New York City
Department of Transportation
Iris Weinshall, Commissioner

Office of the Director,
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January 28, 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 School Crosswalks

Dear Mr. Pearce:

The New York City Department of Transportation (NYCDOT) is formally requesting permission to experiment with two innovative designs and treatments for school crosswalks. The first experimental crosswalk would be the use of supplemental yellow-green pavement markings within the "standard" white school crosswalk markings. The second experimental crosswalk would be the application of yellow-green colored pavement to the crosswalk in its entirety. The intent of using these experimental crosswalks would be to better alert motorists and pedestrians, including school children, to the existence of school crosswalks.

I. Background

Since the early 1950s, the NYCDOT has been working to improve safety for children traveling to and from school. We have developed individual traffic safety plans for each school designating appropriate routes and traffic controls. The controls have included designated school crosswalks, which are currently marked with a combination of white crosswalk lines with white longitudinal lines parallel to traffic flow (Figures 1 and 2).

The City has upgraded its school crosswalk warning signs to fluorescent yellow-green. In compliance with the 2003 Federal Manual on Uniform Traffic Control Devices (MUTCD), yellow-green downward-pointing arrows at the crosswalks are also being installed. In advance of each crosswalk the roadway message "SCHOOL X-ING" as well as high visibility white school crosswalks have been installed at designated crosswalks at each school. No colors other than white are being used for school crosswalks.

In January, 2002, NYCDOT launched an intensive *Safe Routes to School* Program. A consultant was hired to evaluate the more than 1,400 grade and intermediate schools in New York City with an enrollment of at least 250, analyze crash data for the intersections in the immediate vicinity of each school, observe and record traffic and safety conditions, and rank each school according to the crash histories. The 135 schools with the most

serious safety issues were designated as "priority" schools, and the consultant has begun making recommendations for safety improvements around each priority school. The consultant also produced a report recommending general measures that might be used at all schools to improve safety. Among the general measures recommended by the consultant was the installation of more distinctive roadway markings near the schools to better alert motorists that they are approaching schools and designated school crosswalks.

II. The Nature of the Problem

Upon reviewing the consultant's recommendation NYCDOT found that the requirements set in the MUTCD might not best address the needs of New York City schools. The current MUTCD requirements for schools crosswalks do not allow for other than white striping. We believe that more distinctively-colored crosswalks could better alert motorists and pedestrians to the existence of school crosswalks than the traditional white striping alone. Many street users do not recognize that there is a difference between the distinctive markings used at designated school crosswalks and the markings used at conventional crosswalks and other kinds of high-visibility crosswalks used by NYCDOT (longitudinal lines only). Because the MUTCD has established yellow-green as the color to generally mean pedestrian warning, bicycle warning, school bus and school warning, we believe that yellow-green could be the appropriate color to add to the traditional white striping. Attached are photographs (Figures 3 and 4) showing how the crosswalks would look with the yellow-green striping added to the existing white longitudinal lines.

NYCDOT also proposes to test use of a yellow-green colored pavement at selected school crosswalks. The roadway surface within the white crosswalk lines will be colored yellow utilizing a "street print" material.

NYCDOT proposes to install these two experimental markings for school crosswalks at school crosswalks at selected "priority" schools. This limited installation would then be evaluated by NYCDOT to determine whether such crosswalks are effective and should be expanded to other locations in the City. The evaluation will determine whether the experimental marking are effective in improving pedestrian safety and feasible for extensive application.

III. Proposed Changes

NYCDOT proposes to install two kinds of experimental school crosswalks: The idea to use these markings was developed after consideration of the "Option" listed under Section 3B.17 "Crosswalk Markings" and Section 1A.12 "Color Code" found in the 2003 Edition of the MUTCD. The first proposed change deviates from the original aforementioned option in that it incorporates the yellow-green color by adding a second set of longitudinal transverse markings along with the perpendicular allowed (Figure 5). The second proposed change would be to use a "street print" material to color the roadway surface yellow within the white crosswalk lines (Figure 6). NYCDOT intends to install these experimental markings at school crosswalks at up to 15 schools for each of the two types of experimental markings. It is believed that such crosswalks would be

more noticeable by motorists and pedestrians, and would therefore lead to fewer crashes, injuries and fatalities.

IV. Development

1) Previous Review and Preliminary Approval

These yellow-green crosswalks have already been used experimentally in Cranston, Rhode Island. They are also being used experimentally in other cities. We are not aware of any communities testing yellow-colored pavement at school crosswalks, although several cities in New Jersey are using pavement of other colors at selected crosswalks.

