

**New York City Department of Transportation
Office of School Safety Engineering**



School Safety Engineering Project

FINAL REPORT: J.H.S. 275, Henry Highland Garnet School/P.S. 175, Manhattan



Prepared by
The RBA Group/Urbitrans Associates



SEPTEMBER 12, 2006

**School Safety Engineering Project
J.H.S. 275, Henry Highland Garnet School / P.S. 175, Manhattan**

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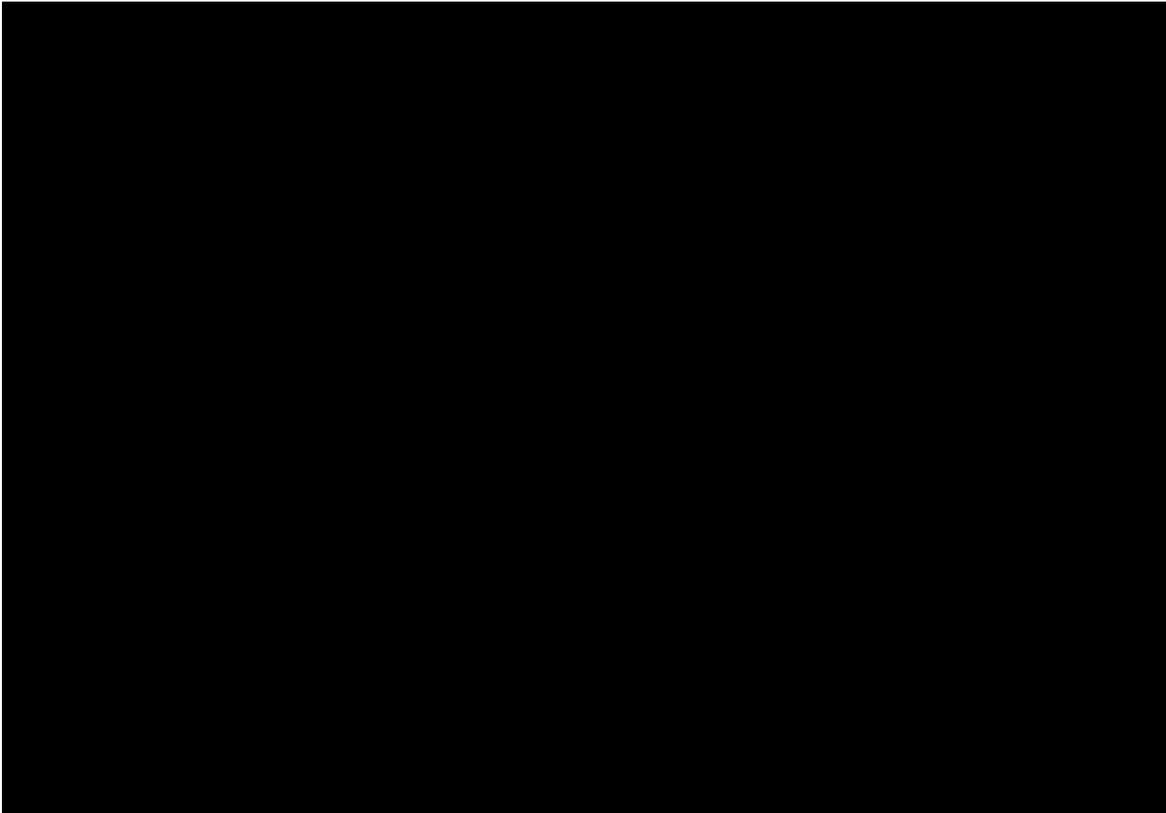
1. INTRODUCTION

1.1 PROJECT DESCRIPTION

The Department of Transportation has developed school safety maps for 1,471 schools throughout the City. Schools currently in the program are primarily elementary and intermediate schools with an enrollment of at least 250 students. The safety plans include the designation of official school crosswalks, identified by prominent warning signs and roadway markings. DOT also designates curbside locations for school bus loading and unloading and other parking controls to improve conditions for students. In addition, nearly 350 speed reducers (humps) have been installed in the immediate vicinity of schools.

Under this consultant study, the School Safety Engineering Project, crash data in the vicinity of all program schools was reviewed. As a result, schools were ranked in terms of pedestrian safety, and 135 “priority” schools were identified Citywide. At each of these priority schools safety improvements are being recommended (e.g., new school crosswalks, new traffic signals and signal timing modifications, new speed reducers). In addition, 32 of these schools will receive further investigation to design physical improvements (e.g., raised center medians, widened sidewalks, “neckdowns” or “bulbouts” at intersections). J.H.S. 275/P.S. 175 in Manhattan is one of the 135 priority schools.

2. BACKGROUND—EXISTING CONDITIONS AND ANALYSIS



2.2 NEIGHBORHOOD DESCRIPTION

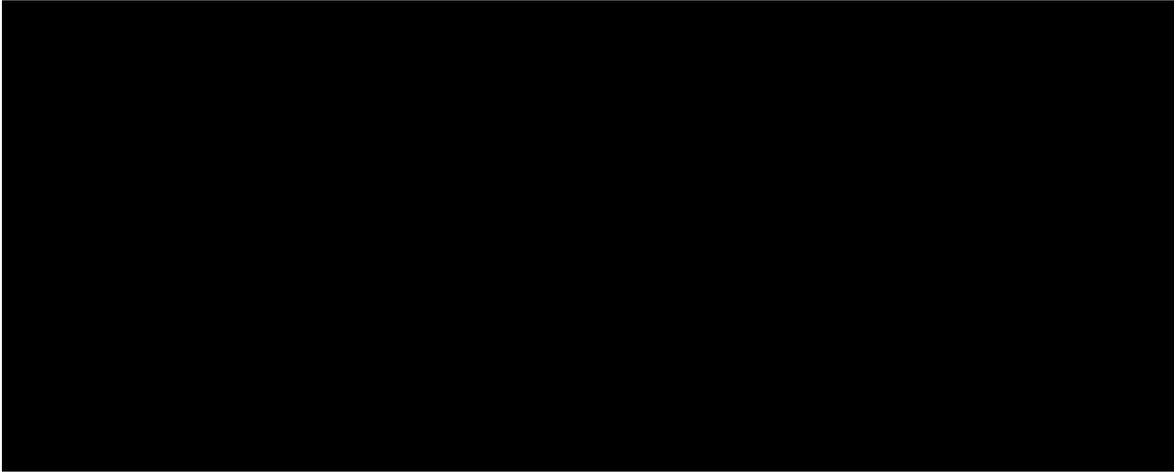
Adam Clayton Powell Boulevard and Lenox Avenue are both mixed-use roadways, lined by commercial storefronts such as delis, shops, pharmacies, and 3-4 story apartment buildings. The cross streets are mostly residential with a few businesses throughout (see Exhibit 1 for Aerial Photograph). P.S. 92, also a priority school is located one block to the west on West 134th Street.

2.3 MEETING WITH SCHOOL REPRESENTATIVES

Representatives from J.H.S. 275/P.S. 175 and the consultant staff met at the school on the afternoon of May 27, 2004. According to the representatives of the school, the identifiable problems that student pedestrians encounter on a regular basis include the following:

- Vehicles speeding on West 134th Street and Adam Clayton Powell Boulevard
- Lack of curb side parking for buses
- Medians on Adam Clayton Powell Boulevard do not extend through the existing crosswalks
- Students unable to see traffic on Lenox Avenue due to parked vehicles
- Inadequate pedestrian phase to cross Lenox Avenue

(See the Appendix for a summary of school concerns and the school’s survey response)



2.6 PRIMARY MODES OF TRANSPORT TO AND FROM SCHOOL

According to school officials from J.H.S 275, 65% of students walk to school, 10% are driven by parents or guardians, and the remaining 25% of students arrive by public bus or subway service.

According to school officials from P.S. 175, 50% of students walk to school, 25% are driven by parents or guardians, and the remaining 25% students arrive by public bus or subway service. See Table 1 for the school’s estimate of the modes of travel.

