Bicycling in DC: Snapshot

- 1,100 miles of streets
- 55 miles of trails
- 69 miles of bike lanes
- 6 miles of cycle tracks
- 90 miles of signed bike routes
- 2000+ Bike Racks
- 3000+ Bike Share Bikes

M Street NE

1st Street NE
Pennsylvania Avenue

Demanded by Advocates and Politicians

Center median bike lanes with buffer
Pennsylvania Avenue at 15th Street

Bicycle Signals
16th St, U St, and New Hampshire Ave, NW

Bike Signals, Bike Boxes, Contra-flow Lanes

Background
- 6-leg intersection
- One-way going away from U St
- Gap in bike network

Problems
- Wrong-way riding
- Dangerous bike crossings
- Bike/Pedestrian conflicts
16th St, U St, and New Hampshire Ave, NW
Bike Signals, Bike Boxes, Contra-flow Lanes

Installation – August 2010
16th St, U St, and New Hampshire Ave, NW
Bike Signals, Bike Boxes, Contra-flow Lanes

New Hampshire Ave – north of U St

16th St Bike Box – south side of U St

New Hampshire Ave – south from U St
16th St, U St, and New Hampshire Ave, NW
Bike Signals, Bike Boxes, Contra-flow Lanes

Next Steps
• Geometric changes
• New signal timing
MUTCD Compliance

Federal Highway Administration

Application

REQUEST FOR PERMISSION TO EXPERIMENT WITH A BICYCLE SIGNAL AND BICYCLE BOX

Submitted by:
Washington, D.C. Department of Transportation

Date:
September 28, 2009

February 4, 2010

U.S. Department of Transportation
Federal Highway Administration

1200 New Jersey Avenue, SE
Washington, D.C. 20590

In Reply Refer To: HOTO-1

Mr. Terry Bellamy
Deputy Director, Operations
District Department of Transportation
2000 14th Street, NW, 5th Floor
Washington, DC 20009

Dear Mr. Bellamy:

Thank you for your October 15, 2009, letter requesting permission to experiment with bicycle signal indications and bicycle boxes in the District of Columbia.

We have reviewed your request. Your request for experimentation is approved subject to the Department of Transportation’s agreement to comply with the following conditions:

1. The center line on the two sections of New Hampshire Avenue that will feature one-way motor vehicle flow with a contra-flow bike lane shall be a double yellow solid line. The broken double yellow line shown in Figure 7 on Page 10 of your request is reserved for use with reversible lanes. Because a standard two-way street center line will be used, it would be beneficial to install bike lane symbols at frequent intervals along the contra-flow bike lanes to clearly inform motorists backing out of driveways and perpendicular parking spaces that the direction of flow towards the U Street/16th Street intersection is only for bicyclists.

2. No Turn on Red signs shall be posted for the southbound 16th Street approach and the eastbound U Street approach. This will result in a situation where turns on red are prohibited from all four motor vehicle approaches.

3. Section F of the request, which begins on Page 11, needs to be updated. It is acceptable to transmit the new schedule to us via the e-mail message mentioned in the next paragraph of this letter.

Please indicate your agreement with the above stated conditions via e-mail to Mr. Bruce Friedman of this office at bruce.friedman@dot.gov.

16th Street NW, U Street, New Hampshire Ave
Colored Lanes

1st Street NE

L Street NW

M Street NW
Colored Lanes

Eye Street SW at South Capitol Street

14th Street NW at U Street

Eye Street SW at South Capitol Street
Colored Lanes

May 22, 2012

Mr. Mike Goodno
Bicycle Program Specialist
District Department of Transportation
Suite 400
55 M Street, SE
Washington, DC 20003

Dear Mr. Goodno:

Thank you for your letter of May 22 requesting approval to use green colored pavement in marked bike lanes, bike lane extensions, and bike boxes citywide in the District of Columbia. Your request is made under the provisions of Section 1A.10 of the 2009 Edition of the Manual on Uniform Traffic Control Devices (MUTCD) and our Interim Approval Memorandum 1A-14 dated April 15, 2011.

Your request is approved, but only for marked bike lanes and bike lane extensions, which would include cycle tracks. Interim Approval 14 is not applicable to green colored pavement for bike boxes, as the use of bike boxes is experimental at the present time. The use of green colored pavement for bike boxes can be approved within official experiments for bike boxes.

Please maintain and periodically update a list of all locations where green colored pavement is installed in marked bike lanes and bike lane extensions in your city. Your specific approval has been numbered “1A-14.27 – Green Colored Pavement for Bike Lanes – Washington, DC.” Please reference this number in any future correspondence.

Thank you for your interest in improving highway safety. If we can be of further assistance on this matter, please contact Mr. Bruce Friedman at bruce.friedman@ddot.gov.

Sincerely yours,

Mark R. Kehrl
Director, Office of Transportation Operations
15th Street Protected Bike Lane
15th St. Before

- 4 lanes 1-way North
- North half residential, south half CBD
- Parking both sides
- Concerns of safety, traffic speeds
  - Posted speed 25
  - 85th Percentile between 36-45 mph
- Excess capacity
  - 6,000 to 12,000 ADT
15th St. After

- Remove 1 NB auto lane in north half
- Initially, SB contraflow cycle track behind full-time parking lane, with NB sharrows
- Later, converted to 2-way cycle track on west curb and extended south to CBD
- LOS drop of one letter grade at most intersections
15th Street. Increase in cyclists
Findings – General Support

- Residents support bicycle investments
  - Results consistent for cyclists and non-cyclists
- 50% of respondents feel unsafe biking in DC

![Graphs showing support for bicycle investments](image)
E Street, NW Road Diet

Before

After
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<th>Total Travel Time (in minutes)</th>
<th>AM Commuter Peak</th>
<th>PM Commuter Peak</th>
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<td>Eastbound (13th Street to 1st Street)</td>
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<td>Westbound (1st Street to 15th Street)</td>
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<td>Average Intersection Delay (sec/veh) and Level of Service</td>
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Hawk Signal

Georgia Avenue and Hemlock St, NW
Hawk Signal

Georgia Avenue and Hemlock St, NW
DC PHB Evaluation Findings:

• Pedestrian Hybrid Beacon evaluated by conducting series of 3 field observations of driver compliance and pedestrian behavior

• Main measure of effectiveness:
  – Proportion of drivers stopping/yielding to pedestrians when device showed red indication

• Evaluation showed an average of 97% motorist compliance with the signal

• Overall, 42% of pedestrians who crossed at the intersection did so without activating the signal
# 15th Street NW. LOS and Speed

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15th Street Bicycle Volume and Crashes

- % change in bicycle volume
- % change in bicycle crashes

15th St

DC overall
Build it and they will come

DC Travel to Work by Bicycle & Bike Lane Development

Year


Miles of Bike Lanes

Bike to Work Modesare

0 10 20 30 40 50 60 70

0.00% 0.50% 1.00% 1.50% 2.00% 2.50% 3.00% 3.50% 4.00% 4.50% 5.00%

0 10 20 30 40 50 60

0.75% 1.16% 2.00% 1.68% 2.33% 2.17% 3.13% 3.30% 4.10% 4.54% 66

0

27 27 24.7 30.1 38.5 44.7 50.3 51.3 55.8 60 66

27 27