KEY WEST

Bicycle and Pedestrian Master Plan

CAR-FREE KEY WEST

DECEMBER 2018 | DRAFT

CONTENTS

1 INTRODUCTION

City leaders and residents are seeking to make Key West a world-class location for bicycling and walking. Many residents and visitors already ride bicycles in the city, both for recreation and transportation, and all residents and visitors are pedestrians at one time or another, even if they make most of their trip via transit or automobile or bicycle. This Master Plan equips the City with a practical vision of a safe, connected, and comfortable network to serve residents, workers, and tourists alike. Implementation of the Plan recommendations will result in a solid foundation upon which Key West can continue building the premier biking and walking friendly city in Florida.

Why is Key West interested in biking and walking?

The City of Key West benefits in many ways from the number of people who walk and bicycle. Residents and tourists alike 'take to the streets' to travel to school and work, and to partake in much of what the island has to offer. While the City has worked to created safe and comfortable walking and bicycling facilities, and to balance all modes, it has reached a tipping point. For more than a decade, the City of Key West has ranked 1st out of 97 Florida communities with a population between 15,000 and 75,000 in bicycle injuries and fatalities, and waivers between 3rd and 12th place for pedestrian injuries and fatalities. However, according to the 2013 Bicycle Friendly Community report card, Key West has close to 20 percent of residents biking to work, not to mention the many tourists who catch the biking bug as soon as they arrive. Combining this extremely high ridership with renewed interest in walking and biking comes with the challenge of developing new infrastructure in a relatively urbanized, built-out environment. Yet, the existing roadway network is dense, flat and has a great deal of redundancy; providing opportunities for the development of on-road bicycle facilities that serve the everyday cycling needs of residents and visitors.

Stock Island is also incorporated into the master plan network. At half the size of Key West, the island's close-proximity makes it a natural connection for residents and increasingly a point of interest for visitors. The Plan provides easily navigable connections between and within these islands that will enhance biking and walking for both.

The City has many important assets that can be key to building strong bicycle and walking mode shares for daily transportation and recreation including:

- A strong share of the region's jobs and accessible employment sites
- A traditional downtown with a strong mix of commercial and residential land uses
- In-city recreation and entertainment destinations
- A compact size (it is only 4-miles north to south and 2-miles east to west)
- A well-connected street grid
- Flat terrain
- World-class weather

Given the island's sensitive environmental conditions and understanding that transportation is a main contributor to greenhouse gasses, this plan considers recommendations of the Key West Climate Action Plan 2009, which seeks to develop a sustainable energy future.

Recent Acheivements

The City has already started its transformation with a host of bicycle, pedestrian and transit friendly projects and initiatives including:

- **Hiring a new Active Transportation Coordinator**: Replacing the past Bicycle/Pedestrian Transportation Coordinator is currently in process.
- **Parking and Alternative Transportation Group—Report and Recommendations:** A citizen advisory group made 25 recommendations to improve multimodal transportation in the city.
- **Duval Loop:** A new (free) bus route that serves XX users every week. Within the first three months of operation, there was a 300% increase in ridership.
- **Bike Walk Key West – Social Media:** A new Facebook page (more than 1,000 subscribers) and improved website for education and community outreach.
- **Bike Florida Grant:** Funding to hire a marketing firm to develop branding, make maps and brochures, and engage the community.
- **South Florida Commuter Services:** Promoting bike-walk-transit options and commuter benefits program to large employers in the area.
- **Improved Bicycle Lanes on Cow Key Bridge:** Recently improved by the Florida Department of Transportation (FDOT) through consultation with the City.
- **Bicycle Parking:** Continued investment in bicycle racks downtown.

Purpose of the Plan

The plan that follows offers a strategic look at the City's active transportation network to ensure Key West's economic and cultural vitality as well as its community wellbeing continues to thrive. Through implementation of the plan's strategies and recommendations, Key West will be able to demonstrate the environmental, economic and health benefits of human-powered transport.

Vision

The project vision provides a bold view of the future and guides the planning process and recommendations throughout the project.

> ***Key West is a vibrant biking and walking friendly community due to its innovative, collaborative and consistent work to establish connectivity, safety, and comfort on streets and other paths. Multi-modal mobility options support the quality of life and economic vitality for the City, its residents, businesses, and visitors.***

Goals provide focus on priorities of the community:

GOAL 1: Accessibility and Mobility

GOAL 2: Safety and Comfort

GOAL 3: Sustainability and Stewardship

Plan Structure

The Key West Bicycle and Pedestrian Master Transportation Plan contains the following elements:

Chapter 2: Biking and Walking in Key West and Stock Island
This chapter summarizes the existing conditions that affect the way people walk and bike throughout Key West and Stock Island. The findings were used to identify challenges and opportunities for improving walking and biking on the island.

Chapter 3: Engaging the Community
This chapter summarizes the multiple strategies used to communicate the purpose of the plan and elicit feedback from as many people as possible.

Chapter 4: Complete Streets Resource Guide
This chapter provides a scenario-based approach to design guidance, applying common facilities to five locations in Key West that can be adapted throughout the city as well as summary information for four other facilities and a list of state-of-the art resources.

Chapter 5: Multimodal Connectivity Actions
This chapter summarizes a set of actions that support mobility based on intensive online surveys conducted with representatives from all areas of Key West and Stock Island and other lower keys.

Chapter 6: Vision of the Future - Network and Facility Recommendations
This chapter provides an overview of the planning process and detailed look at the short-term and vision bicycle network including facility recommendations, route comparisons and cost estimates, as well as a review of specific pedestrian improvements at vital intersections in the network.

Chapter 7: Moving Forward – Programs and Policies
This chapter describes high-impact actions that Key West can take to move bicycle and pedestrian policies and programs forward. These recommendations support the bicycle and pedestrian network and design recommendations and make it easier for people to get around the island by walking or bicycling.

Chapter 8: Building the Network - Implementation
This chapter identifies the projects, procedures and funding mechanisms needed to implement the recommendations set forth in the previous chapters including conceptual design of a proposed high-priority project to jump start implementation.

Appendices
The appendices provide more details on the plan development process and recommendations.

2 BIKING AND WALKING IN KEY WEST AND STOCK ISLAND

To assess conditions that affect how people walk and bike, the study team reviewed transportation data, planning documents, and conducted a thorough field assessment of all streets and selected intersections to identify challenges and opportunities for improving walking and biking.

Transportation Network

Flat and 4.2 square miles, Key West and Stock Island are an ideal size for biking and walking. This is reflected in the high percentage of residents that commute to work on foot or by bicycle – a combined 22 percent in 2016. Key West's small size also presents challenges in the form of traffic congestion, high demand for parking, and limited right-of-way widths for dedicated bicycle and pedestrian facilities. Roads in Key West are owned and maintained by one of three entities. The State of Florida maintains US 1 and South Roosevelt Boulevard. Monroe County maintains other major roads including Duval Street, Flagler Avenue, Whitehead Street, Eaton Street, First Street, Bertha Street and Palm Avenue. The remaining streets, comprising approximately 80 miles of the street network, are maintained by the City of Key West.

Key West has a nascent bike network consisting of the Florida Keys Overseas Heritage Trail and a handful of bike lanes. Few of the existing facilities connect to one another, meaning that most bike trips require sharing lanes with motor vehicles.

Previous Planning Studies

The study team reviewed the following planning studies and reports to gain a better understanding of the existing conditions in Key West and identify gaps in existing policies and programs. The existing plans reveal a history of support for improved walking and biking conditions; the relevant information from each plan is summarized below.

1996 Key West Bicycle and Pedestrian Strategic Plan

The first bicycle and pedestrian plan for Key West, this document identified four types of bicyclists in Key West (commuters, recreational users, students and tourists), and defined standards for basic bike facilities including: bike lanes, bike paths, bike routes, and "intermodal ways" (multiuse paths). Bicycle facility design has evolved considerably in the last twenty years, rendering some of these standards obsolete. To learn more about current best practices in bike facility design, see Chapter 6.

2010 Key West Bicycle Plan

The 2010 Bicycle Plan builds on the 1996 plan by setting several goals towards achieving a bicycle-friendly Key West. However, it lacks an implementation plan, and was never adopted.

Vision: Key West is a preeminent bicycle-friendly community with an international reputation as a safe, convenient place for bicyclists of all skill levels and where bicycling is a major form of transportation and recreation for residents and visitors.

The plan is organized around five goals, with multiple supporting policies each.

Goal 1: Establish bicycles as a major mode of transportation for visitors and residents of Key West.

- Integrate bicycle use with other modes of transportation including but not limited to transit, automobiles, pedestrians, taxi cabs, cruising yachts, ferries, bus companies and planes.

Goal 2: Establish bicycle recreation as a major attraction and amenity for visitors and residents of Key West.

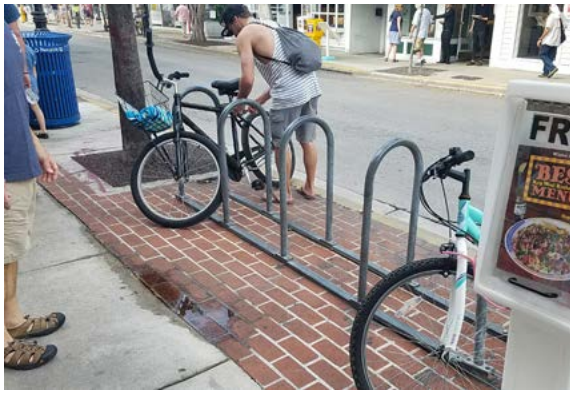
Goal 3: Key West shall be a safe place for bicyclists of all skill levels.

- The city will regularly maintain the bicycle network that reduces conflicts between bicyclists, pedestrians, and automobiles.

Goal 4: Key West, the southernmost city in the continental United States, shall achieve a national and international reputation as being a community that accommodates bicycles.

- The city will apply for recognition as a bicycle friendly community by the League of American Bicyclists.

Goal 5. The city shall regularly review and advance the Bicycle Master Plan by annually updating a Bicycle Action Plan.



Bicycle and pedestrian facilities around Key West

- The City of Key West will maintain statistics about bicycle use within the City and coordinate such data with information about other modes of transportation.

2005 Multimodal Parking Study

This plan mentions bicycle parking briefly in its larger discussion of motor vehicle parking supply and policies in Key West, and recommends promoting bicycling and walking for transportation to reduce parking demand. The study also includes minimum bicycle parking requirements by land use type, and describes the residential parking permit program which reserves on-street parking spaces for residents in Old Town.

Climate Action Plan 2009

The Local Climate Action Plan (CAP) recommends policies and measures to achieve a 15 percent reduction from baseline 2005 levels of greenhouse gas emissions by 2015. Strategies include increased energy efficiency, waste diversion, alternative transportation, building efficiencies, and carbon sequestration. The CAP has several recommendations related to biking and walking including:

- Implement the full Bicycle/Pedestrian Plan as approved by the City Commission, along with recommendations listed in the actions section of this plan including curb cuts, safe sidewalks, increase bicycle parking and bike racks at every Lower Keys shuttle bus stop.
- Require special events receiving permits from the City Commission to include a plan to promote transit, pedestrians, bicycles and shared rides. Such a plan would include alternative modes of travel in event publicity, providing additional bicycle parking, provide satellite locations for people to park and ride transit and adding temporary transit service to meet additional demand.
- Bicycle Pedestrian Challenge: This project will promote walking and biking to reduce vehicle miles traveled by enhancing the walk-ability of the island, through programs and improved bike trails, routes and sidewalk infrastructure. The Challenge has a targeted outcome of increasing the number of people commuting by bike to work and school by 200, and a total of 27 action steps that parallel the recommendations in the 2010 Key West Bicycle Plan (unadopted).

2013 Key West Comprehensive Plan

Bicyclist and pedestrians are considered along with motor vehicles and transit in development and land use regulations.

- Policy 2-1.1.3 - The City recognizes that its development characteristics make expansion of capacity of the roadway system prohibitive. The City will therefore prioritize multi-modal transportation improvements (i.e. transit, air, boat, bicycles, pedestrianism, mixed-use development) as its primary strategies for addressing current and projected transportation needs.
- Policy 2-1.3.2 - The City will coordinate transportation network improvements with Monroe County and the Florida Department of Transportation.
- Objective 2-1.4 - The City shall utilize State and Federal grants to continue to improve bicycle and pedestrian facilities throughout the City.

The Transportation Element of the Comprehensive Plan includes Level of Service standards for bicyclists and pedestrians however, they apply only to roadways with designated bicycle and pedestrian facilities, which comprise a small percentage of the city's roads. The City's standards are based on those outlined in the 1994 article "Bicycle and Pedestrian Levels of Service Performance Measures and Standards for Congestion Management Systems" by Linda B. Dixon.

National best practices in bicycle planning have moved towards "Level of Traffic Stress" analysis for bicycle facilities in lieu of Bicycle Level of Service to more accurately reflect the conditions that influence the decision to bike.

Key West Transit Development Plan Update (2015-2024)

Combining walking, biking and transit expands the range people can travel without a personal vehicle. The Transit Development Plan recognizes this and promotes multimodal trip chaining. Public comments received during the development of the plan indicate "passengers would like bike racks on the Lower Keys shuttles, bike lockers at the bus

stops, and bike share programs. When the bike racks on the city routes are full, passengers are unable to bring their bike on the trip and sometimes do not feel comfortable leaving the bicycle at the bus stop, even when secured." Multimodal connectivity is explored in more detail in Chapter 5.

2030 Comprehensive Plan Monroe County

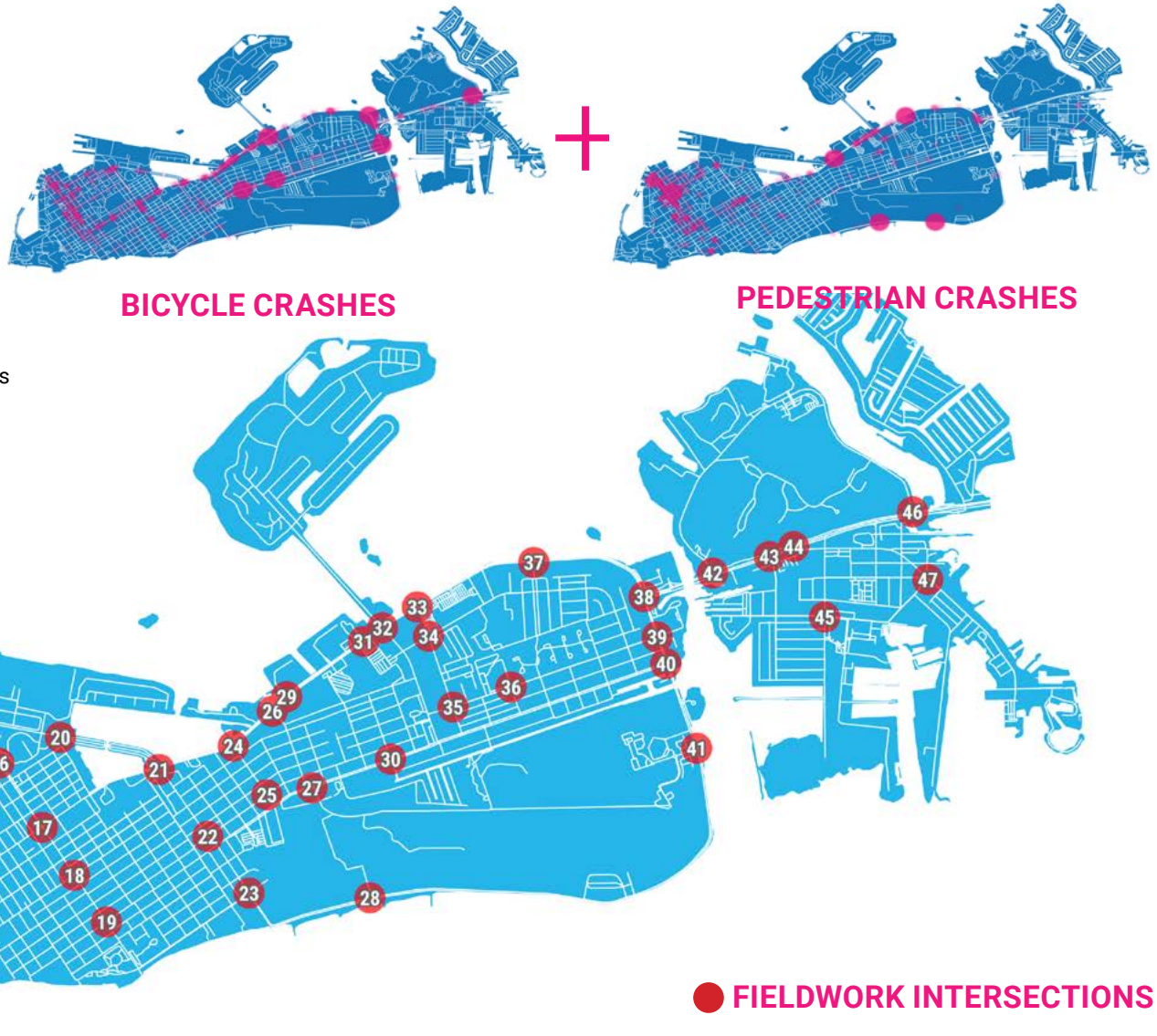
The Monroe County Comprehensive Plan includes several policies that support a robust multi-modal transportation system, focusing on changes to the current development code.

- Policy 301.3.2 - The County shall require that any development, occurring on or adjacent to the location of a planned bicycle or pedestrian facility as identified by the County, provide for the construction of that portion of the facility occurring within or adjacent to the development. If the facility has already been built, or if it will be constructed by an external agency, the development shall be connected to the facility in a safe and convenient manner to ensure that it is part of the development's overall transportation system. For state owned bicycle or pedestrian facilities a connection permit shall be required.
- Policy 401.1.2 - Within one (1) year of the adoption of the 2030 Comprehensive Plan, Monroe County shall adopt land development regulations to encourage developers of major trip generators to provide transit facilities, pedestrian/bicycle paths, bicycle racks and parking, and carpool facilities.
- Policy 1503.1.3 - Within (5) years after the adoption of the 2030 Comprehensive Plan, Monroe County shall update the Land Development Code to increase bicycle and pedestrian-friendly development with more transportation options and increase the construction of energy efficient and climate resilient structures.

Trail along Atlantic Boulevard

Field Assessment

Reading plans and conducting desktop review of existing conditions helped the study team prepare for the in-person field assessment of biking and walking conditions. The team developed two field assessment tools: base maps from GIS data provided by the City, Monroe County, and Florida Department of Transportation; and a smartphone survey to collect and store data and photographs right-of-way characteristics along every corridor and at select intersections. The experiences of the study team and data collected during the field assessment informed the network recommendations in Chapter 6.



Intersection Characteristics

Crash data was used to develop a heatmap of all the intersections in the city; the study team focused on the 50 intersections with the most crashes during the field assessment. The 50 intersections are located throughout Key West and Stock Island on all types of streets. During the field assessment, the study team looked at accessibility, lighting, comfort, and safety. Among the most common issues found were lack of lighting, missing accessible curb ramps, lack of marked crossings, and short pedestrian signal timing. Other issues are summarized by below by three general locations: Old Town, Roosevelt Boulevard, and Connector Roads.

Old Town Intersections

The intersections in Old Town have the highest volumes of pedestrians and bicyclists. While these intersections have relatively short crossing distances, on-street parking can limit sightlines for all users. Some corners, especially along the Duval Street corridor, lack sufficient space for the numbers of pedestrians waiting for signals to change.

Roosevelt Boulevard Crossings

The Florida Overseas Heritage Trail along North and South Roosevelt Boulevard is located on the ocean side of the road with destinations and connecting streets on the inland side. Pedestrians and bicyclists wishing to cross North and South Roosevelt Boulevard have to contend with multiple lanes of motor vehicle traffic in each direction and must travel long distances to cross at signalized intersections.

Connector Road Intersections

If the intersections in Old Town and along Roosevelt Boulevard are removed from the map, most of the remaining intersections are located on connector roads like Bertha Avenue/1st Street, Flagler Avenue and White Street. These streets carry relatively high volumes of motor vehicles and feature a disconnected network of bike lanes on some segments. Many of the signalized intersections are missing pedestrian signals and there are few, if any marked crossings between intersections.

