

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



School Safety Engineering Project

FINAL REPORT: P.S. 199 (Maurice A. Fitzgerald School), Queens



**Prepared by
The RBA Group and URBITRAN Associates Inc.**



July 10, 2006

**School Safety Engineering Project
Final Report: P.S. 199, Queens**

TABLE OF CONTENTS

1. INTRODUCTION..... 1

1.1 PROJECT DESCRIPTION 1

2. BACKGROUND—EXISTING CONDITIONS AND ANALYSIS 2

[REDACTED]

2.2 NEIGHBORHOOD DESCRIPTION 2

2.3 MEETING WITH SCHOOL REPRESENTATIVES 2

[REDACTED]

2.6 PRIMARY MODES OF TRANSPORT TO AND FROM SCHOOL 3

2.7 ADDITIONAL STUDENT PEDESTRIAN TRAFFIC GENERATORS 3

2.8 CROSSING GUARD LOCATIONS..... 3

3. TRAFFIC OPERATIONS 9

3.1 SCHOOL BUS OPERATIONS 9

[REDACTED]

3.3 PARKING REGULATIONS 10

3.4 EXISTING SCHOOL SIGNS AND MARKINGS 10

3.5 ACCIDENT SUMMARY 12

3.6 TRAFFIC OPERATIONS AND ISSUES..... 15

 3.6.1 48th Avenue and 38th Street 15

 3.6.2 48th Avenue and 39th Street 15

 3.6.3 48th Avenue and 39th Place..... 16

 3.6.4 48th Avenue and 40th Street 19

 3.6.5 48th Avenue and Greenpoint Avenue/41st Street..... 19

 3.6.6 Greenpoint Avenue and 39th Street 20

 3.6.7 Greenpoint Avenue and 39th Place 21

 3.6.8 Greenpoint Avenue and 40th Street 23

 3.6.9 50th Avenue and 39th Street 24

3.7 SIGNAL TIMING 24

3.8 PHYSICAL CONDITIONS 25

 3.8.1 Roadways and Sidewalks 25

 3.8.2 Pedestrian Ramps 25

4. PROPOSED MEASURES TO IMPROVE SCHOOL PEDESTRIAN SAFETY. 27

 4.1 SHORT-TERM MEASURES 27

 4.2 LONG-TERM MEASURES 29

EXHIBITS

EXHIBIT 1 - AERIAL PHOTOGRAPH 5

EXHIBIT 2 - CATCHMENT AREA 6

EXHIBIT 3 - SCHOOL TRAFFIC SAFETY MAP 7

EXHIBIT 4 - CROSSING GUARD LOCATIONS 8

EXHIBIT 5 - EXISTING PARKING REGULATIONS 11

EXHIBIT 6 - ACCIDENT SUMMARY 14

EXHIBIT 7 - TRAFFIC COUNT AT INTERSECTION OF 48TH AVENUE AND 39TH PLACE 26

EXHIBIT 8 - PROPOSED MEASURES TO IMPROVE SCHOOL PEDESTRIAN SAFETY 31

TABLES

TABLE 1: MODE OF TRAVEL 3

TABLE 2: ACCIDENT SUMMARY OF NYS DMV DATA (1998-2000) 12

TABLE 3: ACCIDENT SUMMARY OF NYPD DATA (2001-2004) 13

TABLE 4: VEHICLE VOLUMES (7:30 - 8:30 AM) 17

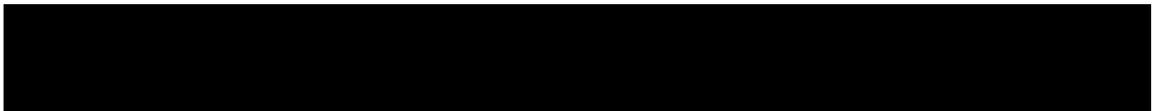
TABLE 5: PEDESTRIAN VOLUMES (7:30 - 8:30 AM) 18

TABLE 6: TRAFFIC SIGNAL WARRANT 4 ANALYSIS (PEDESTRIAN VOLUME) 18

TABLE 7: TRAFFIC SIGNAL WARRANT 5 ANALYSIS (SCHOOL CROSSING) 18

TABLE 6: PEDESTRIAN CROSSING TIMES AT SIGNALIZED INTERSECTIONS 25

APPENDIX



SPEED SURVEY DATA A6-A9

GAP STUDY FIELD SHEET A10

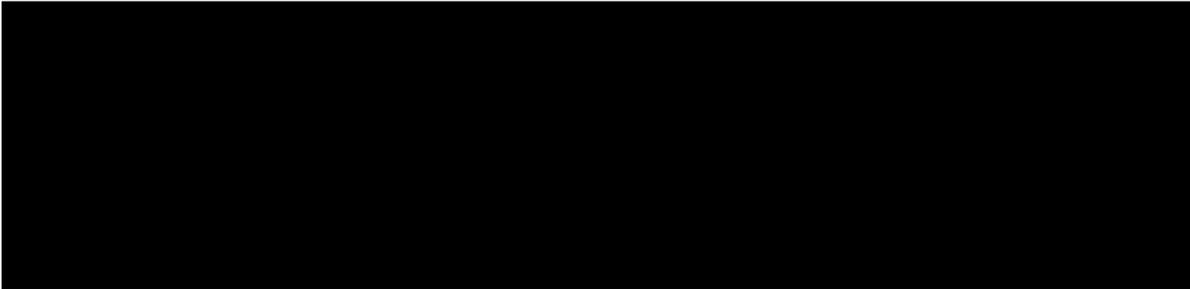
1. INTRODUCTION

1.1 PROJECT DESCRIPTION

The Department of Transportation (DOT) 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. 199 (The Maurice A. Fitzgerald School) in Queens is one of the 135 “priority” schools identified by the New York City Department of Transportation, Office of School Safety Engineering.

2. BACKGROUND—EXISTING CONDITIONS AND ANALYSIS



2.2 NEIGHBORHOOD DESCRIPTION

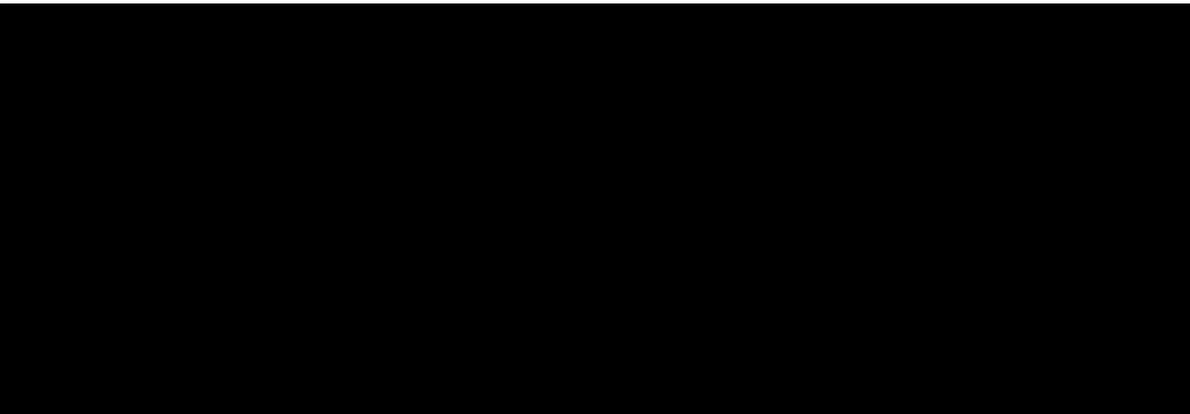
Exhibit 1, at the end of this section, shows an aerial view of the neighborhood surrounding the school. P.S. 199 is bounded by 48th Avenue on the north, Greenpoint Avenue on the south, 40th Street on the east, and 39th Street on the west. The area surrounding the school is generally residential in character; consisting primarily of one and two family houses and multi-family apartment buildings. Some commercial activity is found on Greenpoint Avenue. Queens Boulevard, a major east-west arterial, is located about two blocks north of the school. A major interchange for the Long Island Expressway and Brooklyn-Queens Expressway is located south of the school.

