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Broward County Bicycle Trip Planning Application

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Broward County Bicycle Trip Planning Application

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Overview

- Developed for three counties in Florida. Funded by
 - ❑ Broward County MPO: <http://bikebroward.fiu.edu/mpobike/>
 - ❑ Miami-Dade MPO: <http://bikemiami.fiu.edu>
 - ❑ Palm Beach County MPO: http://maps.fiu.edu/BIKE_Palm/
- Phase for Broward 2 completed in February 2013
- Runs now on desktop and smart phone browsers



Application: Point Selection

- Using drop pin

BiKE Broward
Interactive Bicycle Trip Planning

[Tutorial](#)

Layers

1. Locations

Google Search for Locations

Click on the map to place point(s).
Click button to turn this mode off.

1 381 Southwest 135th Avenue, Plantation

2 10840 Pegasus Street, Davie

Round trip? **Clear All** **Done**

The map shows a street view of an area in Broward County, Florida, with several parks and community centers labeled. A green arrow points to a location on the map, and a red arrow points to a pushpin icon on the right side of the map.

Application: Point Selection

- Using Google search

The screenshot displays the BiKE Broward Interactive Bicycle Trip Planning application interface. The top left features the BiKE Broward logo and the Broward Metropolitan Planning Organization (MPO) logo. Below the logo is a 'Tutorial' link and a 'Layers' section. The main content area is titled '1. Locations' and contains a Google search bar with the text 'bicycle shop' entered. A red circle highlights the search bar. Below the search bar is a list of search results for bicycle shops in the area. The first result is 'Alex's Bicycle Pro Shop' at 11466 West State Road 84, Davie, FL, with a phone number (954) 990-0836 and an 'Add to locations' link. Other results include Big Wheel Bicycles USA, Inc., Bicycle Evolution, Bike America, Z Bike Shop, Lauderdale Cyclery, Downtown Bicycles, and PRO TECH BICYCLE SHOP. The map on the right shows the location of these shops marked with colored pins (A-H) on a street map of the Davie area, with a callout box for Alex's Bicycle Pro Shop.

BiKE Broward
Interactive Bicycle Trip Planning

[Tutorial](#)

Layers

1. Locations

Google Search

- A** [Alex's Bicycle Pro Shop](#)
11466 West State Road 84
Davie, FL
(954) 990-0836
[Add to locations](#)
- B** [Big Wheel Bicycles USA, Inc.](#)
7035 Taft Street
- C** [Bicycle Evolution](#)
977 Florida 84
- D** [Bike America](#)
700 North University Drive
- E** [Z Bike Shop](#)
4401 South Flamingo Road
- F** [Lauderdale Cyclery](#)
830 East Oakland Park Boulevard
- G** [Downtown Bicycles](#)
2571 East Sunrise Boulevard
- H** [PRO TECH BICYCLE SHOP](#)
West State Road 84

1 2 3 4 [Clear results](#)

Application: Five Routing Options

BiKE Broward
Interactive Bicycle Trip Planning

Tutorial

Layers

1. Locations

Google Search bicycle shop

- A **Big Wheel Cycles**
5429 North Federal Highway
- B **B & J Bicycle Shop**
1620 East Sample Road
- C **Atlantic Bicycle**
4952 West Atlantic Boulevard
- D **Bicycle Spot**
5074 North Dixie Highway
- E **Demon's Custom Cycle**
1407 Southwest 10th Avenue
- F **Chubb's Bicycles**
2873 West Prospect Road
- G **Frenchie's Bicycle**
2912 N State Road 7
- H **Atlantic Scooter and Action Sports**
112 North Ocean Boulevard

1 2 3 4 Clear result

or Select locations on the Map:

- 1 310-498 NE 6th St, Pompano Beach
- 2 Atlantic Scooter and Action Sports

Round trip? Clear All

2. Route Type

- Short
- Fast
- Least Interaction with Traffic
- Simple
- Scenic

Travel speed: 10 m.p.h.