Corridor Characteristics

In conjunction with the intersection assessments, the Team reviewed over 100 miles of roadways, collecting data on posted speed limits, street width, the number of travel lanes, noting the presence of on-street parking, sidewalks, bicycle facilities, and lighting. The assessment included most of the public right-of-way on Key West and Stock Island. The most common deficiencies found were missing sidewalks, sidewalk obstructions, and lack of dedicated bicycle facilities.

Arterials and Connectors

The largest streets in Key West, the arterials and connectors carry the highest volumes of traffic at higher speeds than local streets. Most arterials and connectors have sidewalks on both sides of the street forming a continous pedestrian network. Few arterials and collectors have designated bicycle facilities, so there is not a continous bicycle network on these streets. Most bicyclists do not feel comfortable biking in the roadway with motor vehicles on these types of streets.

Local Streets

Local streets have lower traffic volumes and speeds. They are often narrow, with pavement widths between 18 and 20 feet and gravel parking lanes on one or both sides. Although most lack sidewalks, they are generally comfortable places to walk and bike in the street. Where local streets intersect, traffic is often controlled by 4-way stop signs which can discourage bicycling by inhibiting a bicyclist's momentum. The crossings of arterials and connectors to continue traveling on a local street can be challenging for all modes, and can create another barrier to bicycling and walking.

Summary of Existing Conditions

The study of existing conditions revealed a solid base of support for biking and walking in the city's planning documents and policies, as well as some challenges created by the lack of dedicated bicycle facilities and current street designs. The recommendations of this plan build upon the strengths of previous efforts and address the challenges through designs that better accommodate all modes.

Northside Drive (top) and 15th Street (bottom)

3 ENGAGING THE COMMUNITY

Multiple strategies were used to communicate the purpose of the plan and elicit feedback from the public. There was a balance between online and in-person approaches including public open houses, stakeholder interviews, comment boards, email surveys, and an online, interactive map. This chapter summarizes the input received from these activities.

Note: Progress on the plan was suspended in fall 2017 with Hurricane Maria and staffing changes at the City of Key West, with the project resuming in early 2018. The public engagement activities detailed in this chapter are organized into phases: Phase I includes the activities prior to the hiatus, while Phase II includes those that have occurred most recently.

Phase I

The planning process began in February 2017 with the launch of an interactive, online map and updated website content for Car Free Key West (see page 41), followed closely by the first meeting of the Advisory Team in March. This first meeting introduced the project and set in motion preparations for a week-long site visit in May. The preparations for the site visit included scheduling meetings, identifying locations for the 'Common Sense Comment Boards' that would allow passerby to provide comments on their own schedule, and developing the survey and methodology for the fieldwork taking place the same week.

Public Open House

Public Engagement, Week of May 1, 2017

DAY	EVENTS
Tuesday	Advisory Team Meeting Bike Ride City Commission Meeting
Wednesday	Interviews with City Leadership
Thursday	Public Open House

Key West residents had several opportunities to ask questions and provide comments during the study team's week-long site visit in early May 2017. The events below were advertised in advance on the City's website, the Car Free Key West website and social media pages, in the local newspaper, and on local radio stations.

Advisory Team Meeting

The Advisory Team met twice during the week, with the first meeting taking place on Tuesday, May 2, 2017. The meeting was held at City Hall and included a project status update; a review of the plan's vision, goals and objectives; an overview of the week's events, and a discussion about project priorities moving forward. Advisory Team members were encouraged to participate in other events throughout the week to show their support for the plan. The Advisory Team also provided comments on a large-scale Existing Conditions map, which helped inform the development of the bicycle network.

The second Advisory Team Meeting took place during the public Open House at the Florida Keys Eco-Discovery Center. This informal meeting was open to the public in addition to members of the Advisory Team. See the Public Open House section below for more detail.

City Commission Meeting and Bike Ride

On Tuesday, May 2, 2017, Jeff Ciabotti of Toole Design presented on the Bicycle and Pedestrian Master Plan process at the City Commission meeting. The Mayor, City Commissioners, city staff and the assembled audience were introduced to the study team, challenges and opportunities, work to date and a summary of the week's activities. The 10-minute presentation focused on the plan's content: infrastructure, policy, and program recommendations that can be implemented quickly to improve access, mobility, comfort and safety, and in support of Key West's sustainability goals.

Before the meeting, a group of local bicycle and pedestrian advocates gathered at the White Street Pier to ride to the meeting together. The ride had approximately a dozen participants, including Advisory Team members, local business owners, and members of the study team. The ride ended in front of City Hall for a photo and small group conversations before everyone moved inside for the meeting. During the presentation, Advisory Team members and ride participants were asked to stand and be recognized for their continuing role in the project.

Bike ride participants gather at City Hall

Interviews with City Leadership

On Wednesday, May 3, 2017, Jeff Ciabotti and Carol Kachadoorian of Toole Design met one-on-one or in small group settings with City leaders with the power to approve and implement the plan, including:

- Elected Officials: Mayor Craig Cates and City Commissioners Samuel Kaufman, Clayton Lopez, Richard Payne, Margaret Romero, Billy Wardlow, and Jimmy Weekley
- City Staff: City Manager Jim Scholl, Assistant City Manager Greg Veliz and Finance Director Mark Finnigan

The conversations began with a set of standard questions to get participants talking about walking and biking in Key West.

- What have been your experiences (positive or negative) while biking/walking in Key West?
- What are the most pressing issues for bicycling and walking safely in Key West?
- What are the most important outcomes you would like to see from this planning process?
- What would be an ideal pilot project to come out of this plan?

Throughout the conversations, there was broad support for more education for all road users, including students biking to school. Participants requested easy-to-remember messaging, and suggested working with established community groups to help distribute the information. There was also some concern that bicycling was being promoted at the expense of other modes and the public may not be aware of the difference between Car-Free Key West and the Bicycle and Pedestrian Master Plan.

Parking, for both motor vehicles and bicycles, was another common conversation topic. Building parking structures in Old Town is controversial due to debates about appropriate locations and whether parking structures are in keeping with the area's historic architecture. Bike parking is at a premium as well, with poorly parked bicycles often blocking the sidewalk.

Lastly, these interviews provided insights into the city's budgeting process. The city cash funds all capital projects, and parking revenue contributes a substantial portion of the city's revenues. The study team also learned about potential opportunities to implement bicycle facility recommendations during routine repaving or restriping projects.

Public Open House

A public Open House was held from 4:00 to 6:00 PM, Thursday, May 4, 2017, at the Florida Keys Eco-Discovery Center. The consultant team provided an update on the work accomplished during the week and answered questions from the audience. Before and after the report out, attendees were encouraged to provide their comments and feedback at various stations around the room. The stations included:

- Paper and digital maps
- Voting on preferred bicycle facilities
- Design your own street cross-section
- Comment Boards

Public Open House

In addition to the in-person events, residents and visitors could provide feedback via comment boards posted around the island and an interactive, online map.

Common Sense Comment Boards

The Common Sense Comment Boards were 36-inch by 48-inch poster boards set up in eight locations around Key West and Stock Island. The large size and bright colors matching the branding for the Plan ensured the boards were visible at a distance and would attract the attention of passerby. Most boards were hosted by local businesses, apart from one board at City Hall and another board at the bicycle and pedestrian bridge on Staples Avenue. The board on the Staples Avenue bridge was not monitored and disappeared twice during the week-long site visit. The boards at Faustos, City Hall and Hogfish were the most popular, generating almost half of all responses. Another third of the total responses came from the comment board on display at the Open House.

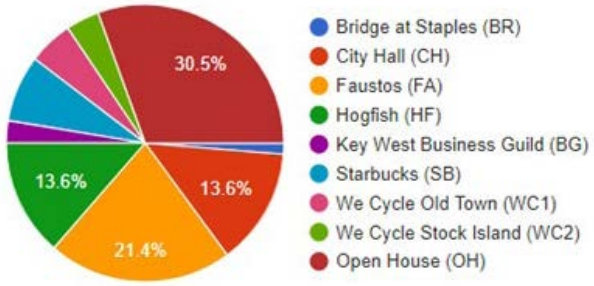
Each board featured information about the plan, instructions, and sets of cards with questions about six topics related to walking and biking. Passerby could choose to respond to as many questions as they wanted under the topics of **Barriers to Walking, Complete Streets, Connectivity, Mobility, Safety, and Wayfinding**. The questions related to Safety and Complete Streets received the most responses; Barriers to Walking and Wayfinding received the fewest.

Comment board locations

The responses were consistent with many of the things heard in the stakeholder interviews, and showed further support for changes in programs and roadway design to support more walking and biking. Most respondents felt that walking and biking served their mobility needs, but a much smaller group felt the same way about transit. The responses to the Safety question indicated that the perception of safety while walking is higher than the perception of safety while biking. On the Complete Streets question, over 70 percent responded that streets in Key West should be redesigned to “better accommodate people bicycling, walking and taking transit.”

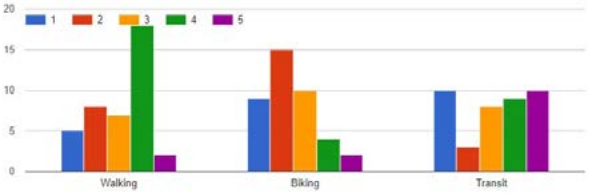
Summary of Comment Board Responses

RESPONSES BY LOCATION



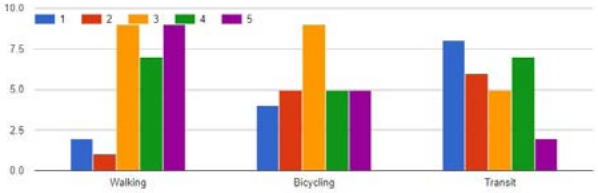
SAFETY

On your average trip in Key West, rate on a scale of 1 to 5 (5 being the safest), how safe from a crash or injury do you feel?

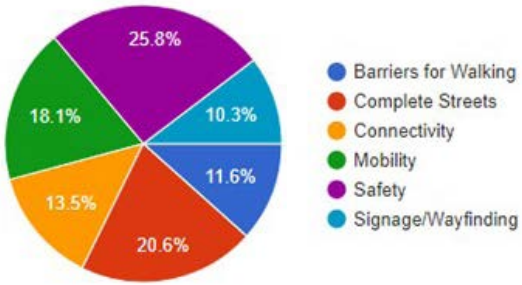


MOBILITY

On a scale of 1 to 5 (1=not well, 5=very well) how well does each of these 3 transportation modes meet your mobility needs?

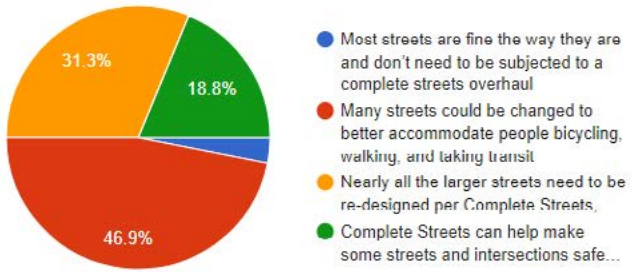


RESPONSES BY TOPIC



COMPLETE STREETS

Which statement most closely matches how you feel about Complete Streets in Key West and Stock Island?

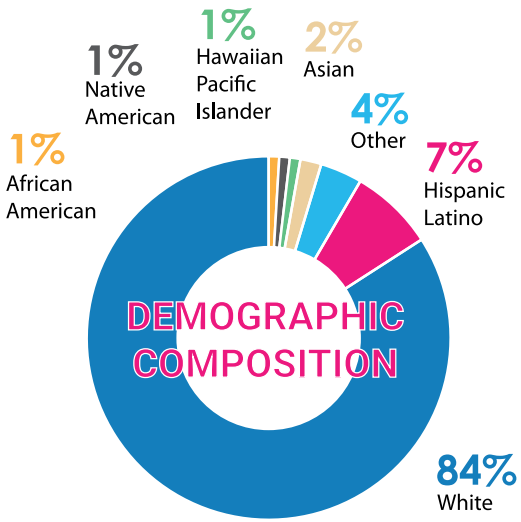


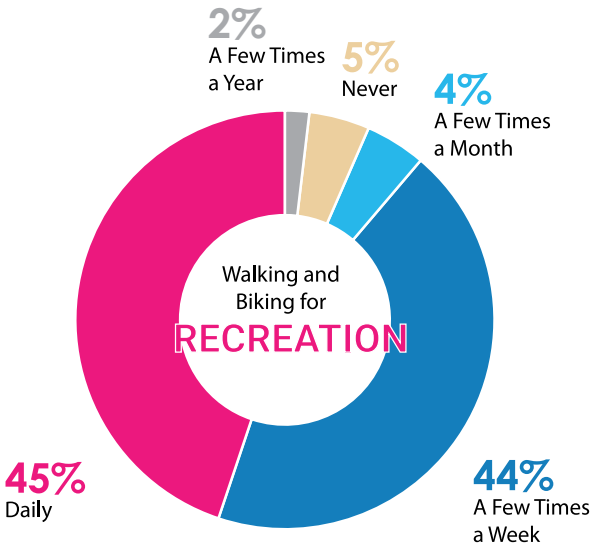
Wikimap

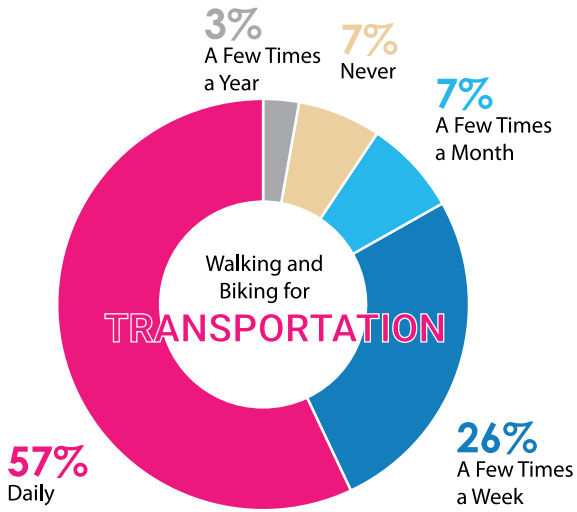
The digital counterpart to the Common Sense Comment Boards was an interactive, online map (wikimap). Using lines and points, wikimap users were asked to identify destinations, barriers, and difficult routes for biking and walking. Users were also asked to provide information about their preferred routes. A total of 213 users created 85 line comments and 160 point comments on the wikimap while it was live from February through September 2017.

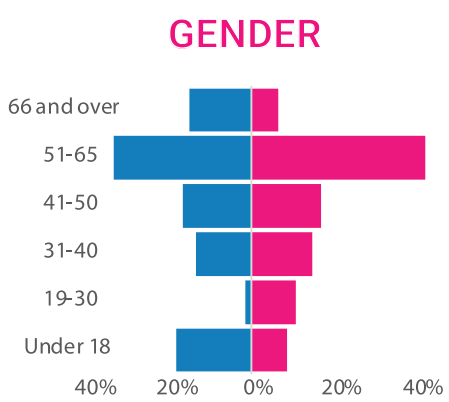
Summary of Wikimap Responses

Before adding their comments to the map, users were asked to complete a short survey to help the study team understand their background, walking and bicycling habits, and place of residence. The following is a summary of demographic characteristics from respondents:

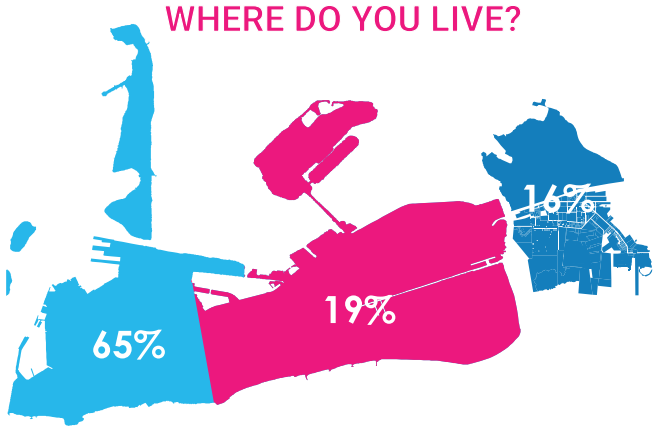








56% Men
44% Women



Routes for Walking and Biking

Users generated 55 line comments related to routes people found difficult to walk or bike on. Corridors receiving the highest number of comments are shown in pink on the map.

Many of the larger state- and county-maintained corridors including North and South Roosevelt Boulevard, Flagler Avenue, and US 1 are the most difficult routes to walk and bike. Additionally, Duval Street, Simonton Street and Thomas Street were also identified as difficult routes for walking and biking. The majority of comments on the difficult routes focused on the lack of connected facilities across the city.

Users could also draw in lines representing their desired routes. For example, wikimap users would like to see a trail connection from South Roosevelt Boulevard to connect across the salt flats to Government Boulevard and Flagler Avenue. In a similar vein, a comfortable connection between the northern and southern sections of Roosevelt Boulevard was also noted.

Barriers for Walking and Biking

Wikimap users added 141 point comments noting specific locations that represent barriers for people biking and walking. Areas receiving the highest number of comments are shown in the boldest pink on the map.

As with the difficult routes for biking and walking, barriers to walking and biking were concentrated on the larger state- and county-maintained roadways (Roosevelt Boulevard, Palm Avenue, Truman Avenue). The intersections receiving the most comments included N. Roosevelt Boulevard and US 1, N. Roosevelt Boulevard and Duck Avenue, N. Roosevelt Boulevard and Kennedy Drive, and Truman Avenue and White Street.

The most common barriers were signal timing issues (not enough time for bicycles and pedestrians to cross the street), the lack of accessible curb ramps, conflicts between other people walking or biking, and a lack of lighting.

Phase II

While Phase I included broad public engagement activities, Phase II featured a more targeted approach with key stakeholders. These stakeholders included the Parking and Alternative Transportation Group, a small group of multimodal connectivity survey respondents, and the Bicycle and Pedestrian Master Plan Advisory Team.

Multimodal Connectivity Surveys

Increasing the number of trips made by walking, bicycling, or transit in Key West requires elevating the public consciousness and understanding of these modes. To better understand the current thinking related to transportation on Key West, the study team sent emails with links to online surveys to a group of Key West residents, business owners, and employees. Participants represented all areas of Key West, Stock Island and other lower Keys; a mix of ages between 10 and 65+; and those in school, working, retired, or otherwise engaged in the Key West community. A total of five surveys was distributed, one for each of the following topics: Safety, Technology, Shared Economies, Transit, and Getting There and Back. The results of these surveys and recommendations for improving multimodal connectivity in Key West are included in Chapter 5.

Bicycle Network Review

When the draft bicycle network was first presented to the Plan's Advisory Team in August 2017, its members requested more time to review the network in detail. The team met as a group several times to review recommendations block-by-block and provided their comments to the study team. This vetting process helped produce the network presented in Chapter 6.

Final Open House

December 13, 2018. Add description and summary of input.

Parking and Alternative Transportation Group

In August 2017, the City Commission formed the Parking and Alternative Transportation Group (Group) to establish a temporary advisory board to make recommendations to the City Commission and Staff for the improvement of parking and alleviation of congestion, especially in the Old Town area of the Island. The Group's charter was to accumulate information, review effective strategies in other communities, formulate suggestions and recommendations to alleviate congestion, encourage public transportation, reduce reliance on personal vehicle use and improve parking availability.

The Group submitted their final report to the City Commission on June 19, 2018. The 25 actions and recommendations included nine aimed at longer-term fixes, 16 involve changes that can made quickly, including increasing the number of residential parking spots, increasing hourly charges in parking lots and at meters, and implementing a single, standard 20 MPH speed limit on city owned roads. Many of the Group's recommendations provide important guidance for developing balanced multimodal transportation and support the findings of this Master Plan.

For more information on the Group's recommendations, please visit https://drive.google.com/file/d/140UvZU6-imrLCbHCANwzCT3TMXT2-dNy/view.

4 COMPLETE STREETS RESOURCE GUIDE

At five locations in Key West, a scenario-based approach was used to offer design guidance that can be adapted throughout the city. Each scenario was evaluated for safety, comfort, and connectivity to the larger network. This chapter includes the five scenarios and a list of state-of-the art resources.

What are Complete Streets?