2.3 MEETING WITH SCHOOL REPRESENTATIVES

Consultant staff and the several representatives from the school including the assistant principal, a teacher and the parent coordinator met at the school in the afternoon of June 7, 2004. The following problems facing P.S. 199 student pedestrians and staff were discussed:

- Double-parking on Greenpoint Avenue near 39th Place was reported as a problem, particularly at dismissal time. Vehicles block school entrances/exits, the bus loading/unloading zone, and school crosswalks. The representatives are also concerned about the safety of the crossing guard at this location.
- Vehicles are traveling at excessive speeds on 48th Avenue in front of the school.
- Lack of parking for school staff was reported as a problem.

(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

The school’s “catchment area” as defined by the Department of Education is shown in Exhibit 2 at the end of this section.

Table 1 presents the modes of travel for P.S. 199 as identified by school representatives.

TABLE 1: MODE OF TRAVEL	STUDENTS (Percentage)
Walk	59%
Driven by Car	2%
Public School Bus	23%
Private School Bus	13%
MTA Bus	3%
MTA Subway	0%
Bicycle	0%
TOTAL	100%

2.7 ADDITIONAL STUDENT PEDESTRIAN TRAFFIC GENERATORS

Commercial activity is found nearby on Greenpoint Avenue, which generate both pedestrian and vehicular traffic around the school. In addition, Saint Rafael School is one block west of P.S. 199, which generates additional student pedestrian and vehicular activities in the vicinity of P.S. 199.

2.8 CROSSING GUARD LOCATIONS

According to school representatives, crossing guards are assigned to the following four intersections around the school:

- 48th Avenue and 39th Place (see Figure 1)
- 48th Avenue and 40th Street
- Greenpoint Avenue and 48th Avenue
- Greenpoint Avenue and 39th Place

The crossing guard locations are shown in Exhibit 4 at the end of this section.



Figure 1: Crossing guard at 48th Avenue and 39th Place

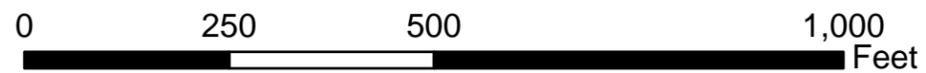
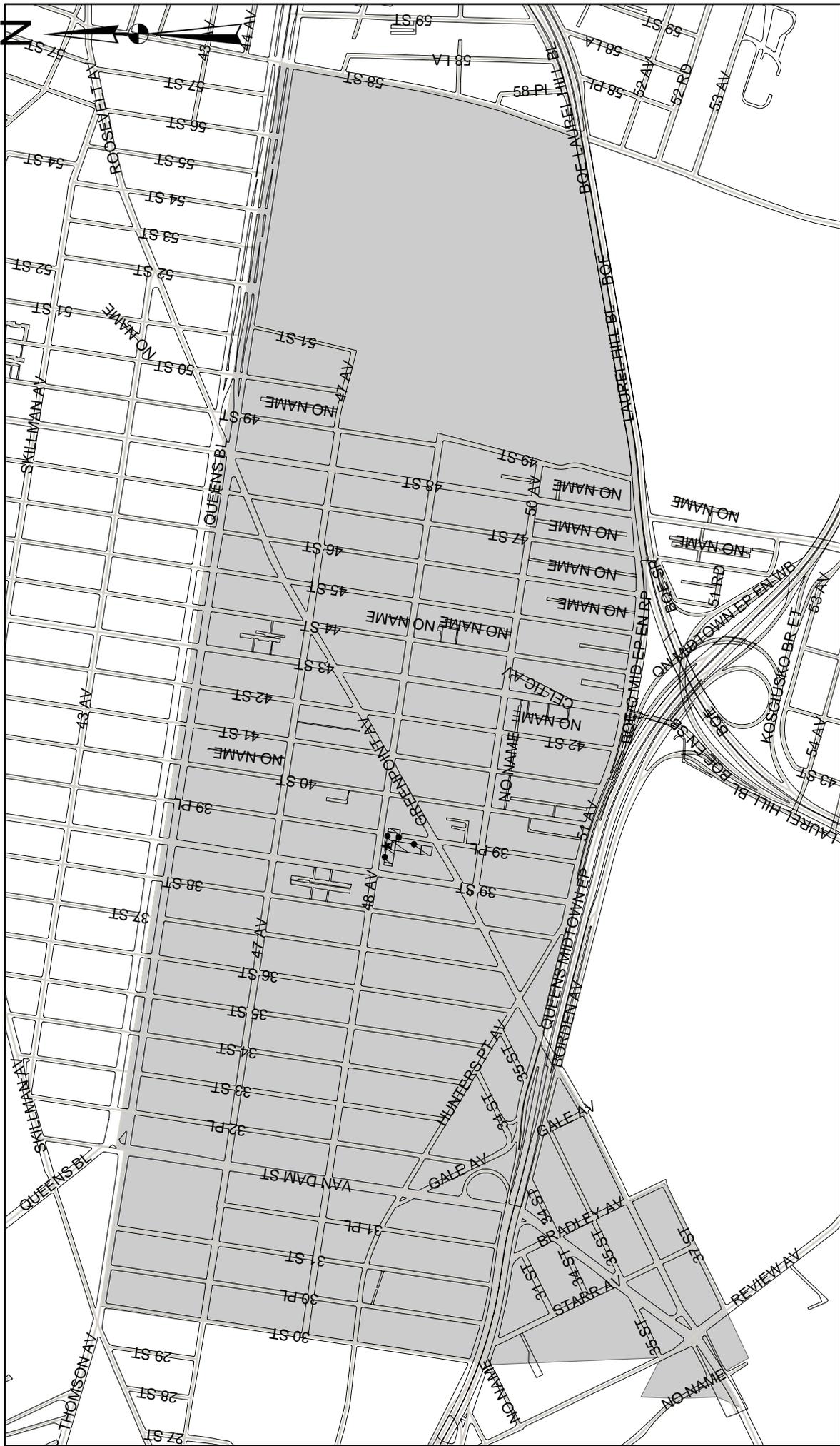


EXHIBIT 1
P.S. 199 QUEENS
MAURICE. A. FITZGERALD SCHOOL
AERIAL PHOTOGRAPH



LEGEND:

CATCHMENT AREA, (DEPARTMENT OF EDUCATION DESIGNATED AREA FROM WITHIN WHICH STUDENTS ARE ENTITLED TO ATTEND P.S. 199)