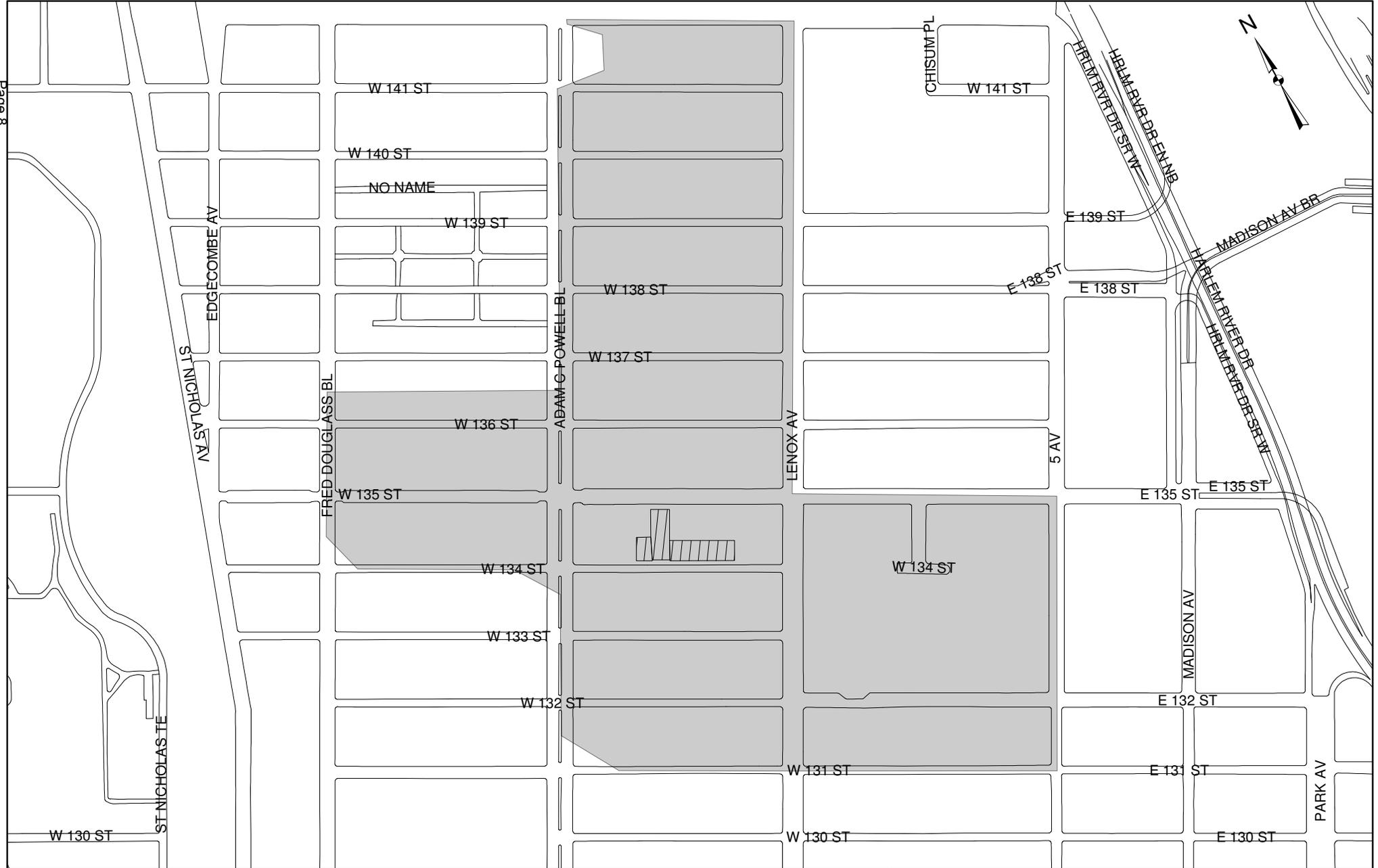
TABLE 1: MODES OF TRAVEL		
(AS ESTIMATED BY SCHOOL OFFICIALS)		
DESCRIPTION	PERCENTAGE	
	J.H.S. 275	P.S. 175
Walk	65%	50%
Driven by parent or guardian	10%	25%
School bus	0%	0%
MTA bus/subway	25%	25%
TOTAL	100%	100%



1 inch equals 200 feet

EXHIBIT 1
J.H.S. 275/P.S. 175, MANHATTAN
HENRY HIGHLAND GARNET SCHOOL

AERIAL PHOTOGRAPH



1 inch equals 500 feet

 CATCHMENT AREA

EXHIBIT2
J.H.S. 275/P.S. 175, MANHATTAN
HENRY HIGHLAND GARNET SCHOOL

CATCHMENT AREA



School Traffic Safety Map



The School Traffic Safety Map was established to help provide the maximum degree of safety for children going to and from school - by indicating the location of speed reducers, school crosswalks and some traffic control devices. (While virtually all intersections in NYC benefit from traffic control devices - such as stop signs, traffic signals, yield signs, and all way stop signs - this map shows only traffic signals and all way stop signs.) The school crosswalks that are shown are ladder striped and make the crosswalk more visible to drivers and help make the intersection safer. These crosswalks are where school children are recommended to cross.

Note: Every attempt has been made to provide complete and accurate information that is updated regularly. The City's streets are constantly changing and it is not always possible to present information without error.

LEGEND:	
SCHOOL LOCATION	
SCHOOL CROSSWALK	
TRAFFIC SIGNAL	
ALL - WAY STOP	
SPEED REDUCER	

JHS 275 Manhattan
HENRY HIGHLAND GARNET SCHOOL

Prepared by the NEW YORK CITY DEPARTMENT OF TRANSPORTATION, Iris Weinsahl, COMMISSIONER.

Map created on 11/16/2006

COMM. BOARD: 110
 PRECINCT: 32

EXHIBIT 3

1.5.1



2.7 ADDITIONAL STUDENT PEDESTRIAN TRAFFIC GENERATORS

There are two other schools in the immediate vicinity of J.H.S. 275/P.S. 175. P.S. 92 is situated on West 134th Street between Adam Clayton Powell Boulevard and Fredrick Douglass Boulevard. The other school, P.S. 197, is on West 135th Street, one block east of Lenox Avenue. P.S. 92 is also one of the 135 priority schools. Many delis and candy stores are located on Lenox Avenue and Adam Clayton Powell Boulevard that are popular with the students of J.H.S. 275/P.S. 175.

There are several bus routes in the vicinity of J.H.S. 275/P.S. 175. The M7 and M102 bus lines run north-south on Lenox Avenue and the M2 bus line runs north-south on Adam Clayton Powell Boulevard. The Bx33 bus line runs east-west on West 135th Street adjacent to school. There are also entrances to the B and C subway lines at the intersection of West 135th Street and Lenox Avenue.

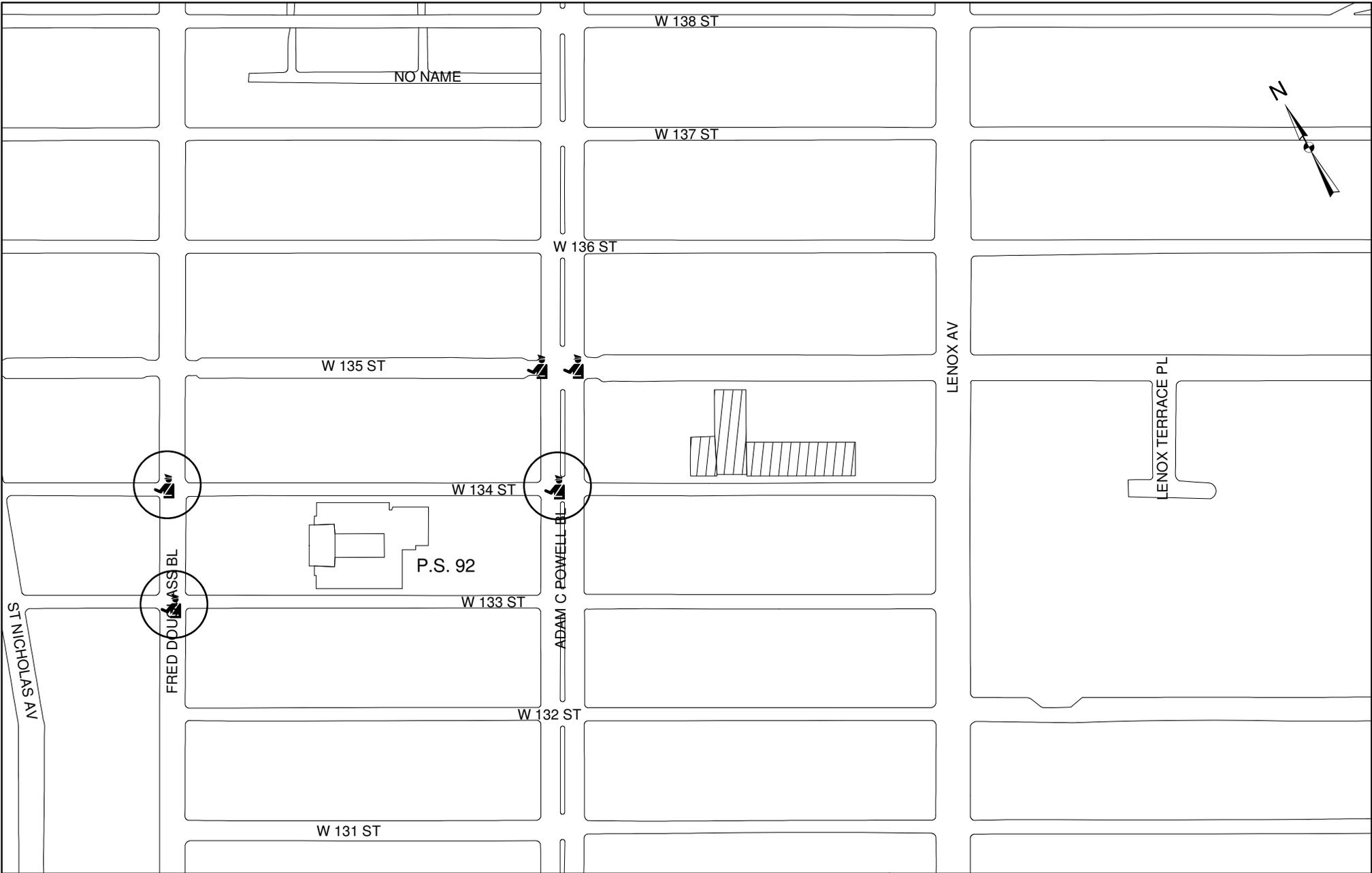
2.8 CROSSING GUARDS

According to field observations, there are two crossing guards assigned to J.H.S. 275/P.S. 175. Both crossing guards are stationed at the intersection of Adam Clayton Powell Boulevard and West 135th Street.

There are additional crossing guards in the area assigned to P.S. 92 and stationed at the following intersections:

- Adam Clayton Powell Boulevard and West 134th Street
- Frederick Douglass Boulevard and West 134th Street (see Figure 2)
- Frederick Douglass Boulevard and West 133rd Street

See Exhibit 4 for a map of crossing guard locations.