Complete Street streets are built to accommodate the needs of all traveler, regardless of age or mobility. The term refers to the publicly-owned space between private property on either side of the street, and may include the sidewalk, curb and gutter, and roadway. 'Complete Streets' is used interchangeably with three things: a policy that leads to a process that results in a desired outcome.

The City of Key West has a Complete Streets approach to its transportation network, incorporating Complete Streets outcomes as part of the Land Development Regulation overhaul.

What is a scenario-based Complete Streets Resource Guide?

The Complete Streets Resource Guide takes a new approach to offering design guidance for common facilities that support bicycling and walking. Instead of providing a comprehensive set of design guidelines, this Resource Guide is scenario-based, applying common facilities to five locations in Key West. The next page shows the five locations for which scenarios are included.*

Complete Streets Guidelines typically include either single-facility guidance or guidance for a generic location. This can lead to questions about how to apply the guidelines locally.

This resource guide also includes summary information for four other facilities and a list of resources most commonly used by planners and engineers working toward walkable, bikeable, and transit-friendly cities.

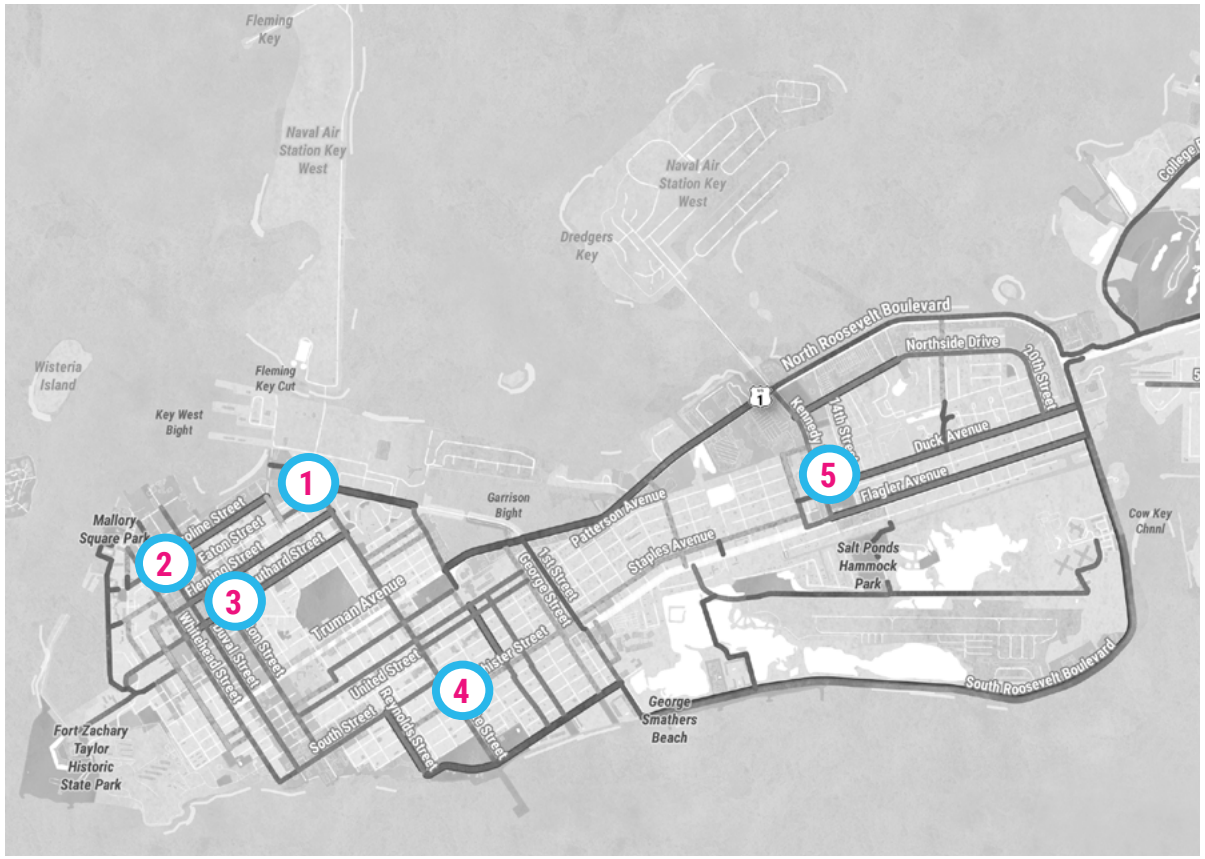
*Scenario locations are a portion of the street or intersection.

Design Guidance and Scenarios

Five locations in Key West were selected to represent typical scenarios where new or expanded bicycle facilities are recommended in the Master Plan.

The guiding principles included in each scenario and design guidance are:

- Enhance network connectivity
- Reduce traveler stress
- Increase predictability (communicate right-of-way priority)
- Minimize exposure to conflicts
- Reduce speed at conflict points



1 Advisory Bicycle Lanes

Scenario location: Grinnell Street just south of and including intersection at Caroline Street

2 Pedestrian and Bicyclist Priority Streets

Scenario location: Duval Street, just north of Green Street and including intersection at Caroline Street

3 Separated Bicycle Lanes

Scenario location: Simonton Street just south of and including intersection at Fleming Street

4 Bike Boulevards

Scenario location: Von Phister Street and White Street intersection

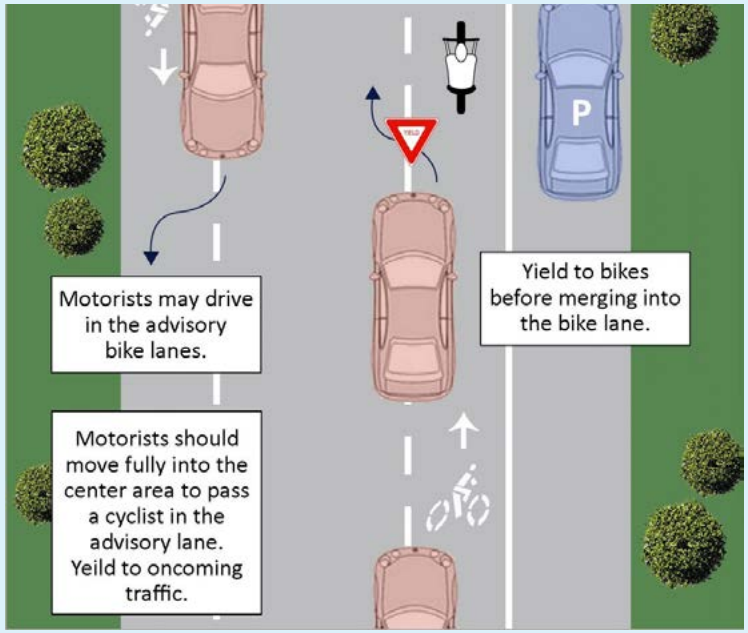
5 Off-Street Path Connections

Scenario location: Wicker Sports complex, connecting Duck at 12th Street and Seidenberg at Kennedy Street

1 Advisory Bike Lanes

Advisory Bicycle Lanes are striped on narrow streets where motorized vehicles must share space with other vehicles and give the right of way to bicycles. A typical example allocates 18-feet or less for two-way motorized vehicles who must slow or wait until the bike lane is clear to pass. This innovative facility reprioritizes low-volume streets to better accommodate bicyclists and can be easily implemented with new roadway striping. Implementation of these facilities requires a Request to Experiment from FHWA, but have been used successfully in Hanover, NH.

Typical context is an urban residential neighborhood setting with low overall motor vehicle traffic speeds and volumes.



Where to Use

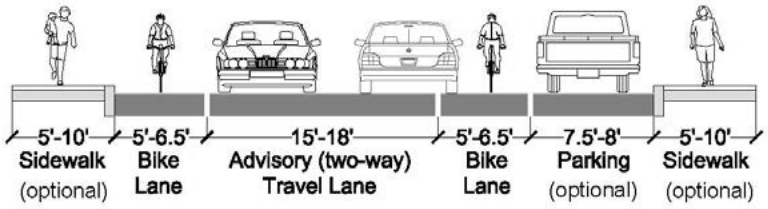
- Fewer than 5,000 average daily motor vehicle trips
- Motor vehicle speeds less than 30 MPH
- Roadway too narrow for two standard bike lanes and two motor vehicle lanes
- Few sightline obstructions
- Roadway widening or other operational changes not an option
- Segment is part of connected network
- Pedestrians may use where sidewalks are missing or very narrow

What to Include

- Two bike lanes
- A single, wide, two-way yield lane for motor vehicles, i.e., no center lane marking
- Optional:
  - Regulatory or warning signs
  - Parking
  - Channelization island

Design Considerations

- Use instead of shared lane markings
- Opt for a wider bike lane and narrower travel lane when possible
- When including parking, the maximum bike lane width on the side with parking helps reduce dooring
- Good public outreach will help educate users on how to use the street



Advisory Bike Lane Scenario Location

Grinnell Street, just south of and including intersection at Caroline Street

2 Pedestrian and Bicyclist Priority Streets

Pedestrian and Bicyclist Priority Streets are designed and operated to maximize access to locations on the street on foot or bicycle. Streets can be closed to motorized vehicles at all times if alleys are available for deliveries. When alleys are not available, pedestrian and bicyclist priority streets can be open to all transportation modes for part of the day (to accommodate deliveries), then closed for the remainder of the day. Sidewalks, gutters and the roadway are typically at the same level, with a modest depression for drainage. Low motor vehicle speeds during times when motor vehicles are allowed make the street comfortable for all users.

Typical context is an urban setting with dense retail or mixed use and existing or expected high numbers of pedestrians and bicyclists, especially where tourism is a major economic driver. This bicycle and pedestrian priority street in Asheville, NC was designed with flexibility in mind.

Where to Use

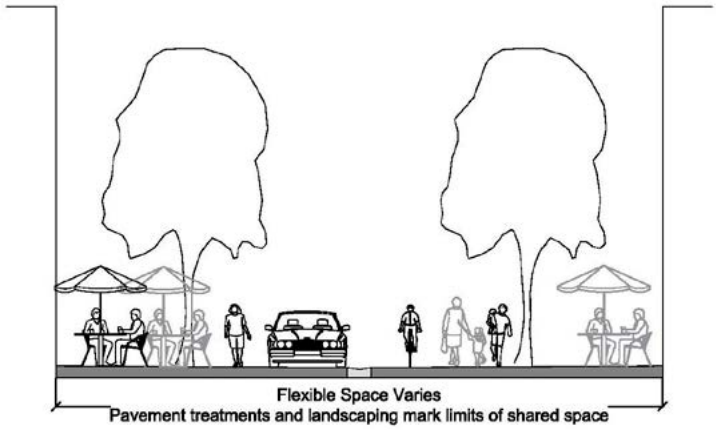
- High level of retail activity or potential for retail activity
- Imbalance between pedestrian, bicycle and motor vehicle traffic and amount of space
- Desire for outside retail or cafés
- Need to reduce conflicts between motor vehicles and people walking or bicycling
- Fairly consistent and compact land use that can benefit
- Loading and unloading needs can be resolved

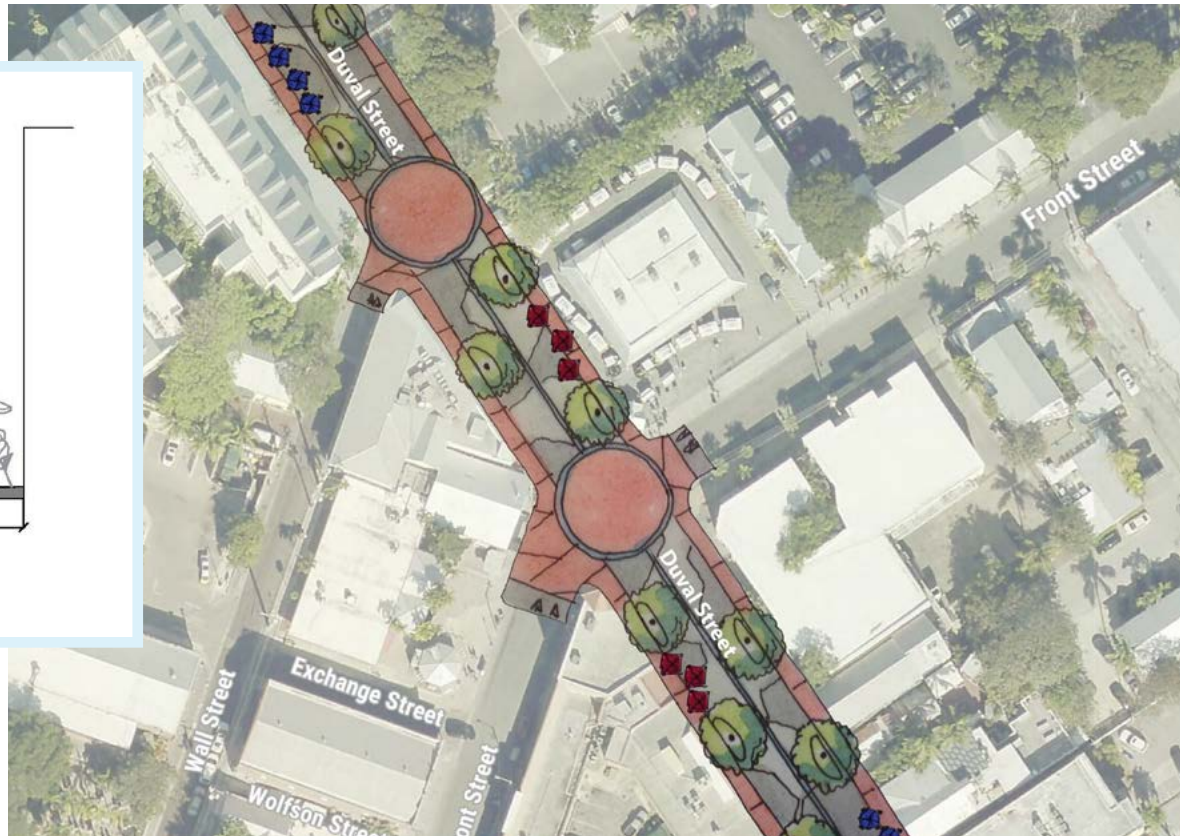
What to Include

- Gateway features including signage, tabled intersections, and vertical elements such as bollards or planter boxes
- Change in surface materials, colors, and textures to delineate different street zones (preferably permeable)
- Tactile features and visual contract for people with no or low vision, using the International Standards Organization guidance (ISO.com)
- Regulatory signs regarding hours motor vehicles are allowed
- Streetscape elements such as lights, benches, space for café tables
- Flush curbs with valley gutter
- A detectible edge treatment or change in surface texture so someone with a vision disability can distinguish a loading zone or parking area

Design Considerations

- Need for pavement treatments or other gateway features to mark limits of shared space
- Exclusive pedestrian space (comfort zone) with a pedestrian access route (PAR), if there is room
- Need to accommodate loading zones during permitted usage periods
- ADA compliance, especially for people with no or low vision
- Consider using valley gutters to handle storm water
- Desire for flexible space for cafés and other activities
- Include those with a range of vision disabilities at all phases of planning process
- Good public outreach will help educate users on how to use the street





Pedestrian and Bicyclist Priority Street Scenario Location

Duval Street, just north of Front Street and including intersection at Wall Street

3 Separated Bike Lanes

Separated Bicycle Lanes enhance safety by adding a physical separation between the bike lane and vehicular traffic. Low cost versions can be easily and economically installed by adding flex-posts in a 2 to 3-foot buffer area between the bicycle lane and adjacent travel lanes. Where on-street parking exists, parked cars can act as the buffer separating the bike lane from the moving vehicular traffic. For added beauty, many cities are using boxes filled with flowering plants which can be maintained by adjacent businesses and residents. Maintenance can be simple if the bike lane width is planned to accommodate the width of street-sweeping vehicles.

Two-way separated bike lanes are a best fit in some locations. Intersection design is especially important to provide clear information on how right and left turns are made for bicyclists traveling in either direction.

Typical context is an urban or suburban neighborhood setting with retail or mixed uses and higher motor vehicle traffic speeds and volumes. Design should accommodate driveways, especially for clear lines of sight for bicyclists and motorists.

Where to Use

- There is a goal of increasing bike mode share (people prefer separated bike lanes)
- Motor vehicle volumes and speeds result in safety concerns
- Roadway space can be re-allocated for separated bike lanes without significantly affecting motor vehicle travel patterns
- The route is considered a critical segment of a connected network

What to Include

- Bike lanes, one-way or two-way
- Buffer (also called separation): vertical, horizontal
- Pavement markings for bicylists
- Regulatory signs for biyclists and motorists
- Bicycle pathway continues through intersection
- Design around transit stops
- Consideration for loading and unloading (ADA and goods)
- ADA elements for pedestrians crossing bikeway

Design Considerations

- Need, based on
  - Bicycling traffic volumes
  - Motor vehicle volumes and speed
  - Safety
  - Available space
  - One-way (each side of road) OR two-way (on one side of road)
  - Whether to keep or remove parking
- Bike lane width
- Good public outreach will help educate users on how to use the street

Separated Bike Lane Scenario Location

Simonton Street, just south of and including intersection at Fleming Street

	ONE-WAY		TWO-WAY	
No. of bikes in peak hour	Recommended width (feet)	Minimum width (feet)	Recommended width (feet)	Minimum width (feet)
<150	6.5	5.0	10.0	8.0
150-750	8.0	6.5	11.0	10.0
>750	10.0	8.0	12.0	8.0

4 Bike Boulevards

Bike Boulevards (also known as Neighborhood Greenways) are established through a series of treatments applied along the street and at intersections with the intent to prioritize bicycle through-travel and reduce both the number of through motor vehicles and motor vehicle speeds. For example, fewer traffic controls at intersections reduce the number of times a bicyclist must stop.

Typical context is a residential neighborhood or an area with low density development and limited motor vehicle through traffic. Bike Boulevards are often used to provide a connection between two major travel routes, shortening the travel distance and time. These connections are usually already established by bicyclists; the treatments formalize them.

