossings by shortening crossing distances and slowing vehicular traffic.**
  - Use A/C berms (or similar) to reduce the turning radius at Kapiolani Boulevard and McCully Street.
- G) Improve multi-modal mobility over the McCully Street Bridge.**
  - Construct a permanent pedestrian median in the space reclaimed by reducing McCully Street from three to two lanes.

***Longer-Term Actions (5 years and Beyond):***

- A) Reclaim the channelized right-turn lane from McCully Street bridge to Ala Wai Boulevard.**
  - Reconstruct the channelized right-turn lane and adjacent media to include 6 foot wide paved bike paths (see Recommendation C).
- B) Reconfigure right-turn lanes from Ala Wai Boulevard to McCully Street.**
  - None.
- C) Extend the Ala Wai Boulevard bicycle lanes to the intersection with Kalakaua Avenue.**
  - Construct 6 foot wide paved bike paths in the new mini park.
- D) Implement a road diet on McCully Street makai of Ala Wai Canal.**
  - None.
- E) Widen pedestrian space at the northeast corner of Ala Wai Boulevard and McCully Street.**
  - None.
- F) Enable safer pedestrian crossings by shortening crossing distances and slowing vehicular traffic.**
  - Construct a concrete curb extension that is flush with the existing sidewalk at the southwest corner of Kapiolani Boulevard and McCully Street.
  - Install raised pedestrian crosswalks in the channelized right turn lanes.
- G) Improve multimodal mobility over the McCully Street Bridge.**
  - None.

This page has been left blank intentionally.

## Part Five: Cost Sheet

<i>ITEM</i>	<i>UNIT</i>	<i>QUANTITY</i>	<i>UNIT COST</i>	<i>TOTAL COST</i>
<b>Removals/Demo</b>				
Demolish existing sidewalk	Sq. Ft.	384	\$ 5.00	\$ 1,920.00
Demolish existing Pavement	Sq. Ft.	10227	\$ 8.00	\$ 81,816.00
Erosion Control	L.S.	1	\$ 10,000.00	\$ 10,000.00
<b>Site improvements</b>				
<b>Roadway</b>				
Mill and Overlay existing AC pavement	Sq. Ft.	57304	\$ 6.00	\$ 343,824.00
6' Asphalt Concrete BikeLane	Lin. Ft.	325	\$ 72.00	\$ 23,400.00
Curb Gutter and Sidewalk	Sq. Ft.	4500	\$ 20.00	\$ 90,000.00
Drainage works	each	3	\$ 14,000.00	\$ 42,000.00
Raised Median	Sq. Ft.	1830	\$ 20.00	\$ 36,600.00
4" Stripe (white/Yellow)	Lin. Ft.	5705	\$ 6.00	\$ 34,230.00
12"stripe (white)	Lin. Ft.	530	\$ 9.00	\$ 4,770.00
6' Bike lane (Green)	Sq. Ft.	1500	\$ 9.00	\$ 13,500.00
Striping Symbols	each	38	\$ 300.00	\$ 11,400.00
<b>Intersection</b>				
Traffic Signal Modification	each	1	\$ 350,000.00	\$ 350,000.00
<b>Misc.</b>				
Traffic Control	L.S.	1	5%	\$ 52,173.00
Mobilization	L.S.	1	10%	\$ 104,346.00
Contingency - 25%			25%	\$ 260,865.00
<b>Design</b>				
Design Cost			8%	\$ 116,867.52
<b>TOTAL CONSTRUCTION</b>				<b>\$ 1,460,844.00</b>
<b>TOTAL COST</b>				<b>\$ 1,577,711.52</b>