EXHIBIT 2

P.S. 199 QUEENS

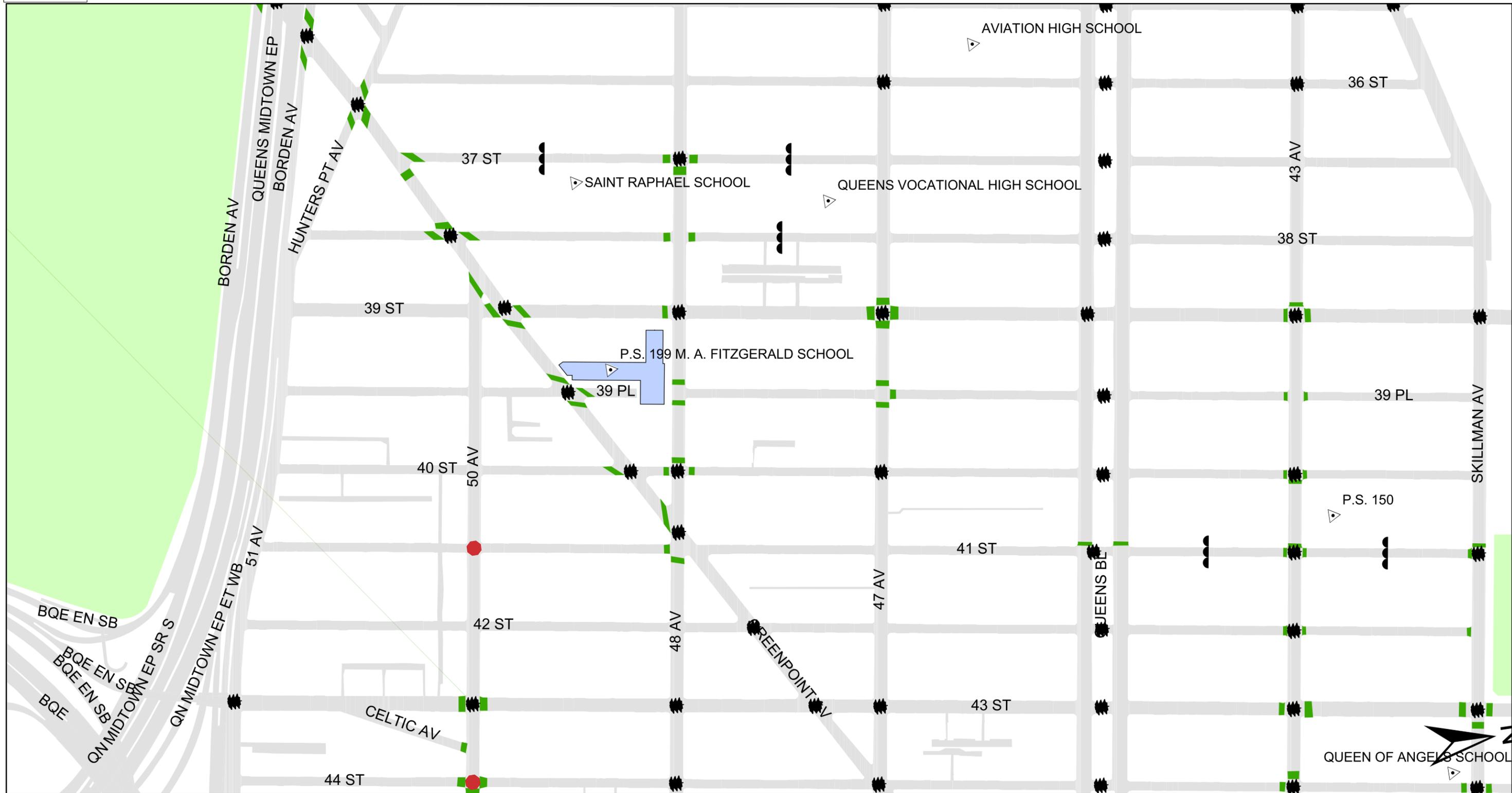
MAURICE. A. FITZGERALD SCHOOL

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

PS 199 Queens
M. A. FITZGERALD SCHOOL

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

Map created on 11/17/2006

EXHIBIT 3

COMM. BOARD: 402
 PRECINCT: 108

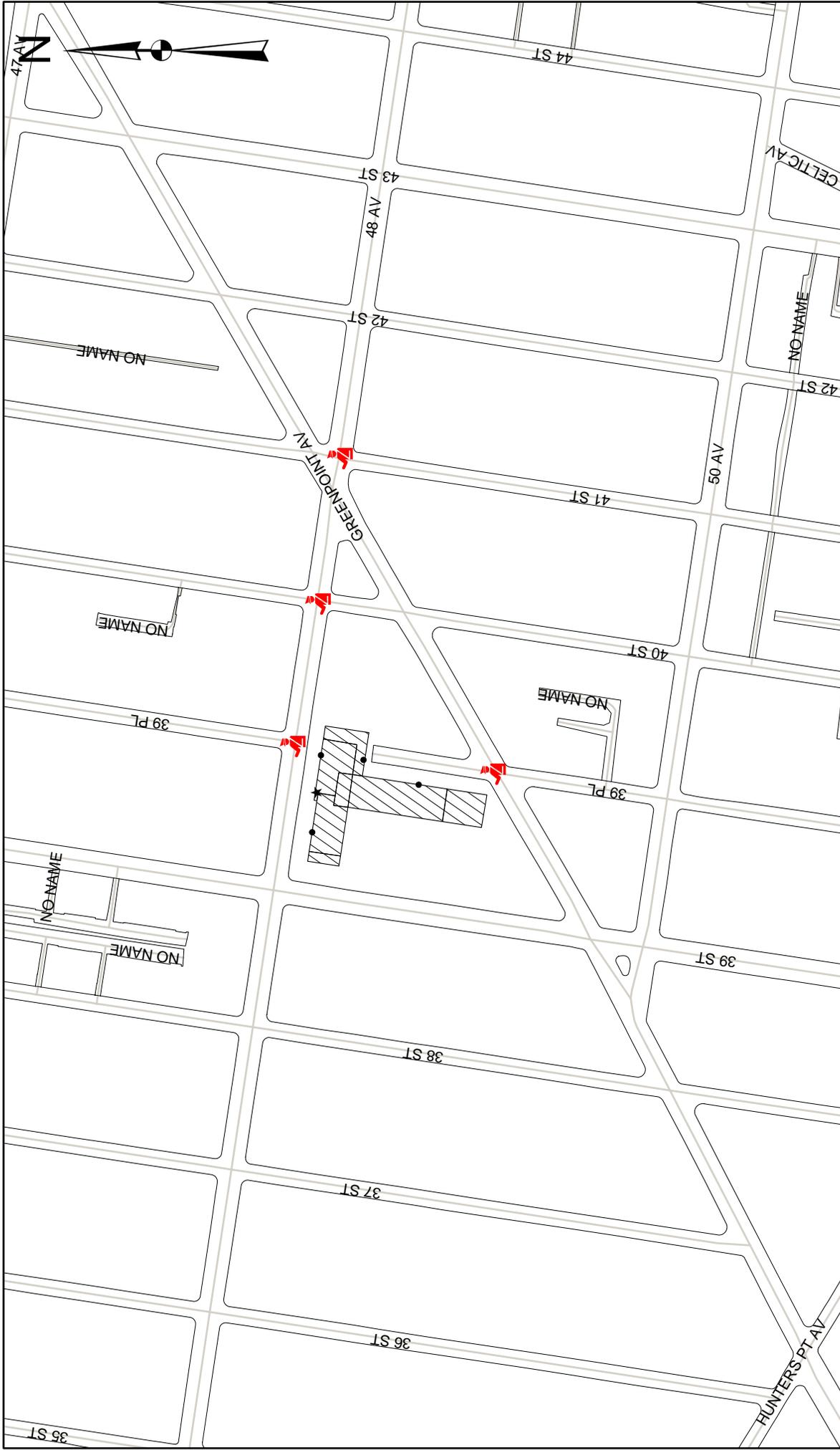


EXHIBIT 4
P.S. 199 QUEENS
MAURICE. A. FITZGERALD SCHOOL
CROSSING GUARDS LOCATION



LEGEND:
 CROSSING GUARD LOCATION



3. TRAFFIC OPERATIONS

3.1 SCHOOL BUS OPERATIONS

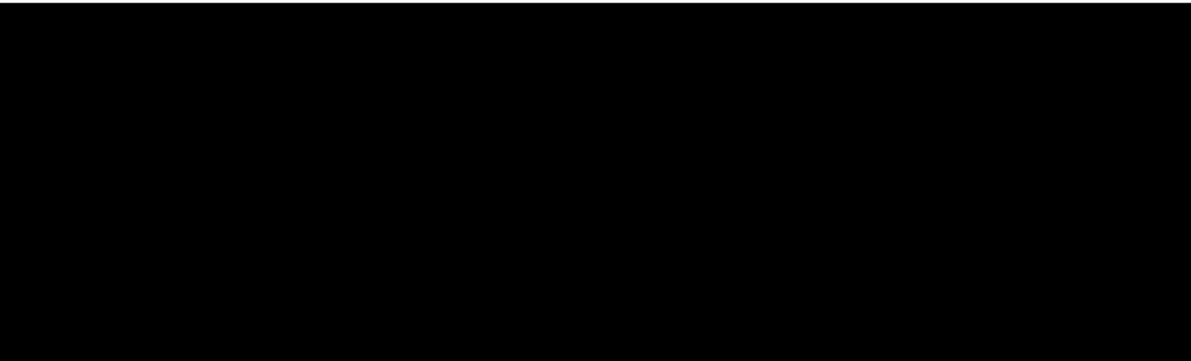
According to school representatives, 23% of the students (approximately 230 students) ride a yellow school bus to and from school. The transportation information data provided on the Department of Education school website indicates that P.S. 199 provides general education stop to school transportation for approximately 195 students on six routes with 19 stops. These buses park in front of the school on 48th Avenue (see Figure 2). Thirteen percent (13%) of the students (approximately 130 students) use private bus transportation to and from school. These buses park on Greenpoint Avenue, west of 39th Place (see Figure 3). Three percent of the students (approximately 30 