Where to Use

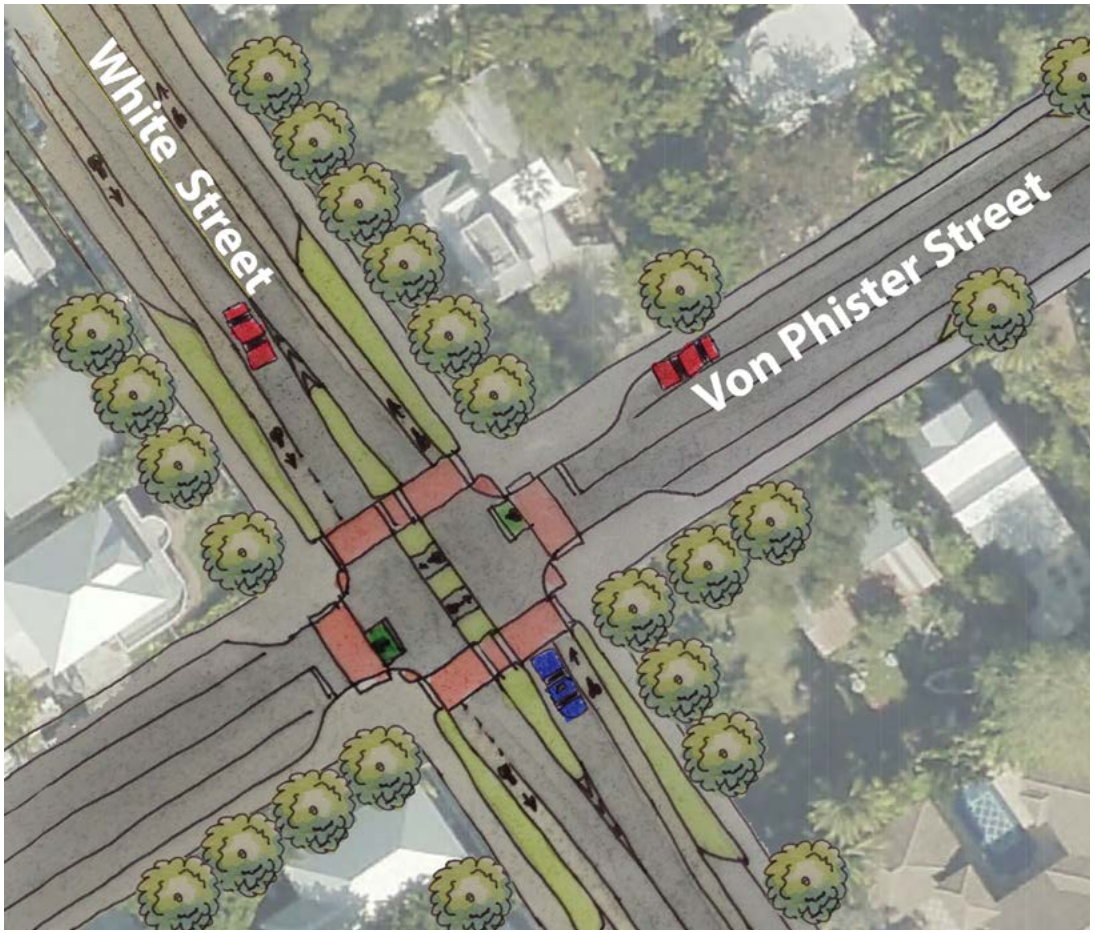
- Segment is a low stress alternative to parallel route
- Bicycle network planning shows benefits of designated route to connect two major bicycle routes
- There are benefits to formalizing an existing route
- Streetscape and traffic calming improvements will benefit the neighborhood
- Can improve bicycle and pedestrian access to specific destinations
- No or limited bus service and truck traffic
- Thresholds:
  - Vehicle speeds of 20 MPH (85th percentile)
  - ADTs of 1,000 (target) to 2,000 (maximum)
  - 50 to 100 bicycle and pedestrian crossing opportunities per hour

What to Include

- Signs and markings, including regulatory, advisory, and branding
- Speed management features including bulbouts, median islands, textured paving, and chicanes
- Traffic diverters
- Intersection treatments for major and minor crossings, including
  - Median refuge island (major crossing)
  - Rapid flash beacons (major crossing)
  - HAWK or half signal (major crossing)
  - Stop signs (minor crossing)
  - Neighborhood traffic circle (minor crossing)
- Pavement markings and signs
- Street trees and green infrastructure

Design Considerations

- Length of segment
- Connections for diverted motor vehicle traffic
- Available right-of-way
- Presence of parking
- Configuration of connecting intersections
- Good public outreach will help educate users on how to use the street



Bike Boulevard Scenario Location

Von Phister Street and White Street intersection

5 Off-Street Path Connections

Off-street path connections provide a direct route for bicyclists and pedestrians through developed parcels and along roads. Often these areas are public facilities, such as schools, parks or government complexes, but they can also be privately-owned multi-family housing.

Key design elements include the trail width, a path of travel that avoids conflicts with driveways and parking, the interface with sidewalks along the roadway and roadway crossings, and connections to on-road bicycle facilities.

The ultimate design should do the following:

- Create a intuitive user experience
- Make trails easily accessible via curb cuts and ramps from street
- Let users know where trails go via wayfinding and maps
- Use gateway or trailhead features to make entrances and exits visible from on-street facilities
- Provide continuous, low-stress level of service

Where to Use

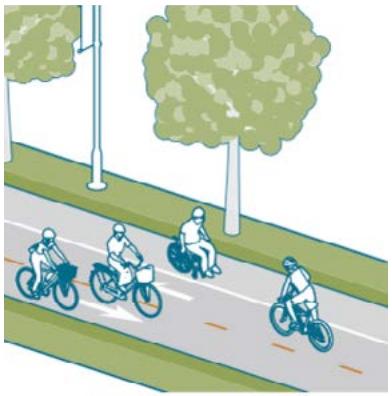
- A bike route is interrupted by a school, park, or other campus
- Alternate route is a longer distance and would place bicyclists along routes with the risk of conflict with motorists
- Existing pathway is circuitous or unclear
- Opportunity to establish a pathway on public or private property
- Pathway would benefit through and on-campus travel
- There are existing low stress connections at either end, or these connections can be established

What to Include

- Separation between bikeway and pedestrian pathway
- Elements similar to a two-way separated bike lane with minimum bikeway of 12-feet and pedestrian pathway of 8-feet
- Gateway signage and features, such as bollards
- Streetscape elements such as lights, benches, and wayfinding
- Bicycle parking for destinations along route

Design Considerations

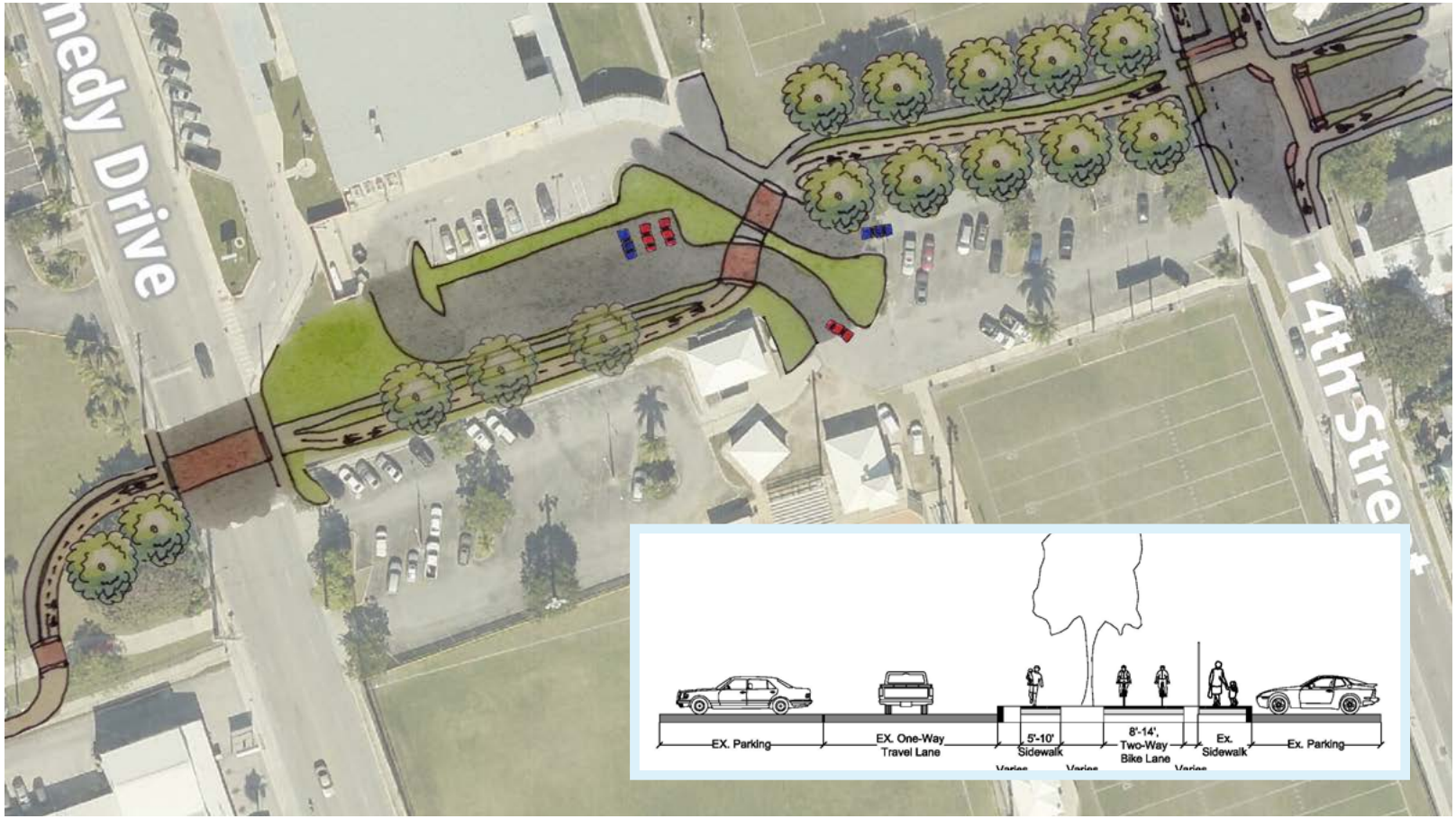
- There is a logical pathway or one already in use
- Ability to realign and re-establish existing facilities, i.e. develop a circulation plan that reflects new trail connection
- Design as multiuse trail if there is insufficient room for separate pedestrian pathway, OR use the following thresholds for a combined trail with <200 pedestrians and bicyclist per hour:
  - Up to 160: Combined with simple marking separation
  - 160-200: Combined with paving materials separation
- Minimum width combined or exclusive is 12-feet; standard is 16-feet



Sidepath with separate uses

Off-Street Path Connection Scenario Location

Between 14th Street and Seidenberg Avenue through Wicker Sports Complex



Additional detail for this location can be found on page XX.

Other Facilities

- Shared Lane Markings
- Bike Boxes
- Neighborhood Traffic Circles
- Fan or Wide Curb Ramps

Shared Lane Markings (or sharrows)

How to use:

- Use when there is no other option
- Center marking on the bicyclists path of travel
- Can accentuate with green paint
- May need additional striping through intersection

Considerations:

- Allow space to avoid dooring
- Ensure good pavement quality along implied pathway before installing

Resource:

- NACTO Urban Bikeway Design Guide - https://nacto.org/publication/urban-bikeway-design-guide/

Bike Boxes

How to use:

- Create space for bicyclists to position themselves for left turns
- Recommended at wide streets with bike lanes and 2 or more lanes motor vehicle travel lanes
- Can accentuate with green paint
- May need additional striping through intersection

Considerations:

- Location of stop bar
- Impact on crosswalk location
- Signal timing, such a protected left for bicycles and motor vehicles

Resource:

- NACTO Urban Bikeway Design Guide - https://nacto.org/publication/urban-bikeway-design-guide/

Neighborhood Traffic Circles

How to use:

- In low density residential neighborhoods as part of a neighborhood greenway
- For streets with low posted speed limits commonly used by motorists as cut-throughs between two major streets
- At minor and uncontrolled intersections

Considerations:

- Need for striped crosswalks
- Available lane width, especially to accommodate pedestrians who typically walk in the roadway
- Turning radius for larger vehicles (school buses and emergency vehicles)
- Planted center circle for storm water capture

Resources:

- SRTS Guide, Neighborhood Traffic Circles - http://guide.saferoutesinfo.org/engineering/neighborhood_traffic_circles.cfm
- NACTO Urban Street Design Guide - https://nacto.org/publication/urban-street-design-guide/

Fan or Wide Curb Ramps

How to use:

- To create a large shared landing
- At locations with a high pedestrians traffic
- At locations where additional capacity is needed for mobility devices, strollers, luggage, etc.

Considerations:

- Likelihood of large vehicles encroaching on the ramp when turning
- Must be aligned with crosswalks
- Slope of corner and may require a 'curb' between ramp and the sidewalk

Resource:

- The U.S. Access Board - https://www.access-board.gov/guidelines-and-standards/streets-sidewalks/public-rights-of-way/guidance-and-research/accessible-public-rights-of-way-planning-and-design-for-alterations/chapter-6%E2%80%94curb-ramp-examples

Resources

National

- FHWA Achieving Multimodal Networks: Applying Design Flexibility & Reducing Conflicts
- FHWA Incorporating On-Road Bicycle Networks into Resurfacing Project
- FHWA Small Town and Rural Multimodal Networks Guide
- FHWA Memorandum on Bicycle and Pedestrian Facility Design Flexibility
- FHWA Case Studies in Delivering Safe, Comfortable and Connected Pedestrian and Bicycle Networks
- ITE Protected Bikeways Guide
- NACTO Urban Street Design Guidelines
- NACTO Urban Bikeways Design Guidelines
- Shared Use Paths
- U.S. Access Board Proposed Pedestrian Facilities in the Public Right-of-Way

State and Local

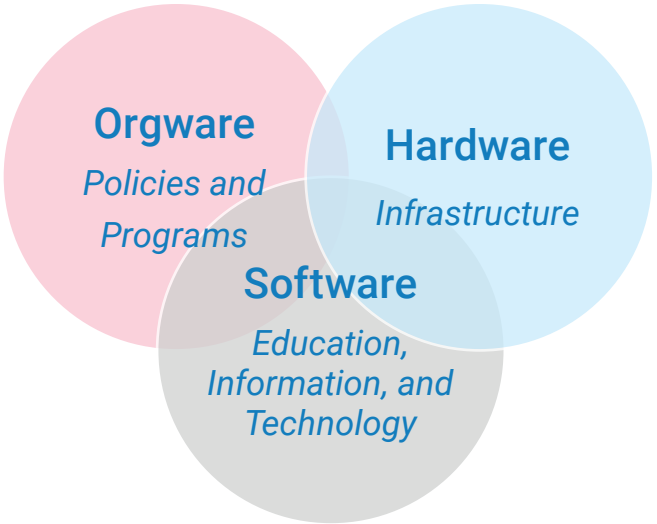
- Florida DOT Complete Streets
  - Florida Greenbook (Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways) - http://www.fdot.gov/roadway/FloridaGreenbook/FGB.shtm
  - Design Manual - http://www.fdot.gov/roadway/FDM/2018FDM.shtm
  - Brochure - http://www.flcompletestreets.com/files/CSIHandbookBrochure.pdf
- Pompano Beach - http://pompanobeachfl.gov/assets/docs/pages/planning_zoning/PrintFinal_Complete%20Streets.pdf
- Ft. Lauderdale - http://www.fortlauderdale.gov/home/showdocument?id=3565
- Miami-Dade - http://www.miamidade.gov/neatstreets/library/complete-streets-design-guidelines.pdf

5 MULTIMODAL CONNECTIVITY ACTIONS

Key West's transportation network is comprised of separate systems for walking, bicycling, driving, and using transit. There are a variety of activities and facilities related to travel within and between these modes, such as bus shelters, bicycle and motor vehicle parking, connecting sidewalks. A well-functioning multimodal network can result in an efficient use of transportation facilities, which in turn changes the way investments are made to build new infrastructure.

What is a Multimodal Connectivity Plan?

A Multimodal Connectivity Plan (MCP) is a set of actions that support mobility. While the plan affects each mode of travel, it also makes multimodal travel easier. In fact, a multimodal connectivity plan assumes many trips will be made using more than one mode of travel. The MCP includes a mix of infrastructure, policy and program and technology elements. Consider each of these elements as Hardware, Software, and Orgware.



Key West's separate transportation systems function as a network. But the level of ease in transferring between systems and the usability of each system is uneven. To improve the current multimodal transportation network, the study team asked a group of Key West residents, business owners and employees about their experiences in five areas: **Safety, Technology, Shared Economies, Transit,** and **Getting There and Back**. Participants represented all areas of Key West, Stock Island and other lower Keys; a mix of ages between 10 and 65+, and those in school, working, retired otherwise engaged in the Key West community.

The online survey responses provide guidance for Hardware, Software, and Orgware to be developed and implemented.

Safety

Safety is often on the minds of those traveling in Key West, regardless of mode of travel. Residents, employees, and tourists alike can feel at risk of a crash and often cite others for not traveling in safe ways. In reality, addressing safety concerns is everyone's responsibility using orgware, software, and hardware solutions.

What we asked about

- The extent to which motorists speeding creates safety concerns.
- The extent to which other behaviors by motorists, pedestrians and bicyclists create safety concerns. These behaviors include:
  - walking on don't walk
  - traveling through red lights
  - not stopping for pedestrians in the crosswalk
  - turning right on red when it is not allowed
  - turning right on red when pedestrians are crossing
  - distracted driving, walking, and bicycling
- The most effective tactics for reducing unsafe behavior by motorists, pedestrians and bicyclists, and especially if public education campaigns are effective.
- How much of a concern bicycle thefts are for those who bicycle.

Responses to open-ended survey question related to safety

What we learned

There is strong desire for more enforcement of law for traveling in the public right-of-way, regardless of mode of travel, in order to have slower speed, ensure proper paths of travel, have every bike equipped with a working bike light that is on at night, and to reduce bicycle thefts.

There is also a desire for more public education such a media campaign that is tied to enforcement.

Certain infrastructure changes that can reduce the risk of a crash should be implemented.

What this means for multimodal connectivity and the master plan

The city should invest in enforcement campaigns. These campaigns should be sustained over time so that targeted behaviors change.

A bicycle parking plan that includes secure bicycle parking should be developed. The plan would benefit from participation by business and other non-pubic organizations.

Identify and make infrastructure changes to reduce the risk of crashes, especially due to speeding and poor sight lines. Research on infrastructure changes that reduce crash risk (also called crash reduction factors) should be applied to identified locations.

Technology

Technology, primarly through smartphones, is a mainstay of many people's lives. Smartphones are used to find a restaurant, make a reservation, map a route to the restaurant (by car, bicycle, on foot, or transit), pay for the cost of travel, pay for the meal, and write a perhaps write a review of the experience.

What we asked about

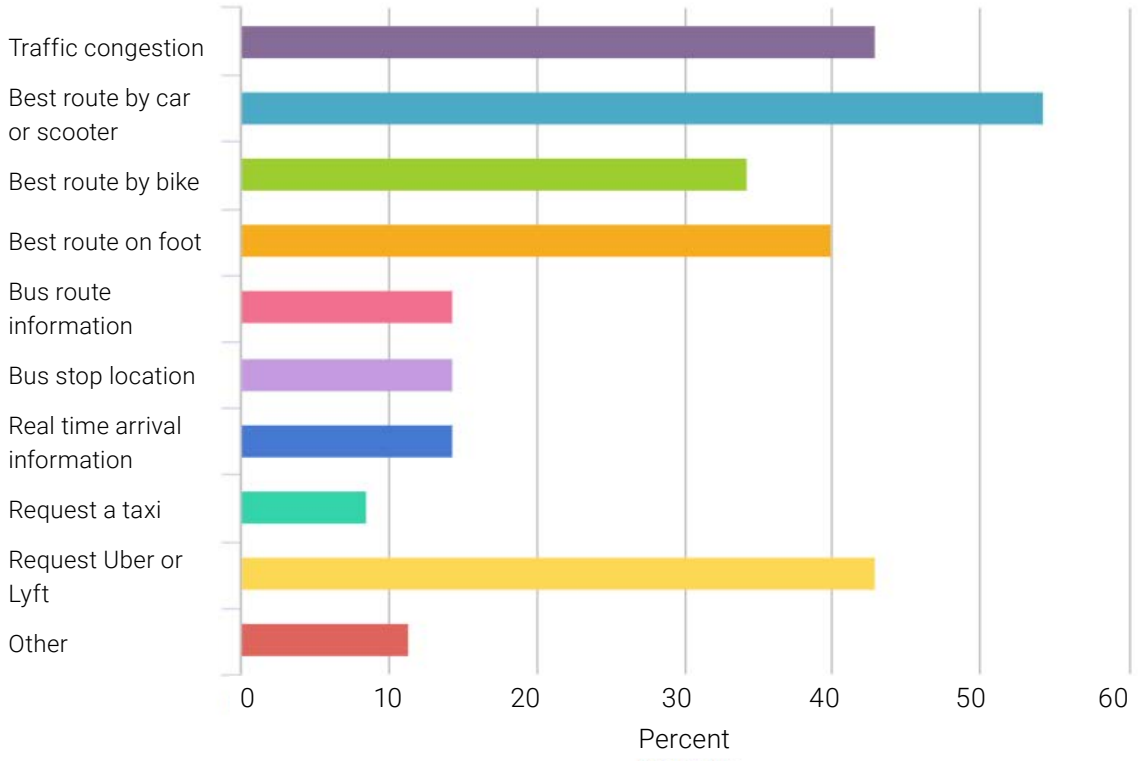
Using Smart cards for passes for mulitple modes and to pay for bus fares, parking, etc. Using Smart phones for real time information especially when making travel modes choices. See the graph to the right for responses, such as learning about traffic congestion, finding the best route by mode, and knowing if the weather will affect the trip.

What we learned

Technology can help with travel choices, espcially for real time information, payments, and tracking use. However, only about half of respondents indicated they see the value in technology for these purposes.

Parking availability technology would help:

- Drivers know where to find parking without driving around and around
- Decide if walking or bicycling would be easier than driving and take less time
- Decide if taking the bus would be easier and take less time



How survey respondents use technology for their travel needs

Technology would help transit riders for basic trip planning, such as to learn:

- If they can travel by bus to a destination.
- How long the trip by bus will take
- If the bus route serves several destinations
- The location of the closest bus stop
- When the next bus will arrive at a specific bus stop

What does this mean for multimodal connectivity?