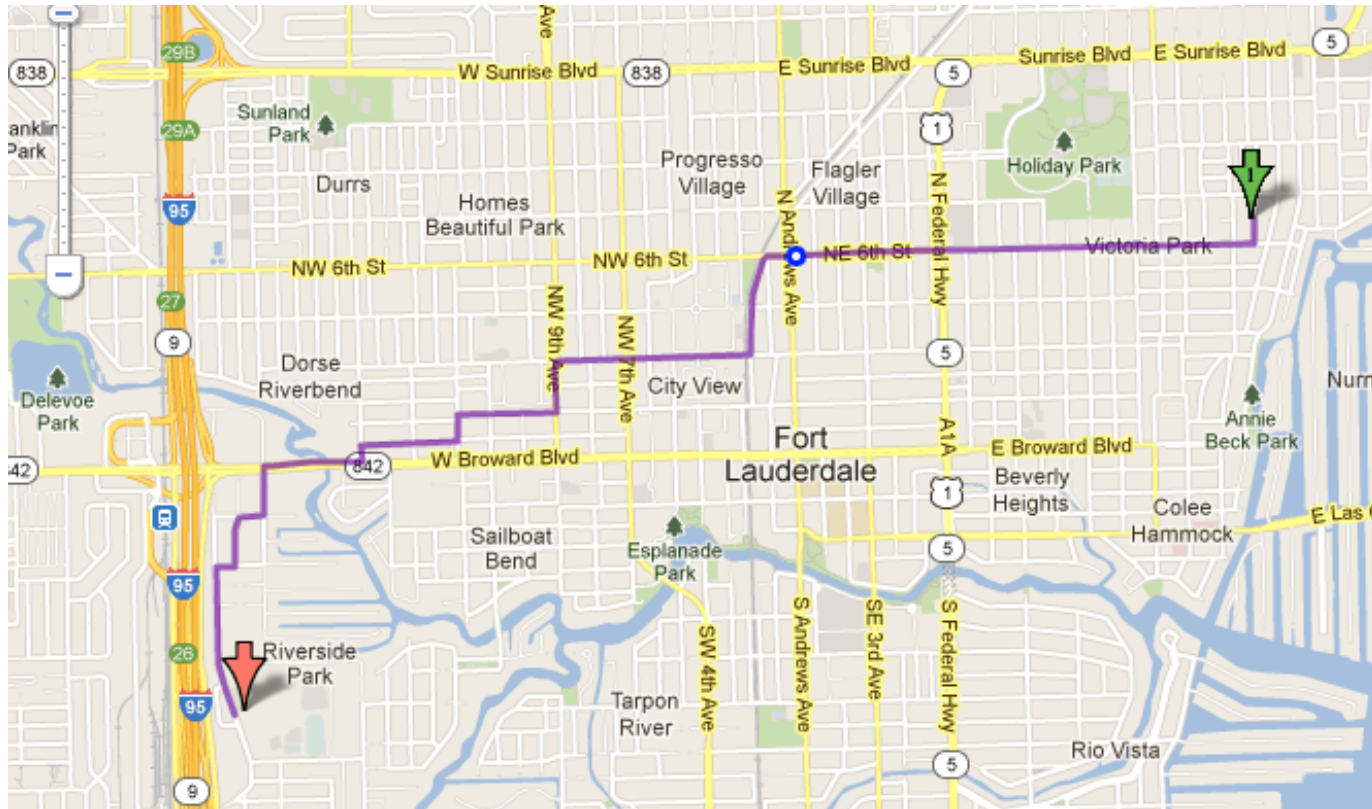
- Slow
- Fast

Back Done

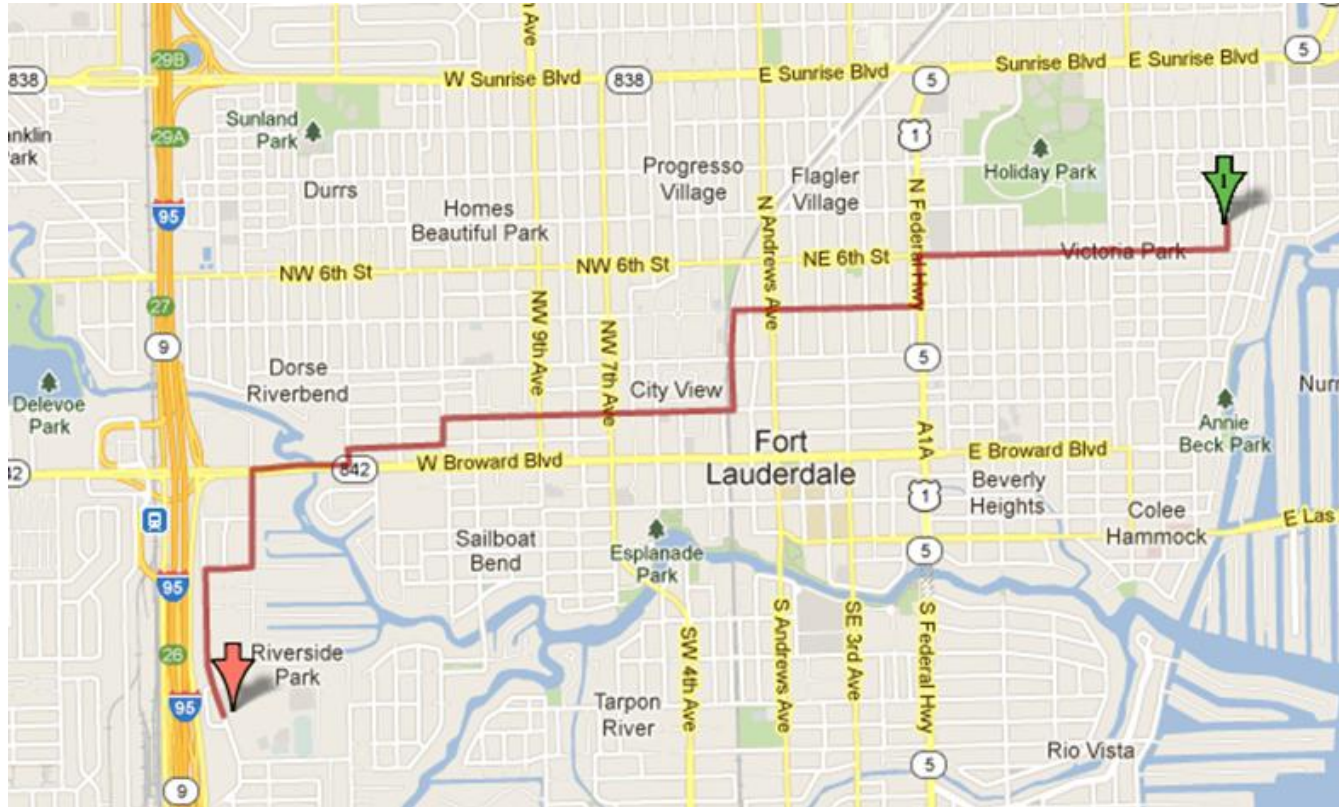
Atlantic Scooter and Action Sports
112 North Ocean Boulevard
Pompano Beach, FL
(954) 856-3685
Add to locations