students) ride an MTA bus to and from school. In the vicinity of P.S. 199, the Q39 operates along 48th Avenue and the B24 operates along Greenpoint Avenue. The nearest subway stop is located on Queens Boulevard at 40th Street, which is served by the No. 7 train. School representatives indicated that students did not ride the subway to and from the school.



Figure 2: Public school bus transportation on 48th Avenue (school is on right)



*Figure 3: Private school bus transportation on Greenpoint Avenue, west of 39th Place
(School is on left)*



3.3 PARKING REGULATIONS

Parking regulations around the school block are shown in Exhibit 5 of this section.

3.4 EXISTING SCHOOL SIGNS AND MARKINGS

Exhibit 3, at the end of Section 2, shows the existing school signs, signals, and pavement markings around P.S. 199 as of May 2005. It should be noted that a citywide signage program is currently underway to upgrade school signage to current Federal Manual on Uniform Traffic Control Devices (MUTCD) standards of fluorescent yellow-green accompanied by downward pointing arrows. Signs scheduled to be installed under this program are shown as “existing” in Exhibit 8.

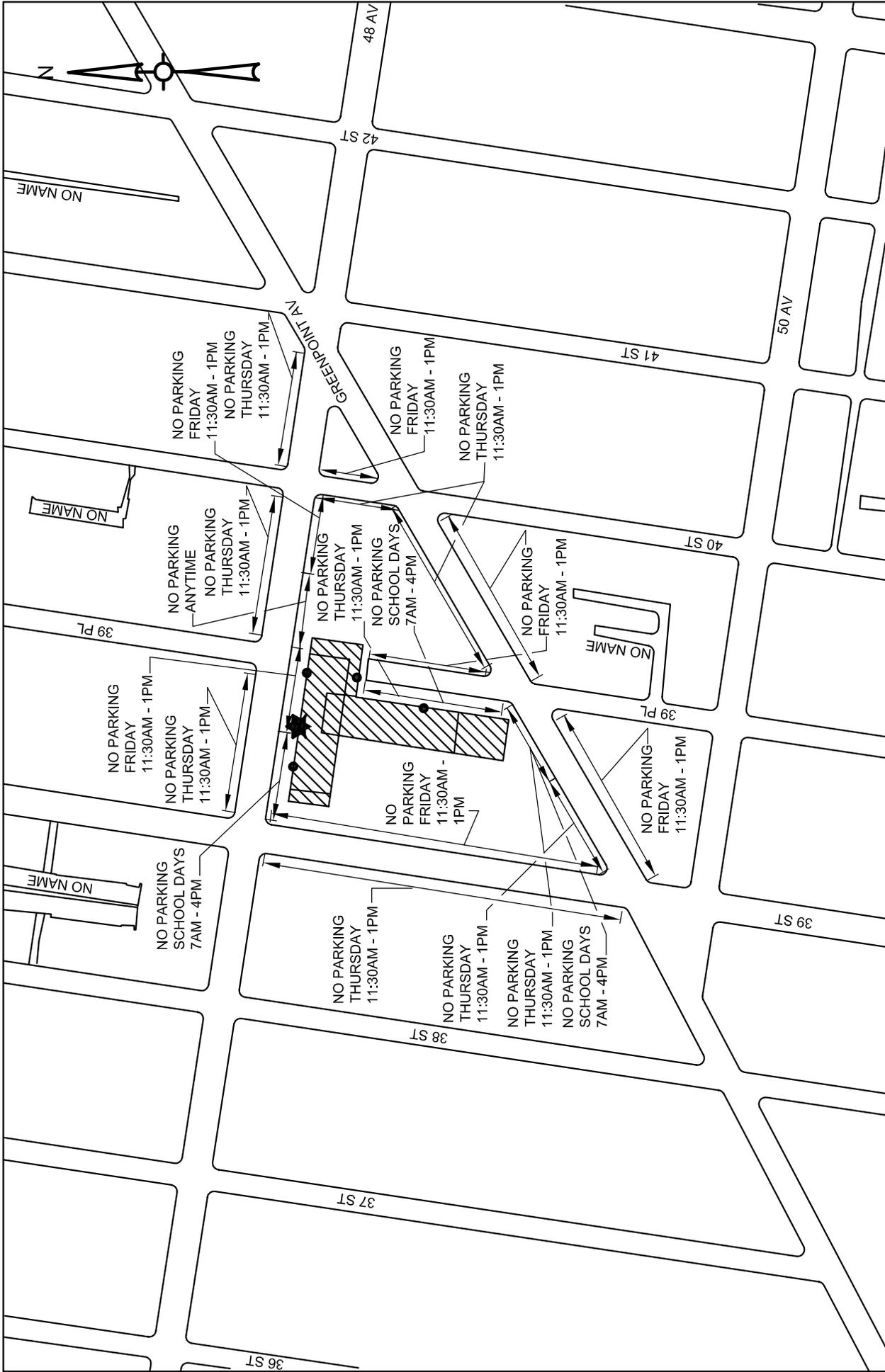
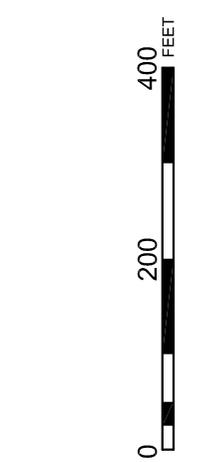