The best fit for using technology is to show:

- Available parking for cars and bicycles
- Real time bus arrival
- Reserve, lock and unlock secure bicycle parking

What this means for multimodal connectivity and the master plan

The city should invest in technology that provides real time, online information about parking availability and prices for motor vehicles and bicycles.

Existing real-time bus information systems should be enhanced, with more locations where it can be displayed.

The city should partner with local businesses to determine the best fit for secure bike parking in public locations and on private property. One benefit of this approach is that the technology can ensure that employer-provided bicycle parking is available to their employees.

The city should determine the best fit for a single card and an app for payment and passes. Survey respondents prefer both a card and app, especially to find and reserve parking, and to pay and tip service providers.

Shared Mobility

Shared mobility is a large portion of sharing economies. While it may be a buzzword, it can have a real impact on people's travel choices.

What we asked about

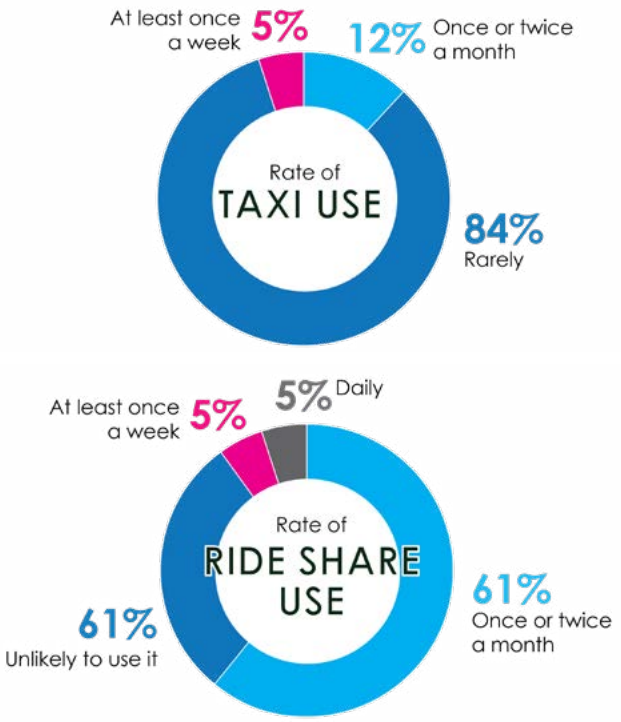
The survey asked about ways residents use bike share, transportation network companies (TNC), and car- and van-pools. The study team wanted to know what types of mobility sharing approaches could provide needed mobility and reduce congestion during commute times and high tourist seasons.

What we learned

Taxis and TNCs. TNCs are generally preferred over taxis, however it is not clear what tourists' preferences are. A study of transportation mode choices by tourists completed in mid-2016 showed taxis having the smallest percentage of travel for those staying in and outside Old Town. Since the survey is before Uber and Lyft were permitted, it does not provide guidance on how these TNCs would affect taxis. The survey did find that the general poorer physical condition of taxis was of concern for tourists.

Those taking the survey show a preference for TNCs, however, the rate at which they use Uber or Lyft is not especially high.

Bike share. Bike share piqued an interest in 32% of respondents, who felt they would use it a couple of times per month.



Rate of taxi use compared to Uber or Lyft

What is shared mobility?

Shared mobility is arguably the most rapidly growing and evolving sector of the Sharing Economy. One-way and peer-to-peer car sharing, as well as ride sourcing, are amongst the many new entrants in the short-term, as-needed shared transportation milieu.

--One Earth, 2016
LocalGovSharingEcono.com

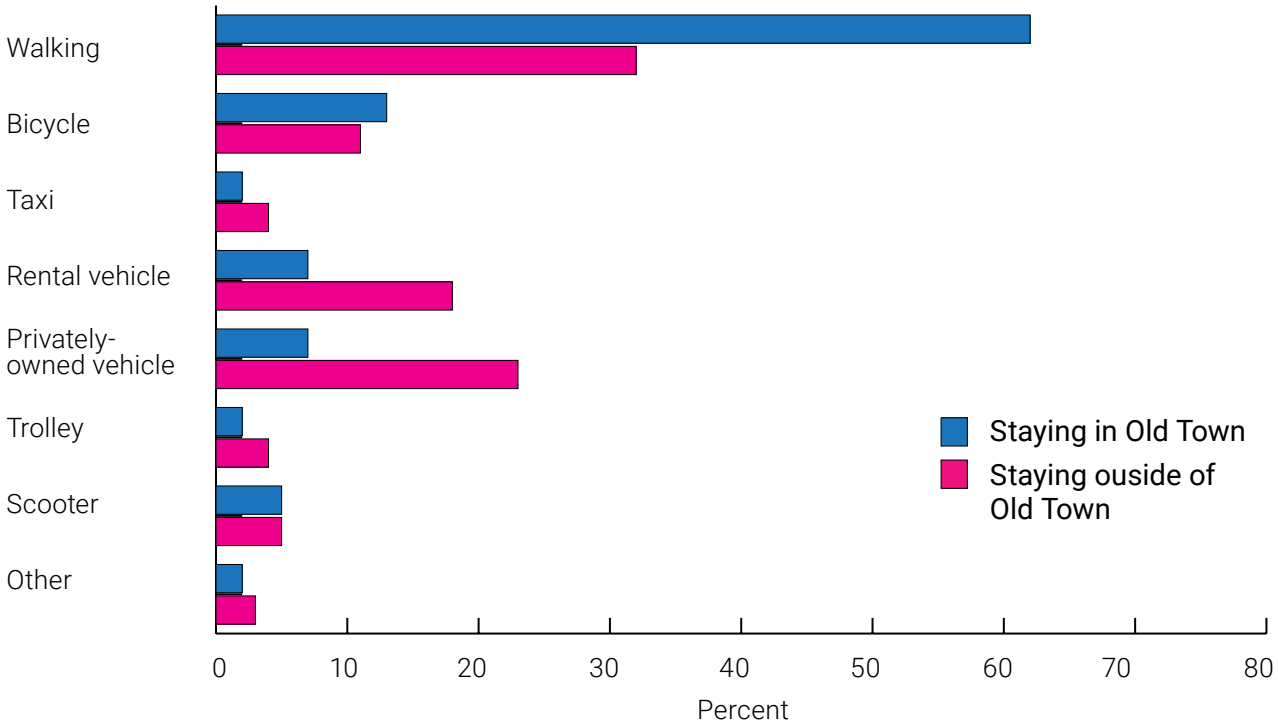
Car and Van Pool. A car and van pool program could positively affect congestion. Over 90 percent of responses indicated such a program could have at least a modest, if not significant effect on congestion and could provide an alternative to using public transit. Keys are in how the program is set up. Important program features would be to allow for different work schedules, provide convenient parking, and a guaranteed ride home for emergencies or unexpected work schedule changes.

What does this mean for multimodal connectivity?

Taxis and TNCs. Consider these as the same option; work with both entities to equalize the benefits they offer and diminishing the less attractive features of each. Provide adequate space for pick-up and drop-off that does not interfere with bicycle facilities, bus stops, or on-street parking.

Bike share. Consider working with transit and private sector employers to place bike share in areas frequented by locals such as bus stops, large workplaces, groceries, etc.

Car and Van pools. Develop a program modeled on successful programs in other communities. The program should provide matching services, a rent or buy vehicle option, low-cost financing for those staying with the program at least 12 months, and convenient parking. One idea received from the transit survey is applicable here: Ride share vans on the Uber model



Location of Accommodations Impact Transportation Behavior

Transit

Transit service via fixed-route buses on Key West and longer distance bus service is related to sharing mobility. The difference is related to the size of the vehicle, i.e., its carrying capacity is much greater and thus can benefit more people.

What we asked

- New ways to increase ridership
- New transit service aimed at reducing congestion

What we learned

More is better. This includes more and real-time information at bus stops, more frequent bus service, more places where bus service is a viable option, and perhaps more circular routes such as the Duval Loop (which is a success!).

Less is better. This includes fewer circuitous routes, lower fares, and shorter travel times between Key West and Big Pine Key.

What does this mean for Multimodal Connectivity?

A Comprehensive Transit Plan is needed. There are several ways to increase ridership and reduce congestion with transit service. The city's pilot of a downtown loop is successful. Using the pilot approach on one or two service improvements could be a productive way to start. At the same time, a comprehensive transit plan is needed, especially if it sets transit mode share targets for commuters and daily travel. Because half of survey respondents have not used transit, including Key West buses, the lower keys shuttle or the Duval Loop, a broader survey of transit needs should be completed in the early stages of developing a comprehensive transit plan.

Ideas for increasing transit service generated from the survey include:

- Park and ride lots
- Private bus service

What other options might work?

- Free trolley like Duval Loop
- More subway style straight routes, back and forth
- Direct/Express to Stock Island
- Be able to use your SunPass
- Ecopasses for affordable housing residents
- Mini vans for more frequent bus service

South Florida Commuter Services

South Florida Commuter Services (SFCS) is a contracted arm of FDOT that helps promote ride sharing options for commuters in Monroe, Miami-Dade, Broward, Palm Beach, Martin and St. Lucie Counties.

SFCS worked with the City's Pike/Ped Coordinator to launch the "Car-Free Key West" campaign, encouraging locals and tourists to "Lose the Keys and Find Key West". Car-Free became the umbrella brand that all alternative transportation options fell under, whether they be bicycle, pedestrian, transit, carpooling and ride-sharing.

On the heels of the Car-Free campaign launch, the City Commission approved the Transportation Alternatives Fund (TAF), whose coffers came from raising parking meter rates by $1/hour. The first TAF project was the Duval Loop, a free and frequent new transit route that linked our prime tourist draws. SFCS was a prime player in the design of the Duval Loop brand, from brochures, online presence, door to door business outreach, and even the bus wraps.

For FY19, in preparation for the 2020 FDOT Cow Key Bridge reconstruction, SFCS is working with the City to launch a robust carpooling program, bike share at all major bus stops, and inform the upcoming 2015-2024 Transit Development Plan process.

CAR-FREE KEY WEST
Lose the Keys. Find Key West.

Getting There and Back

There are many things – big and small -- that motivate behavior change. Getting there and back may be motivated by safety, convenience, and life-style.

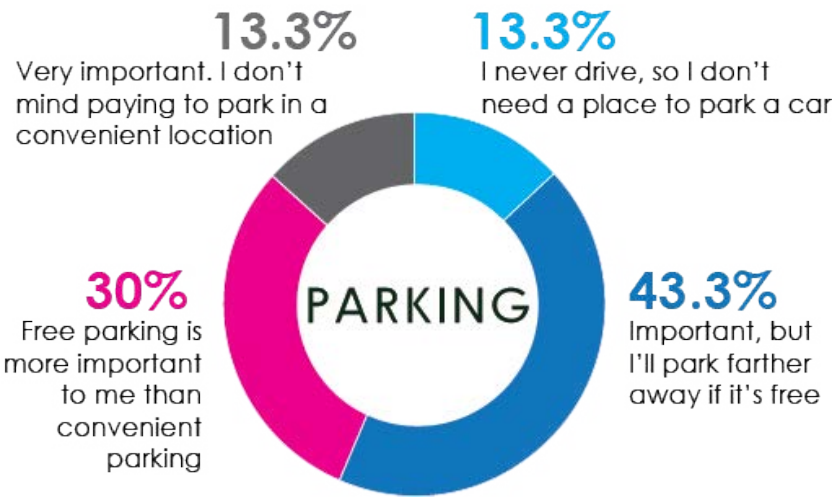
What we asked

- Parking needs and options for bicycles and motor vehicles.
- Strategies to create more walking and bicycling space
- End of trip needs, especially for bicyclists
- Elements of effective TDM programs

What we learned

Parking is a critical path issue, related to convenience and price. There is a trade-off between on-street parking and space needed for safer facilities for walking, bicycling and transit use. For example, when asked about the trade-off between convenient places to park their car and free parking, survey responses were not conclusive:

Likewise, the trade-off between on-street parking and shifting parking to garages, depends on the situation. Sixty percent of respondents are in favor of shifting parking to garages where removing on-street parking would create needed space for wider sidewalks, bicycle facilities, and transit stops. Thirteen percent are not in favor of shifting parking to garages because garages are less convenient and there is plenty of room on the street for people to travel and park.



Parking Trade-offs

End-of-trip bicycle facilities are needed for bicycling commuters. This includes safe parking, lockers and showers.

An enhanced signage and way-finding plan should be considered.

A well-design TDM program can help shift some people from cars to other modes (see the above section, Shared Mobility).

What this means for multimodal connectivity

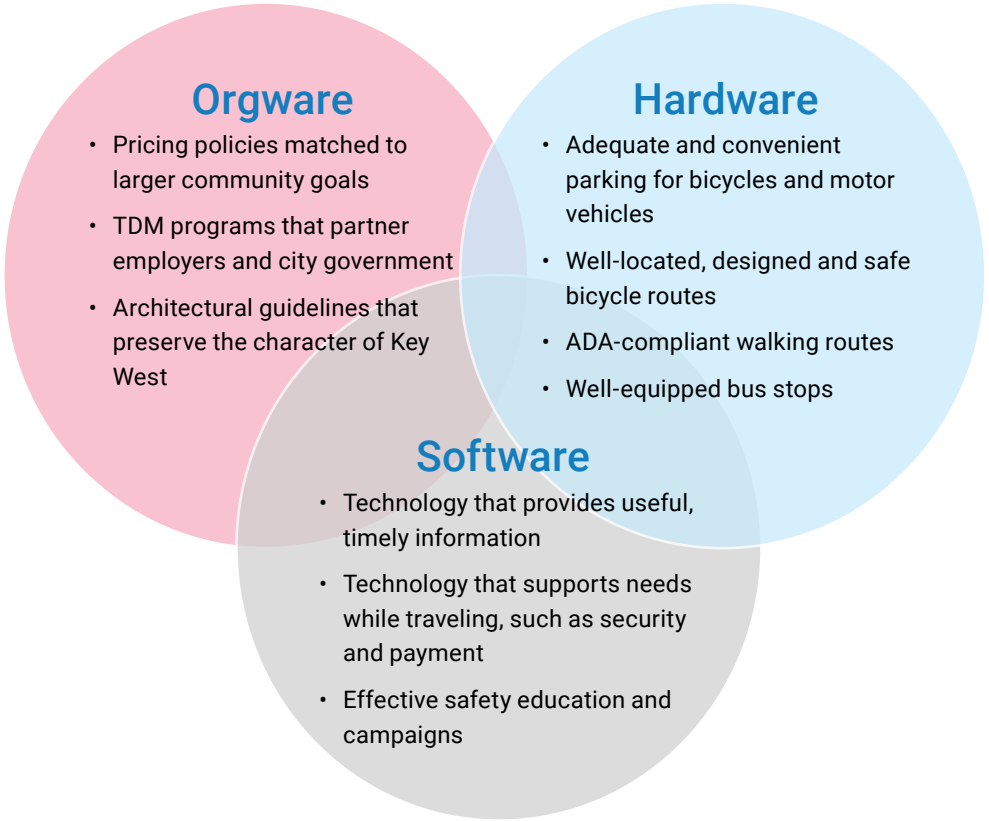
An effective multimodal transportation system provides a balance of facilities for all modes. This does not mean that every street has the same layout. Context, available space, and being strategic are part of formulating a balanced system.

Because parking is such a critical path issue, a comprehensive parking plan may be one of the initial steps in multimodal planning.

Addressing parking is complex, involving factors that overlap, support and challenge each other. Additionally, determining a workable solution for parking is important for other modes, addressing safety needs, and supporting efforts such as TDM programs.

Bringing it all together

When done well, multimodal connectivity offers people choices among different modes. The mode choice decision they make on any give trip varies by many factors such as the time of day, trip purpose, sense of safety and convenience, and information. The orgware-software-hardware framework for understanding multimodal connectivity can also be used to develop strategies, such as:



6 VISION OF THE FUTURE - NETWORK AND FACILITY RECOMMENDATIONS

The study team revisited the Plan's vision and goals as a first step in developing network and facility recommendations. To meet the first two goals, the proposed network needs to improve access and mobility, and be safe and comfortable for a wide range of users. Access and mobility mean the network should cover all of Key West and Stock Island. Residents should be able to access a high-comfort bicycle facility within a short distance of their home; safe and comfortable requires as much separation between modes as possible.

In addition to the Plan goals referenced above, bicycle network development was further informed by Key West's popularity as a vacation destination. Key West and Stock Island host visitors from around the world, and the bicycling and walking networks should be inviting and easy to use. Providing world-class facilities for walking and biking would

PLAN VISION & GOALS

Key West is a vibrant biking and walking friendly community due to its innovative, collaborative and consistent work to establish connectivity, safety, and comfort on streets and other paths. Multi-modal mobility options support the quality of life and economic vitality for the City, its residents, businesses, and visitors.

GOAL 1: Accessibility and Mobility

GOAL 2: Safety and Comfort

GOAL 3: Sustainability and Stewardship

More on the Plan's Vision and Goals can be found in Chapter 1.

Bicyclists on Olivia Street

help make it easier for these visitors to get around without a car, improve safety, and reduce parking demand.

To encourage more biking and walking, active transportation facilities should embrace the concept of "path as place," and make the trip just as enjoyable as the destination. The design of walking and biking facilities should take advantage of Key West's unique sense of place and sweeping ocean views while providing frequent benches, shade, and water fountains along the way.

Fully implementing a network that meets these goals will take dedicated funding, time, and a combination of physical and programmatic changes. This chapter presents the overall bicycle and pedestrian networks and changes to the physical environment that will make Key West a better place to walk and bike, while Chapter 7 provides further detail on programmatic and policy changes to support the physical network.

Bicycle Network

The Key West bicycle network consists of two elements: the routes bicyclists use to get from place to place and the bike facilities along these routes.

Routes

Routes are the paths people use while riding. Routes are affected by factors such as existing land use, available right-of-way, and operational characteristics that constrain or expand them. For example, in Key West, the density of development limits available space for bike facilities along desired routes. Bicycle facilities complete for space with the high demand for on-street parking and wider sidewalks. Combining the goals of this project with the on the ground reality resulted in two networks for Key West: a Short-Term Network and a longer term Vision Network, maps for which are shown on the following two pages.

The routes for both networks are similar, but the facility types differ. The table below compares both proposed networks to the existing bicycle network. Both proposed networks increase connectivity for people on bikes, but only the Vision Network improves comfort by providing more separated facilities.

More details on both networks, such as the type of facility for each block along the proposed routes and cost estimates, are available as an appendix. Chapter 8 describes key projects and the implementation process.

Comparision of Existing and Recommended Bicycle Networks

	Existing	Short-Term	Vision
Connectivity	↓	↑	↑
Comfort	↓	↓	↑
On-Street Parking	↔	↔	↓
Cost	↔	↑	↑
Level of Effort	↔	↔	↑

↔ No change or neutral ↑ Increase or high ↓ Decrease or low

Short-Term Network

The Short-Term Network includes a limited number of dedicated bicycle facilities, instead relying on existing trails and signed bike routes to complete the network. It maintains on-street parking as it exists today, provides very little separation between modes, and can be implemented with pavement markings and signage for relatively low costs. Cost estimate details are provided in the appendices.

FACILITY TYPE	LENGTH (MILES)	COST
Advisory Bike Lane	1.7	$96,000
Signed Route	15.2	$432,600
Bike Lane (Striping only)	5.8	$497,200
Bike Lanes (Lane Diet)	1.2	$166,200
On Street Facility Total	**23.9**	**$1,191,800**
New Trail	8.5	$8,430,000
On- and Off-Street Facility Total	**32.4**	**$9,621,800**

Vision Network

The Vision Network features several new facility types, including separated bike lanes, people priority streets and bicycle boulevards. Implementing these types of facilities requires moving the curb line, and in some cases, creating off-street parking options. The level of separation between modes is much higher, as are implementation costs. Costs for the Vision Network are in addition to those calculated for the Short-Term Network; more detail is available in the appendices.

