

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



School Safety Engineering Project

FINAL: P. S. 257, The John F. Hylan School, Brooklyn



**Prepared by
The RBA Group/Urbitran Associates**



FEBRUARY 15, 2006

School Safety Engineering Project
P.S. 257, Brooklyn

TABLE OF CONTENTS

1. INTRODUCTION..... 4

1.1 PROJECT DESCRIPTION 4

2. BACKGROUND—EXISTING CONDITIONS AND ANALYSIS 5

[REDACTED]

2.2 NEIGHBORHOOD DESCRIPTION 5

2.3 MEETING WITH SCHOOL REPRESENTATIVES 5

[REDACTED]

2.6 PRIMARY MODE OF TRANSPORT TO AND FROM SCHOOL..... 9

2.7 CROSSING GUARD LOCATIONS 9

3. TRAFFIC OPERATIONS 12

3.1 SCHOOL BUS OPERATIONS 12

3.2 PARENT DROP-OFF OPERATIONS 12

3.3 PARKING REGULATIONS 13

3.4 EXISTING SCHOOL SIGNS AND MARKINGS 15

3.5 ACCIDENT SUMMARY 16

3.6 TRAFFIC OPERATIONS AND ISSUES 18

3.7 SIGNAL TIMING: PEDESTRIAN PHASE 23

4. PROPOSED MEASURES TO IMPROVE PEDESTRIAN SAFETY..... 24

4.1 SHORT-TERM OPTIONS 24

4.2 LONG-TERM OPTIONS..... 26

EXHIBITS

EXHIBIT 1 - AERIAL PHOTOGRAPH 7

EXHIBIT 2 – CATCHMENT AREA..... 8

EXHIBIT 3 – TRAFFIC SAFETY PLAN 10

EXHIBIT 4 – CROSSING GUARD LOCATIONS..... 11

EXHIBIT 5 – PARKING REGULATIONS 14

EXHIBIT 6 – ACCIDENT SUMMARY 17

EXHIBIT 7 – TURNING MOVEMENT COUNTS..... 19

EXHIBIT 8 – PROPOSED MEASURES TO IMPROVE SAFETY 28

TABLES

TABLE 1: MODE OF TRAVEL.....	9
TABLE 2: DMV ACCIDENT SUMMARY (1998-2000).....	16
TABLE 3: NYPD ACCIDENT SUMMARY (2001-2004).....	16
TABLE 4: SPOT SPEED STUDIES	22
TABLE 5: PEDESTRIAN CROSSING TIME AT SIGNALIZED INTERSECTIONS	23
TABLE 6: SPOT SPEED STUDIES (HUMBOLDT STREET)	26

APPENDIX

SPOT SPEED SUDY – HUMBOLDT STREET.....	A-4
SPOT SPEED SUDY – VARET STREET.....	A-6

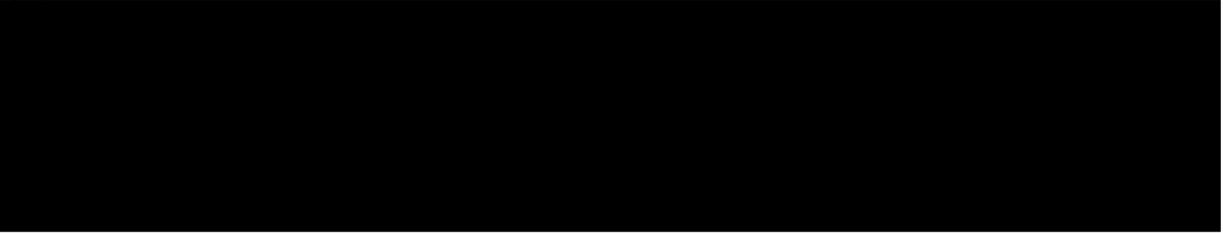
1. INTRODUCTION

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, accident 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. 257 in Brooklyn is one of the 135 priority schools.

2. BACKGROUND—EXISTING CONDITIONS AND ANALYSIS



2.2 NEIGHBORHOOD DESCRIPTION

Located at 60 Cook Street in Brooklyn, P.S. 257 occupies half a city block between Humboldt Street and Graham Avenue to the east and west and Varet Street and Cook Street to the north and south. Cook Street is not a through street and ends before continuing to Humboldt Street. Immediately to the east of Humboldt Street, across from the P.S. 257 yard, is the Bushwick Housing Development. Two blocks to the south of the school is the intersection of Broadway and Flushing Avenue, which includes stops for the J, M, and Z NYCT Subway lines.



Figure 1: Humboldt Street at dismissal time

2.3 MEETING WITH SCHOOL REPRESENTATIVES

A staff member from the Brooklyn Borough Commissioner's office, the consultant staff, representatives from P.S. 257 (including the Principal, Vice Principal and PTA), and police officers from the 90th Precinct of the NYPD met at P.S. 257 on the afternoon of March 4, 2004.

According to representatives of the school, the identifiable problems that student pedestrians encounter on a regular basis include the following:

- Difficulty crossing Graham Avenue at Cook Street
- Mid-block crossing on Humboldt Street, at the mid-block school exit, between Varet Street and Debevoise Street
- Vehicles speeding on Humboldt Street and Varet Street.

According to the school representatives, there have been previous requests made to NYCDOT for speed humps, the installation of a traffic signal at Graham Avenue and Cook Street, and “school crossing ahead” signs.

