

Pedestrian/Bicycle Facility Design Issues



David O'Hagan, PE
State Roadway Engineer
Roadway Design
David.OHagan@dot.state.fl.us
850-414-4283

Council Member Questions

- ◆ How do citizens and advocates have input into the *Florida Greenbook and Plans Preparation Manual* update process? Are the meetings noticed?
- ◆ What is the process and/or policies for design exceptions especially relating to safety issues?
- ◆ What is the policy for prohibiting pedestrians and bicyclists on limited access facilities, especially causeways and bridges (e.g. Pineda Bridge and Eau Gallie Causeway)?



Input on Florida Greenbook and Plans Preparation Manuals

“Florida Greenbook”: Uniform minimum standards for design, construction & maintenance for streets & highways. Rule 14-15.002.

- ◆ Advisory Committee: Meets Annually to recommend standards for the Department’s consideration (3/30/2011, Turnpike Headquarters, 8 am – 5 pm)
- ◆ Chapter Subcommittees: Meet as Necessary to draft changes to manual chapters for the advisory committee’s consideration and approval (see websites for meeting notifications)
- ◆ All meetings are open to the public and so noticed.



Input on Florida Greenbook and Plans Preparation Manuals

- ◆ FDOT Public Meeting Notices:

<http://www2.dot.state.fl.us/publicsyndication/publicmeetings.aspx>

Select “CO” for public meetings advertised by Central Office.

- ◆ Florida Greenbook Website:

<http://www.dot.state.fl.us/rddesign/FloridaGreenbook/FGB.shtm>

- ◆ Florida Greenbook Chapter Subcommittee Website:

<http://www.dot.state.fl.us/rddesign/FloridaGreenbook/sub.shtm>



Input on Florida Greenbook and Plans Preparation Manuals

- ◆ FDOT Public Meeting Notices:

<http://www2.dot.state.fl.us/publicsyndication/publicmeetings.aspx>

Select “CO” for public meetings advertised by Central Office.

- ◆ Florida Greenbook Website:

<http://www.dot.state.fl.us/rddesign/FloridaGreenbook/FGB.shtm>

- ◆ Florida Greenbook Chapter Subcommittee Website:

<http://www.dot.state.fl.us/rddesign/FloridaGreenbook/sub.shtm>



Design Exceptions

State Highways & Roads: Plans Preparation Manual, Chapter 23

Design Exceptions are required when the proposed design elements (other than utility elements) are below both the Department's governing criteria and AASHTO's new construction criteria for the 13 Controlling Design Elements.

Local Streets & Highways: Florida Greenbook, Chapter 14

Design Exceptions are required when the Manual's criteria for the 13 Controlling Design Elements cannot be met.



13 Controlling Design Elements

- ◆ Design Speed
- ◆ Lane Widths
- ◆ Shoulder Widths
- ◆ Bridge Widths
- ◆ Structural Capacity
- ◆ Vertical Clearance
- ◆ Grades
- ◆ Cross Slope
- ◆ Superelevation
- ◆ Horizontal Alignment
- ◆ Vertical Alignment
- ◆ Stopping Sight Distance
- ◆ Horizontal Clearance



Design Variations

State Highways & Roads:

Plans Preparation Manual, Chapter 23: *Design Variations are required when proposed design elements are below the Department's criteria and where a Design Exception or Utility Exception is not required.*

Plans Preparation Manual, Chapter 8: *If the design criteria contained within the PPM for pedestrian and bicycle facilities are not met, a Design Variation is required. The documentation shall reference which of the three conditions under Section 335.065 (1)(b), Florida Statutes support not providing a bicycle or pedestrian facility.*



Design Variations

Design Variation request must address the following items:

1. Design criteria versus proposed criteria.
2. Reason the design criteria are not appropriate.
3. Justification for the proposed criteria.
4. Any background information which documents or justifies the request.

Requires the approval of the District Design Engineer (except for design speed and bridge configurations which must come to Central Office).



