

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



School Safety Engineering Project

FINAL REPORT: P.S. 123, Mahalia Jackson School, Manhattan



Prepared by
The RBA Group/Urbitrans Associates



MARCH 22, 2006

**School Safety Engineering Project
P.S. 123, Mahalia Jackson School, 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). P.S. 123 (Mahalia Jackson School) in Manhattan is one of the 135 priority schools.

2. BACKGROUND—EXISTING CONDITIONS AND ANALYSIS



2.2 NEIGHBORHOOD DESCRIPTION

The area surrounding P.S. 123 (Mahalia Jackson School) is zoned as R7-2, General Residential District, with a land use that is primarily multi-family residential with some commercial facilities on West 145th Street and Frederick Douglass Boulevard. Several New York City Housing Authority properties are in the neighborhood and are shown in Figure 1. Jackie Robinson Park and St. Nicholas Park are located within four blocks of the school.

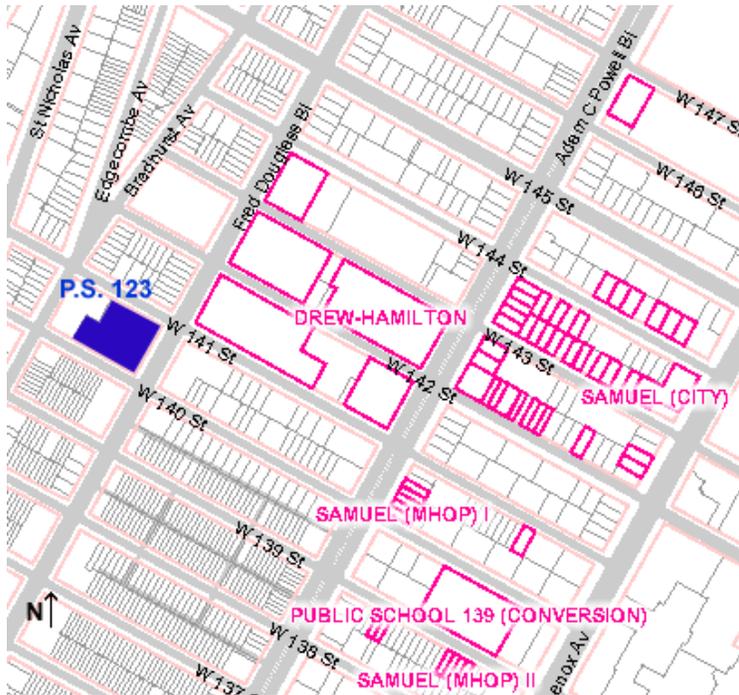
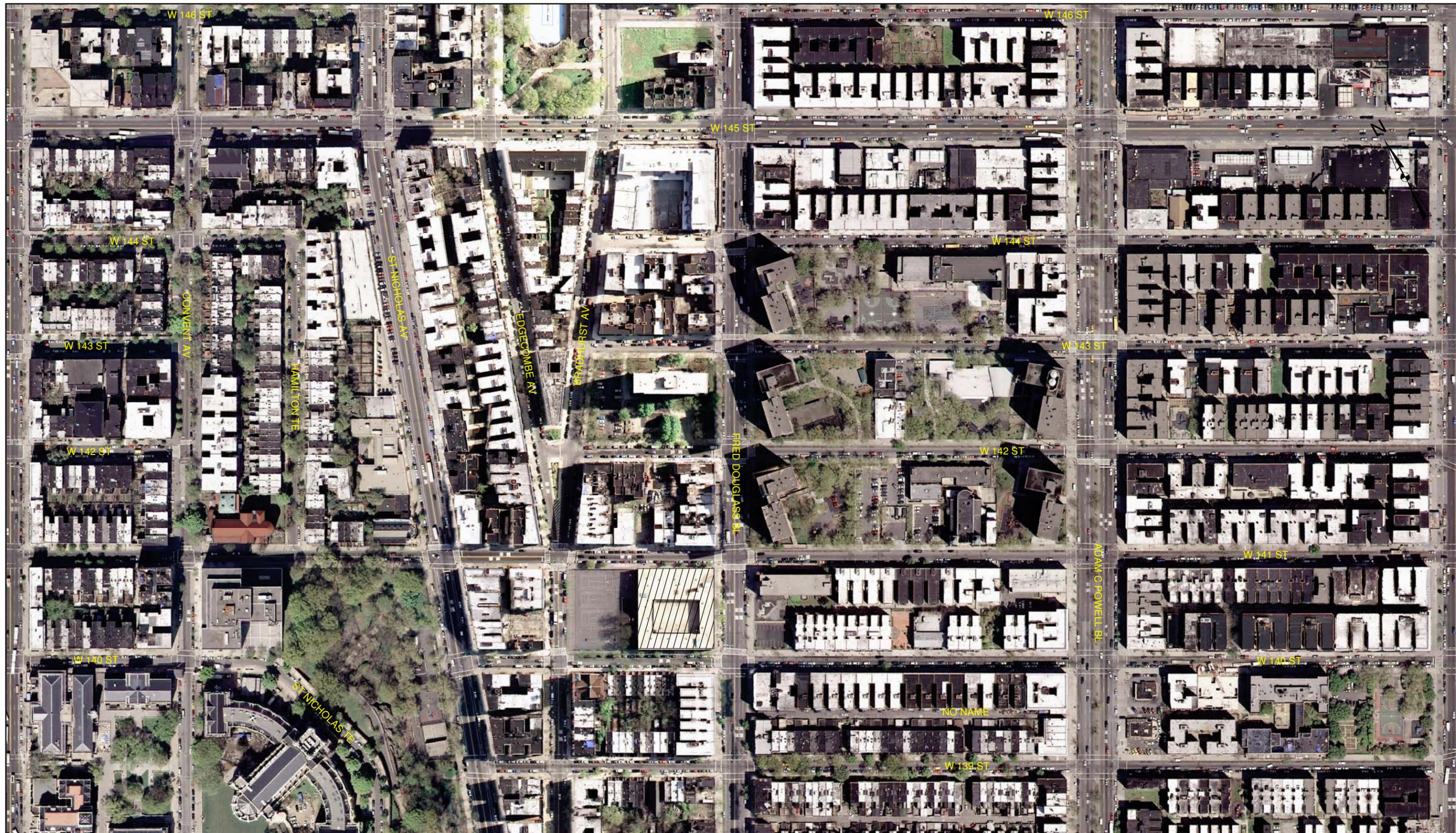


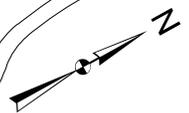
Figure 1: NYCHA properties near P.S. 123, Manhattan

The school's catchment area is roughly defined by West 145th Street to the north, West 134th Street to the south, Adam Clayton Powell Boulevard to the east, and the St. Nicholas Avenue to the west (see Exhibit 2 for Catchment Area). MTA facilities in the area include A/B/C/D trains along St. Nicholas Avenue and 2/3 trains along Lenox Avenue, with stops at West 135th Street and West 145th Street. The M10 bus runs on Frederick Douglass Boulevard and the Bx19 bus on West 145th Street.