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

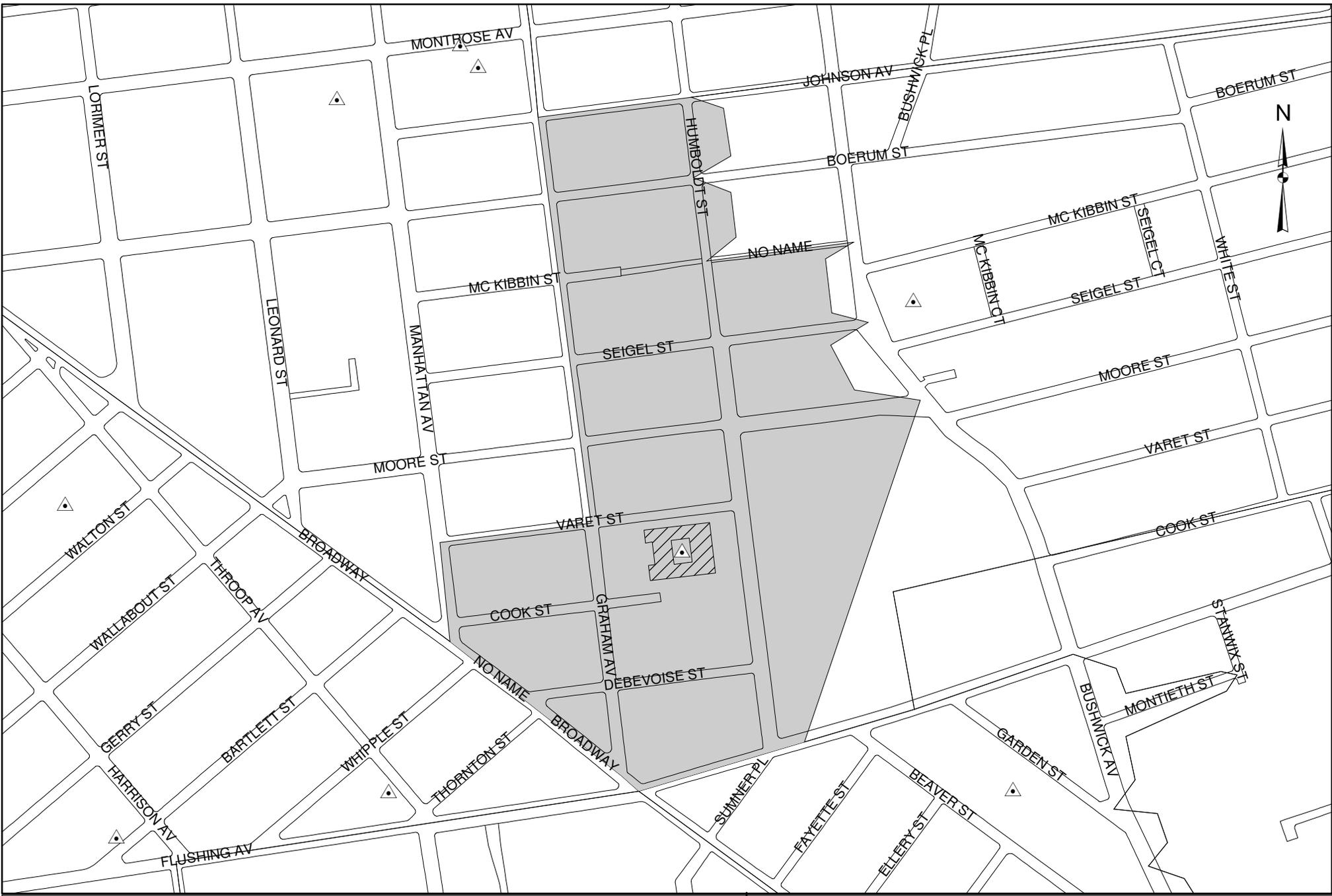


1 inch equals 175 feet

EXHIBIT 1

**JOHN F. HYLAN SCHOOL
P.S. 257, BROOKLYN**

AERIAL PHOTOGRAPH

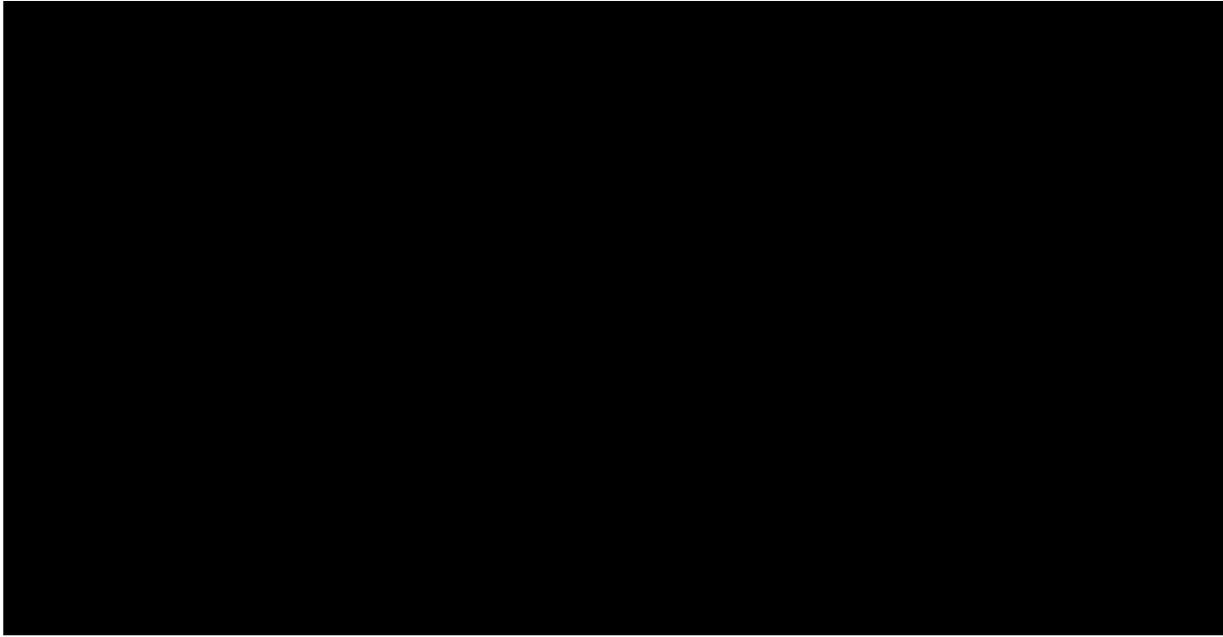


1 inch equals 400 feet


CATCHMENT AREA

EXHIBIT 2

JOHN F. HYLAN SCHOOL
P.S. 257, BROOKLYN
CATCHMENT AREA



2.6 PRIMARY MODE OF TRANSPORT TO AND FROM SCHOOL

According to school officials, approximately 72% of the students walk to P.S. 257, 10% arrive via public transportation, parents or guardians drive 8%, and the remaining 10% arrive by school buses. See Table 1 for school's estimate of modal split.

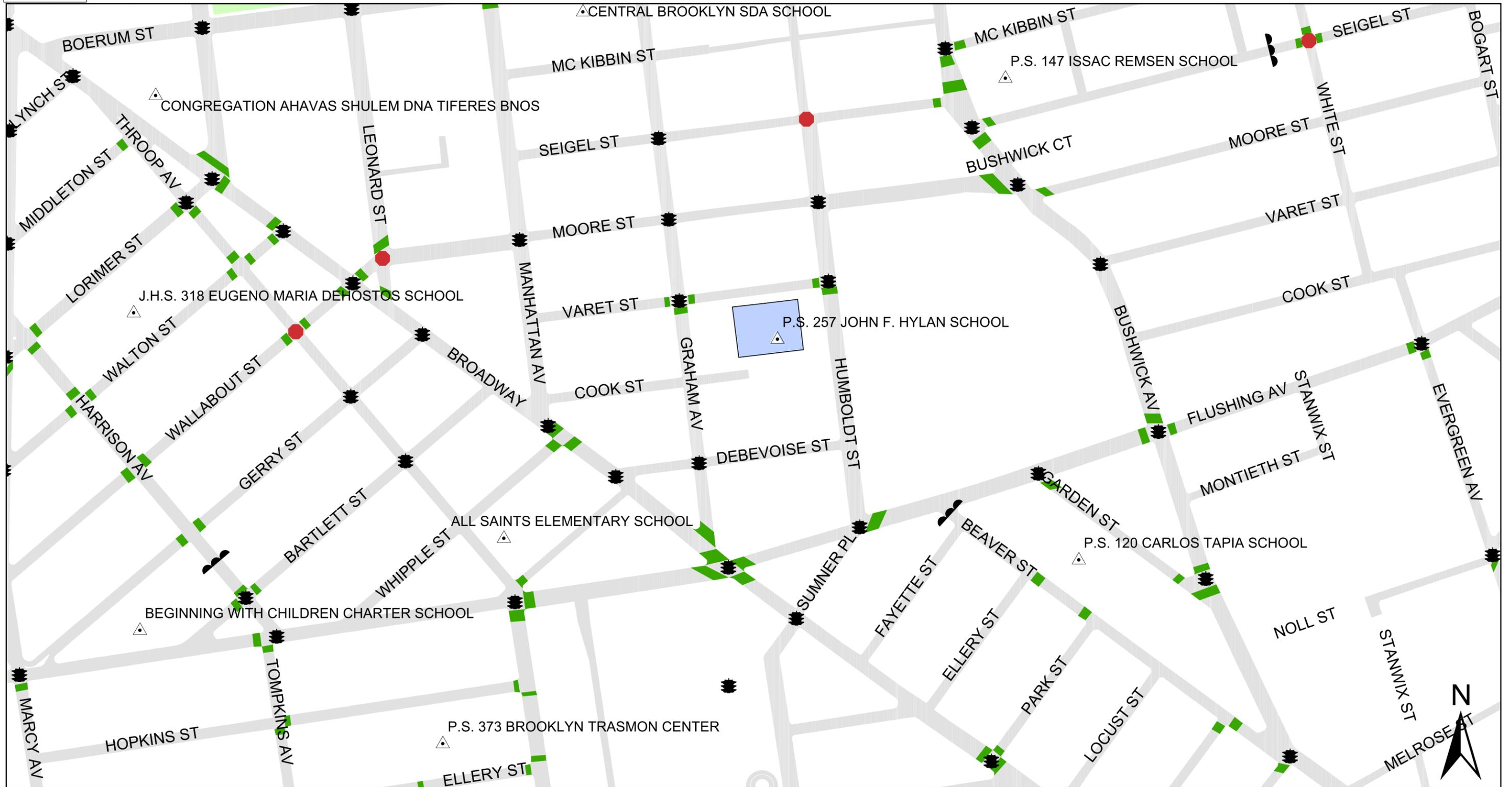
TABLE 1: MODE OF TRAVEL (AS ESTIMATED BY SCHOOL OFFICIALS)	
Description	Percentage
Walk	72%
Driven by parent or guardian	8%
School bus	10%
MTA bus or subway	10%
TOTAL	100%

2.7 CROSSING GUARD LOCATIONS

Crossing guards for P.S. 257 are located at the intersections of Graham Avenue at Varet Street and Humboldt Street at Varet Street. According to the representatives of the NYPD present at the meeting, these are the only intersections for P.S. 257 that have assigned crossing guards. See Exhibit 4 for a map of crossing guard locations.



