



**New York City
Department of Transportation**

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Iris Weinshall, Commissioner

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January 27, 2005

Mr. Vincent P. Pearce, Acting Director
Office of Transportation Operations
Federal Highway Administration
400 Seventh Street SW, HOTO
Washington, DC 20590

Re: Request for Permission to Experiment on Markings for Bicycle Lanes

Dear Mr. Pearce:

The New York City Department of Transportation (NYCDOT) is formally requesting permission to experiment with an innovative design and treatment for bicycle lanes. The experimental treatment would be the use of blue pavement markings along with the standard bicycle symbol. The intent of using this experimental treatment would be to better alert motorists, bicyclists and pedestrians to the existence of a bicycle lane.

I. Background

Since the early-1970's, the NYCDOT has been working to improve conditions for bicyclists traveling on City streets. The City has over 400 miles of on- and off-street bicycle facilities with a planned network of approximately 900 miles. The network of bicycle routes serves to connect residences with workplaces, shopping districts, parks, and other destinations (see attached 2004 edition of the "NYC Cycling Map"). The routes consist of Class I, II and III facilities. An ongoing issue concerning the use of the bicycle routes is compliance of motor vehicles with the requirement not to park or travel in Class II lanes, especially those lanes that are immediately adjacent to the curb. Approximately 14 miles of the City's Class II lanes are located along the curb. In addition, we are concerned that motorists yield to bicyclists where high-speed vehicles transverse bicycle lanes in complex intersections. Finally, bicyclists do not always utilize bicycle lanes when available.

The City has installed, to a very limited extent, small segments of bicycle lanes with blue pavement (see Figure 1) that have received a favorable response from the bicycle community. We believe that these markings have the likelihood of being an effective treatment for promoting the safe and responsible use of bicycles in an urban setting.



Figure 1. Blue curbside bike lane, Sands Street, Brooklyn, New York

II. The Nature of the Problem

Bicyclists in New York City operate in a challenging environment competing for roadway space with many other classes of vehicles and pedestrians. The NYCDOT has created more than 160 miles of Class II bicycle lanes. These lanes increase the comfort level of bicyclists and dedicate roadway space for the exclusive use of bicyclists. Unfortunately, this space is not always respected and incursions by both parked and moving motor vehicles are frequent. Pedestrians also use the bicycle lanes as a place to wait before crossing the roadway. These problems are most acute on bicycle lanes that are immediately adjacent to the curb. NYCDOT found that the requirements set in the current (2003) *Manual on Uniform Traffic Control Devices (MUTCD)* might not best address the needs of New York City bicyclists. The current MUTCD requirements for bicycle lanes do not allow for other than white striping and symbols on the pavement. We believe that more distinctive blue-colored lanes could better alert motorists, bicyclists and pedestrians to the existence of the lanes than the traditional white striping alone.

NYCDOT proposes to install this experimental treatment for all curbside bicycle lanes. This limited installation would then be evaluated by NYCDOT to determine whether such lanes are effective and should be expanded to other locations in the City. The evaluation will determine whether the experimental markings are effective in improving compliance and if they are feasible for extensive application.

III. Proposed Changes

NYCDOT proposes to install experimental bicycle lane markings. The idea to use these markings was developed after consideration of “Interpretations, Experimentations, Changes, and Interim Approvals” listed under Section 1A.10, Chapter 3E “Colored Pavements”, and Section 1A.12 “Color Code” found in the 2003 Edition of the MUTCD. The proposed change deviates from the original aforementioned option in that it uses blue pavement to designate bicycle lanes. NYCDOT intends to install these experimental markings at up to 14 miles of curbside bicycle

lanes and at two or three complex intersections. It is believed that such bicycle lanes would be more noticeable by motorists, bicyclists and pedestrians, and would therefore lead to fewer crashes, injuries and fatalities.

IV. Development

1. Previous Review and Preliminary Approval

Colored bicycle lanes have already been used experimentally in Portland, Oregon, Boca Raton, Florida, and Arlington County, Virginia, and have been found to make motorists more aware of the presence of cyclists. They have also been tested in Montreal, Canada, Copenhagen, Denmark, and Malmo, Sweden. All of these agencies provided preliminary approval of the experimental lanes.

2. Cost Evaluation

The NYCDOT proposed system would increase the cost somewhat of installing and maintaining bicycle lanes because it would add a layer of paint or thermoplastic that wears away more quickly than the underlying asphalt or concrete (see Figure 2).



Figure 2. Experimental blue bike lane being installed on Jay Street, Brooklyn, New York

V. Timeline

1. Spring/Summer 2005 — NYCDOT begins installation of experimental lanes
2. Fall 2005— NYCDOT completes installation of experimental lanes
3. Spring 2006 — NYCDOT provides first semiannual report to FHWA
4. Fall 2006 — NYCDOT provides semiannual report to FHWA, if needed
5. Spring 2007 — NYCDOT compiles all data and prepares final report on experiment

VI. Location

The proposed bike lanes are to be installed on up to 14 miles of Class II bike lanes located immediately adjacent to the curb.

VII. Analysis

NYCDOT proposes to conduct traffic and user surveys of the blue bike lanes for the required analysis. An initial survey will be distributed before installation of the proposed experimental lanes. Questions will focus on recognition and use of lanes by bicyclists, compliance by motorists with parking and moving regulations, and compliance by pedestrians.

Following the initial survey, two more user surveys are planned - one during the experiment and one a year after the completion of the experiment. These surveys will focus on the continuing effectiveness of the lanes. In addition, the durability of the lane markings will be evaluated for retention of color, retro-reflectivity, visibility during nighttime and wet weather conditions, effects of traffic volume and types of vehicles (e.g., trucks, buses), and roadway surface (e.g., concrete and asphalt).

The NYCDOT surveys will document changes to the rates of compliance by motorists and bicyclists with the experimental blue bicycle lanes. Motorist compliance surveys will evaluate both moving and parking violations. Bicycle compliance will evaluate usage of the lanes vs. riding in lanes assigned to general traffic. The NYCDOT will also evaluate changes to crash rates at selected locations.

VIII. Conclusion

With the use of the proposed experimental bicycle lanes, we seek to determine whether such lanes make motorists more aware of the possibility that bicyclists may be traveling in the lanes, and thereby reduce crashes, injuries and fatalities. There are no anticipated adverse effects on safety with the proposed experiment.

Sincerely yours,



Gerard Soffian

GS:sz

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