EXHIBIT 5
 P.S. 199 QUEENS
 M.A. FITZGERALD SCHOOL
 EXISTING PARKING REGULATIONS



- LEGEND:**
- ★ MAIN ENTRANCE
 - ENTRANCE

3.5 ACCIDENT SUMMARY

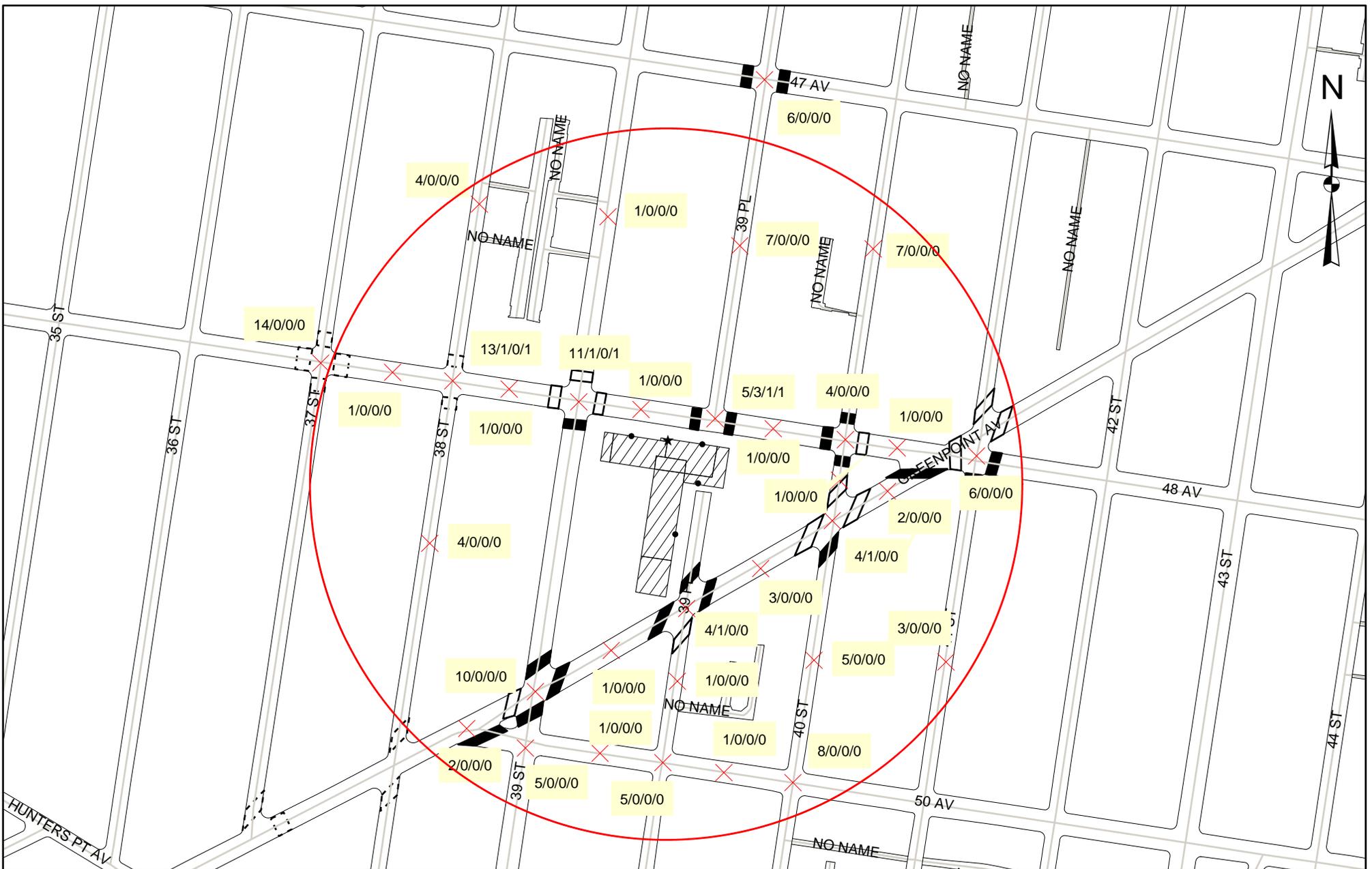
Exhibit 6 and Table 2 show a summary of accidents, as obtained from the New York State Department of Motor Vehicles (DMV), in the vicinity of P.S 199 for the three-year period from January 1, 1998 through December 31, 2000. The DMV data provides some detail relating to the circumstances and cause of 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 concentration of student pedestrians occurs. Intersections farther from the school and locations for which detailed data was not available at the time of this study will be addressed with the ongoing work of DOT's School Safety Engineering Program. DMV Accident data is discussed in Section 3.6, Traffic Operations and Issues.

TABLE 2: ACCIDENT SUMMARY OF NYS DMV DATA (1998-2000)				
INTERSECTION	TOTAL ACCIDENTS	PEDESTRIAN ACCIDENTS	PEDESTRIAN FATALITIES	SCHOOL-RELATED ACCIDENTS*
47 th Ave and 39 th Pl.	6	0	0	0
48 th Ave and 37 th St.	14	0	0	0
48 th Ave and 38 th St.	13	1	0	1
48 th Ave and 39 th St.	11	1	0	1
48 th Ave and 39 th Pl.	5	3	1	1
48 th Ave and 40 th St.	4	0	0	0
48 th Ave and 41 st St/Greenpoint Ave	6	0	0	0
Greenpoint Ave and 50 th Ave	2	0	0	0
Greenpoint Ave and 39 th St.	10	0	0	0
Greenpoint Ave and 39 th Pl.	4	1	0	0
Greenpoint Ave and 40 th St.	4	1	0	0
50 th Ave and 39 th St.	5	0	0	0
50 th Ave and 39 th Pl.	5	0	0	0
50 th Ave and 40 th St.	8	0	0	0
TOTAL	97	7	1	3

TABLE 3: ACCIDENT SUMMARY OF NYPD DATA (2001-2004)				
INTERSECTION	TOTAL ACCIDENTS	PEDESTRIAN ACCIDENTS	PEDESTRIAN FATALITIES	SCHOOL-RELATED ACCIDENTS*
47 th Ave and 39 th Pl.	16	0	0	0
48 th Ave and 37 th St.	14	0	0	0
48 th Ave and 38 th St.	19	0	0	0
48 th Ave. and 39 th St.	12	0	0	0
48 th Ave. and 39 th Pl.	5	0	0	0
48 th Ave. and 40 th St.	11	2	0	0
48 th Ave and 41 st St/Greenpoint Ave	5	0	0	0
Greenpoint Ave and 50 th Ave	0	0	0	0
Greenpoint Ave. and 39 th St.	19	4	0	1
Greenpoint Ave. and 39 th Pl.	6	0	0	0
Greenpoint Ave. and 40 th St.	4	0	0	0
50 th Ave and 39 th St.	10	3	0	3
50 th Ave and 39 th Pl.	3	0	0	0
50 th Ave and 40 th St.	9	0	0	0
TOTAL	133	9	0	1

* School-related accidents are defined as accidents involving school-age pedestrians (age 4 to 14), occurring on weekdays during the school year.



LEGEND:

ACCIDENT LOCATION

SCHOOL CROSSWALK

SCHOOL CROSSWALK ASSIGNED TO ANOTHER SCHOOL

BORDER OF 700 FEET

X/X/X/X

TOTAL ACCD / PED ACCD / PED FATAL / SCHOOL_PED ACCD

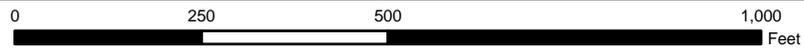


EXHIBIT 6

P.S. 199 QUEENS

MAURICE. A. FITZGERALD SCHOOL

ACCIDENT SUMMARY (1998-2001)

3.6 TRAFFIC OPERATIONS AND ISSUES

The specific roadway-related physical conditions for each location within the school's vicinity directly affect the safety and efficiency of operations for both pedestrian and vehicular traffic. These conditions are required information when analyzing a location, and are the starting point for any revisions that may be considered to improve safety and/or efficiency. The following sub-sections outline the physical conditions and issues concerning traffic operations and accidents at the intersections in the vicinity of P.S. 199.

3.6.1 48th Avenue and 38th Street

This is a four-leg unsignalized intersection with school crosswalks located across the north and south legs of 38th Street. 48th Avenue is a two-way, east-west, roadway with one travel lane and a parking lane in both directions of travel. 38th Street is a one-way, southbound, roadway with one travel lane and on-street parking permitted on both sides of the street. The southbound approach of 38th Street is controlled by a stop sign.