Pedestrians & Bicyclists on Limited Access Highways

316.091 Florida Statutes (limited access facilities; interstate highways; restricted use):

- (2) Except as provided herein, no person shall operate upon a limited access facility any bicycle, motor-driven cycle, animal-drawn vehicle, or any other vehicle which by its design or condition is incompatible with the safe and expedient movement of traffic.
- (4) No person shall operate a bicycle on the roadway or along the shoulder of an interstate highway.



Pedestrian & Bicyclists on Limited Access Highways

316.130 Florida Statutes (pedestrians; traffic regulations):

(18) No pedestrian shall walk upon a limited access facility or a ramp connecting a limited access facility to any other street or highway; however, this subsection does not apply to maintenance personnel of any governmental subdivision.



Pilot Projects

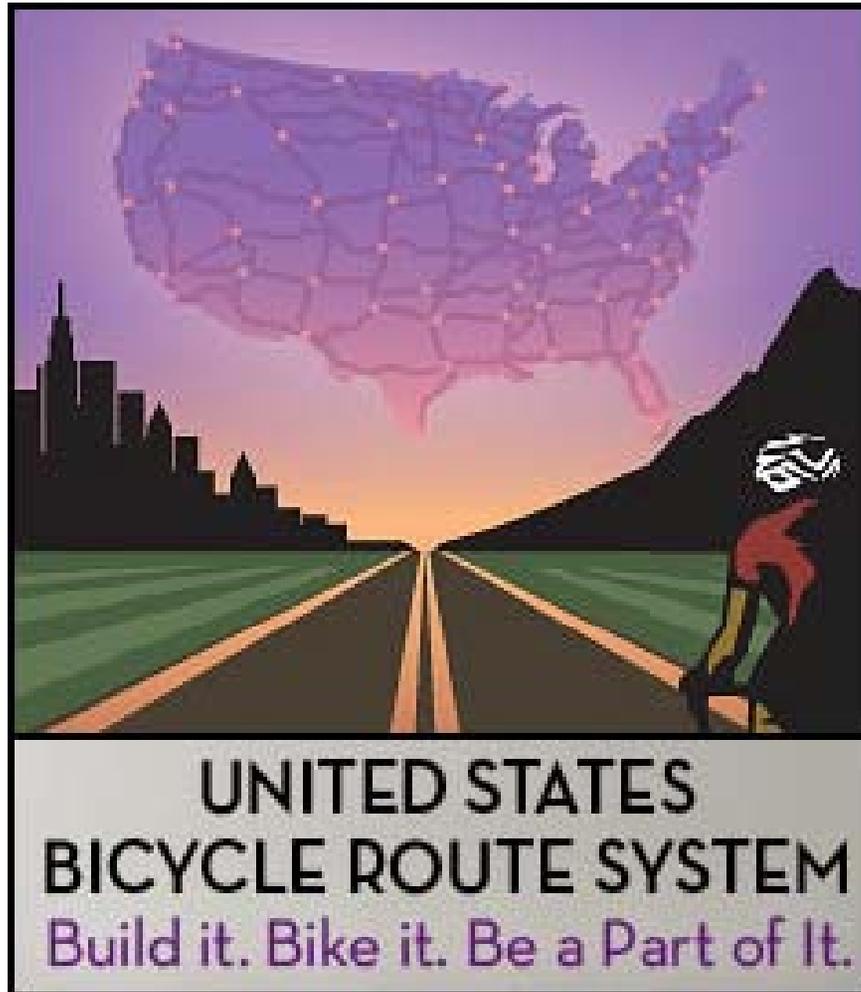
- ◆ Original policy was to install only on limited access facilities
- ◆ Primary function is to warn drivers they have left the lane and are about to run off the road
- ◆ In 2009, added requirement to use audible/vibratory markings on rural roadways (SHS)
 - ✓ Expected to reduce lane departure crashes by 15%
 - ✓ Alerts cyclists when a driver has left the travel lane
 - ✓ Retain full paved shoulder width for cycling
- ◆ Pilot project of ground in rumble **stripe** for rural roadways
 - ✓ Follow LAB and AASHTO best practices
 - ✓ Respond to concerns due to availability of thermoplastic materials