1 inch equals 300 feet

 **CROSSING GUARD ASSIGNED TO J.H.S. 275/ P.S. 175**

 **CROSSING GUARD ASSIGNED TO P.S. 92**

EXHIBIT 4

**HENRY HIGHLAND GARNET SCHOOL
J.H.S. 275/P.S. 175, MANHATTAN**

CROSSING GUARDS

3. TRAFFIC OPERATIONS

3.1 SCHOOL BUS OPERATIONS

According to the school representatives, there is one school bus assigned to each of the schools. School buses drop-off and pick-up students on West 134th Street in front of the school's entrance. Both school buses are equipped with left hand side exit doors, which allow students to load and unload at the curbside, directly in front of the school.

School buses double-park on West 134th Street due to the lack of available curbside space, blocking the moving traffic while loading and unloading students.

3.2 PARENT DROP-OFF OPERATIONS

School officials have indicated that approximately 10% and 25% of students at J.H.S. 275 and P.S. 175, respectively, are driven to and from school by parents or guardians. It was observed that most parents and guardians double-park on West 134th Street or on West 135th Street to drop-off and pick-up students. Since West 134th Street has one moving lane with parking on both sides, the double-parked vehicles block moving traffic.

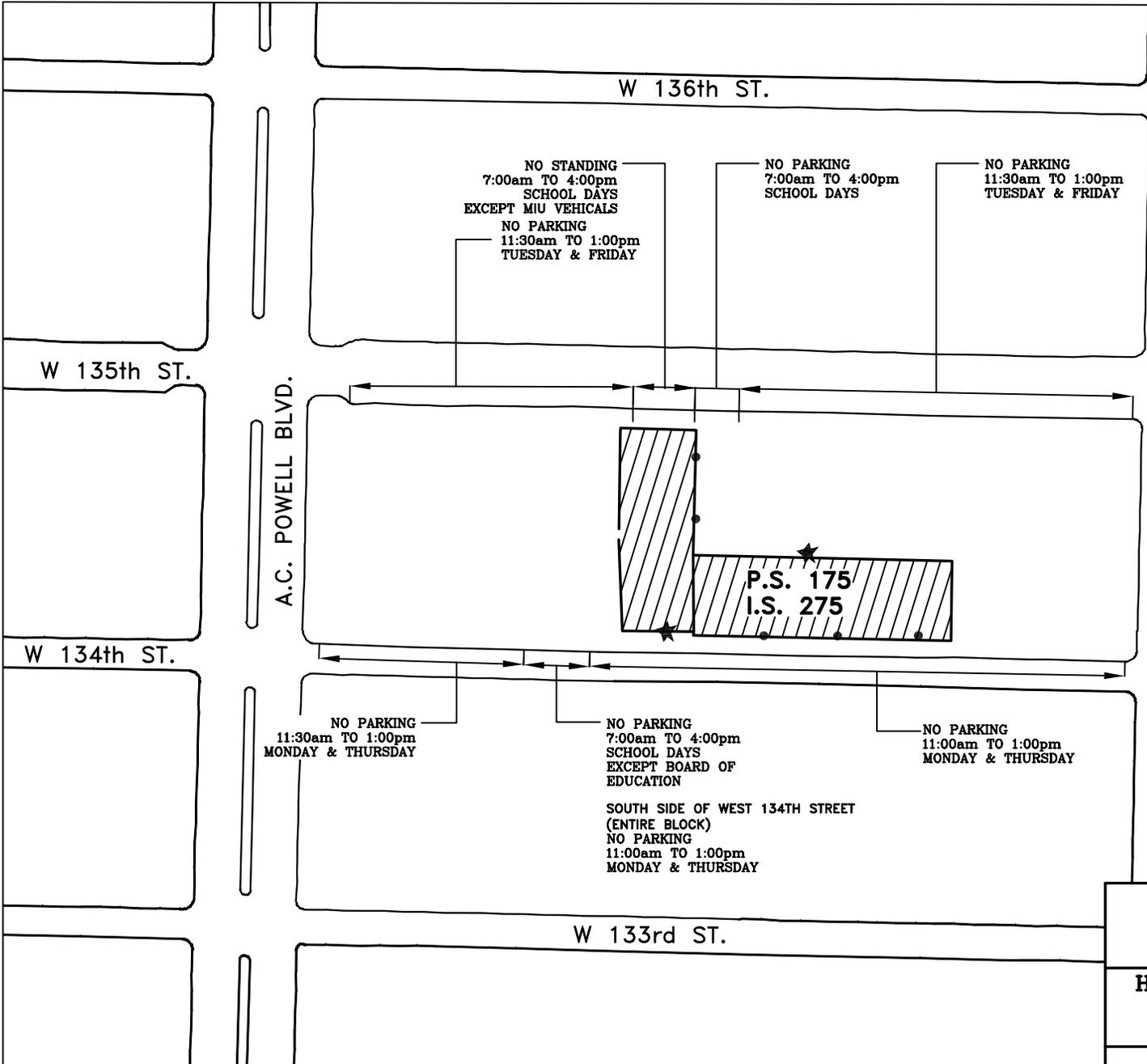
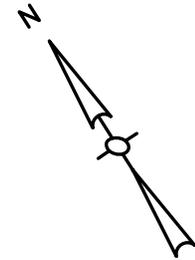
3.3 PARKING REGULATIONS

“NO PARKING, SCHOOL DAYS, 7 AM - 4 PM, EXCEPT BOARD OF EDUCATION” is posted on West 134th Street in front of the school's entrance. West 135th Street is posted as “NO STANDING, SCHOOL DAYS, 7 AM - 4 PM, EXCEPT MIU VEHICLES” and “NO PARKING, SCHOOL DAYS, 7 AM - 4 PM”.

Alternating parking regulations are in effect 11:30 am -1:00 pm. Exhibit 5 shows the parking regulations on the roadways surrounding the school.

3.4 EXISTING SCHOOL SIGNS AND MARKINGS

The Traffic Safety Plan, Exhibit 3, shows existing signs, signals and pavement markings. It is noted that a citywide signage program is currently underway to upgrade school signage to current Federal Manual of Uniform Traffic Control Devices (MUTCD) standards of fluorescent yellow-green signs accompanied by downward pointing arrows. Signs scheduled to be installed under this program are shown as “existing” on Exhibit 7.



LEGEND

- ★ MAIN ENTRANCE
- OTHER ENTRANCES

SCALE: 1"=150'

EXHIBIT 5
HENRY HIGHLAND GARNET SHCOOL J.H.S. 275 / P.S. 175 MANHATTAN
EXISTING PARKING REGULATIONS

3.5 ACCIDENT SUMMARY

Exhibit 6 and Table 2 show a summary of accidents, as obtained from the New York State Department of Motor Vehicles (DMV), in the vicinity of J.H.S. 275/P.S. 175 for the three-year period from January 1, 1998 through December 31, 2000. The DMV data provides some detail relating to the circumstances and cause of the accident. Table 3 is a summary of more recent accident data obtained from the NYC Police Department (NYPD). Though current through 2004, the NYPD data does not provide the same level of detail as the DMV data.

This report targets intersections closest to the school where the highest concentrations of student pedestrians occur. Intersections that are farther from the school which did not have detailed data available at the time of this study will be addressed with DOT's School Safety Engineering Program's ongoing work. DMV accident data is discussed in Section 3.6, Traffic Operations and Issues.

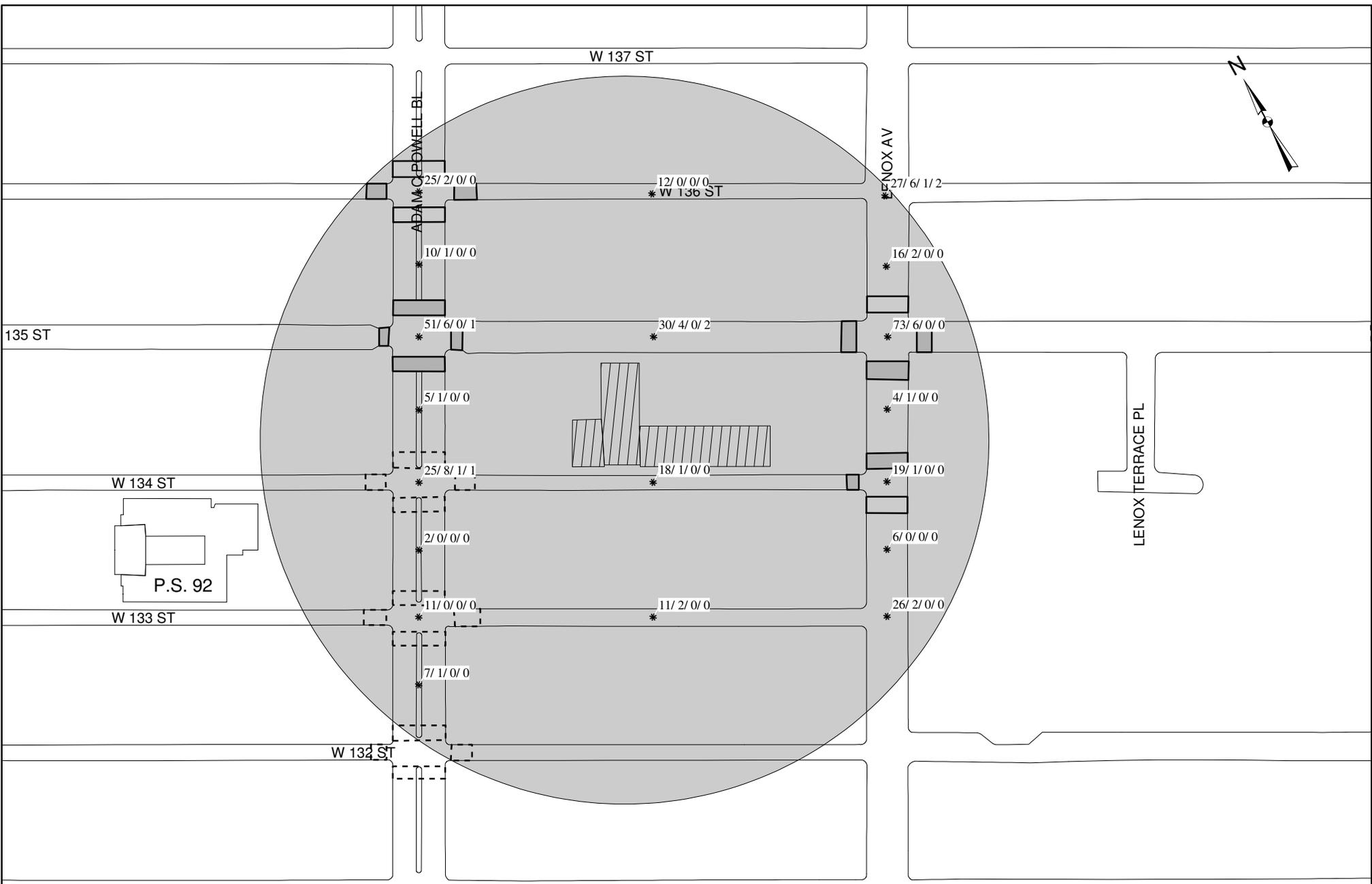
TABLE 2: DMV THREE-YEAR ACCIDENT SUMMARY (1998-2000)