select route optimization criterion

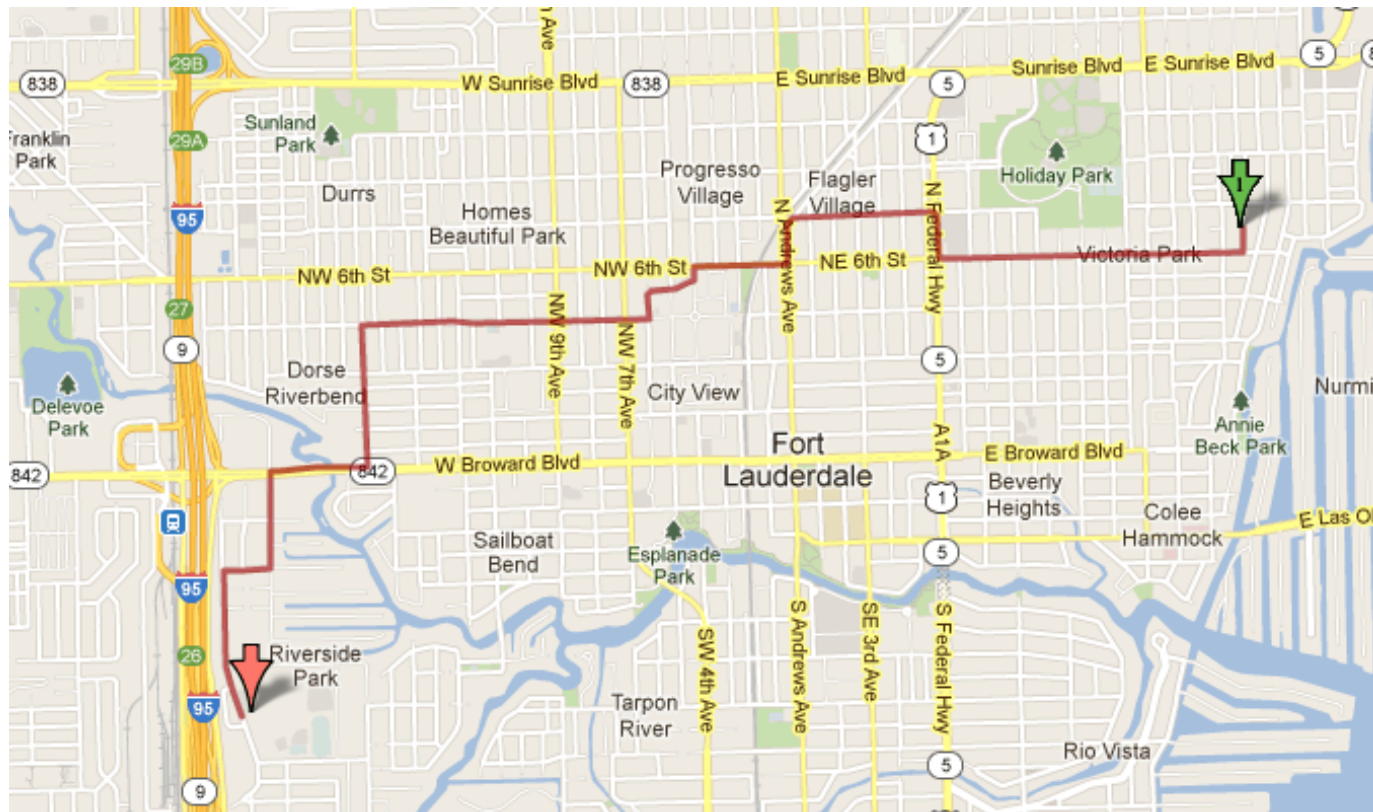
Shortest Route



