



Complete Streets and other City Initiatives

Health and the Built Environment
Hawaii Public Health Conference

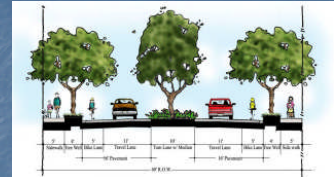
Mark Garrity
Department of Transportation Services
City & County of Honolulu
October 9, 2015

City & County Initiatives

- Complete Streets
- Rail Station Access Program
- Protected Bike Lane Network
- Bike Share
- Secure Bike Storage

Complete Streets

Honolulu Complete Streets Program

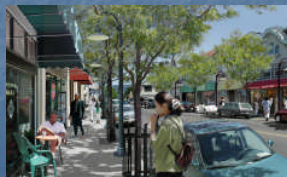


- ROH 12-15 Requires the City to: "Employ a multi-modal approach and incorporate complete streets features in the planning, design, construction, maintenance and operation of transportation facilities and projects..."



Goals of Complete Streets Program

- Improve Safety
- Context sensitive solutions
- Accessibility and mobility for all
- Balance the needs and comfort of all modes and users
- Use national best practices
- Provide non-motorized options
- Encourage physical activity
- Think: "long-term investment"
- Build partnerships statewide
- Incorporate trees and landscaping

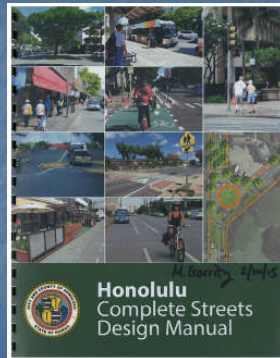


Complete Streets Checklist

- Consistent with requirements of Ordinance 12-15
- Based on national best practices
- Being used now by DPP, DTS, DFM and DDC
- Completed checklists being filed with DPP

Complete Streets Design Manual

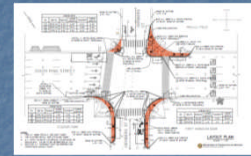
- Updates designs for many standard details
- Consistent with national best practices
- Based on input from many stakeholders
- Will replace outdated, auto-centric standards



7

Demonstration Projects

- Low-cost, simple materials
- Improve safety and provide opportunities for walking, bicycling
- Work with private partners where possible



Moiliili



Kailua



Aiea

8

Ulune Street Demonstration Project

- Installed in 2014
- Striping used to "narrow" street
- "Stop for Pedestrians" signage
- First new use of back-in angle parking on Oahu
- Site visits show the project performing as planned (traffic calming)



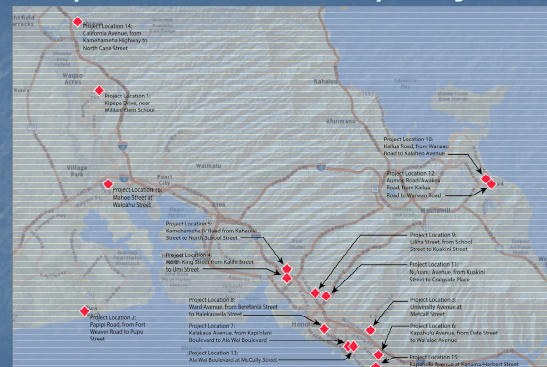
Before



After

9

Implementation Study Projects



Complete Streets Project Locations, Island of Oahu
Complete Streets Implementation Study

0 2 4 8 Miles

Site Visits/Walk Audits



Analysis

- Existing conditions:
 - Traffic Volumes
 - Land Use
 - Transit Stops
 - Bike lanes
 - Parks, schools, etc
- Need for project
- Research on potential treatments



Conceptual Designs

Figure 3 Concepts for Kalakaua Avenue at Kapolei Interchange

Legend:

- Bus Stop and Station Spacing
Bus Stop Shift
- Curb Extension Bulb-Out Parking
Curb Surface Space, Outside Crossover
- Paved Permeable Crossover (dark orange)
- Sidewalk Crossover (Lighter Yellow) & Driveway Shift
- Crosswalk Refining, Inside or Ramp Shift
- New Street Trees Crossover, Existing Street Trees Color and General Cover Ways Right Green

Task 5: Application Sites
Kalakaua Avenue, Honolulu
SPR International, Inc.