INTERSECTION	TOTAL ACCIDENTS	PEDESTRIAN ACCIDENTS	PEDESTRIAN FATALITIES	SCHOOL-RELATED ACCIDENTS*
Adam Clayton Powell Blvd. and W. 134 th Street	25	8	1	1
Adam Clayton Powell Blvd. and W. 135 th Street	51	6	0	1
Adam Clayton Powell Blvd. and W. 136 th Street	25	2	0	0
Lenox Avenue and W. 134 th Street	19	1	0	0
Lenox Avenue and W. 135 th Street	73	6	0	0
Lenox Avenue and W. 136 th Street	27	6	1	2
TOTAL	220	29	2	4

TABLE 3: NYPD FOUR-YEAR ACCIDENT SUMMARY (2001-2004)

INTERSECTION	TOTAL ACCIDENTS	PEDESTRIAN ACCIDENTS	PEDESTRIAN FATALITIES	SCHOOL-RELATED ACCIDENTS*
Adam Clayton Powell Blvd. and W. 134 th Street	35	6	0	1
Adam Clayton Powell Blvd. and W. 135 th Street	117	19	0	0
Adam Clayton Powell Blvd. and W. 136 th Street	38	6	0	2
Lenox Avenue and W. 134 th Street	35	5	0	0
Lenox Avenue and W. 135 th Street	144	30	0	5
Lenox Avenue and W. 136 th Street	47	2	0	0
TOTAL	416	68	0	8

* School-Related Accidents are defined as accidents involving school-age pedestrians (age 4 – 14), occurring weekdays during the school year.



ACCIDENT LOCATION

SCHOOL CROSSWALK ASSIGNED TO J.H.S. 275/P.S. 175

SCHOOL CROSSWALK ASSIGNED TO ANOTHER SCHOOL

CROSSWALK

*



1 inch equals 250 feet

X/X/X/X

TOTAL ACCIDENTS	PED ACCIDENTS	PED FATAL	SCHOOL_PED ACCIDENTS
X	X	X	X

EXHIBIT 6

J.H.S. 275/P.S. 175, MANHATTAN
HENRY HIGHLAND GARNET SCHOOL

ACCIDENT SUMMARY
THREE YEAR PERIOD
1998-2000

3.6 TRAFFIC OPERATIONS AND ISSUES

The following outlines the traffic accident and operations issues at intersections in the vicinity of J.H.S. 275/P.S. 175

3.6.1 Adam Clayton Powell Boulevard and West 134th Street

Adam Clayton Powell is a two-way street with three moving lanes in each direction and parking on both sides. Northbound and southbound traffic are separated by a 10-foot wide raised concrete median (see Figure 2). West 134th Street is a 30-foot wide, one-way eastbound street with one travel lane and parking on both sides. School crosswalks are in place on the south, east, and west legs of this signalized intersection.



Figure 2 - Looking south on West 134th Street, at West 134th Street and Adam Clayton Powell Boulevard

Review of the existing signal timing indicates that the pedestrian phase does not provide adequate time for pedestrians to cross Adam Clayton Powell Boulevard in one cycle at a walking rate of three feet per second plus a three second reaction time. A school age pedestrian is expected to wait at the raised median between signal cycles and complete crossing the roadway on the second cycle. However, the raised medians do not extend through the crosswalks.

There were 25 accidents at this intersection during the 1998-2000 study period. Eight accidents involved pedestrians, one of which was fatal. A 41-year old pedestrian was crossing Adam Clayton Powell Boulevard against the signal when struck and killed by a vehicle going north.

There was one school-related accident at this location. Three pedestrians, including an 11-year-old student, were struck while crossing against the signal. Two accidents were attributed to drivers' failure to yield while making right turns. There was no detailed information for the last two accidents.

3.6.2 Adam Clayton Powell Boulevard and West 135th Street

West 135th Street is a two-way street with parking on both sides. The east side of West 135th Street has two westbound moving lanes, one eastbound through lane, and one eastbound left turn lane. The west side of West 135th Street has one moving lane in each direction. This intersection is controlled by a traffic signal and all four corners have school crosswalks.

There were 51 accidents at this intersection during the 1998-2000 study period. Six accidents involved pedestrians, one of which was school related. Four pedestrians, including a 13-year-old student, were crossing with the signal when struck. The accidents were attributed to driver inattention. One pedestrian was crossing against the signal and the other pedestrian was crossing outside of the crosswalk when struck.

Four pedestrians, including two school age students, were struck on West 135th Street mid-block between Adam Clayton Powell Boulevard and Lenox Avenue.

The school officials noted that vehicles were speeding on Adam Clayton Powell Boulevard in the vicinity of J.H.S. 275/P.S. 175. A spot speed study was conducted on Tuesday October 11, 2005. The results indicated that the 85th percentile is 31 mph, which did exceed the statutory speed limit of 30 mph. See Table 4 for a summary of the results and the Appendix for further discussion.

TABLE 4: SPOT SPEED STUDIES ON ADAM C. POWELL BLVD.		
LOCATION	MEDIAN SPEED (MPH)	85TH PERCENTILE SPEED (MPH)
Adam C. Powell Blvd. between West 134 th St. and West 135 th St.	28	31

Speed reducers were not considered because Adam Clayton Powell Boulevard is a wide, major arterial and the intersections are signalized at both ends of the block. See section 4 for further discussion on recommendations to improve student pedestrian safety in this corridor.

3.6.3 Adam C. Powell Boulevard and West 136th Street

West 136th Street is a one-way eastbound roadway with parking on both sides. This signalized intersection has two school crosswalks in place on the east and west legs.

25 accidents occurred at this location during the 1998-2000 study period. Two accidents involved pedestrians, none of which were school related. A pedestrian was crossing Adam C. Powell Boulevard against the signal when struck. The detailed information was not reported for the second pedestrian accident.

3.6.4 Lenox Avenue and West 134th Street

Lenox Avenue is a two-way street with two moving lanes in each direction and parking on both sides. Lenox Avenue also has a raised median separating the two directions of

traffic. The raised median extends through the crosswalks and has an at-grade ADA cut-through (see Figure 3). This “T-intersection” is controlled by a traffic signal and has school crosswalks in place on the north and west legs.

There were 19 accidents at this signalized intersection during the 1998-2000 study period. One accident involved a pedestrian, but was not school related. The accident was attributed to the driver backing up his vehicle unsafely.



Figure 3 - Looking east at the intersection of Lenox Avenue and West 134th St.

3.6.5 Lenox Avenue and West 135th Street

This intersection is controlled by a two-phase traffic signal. School crosswalks are in place on the south, east, and west legs. The subway entrances for the B and C lines are located at all four corners. All the pedestrian ramps at this intersection are substandard. These corner quadrants do not allow for standard placement of pedestrian ramps due to the close proximity of subway entrances.

There were 73 accidents at this intersection during the 1998-2000 study period. Six accidents involved pedestrians, none of which were school related. Two pedestrians were crossing against the signal when struck. One pedestrian was getting out of a vehicle when struck. Two other accidents were due to driver inattention. The detailed information for the last accident was not reported.

3.6.6 Lenox Avenue and West 136th Street

This is a signalized intersection. Pedestrian crosswalks are on the north, south, and west legs. There is no school crosswalk at this intersection.

There were 27 accidents at this intersection during the 1998-2000 study period, six of which involved pedestrians. One pedestrian accident resulted in a fatality and two others were school related. On June 19, 1999, a 49-year-old pedestrian was struck and killed while he emerged from behind a parked vehicle. Three pedestrians, including a 9-year-

old student, were crossing Lenox Avenue against the signal or outside of the crosswalk when struck. There were no details for the other two accidents.

3.6.7 West 134th Street between Adam Clayton Powell Blvd. and Lenox Avenue

West 134th Street is a one-way eastbound roadway with parking on both sides. The main entrance to J.H.S. 275 is on this block and as mentioned in section 3.1, special needs students are picked up and dropped off by school bus on this block.

There were 18 accidents at this location between 1998 and 2000, none of which were pedestrian accidents.