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:

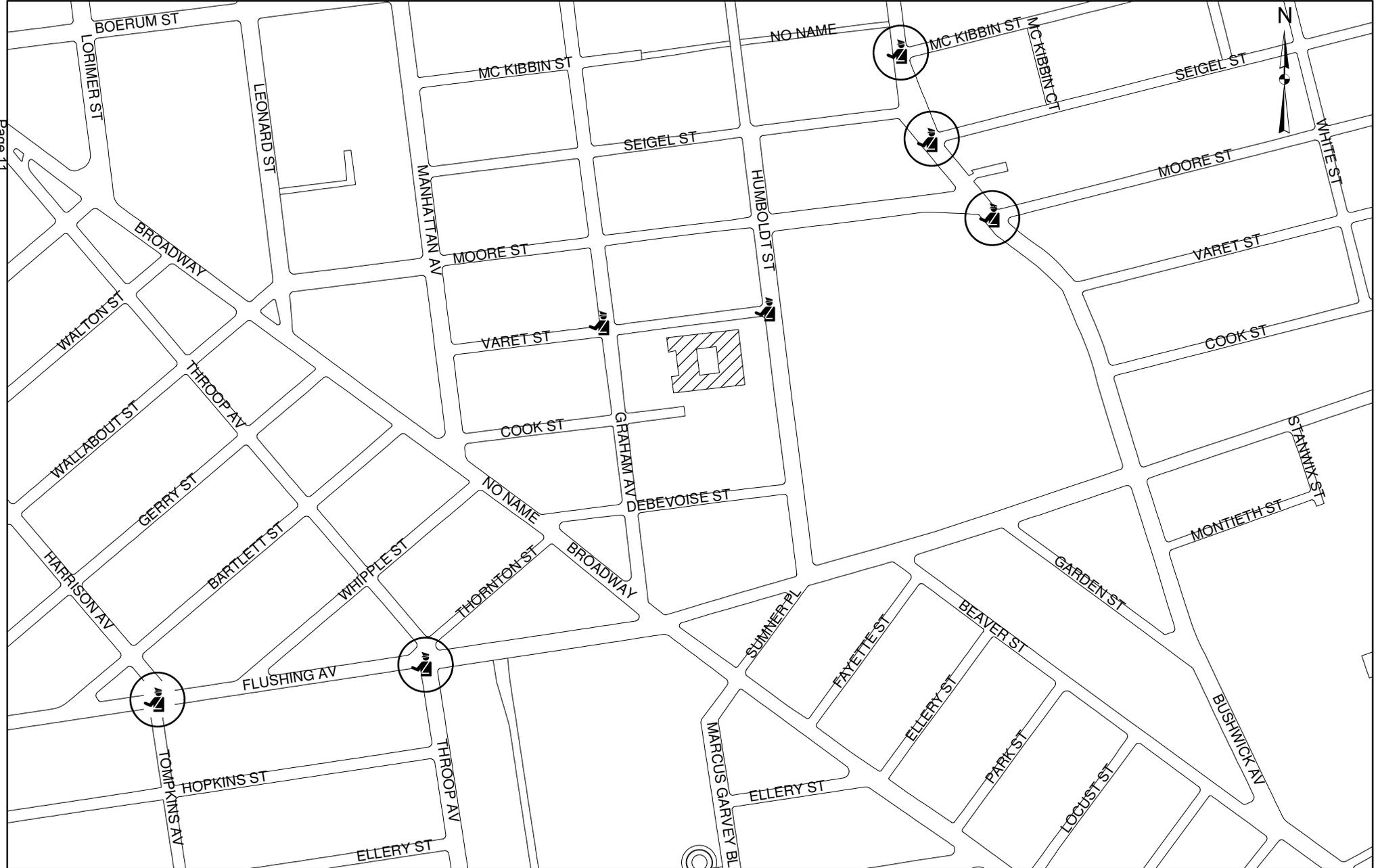
- SCHOOL LOCATION
- SCHOOL CROSSWALK
- TRAFFIC SIGNAL
- ALL - WAY STOP
- SPEED REDUCER

PS 257 Brooklyn
JOHN F. HYLAN SCHOOL

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

Map created on 11/16/2006 **EXHIBIT 3**

COMM. BOARD: 301
 PRECINCT: 90



1 inch equals 375 feet

-  Crossing guard assigned to P.S. 257
-  Crossing guard assigned to another school

EXHIBIT 4
JOHN F. HYLAN SCHOOL
P.S. 257

CROSSING GUARDS

3. TRAFFIC OPERATIONS

3.1 SCHOOL BUS OPERATIONS

School buses stop on Humboldt Street, at the back gate to the P.S. 257 schoolyard. Buses also utilize the Varet Street entrance to P.S. 257 for Kindergarten students. Buses, while waiting, line up on Varet Street and Humboldt Street. Consultant observations concur that there is sufficient block face footage for school bus operations.



Fig. 2 – School buses on Varet Street during dismissal time

3.2 PARENT DROP-OFF OPERATIONS

Field observations taken on the afternoon of March 4, 2004, indicated that approximately 50 students were picked up at the various exits of P.S. 257. It was observed during the dismissal time that parents were double parking on Humboldt Street in order to pick up students. It was also observed that vehicles would pull into Cook Street (which is a cul-de-sac), perform a “U-turn” and wait for students to exit the school. Humboldt Street is at times reduced to a two-lane roadway, due to the double-parking related to the dismissal of P.S. 257.



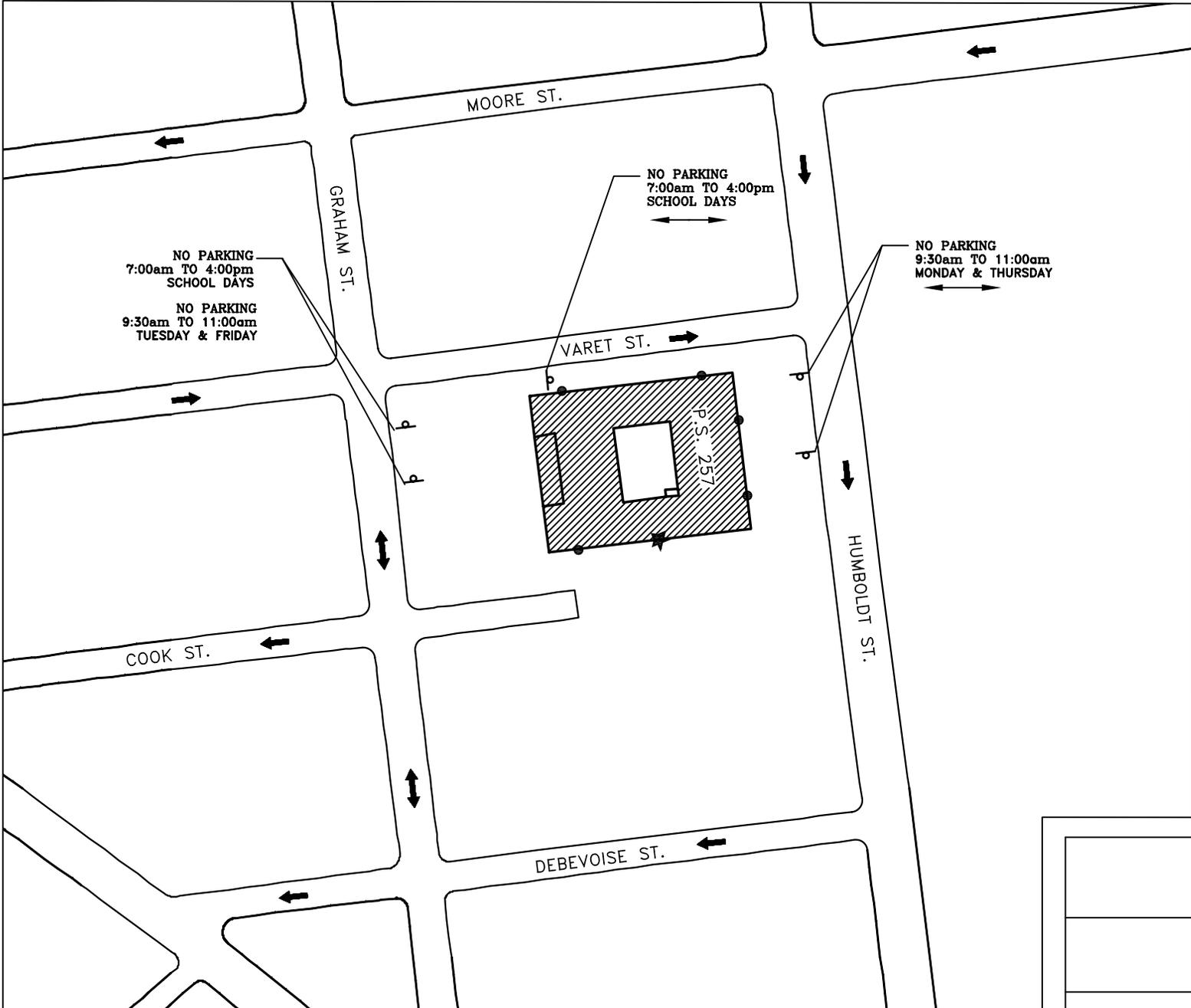
Figure 3 – Looking south on Humboldt Street, double- parked vehicles and students crossing at the uncontrolled mid-block



Figure 4 – Looking north on Humboldt Street, double-parked vehicles

3.3 PARKING REGULATIONS

The parking regulations are shown on Exhibit 5. Currently, the staff and faculty of P.S. 257 park within the school property, with a capacity of 60 vehicles.



LEGEND

- ★ MAIN ENTRANCE
- OTHER ENTRANCES
- STREET SIGN

EXHIBIT 5

P.S. 257

EXISTING PARKING REGULATIONS

SCALE 1:150

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 MUTCD standards of fluorescent yellow-green with downward pointing arrows. Signs scheduled to be installed under this program are shown as "existing".