1
1 of 2

Kalakaua Avenue

13

Conceptual Designs

Ward Avenue Complete Street
Conceptual Design
©2014 Transportation, Inc.
01/14/2014

5
5 of 6

Ward Avenue

14

Conceptual Designs

Figure 3: Concepts for Nuuanu Avenue from Puuwaia Road to Euclid Street

Legend:

- Roadway (Gray) with Transverse Striping (White) and Curbline or Edge of Pavement (Yellow or Natural)
- Roadway (Gray) with Crosswalks (Striped White) and Stop Lines (Black Pavement)
- Network Change with Transverse (Redlines) and Single Center Line (Green)
- New Street Trees (Green), Existing Street Trees (Gray), and General Cover Area (Light Green)
- Rectangular Parallel Parking (Blue)

Existing Curb Line
Existing Curb Line
Street Trees
Inside Bike Ramps and Transverse Strips (Green) Connecting the Roundabout Area to 1150 Euclid Street (Green)
Roundabout Medians (Green) and Curbline Around the Roundabout

Single Lane Roundabout
Corner Nuuanu Avenue to Puuwaia Road with Blue Striping on Both Sides of the Street
Parallel Median with Protected Pedestrian Refuges (Green), New Jersey Parallel Refuges (Green), and 2 Crosswalks
Raised Intersection and Roundabout with Pedestrian Crossing

Task 5: Application Sites
Nuuanu Avenues, Honolulu
CSP International, Inc.

3
3 of 3

Nuuanu Avenue

16

Conceptual Designs

Figure 3 Concepts for Liliha Street at Kaunaloa Street

The image shows a conceptual design for Liliha Street at Kaunaloa Street. It features a street layout with various lanes, including a dedicated bike lane, and proposed improvements like on-street parking, crosswalks, and landscaping. Callouts point to specific features like 'Bicycle Extensions to Shorten Pedestrian Crossing Distances', 'Bicycle Extensions to Shorten Pedestrian Crossing Distances', 'Convert Liliha Street into Road Diet with Bike Lanes on Each Side', 'Bicycle Extensions to Shorten Pedestrian Crossing Distances', and 'Bicycle Parking'.

Legend:

- Rightway Coped with Roadway Striping (Solid and Centerlines)
- Rightway Coped with Crosswalk (Painted White and Street Lane Markings)
- Subway Changes with Driveway Realignment
- Existing On-Street Parking to be Removed
- Bike Lane and Conflict Area (green)
- Tree 5' Planting Area

Task 5: Application Sites
 Liliha Street, Honolulu
 SIRM International, Inc.

1
 of 2

Liliha Street

17

Rail Station Access Program

Rail Project Stations



Rail Station Access Program

- Focus:
 - Station Access
 - TOD opportunities
- Priorities:
 1. Walking
 2. Bicycling
 3. Bus transit / Paratransit
 4. Auto/taxi drop-off/pick-up
 5. Park-and-Ride



Rail Station Area Walk Audits



- Five walking audits held Nov 2013 to March 2014
- Total of 20 out of 21 station areas examined
- 20-30 participants at each event (5 events total)
- Multiple agencies and stakeholders represented
- Prior to tour: Overview of Station Area with supporting materials and discussion

Rail Station Area Walk Audits

Participants were asked:

- Is the area walkable and bikeable?
- Does walking feel safe, comfortable and is it convenient?
- Does taking transit here seem easy?
- Is the area well-lit and would it feel safe at night?



22

Supporting Materials/Discussion



Existing Conditions



Vision for Station Area



Future Potential TOD



Future Land Use

23

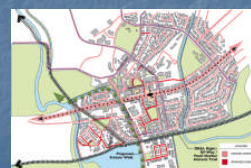
Supporting Materials/Discussion



2030 Potential Bus Network



Rail Station Design



Future Connectivity



Oahu Bike Plan

24

Protected Bike Lanes



King Street Protected Bike Lane

- Opened one-way December 2014
- Converted to two-way in 2015
- 2 year pilot project



-



Studies and Data Gathering

- Gathering data throughout pilot period
- Before and After Bicycle Counts
- Before and After Motor Vehicle Travel Times
- Before and after Traffic Volume Counts