There were 13 accidents reported at this intersection between 1998 and 2000 (Table 2), one of which was a school-related accident involving a pedestrian. The school-related accident occurred on Friday, March 3, 2000 at 5:00 pm under daylight conditions. It involved a ten-year old pedestrian who was reported struck by a vehicle while crossing the street at the intersection with no signal. The pedestrian action was reported as "Crossing, no signal or crosswalk." The extent of injuries was reported as "possible injury". The accident location was on a straight and level segment, and the roadway and weather conditions were reported as dry and clear, respectively. Between 2001 and 2004 (Table 3), there were 19 accidents reported at this intersection; none involved pedestrians.

3.6.2 48th Avenue and 39th Street

This is a signalized four-leg intersection with a school crosswalk located across the south leg of 39th Street and pedestrian crosswalks located across the north leg of 39th Street and east and west legs of 48th Avenue. Both 48th Avenue (east-west) and 39th Street (north-south) are two-way roadways and have one travel lane and a parking lane in each direction of travel (see Figure 4).

There were 11 accidents reported at this intersection between 1998 and 2000 (Table 2), one of which was a school-related accident involving a pedestrian. The school-related accident occurred on Friday, January 21, 2000 at 9:00 am under daylight conditions. It involved an 11-year old pedestrian who was reported struck by a vehicle while crossing the street at the intersection with the signal. The crosswalk location was not reported. The extent of injuries was reported as "non-incapacitating". The accident location was on a straight and level segment, and the roadway and weather conditions were reported as wet and clear, respectively. There were no pedestrian fatalities reported at this intersection during the same three-year period. Between 2001 and 2004 (Table 3), there were 12 accidents reported at this intersection, none of which involved pedestrians.



Figure 4: Looking north on 39th Street towards 48th Avenue

3.6.3 48th Avenue and 39th Place

This is an unsignalized, three-leg T-intersection with no traffic control. School crosswalks are located across the east and west legs of 48th Avenue in front of the main entrance of P.S. 199 (see Figure 5). There is no crosswalk across the north leg of 39th Avenue. 48th Avenue is a two-way, east-west, roadway with one travel lane and a parking lane in both directions of travel. 39th Street is a one-way, northbound, roadway with one travel lane and on-street parking permitted on both sides of the street.

There were five accidents reported at this intersection between 1998 and 2000 (Table 2), including three accidents involving pedestrians. Of these, one accident was school-related and one involved a pedestrian fatality. The school-related accident occurred on Monday, November 2, 1998 at 6:00 pm under dark-road lighted conditions. It involved a 14-year old pedestrian who was reported struck by a vehicle as he/she was crossing the street at the intersection with no traffic control and no marked crosswalk (39th Street leg). The extent of the injuries was reported as “incapacitating”. The pedestrian fatality occurred on Wednesday, October 6, 1999 at 8:00 am under daylight conditions. It involved a 56-year old pedestrian who was reported struck and killed by a vehicle while crossing the street at the intersection with no traffic control and within a marked crosswalk (east or west leg of 48th Avenue). Both accidents occurred on straight and level segments. Roadway and weather conditions were reported as dry and clear, respectively. Between 2001 and 2004 (Table 3), there were also five accidents reported at this intersection. However, none involved pedestrians.



Figure 5: Looking west on 48th Avenue at 39th Place (school is on right)

In order to determine the appropriate traffic control for the school crosswalks, a preliminary traffic signal warrant assessment was performed to assess the traffic situation and determine what type of traffic control devices would be appropriate. A traffic count was at the intersection of 48th Avenue and 39th Place from 7:30 am to 9:00 am on Friday, October 7, 2005. The results of the peak hour (7:30 am to 8:30 am) count are shown in Tables 4, 5, 6 and 7 and in Exhibit 6A at the end of this section.

In addition, a traffic signal warrant analysis was performed to determine the need for a traffic signal control at this intersection. The results of the preliminary assessment based on traffic signal warrant 4 (Pedestrian Volumes) and warrant 5 (School Crossing) of the Federal MUTCD are presented in Tables 6 and 7, respectively. Based on this assessment, an installation of a traffic signal is not warranted.

TABLE 4: VEHICLE VOLUMES (7:30 - 8:30 AM)				
INTERSECTION	48 th Avenue EASTBOUND		48 th Avenue WESTBOUND	
	Left	Straight	Straight	Right
48 th Avenue and 39 th Place	24	110	194	49
TOTAL	134		243	

TABLE 5: PEDESTRIAN VOLUMES (7:30 - 8:30 AM)			
INTERSECTION	Crossing 39th Place NORTH -LEG CROSSWALK	Crossing 48th Avenue EAST -LEG CROSSWALK	Crossing 48th Avenue WEST -LEG CROSSWALK
48 th Avenue and 39 th Place	77 (43 / 34) *	143 (84 / 59) *	36 (21 / 15) *
* Numbers in parenthesis indicate (adults / students).			

TABLE 6: TRAFFIC SIGNAL WARRANT 4 ANALYSIS (PEDESTRIAN VOLUME)						
Intersection	Total Hourly (7:30-8:30 AM) Pedestrian Volumes			Criteria		Traffic Signal Warranted
	Crossing Street			Gap	Crossing Major Street	
	Major	Minor	Total	Fewer than 60 gaps / hour*	Greater than 190 Pedestrians / hour	
48 th Avenue and 39 th Place	179	77	256	No	No	No
* The available gap is based on the time needed for a pedestrian to walk across the street. The analysis assumed 18 seconds.						

TABLE 7: TRAFFIC SIGNAL WARRANT 5 ANALYSIS (SCHOOL CROSSING)						
Intersection	Total Hourly (7:30-8:30) Student Volumes			Criteria		Traffic Signal Warranted
	Crossing Street			Gap	Crossing Major Street	
	Major	Minor	Total	Fewer than 60 gaps / hour*	Greater than 20 Students / hour	
48 th Avenue and 39 th Place	74	34	108	No	Yes	No
* The available gap is based on the time needed for a pedestrian to walk across the street. The analysis assumed 18 seconds.						

School representatives also reported a speeding problem on 48th Avenue in front of the school. In order to verify the existence of a speeding problem and to determine its extent, a spot speed survey was conducted on 48th Avenue between 39th Street and 39th Place in both the eastbound and westbound directions. The results of the survey indicated that for the 85th percentile speeds vehicles on 48th Avenue were traveling at 34 mph in the eastbound direction and 36 mph in the westbound direction which is above the recommended 30 mph threshold.

The 85th percentile speed is considered to be the representative speed for a specified street segment. An 85th percentile speed above the 30 mph threshold would flag a potential speeding problem that may require the appropriate traffic calming measure. Recommendations to alleviate speeding on 48th Avenue in front of P.S. 199, in association with the above accident history and traffic count conducted at this intersection, are discussed in Section 4.0. Summaries of the spot speed surveys on 48th Avenue are provided in the Appendix at the end of the document.

3.6.4 48th Avenue and 40th Street

This is a signalized, four-leg intersection with a school crosswalk located across the east leg of 48th Avenue and the north and south legs of 40th Street (see Figure 6). A pedestrian crosswalk is located across the west leg of 48th Avenue. 48th Avenue is a two-way, east-west, roadway with one travel lane and a parking lane in both directions of travel. 40th Street is a one-way, southbound, roadway with one travel lane and on-street parking permitted on both sides of the street.

There were four accidents reported at this intersection between 1998 and 2000 (Table 2), none of which involved pedestrians. Between 2001 and 2004 (Table 3), there were 11 accidents reported at this intersection, including two involving pedestrians. Neither of the pedestrian accidents was school-related. There were no pedestrian fatalities reported at this intersection during the same four-year period.