According to school officials, vehicles using West 134th Street travel at excessive speeds. A spot speed study was performed on Tuesday October 11, 2005. The results indicated that the 85th percentile did not exceed the statutory speed limit of 30 mph. See Table 5 for a summary of the results and the Appendix for further detail.

TABLE 5: SPOT SPEED STUDIES ON WEST 134TH STREET		
LOCATION	MEDIAN SPEED (MPH)	85TH PERCENTILE SPEED (MPH)
W. 134 th St. between Adam C. Powell Blvd. and Lenox Ave.	21	24

3.7 SIGNAL TIMING: PEDESTRIAN PHASE

Pedestrian crossing time was field verified at all signalized intersections in the vicinity of J.H.S. 275/P.S. 175 and found to be adequate for a child pedestrian walking rate of three feet per second in all directions and approaches.

TABLE 6: PEDESTRIAN CROSSING TIME AT SIGNALIZED INTERSECTIONS				
Intersection Name	Crosswalk Width (Feet)	Ped. Phase Actual (Seconds)	Ped. Phase Req'd (Seconds)¹	Timing Adjustment? (Yes/No)
Adam C. Powell Blvd. at W. 134th Street				
Adam C. Powell Blvd.	45/45 ²	31	18/18	NO
W. 134 th Street	30	49	13	NO
Adam C. Powell Blvd. at W. 135th Street				
Adam C. Powell Blvd.	45/45 ²	31	18/18	NO
W. 135 th Street	35	49	15	NO
Adam C. Powell Blvd. at W. 136th Street				
Adam C. Powell Blvd.	45/45 ²	31	18/18	NO
136 th Street	32	49	14	NO
Lenox Avenue at W. 134th Street				
Lenox Avenue	35/32 ³	26	15/14	NO
134 th Street	29	54	13	NO
Lenox Avenue at W. 135th Street				
Lenox Avenue	31/43 ³	31	14/18	NO
135 th Street	60	49	23	NO

Note:

- 1. A rate of 3 feet per second plus three seconds reaction time was utilized as the child pedestrian walking rate*
- 2. Total width of Adam Clayton Powell is approximately 100 feet with a 10 foot median. A pedestrian needs two signal cycles to cross Adam Clayton Powell Boulevard while stopping at the raised center medians between the northbound and southbound traffic.*
- 3. Total width of Lenox Avenue is approximately 80 feet with a median that ranges from 6 feet to 13 feet. A pedestrian needs two signal cycles to cross Lenox Avenue while stopping at the raised center medians between the northbound and southbound traffic.*

3.8 PHYSICAL CONDITIONS (ROADWAYS AND SIDEWALKS)

The roadways and sidewalks in the vicinity of the school were generally observed to be in good condition in the vicinity of J.H.S. 275/P.S. 175.

Pedestrian ramps that are missing or not positioned correctly have been noted in Section 3.6.

4. POTENTIAL MEASURES TO IMPROVE STUDENT PEDESTRIAN SAFETY

This section describes potential countermeasures. These countermeasures are divided into short-term and long-term measures. Short-term measures are those that potentially can be performed in-house, long-term measures are proposed capital improvements. See section 4.3 for additional recommendations developed in conjunction with the study of nearby priority schools.

4.1 SHORT-TERM MEASURES

- *No Standing Zone*

It is recommended that “NO STANDING 7 AM - 4 PM, SCHOOL DAYS” parking regulations be posted in front of the J.H.S. 275/P.S. 175 on West 134th Street for a length of 60 feet. Teacher parking should be moved to the east of proposed “No Standing” parking regulation (See Exhibit 7 for details). This will allow school buses a place to load and unload students at the curb, and also improve visibility of students arriving to and leaving the school.

- *Upgrade No Parking Zone to No Standing Zone*

Existing “NO PARKING 7 AM - 4 PM, SCHOOL DAYS” parking regulations on West 135th Street should be upgraded to “NO STANDING 7 AM - 4 PM, SCHOOL DAYS”. This will allow parents a place to load and unload students at the curb, and will also improve visibility of those students arriving to and leaving the school.

- *Install pedestrian information sign that explains the signal phases*

Installation of pedestrian information signs at the wide intersections of Adam Clayton Powell Boulevard at West 134th Street is recommended. Installation of pedestrian information signs at the intersections of Lenox Avenue at West 134th Street and West 135th Street is recommended. The pedestrian should be informed to wait at the median between signal cycles. Pedestrians will benefit from informational signage even though they are provided with sufficient time to cross at these intersections.

- *Administer student pedestrian safety education program*

It is recommended that the NYCDOT Safety Education Program work with the school to educate students on pedestrian safety, including crossing the street with the WALK phase, and the meaning of the WALK - FLASHING DON'T WALK - DON'T WALK pedestrian signal sequence. It is also recommended that students be educated not to cross at mid-block locations.

- *Place advance stop bar ten feet before school crosswalks*

The MUTCD and New York City DOT standard for placement of a stop bar is four feet in advance of a marked crosswalk. At signalized (or stop controlled) crosswalks, the vehicle stop line can be placed farther back from the crosswalk in order to maximize visibility of pedestrians and to minimize the potential for pedestrian/vehicle

conflicts. Therefore, it is recommended that stop bars be placed ten feet in advance of all school crosswalks.

- *Submit request to Police Department for Crossing Guards*

It is recommended that a crossing guard be requested for Lenox Avenue and West 135th Street, to assist students who may be without supervision of their parents.

- *Install new school crosswalks*

It is recommended that school crosswalks be installed on the west leg and south leg at Lenox Avenue and West 136th Street.

4.2 LONG-TERM MEASURES

- *Extend raised medians on Adam Clayton Powell Blvd. and Lenox Avenue through adjacent school crosswalks and provide pedestrian ramps with the median*

The signal timing (see Table 6) shows that pedestrians need two signal cycles to cross both Adam Clayton Powell Boulevard and Lenox Avenue. Therefore, raised medians should be extended through the adjacent crosswalks at critical locations. In addition, ADA compliant at-grade cut-throughs should be provided at those medians. By extending the raised median, a physically protected refuge location can be provided for pedestrians as they wait for the next cycle to cross the street. The treatment should be considered at the following intersections (See Exhibit 7):

- Adam Clayton Powell Blvd and West 136th Street
- Lenox Avenue and West 135th Street

Final details pertaining to raised medians will be developed during Final Design/Contract Document preparation.

- *Install complex pedestrian ramps*

As mentioned on Section 3.6, the pedestrian ramps at Lenox Avenue and West 135th Street are missing or substandard. Due to existing conflicts with the subway entrances, the pedestrian ramps at all four corners are considered complex. Considerations should be given to the installation of pedestrian ramps per NYCDOT standards.

4.3 ADDITIONAL MEASURES FOR PRIORITY SCHOOL IN THE VICINITY

4.3.1 P.S. 92

(All references in Section 4.3 refer to the P.S. 92 Priority School Report)

- *Install new school crosswalks at West 131st Street*

According to the school principal, many students walk to school from the Douglass Housing Project, which is located south of West 131st Street between Adam Clayton Powell Boulevard and Frederick Douglass Boulevard. It is recommended that school crosswalks be installed at the following two locations:

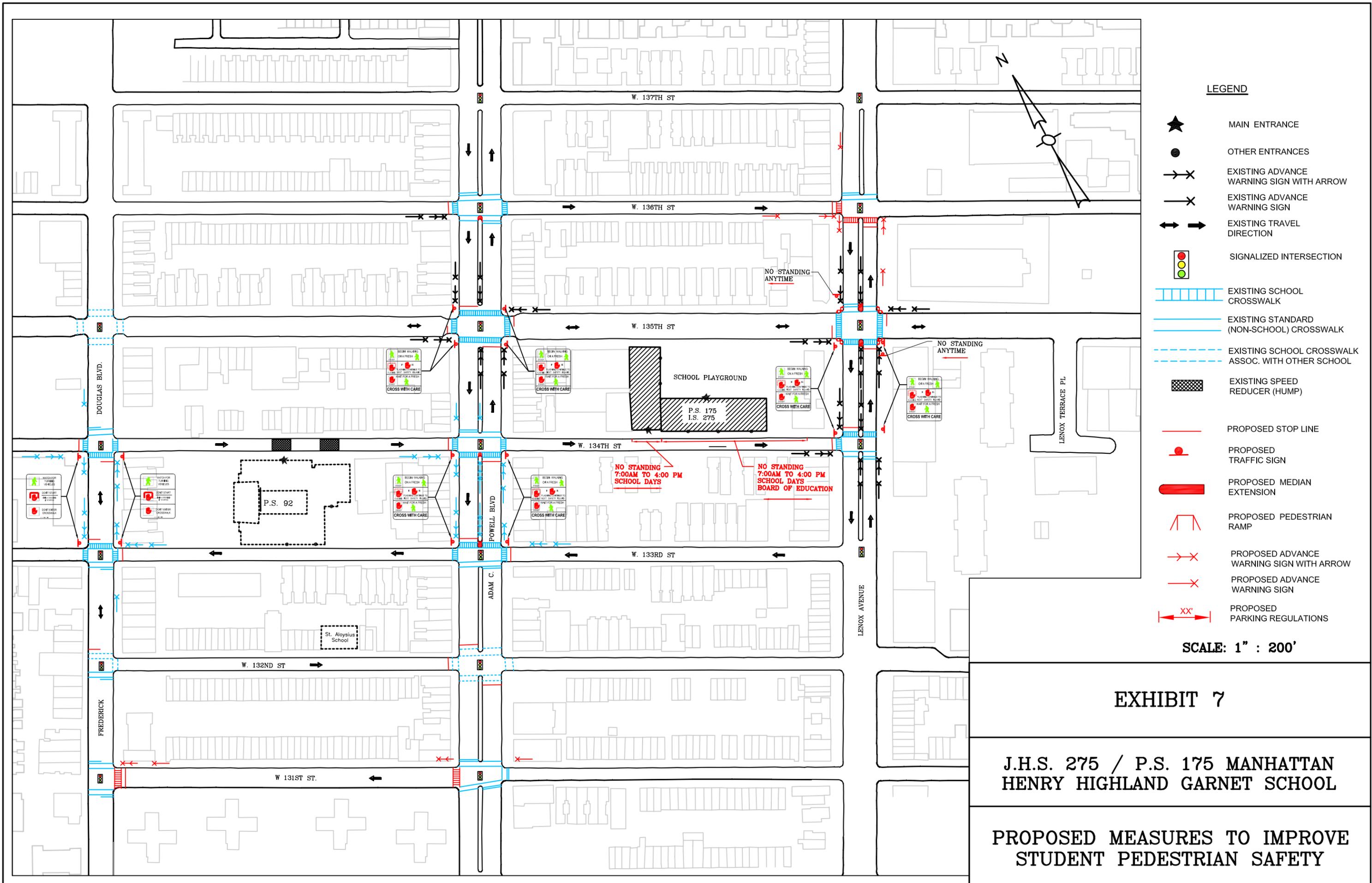
- West leg of West 131st Street and Adam Clayton Powell Boulevard
- East leg of West 131st Street and Frederick Douglass Boulevard