-
- South King Street
Travel Time Study**
March 2014
- 2013 TRIP INFORMATION**
- The purpose of this study is to determine the travel time for vehicles traveling southbound on South King Street from the intersection of 1st Street to the intersection of 10th Street. The study was conducted on March 11, 2014, during the morning peak travel period (7:00 AM to 9:00 AM). The study area is located in the City of San Diego, California.
- The study was conducted using a combination of field observations and video surveillance. The field observations were conducted by a study engineer who traveled southbound on South King Street and recorded the travel time for a series of vehicles. The video surveillance was conducted using cameras located at the intersection of 1st Street and South King Street, and at the intersection of 10th Street and South King Street.
- The results of the study show that the average travel time for vehicles traveling southbound on South King Street from the intersection of 1st Street to the intersection of 10th Street is 10.5 minutes. The travel time varies significantly throughout the day, with the longest travel times occurring during the morning peak travel period.
- The study also identified several factors that contribute to the travel time delay, including traffic congestion, signal timing, and weather conditions. The study engineer will use the results of this study to develop recommendations for improving traffic flow on South King Street.
- Map of the study area showing the route from 1st Street to 10th Street.
- Source: City of San Diego, 2014
- San Diego State University**
Office of Transportation and Mobility
- Recyclables on King St (2014-15)**
- Legend:
- Recyclables
 - Waste
 - Waste to Energy
 - Waste to Landfill
- Y-axis: Tons/Week (0 to 20)
- X-axis: Week (1 to 52)
- The bar chart displays the weekly tonnage of recyclables, waste, waste to energy, and waste to landfill on King Street from 2014 to 2015. The Y-axis represents the tonnage in tons per week, ranging from 0 to 20. The X-axis represents the week number, from 1 to 52. The legend indicates four categories: Recyclables (blue), Waste (yellow), Waste to Energy (green), and Waste to Landfill (purple). The chart shows significant fluctuations in the volume of waste and recyclables throughout the year, with peaks occurring in the spring and fall months.

Results for South King Street at Kalākau Avenue

88%
Increase in
bicycle ridership

Legend:
—●— 12 Hour Total Ridership
—■— OH Bound
—▲— Ewa Bound
—●— Sidewalk Ridership

No bike lane One-way protected bike lane Two-way protected bike lane

Number of People Bicycling

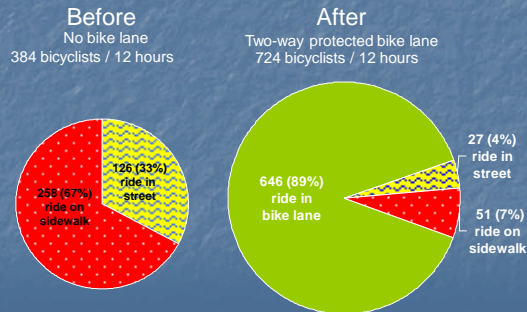
Date

| Date | 12 Hour Total Ridership | OH Bound | Ewa Bound | Sidewalk Ridership |
|------------|-------------------------|----------|-----------|--------------------|
| 8/26/2014 | 410 | 250 | 180 | 280 |
| 9/9/2014 | 360 | 250 | 120 | 250 |
| 9/22/2014 | 620 | 330 | 280 | 100 |
| 10/6/2014 | 680 | 430 | 260 | 150 |
| 10/20/2014 | 590 | 320 | 250 | 100 |
| 11/3/2014 | 550 | 300 | 250 | 100 |
| 11/17/2014 | 730 | 430 | 300 | 150 |
| 12/1/2014 | 650 | 320 | 250 | 100 |
| 12/15/2014 | 730 | 430 | 300 | 150 |
| 12/29/2014 | 650 | 390 | 280 | 100 |
| 1/12/2015 | 680 | 390 | 280 | 100 |
| 1/26/2015 | 700 | 440 | 280 | 100 |
| 2/9/2015 | 630 | 370 | 250 | 100 |
| 2/23/2015 | 730 | 430 | 300 | 150 |
| 3/7/2015 | 650 | 390 | 280 | 100 |
| 3/21/2015 | 680 | 390 | 280 | 100 |
| 4/4/2015 | 700 | 440 | 280 | 100 |
| 4/18/2015 | 730 | 430 | 300 | 150 |
| 5/2/2015 | 650 | 390 | 280 | 100 |
| 5/16/2015 | 680 | 390 | 280 | 100 |
| 5/30/2015 | 700 | 440 | 280 | 100 |
| 6/13/2015 | 630 | 370 | 250 | 100 |
| 6/27/2015 | 730 | 430 | 300 | 150 |
| 7/11/2015 | 720 | 390 | 280 | 100 |
| 7/25/2015 | 720 | 390 | 280 | 100 |
| 8/8/2015 | 720 | 400 | 280 | 150 |

The graph displays the number of people bicycling over time for three different lane configurations. The 'No bike lane' series (blue) starts at approximately 400, dips in late 2014, then rises steadily to about 700 by mid-2015, remaining high thereafter. The 'One-way protected bike lane' series (red) starts at approximately 200, peaks at about 400 in late 2015, and then fluctuates between 200 and 300. The 'Two-way protected bike lane' series (green) starts at approximately 150, peaks at about 200 in late 2015, and then fluctuates between 50 and 100.