Figure 6: Looking northeast at 48th Avenue at 40th Street intersection (school crossing guard is in center)

3.6.5 48th Avenue and Greenpoint Avenue/41st Street

This is a signalized, six-leg intersection with school crosswalks across the east leg of 48th Avenue, the southwest leg of Greenpoint Avenue, and the south leg of 41st Street. Pedestrian crosswalks are located across the west leg of 48th Avenue, the northeast leg of Greenpoint Avenue and the north leg of 41st Street. 48th Avenue (east-west) and Greenpoint Avenue (northeast-southwest) are both two-way roadways with one travel lane and a parking lane in both directions of travel (see Figure 7). 41st Street is a one-way, northbound, roadway with one travel lane and on-street parking permitted on both sides of the street. Bus stops for the Q39 (48th Avenue) and B24 (Greenpoint Avenue) are located at this intersection.

There were six accidents reported at this intersection between 1998 and 2000 (Table 2), none of which involved pedestrians. Between 2001 and 2004 (Table 3), there were five accidents reported at this intersection; none involved pedestrians.



Figure 7: Looking east on Greenpoint Avenue towards 48th Avenue

3.6.6 Greenpoint Avenue and 39th Street

This is a signalized, four-leg intersection with school crosswalks across the east leg of Greenpoint Avenue, the north and south legs of 39th Street, and the south leg of 50th Avenue. A pedestrian crosswalk is located across the west leg of Greenpoint Avenue. Greenpoint Avenue (east-west) and 39th Street (north-south) are both two-way roadways with one travel lane and a parking lane in each direction of travel (see Figure 8).

There were ten accidents reported at this intersection between 1998 and 2000 (Table 2), none of which involved pedestrians. Between 2001 and 2004 (Table 3), there were 19 accidents reported at this intersection, including four accidents involving pedestrians. Of these, one was school-related. However, no additional information about this school-related accident is available. There were no pedestrian fatalities reported at this intersection during the same four-year period.



Figure 8: Looking south on 39th Street towards Greenpoint Avenue

3.6.7 Greenpoint Avenue and 39th Place

This is a signalized, four-leg intersection with school crosswalks across the east and west legs of Greenpoint Avenue and the north leg of 39th Place. A pedestrian crosswalk is located across the south leg of 39th Place. Greenpoint Avenue (east-west) and 39th Place (north-south) are both two-way roadways with one travel lane and a parking lane in each direction of travel (see Figure 9). The north leg of 39th Place is a dead-end street with access to P.S. 199 (see Figures 10 and 11).

There were four accidents reported at this intersection between 1998 and 2000 (Table 2), including one involving a pedestrian, which was not school-related. There were no pedestrian fatalities reported at this intersection during the same three-year period. Between 2001 and 2004 (Table 3), there were six accidents reported at this intersection, none of which involved pedestrians.



Figure 9: Looking west on Greenpoint Avenue at 39th Place



Figure 10: Looking north across Greenpoint Avenue at 39th Place (school is on left)



Figure 11: School bus waiting in Greenpoint Avenue at 39th Place intersection to board students at dismissal time (school crossing guard is in crosswalk in front of school bus)

3.6.8 Greenpoint Avenue and 40th Street

This is a signalized, four-leg intersection with a school crosswalk across the south leg of 40th Street. Pedestrian crosswalks are located across the east and west legs of Greenpoint Avenue, and the north leg of 40th Street. Greenpoint Avenue is a two-way, east-west, roadway with one travel lane and a parking lane in both directions of travel (see Figure 12). 40th Street is a one-way, southbound, roadway with one travel lane and on-street parking permitted on both sides of the street.

There were four accidents reported at this intersection between 1998 and 2000 (Table 2), including one involving a pedestrian, which was not school-related. There were no pedestrian fatalities reported at this intersection during the same three-year period. Between 2001 and 2004 (Table 3), there were also four accidents reported at this intersection, none of which involved pedestrians.



Figure 12: Looking east on Greenpoint Avenue at 40th Street

3.6.9 50th Avenue and 39th Street

This is a four-leg unsignalized intersection with no crosswalks across any legs. 50th Avenue is a two-way, east-west, roadway with one travel lane and a parking lane in both directions of travel. 39th Street is a two-way, north-south, roadway with one travel lane and a parking lane on both sides of the street. The eastbound and westbound approaches of 50th Avenue are controlled by stop signs.

There were five accidents reported at this intersection between 1998 and 2000 (Table 2), none of which involved pedestrians. Between 2001 and 2004 (Table 3), there were ten accidents reported at this intersection, including three involving pedestrians which were all school-related. No additional information is available about the school-related accidents. There were no pedestrian fatalities during the same four-year period.

3.7 SIGNAL TIMING

Pedestrian crossing times were field-verified for crosswalks at signalized intersections in the vicinity of P.S. 199, and were found to be adequate in all directions and on all approaches based upon a child pedestrian walking at a rate of 3 feet per second. Signal timings are shown in Table 8.

TABLE 8: PEDESTRIAN CROSSING TIMES AT SIGNALIZED INTERSECTIONS				
INTERSECTION	CROSSWALK LENGTH (FEET)	PEDESTRIAN TIME ACTUAL (SECONDS)	PEDESTRIAN TIME REQUIRED (SECONDS)	TIMING ADJUSTMENT REQUIRED?
48th Avenue and 39th Street				
crossing 48 th Avenue	44	35	18	NO
crossing 39 th Street	44	23	18	NO
48th Avenue and 40th Street				
crossing 48 th Avenue	44	29	18	NO
crossing 40 th Street	40	29	17	NO
Greenpoint Avenue and 39th Street				
crossing Greenpoint Avenue	40	20	17	NO
crossing 39 th Street	44	38	18	NO
Greenpoint Avenue and 39th Place				
crossing Greenpoint Avenue	40	23	17	NO
crossing 39 th Place	48	35	19	NO
Greenpoint Avenue and 40th Street				
crossing Greenpoint Avenue	40	23	17	NO
crossing 40 th Street	40	35	17	NO
Greenpoint Avenue and 48th Avenue				
crossing Greenpoint Ave. (north)	N.A.	N.A.	N.A.	N.A.
crossing Greenpoint Ave. (south)	N.A.	N.A.	N.A.	N.A.
crossing 48 th Avenue	44	N.A.	18	NO
crossing 41 st Street	30	N.A.	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

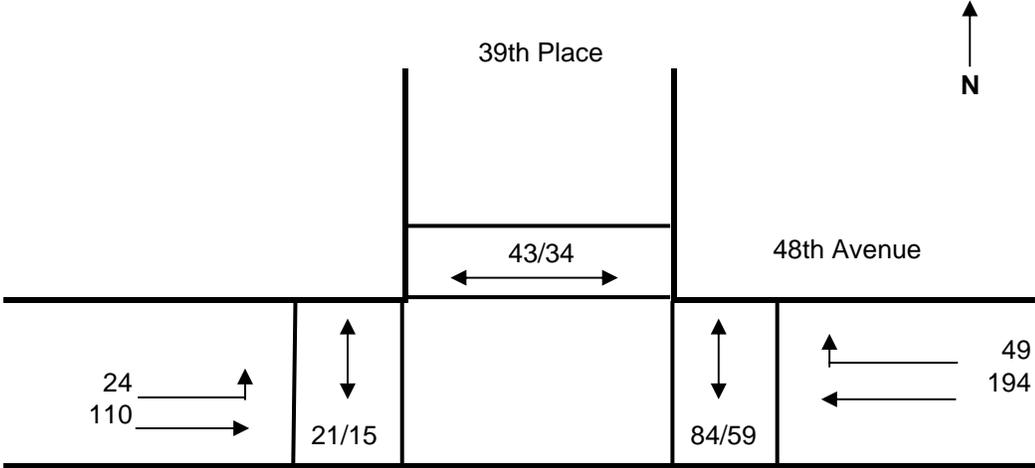
3.8.1 Roadways and Sidewalks

In the vicinity of P.S. 199, the roadways and sidewalks were observed to be in generally fair condition. Sidewalks varied from about 15 to 18 feet in width on the school block-faces, and were observed to be in generally fair condition.