1 inch equals 225 feet

EXHIBIT 1
MAHALIA JACKSON SCHOOL
P.S. 123, MANHATTAN
AERIAL PHOTOGRAPH



1 inch equals 350 feet

 **CATCHMENT AREA**

EXHIBIT 2
MAHALIA JACKSON SCHOOL
P.S. 123, MANHATTAN
CATCHMENT AREA

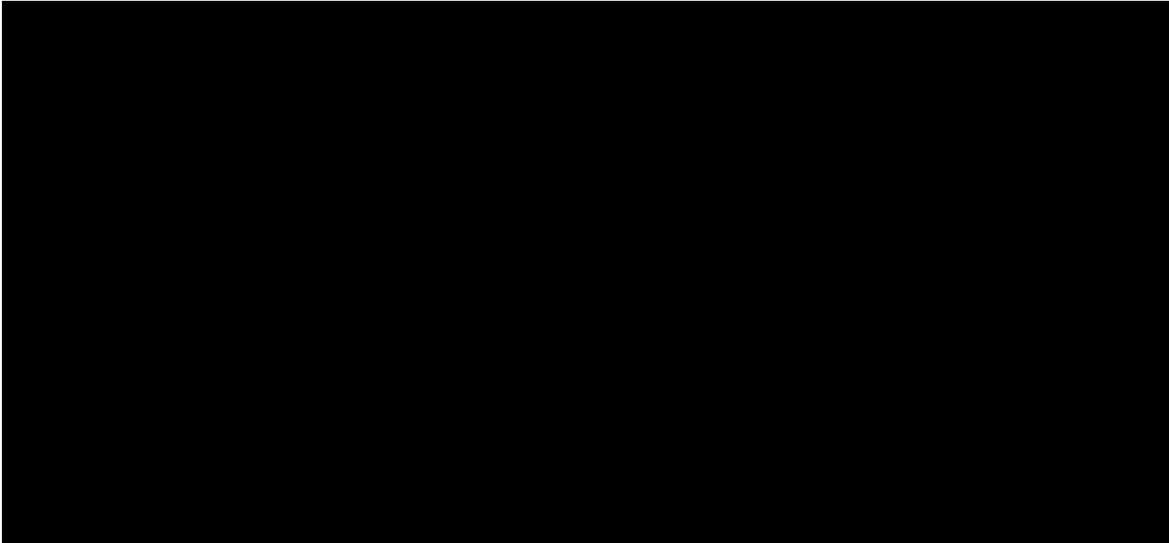
2.3 MEETING WITH SCHOOL REPRESENTATIVES

The consultant team met with representatives of P.S. 123 (Mahalia Jackson School) on the morning of April 29, 2004. The school representatives identified the following concerns regarding student pedestrian safety:

- Vehicles traveling at excess speeds on West 141st Street and on Frederick Douglass Boulevard in front of the school
- Difficulty for students to cross Frederick Douglass Boulevard safely at the intersections of West 140th Street and West 141st Street
- School buses hinder traffic while double-parked on West 140th Street to drop off students, and on West 141st Street to pick up students.
- Private vehicles double park around the school to drop off or pick up students
- Several school-related pedestrian accidents at the intersection of West 140th Street and Frederick Douglass Boulevard



Figure 2: Congestion in front of P.S. 123 on West 141st Street



- Kindergarten & Special Education Students – exit onto 141st Street
- Grades 1 through 3 – exit onto Frederick Douglass Boulevard
- Grades 4 through 6 – exit onto 141st Street

2.6 PRIMARY MODE OF TRANSPORT TO AND FROM SCHOOL

According to school officials, approximately 85% of the students walk to school; 1% of the students are driven by parents or guardians; 4% of them by school buses, and the remaining 10% utilize the MTA bus or subway system. See Table 1 for school’s estimate of modal split.

DESCRIPTION	PERCENTAGE
Walk	85%
Driven by parent or guardian	1%
School bus	4%
MTA bus or subway	10%
TOTAL	100%



School Traffic Safety Map



0 225 450 900 Feet

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

**PS 123 Manhattan
MAHALIA JACKSON SCHOOL**

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

Map created on 11/16/2006

EXHIBIT 3

COMM. BOARD: 110
PRECINCT: 32

2.7 OTHER PEDESTRIAN TRAFFIC GENERATORS

P.S. 123 supports numerous after school programs and activities including:

- P.S. 123's After school Program – 80 students, from dismissal to 4:45pm
- The After School Corp. – 150 to 200 students, from 3:00pm to 6:00pm
- CAPS by the Urban League – 60 to 80 students, from 3:00pm to 6:00pm Monday through Thursday, and from 9pm to 12:00pm on Saturday
- Supplemental Education Services – 30 students in two separate sessions, one from 3:00pm to 4:00pm and the other from 4:00pm to 5:00pm
- Learning Academy – 30 students, from 3:00 to 4:15
- Platform Learning – 120 students, from 3:00pm to 6:00pm Monday through Friday, and 9:00am to 12:00pm on Saturday.

Other schools in the area include St. Charles Borromeo, which is also one of the 135 priority schools, on West 141st Street between Frederick Douglass Boulevard and Adam Clayton Powell Boulevard, and P.S. 194 on West 144th Street between Frederick Douglass Boulevard and Adam Clayton Powell Blvd. The City College of New York is located three blocks west of the school.

Three bodegas are located along Frederick Douglass Boulevard on the northwest corner of West 141st Street, the southeast corner of West 140th Street, and the northwest corner of West 138th Street. A 99-cents store is located on the east side of Frederick Douglass Boulevard between West 139th Street and West 140th Street.

2.8 CROSSING GUARD LOCATIONS

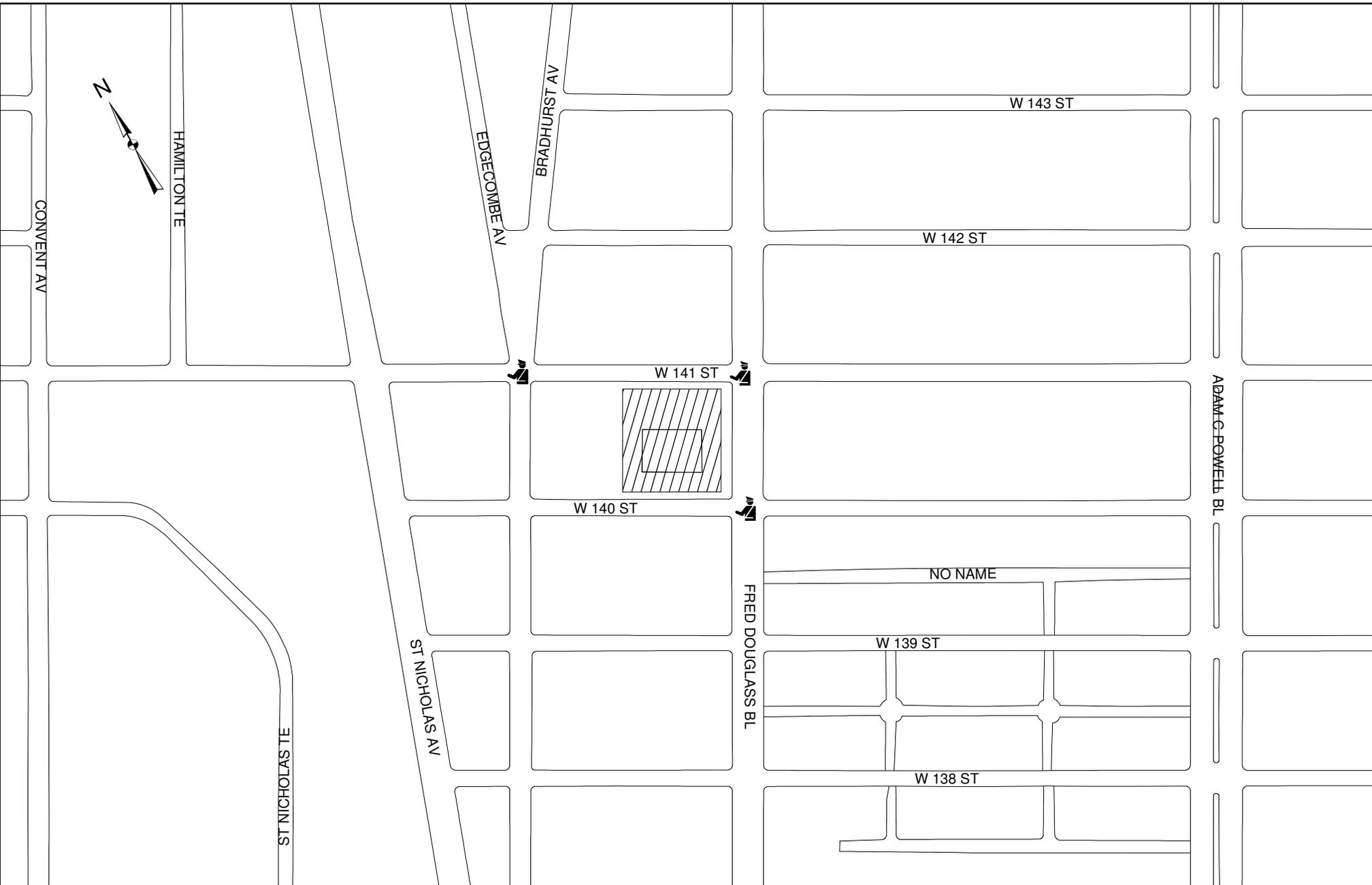
According to school representatives, there are three crossing guards assigned to this school. The crossing guards are stationed at the following intersections:

- Frederick Douglass Boulevard and W 140th Street
- Frederick Douglass Boulevard and W 141st Street
- Edgecombe Avenue and 141st Street

See Exhibit 4 for detail.