- *Extend concrete raised median on Adam Clayton Powell Boulevard through adjacent school crosswalk and provide pedestrian ramps within the median*

The signal timing (see Table 4) shows that pedestrians need two signal cycles to cross both Adam Clayton Powell Boulevard. Therefore, raised medians should be extended through the adjacent crosswalks at critical locations. In addition, ADA compliant at-grade cut throughs should be provided at those medians. By extending the raised median, a physically protected refuge location can be provided for pedestrians as they wait for the next cycle to cross the street. The treatment should be considered at the following intersections (See Exhibit 7):

- Adam Clayton Powell Blvd and West 134th Street (south side of the intersection)
- Adam Clayton Powell Blvd and West 133rd Street

Final details pertaining to raised medians will be developed during Final Design/Contract Document preparation.



LEGEND

- ★ MAIN ENTRANCE
- OTHER ENTRANCES
- X EXISTING ADVANCE WARNING SIGN WITH ARROW
- X EXISTING ADVANCE WARNING SIGN
- ↔ EXISTING TRAVEL DIRECTION
- 🚦 SIGNALIZED INTERSECTION
- ▬ EXISTING SCHOOL CROSSWALK
- ▬ EXISTING STANDARD (NON-SCHOOL) CROSSWALK
- - - EXISTING SCHOOL CROSSWALK ASSOC. WITH OTHER SCHOOL
- ▨ EXISTING SPEED REDUCER (HUMP)
- PROPOSED STOP LINE
- PROPOSED TRAFFIC SIGN
- ▬ PROPOSED MEDIAN EXTENSION
- ∧ PROPOSED PEDESTRIAN RAMP
- X PROPOSED ADVANCE WARNING SIGN WITH ARROW
- X PROPOSED ADVANCE WARNING SIGN
- XX' PROPOSED PARKING REGULATIONS

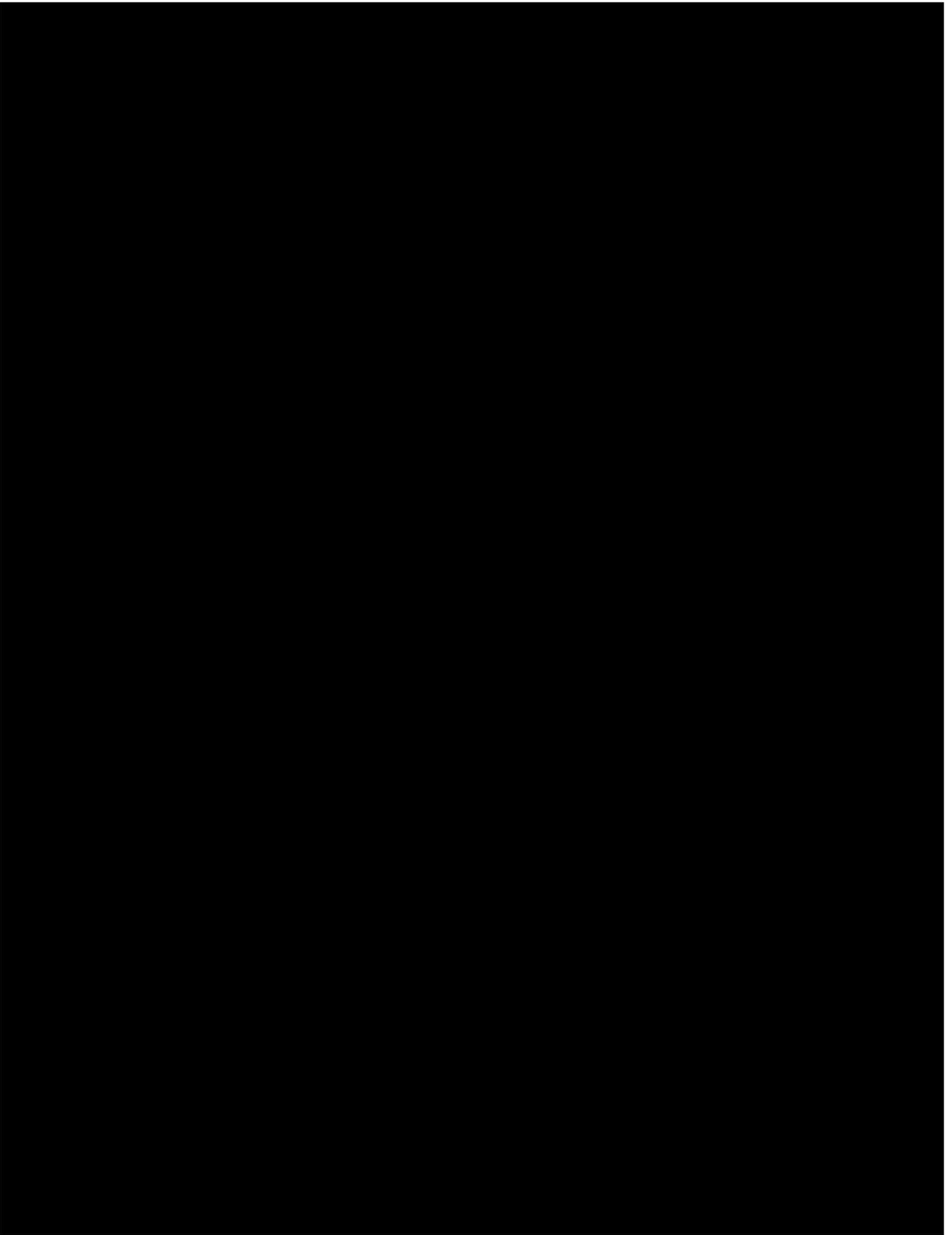
SCALE: 1" : 200'