Figure 5 – Looking south on Graham Avenue from Varet Street



Figure 6 – Looking west on Varet Street from Humboldt Street

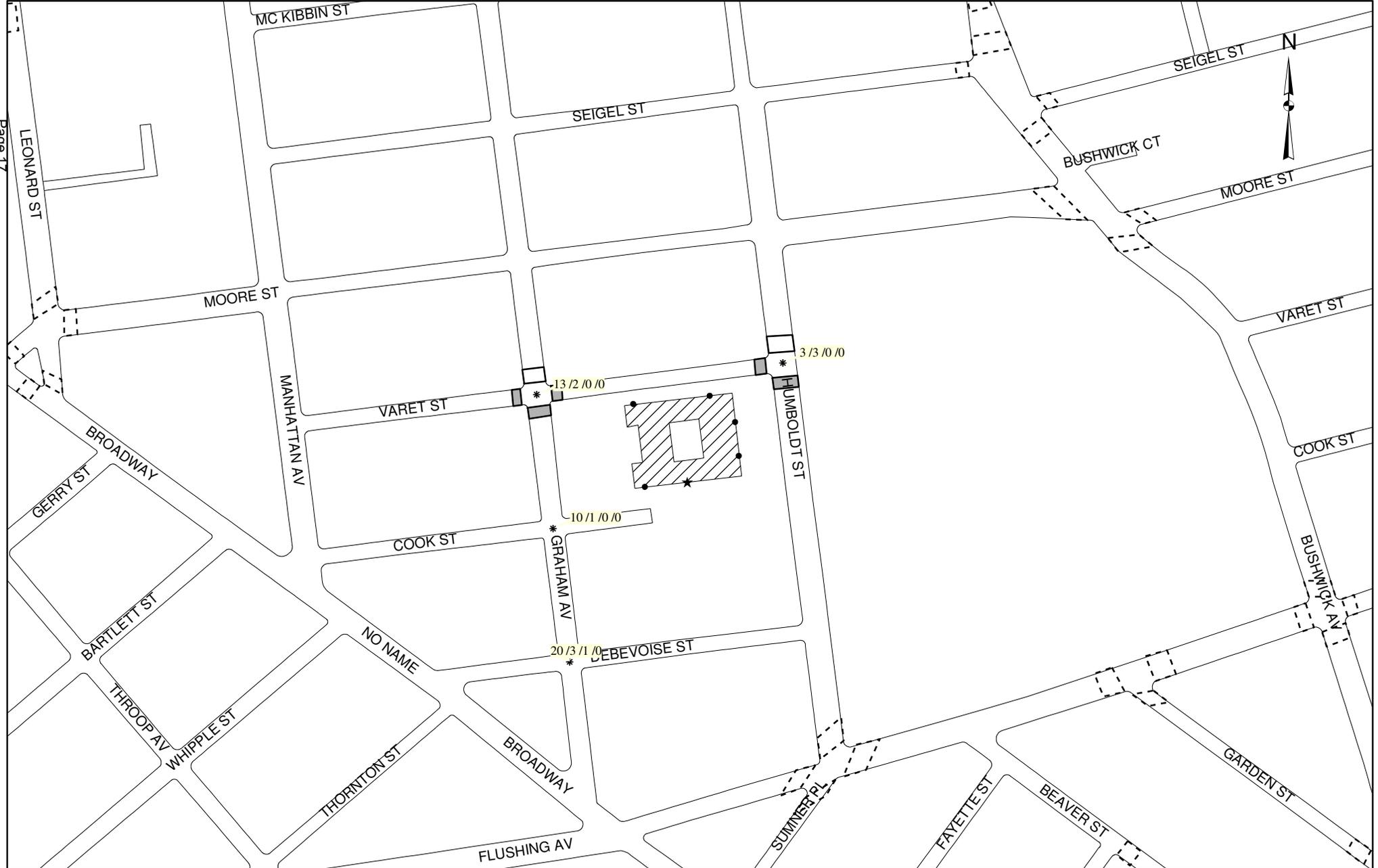
3.5 ACCIDENT SUMMARY

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. 257 for the three-year period from January 1, 1998 through December 1, 2000. The DMV data provide some details 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.

TABLE 2: DMV ACCIDENT SUMMARY (1998-2000)				
INTERSECTION	TOTAL ACCIDENTS	PEDESTRIAN ACCIDENTS	PEDESTRIAN FATALITIES	SCHOOL-RELATED ACCIDENTS*
Graham Ave. @ Varet St.	13	2	0	0
Humboldt St. @ Varet St.	3	3	0	0
Graham Ave. @ Cook St.	10	1	0	0
Graham Ave. Debevoise St	20	3	1	0
TOTAL	46	9	1	0

TABLE 3: NYPD ACCIDENT SUMMARY (2001-2004)				
INTERSECTION	TOTAL ACCIDENTS	PEDESTRIAN ACCIDENTS	PEDESTRIAN FATALITIES	SCHOOL-RELATED ACCIDENTS*
Graham Ave. @ Varet St.	27	1	0	0
Humboldt St. @ Varet St.	11	4	0	1
Graham Ave. @ Cook St.	23	1	0	0
Graham Ave. Debevoise St	41	9	0	1
TOTAL	102	15	0	2

** 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. 257 

SCHOOL CROSSWALK ASSIGNED TO ANOTHER SCHOOL 

CROSSWALK 

X/X/X/X

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

1 inch equals 250 feet

EXHIBIT 6
JOHN F. HYLAN SCHOOL
P.S. 257
ACCIDENT SUMMARY
THREE YEAR PERIOD
(1998-2000)

3.6 TRAFFIC OPERATIONS AND ISSUES

The following describes traffic accidents and operational issues at intersections in the vicinity of P.S. 257.

3.6.1 Graham Avenue at Varet Street

This is a signalized intersection with school crosswalks across the south, east and west legs. Graham Avenue is a 40-foot wide two-way street (north-south) with one travel lane in each direction and parking lanes on both sides of the street. Varet Street is 30-foot one-way street (eastbound) with one travel lane and parking lanes along both curbs.

As shown in Exhibit 4, a school crossing guard is assigned to this intersection.

This intersection had thirteen accidents between 1998 and 2000. Two accidents involved pedestrians. None were school related. According to the accident data, both accidents were attributed to driver's error. A westbound vehicle attempting to back up struck the first pedestrian, and the second pedestrian was struck by a northbound vehicle while crossing with the signal .

3.6.2 Humboldt Street at Varet Street

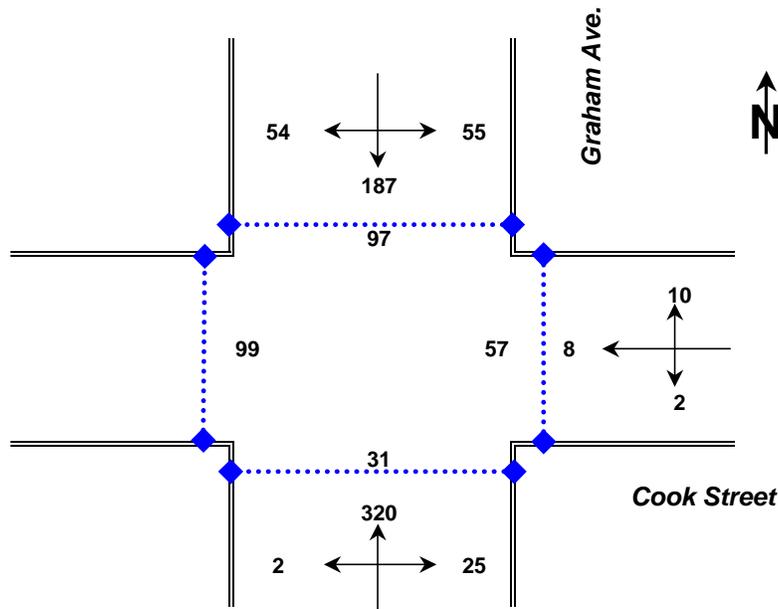
This is a signalized T-intersection with school crosswalks on the south and west leg. Humboldt Street is a 50-foot wide one-way street (southbound) with three traffic lanes and parking on both sides of the street. All traffic on Varet Street must turn right onto Humboldt Street. Vehicles were observed to increase speeds to make the light at Humboldt Street at Varet Street.

This intersection has been the site of three accidents between 1998 and 2000 (See Exhibit 6 and Table 2). All three of the reported accidents involved pedestrians. None were school-related accidents.