Figure 3: Crossing Guard assigned to P.S. 123



1 inch equals 250 feet



CROSSING GUARD ASSIGNED TO P.S. 123

EXHIBIT 4

**MAHALIA JACKSON SCHOOL
P.S. 123, MANHATTAN**

CROSSING GUARD

3. TRAFFIC OPERATIONS

3.1 SCHOOL BUS OPERATIONS

School representatives indicated that approximately 35 students travel to and from school via yellow school buses, most of which participate in the special education program. School buses drop off students on West 140th Street near the school's main entrance, and pick students up on West 141st Street. Buses are typically double-parked and block the only travel lane, as there is no designated area for them to drop off and pick up students.



Figure 4: School bus pick-up on West 141st Street

3.2 PARENT DROP-OFF OPERATIONS

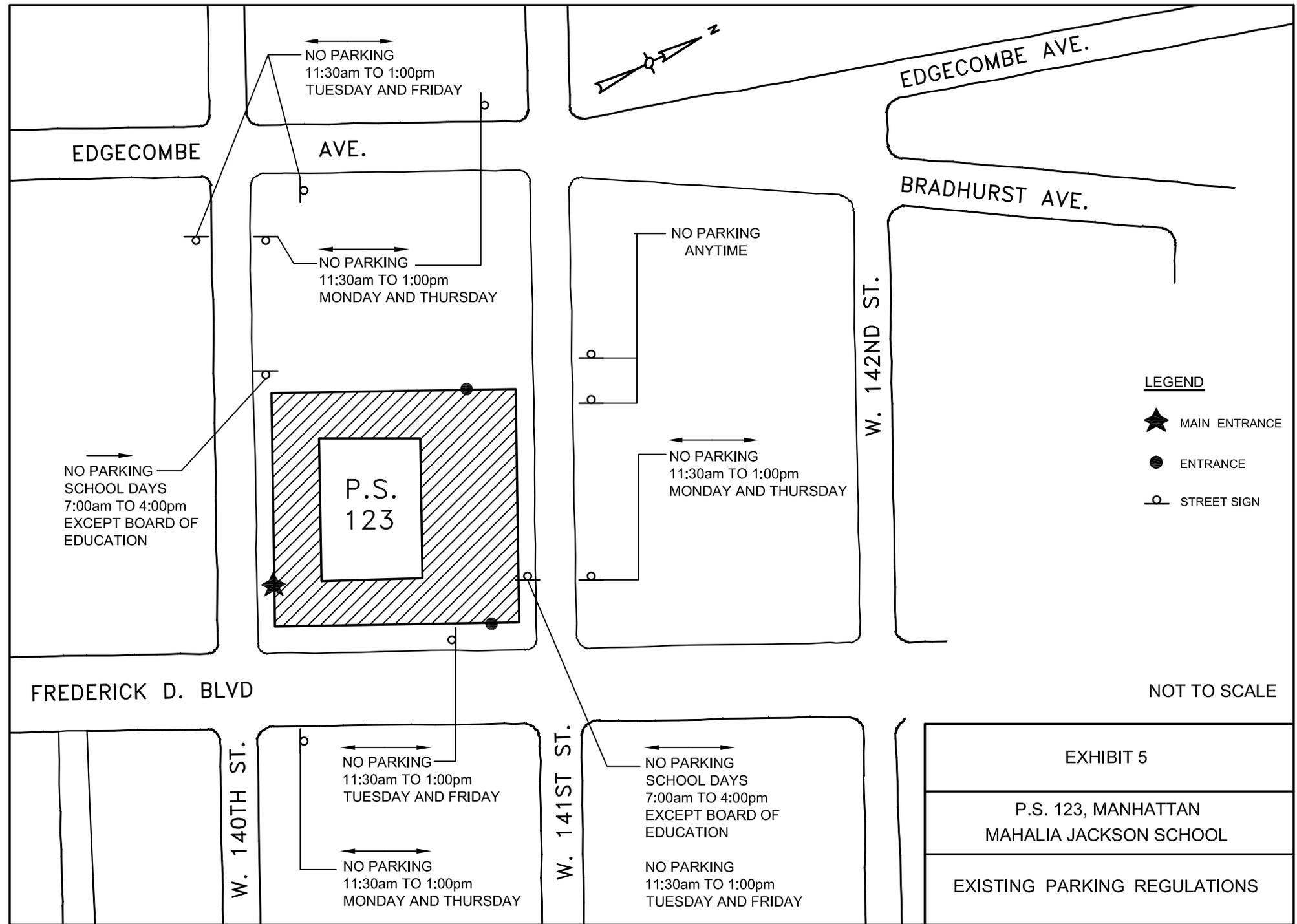
According to the survey provided by the school representatives, only 1% of students are driven to and from school by parents or guardians. Field observations indicated that vehicles primarily drop students off on West 140th or West 141st Streets, streets which are only wide enough to accommodate one moving-lane of traffic; therefore, vehicles double-parked at arrival and dismissal effectively block traffic on these streets.

3.3 PARKING REGULATIONS

Exhibit 5 shows the existing parking regulations on the roadways surrounding P.S. 123.

“NO PARKING 7:00 AM – 4 PM SCHOOL DAYS EXCEPT BOARD OF EDUCATION” signs are posted on West 140th Street and West 141st Street adjacent to the school.

Street cleaning regulations, which prohibit parking on alternating sides of the roadway, are in place near the school.



LEGEND

- ★ MAIN ENTRANCE
- ENTRANCE
- STREET SIGN

NOT TO SCALE

EXHIBIT 5

P.S. 123, MANHATTAN
MAHALIA JACKSON SCHOOL

EXISTING PARKING REGULATIONS

NO PARKING
11:30am TO 1:00pm
TUESDAY AND FRIDAY

AVE.

NO PARKING
11:30am TO 1:00pm
MONDAY AND THURSDAY

P.S.
123

NO PARKING
ANYTIME

NO PARKING
11:30am TO 1:00pm
MONDAY AND THURSDAY

W. 142ND ST.

EDGECOMBE AVE.

BRADHURST AVE.

EDGECOMBE

NO PARKING
SCHOOL DAYS
7:00am TO 4:00pm
EXCEPT BOARD OF
EDUCATION

FREDERICK D. BLVD

W. 140TH ST.

NO PARKING
11:30am TO 1:00pm
TUESDAY AND FRIDAY

NO PARKING
11:30am TO 1:00pm
MONDAY AND THURSDAY

W. 141ST ST.

NO PARKING
SCHOOL DAYS
7:00am TO 4:00pm
EXCEPT BOARD OF
EDUCATION

NO PARKING
11:30am TO 1:00pm
TUESDAY AND FRIDAY

EXHIBIT 5

P.S. 123, MANHATTAN
MAHALIA JACKSON SCHOOL

EXISTING PARKING REGULATIONS

3.4 EXISTING SCHOOL SIGNS AND MARKINGS

The Traffic Safety Map, 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 MUTCD standards of fluorescent yellow-green accompanied by downward pointing arrows. Signs scheduled to be installed under this program are shown as “existing” on Exhibit 7.