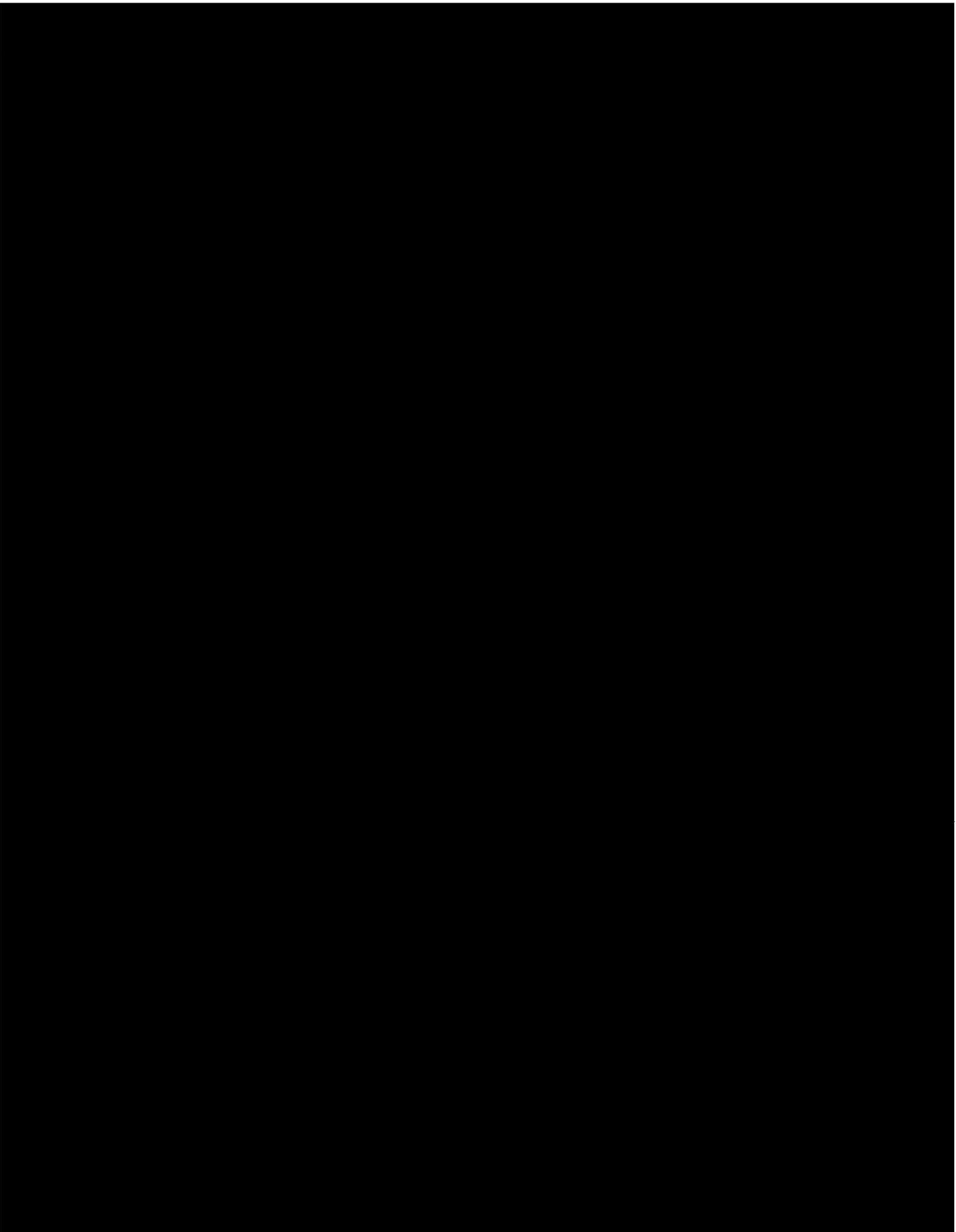
EXHIBIT 7

**J.H.S. 275 / P.S. 175 MANHATTAN
HENRY HIGHLAND GARNET SCHOOL**

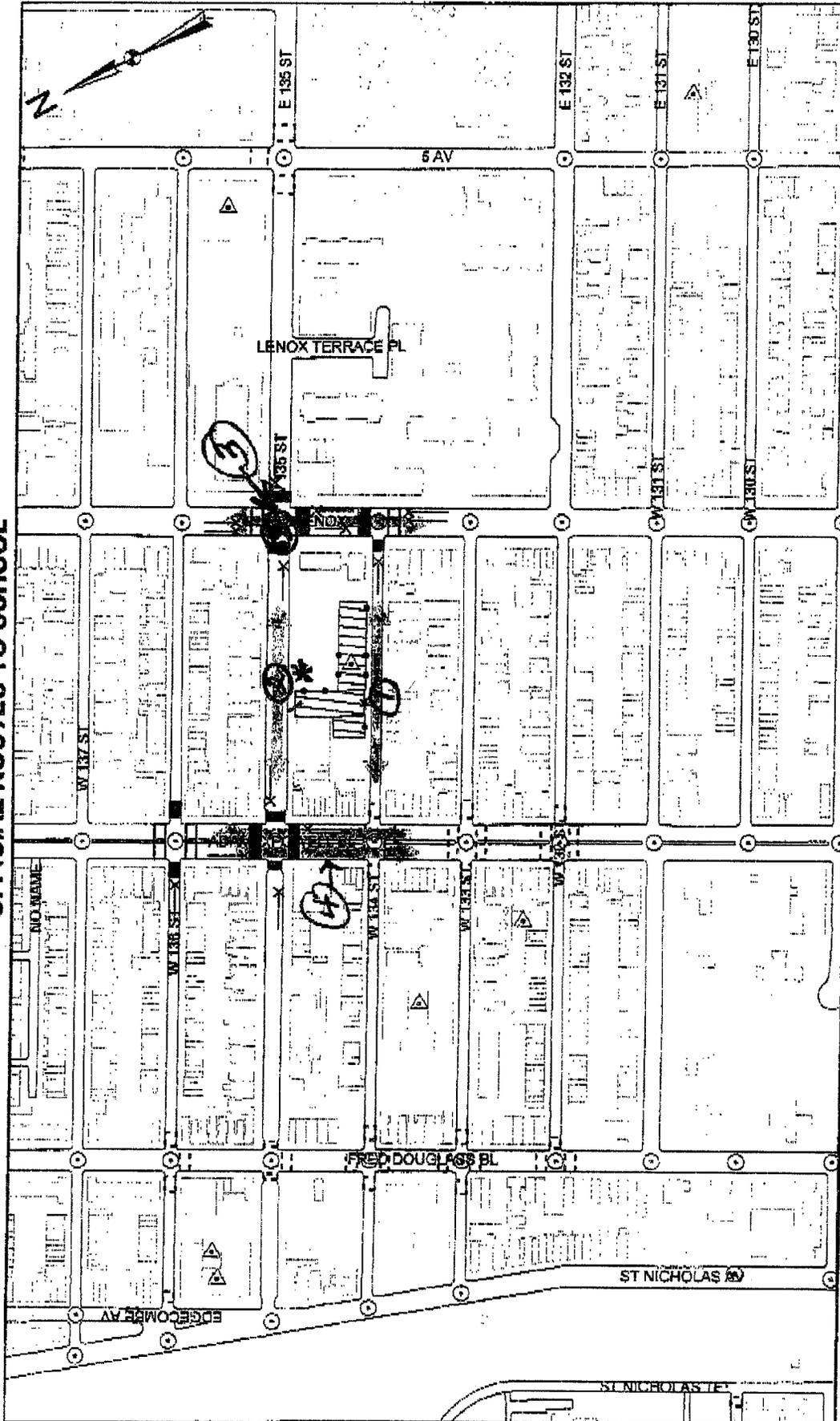
**PROPOSED MEASURES TO IMPROVE
STUDENT PEDESTRIAN SAFETY**

APPENDIX





**TRAFFIC SAFETY PLAN
OFFICIAL ROUTES TO SCHOOL**



The TRAFFIC SAFETY PLAN shown on this map was established to provide the maximum degree of safety for children going to and from school. It is required that all children follow the prescribed routes and use the designated crosswalks.

- LEGEND:**
- TRAFFIC FLOW
 - ROUTE TO SCHOOL
 - ADV. WARNING SIGN
 - SCHOOL LOCATION
 - MAIN SCHOOL ENTRANCE
 - OTHER SCHOOL ENTRANCES
 - SCHOOL X-WALK
 - PEDESTRIAN X-WALK
 - STOP LINE
 - X-WALKS ASSOCIATED WITH OTHER SCHOOLS
 - SPEED HUMP
 - TRAFFIC SIGNAL
 - ALL-WAY STOP
 - 2-WAY STOP

**HENRY HIGHLAND GARNET SCHOOL
P.S. 175 & I.S. 275**

Prepared by the NEW YORK CITY DEPARTMENT OF TRANSPORTATION,
its Manhattan Commissioner, in cooperation with SCHOOL, and
POLICE OFFICIALS.

ERIC DATE: 8/27/03
GIS CONVIRT: 04/7/2002
REVISIONS:

DRAWING NO. CC-583
MS-3886

COMD BOARD 10
BOROUGH: MANHATTAN
PRECINCT: 32

SPOT SPEED STUDY

Date: **October 11, 2005** Time: **9:30 am - 10:30 am**
 Location: **W. 134th Street Between Adam C. Powell Blvd. and Lenox Avenue**
 Surveyor: **Eyad Yousef**

School: **J.H.S. 275**
 Direction: **Eastbound**
 Comments:

Speed S (mph)	No. of Vehicles in Group n	% of Vehicles in Group	% Cumulative Vehicles	nS	nS ²
8	0	0.0%	0.0%	0	0
9	0	0.0%	0.0%	0	0
10	0	0.0%	0.0%	0	0
11	0	0.0%	0.0%	0	0
12	0	0.0%	0.0%	0	0
13	0	0.0%	0.0%	0	0
14	0	0.0%	0.0%	0	0
15	3	5.6%	5.6%	45	675
16	1	1.9%	7.4%	16	256
17	0	0.0%	7.4%	0	0
18	12	22.2%	29.6%	216	3888
19	3	5.6%	35.2%	57	1083
20	4	7.4%	42.6%	80	1600
21	12	22.2%	64.8%	252	5292
22	6	11.1%	75.9%	132	2904
23	4	7.4%	83.3%	92	2116
24	4	7.4%	90.7%	96	2304
25	0	0.0%	90.7%	0	0
26	3	5.6%	96.3%	78	2028
27	1	1.9%	98.1%	27	729
28	0	0.0%	98.1%	0	0
29	1	1.9%	100.0%	29	841
30	0	0.0%	100.0%	0	0
31	0	0.0%	100.0%	0	0
32	0	0.0%	100.0%	0	0
33	0	0.0%	100.0%	0	0
34	0	0.0%	100.0%	0	0
35	0	0.0%	100.0%	0	0
36	0	0.0%	100.0%	0	0
37	0	0.0%	100.0%	0	0
38	0	0.0%	100.0%	0	0
39	0	0.0%	100.0%	0	0
40	0	0.0%	100.0%	0	0
41	0	0.0%	100.0%	0	0
42	0	0.0%	100.0%	0	0
43	0	0.0%	100.0%	0	0
44	0	0.0%	100.0%	0	0
45	0	0.0%	100.0%	0	0
46	0	0.0%	100.0%	0	0
47	0	0.0%	100.0%	0	0
48	0	0.0%	100.0%	0	0
49	0	0.0%	100.0%	0	0
50	0	0.0%	100.0%	0	0
51	0	0.0%	100.0%	0	0
52	0	0.0%	100.0%	0	0
53	0	0.0%	100.0%	0	0
54	0	0.0%	100.0%	0	0
55	0	0.0%	100.0%	0	0
56	0	0.0%	100.0%	0	0
	54	100.0%		1120	23716

Mean Speed = 20.7 mph
 Standard Deviation = 3.0 mph
 Margin of Error (95% Confidence) = ± 0.8 mph

Median Speed = 20.7 mph
 15th Percentile Speed = 17.6 mph
 85th Percentile Speed = 23.9 mph