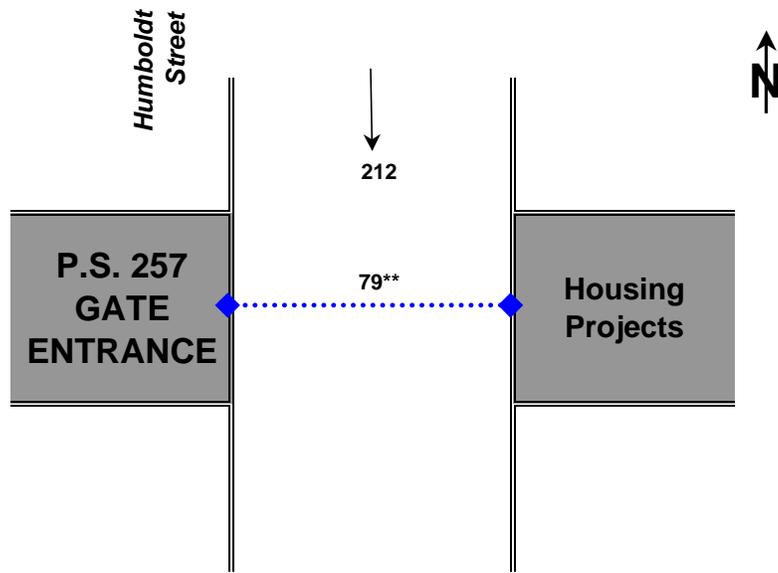


Figure 7 – Looking east at the intersection of Humboldt Street and Varet Street

One Hour Traffic Count Volumes
 (7:30 AM - 8:30 PM Septemebr 21, 2005)



Intersection of Graham Avenue and Cook Street



Humboldt Street in front of P.S. 257 entrance

Note* - Pedestrians Jaywalking

- 62 — Number of Pedestrians
- ◆...◆ Pedestrian Crossing
- 53 ← Vehicle Movement
- Number of Vehicles

EXHIBIT 7
P.S. 257
TURNING MOVEMENT COUNTS



Figure 8 – School crossing guard at Humboldt Street at Varet Street

The first pedestrian accident occurred when an eastbound vehicle struck a school age pedestrian while crossing against the signal. The second accident involved a right-turning westbound vehicle striking a pedestrian while crossing against the signal. According to the accident data, both accidents were attributed to pedestrian errors due to crossing against the signal. There is no information on the third accident, except that the vehicle was going in the southbound direction when it struck a school age pedestrian.

Since all traffic on Varet Street turns onto Humboldt Street, the crossing guard holds traffic on Varet Street to permit children to cross the south and west leg of Humboldt Street. School officials complained of vehicles speeding on Varet Street, and of motorists making the right turn without consideration for pedestrians in the crosswalk.

3.6.3 Graham Avenue at Cook Street

The intersection of Graham Avenue and Cook Street is unsignalized, with stop controls on Cook Street. Cook Street is a 30-foot wide, one-way westbound roadway with parking along both sides. There is no school crossings striped at this intersection, and there are no crosswalk at all striped across Graham Avenue.

This intersection has been the site of ten accidents during the 1998 to 2000 study period (See Exhibit 6 and Table 2). One of the reported accidents involved pedestrians, however it was not school-related. The reported pedestrian accident involved a pedestrian that was struck by a westbound right turning vehicle while crossing against the signal.

Student pedestrians were observed crossing Graham Avenue at this location without the safety of a crosswalk, crossing guard or stop controls for vehicles on Graham Avenue.

Due to the number of pedestrians using the various crosswalks, and the high vehicular traffic, there is a need to control vehicular and pedestrian conflicts. Further discussion of the proposed traffic control measures and the study done follows in the recommendations sections of the report.

3.6.4 Humboldt Street, between Varet Street and Debevoise Street

Humboldt Street, between Varet Street and Debevoise Street, abuts the schoolyard of P.S. 257. There is a gate from the schoolyard to Humboldt Street that is open during the school arrival and dismissal periods and after school for the student use of the schoolyard. This gate serves as the main exit during afternoon student dismissal. Most students leave the school at this location and cross mid-block to the Bushwick Housing Complex located directly opposite the school.

To determine the number of students crossing at mid-block, traffic counts were conducted at this location on September 21, 2005 between 7:30 and 8:30 am. A total of 79 pedestrians crossed at the mid-block versus 212 southbound traveling vehicles on Humboldt Street, although Humboldt Street was under construction at the time of the count. However, during the field data collection on March 4, 2004 between 2:45 pm and 3:45 pm a total of 200 pedestrians crossed in the mid-block of Humboldt Street between Varet Street and Debevoise Street.

Student pedestrians were observed crossing Humboldt Street at this location without a crosswalk (Figure 7), crossing guard or stop controls. During the field visit on March 14th, 2005 utility relocation work was being performed on Humboldt Street in connection with the Flushing Avenue reconstruction project.

There were three accidents at this segment between 1998 and 2000, one of which was pedestrian accident. A 24-year old pedestrian was crossing mid-block when struck by a vehicle traveling southbound.



Figure 9 – Students crossing mid-block on Humboldt Street

3.6.5 Graham Avenue at Debevoise Street

Debevoise Street is 30-feet wide with one-way westbound traffic west of the intersection and one-way eastbound traffic east of the intersection. It has one moving lane of traffic and parking on the both sides of the street. South of Debevoise Street, Graham Avenue is one-way northbound and north of Debevoise Street, Graham Avenue becomes a two-way

roadway. The intersection of Graham Avenue and Debevoise Street is controlled by a two-phase signal. None of the intersection legs are striped with school crosswalks.

This intersection has been the site of twenty accidents during the 1998 and 2000 study period (See Exhibit 6 and Table 2). Three of the reported accidents involved pedestrian injuries with one pedestrian being struck fatally.

The fatal accident occurred on November 12, 1999, at 9:00am. The pedestrian, 43 year-old, was crossing Graham Avenue against the traffic signal at the time of the accident.

3.6.6 Mid-block vehicular speeds on Varet Street between Graham Avenue and Humboldt Street

School representatives noted that vehicles travel at excessive speeds along Varet Street in the vicinity of the school. To determine vehicular speed along this street, a spot speed study was conducted on Wednesday, August 17, 2005 between 2:00 pm and 3:00 pm. 85th percentile speed was found to be 21 mph which is below the legal speed of 30 mph. See Table 4 for a summary of the results and the Appendix for further detail.

TABLE 4: SPOT SPEED STUDIES		
(Wednesday, August 17, 2005: 2:00 pm – 3:00 pm)		
LOCATION	MEDIAN SPEED (MPH)	85TH PERCENTILE SPEED (MPH)
Varet St. between Graham Avenue and Humboldt St.	20	21

3.7 SIGNAL TIMING: PEDESTRIAN PHASE

Pedestrian crossing time was field verified at all signalized intersections in the vicinity of P.S. 257, and found to be adequate (for a child pedestrian walking rate of three feet per second) in all directions and approaches.

TABLE 5: PEDESTRIAN CROSSING TIME AT SIGNALIZED INTERSECTIONS				
Intersection Name	Crosswalk Width (Feet)	Ped. Phase Actual (Seconds)	Ped. Phase Req'd (Seconds)	Timing Adjustment? (Yes/No)
Graham Avenue at Varet Street				
Graham Avenue	40	20	17	NO
Varet Street	30	35	13	NO
Humboldt St. at Varet Street				
Humboldt Street	50	20	20	NO
Varet Street	30	35	13	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)

During the field data collection Humboldt Street, south of Varet Street, was undergoing road construction by private utilities in connection with Capital Project HWK-472; Reconstruction of Flushing Avenue.

The sidewalks on Humboldt Street are generally in poor condition. Upon the completion of the utility work, the sidewalks and curbs should be repaired.

4. PROPOSED MEASURES TO IMPROVE PEDESTRIAN SAFETY

This section describes potential countermeasures. These countermeasures are divided into short-term and long-term. 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 Pedestrian Sign”
A “Yield TO Pedestrian” sign should be installed on Moore Street and Humboldt Street intersection.
- “No-Standing Zone” on Humboldt Street and Varet Street
“No Standing 7AM-4 PM, School Days” parking regulations should be considered in front of school entrance about 30 feet long on both Humboldt and Varet Streets to provide sufficient clear frontage for school buses to drop-off and pick-up students.
- Upgrade all “No Parking Zones” to “No-Standing Zones”
“No Parking 7:00AM-4:00 PM, School Days” parking regulations on Graham Avenue should be upgraded to “No Standing 7:00AM-4:00 PM, School Days” along the east side of the roadway.
- Install school crossings at following intersections:
 - Debevoise Street and Graham Avenue – across east leg
 - Debevoise Street and Humboldt Street – across west leg
 - Graham Avenue and Cook Street – across all four legs
 - Humboldt Street and Moore Street – across east and west legs
 - Graham Avenue and Moore Street – across east leg

Based on feedback from school officials these intersections are utilized by P.S. 257 students en route to school. Therefore, it is recommended that all four intersections become school crosswalks to ensure continuous walking routes (see Exhibit 7 for detail).

- Submit Request to Police Department for Crossing Guard
It is recommended that a crossing guard be requested for the Cook Street and Graham Avenue intersection

- Traffic Control on Graham Avenue at Cook Street intersection

A one-hour traffic count, including pedestrian counts was conducted at the intersection of Graham Avenue and Cook Street on Wednesday February 1, 2006 between 2:30 pm and 3:30 pm.