FACILITY TYPE	LENGTH (MILES)	COST
Advisory Bike Lane	0.6	$35,200
Bike Boulevard (Striping, Signs)	2.8	$240,100
Bike Boulevard (Traffic Calming)	1.9	$682,300
Bike Lane (Lane Diet)	5.9	$804,100
Bike Lanes (Widen Roads)	0.3	$199,800
Widen Trail	2.8	$1,123,000
New Trail	1.7	$1,430,400
New Trail (with curb)	1.1	$1,124,000
Separated Bike Lane (2-way)	9.3	$9,012,000
People Priority Street	0.9	$4,298,700
On- and Off-Street Facility Total	**27.3**	**$18,949,600**

Bicycle Facility Toolkit

Bicycle facilities are specific infrastructure types that create a better environment for bicycling by emphasizing safety and connectivity. The ten facility types introduced here represent the array of facilities recommended in this plan to build a comfortable and connected bicycle network in Key West. Maps showing the locations of each proposed facility type are on the preceeding pages.

For more information on these facility types, including detailed design guidance, see:

- The AASHTO Guide to Bicycle Facilities
- NACTO Urban Bikeway Design Guide
- FDOT Greenbook

TRAIL

A bicycle facility physically separated from traffic, but intended for shared use by a variety of groups, including pedestrians, bicyclists, and joggers.

ONE-WAY SEPARATED BIKE LANE

A one-way bike lane along a roadway vertically separated from motor vehicle traffic by a curb, flex-posts, and/or parking.

TWO-WAY SEPARATED BIKE LANE

A two-way bike lane along a roadway vertically separated from motor vehicle traffic by a curb, flex-posts, and/or parking. May be at sidewalk level, street level or intermediate height.

BUFFERED BIKE LANE

A bike lane with a painted buffer to increase space between bicycle riders and hazards such as passing traffic and car doors.

GREEN BIKE LANES

Used to increase visibility of bicyclists in conflict areas (e.g., at intersections).

ADVISORY BIKE LANES

Used where the width of a two-way street is too narrow for a standard bicycle lane. Most appropriate on streets with low traffic volumes.

SHARED LANE MARKINGS

Also referred to as sharrows, shared lane markings provide wayfinding guidance to bicyclists and alert drivers that bicyclists are likely to be operating in mixed traffic.

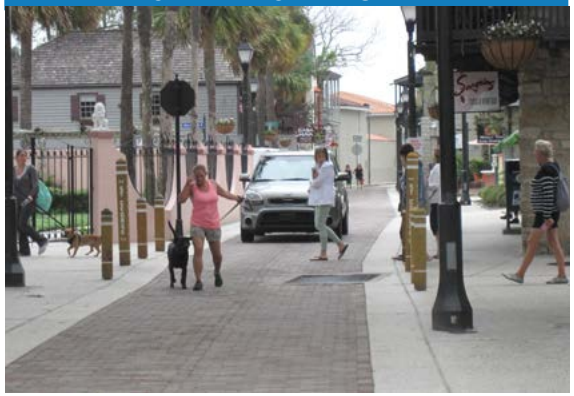
BICYCLE LANES

An on-street bicycle facility designated by striping, signing, and pavement markings. Bike lanes are separated from travel lane by a solid white line.

BICYCLE BOULEVARDS

A street with low motorized traffic volumes and speeds, designated and designed to give bicyclists travel priority. Usually include traffic calming features to reduce speeds.

PEOPLE PRIORITY STREET

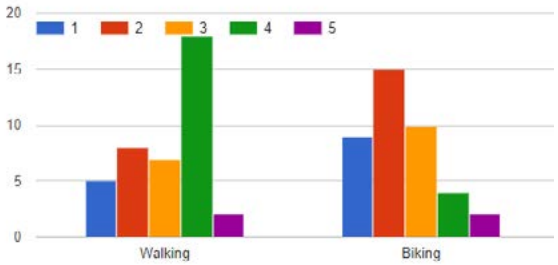


On these streets, all users travel in the same area. They typically lack vertical curbs, pavement markings and other elements that indicate motor vehicle priority and include elements that suggest pedestrian priority such as planters and seating.

Pedestrian Network

The existing pedestrian network in Key West is more developed than the existing bicycle network. Many streets in Old Town as well as the collector and arterial roads have sidewalks. Although not all sidewalks meet accessibility standards set forth by the Americans with Disabilities Act (ADA) with utility poles, parked cars, and other obstructions frequently blocking them, the difference between the quality of the existing pedestrian network and existing bicycle network is illustrated clearly in the responses to a Common Sense Comment Board question about perceived safety. Fifty percent of respondents felt safe (4 or 5 on the scale below) from crashes and injuries while walking, while only 15 percent felt the same while bicycling.

On your average trip in Key West, rate on a scale of 1 to 5 (5 being the safest). How safe from a crash or injury do you feel?



Approach

To improve safety and comfort of pedestrians, the recommendations in this plan are focused on the most complex situations pedestrians encounter during their trips: intersections and mid-block crossings. The fieldwork team reviewed the fifty intersections with the highest number of crashes throughout the city. The most common issues found were lack of lighting, missing accessible curb ramps, lack of marked crossings, and short pedestrian signal timing.

The rest of this chapter includes an Intersection Toolkit that introduces specific infrastructure treatments that can improve safety and a summary of the recommended treatments for each high-crash intersection. Changes at these intersections should be implemented in conjunction with the development of the bicycle network. For example, improvements to the intersection of White Street and Eaton Street where an on-street facility transitions to an off-street trail are critical to the completion of the Vision Network. Recommendations for specific intersections can be found in Chapter 8.

Map of Study Intersections

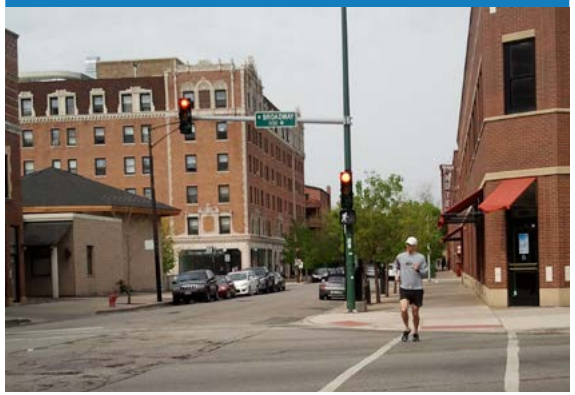
Intersection Toolkit

This toolkit highlights ten intersection treatments that improve the pedestrian experience at intersections. Not all treatments are appropriate at all intersections, and treatments are often combined for the best results.

For more information on these facility types, including detailed design guidance, see:

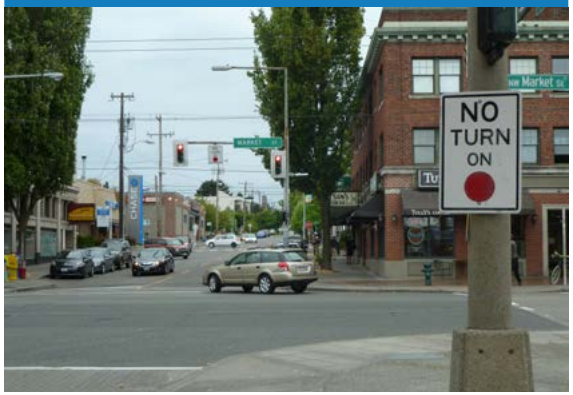
- AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities
- FDOT Greenbook
- FHWA Achieving Multimodal Networks
- NACTO Urban Street Design Guide
- U.S. Access Board, Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way

LEADING PEDESTRIAN INTERVALS



A leading pedestrian interval is programmed into the intersection signalization to provide pedestrians a few seconds of additional crossing time prior to the green signal for motor vehicles. This provides a head start for pedestrians to enter the crosswalk and be more visible to a motorist.

RIGHT TURN ON RED RESTRICTIONS



Right turn on red restrictions prohibit motorists from turning right until the signal is green. This can reduce the potential conflict between people walking and bicycling on the crosswalk and motorists turning.

RAPID FLASHING BEACON

A rapid flashing beacon is a warning device used at non-signalized intersections. The beacon is activated by pedestrians prior to crossing the street and warns drivers that there is a need to yield to a pedestrian.

RAISED CROSSWALKS / INTERSECTIONS

A raised crosswalk is a crosswalk on top of a speed hump or speed table. This improvement can make the crosswalk more visible to people driving and it requires them to travel at a slower speed when traveling over the crosswalk.

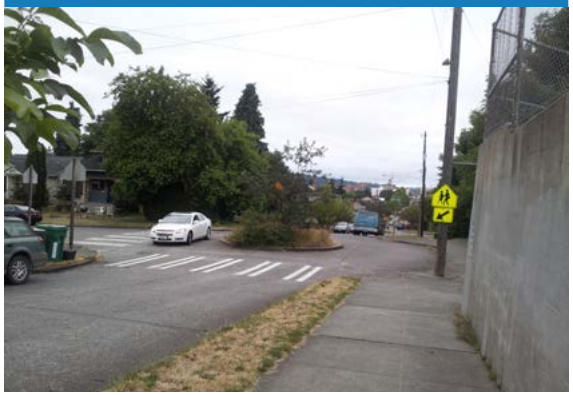
IN-STREET PEDESTRIAN WARNING SIGNS

In-street pedestrian warning signs are placed in the crosswalk to slow vehicles and warn motorists of potential pedestrians.

INTERSECTION GEOMETRY

By tightening corner radii and changing pavement edges so intersections are more perpendicular, drivers are unable to coast through or turn at speeds that reduce their ability to see and stop in time for pedestrians.

NEIGHBORHOOD TRAFFIC CIRCLES



Used most commonly at intersections of neighborhood streets, and when installed in a series along a street corridor, traffic circles can be effective at slowing people driving and reducing collisions.

PEDESTRIAN REFUGE

A pedestrian refuge is an area in the crosswalk designated for pedestrians and uses a curb to create separation between people and motor vehicles and facilitate two-stage crossings.

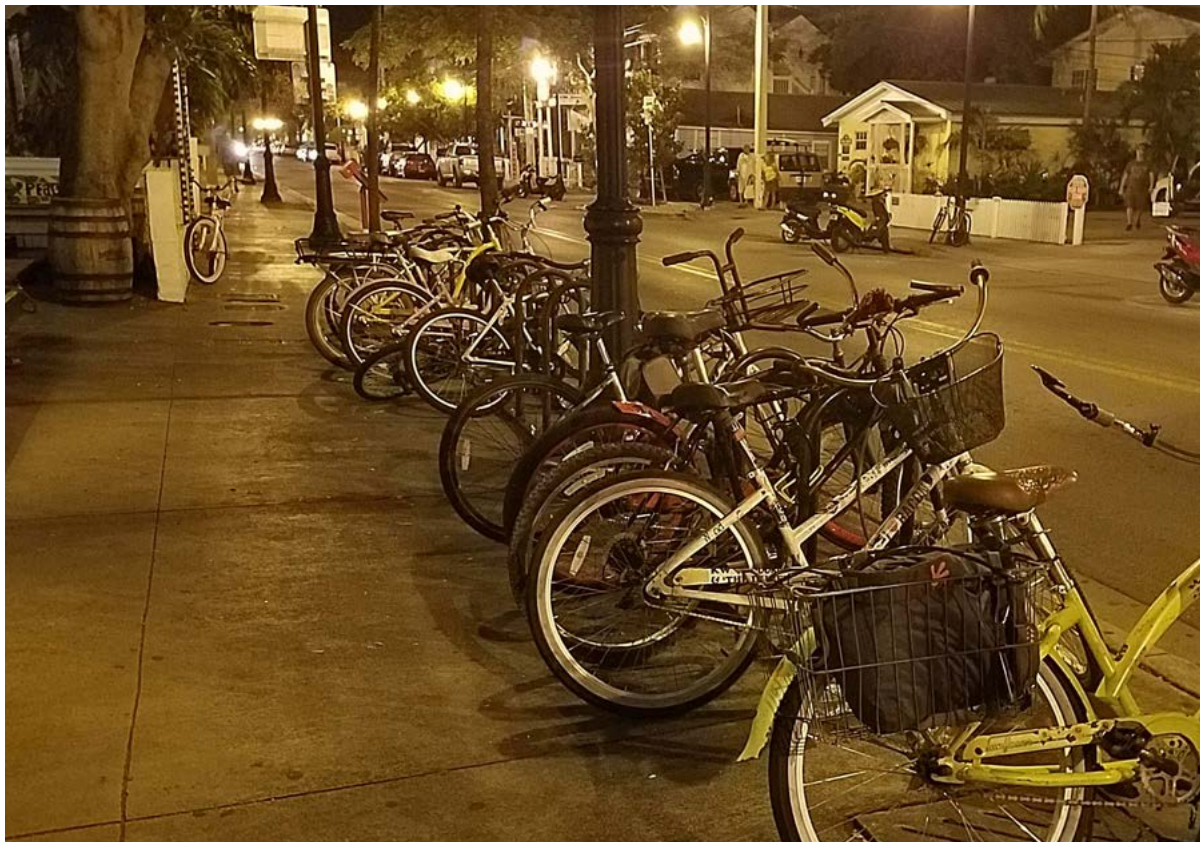
CURB RAMPS

Curb ramps are sloped areas at corners and crossings that connect the street to the sidewalk. The ADA standards for curb ramps require level landings and a grade of less than 8 percent.

CURB EXTENSIONS

Curb extensions extend into the street, shorten crossing distances, and improve visibility for both drivers and pedestrians. A curb extension creates additional space for curb ramps and landings where existing sidewalk space is narrow.

7 MOVING FORWARD - PROGRAMS AND POLICIES



This chapter describes two types of actions that Key West can take to move bicycle and pedestrian policies and programs forward. The first type, the “big splash” recommendations, focuses on strategic investments to encourage bicycling and walking in Key West, and would really accentuate the other recommendations in the plan. The second type of action is the more routine adoption of policy best practices, including those already adopted based on the recommendations from the Parking and Alternative Transportation Group (see page 60). Both types will help increase the attractiveness of walking and bicycling.

"Big Splash" Programs

The first actions introduced in this chapter are ambitious and require a high level of investment and effort. They seek to shift the conventional thinking about transportation through visible interventions at popular destinations.

ACTION: Support conversion of excess parking capacity at big box store shopping centers to parks and playgrounds

As communities work to gain walkability and bikeability, and build-in sustainability to their infrastructure, parking lots are beginning to look different. The City has an opportunity to work with developers and property owners to convert existing parking lots into multi-functional space that adds to their overall economic viability.

The large parking lots in Key West along N. Roosevelt Boulevard may have excess capacity on a regular basis. This capacity could be converted to greenspace. In addition, if structured parking is built as part of site redevelopment or for park and ride commuting options, the top level could be green space.

Considerations include:

- Zoning code changes that allow for more shared parking
- Locating greenspace so that it is accessible
- Pedestrian and bicycle access from adjacent streets and within (require a new circulation plan)
- Ownership
- Funding and on-going maintenance

Noteworthy examples:

Green Roofs. An increasing number of buildings in urban setting are establishing green rooftops, , including the U.S. General Services Administration which manages dozens of green roofs on federal buildings. The following benefits from green roofs can also accrue from on-the-ground green infrastructure, such as:

- Stormwater Management
- Biodiversity and Habitat
- Urban Heat Islands
- Aesthetic

Testing the Waters. In early 2017, Miami Beach tested this concept by converting a 101-space parking lot along Biscayne Boulevard into a park for 21 days. The test was so successful that stakeholders are now talking with the city about a permanent conversion.

Image of transformed parking lot in Miami Beach from Street Plans Collaborative

Current parking lot usage from Google Earth suggests supply exceeds demand

ACTION: Increase the quantity and quality of bicycle parking

Bicycle parking and other end-of-trip facilities are essential elements in a bicycle transportation network. For example, people need to know that there will be a safe place to lock their bicycle at the end of their trip. The type of short-term and long-term bike parking also affects the placement.

Bike Racks

Bike racks come in many shapes and configurations. Regardless of the manufacturer or design, the best types of bike racks are those that perform well in several areas:

- Support the bicycle at two points above its center of gravity.
- Are intuitive for first-time users.
- Accommodate high security U-shaped bike locks.
- Accommodate bicycles and attachments of a variety of shapes and sizes.
- Lack protruding elements or sharp edges.
- Do not bend wheels or damage other bicycle parts.
- Do not require the user lift the bicycle off the ground (however, two-tiered bike racks are one way to increase the number of parking spots within a smaller footprint).

Bike Parking Locations

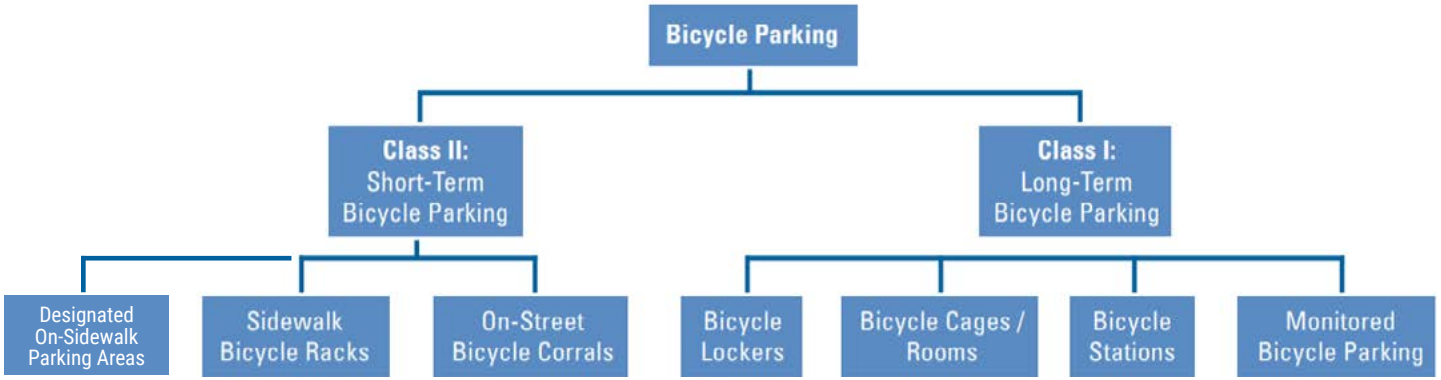
Bike parking should be located anywhere it will be used without affecting other uses or ADA compliance. As the demand for bicycle parking increases, the need to identify bicycle parking space also increases.

Variations in each type of parking are shown in the diagram below from the San Francisco MTA Bicycle Parking Guidelines. (A third category is temporary event parking.) Short-term parking should be provided near building entrances and close to bikeways. Bike corrals (groups of racks) may be provided in on-street parking spaces instead of car parking, or on curb extensions. Long-term parking should be in well-lit and visible locations close to the ground floor of a building (e.g., within one story of ground level).

Bike Parking Quantities

There should be enough bike racks or lockers to satisfy demand so bicycles are not parking where they should not. Guidelines for determining the number of parking spaces by development type generally are:

- For schools – based on enrollment and staffing
- For residential developments – based on number of units
- For retail or mixed use – based on square feet
- For transit stations – based on ridership and mode share targets



ACTION: Develop multi-modal wayfinding for Key West and Stock Island

Wayfinding encompasses all the ways in which people orient themselves in physical space and navigate from place to place. It connects people to the places they want to go, while making them aware of places along the way. Wayfinding exists in many forms, including directional signage, mile markers, trail heads, informational signs, map kiosks, and pavement markings to reinforce signage.

An effective wayfinding system is based on the psychology of the traveler and uses the four Cs in its implementation: Continuous, Consistent, Clear, and Conspicuous.

- Continuous – should take the traveler to the destination with 'confirming signs' placed frequently enough that the traveler knows s/he is headed correctly.
- Consistent – information on the signs should be presented in the same order and with the same vocabulary.
- Clear – the information should be easy to read and understand. Clear wayfinding signage limits the number of destinations and directional indicators on each sign.
- Conspicuous – wayfinding signs should be easy to find. This means size and placement are important.

Wayfinding enhances the value of a bicycle or pedestrian network by helping people identify and follow desirable routes between destinations. Wayfinding can help overcome a barrier to entry for new or infrequent bicyclists, promote active travel, and provide additional information about travel time, relative distances, and connectivity.