Pilot Projects



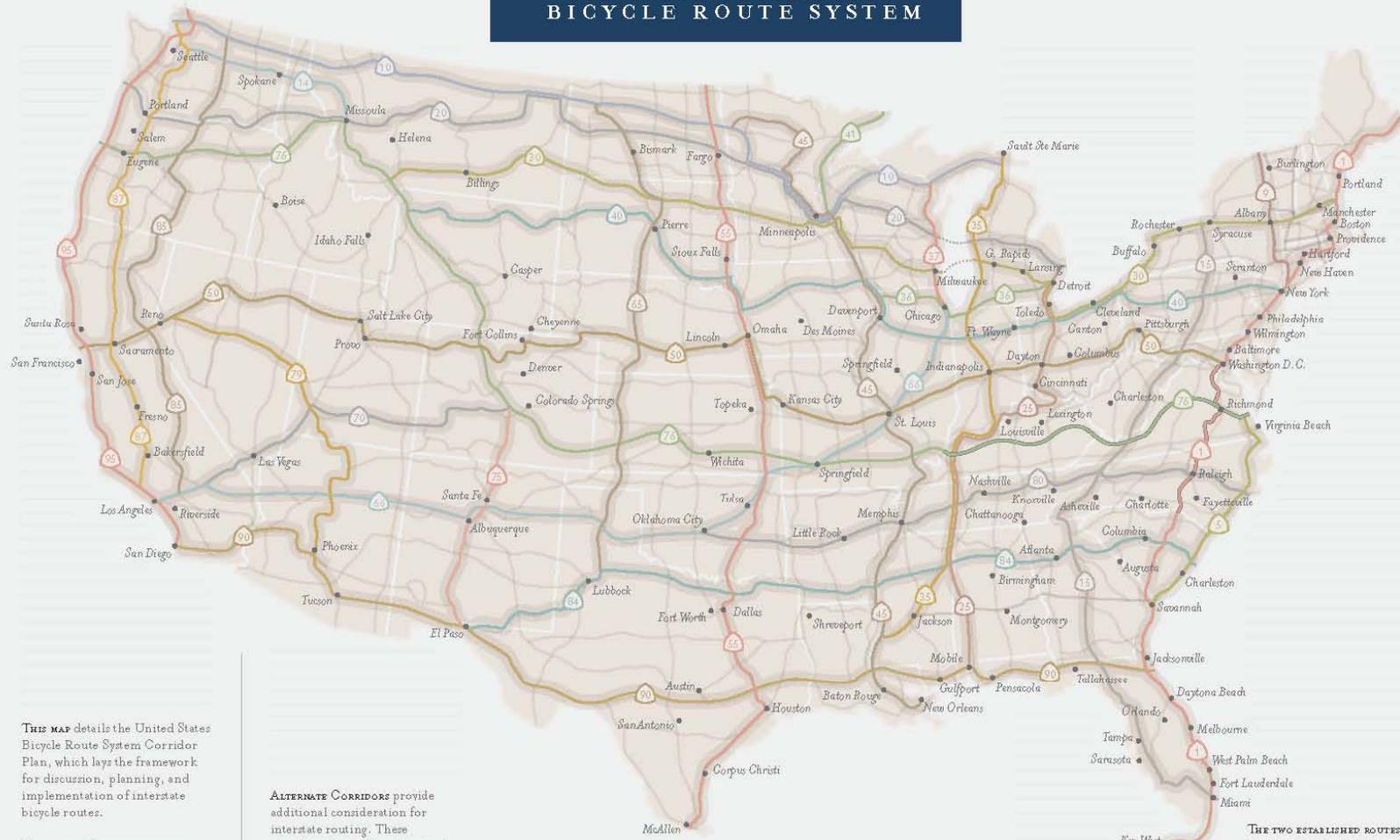
U.S. Bicycle Route System



CORRIDOR PLAN
AUGUST 2010

THE GOAL OF THE UNITED STATES BICYCLE ROUTE SYSTEM IS TO CONNECT AMERICA THROUGH A NETWORK OF NUMBERED INTERSTATE BICYCLE ROUTES.