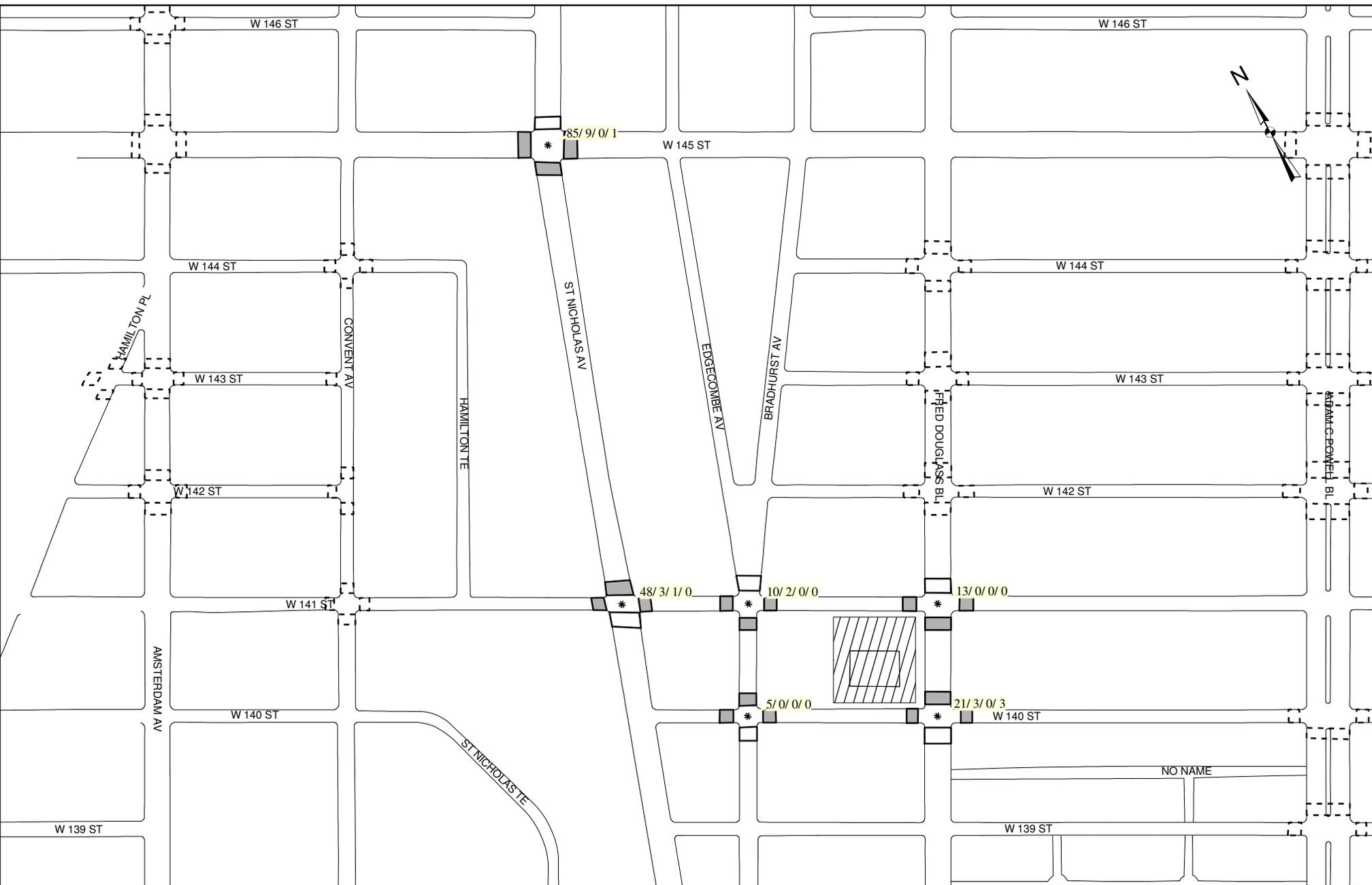
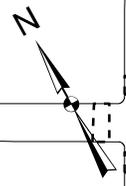
3.5 ACCIDENT SUMMARY

Exhibit 6 and Table 2 show a summary of accidents, as obtained from New York State Department of Motor Vehicles (DMV) in the vicinity of P.S. 123 (Mahalia Jackson School) for the three-year period from January 1, 1998 through December 1, 2000. The DMV data provides some detail relating to the 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. Accidents are discussed in Section 3.6, Traffic Operations and Issues.

INTERSECTION	TOTAL ACCIDENTS	PEDESTRIAN ACCIDENTS	PEDESTRIAN FATALITIES	SCHOOL-RELATED ACCIDENTS*
St. Nicholas Ave. and W 141 st St.	48	3	1	0
St. Nicholas Ave. and W 145 th St.	85	9	0	1
Edgecombe Ave. and W 140 th St.	5	0	0	0
Edgecombe Ave. and W 141 st St.	10	2	0	0
Frederick D Blvd and W 140 th St.	21	3	0	3
Frederick D Blvd and W 141 st St.	13	0	0	0
Total	182	17	1	4

INTERSECTION	TOTAL ACCIDENTS	PEDESTRIAN ACCIDENTS	PEDESTRIAN FATALITIES	SCHOOL-RELATED ACCIDENTS*
St. Nicholas Ave. and W 141 st St.	81	5	0	1
St. Nicholas Ave. and W 145 th St.	122	13	0	1
Edgecombe Ave. and W 140 th St.	8	0	0	0
Edgecombe Ave. and W 141 st St.	20	7	0	2
Frederick D Blvd and W 140 th St.	36	7	0	1
Frederick D Blvd and W 141 st St.	43	4	0	1
Total	310	36	0	6

* 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 P.S. 123

SCHOOL CROSSWALK ASSIGNED TO ANOTHER SCHOOL

CROSSWALK

X/X/X/X

*



1 inch equals 300 feet

TOTAL ACCIDENTS	PED ACCIDENTS	PED FATAL	SCHOOL PED ACCIDENTS
X	X	X	X

EXHIBIT 6

MAHALIA JACKSON SCHOOL
P.S. 123, MANHATTAN

ACCIDENT SUMMARY
THREE YEAR PERIOD
(1998-2000)

3.6 TRAFFIC OPERATIONS AND ISSUES

The following sections outline the traffic accidents and operations issues at the intersections in the vicinity of P.S. 123 (Mahalia Jackson).

3.6.1 St. Nicholas Avenue and West 141st Street

St. Nicholas Avenue is a two-way north-south roadway with a bicycle lane and parking lane on each side. West of Edgecombe Avenue, West 141st Street is a two-way east-west local street with no parking. The intersection is signalized with school crosswalks designated on all legs except the south leg across St. Nicholas Avenue.



Figure 5: Intersection of West 141st Street and St. Nicholas Avenue

The accident data indicates that between 1998 and 2000 there were 48 accidents at this intersection; three of them involved a pedestrian, one of which was fatal. The pedestrian was crossing without the signal while the vehicle was traveling south at an excessive speed. The vehicle then struck another vehicle and turned onto West 141st Street. The accident occurred around 4:00 pm on Sunday, April 12, 1998. The other two accidents were attributed to the pedestrian's error. None of these accidents were school-related. The NYPD accident data (Table 3) shows five pedestrian accidents, one of which was school-related, between 2001-2004. No other information was available regarding this incident.

Due to the significant number of accidents occurring on St. Nicholas Avenue, a speed study was conducted on Tuesday, November 15, 2005 on St. Nicholas Avenue between West 140th Street and West 141st Street. The results indicated that vehicles were exceeding the statutory speed limit of 30 mph (see Table 4 and Appendix).