2) Cost Evaluation

The NYCDOT proposed system would increase the cost somewhat of installing and maintaining roadway markings. The cost of thermoplastic yellow-green school crosswalks would be approximately $1.50 per linear foot of a 12" wide lane. The cost of imprint yellow-green colored pavement would be $16-$18 per square foot installed.

V. Timeline

The following schedule will be used for testing experimental crosswalks:

a. Fall 2005— NYCDOT completes installation of experimental crosswalks
b. Fall 2006— NYCDOT evaluates results
c. Winter 2006 NYCDOT decides whether the program should be expanded to other schools
d. Fall 2006— NYCDOT provides first semiannual report to FHWA
e. Spring 2007— NYCDOT provides semiannual report to FHWA
f. Fall 2007— NYCDOT compiles all data and writes final report on experiment.

VI. Location

The proposed crosswalks are to be installed at schools with a documented history of traffic safety problems that would likely benefit from having more prominent school crosswalks.

VII. Analysis

NYCDOT proposes to conduct surveys at the experimental crosswalks as well as conventional "control" crosswalks for the required analysis. An initial survey will be conducted before installation of the proposed experimental crosswalks. Questions will focus on recognition and use of designated school crosswalks by students and other pedestrians, compliance with stop lines, stop signs and other traffic controls at the crosswalks.

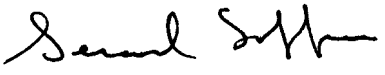
Following the initial survey, two more surveys are planned — one during the experiment and one after a year following the completion of the experiment. These surveys will focus on continuing effectiveness of the crosswalks. In addition, the durability of the crosswalk will be evaluated for retention of color, retroreflectivity, 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 with the experimental school crosswalks. Motorist compliance surveys will evaluate both moving and parking violations. The NYCDOT will also evaluate changes to crash rates at selected locations.

VIII. Conclusion

With the use of the proposed experimental crosswalks, we seek to determine whether such crosswalks make drivers more aware of the possibility that children may be crossing in front of them, and thereby reduce crashes, injuries and fatalities. There are no anticipated adverse effects on safety with the proposed experiment.