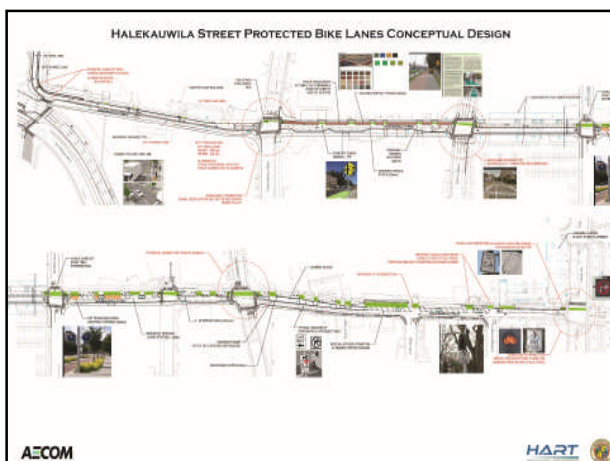
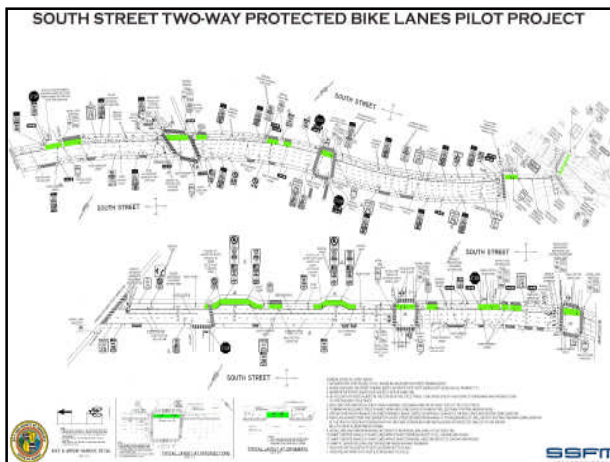
| Date | No bike lane | One-way protected bike lane | Two-way protected bike lane |
|-----------|--------------|-----------------------------|-----------------------------|
| 8/28/2014 | 400 | 200 | 150 |
| 8/7/2014 | 350 | 200 | 100 |
| 2/10/2015 | 620 | 300 | 50 |
| 2/11/2015 | 680 | 400 | 100 |
| 3/4/2015 | 580 | 300 | 70 |
| 3/25/2015 | 540 | 250 | 70 |
| 4/8/2015 | 700 | 400 | 90 |
| 4/28/2015 | 650 | 350 | 70 |
| 5/2/2015 | 670 | 350 | 80 |
| 5/26/2015 | 680 | 400 | 80 |
| 5/27/2015 | 620 | 300 | 50 |
| 6/22/2015 | 700 | 400 | 70 |
| 6/30/2015 | 690 | 350 | 40 |
| 6/4/2016 | 690 | 350 | 70 |

Where are people riding?



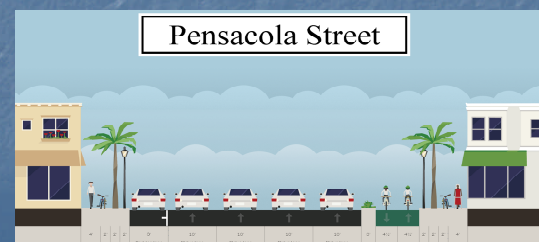
Future Protected Bike Lane Projects

- Connect to the King Street protected bike lane to create a network
- Many routes will also connect to future rail stations
- South Street, Ward Avenue, Piikoi, Pensacola, Halekauwil, McCully...
- Install next protected bike lane by the end of 2015 or early 2016



Pensacola Street Bikeway

- Connection from the King Street bikeway to Ala Moana Blvd
- To be implemented with the Department of Design and Construction's resurfacing project
- Design treatment is yet to be determined



Bike Share

[illegible]

- [illegible]



Secure Bike Storage

Secure Bicycle Storage



- Using FTA funds to install secure bike storage at transit centers and future rail stations
- Incorporating advance security and access features
- Access card to be integrated with new electronic fare collection system

- # Secure Bicycle Storage
- 
- Using FTA funds to install secure bike storage at transit centers and future rail stations
 - Incorporating advance security and access features
 - Access card to be integrated with new electronic fare collection system