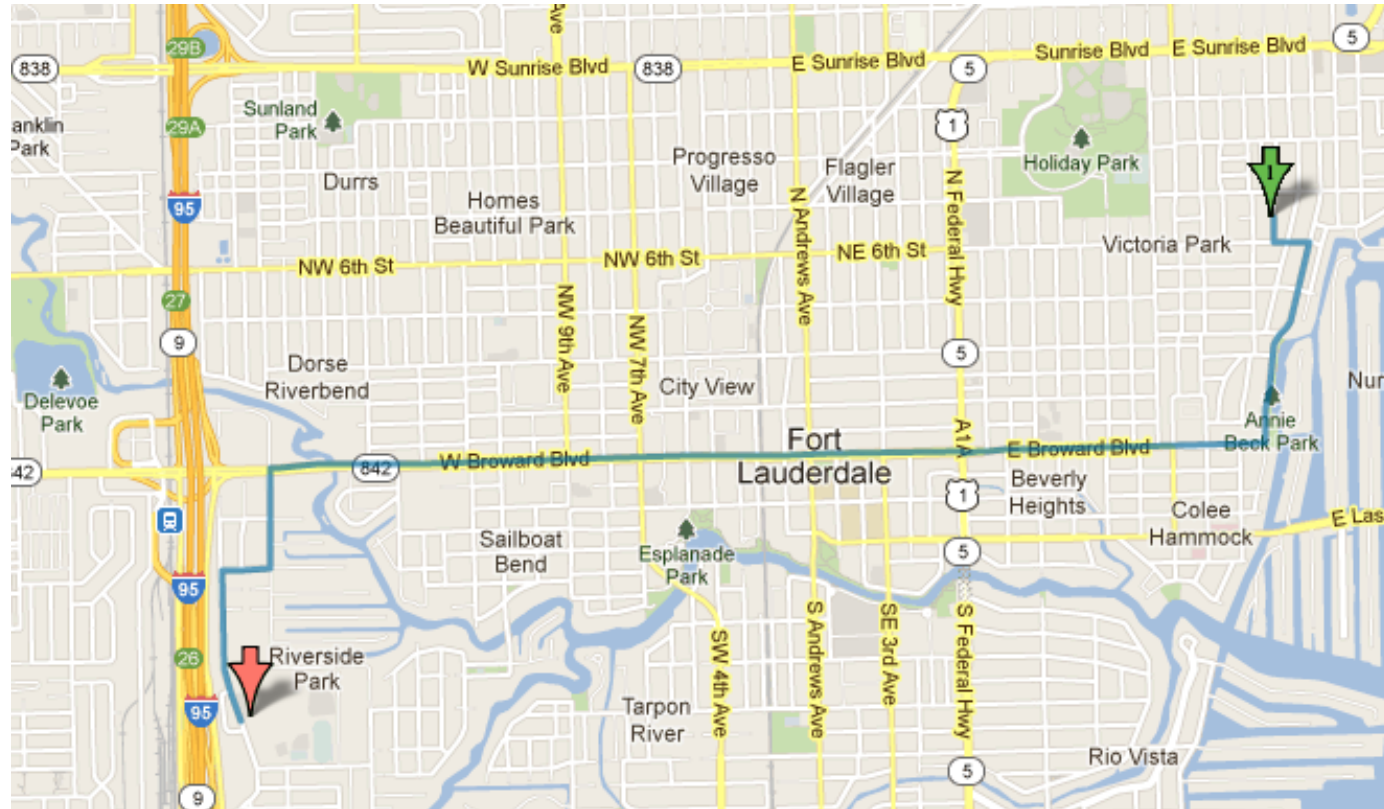
Fastest Route (10 mph)



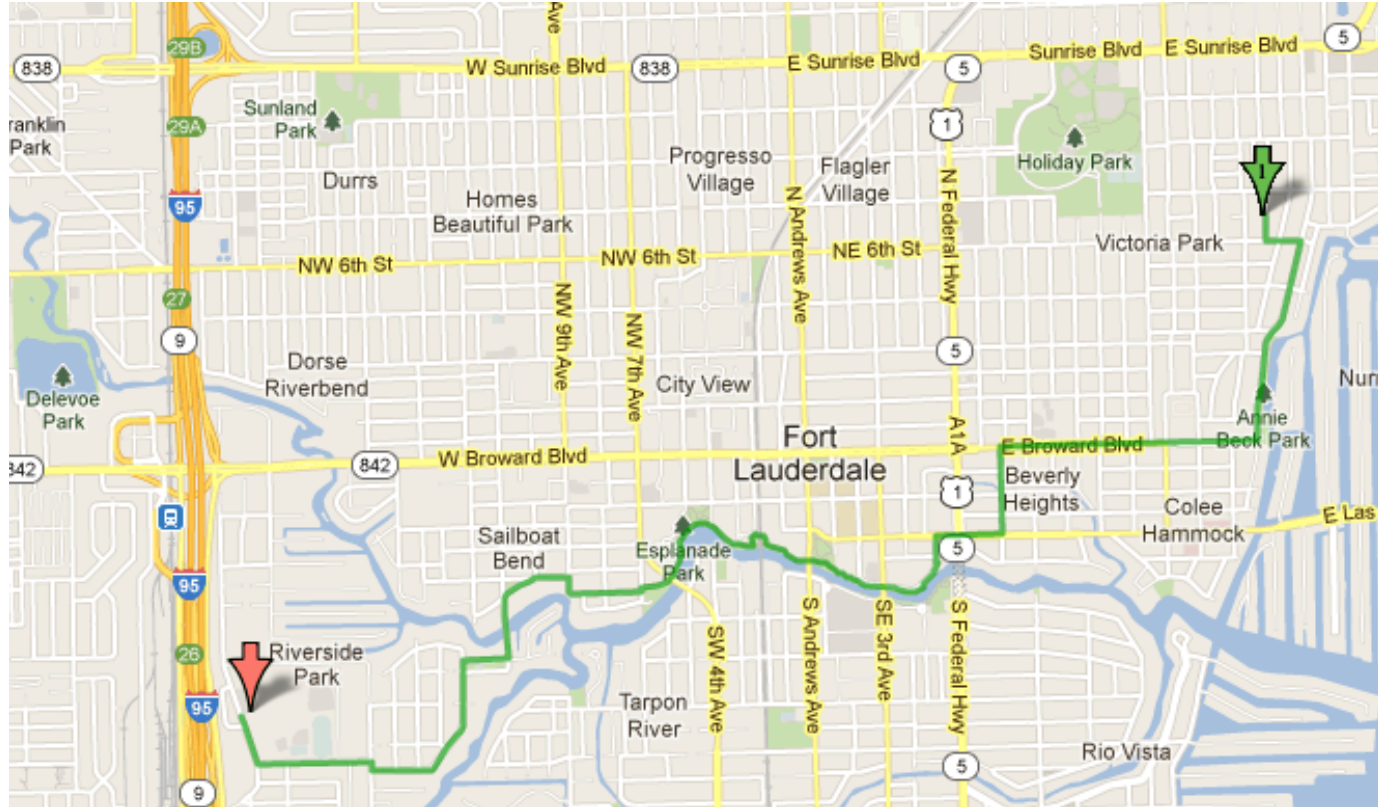
Fastest Route (20 mph)