Based on MUTCD Section 4C.05 Signal Warrant 4 (Pedestrian Volume) the need for a traffic control signal at an intersection shall be considered if an engineering

study finds that the pedestrian volume crossing the major street at an intersection during an average day is 190 or more during any one hour. In addition, there must be fewer than 60 gaps per hour in the traffic stream of adequate length to allow pedestrians to cross during the same period to meet the pedestrian volume criterion.

The number of pedestrians crossing Graham Avenue was 221 (133+88) pedestrians/hour, which indicated that the Signal Warrant 4, regarding the number of crossing pedestrian volumes is met (221 vs. required 190 pedestrians).

In addition, to determine the number of gaps between vehicles for pedestrians to safely cross the street a one-hour gap study was conducted at the same location on Wednesday February 1, 2006 between 2:30 pm and 3:30 pm. For pedestrians to cross Graham Avenue (a 40 foot distance) at three feet per second, a minimum gap of 17 seconds is needed (including three seconds reaction time). According to the collected gap data, a total of 31 gaps of 17 or more seconds were available to pedestrians crossing Graham Avenue during 2:30-3:30 pm time period (see Appendix for detail).

Therefore, because the number of adequate gaps is lower than the number of minutes in the same study period (31 gaps vs. 60 required gaps/hour) Signal Warrant 4, Pedestrian Volume and Signal Warrant 5, School Crossing are met.

As a result of these findings, a full traffic signal warrant study (including gap study) is recommended at this location. The proposed traffic signal would be coordinated with the other traffic signals on Graham Avenue and would facilitate the installation of school crosswalks on Graham Avenue.

- *Install a Speed Board on Humboldt Street*

A speed board is recommended on Humboldt Street at the school entrance between Varet Street and Debevoise Street. This is recommended as an interim measure (See Long Term Recommendations).

4.2 LONG-TERM OPTIONS

- Consider curb extensions at the following intersections:
 - Humboldt Street and Varet Street
 - Varet Street and Graham Avenue
 - Graham Avenue and Cook Street
 - Humboldt Street and Debevoise Street

Curb extensions should be installed at the corners as shown in Exhibit 8.

The purpose of the curb extensions is to reduce speeds of vehicles approaching and turning at these heavily utilized school crosswalks.

These curb extensions will not eliminate or reduce the width any moving lanes. Curb extensions are not proposed where they would hinder the ability of vehicles to turn.

- Consider narrowing Humboldt Street and installing two speed reducers

As noted in Section 3.6.4 many pedestrians cross Humboldt Street mid-block between Debevoise Street and Varet Street. During the morning arrival and the afternoon dismissal time most mid-block crossing pedestrians are school students and parents with students coming from the Housing Development located across Humboldt Street. In addition, school officials noted that vehicles traveling on Humboldt Street travel at excessive speeds. To verify the speeds along Humboldt Street a spot speed study was conducted on August 17, 2005 between 1:00 pm and 2:00 pm. The 85th percentile speed was determined to be 31 mph.

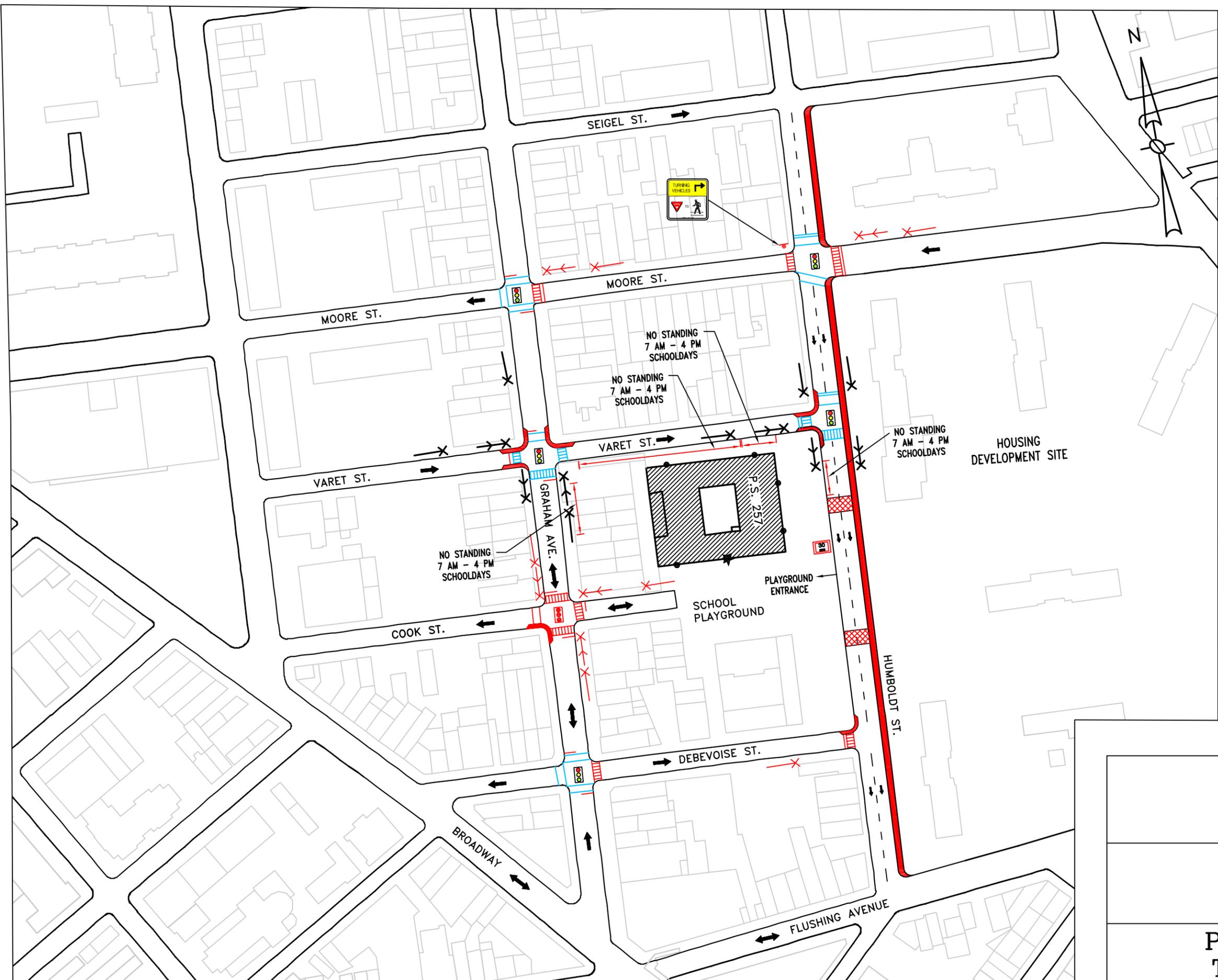
LOCATION	MEDIAN SPEED (MPH)	85TH PERCENTILE SPEED (MPH)
Humboldt Street between Cook Street and Varet Street	26	31

North of Siegel Street, Humboldt Street is a one-way (southbound) 30-foot wide street (two blocks north of P.S. 257). (South of Siegel Street it widens to 50 feet for a four-block length). Traffic counts conducted on September 12, 2005 between 7:30 am and 8:30 am showed that a total of 221 vehicles used Humboldt Street during that hour.

Since the street has excess roadway capacity it is recommended to restore it to its original width of 30 feet. This will also encourage reduced operating speeds on Humboldt Street and shorten the crossing distance on Humboldt Street.

Therefore the following is recommended:

- The east sidewalk of Humboldt Street should be widened by 20 feet between Flushing Avenue and Siegel Street.
- Install two speed reducers on Humboldt Street between Debevoise Street and Varet Street (as shown in Exhibit 8)
- An urban design plan, with appropriate amenities, should be developed for the promenade created by the sidewalk widening.