Wayfinding can be used on shared-use paths or trails and along on-road bicycle facilities to support existing infrastructure. While wayfinding should not be considered a substitution for bicycle and pedestrian facilities, it is a cost-effective way to supplement bicycle and pedestrian networks by identifying routes and bringing attention to existing infrastructure. Wayfinding can also be used to support placemaking and create a sense of community and connectivity.

Simplicity is critical when designing a wayfinding sign. The most important information to include are destinations and directional arrows – left, right, through, or a combination. Adding mileage (to the nearest tenth of a mile) is the next most important piece of information on the sign, as it gives the user a sense of how far they need to travel.

Wayfinding can direct users to many different types of destinations, including:

- on-street bikeways
- commercial centers
- hospitals
- parks and trails
- public transit stations
- schools and universities

Color-coded bicycle routes in Wassau, WI

Bicycle wayfinding in Baltimore, MD

ACTION: Establish a multi-modal transfer center at the airport.

Based on a survey completed by Center for Urban Transportation Research (University of South Florida) and the City of Key West, 49% of visitors primarily walked during their visit, while 11.9% primarily used a rental car. A prior study found that 82% of visitors to Key West arrived with a vehicle. Rental cars are easy to get at the airport. Visitors who are interested in renting a bike, scooter, or golf cart must first exit the airport.

A multi-modal transfer center would allow visitors to use their preferred mobility option upon arrival. For those renting bikes, the rental fee would include the cost of vendors transporting luggage.

Considerations for establishing such a center include:

- Determining if it is an allowable uses of airport property.
- Developing a process to determine who runs the bicycle rental venues, especially given the number of rental companies in town. One option is to model bicycle and scooter rentals on the rental car model, with counters for the various bicycle rental providers.
- Transporting luggage back and forth.
- Updating the airport circulation plan and expand pedestrian and bicyclise networks.
- Establishing bicycle connections from the airport to the bicycle network, including safe roadway crossings and wayfinding.

Similar examples:

Several years ago, a bicycle rental company promoted bike rentals with a compelling diorama at the Manchester, NH airport.

Some cities have bicycle stations that include rentals and repairs. Chicago's McDonald's Cycling Center (also known as Bike and Park, is located in Millennium Park, in the C Loop area. Washington, D.C. and San Francisco established bike stations at train stations. Portland, OR has a bicycle valet and rental station connecting to the Oregon Health Sciences University campus via their Aerial Tram.

The starting point for many visitors to Key West

Bicycle display at the Manchester, NH airport

Bike station at Washington DC's Union Station

ACTION: Demonstrate innovative street design through tactical urbanism

Cities are constantly changing. Large scale urban transformations, such as museums, parks, and stadiums are high profile projects that typically generate attractive returns. However, such projects require a substantial investment of time and a considerable reserve of social and financial capital. Additionally, the long-term economic or social benefit of these projects is not always guaranteed.

This is why cities around the world are embracing the incremental approach and grassroots energy of "tactical urbanism" to implement street safety and neighborhood improvement projects. Tactical urbanism is a term used to describe a collection of low-cost, temporary changes to the built environment intended to improve local neighborhoods and public places. From plazas and parklets to open streets events and piloting complete streets designs, these initiatives are a deliberate, phased approach to instigating change in the public realm. Improving the livability of towns and cities often begins at the neighborhood or block level. While large-scale efforts and projects are necessary and important, small-scale interventions are a way to implement more substantial investments in the public space. This approach would allow the City of Key West to test new concepts before making major political and economic commitments. The City already hosts many events that require street closures - a tactical urbanism event would complement these activities and serve to promote community change.

Tactical urbanism efforts can occur through formalized strategies, such as New York's Pavement to Plazas program or through small-scale projects that are rapidly implemented such as with San Francisco MTA's commitment to complete at least 24 traffic safety improvements within 24 months of adopting the Vision Zero framework. At the same time, tactical urbanism may occur through unsanctioned community efforts such as guerrilla crosswalks or bump-outs created by frustrated residents or activists in the middle of the night. Whether sanctioned or not, these resilient tactics have demonstrated how short-term action can create long-term change while empowering the communities these projects take place in.

Policy Best Practices

Not all programmatic changes need to be large to be transformative. The following policy best practices and informal programs can also have a marked difference for those walking and bicycling.

Stop-as-Yield

The Stop-as-Yield or Idaho stop, was first established in Idaho in 1982. The Stop-as-Yield law requires cyclists to slow down and yield as they approach a STOP sign (and come to a complete stop at a red light). In addition to Idaho, other states and some counties have adopted Stop-As-Yield laws. Benefits of Stop-As-Yield include making bicycling easier by allow bicyclists to continue momentum, and these laws may also improve safety. Fully designed bike boulevards may be appropriate for Stop-as-Yield. Many bicycle boulevards are designed with STOP signs on the cross streets, in order for bicyclists to continue their momentum and proceed safely.

Bicycle and pedestrian routes through construction

Roadway and land development construction can affect normal traffic patterns by removing or reducing the width of sidewalks, bikeways, and motor vehicle travel lanes. In some cases, a priority placed on maintaining motor vehicle travel lanes comes at the expenses of sidewalks and bikeways. This can result in bicyclists traveling in motor vehicle lanes and pedestrians forced to make extra crossing to travel around a closed sidewalk. Florida law requires bicycle and pedestrian pathways be maintained in construction zones.

Local enforcement is needed to ensure that the accommodations occur from the beginning of the project and each day of the project. A clearer policy regarding maintaining bicycle and pedestrian pathways through work zones may be helpful. For example, Nashville, TN requires contractors to submit a traffic management plan that includes bicyclists and pedestrians for projects of less than 20 days and 20+ days. Key elements of the policy are: project length; adopted guidelines; compliance with ADA; approval process.

Other local government examples:

Seattle, WA provides regulations and guidance on work in the public right-of-way and its impact on pedestrians and bicyclists. Their Traffic Control Manual includes a chapter on pedestrian access during construction. Further, the City offers an online base map and GIS layers for developing a traffic control plan for construction projects.

Bicycle boulevard in Vancouver, BC

Pedestrian route adjacent to construction

Temporary curb ramp along pedestrian detour

Pedestrian Network Policies

Current design guidance provides information on how to build the pedestrian network, but a set of pedestrian network policies will help the city know what, when, and where to make those investments.

The policies should be grounded in the four principles below:

1. Build safe, direct pathways,
2. Make sure the network is coherent, continuous and connected,
3. Allocate space to meet ADA requirements,
4. Build it to be used, maintain it so it is used.

Resulting policies may cover:

- Sidewalk standards for areas with high pedestrian volumes, especially to allocate more space for pedestrians from the right-of-way.
- Curb extensions on streets with on-street parking to better define on-street parking, reduce crossing distances, and make pedestrian more visible to motorists.
- Maximum distance between pedestrian crossings to encourage pedestrians to cross at designated locations.
- Mid-block crossing decision process and criteria.

Fix-it Stations

These way-side self-serve repair stations can help avoid a cycling trip mishap by offering air and tools.

While some people travel with tools for simple repairs, others do not, especially tourists or those using rental bicycles. Communities such as Cambridge, MA include information about Fix-it stations in their Bicycle Master Plans. Key West can take the lead on establishing guidelines for placement of Fix-it stations and develop partnership agreements with care-takers of nearby establishments.

A set of Fix-it stations placed at regular intervals are a popular way to encourage people to bike rather than drive. Recommended Fix-it station locations include along bikeways and trails, adjacent to bike parking, and near apartments, condominiums and hotels, and at bike shops and gas stations. Several bike rack manufacturers provide Fix-it stations.

Bike Month

Bike to Work Day and Bike Month are annual campaigns, usually held in May, to encourage people to bicycle to work and for other trips. These campaigns often include highly publicized rides, stations with information about bicycle commuting and giveaways. Bike Month often involves the participation of local elected officials and other community leaders to generate publicity and show support for traveling by bicycling. As a key step in the Plan, we recommend that Key West begin a citywide Bike to Work Day program, leading up to a month-long campaign to encourage bicycling for both residents and visitors. Given the high number of visitors to Key West, we recommend promoting a bicycle race during Bike Month to build momentum and enthusiasm for bicycling in the city.

Pedestrian and Bicycle Counts

A growing number of cities, counties, and states conduct bicycle and pedestrian counts to track ridership, usage of facilities, and other purposes. Typically, counting programs include permanent counters and short-term manual counting. Permanent counting refers to a count technology that is used to collect data 24 hours per day, such as a loop counter, video, or thermal imaging. Additionally, many cities conduct periodic short-term counting, typically using volunteers or staff collecting manual intersection count data. As a first step, we recommend that Key West begin a manual short-term counting program, and consider purchasing a permanent counter, such as an EcoCounter. Best practices recommend installing the permanent counter in a visible, high-use location, such as along a trail.

Recommendations from the Parking and Alternative Transportation Group

As described in Chapter 3, the city commission appointed the Parking and Alternative Transportation Group to formulate recommendations to alleviate congestion, encourage public transportation, reduce reliance on personal vehicle use and improve parking availability. Many of the group's multimodal recommendations will help make Key West a safer, more comfortable place to walk and bike. The city commission has already acted on any of the suggestions including important actions that support this plan:

Highlight of short-term recommendations already passed:

- **Increase parking fines** for parking violations from $20 to $35.
- **Hire a multimodal transportation coordinator** (complete the current recruitment effort).
- **Increase residential parking** numbers per block.
- **Increase parking fees** with 50% of the new revenue going to the Alternative Transportation Fund and 50% to the General Fund
- **Speed limits** reduced to 20 MPH on all streets within the city limits with certain exceptions
- **Continued emphasis on Alternative Transportation** by re-establishing a working group to monitor progress

Highlight of long-term recommendations being considered:

- **Bicycle parking and racks** – increase annual funding to replace/maintain and increase the number of bike racks
- **Parking Capacity** – relocating parking to make more room for bike lanes
- **Car Share** – support the sharing economy
- **Special Event Transportation Planning** - approve the new special events application
- **Overhaul Transit System** - frequent, simple service along main corridors of the city

For more information on the Group's recommendations, please visit https://drive.google.com/file/d/140UvZU6-imrLCbHCANwzCT3TMXT2-dNy/view.

8 BUILDING THE NETWORK - IMPLEMENTATION

This chapter identifies the projects, procedures and funding mechanisms needed to implement the recommendations set forth in the previous chapters. The implementation of this plan is a longterm investment in maintaining and expanding the use of active transportation in Key West.

As the city implements the plan, it needs to to consider available resources, concurrent construction projects and planning efforts, and public support. As changes may not be visible right away, it is important that this chapter be revisited regularly and adapted over time in response to changing conditions.

This chapter includes three sections to help guide the implementation process:

- Implementation Packages
- Maintenance
- Funding

Implementation Packages

The network maps in Chapter 6 show the recommended bikeway types on many of the roads in Key West. The networks on these maps are comprised of numerous individual projects. The term "project" may refer to an entire corridor, a block or short segment, or a single intersection. Multiple factors influence how and when projects are constructed, including available funding and other planned changes to the physical enviroment.

The quickest and easiest projects to implement from this plan are the recommended Short-Term facilities on streets already listed in the City's Repaving Plan. The next projects to be implemented would coincide with the City's current Capital Improvement Progam (CIP) as shown on page 76. When other funding is available, projects should be advanced strategically based on their potential to acheive the goals of this plan.

The following pages present a series of Connectors and Loops, which form the core of the recommended bike network. Each Connector and Loop is a package of projects that when combined connect popular destinations and facilitate comfortable and efficient travel by bicycle. To fully realize the connectivity benefits, each Connector and Loop should be implemented in its entirety to the extent possible. The summaries presented here can help the City decide which routes to focus on first.

Each package has a distinct name that identifies the route and is presented like the Crosstown Connector on the next page. A map of the route showing the facility types in the Vision Network is accompanied by a summary of route characteristics and table of recommendations for each of the study intersections along the route (a map of all the study intersections can be found on page 50). The matrix at the bottom compares the package to existing conditions with regards to connectivity, comfort, changes to the on-street parking supply, cost, and level of effort required for implementation.

↔ No change or neutral

↑ Increase or high

↓ Decrease or low

Crosstown Connector

Marina Connector

Smathers Beach Connector

White Street Connector

Duval Loop

Old Town Loop

Sunrise Loop

Island Loop

Crosstown Connector

Length

- 3.5 miles

Facility Types

- **Short-Term** - Bike Lane, Signed Route
- **Vision** - Bike Boulevard, Bike Lane, People Priority Street, Trail

Implementation Actions

- Create off-street parking
- Traffic calming
- Construct new trail

Cost Estimate

- $1,496,500

Connectivity	Comfort	On-Street Parking	Cost	Level of Effort
↔	↑	↓	↑	↑

MAP ID	INTERSECTION	INTERSECTION RECOMMENDATIONS
22	First St/Staples Ave	Install curb ramps, Install curb extensions, Install high visibility crosswalk
25	5th St/Staples Ave	Install crosswalks, Install curb ramps, Install curb extensions to address sight distance issues
35	14th St/Duck Ave	Install pedestrian signals and pedestrian actuators, Install high visibility crosswalk
36	16th St/Duck Ave	Add wayfinding

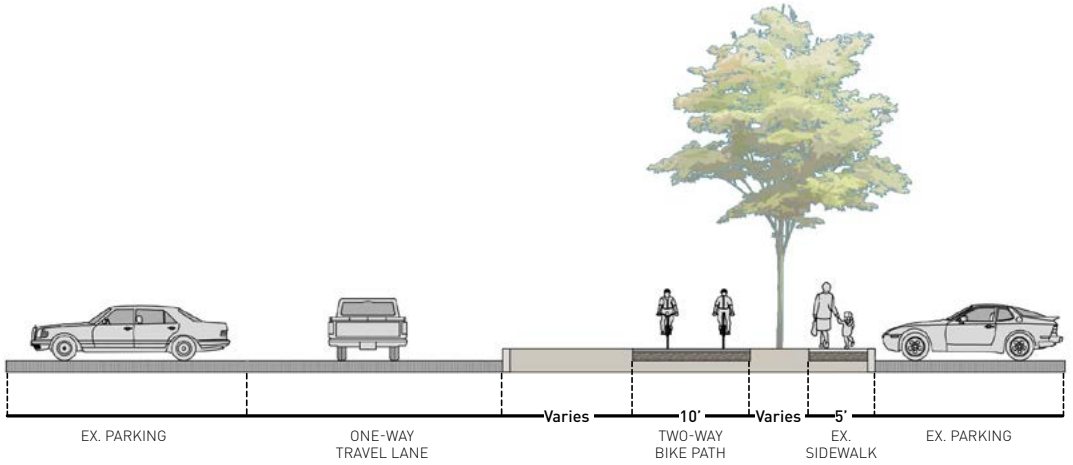
Design Concept

A critical segment of the Crosstown Connector is the route through the Wicker Sports Complex, connecting the bike lanes on Duck Avenue to the bike boulevard on Staples Avenue. Currently, bicyclists must navigate through off-set intersections and parking lots to make the connection. The scenario used in the Complete Streets Resource Guide for the multi-use trail was the Wicker Sports Complex. A formal trail through the complex is a high priority project so the conceptual design presented in the Complete Streets Resource Guide was taken to the next level of design here.

Design Recommendations:

- Build 10-foot wide trail through the Wicker Sports Complex parking lot.
- Install 6-foot wide sidewalk adjacent to the trail.
- Provide a minimum 2-foot paved or planted buffer between the proposed sidewalk and trail through the Wicker Sports Complex parking lot.
- Install 15-foot wide crossings at Kennedy Drive, 14th Street, and Duck Avenue with stamped asphalt to accommodate the trail and sidewalk.
- Connect existing planting islands in the Wicker Sports Complex parking lot to create a more predictable traffic pattern and provide a refuge for crossing pedestrians and bicyclists.
- Use refuge islands, curb extensions, stamped asphalt crossings, and bike boxes to create more predictable traffic patterns and shorten pedestrian and bicyclist crossing distances.

14th St and Duck Ave intersection detail



Marina Connector

Length

- 1.5 miles

Facility Types

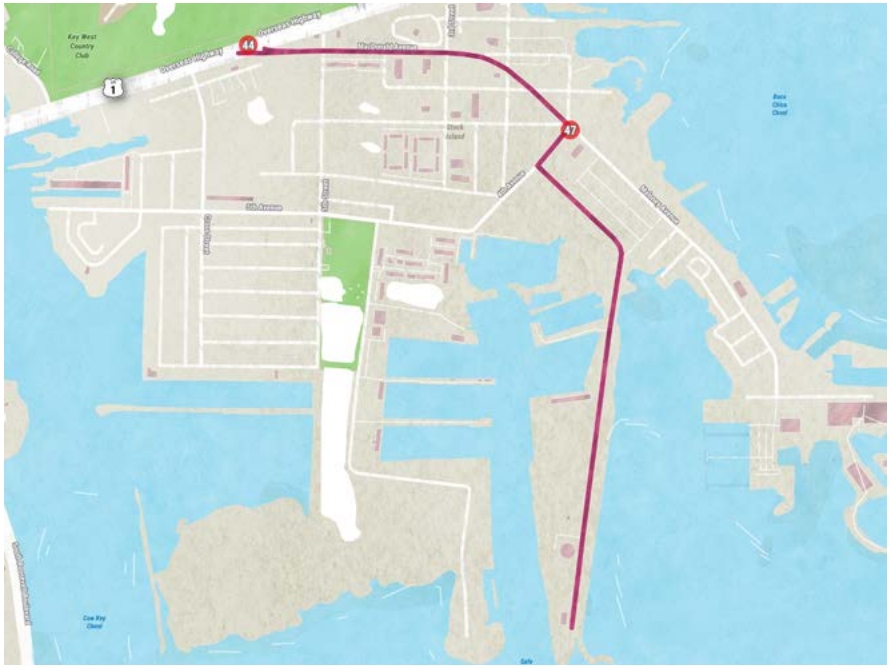
- **Short-Term** -Signed Route, Bike Lanes
- **Vision** - Separated Bike Lanes

Implementation Actions

- Consolidate parking on one side
- New pavement markings
- Widen roadway

Cost Estimate

- $1,538,100



Connectivity	Comfort	On-Street Parking	Cost	Level of Effort
↔	↑	↓	↑	↔

MAP ID	INTERSECTION	INTERSECTION RECOMMENDATIONS
44	MacDonald Ave/Overseas Hwy	Modify pedestrian signal, Install pedestrian refuge (at least 6 ft. width)
47	1st St/Maloney Ave	Install protected intersection, Install curb ramps, Install curb extensions, Install high visibility crosswalks

Smathers Beach Connector

Length

- 1.1 miles

Facility Types

- **Short-Term** -Signed Route, Trail
- **Vision** - Bike Boulevard, Bike Lanes, Trail

Implementation Actions

- Construct new trail
- New pavement markings
- Widen roadway

Cost Estimate

- $629,600

Connectivity	Comfort	On-Street Parking	Cost	Level of Effort
↑	↑	↔	↑	↑

MAP ID	INTERSECTION	INTERSECTION RECOMMENDATIONS
26	7th St/N Roosevelt Blvd	Install pedestrian refuge (at least 6 ft. width) Install Rapid Flashing Beacon
27	Government Rd/Flagler Ave	Install pedesrtian refuge (at least 6 ft width) using existing median, Install/upgrade crosswalks, Install curb ramps
28	New Trail/ S Roosevelt Blvd	Install crosswalks, Install curb ramps, Install Rapid Flashing Beacon