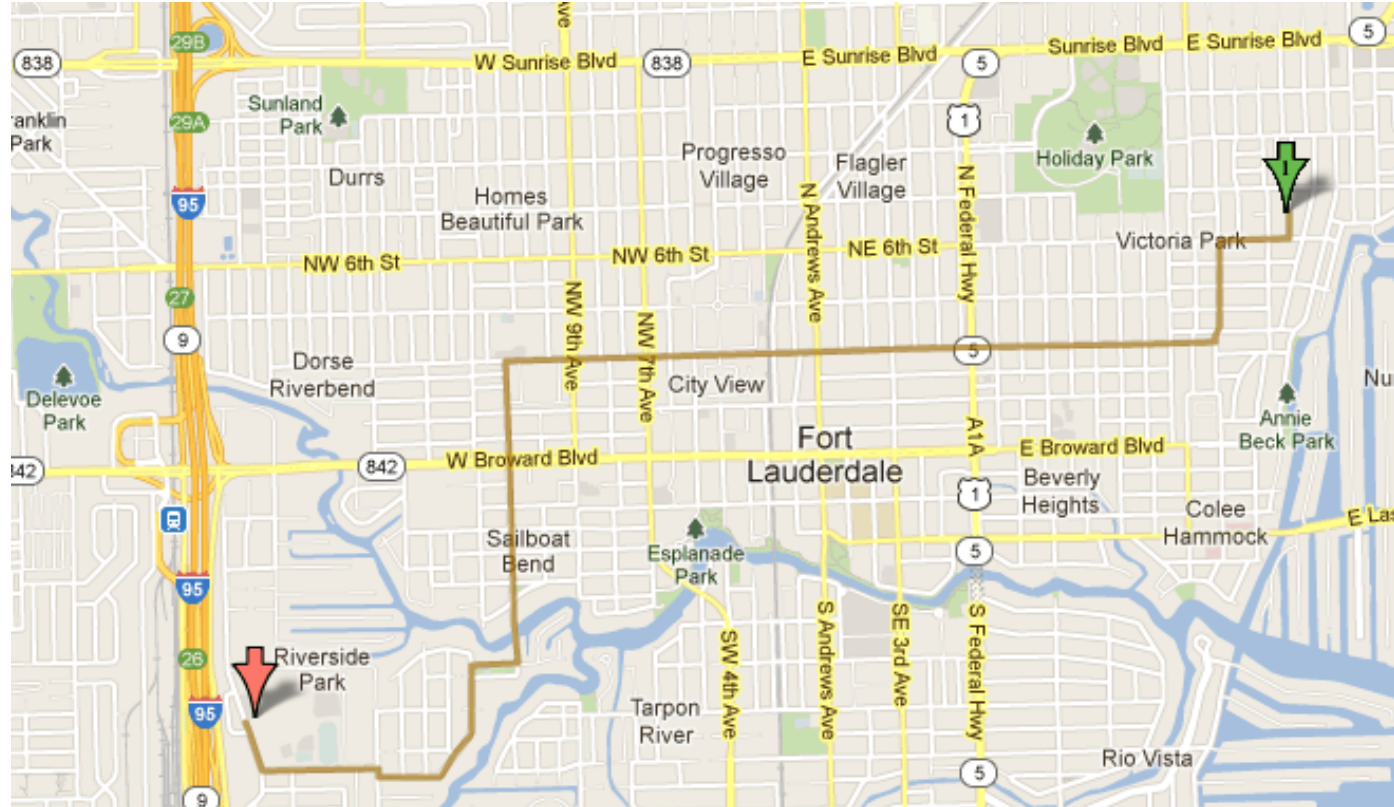
Simplest Route



Most Scenic Route



Least Traffic Interaction



Route Comparison

Selected optimization criterion	Distance [mi]	Travel time [min] at 10 mph	Travel time [min] at 20 mph	Turns
Shortest	4.3	32.7	19.6	16
Fastest (at 10mph)	4.4	30.5	-	14
Fastest (at 20mph)	4.6	-	16.9	17
Simplest	4.5	37.0	23.4	7
Most Scenic	5.0	35.2	20.1	22
Least interaction with traffic	4.5	32.6	18.8	9

Visualization: Google Street View

The screenshot displays the BiKE Broward Interactive Bicycle Trip Planning interface. On the left, a sidebar contains a 'Layers' menu with three items: '1. Locations', '2. Route Type', and '3. Directions'. Below this is a 'Get Directions' button and a 'Show Street View' button, which is circled in red. The main area shows a map with a highlighted route in yellow. A Street View window is open, showing a street-level view of a road with cars and a building. The window includes a compass, a speed control dropdown set to 'Medium', and a 'Go' button. The address shown is '2905 East Las Olas Boulevard, Fort Lauderdale, Florida, United States'. The map data is from 2013.