Sincerely yours,



Gerard Soffian

Figure 3

Figure 2

2004

Figure 1


SCHOOL

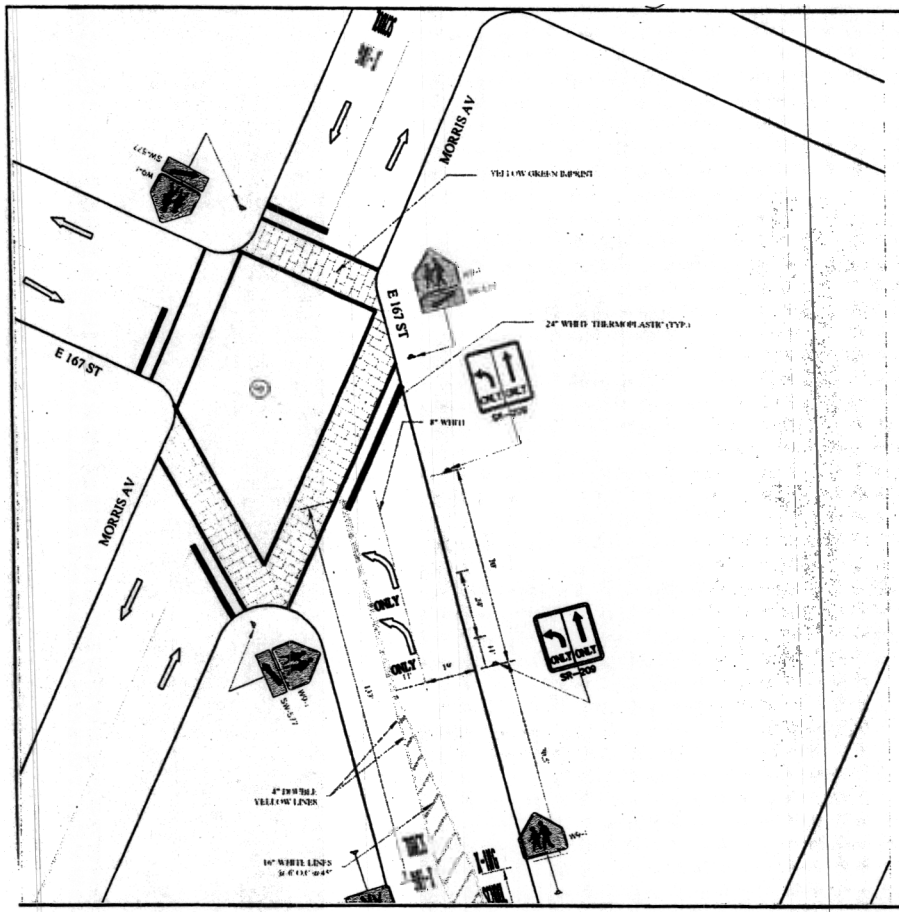


FIGURE 6

REVISIONS		
DATE	BY	DESCRIPTION

SYMBOL	DESCRIPTION
W9-1 SW-577	ADVANCE WARNING SIGN
SCHOOL X-ING	SCHOOL X-ING MARKING
S	TRAFFIC SIGNAL
	DIRECTION OF TRAFFIC
	PEDESTRIAN CROSSWALK
	SCHOOL CROSSWALK
	PROPOSED
	CURB LINE

CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC OPERATIONS
28-11 Queens Plaza North
L.I.C., N.Y. 11101

TYPICAL MARKINGS FOR SCHOOL CROSSWALK
PROPOSED BY SCHOOL SAFETY ENGINEERING

APPROVED
BY _____

Drawn by D. Cillestin
Checked by D.Cillestin
Borough Bronx
Scale 1"=30'
Date 11/22/04

W-ORDER NO. XXXXX
DRAWING NO. MB-XXX

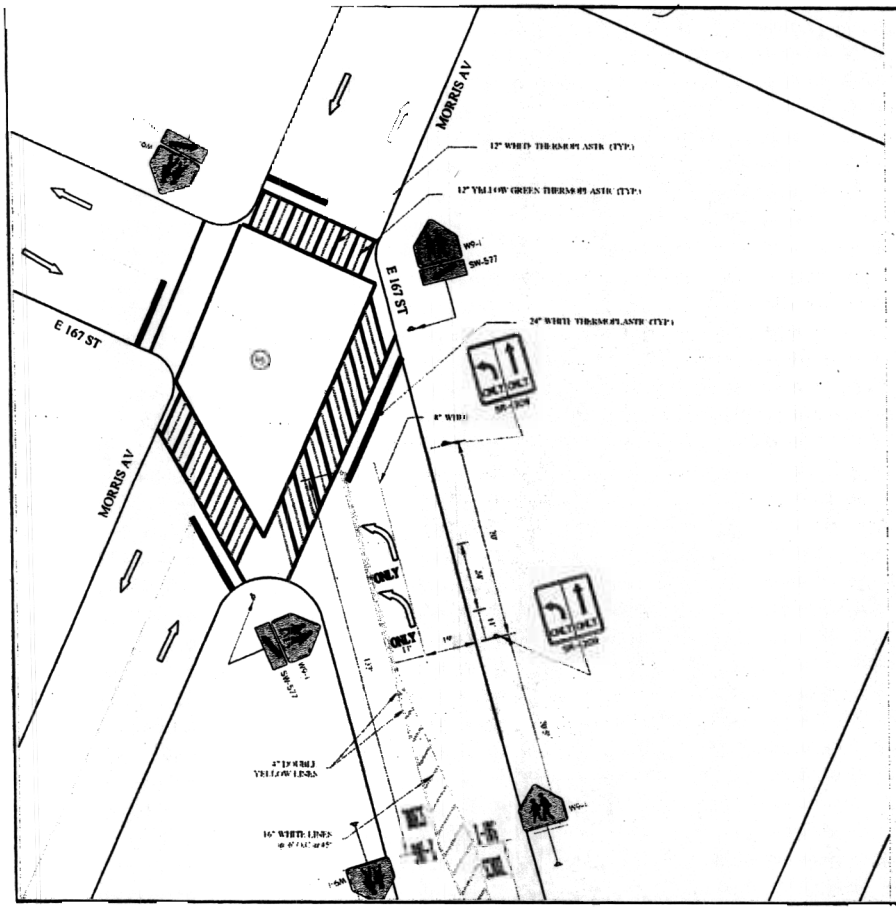
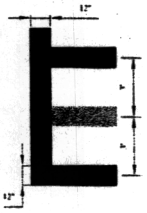


FIGURE 5

REVISIONS		
DATE	BY	DESCRIPTION



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APPROVED	Drawn by D. Célestin	M--ORDER NO. XXXXX
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