White Street Connector

Length

- 1.2 miles

Facility Types

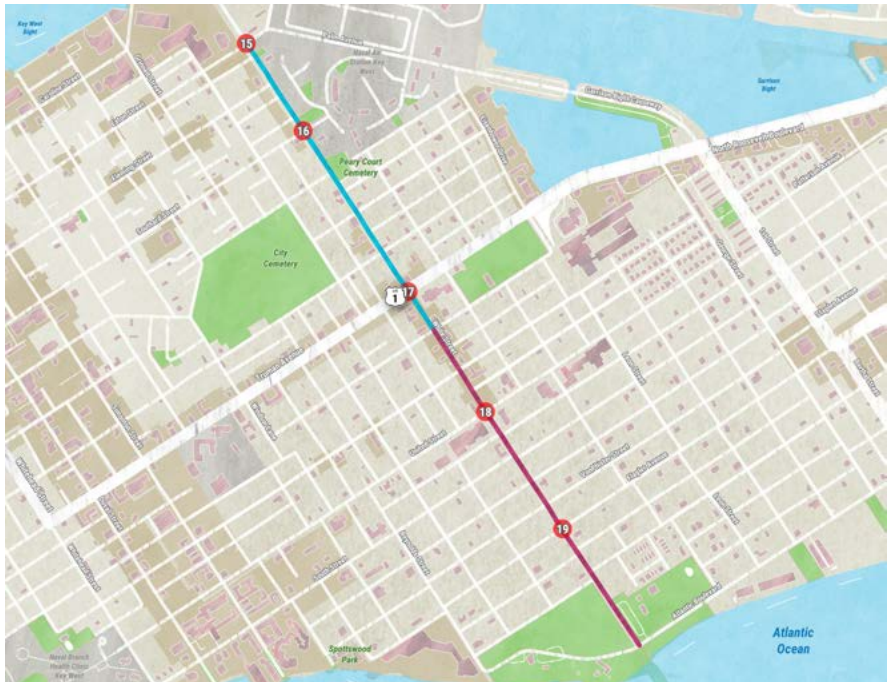
- **Short-Term** -Signed Route, Bike Lane
- **Vision** - Bike Lane, Separated Bike Lane

Implementation Actions

- Create off-street parking
- New pavement markings

Cost Estimate

- $722,000



Connectivity	Comfort	On-Street Parking	Cost	Level of Effort
↔	↑	↓	↑	↑

MAP ID	INTERSECTION	INTERSECTION RECOMMENDATIONS
15	White St/Eaton St	Install protected intersection, Reconstruct curb ramps, Install curb extensions, Install high visibility crosswalk
16	White St/Southard St	Install pedestrian signal
17	White St/Truman St	Install high visibility crosswalk, Reconstruct curb ramps
18	White St/United St	Install curb ramps Install pedestrian signals and actuators
19	White St/Flagler Ave	Install curb extensions, Install high visibility crosswalk, Install pedestrian signal, Install protected intersection

Duval Loop

Length

- 2.1 miles

Facility Types

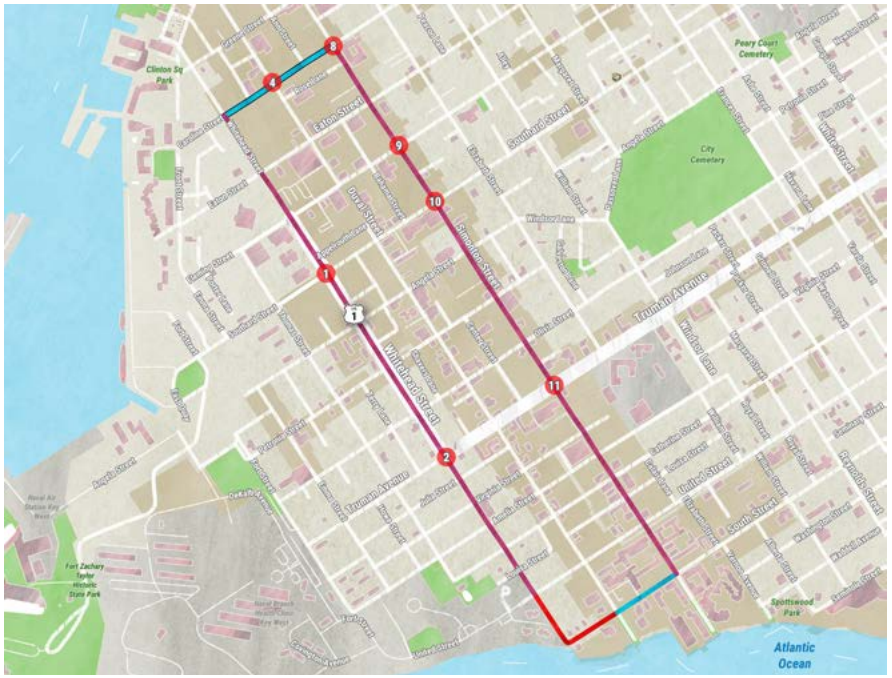
- **Short-Term** -Signed Route, Bike Lane, People Priority Street
- **Vision** - Separated Bike Lane, Bike Lane, People Priority Street

Implementation Actions

- Create off-street parking
- New one-way traffic pattern
- New pavement markings

Cost Estimate

- $2,553,500



Connectivity	Comfort	On-Street Parking	Cost	Level of Effort
↔	↑	↓	↑	↑

MAP ID	INTERSECTION	INTERSECTION RECOMMENDATIONS
1	Simonton St/Southard St	Repair/replace crosswalk, Install pedestrian signal
2	Whitehead St/Truman St	Install curb extensions
4	Duval St/Caroline	Install curb ramps, Repair crosswalks, Install pedestrian signals
8	Simonton St/Caroline St	Repair/replace crosswalk, Install pedestrian signals, Install curb extensions
9	Simonton St/Fleming St	Repair/replace crosswalk
10	Simonton St/Southard St	Repair/replace crosswalk, Install pedestrian signal
11	Simonton St/Truman St	Upgrade curb ramps, Upgrade crosswalks

Old Town Loop

Length

- 2.9 miles

Facility Types

- **Short-Term** -Advisory Bike Lane, Signed Route, Bike Lane, People Priority Street
- **Vision** - Separated Bike Lane, Bike Lane, People Priority Street

Implementation Actions

- Create off-street parking
- New one-way traffic pattern
- New pavement markings

Cost Estimate

- $2,187,600

Connectivity	Comfort	On-Street Parking	Cost	Level of Effort
↔	↑	↓	↑	↑

MAP ID	INTERSECTION	INTERSECTION RECOMMENDATIONS
1	Whitehead St/Southard St	Install curb ramps, Install high visibility crosswalk
2	Whitehead St/Truman St	Install curb extensions
4	Duval St/Caroline St	Install curb ramps, Repair crosswalks, Install pedestrian signals
8	Simonton St/Caroline St	Repair/replace crosswalk, Install pedestrian signals, Install curb extensions

MAP ID	INTERSECTION	INTERSECTION RECOMMENDATIONS
14	Grinnell St/Caroline St	Eliminate slip lane and expand plaza on north side of intersection
15	White St/Eaton St	Install protected intersection, Reconstruct curb ramps, Install curb extensions, Install high visibility crosswalk
16	White St/Southard St	Install pedestrian signal
18	White St/United St	Install curb ramps Install pedestrian signals and actuators

New Town Loop

Length

- 2.3 miles

Facility Types

- **Short-Term** -Advisory Bike Lane, Signed Route, Bike Lane
- **Vision** - Separated Bike Lane, Bike Lane

Implementation Actions

- Consolidate parking on one side
- New pavement markings
- Traffic Calming

Cost Estimate

- $1,013,200

Connectivity	Comfort	On-Street Parking	Cost	Level of Effort
↔	↑	↔	↑	↔

MAP ID	INTERSECTION	INTERSECTION RECOMMENDATIONS
34	14th St/Northside Dr	Install/replace curb ramps, Install pedestrian signals and pedestrian acuators
35	14th St/Duck Ave	Install pedestrian signals and pedestrian actuators, Install high visibility crosswalk
36	16th St/Duck Ave	Add wayfinding
37	17th St/N Roosevelt Blvd	Install pedestrian refuge (at least 6 ft. width) Install Rapid Flashing Beacon

Sunrise Loop

Length

- 6 miles

Facility Types

- **Short-Term** -Signed Route, Trail, Bike Lanel
- **Vision** - Separated Bike Lane, Trail

Implementation Actions

- Repurpose travel lanes
- New pavement markings
- Widen trail

Cost Estimate

- $4,298,200

Connectivity	Comfort	On-Street Parking	Cost	Level of Effort
↑	↑	↔	↑	↑

MAP ID	INTERSECTION	INTERSECTION RECOMMENDATIONS
21	First St/N Roosevelt Blvd	Install protected intersection, Add Leading Pedestrian Interval
22	First St/Staples Ave	Install curb ramps, Install curb extensions, Install high visibility crosswalk
23	Bertha St/Atlantic Blvd	Install crosswalks, Install curb ramps, Install protected intersection on west side
24	5th St/N Roosevelt Blvd	Reduce turning radii (to create more waiting space at corner), Replace / upgrade pedestrian actuators, Install pedestrian refuge (at least 6 ft. width)
26	7th St/N Roosevelt Blvd	Install pedestrian refuge (at least 6 ft. width) Install Rapid Flashing Beacon
28	S Roosevelt Blvd	Install crosswalks, Install curb ramps, Install Rapid Flashing Beacon
29	Gulfview Dr/N Roosevelt Blvd	Reconstruct driveway with level sidewalk Provide one car length of space between level crossing and N Roosevelt Blvd

MAP ID	INTERSECTION	INTERSECTION RECOMMENDATIONS
31	N Roosevelt Boulevard	Corridor-wide access management study
32	Kennedy Dr/N Roosevelt Blvd	Install protected intersection, Add Leading Pedestrian Interval
33	14th St/N Roosevelt Blvd	Install high visibility crosswalk
37	W College Rd/Overseas Hwy	Install curb ramps, Reduce turning radii (to create more waiting space at corner), Install high visibility crosswalk, Install pedestrian refuge (at least 6 ft. width)
38	Roosevelt Blvd/Overseas Hwy	Install crosswalk and curb ramps at southern approach
39	S Roosevelt Blvd/Duck Ave	Install Rapid Flashing Beacon, Install crosswalks, Install/replace curb ramps
40	S Roosevelt Blvd/Flagler Ave	Install crosswalks, Install curb ramps, Install curb extensions to solve sight distance issue at SW corner
41	S Roosevelt Blvd/Seaside Dr	Install high visibility crosswalk, Install pedestrian refuge (at least 6 ft. width)

Island Loop

Length

- 9.5 miles

Facility Types

- **Short-Term** -Signed Route, Trail, Bike Lane
- **Vision** - Trail, Bike Lane, Bike Boulevard, Advisory Bike Lane, Bike Lane, Separated Bike Lane, People Priority Street

Implementation Actions

- Create off-street parking
- New pavement markings
- Intersection redesign
- Widen trail

Cost Estimate

- $9,739,800

Connectivity	Comfort	On-Street Parking	Cost	Level of Effort
↑	↑	↓	↑	↑

MAP ID	INTERSECTION	INTERSECTION RECOMMENDATIONS
20	Eisenhower Dr/Palm Ave	Reduce turning radii Install high visibility crosswalk
21	First St/N Roosevelt Blvd	Install protected intersection, Add Leading Pedestrian Interval
23	Bertha St/Atlantic Blvd	Install crosswalks, Install curb ramps, Install protected intersection on west side
42	W College Rd/Overseas Hwy	Install curb ramps, Reduce turning radii (to create more waiting space at corner), Install high visibility crosswalk, Install pedestrian refuge (at least 6 ft. width)

The majority of critical intersections on the Island Loop are also part of the Sunrise Loop, and are detailed on the previous page.

MAP ID	INTERSECTION	INTERSECTION RECOMMENDATIONS
43	Cross St/Overseas Hwy	Reduce turning radii (to create more waiting space at corner), Install high visibility crosswalk, Install pedestrian refuge (at least 6 ft. width)
44	MacDonald Ave/Overseas Hwy	Reduce turning radii (to create more waiting space at corner), Install high visibility crosswalk, Install pedestrian refuge (at least 6 ft. width)
45	5th St/5th Ave	Install curb ramps, Repair/replace crosswalk
46	E College Rd/Overseas Hwy	Install curb ramps, Reduce turning radii (to create more waiting space at corner), Install pedestrian signals and actuators, Install high visibility crosswalk
47	4th Ave/Maloney Ave	Install protected intersection, Install curb ramps, Install curb extensions, Install high visibility crosswalks

Maintenance

The long-term performance of the bicycle and pedestrian networks depends on both the construction of new facilities and an investment in continued maintenance. Maintaining bicycle and pedestrian facilities is critical to ensuring those facilities are accessible, safe, and functional. This section provides guidance on maintenance for bicycle and pedestrian facilities, including sidewalks, crosswalks, curb ramps, shared use paths, and bike lanes.

Planning for Maintenance

Creating a strong maintenance program begins in the design phase. The Public Works Department or other responsible agency should be party to discussions about the placement of infrastructure and its design, as well as maintenance investment decisions. Maintenance staff should help identify typical maintenance issues, such as areas with poor drainage or frequent public complaints. They may have suggestions for design elements that can mitigate these issues or facilitate maintenance activities, and can provide estimates for ongoing maintenance costs for existing and proposed facilities.

Pavement Preservation and Repair

All types of bikeways and walkways will become damaged, worn, lifted, or cracked over time, and pavement preservation methods and repairs can help increase the lifespan of those facilities and delay the need for resurfacing or reconstruction. Many repairs will have an immediate beneficial impact on the safety of pedestrians and bicyclists by reducing hazards.

Sidewalks are the most common pedestrian facility and need on-going maintenance attention. Ignoring repairs will often result in tripping hazards for pedestrians. Short-term repair measures for concrete sidewalks include patching, grinding (or horizontal cutting), and wedges to temporarily deal with uneven sidewalk blocks. Mudjacking, or pumping dirt or filler below sunken sidewalk slabs, is also used to lift the pavement back to its original position. Grinding and horizontal cutting methods are becoming more common and used when upheaved sidewalk pieces are showing minor vertical displacements.

Maintenance measures for on-road bikeways are similar to those needed for roadway maintenance. These measures include patching, micro surfacing, crack sealing, and seal coating. On shared-use paths, it is especially important to cut back intrusive tree roots and install root barriers or root trenches where appropriate to prevent surface breakup.

Removing Overhanging Vegetation and Debris

As a preventative measure, cut back vegetation to prevent encroachment and increase visibility. Pedestrians and bicyclists should be visible to approaching motorists and not hidden by overgrown shrubs or low-hanging branches, which can also obscure signs. The City should enforce local ordinances requiring adjacent landowners to control vegetation, and allow road authorities to control vegetation that originates from private property.

Keeping on-road bikeway facilities free of debris is critical to maintain their functionality and protect the safety of bicyclists. On-road bikeways without vertical separation can be swept using standard street-sweeping methods. In general, separated bike lane widths of 8-feet or more will accommodate smaller street sweepers. If the Public Works Department does not have equipment that can fit within a separated bike lane, narrow sweepers may be needed to clear the separated bike lanes.

Use Removable Buffers

The type of buffer used for separation may impact the maintenance program. If removable vertical objects are used (such as soft-tip bollards), existing street sweeping vehicles could be used to maintain the bikeway. However, the up-front costs of purchasing narrow equipment may save money over time when considering the costs of additional time and labor to remove, repair or replace vertical objects.

Funding

The City of Key West cash funds transportation projects with local, state, and federal funding. Plan implementation will hinge on the ability to find funding sources from various public agencies and private organizations. This section highlights the most important potential funding sources for both infrastructure and programming.

Transportation Alternatives

The Transportation Alternatives Set-aside (TA, formerly know as the Transportation Alternatives Program, or TAP) is one of the most common funding sources for active transportation projects, including Safe Routes to School (SRTS) projects. It provides federal funds to the Florida Department of Transportation for projects that advance bicycle, pedestrian, and recreational trail facilities. Federal authorizing legislation gives "states and MPOs…discretion about how to establish project priorities, or whether to fund (or not fund) particular categories. There is no requirement to consider all eligible TA Set-Aside activities equally."

FDOT has developed TA Set-Aside project eligibility guidance to clarify how FDOT interprets which specific projects are eligible in Florida. Its content is based on guidance from FHWA, and input from the Transportation Alternatives Working Group comprised of FDOT District representatives. The final decision on eligibility for the City's projects remains at the discretion of District 6, which meets with MPO members and Monroe County

Commissioners throughout the year to determine any projects they and their constituents would like to bring into the Work Program.

Between 2013 and 2018, the City of Key West used $204,363 in TA funding for preliminary engineering and constructions projects related to pedestrian safety improvements. In the adopted five-year work program for District 6 so far, the City of Key West has been allocated $2,121,920 for bike path/trail construction. For information on federal funding sources in addition to TA, see the appendix.

Capital Improvement Programs

City of Key West

The City's Capital Improvement Program's (CIP) funding for street projects and programs—which primarily includes revenue bonds, local taxes, and state taxes includes $24.5 million for right-of-way projects from fiscal year 2018 to fiscal year 2023. A list of these projects is included in the table at the right. Although not exclusively related to walking and bicycling, many of these projects include curb ramps, sidewalks, and pavement markings that will enhance the active transportation network.

Monroe County

Monroe County's capital improvement plan is a multi-year program that identifies capital projects to be funded during a five year period. The 2019-2023 capital plan total is currently $298,421,423, and includes multiple projects in Key West and Stock Island.

- Higgs Beach Master Implementation Plan: Design, permitting, and construction of the relocation of Atlantic Avenue at Higgs Beach.
- 1st Street / Bertha: Drainage adjustments and coordination with the City of Key West and FDOT at 1st Avenue.
- Stock Island I: Repair/resurfacing of various roads on Stock Island including drainage improvements, installation of sidewalks in areas and lighting in areas.
- Stock Island II: Repair and rehabilitate MacDonald and Maloney Avenues.

Right-of-Way Projects in Key West CIP 2018-2023

PROJECT	COMMITTED	FY 18/19	FY 19/20	FY20/21	FY 21/22	FY 22/23
10th Street Pocket Park	$280,000					
631 Greene Street Redevelopment		$75,000	$100,000	$2,550,000		
ADA Sidewalks		$500,000	$500,000	$500,000	$500,000	$500,000
Amelia Bike Ped Improvments				$200,000	$350,000	$350,000
Anglea Street Improvements		$240,000				
Atlantic Blvd Relocation	$75,000		$650,000			
Bahama Village Connectivity: Southard				$50,000		
Bertha First Street Reconstruction		$125,000	$950,000			
Bill Butler Park		$90,000				
Bus Aprons	$1,000,000					
Charterboat Row Sidewalks		$75,000				
FY18 Shoulder Restoration	$250,000					
FY2017 Pavement Striping	$400,000					
FY2018 Paving Program	$2,000,000					
Historic Seaport Common Area Enhancements	$1,392,754	$2,195,946				
Jose Marti Drive Reconstruction		$50,000	$1,000,000			
Paving Program		$1,500,000	$1,500,000	$1,500,000	$1,500,000	$1,500,000
Pedestrian Mall	$60,000					
					TOTAL	**$24,508,700**

Highway Safety Funds

The FDOT State Safety Office awards subgrants to traffic safety partners who undertake priority area programs and activities to improve traffic safety and reduce crashes, serious injuries, and fatalities. Funding for these subgrants are apportioned to States annually from the National Highway Traffic Safety Administration (NHTSA) according to a formula based on population and road miles. Applications for this type of funding are open between January 1 and the last day of February. In 2018, the Key West Police Department received $50,000 for a Safe Streets Motorcycle/Scooter Education and Enforcement Campaign.

To advance the implementation of the program, policy, and infrastructure recommendations in this plan, the City of Key West will need to look beyond its traditional funding sources. Other potential funding sources are described below.

Impact Fees

Municipalities can place impact fees on development projects, which require property developers to partially fund improvements required to accommodate growth in transportation demand generated by their development. Revenues from impact fees can fund bicycle projects such as shared use paths. Because impact fees are typically tied to a development's trip generation rates and vehicular traffic impacts, establishing a clear nexus between the impact fee and the project's impacts is critical.

Improvement Districts

Florida state law permits municipalities to create improvement districts where property owners are assessed for sidewalk maintenance. The City of Key West could establish a downtown business improvement district [does this already exist?] to create a revenue stream for maintaining, repairing, and replacing sidewalks in downtown.

Parking Fees

In December 2016, the City Commission raised parking meters by $1 per hour and dedicated a split of that dollar towards the City's Transportation Alternatives Fund (TAF). These monies are for new projects, matches for grants and new infrastructure. It is not meant for annual maintenance, or routine expenses such as personnel or bike racks.

In 2018, the City Commission raised parking meters by an additional $1 per hour and allocated the extra funds to the General Fund. The City's parking rates are now equal to that at private businesses in the area and are considered capped for the near future.