BiKE Broward
Interactive Bicycle Trip Planning

Tutorial

Layers

1. Locations
2. Route Type
3. Directions

Get Directions

Back Get GPX File Get KML File

Print friendly directions

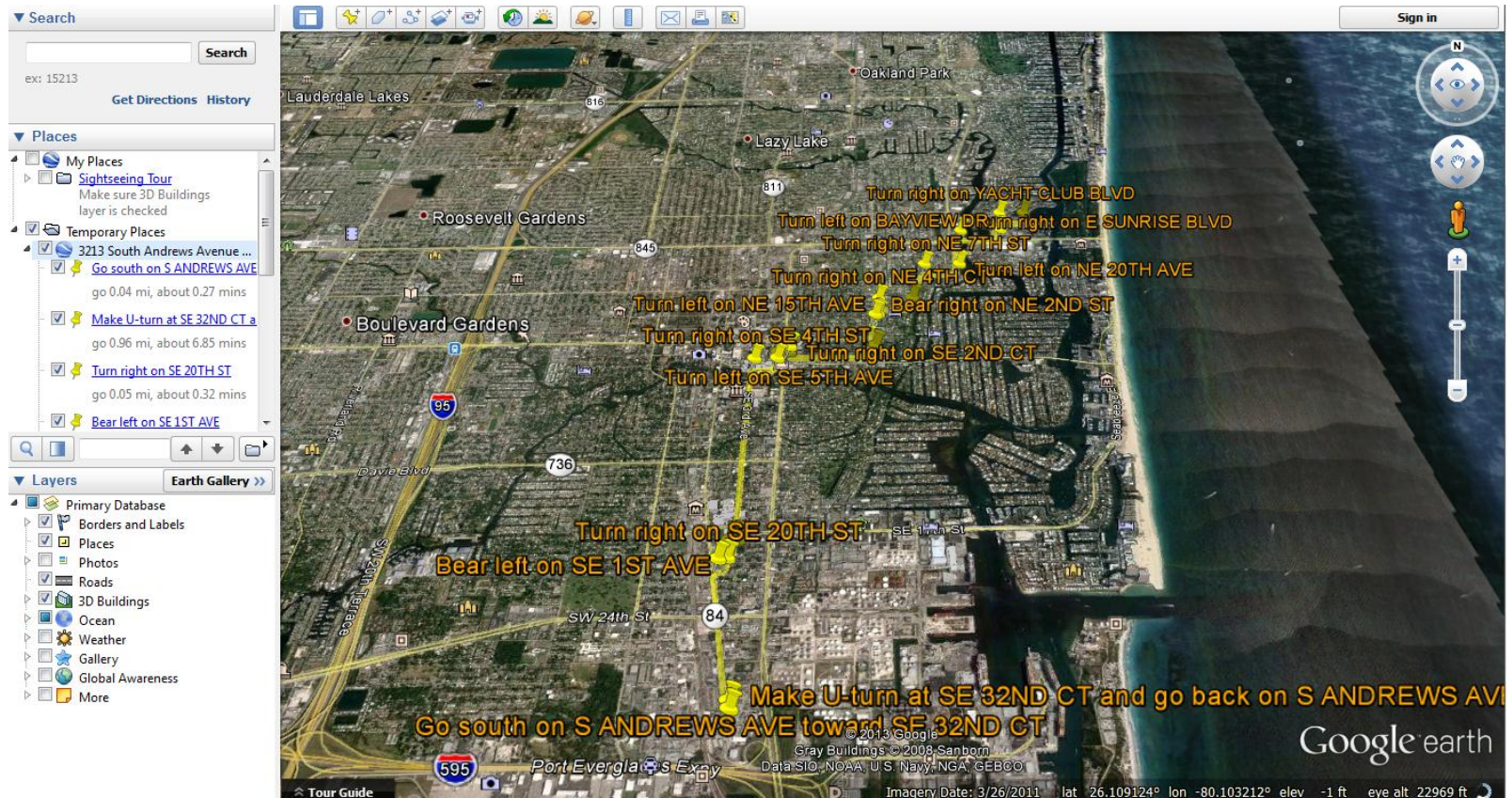
Show Street View

Start at 2901-2947 Banyan Street, Fort Lauderdale, FL, USA

Number	Instruction	Distance	Time
1	Start at 2901-2947 Banyan Street, Fort Lauderdale, FL, USA		
2	Go west on BANYAN ST toward S BIRCH RD	23 feet	23 feet 2 sec
3	Turn left on S BIRCH RD	311 feet	288 feet 30 sec
4	Turn right on E LAS OLAS BLVD	1.5 miles	1.4 miles 9.8 min
5	Turn right on SE 16TH AVE		

Map data ©2013 Google - Terms of Use

Visualization : KML for Google Earth



Layers: Digitized Bicycle Trails

BIKE Broward
Interactive Bicycle Trip Planning

[Tutorial](#)

Layers

- Street Network