TABLE 4: SPOT SPEED STUDIES – ST. NICHOLAS AVENUE		
LOCATION	MEDIAN SPEED (MPH)	85TH PERCENTILE SPEED (MPH)
St. Nicholas Avenue between West 140 th Street and West 141 st Street	26.5	31

3.6.2 St. Nicholas Avenue and West 145th Street

West 145th Street is a heavily utilized two-way roadway, with two travel lanes in each direction and parking along each curb. A steep slope on West 145th Street limits visibility for vehicles (see Figure 6). The intersection with St. Nicholas Avenue is signalized with school crosswalks designated on all legs except the north leg across St. Nicholas Avenue.



Figure 6: Looking west on West 145th Street at the intersection with St. Nicholas Avenue

Eighty-five accidents occurred at this intersection from 1998-2000. Nine accidents involved pedestrians, one of which was school-related. The driver merged into traffic and failed to yield while two students were crossing. The NYPD accident data from 2001-2004 shows 13 pedestrian accidents, one of which was school-related. No further information regarding these accidents was available.

3.6.3 Edgecombe Avenue and West 141st Street

South of West 141st Street, Edgecombe Avenue is a two-way roadway with one travel lane in each direction and parking available on each side. North of West 141st Street, Edgecombe Avenue is one-way southbound and intersects with West 141st Street and Bradhurst Avenue, which is one-way northbound (see Figure 7).

East of Edgecombe Avenue, West 141st Street is a one-way westbound roadway with parking available on both sides. The intersection is signalized with school crosswalks designated on all legs.

Accident data from 1998-2000 revealed that ten accidents occurred at this intersection. Two of these accidents involved a pedestrian, neither was school-related. One accident occurred as the pedestrian was crossing with the signal; the other was while the pedestrian was crossing without the signal. NYPD accident data from 2001-2004 included seven pedestrian accidents, two of which were school-related. No additional information was available regarding these accidents.



Figure 7: Intersection of West 141st Street, Edgecombe Avenue, and Bradhurst Avenue



Figure 8: Looking east on West 141st Street at the intersection of Edgecombe Avenue

Due to heavy student pedestrian volume, the proximity to the school, and concerns of school officials, a speed study was conducted on West 141st Street between Frederick

Douglass Boulevard and Edgecombe Avenue on November 14, 2005, from 9:00-10:00am. The results indicate that vehicles were not exceeding the statutory speed limit of 30 mph (see Table 5 and Appendix for further details).

TABLE 5: SPOT SPEED STUDIES – WEST 141ST STREET		
LOCATION	MEDIAN SPEED (MPH)	85TH PERCENTILE SPEED (MPH)
West 141 st Street between Frederick D Boulevard and Edgecombe Ave	22	25

3.6.4 Edgecombe Avenue and West 140th Street

West 140th Street is a one-way eastbound roadway with one travel lane and parking permitted on both sides. The intersection with Edgecombe Avenue is signalized with school crosswalks on all legs except the south leg.



Figure 9: Intersection of West 140th Street and Edgecombe Avenue

The accident data from 1998-2000 indicates five accidents occurred at this intersection, none of which involved pedestrians. The NYPD accident data shows eight accidents from 2001-2004; again, none of them involved pedestrians.

3.6.5 Frederick Douglass Boulevard and West 140th Street

Frederick Douglass Boulevard is a two-way roadway with two travel lanes in each direction and parking on each side. The intersection with West 140th Street is signalized with school crosswalks on all legs except the south leg. The M10 bus runs along Frederick Douglass Boulevard with a stop on the west side just south of this intersection.

School officials indicated that several children utilize the crosswalks at this intersection and expressed concern for their safety with the high volume of vehicles on Frederick

Douglass Boulevard. A speed study was conducted on Frederick Douglass Boulevard between West 140th Street and West 141st Street on Monday, November 14, 2005, from 8:00-9:00am. The results indicate that vehicles were exceeding the statutory speed limit of 30 mph (see Table 6 and Appendix for further details).

TABLE 6: SPOT SPEED STUDIES – FREDERICK DOUGLASS BOULEVARD		
LOCATION	MEDIAN SPEED (MPH)	85TH PERCENTILE SPEED (MPH)
Frederick Douglass Blvd. between West 140 th Street and West 141 st Street	28	32

The accident data from 1998-2000 indicates 21 accidents occurred at this intersection. Three of those accidents involved a school-aged pedestrian. All three accidents were considered the pedestrian’s error, although one occurred while the pedestrian was crossing with the signal. NYPD accident data from 2001-2004 shows 36 accidents. Seven of these accidents involved pedestrians, one of which was school related. No other information was available regarding this incident.



Figure 10: Intersection of Frederick Douglass Boulevard and West 140th Street

3.6.6 Frederick Douglass Boulevard and West 141st Street

The intersection of Frederick Douglass Boulevard with West 141st Street is signalized with school crosswalks on all legs except the north leg. The 1998-2000 accident data indicates 13 accidents occurred at this intersection, none of which involved pedestrians. The NYPD accident data indicates that there were four pedestrian accidents at this intersection from 2001-2004. One of the accidents was school-related; no further information was available regarding this incident.



Figure 11: Intersection of Frederick Douglass Boulevard and West 141st Street

3.7 SIGNAL TIMING: PEDESTRIAN PHASE

Pedestrian crossing time was field verified at all signalized intersections in the vicinity of P.S. 123. With a child pedestrian walking rate of 3ft/sec, the crossing time was found to be adequate in all directions and approaches (see Table 7).

TABLE 7: PEDESTRIAN CROSSING TIME				
AT SIGNALIZED INTERSECTIONS IN THE VICINITY OF P.S. 123				
Intersection Name	Crosswalk Width (Feet)	Ped. Phase Actual (Seconds)	Ped. Phase Req'd (Seconds)	Timing Adjustment? (Yes/No)
St. Nicholas Avenue @ W 141st Street				
Crossing St. Nicholas Avenue	60	50	23	NO
Crossing W 141 st Street	34	30	15	NO
St. Nicholas Avenue @ W 145th Street				
Crossing St. Nicholas Avenue	60	50	23	NO
Crossing W 145 th Street	60	31	23	NO
Edgecombe Avenue @W 140th Street				
Crossing Edgecombe Avenue	40	58	17	NO
Crossing W 140 th Street	35	22	15	NO
Edgecombe Avenue @W 141st Street				
Crossing Edgecombe Avenue	40	58	17	NO
Crossing W 141 st Street	34	22	15	NO
Frederick D Blvd @W 140th Street				
Crossing Frederick Douglass Blvd	60	58	23	NO
Crossing W 140 th Street	35	22	15	NO
Frederick D Blvd @W 141st Street				
Crossing Frederick Douglass Blvd	60	58	23	NO
Crossing W 141 st Street	34	22	15	NO

Note – A rate of 3 ft/sec plus 3 seconds reaction time was utilized as the child pedestrian walking rate

3.8 PHYSICAL CONDITIONS (ROADWAY AND SIDEWALK)

In general, roadways and sidewalks are in fair condition in the vicinity of the project. However, several crosswalks in the area are in poor condition (see Figure 12).



Figure 12: Faded crosswalks in the vicinity of P.S. 123

4. POTENTIAL MEASURES TO IMPROVE STUDENT PEDESTRIAN SAFETY

Potential 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.

4.1 SHORT-TERM OPTIONS

- Install graphic “Yield to Pedestrians” Sign

A “YIELD TO PEDESTRIAN SIGN” should be installed at the following locations:

- Frederick Douglass Boulevard and West 141st Street (on Frederick Douglass Boulevard, southbound approach)

The installation of the signs is intended to remind the drivers that the pedestrians have the right of way within the crosswalk (see Exhibit 7 for detail).

- Install new school crosswalks

Due to the proximity to P.S. 123, new school crosswalks should be installed at the east and west legs of intersection of Frederick Douglass Boulevard and West 139th Street (see Exhibit 7 for detail).