- LEGEND**
-  MAIN ENTRANCE
 -  OTHER ENTRANCES
 -  EXISTING ADVANCE WARNING SIGN WITH ARROW
 -  EXISTING ADVANCE WARNING SIGN
 -  EXISTING TRAVEL DIRECTION
 -  SIGNALIZED INTERSECTION
 -  EXISTING SCHOOL CROSSWALK
 -  EXISTING STANDARD (NON-SCHOOL) CROSSWALK
 -  EXISTING SCHOOL CROSSWALK ASSOC. WITH OTHER SCHOOL
 -  PROPOSED ADVANCE WARNING SIGN WITH ARROW
 -  PROPOSED ADVANCE WARNING SIGN
 -  PROPOSED STOP LINE
 -  PROPOSED SCHOOL CROSSWALK
 -  PROPOSED REGULAR CROSSWALK
 -  PROPOSED TRAFFIC SIGN
 -  PROPOSED CURB EXTENSION (NECKDOWN)
 -  PROPOSED SPEED REDUCER (HUMP)
 -  PROPOSED SIGNALIZED INTERSECTION
 -  SPEED BOARD

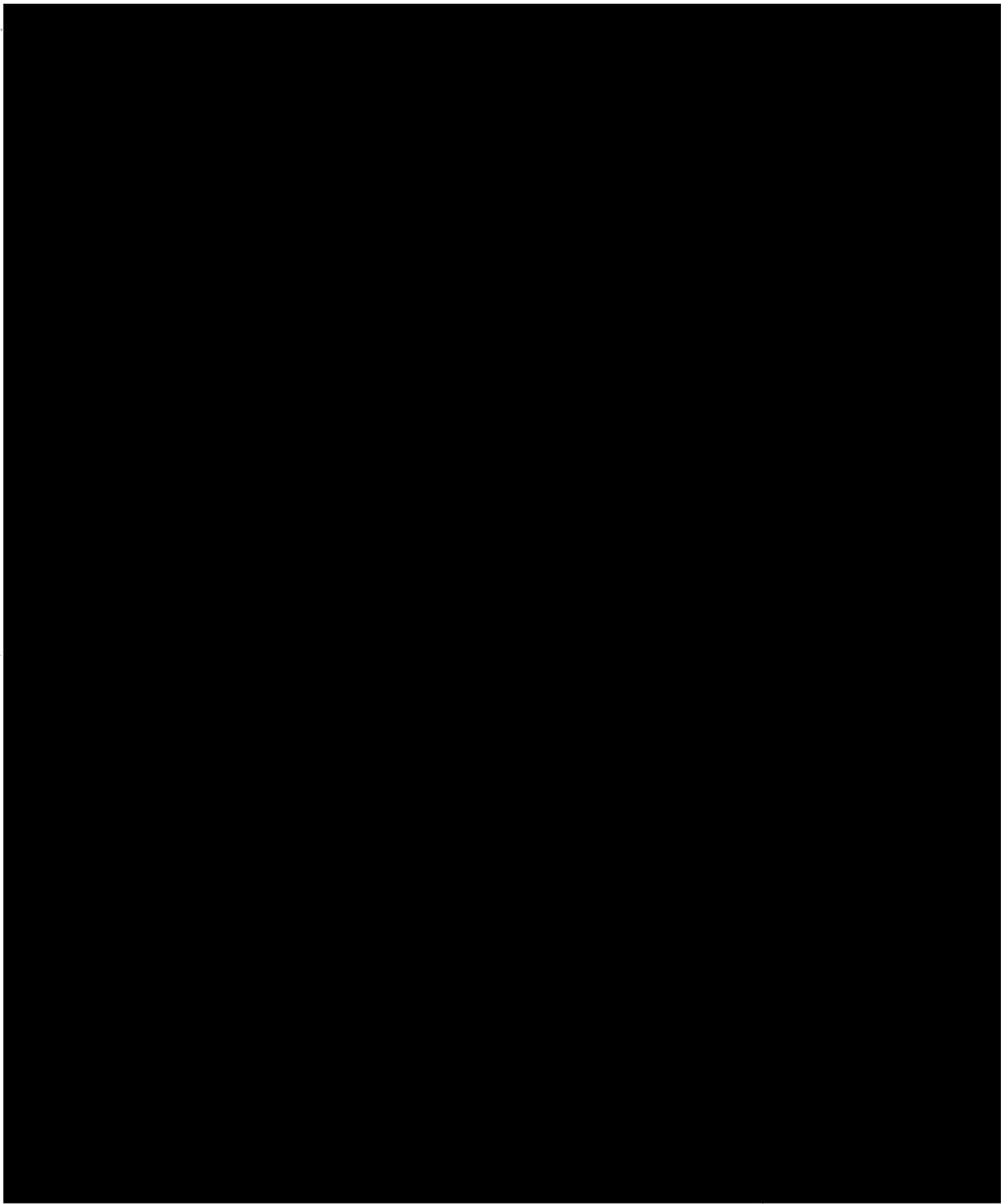
SCALE: 1" : 160'

EXHIBIT 8

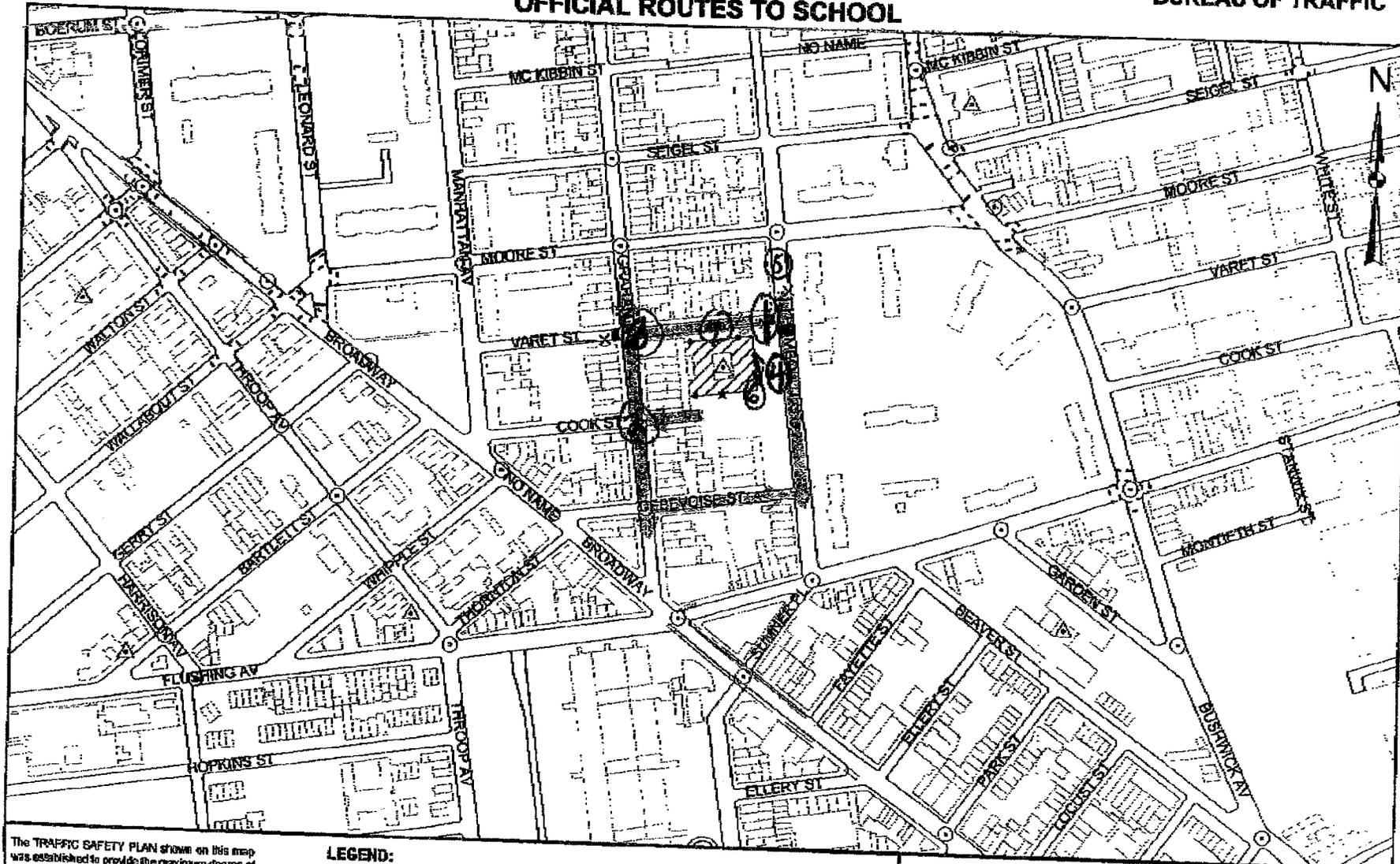
P.S. 257 (BK)

**PROPOSED MEASURES
TO IMPROVE 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 | | SCHOOL X-WALK | | TRAFFIC SIGNAL | |
| ROUTE TO SCHOOL | | PED. X-WALK | | ALL-WAY STOP | |
| ADV. WARNING SIGN | | STOP LINE | | 2-WAY STOP | |
| SCHOOL LOCATION | | X-WALKS ASSOCIATED WITH OTHER SCHOOLS | | | |
| MAIN SCHOOL ENTRANCE | | SPEED HUMP | | | |
| OTHER SCHOOL ENTRANCES | | | | | |

JOHN F. HYLAN SCHOOL
P.S. 257

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

ORIG. DATE: 2/18/83	DRAWING NO. QC-487	COMM. BOARD: 1
GAS CONV'T: 04/2002	MS-3788	BOROUGH: BROOKLYN
REVISIONS:		PRECINCT: 87

TOTAL P. 02



SPOT SPEED STUDY

Date: **August 17, 2005** Time: **1:00 pm - 2:00 pm**
 Location: **Humboldt Street btw. Cook Street & Varet Street**
 Surveyor: **The RBA Group**