THE UNITED STATES
BICYCLE ROUTE SYSTEM



THIS MAP details the United States Bicycle Route System Corridor Plan, which lays the framework for discussion, planning, and implementation of interstate bicycle routes.

PRIORITIZED CORRIDORS ARE NOT routes, but 50-mile wide areas where a route may be developed. These corridors have been assigned route numbers.

ALTERNATE CORRIDORS provide additional consideration for interstate routing. These corridors have not been assigned route numbers but may be prioritized. Corridors may be added or existing corridors shifted as needed.

THE TWO ESTABLISHED ROUTES, US Bicycle Route 1 in Virginia & North Carolina, and US Bicycle Route 76 in Virginia, Kentucky, & Illinois, were designated through AASHTO in the 1980's.



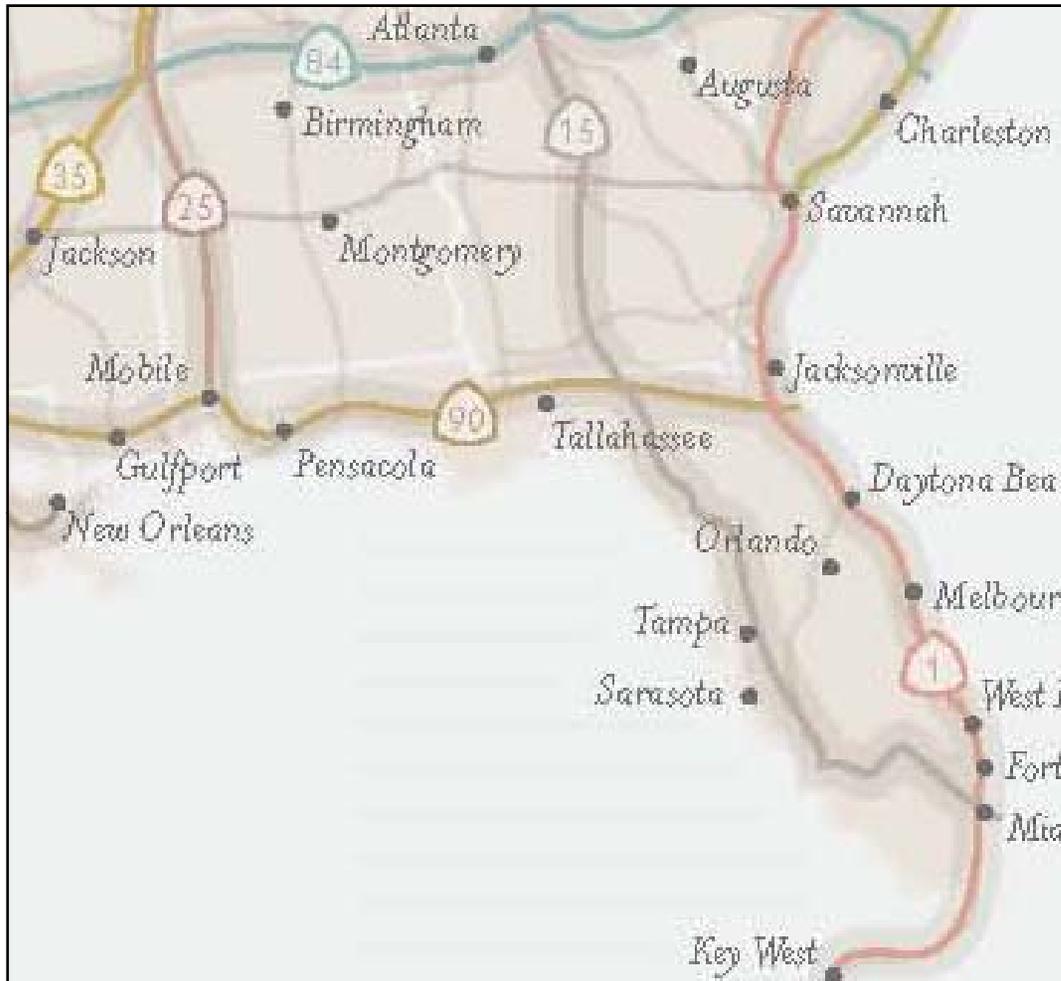
[Thick Orange Line] PRIORITIZED CORRIDOR