- Install “No Standing 7am-4pm School Days” Sign

During arrival and dismissal, cars and yellow buses double-park along the curb on West 140th Street and West 141st Street in front of P.S. 123, which causes congestion. Currently there is no designated area to drop off and pick up students. Therefore, it is recommended that “NO STANDING, 7 AM-4 PM, SCHOOL DAYS” signs be installed at the following locations:

- North side of West 140th Street adjacent to the school from Frederick Douglass Boulevard to a point 75-feet west of the intersection
- South side of West 141st Street adjacent to the school from Frederick Douglass Boulevard to a point 75-feet west of the intersection

Existing Department of Education parking should be adjusted to utilize the remaining parking spaces on the north side of West 140th Street and the south side of West 141st Street (see Exhibit 7).

- Install pedestrian ramps at required locations

Currently, several corners are either missing pedestrian ramps, are blocked by utility poles, or are substandard. Standard pedestrian ramps should be installed at the following locations:

- West 145th Street and St. Nicholas Boulevard - northwest corner
- West 139th Street and Edgecombe Avenue - northwest & southeast corner
- West 140th Street and Edgecombe Avenue - northwest & southwest corner

- West 141st Street and Edgecombe Avenue – northwest, southwest and northeast corners
- West 142nd Street and Bradhurst Avenue - southeast corner
- West 139th Street and Frederick Douglass Boulevard – northeast and southeast corners
- West 140th Street and Frederick Douglass Boulevard - northwest and southeast corner
- West 141st Street and Frederick Douglass Boulevard - northeast and northwest corner

4.2 LONG-TERM RECOMMENDATIONS

- Consider curb extensions at the following intersections:
 - Frederick Douglass Boulevard and West 140th Street – northeast and northwest corners
 - Frederick Douglass Boulevard and West 141st Street – southeast and southwest corners
 - Saint Nicholas Avenue and West 141st Street - northeast and northwest corners
 - Edgecombe Avenue and West 140th Street – northeast corner
 - Edgecombe Avenue and West 141st Street – northeast corner

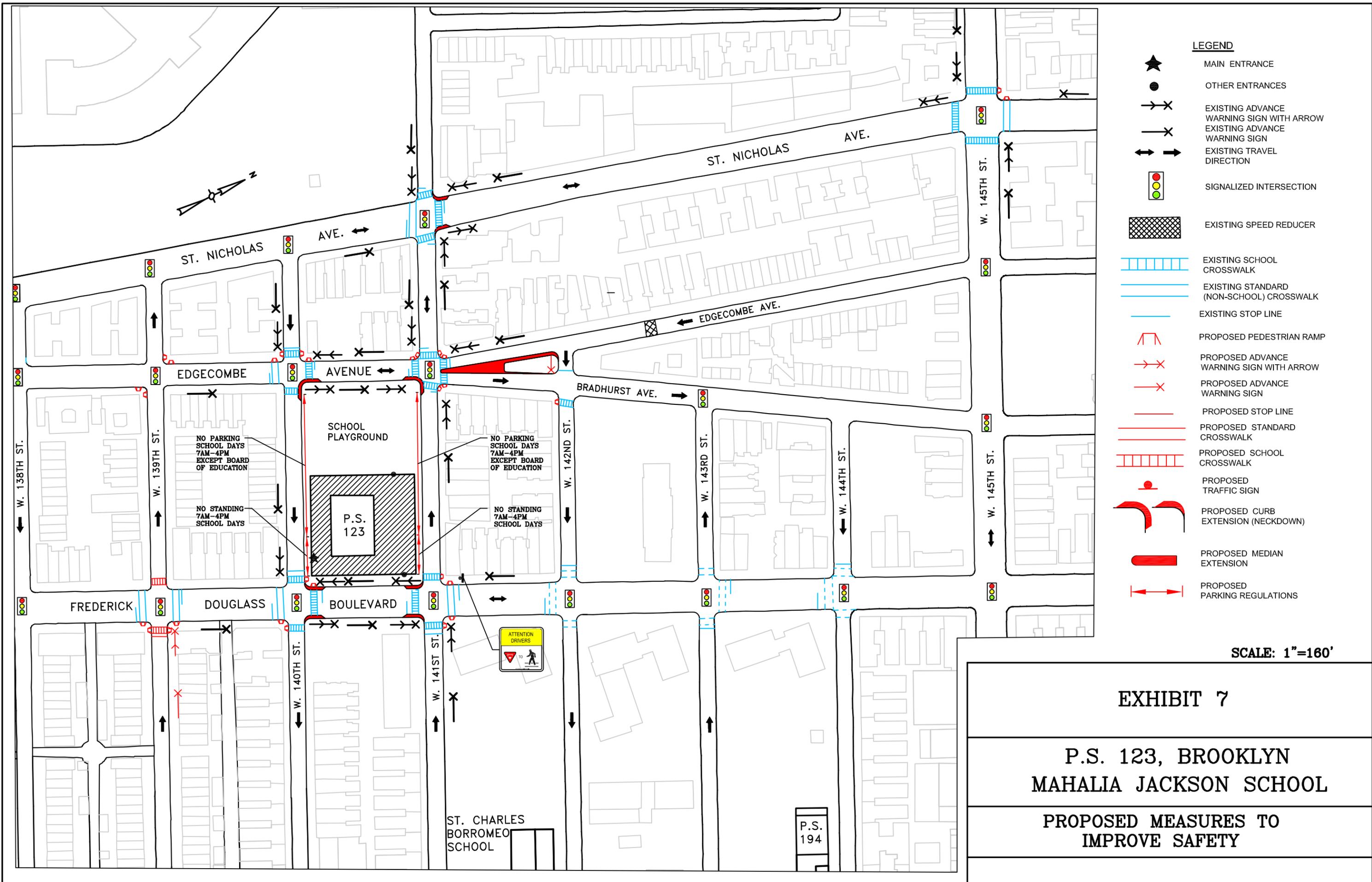
Curb extensions should be installed at the corners as shown in Exhibit 7.

The purpose of the curb extensions is to shorten the crossing distance for pedestrians, and to reduce speeds of vehicles approaching and turning at school crosswalks.

These curb extensions will not eliminate or reduce the width of any moving lanes. Curb extensions are not proposed where they would hinder the ability of vehicles to turn. Final details pertaining to curb extensions will be developed during the Final Design/Contract Document preparation.

- Consider widening and extending existing triangular island

Currently a raised island is located at the triangular intersection between Edgecombe Avenue, West 142nd Street and Bradhurst Avenue. It is recommended that the existing island be widened for approximately 7 feet eastward, and extended south for approximately 120 feet through the north school crosswalk on Edgecombe Avenue. The proposed island would replace the striped area, and provide pedestrians with a refuge while crossing Edgecombe Avenue (see Exhibit 7 for detail).



APPENDIX

SPOT SPEED STUDY

Date: **November 15, 2005** Time: **5:30-6:00 pm**
 Location: **St. Nicholas Avenue between 140th Street and 141st Street**
 Surveyor: **Eyad Yousef**

School: **P.S. 123**
 Direction:
 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	7	7.0%	7.0%	140	2800
21	3	3.0%	10.0%	63	1323
22	8	8.0%	18.0%	176	3872
23	14	14.0%	32.0%	322	7406
24	3	3.0%	35.0%	72	1728
25	9	9.0%	44.0%	225	5625
26	1	1.0%	45.0%	26	676
27	14	14.0%	59.0%	378	10206
28	13	13.0%	72.0%	364	10192
29	3	3.0%	75.0%	87	2523
30	6	6.0%	81.0%	180	5400
31	7	7.0%	88.0%	217	6727
32	3	3.0%	91.0%	96	3072
33	8	8.0%	99.0%	264	8712
34	0	0.0%	99.0%	0	0
35	0	0.0%	99.0%	0	0
36	0	0.0%	99.0%	0	0
37	0	0.0%	99.0%	0	0
38	0	0.0%	99.0%	0	0
39	0	0.0%	99.0%	0	0
40	0	0.0%	99.0%	0	0
41	1	1.0%	100.0%	41	1681
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
	100	100.0%		2651	71943