- Public Transport
- Bicycle Suitability
- Bicycle Facilities
- Recreational
- Bicycle Path
 - Bicycle/Pedestrian Only

Search:

Click on the map to place point(s).
Click button to turn this mode off.

Round trip?

2. Route Type

3. Directions

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Map data ©2013 Google - [Terms of Use](#)

javascript:updateLayerVisibility(5)

Layers: Bicycle Suitability

BiKE Broward
Interactive Bicycle Trip Planning

Layers

- 1. Locations
- 2. Route Type
- 3. Directions
- Give us Feedback
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Interaction with Traffic

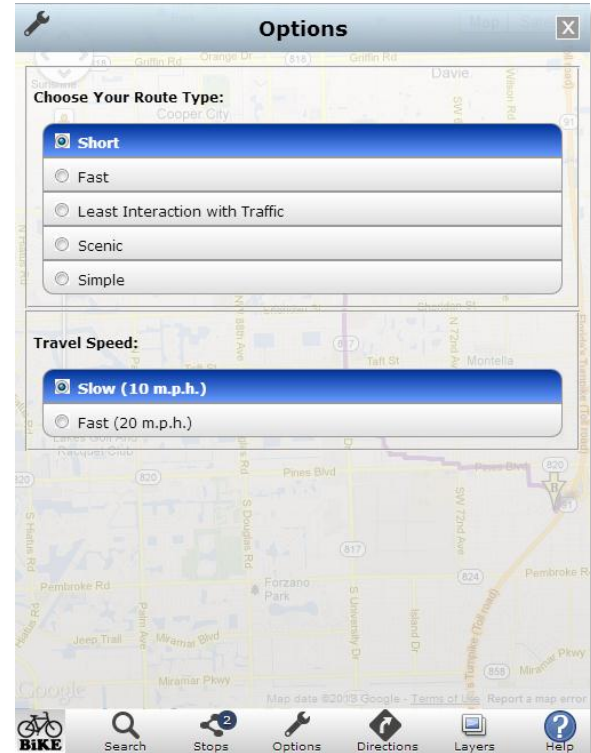
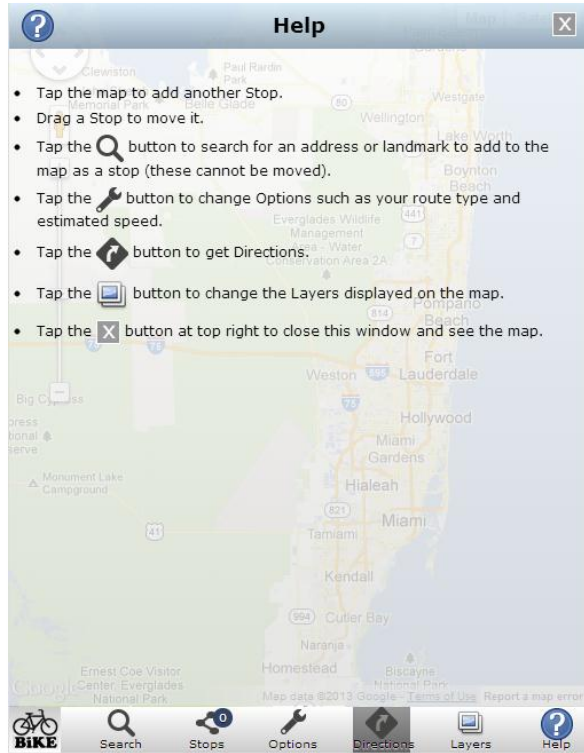
- Least amount
- Low to Moderate
- Moderate to High
- High to Extremely High
- Extremely High

javascrip:updateLayerVisibility(2)