SPOT SPEED STUDY

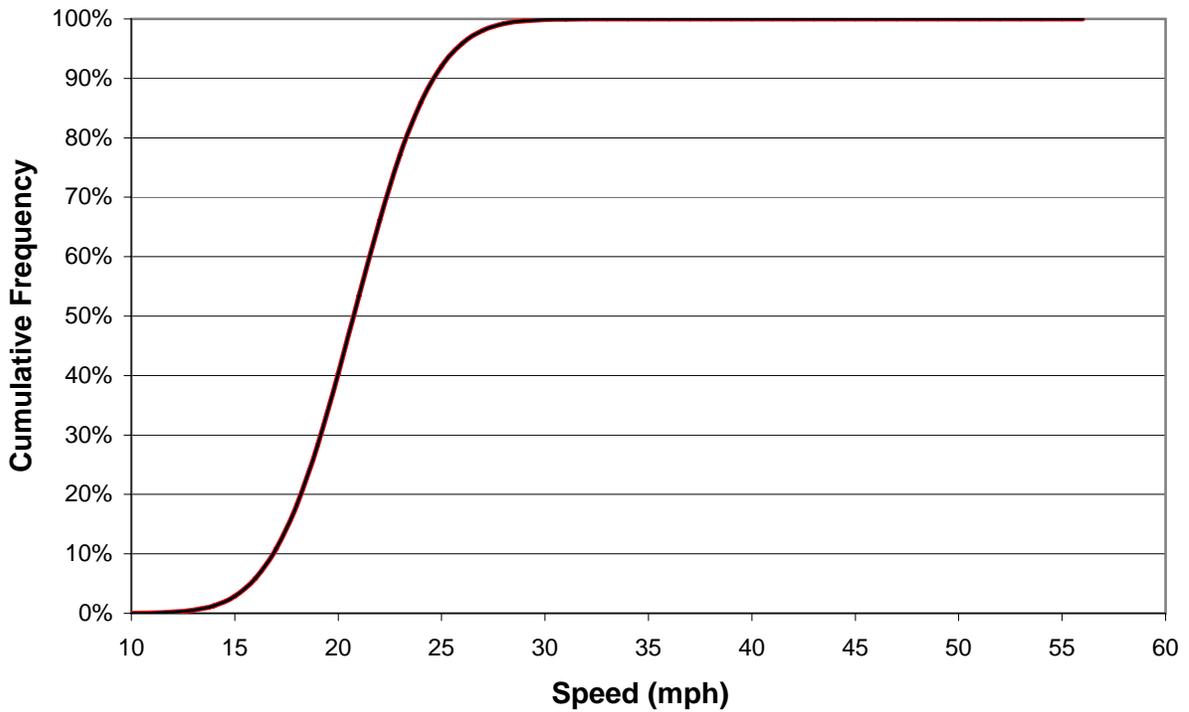
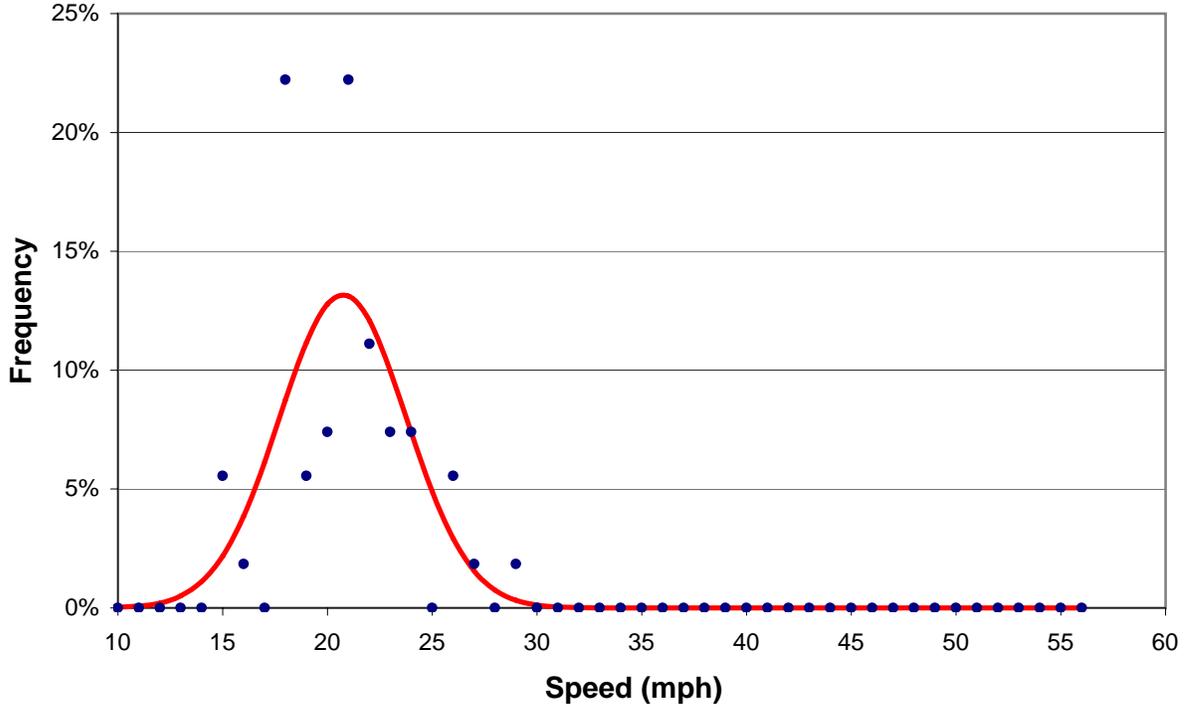
Date: **October 11, 2005**
Location: **W. 134th Street Between Adam C. Powell Blvd. and Lenox Avenue**
Surveyor: **Eyad Yousef**

Time: **9:30 am - 10:30 am**

School: **J.H.S. 275**
Direction: **Eastbound**
Comments:

Mean Speed = 20.7 mph
Standard Deviation = 3.0 mph
Margin of Error (95% Confidence) = ± 0.8 mph

Median Speed = 20.7 mph
15th Percentile Speed = 17.6 mph
85th Percentile Speed = 23.9 mph



SPOT SPEED STUDY

Date: **October 11, 2005** Time: **10:30 am - 11:00 am**
 Location: **A.C. Powell Blvd. Between W. 134th St. and W. 135th St.**
 Surveyor: **Eyad Yousef**

School: **J.H.S. 275**
 Direction: **Northbound**
 Comments:

Speed S (mph)	No. of Vehicles in Group n	% of Vehicles in Group	% Cumulative Vehicles	nS	nS ²
8	0	0.0%	0.0%	0	0
9	0	0.0%	0.0%	0	0
10	0	0.0%	0.0%	0	0
11	0	0.0%	0.0%	0	0
12	0	0.0%	0.0%	0	0
13	0	0.0%	0.0%	0	0
14	0	0.0%	0.0%	0	0
15	0	0.0%	0.0%	0	0
16	0	0.0%	0.0%	0	0
17	0	0.0%	0.0%	0	0
18	0	0.0%	0.0%	0	0
19	0	0.0%	0.0%	0	0
20	2	2.0%	2.0%	40	800
21	1	1.0%	2.9%	21	441
22	3	2.9%	5.9%	66	1452
23	5	4.9%	10.8%	115	2645
24	13	12.7%	23.5%	312	7488
25	6	5.9%	29.4%	150	3750
26	8	7.8%	37.3%	208	5408
27	19	18.6%	55.9%	513	13851
28	4	3.9%	59.8%	112	3136
29	9	8.8%	68.6%	261	7569
30	9	8.8%	77.5%	270	8100
31	13	12.7%	90.2%	403	12493
32	0	0.0%	90.2%	0	0
33	3	2.9%	93.1%	99	3267
34	0	0.0%	93.1%	0	0
35	6	5.9%	99.0%	210	7350
36	0	0.0%	99.0%	0	0
37	1	1.0%	100.0%	37	1369
38	0	0.0%	100.0%	0	0
39	0	0.0%	100.0%	0	0
40	0	0.0%	100.0%	0	0
41	0	0.0%	100.0%	0	0
42	0	0.0%	100.0%	0	0
43	0	0.0%	100.0%	0	0
44	0	0.0%	100.0%	0	0
45	0	0.0%	100.0%	0	0
46	0	0.0%	100.0%	0	0
47	0	0.0%	100.0%	0	0
48	0	0.0%	100.0%	0	0
49	0	0.0%	100.0%	0	0
50	0	0.0%	100.0%	0	0
51	0	0.0%	100.0%	0	0
52	0	0.0%	100.0%	0	0
53	0	0.0%	100.0%	0	0
54	0	0.0%	100.0%	0	0
55	0	0.0%	100.0%	0	0
56	0	0.0%	100.0%	0	0
	102	100.0%		2817	79119

Mean Speed = 27.6 mph Median Speed = 27.6 mph
 Standard Deviation = 3.6 mph 15th Percentile Speed = 23.9 mph
 Margin of Error (95% Confidence) = ± 0.7 mph 85th Percentile Speed = 31.4 mph

SPOT SPEED STUDY

Date: **October 11, 2005**

Time: **10:30 am - 11:00 am**

School: **J.H.S. 275**

Location: **A.C. Powell Blvd. Between W. 134th St. and W. 135th St.**

Direction: **Northbound**

Surveyor: **Eyad Yousef**

Comments:

Mean Speed = 27.6 mph
Standard Deviation = 3.6 mph
Margin of Error (95% Confidence) = ± 0.7 mph

Median Speed = 27.6 mph
15th Percentile Speed = 23.9 mph
85th Percentile Speed = 31.4 mph