Mean Speed = 26.5 mph Median Speed = 26.5 mph
 Standard Deviation = 4.1 mph 15th Percentile Speed = 22.3 mph
 Margin of Error (95% Confidence) = ± 0.8 mph 85th Percentile Speed = 30.8 mph

SPOT SPEED STUDY

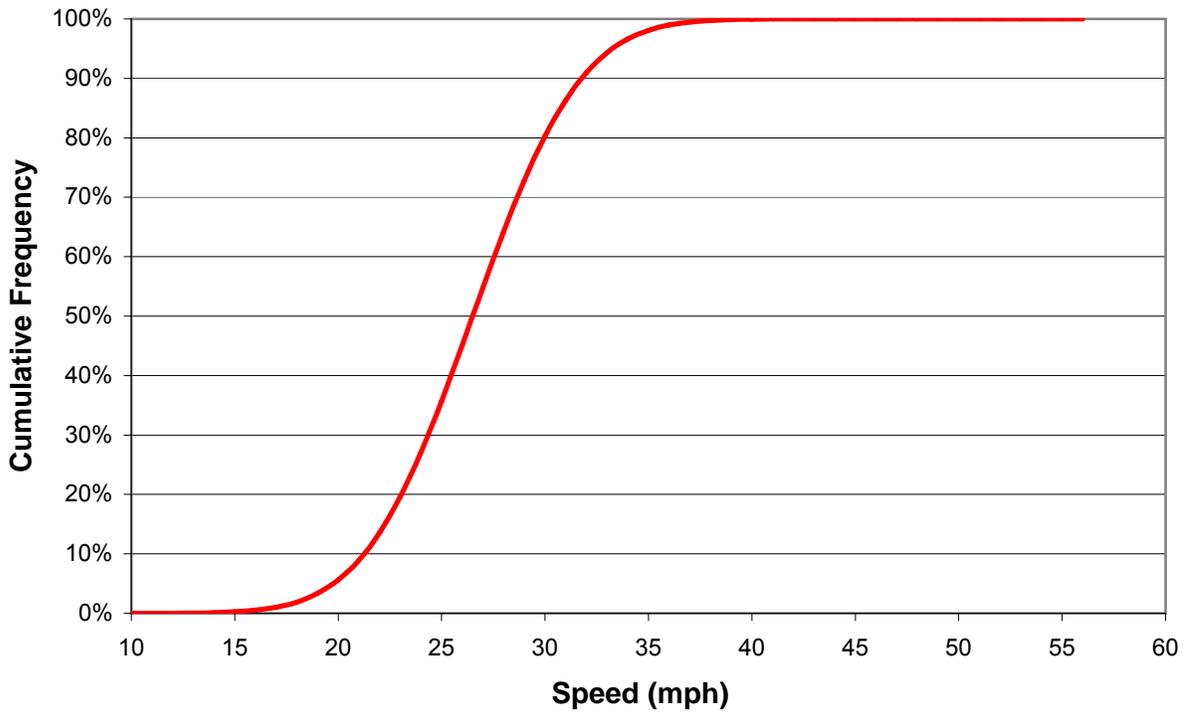
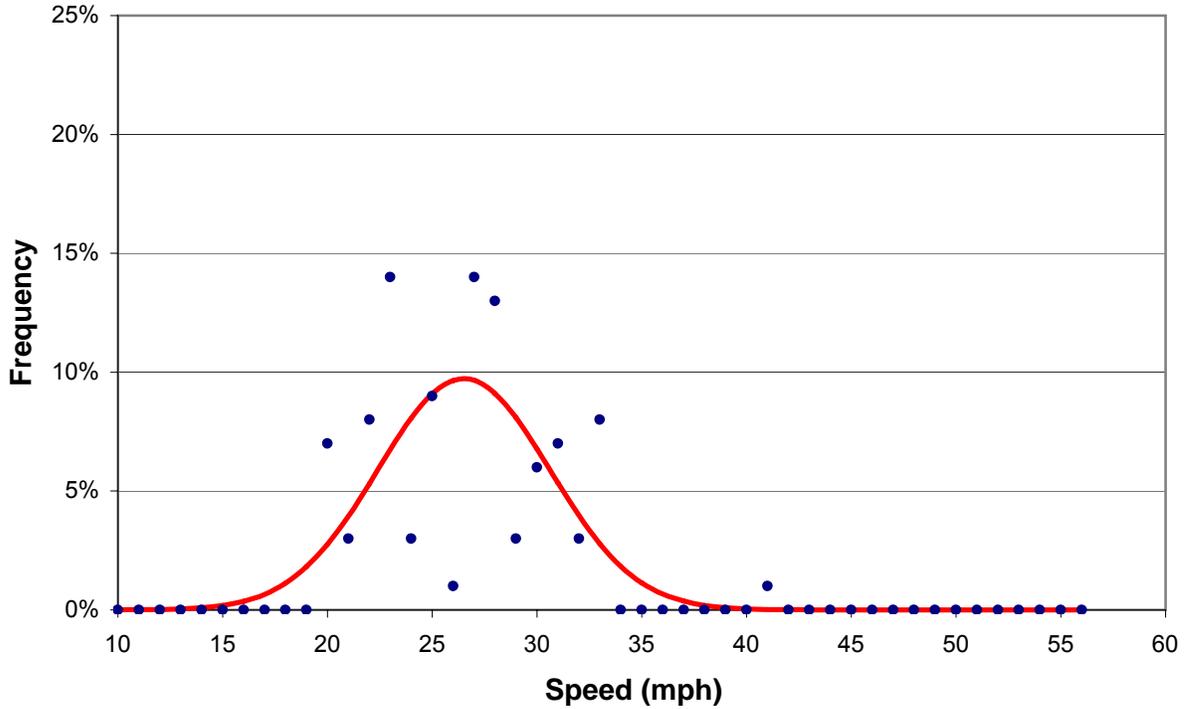
Date: **November 15, 2005**
Location: **St. Nicholas Avenue between 140th Street and 141st Street**
Surveyor: **Eyad Yousef**

Time: **5:30-6:00 pm**

School: **P.S. 123**
Direction:
Comments:

Mean Speed = 26.5 mph
Standard Deviation = 4.1 mph
Margin of Error (95% Confidence) = ± 0.8 mph

Median Speed = 26.5 mph
15th Percentile Speed = 22.3 mph
85th Percentile Speed = 30.8 mph



SPOT SPEED STUDY

Date: **November 14, 2005** Time: **9:00-10:00 am**
 Location: **W 141 Street between Frederick Douglass Boulevard and Edgcombe Avenue**
 Surveyor: **Eyad Yousef**

School: **P.S. 123**
 Direction:
 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	2	2.9%	2.9%	32	512
17	4	5.7%	8.6%	68	1156
18	4	5.7%	14.3%	72	1296
19	8	11.4%	25.7%	152	2888
20	13	18.6%	44.3%	260	5200
21	9	12.9%	57.1%	189	3969
22	7	10.0%	67.1%	154	3388
23	2	2.9%	70.0%	46	1058
24	9	12.9%	82.9%	216	5184
25	3	4.3%	87.1%	75	1875
26	4	5.7%	92.9%	104	2704
27	2	2.9%	95.7%	54	1458
28	3	4.3%	100.0%	84	2352
29	0	0.0%	100.0%	0	0
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
	70	100.0%		1506	33040

Mean Speed = 21.5 mph
 Standard Deviation = 3.0 mph
 Margin of Error (95% Confidence) = ± 0.7 mph

Median Speed = 21.5 mph
 15th Percentile Speed = 18.4 mph
 85th Percentile Speed = 24.7 mph