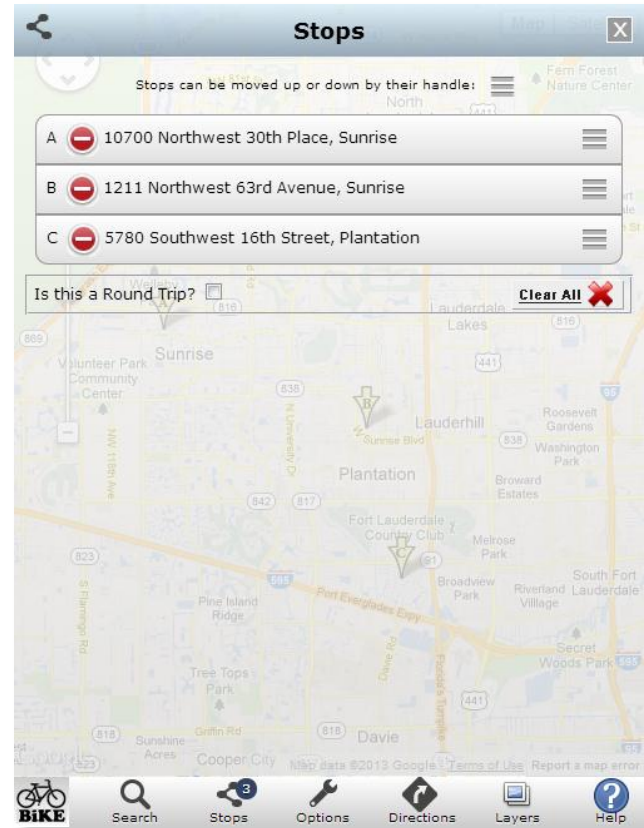
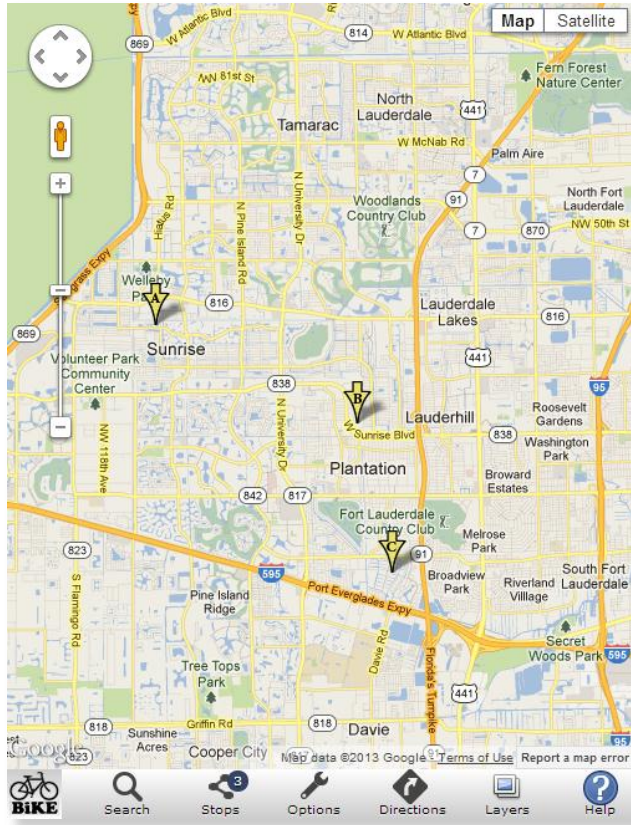
Imagery © 2013 TerraMetrics, Map data © 2013 Google - Terms of Use

Browser Application on Mobile Device

- bikemobilebrowardmpo.org



Mobile -- Set Waypoints



Mobile -- Routing Directions

Directions

10700 Northwest 30th Place, Sunrise

Step	Instruction	Distance	Duration
1	Go east on NW 30TH PL toward NW 29TH MNR/NW 105TH LN	348 feet	24 sec
2	Bear right on NW 106TH AVE	0.1 miles	41 sec
3	Turn left on NW 29TH MNR	117 feet	18 sec
4	Continue on SUNRISE LAKES BLVD	0.5 miles	3 min
5	Turn right on N NOB HILL RD	0.2 miles	1.1 min
6	Make sharp left to stay on N NOB HILL RD	88 feet	16 sec
7	Turn right to stay on N NOB HILL RD	0.3 miles	1.8 min
8	Turn left on NW 24TH CT	0.1 miles	1 min
9	Turn right on NW 98TH LN	0.1 miles	56 sec
10	Turn left on SUNSET STRIP	1.7 miles	10.9 min
11	Turn right on N UNIVERSITY DR	0.3 miles	2.2 min
12	Turn left on W SUNRISE BLVD	1.5 miles	11.6 min
13	Bear left on NW 14TH ST	126 feet	9 sec
14	Turn left at W SUNRISE BLVD to stay on NW 14TH ST	0.1 miles	57 sec
15	Turn right on NW 66TH AVE	0.2 miles	1.5 min

BIKE Search Stops Options Directions Layers Help

Map Satellite

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Find Me Search Stops Options Directions Layers Help

Mobile -- Google Street View



Data Sources for Routing

- Base street layer: NAVTEQ NAVSTREETS
 - Road geometry
 - Turn restrictions
 - Traffic signals
- Road Condition Index Layer (Broward MPO)
- Digitized Off-road trails
- Parks, water (Broward MPO)