School: **P.S. 257**
 Direction: **North - South**
 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	6	7.3%	7.3%	114	2166
20	5	6.1%	13.4%	100	2000
21	3	3.7%	17.1%	63	1323
22	4	4.9%	22.0%	88	1936
23	12	14.6%	36.6%	276	6348
24	18	22.0%	58.5%	432	10368
25	3	3.7%	62.2%	75	1875
26	1	1.2%	63.4%	26	676
27	3	3.7%	67.1%	81	2187
28	2	2.4%	69.5%	56	1568
29	7	8.5%	78.0%	203	5887
30	0	0.0%	78.0%	0	0
31	3	3.7%	81.7%	93	2883
32	0	0.0%	81.7%	0	0
33	6	7.3%	89.0%	198	6534
34	2	2.4%	91.5%	68	2312
35	3	3.7%	95.1%	105	3675
36	2	2.4%	97.6%	72	2592
37	1	1.2%	98.8%	37	1369
38	1	1.2%	100.0%	38	1444
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
	82	100.0%		2125	57143

Mean Speed = 25.9 mph Median Speed = 25.9 mph
 Standard Deviation = 5.1 mph 15th Percentile Speed = 20.7 mph
 Margin of Error (95% Confidence) = ± 1.1 mph 85th Percentile Speed = 31.2 mph

SPOT SPEED STUDY

Date: August 17, 2005

Time: 1:00 pm - 2:00 pm

School: P.S. 257

Location: Humboldt Street btw. Cook Street & Varet Street

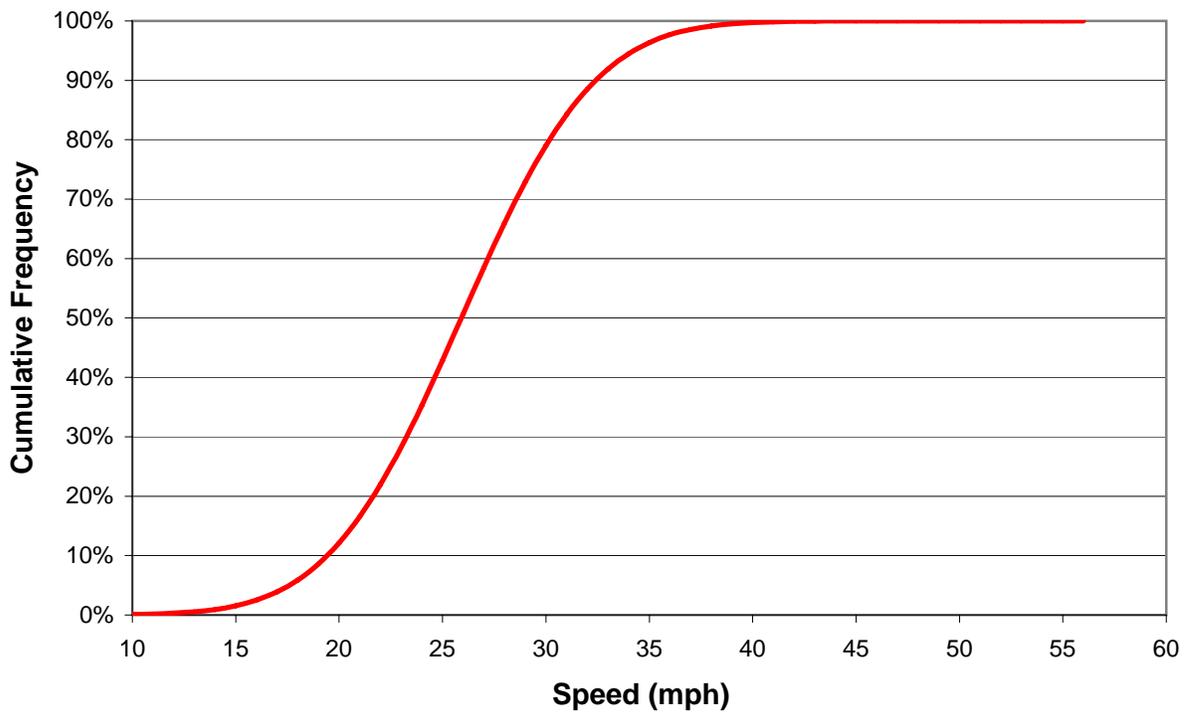
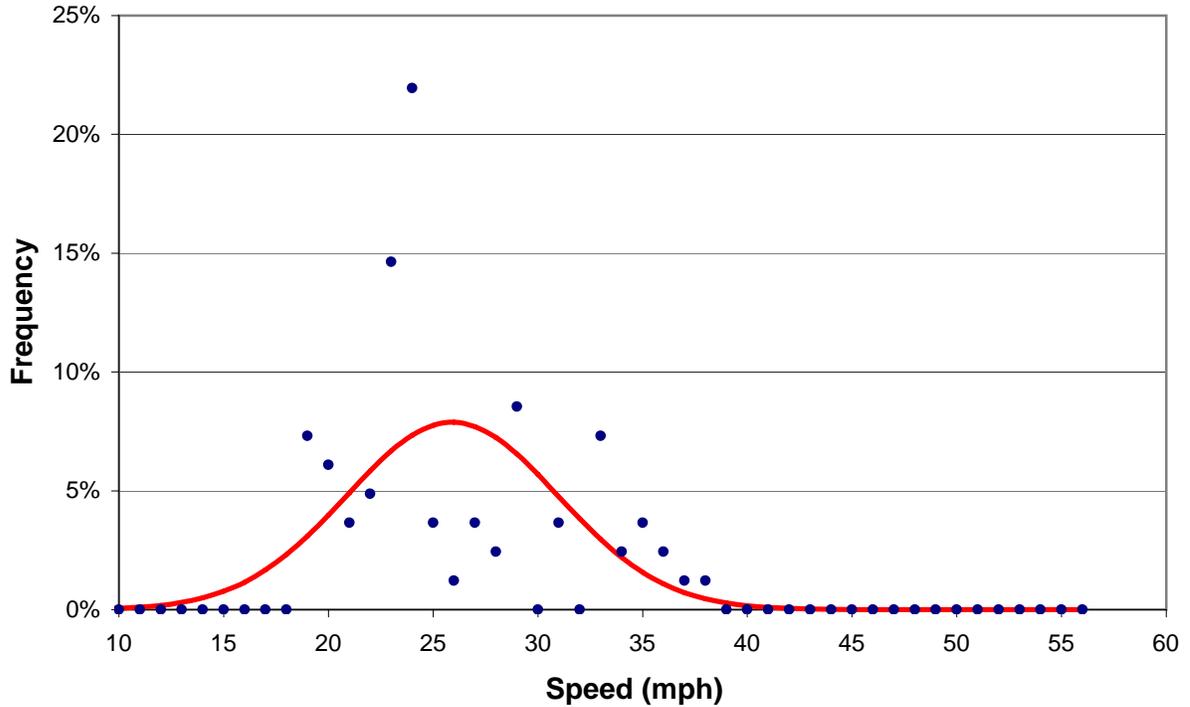
Direction: North - South

Surveyor: The RBA Group

Comments:

Mean Speed = 25.9 mph
Standard Deviation = 5.1 mph
Margin of Error (95% Confidence) = ± 1.1 mph

Median Speed = 25.9 mph
15th Percentile Speed = 20.7 mph
85th Percentile Speed = 31.2 mph



SPOT SPEED STUDY

Date: **August 17, 2005** Time: **2:00 pm - 3:00 pm**
 Location: **Varet Street btw. Humboldt Street & Graham Street**
 Surveyor: **The RBA Group**

School: **P.S. 257**
 Direction: **North - South**
 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	3	7.3%	7.3%	51	867
18	6	14.6%	22.0%	108	1944
19	8	19.5%	41.5%	152	2888
20	12	29.3%	70.7%	240	4800
21	8	19.5%	90.2%	168	3528
22	2	4.9%	95.1%	44	968
23	2	4.9%	100.0%	46	1058
24	0	0.0%	100.0%	0	0
25	0	0.0%	100.0%	0	0
26	0	0.0%	100.0%	0	0
27	0	0.0%	100.0%	0	0
28	0	0.0%	100.0%	0	0
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
	41	100.0%		809	16053

Mean Speed = 19.7 mph Median Speed = 19.7 mph
 Standard Deviation = 1.5 mph 15th Percentile Speed = 18.2 mph
 Margin of Error (95% Confidence) = ± 0.5 mph 85th Percentile Speed = 21.3 mph

SPOT SPEED STUDY

Date: August 17, 2005

Time: 2:00 pm - 3:00 pm

School: P.S. 257

Location: Varet Street btw. Humboldt Street & Graham Street

Direction: North - South

Surveyor: The RBA Group

Comments:

Mean Speed = 19.7 mph
Standard Deviation = 1.5 mph
Margin of Error (95% Confidence) = ± 0.5 mph

Median Speed = 19.7 mph
15th Percentile Speed = 18.2 mph
85th Percentile Speed = 21.3 mph