SPOT SPEED STUDY

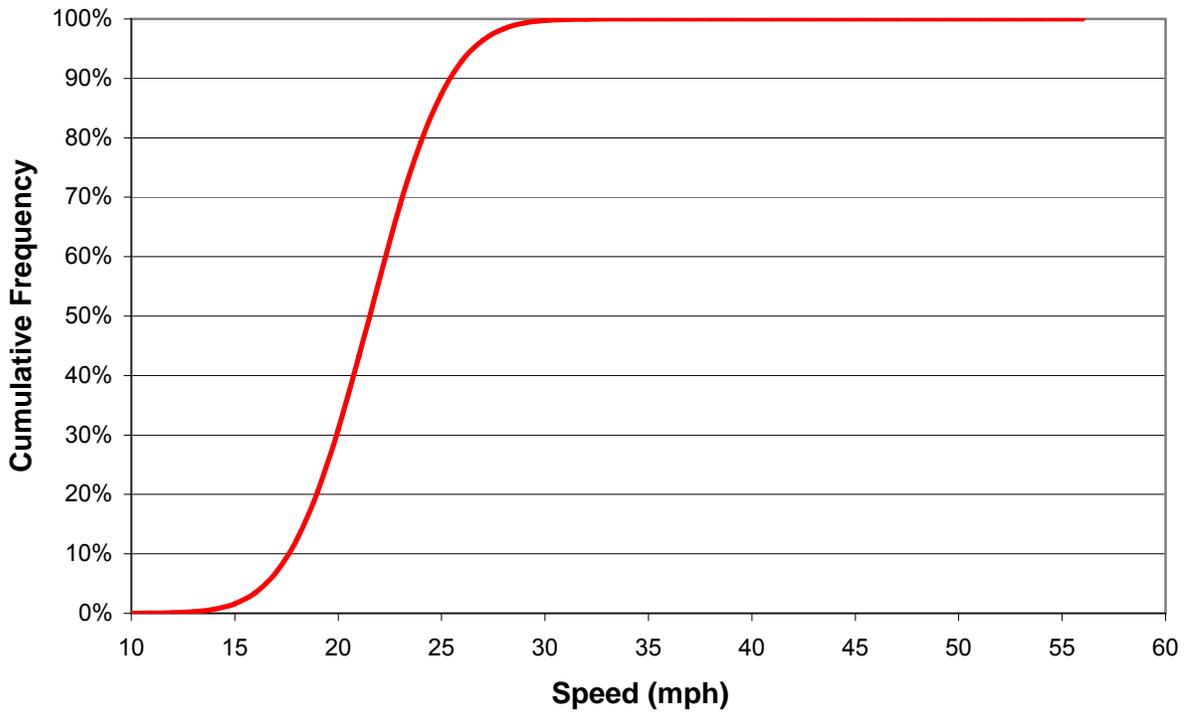
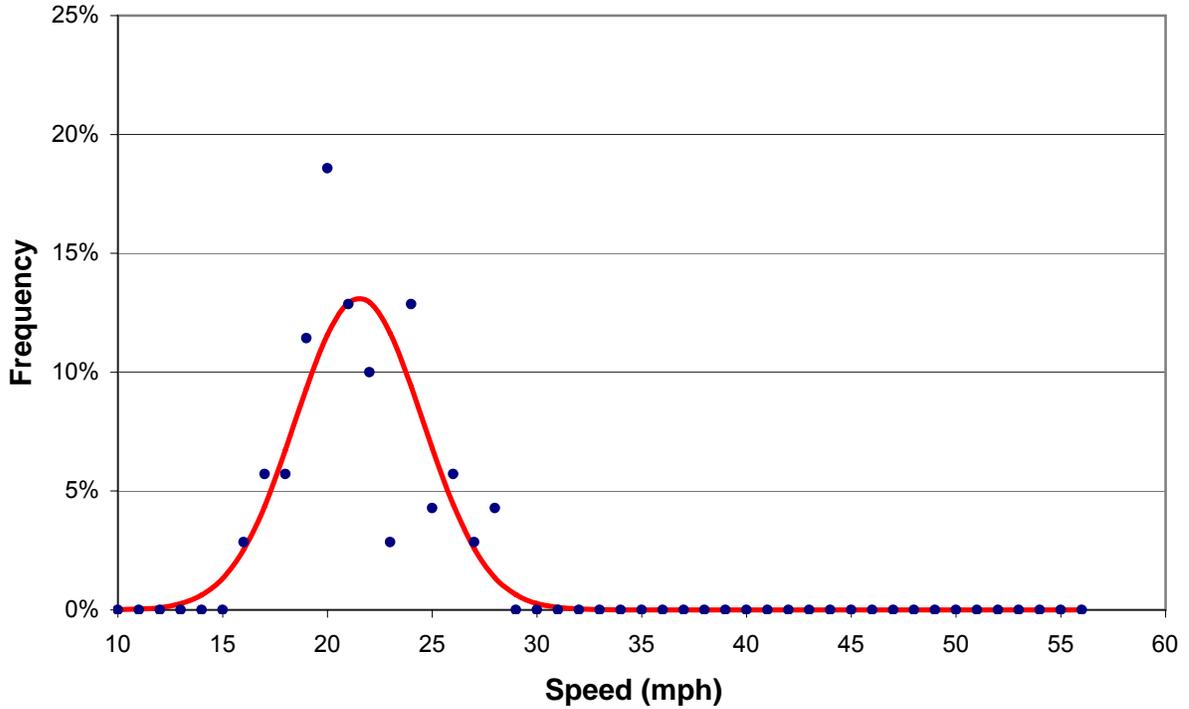
Date: **November 14, 2005**
Location: **W 141 Street between Frederick Douglass Boulevard and Edgecombe**
Surveyor: **Eyad Yousef**

Time: **9:00-10:00 am**

School: **P.S. 123**
Direction:
Comments:

Mean Speed = 21.5 mph
Standard Deviation = 3.0 mph
Margin of Error (95% Confidence) = ± 0.7 mph

Median Speed = 21.5 mph
15th Percentile Speed = 18.4 mph
85th Percentile Speed = 24.7 mph



SPOT SPEED STUDY

Date: **November 14, 2005** Time: **8:30-9:00 am**
 Location: **Frederick Douglass Boulevard between 140th Street and 141st Street**
 Surveyor: **Eyad Yousef**

School: **P.S. 123**
 Direction:
 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	1	1.0%	1.0%	17	289
18	0	0.0%	1.0%	0	0
19	1	1.0%	1.9%	19	361
20	3	2.9%	4.8%	60	1200
21	3	2.9%	7.6%	63	1323
22	3	2.9%	10.5%	66	1452
23	8	7.6%	18.1%	184	4232
24	4	3.8%	21.9%	96	2304
25	7	6.7%	28.6%	175	4375
26	6	5.7%	34.3%	156	4056
27	9	8.6%	42.9%	243	6561
28	13	12.4%	55.2%	364	10192
29	11	10.5%	65.7%	319	9251
30	14	13.3%	79.0%	420	12600
31	6	5.7%	84.8%	186	5766
32	3	2.9%	87.6%	96	3072
33	8	7.6%	95.2%	264	8712
34	2	1.9%	97.1%	68	2312
35	1	1.0%	98.1%	35	1225
36	0	0.0%	98.1%	0	0
37	0	0.0%	98.1%	0	0
38	0	0.0%	98.1%	0	0
39	1	1.0%	99.0%	39	1521
40	1	1.0%	100.0%	40	1600
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
	105	100.0%		2910	82404

Mean Speed = 27.7 mph
 Standard Deviation = 4.1 mph
 Margin of Error (95% Confidence) = ± 0.8 mph

Median Speed = 27.7 mph
 15th Percentile Speed = 23.5 mph
 85th Percentile Speed = 32.0 mph

SPOT SPEED STUDY

Date: **November 14, 2005**
Location: **Frederick Douglass Boulevard between 140th Street and 141st Street**
Surveyor: **Eyad Yousef**

Time: **8:30-9:00 am**

School: **P.S. 123**
Direction:
Comments:

Mean Speed = 27.7 mph
Standard Deviation = 4.1 mph
Margin of Error (95% Confidence) = ± 0.8 mph

Median Speed = 27.7 mph
15th Percentile Speed = 23.5 mph
85th Percentile Speed = 32.0 mph