[Thin Grey Line] ALTERNATE CORRIDOR

[Dotted Line] PRIVATE OR PUBLIC FERRY

[Thin Green Line] UNITED STATES BICYCLE ROUTE

Connecting People, Communities, and the Nation



THE TWO ESTABLISHED ROUTES, US Bicycle Route 1 in Virginia & North Carolina, and US Bicycle Route 76 in Virginia, Kentucky, & Illinois, were designated through AASHTO in the 1980's.



Draft Policy

U.S. Numbered Bicycle Routes (USBR)

- ◆ Establish components of the USBR system in Florida, connect with routes in Georgia and Alabama. FDOT will:
 - ✓ Comply with AASHTO's "Purpose and Policy U.S. Numbered Bicycle Routes"
 - ✓ Encourage other state agencies, regional planning councils, metropolitan planning agencies, local governments, bicycling interest groups, and managers of bicycle facilities to contribute towards designation
- ◆ The four 50-mile wide corridors in Florida, within which each US BR will be established, are:
 - ✓ US BR 90, follows US 90 from Pensacola to St. Augustine
 - ✓ US BR 1, follows US 1 from Nassau County to Key West
 - ✓ US BR 15, follows Florida's Gulf Coast from Madison County to Miami
 - ✓ Alternate US BR CFG, follows Marjorie Harris Carr Cross Florida Greenway
- ◆ Related information including criteria for designation of routes in Florida will be maintained and available in the FDOT ***Plans Preparation Manual, Topic No. 625-000-007.***



Criteria - Macro

U.S. Numbered Bicycle Routes (USBR)

- ◆ Within USBR 50-mile corridor
- ◆ Includes or intersects existing and planned bicycle routes
- ◆ Supports natural connections between adjoining states
- ◆ Links metropolitan areas, transportation hubs or major attractions
- ◆ Access to scenic, cultural, historical and recreational destinations
- ◆ Reasonably direct route



Criteria - Micro
U.S. Numbered Bicycle Routes (USBR)

- ◆ Meets AASHTO design criteria for bicycle facilities
- ◆ Connects to at least one neighboring state's USBR
- ◆ Easy to follow
- ◆ Access to services and amenities - food, water and overnight accommodations, restaurants, libraries, and bicycle shops
- ◆ Regular ferry or shuttle crossings of water bodies or other barriers
- ◆ Avoids unnecessary extreme climbs and hills



Schedule

U.S. Numbered Bicycle Routes (USBR)

- ◆ The proposed schedule for adoption of the policy and further work by the Department is as follows:
 - ✓ January 2011, Executive Workshop, overview of US Bicycle Routes
 - ✓ February 2011, discuss with Bicycle/Pedestrian Partnership Council and schedule for Executive Board meeting for adoption
 - ✓ March – December 2011, finalize criteria and incorporate into design manuals, develop implementation process, coordinate with Georgia DOT
 - ✓ Spring 2012, submit request to AASHTO for approval to establish US Bicycle Route



Questions?

"Stay alert: You never know who you might run into."