3.8.2 Pedestrian Ramps

Overall, pedestrian ramps in the area of the school were observed to be standard and in generally fair condition.

One Hour Traffic Volumes
Wednesday, October 7, 2005 7:30am - 8:30am



Intersection of 48th Avenue and 39th Place

LEGEND	
XX / XX	(Adult / Child)
←→	Pedestrian Counts
—↑	Vehicle Movement

EXHIBIT 7
P.S. 199 QUEENS Maurice. A. Fitzgerald School
TRAFFIC AND PEDESTRIAN COUNTS

4. PROPOSED MEASURES TO IMPROVE SCHOOL PEDESTRIAN SAFETY

This section describes the proposed measures to improve school pedestrian safety around P.S. 199. The proposed recommendations are divided into short-term and long-term measures. Short-term measures are those that potentially can be performed in-house. Long-term measures involve capital improvements. Each of the short- and long-term measures recommended for P.S. 199 is discussed as follows, and is shown in more detail in Exhibit 8 at the end of this section.

4.1 SHORT-TERM MEASURES

➤ *Install “No Standing 7AM - 4PM School Days” signs*

There are existing “NO PARKING 7AM-4PM SCHOOL DAYS” signs along the south curbside of 48th Avenue just west of the main entrance. These signs should be replaced with “NO STANDING 7AM-4PM SCHOOL DAYS” signs and should be extended to the entire block of 48th Avenue between 39th Place and 40th Street. In addition, there are existing “NO PARKING 7AM-4PM SCHOOL DAYS” signs along the west curb of 39th place and along the north curb of Greenpoint Avenue for about half the block. These signs are recommended to be replaced with “NO STANDING 7AM-4PM SCHOOL DAYS” signs. (A “NO STANDING 7AM-4PM SCHOOL DAYS” sign in front of a school main entrance is a typical requirement for all schools in the City in order to provide for emergency access to and from the school.)

➤ *Install graphic “Yield to Pedestrian” signs*

Install “YIELD TO PEDESTRIAN” signs at intersection approaches with substantial vehicle–student pedestrian volumes. “YIELD TO PEDESTRIAN” signs are recommended on the following approaches of signalized intersections around P.S. 199:

- Eastbound approach of Greenpoint Avenue at 50th Avenue
- Eastbound approach of Greenpoint Avenue at 40th Street

These signs are suggested to improve driver awareness of student-pedestrians and the school crossing guards.

➤ *Place advanced stop bar 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 intersections and mid-block crossings, the vehicle stop line can be moved farther back from the pedestrian crosswalk.

For school crosswalks with significant potential for vehicular/pedestrian conflicts, it is recommended that the advance stop bar be placed ten feet in advance of the crosswalk to maximize the safety benefit for school-aged pedestrians. (This would improve visibility of pedestrians to motorists, and allow pedestrians to proceed in a crosswalk before motor vehicles turn.)

Ten-foot advanced stop bars before school crosswalks are recommended on the following approaches:

- Westbound, northbound, and southbound approaches of Greenpoint Avenue and 39th Street intersection
 - Eastbound, westbound, and southbound approaches of Greenpoint Avenue and 39th Place intersection
 - Southbound approach of Greenpoint Avenue and 40th Street intersection
 - Northeast approach of Greenpoint Avenue, westbound approach of 48th Avenue, and northbound approach of 41st Street of Greenpoint Avenue/48th Avenue/41st Street intersection
 - Eastbound and southbound approaches of 48th Avenue and 40th Street intersection
 - Eastbound, westbound, and northbound approaches of 48th Avenue and 39th Street intersection
- Convert Existing Pedestrian Crosswalks to School Crosswalks at the following locations
- Crosswalks across the east and north leg of 48th Avenue and 39th Street intersection
 - Crosswalk across the north leg of 40th Street at its intersection with Greenpoint Avenue
- Proposed Standard Pedestrian Crosswalk
- At the intersection of 48th Avenue and 39th Place, there is no marked crosswalk and pedestrian traffic has been observed at this location. This location is also across the street for the school. It is therefore suggested to:
- Install a standard pedestrian crosswalk on the north leg of 39th Place to increase driver and pedestrian awareness of this crossing location
- At the intersection of 50th Avenue and 39th Street, there were three school-related accidents between 2001 and 2004 (it should be noted that there are no marked crosswalks at any legs).
- Install a standard pedestrian crosswalk across the stop-controlled east leg of 50th Avenue. Place a stop bar four feet in advanced of the pedestrian crosswalk.
- Visibility on 48th Avenue in front of P.S. 199
- Consideration should be given to relocating the yellow school bus transportation away from the 48th Avenue/39th Place intersection in order to improve school crosswalk visibility on 48th Avenue (see Figure 2). Both a school-related accident and a pedestrian fatality occurred at this intersection. See long-term measures for additional improvements at this location.

➤ *Additional traffic/parking enforcement on Greenpoint Avenue at 39th Place*

To address the school's concerns at Greenpoint Avenue and 39th Place, school representatives should request the assistance of NYPD officers to enforce parking regulations around the school during arrival and dismissal times, particularly at Greenpoint Avenue and 39th Place. Vehicles double-parking on Greenpoint Avenue and obstructing school crosswalks and the bus loading/unloading zone, were observed ignoring the crossing guard directions to clear the intersection. This would provide a safer environment for P.S. 199 students.

4.2 LONG-TERM MEASURES

➤ *Consider curb extensions at the following intersections:*

48th Avenue/39th Place:

This intersection experienced five (5) accidents during a three-year period between 1998 and 2000, including one pedestrian fatality and one school-related accident. The uncontrolled school crosswalks are located across the east and west legs of 48th Avenue at its intersection with 39th Place. I.S. 199 students were observed crossing 48th Avenue at 39th Place, and the school is immediately adjacent to the intersection. A preliminary traffic signal warrant assessment was performed that indicated the installation of a traffic signal is not warranted. It is therefore recommended to:

- Extend the south sidewalk of 48th Avenue by six feet in order to reduce the crossing distance across 48th Avenue at its intersection with 39th Place.
- Provide curb extensions at the northeast and northwest corners of 48th Avenue.

48th Avenue/40th Street:

- Provide curb extensions at all four corners of 48th Avenue at its intersection with 40th Street, as shown in Exhibit 8.

48th Avenue/Greenpoint Avenue:

- Provide curb extensions at the southwest corner of 48th Avenue and Greenpoint Avenue. In addition, right turns from eastbound 48th Avenue onto westbound (southwest direction) should be prohibited. Vehicles on 48th Avenue have an opportunity to make a right turn onto 40th Street to access Greenpoint Avenue westbound.

Greenpoint Avenue/50th Avenue:

- Provide curb extensions at the southeast corner of 50th Avenue at its intersection with Greenpoint Avenue, as shown in Exhibit 8.

Greenpoint Avenue/39th Place:

- Provide curb extensions at the northwest and southeast corners of Greenpoint Avenue at its intersection with 39th Place.

48th Avenue and 38th Street:

- Provide curb extensions at all four corners of 48th Avenue at its intersection with 38th Street.

50th Avenue and 39th Street:

- Provide curb extensions at all four corners of 50th Avenue and 39th Street intersection.

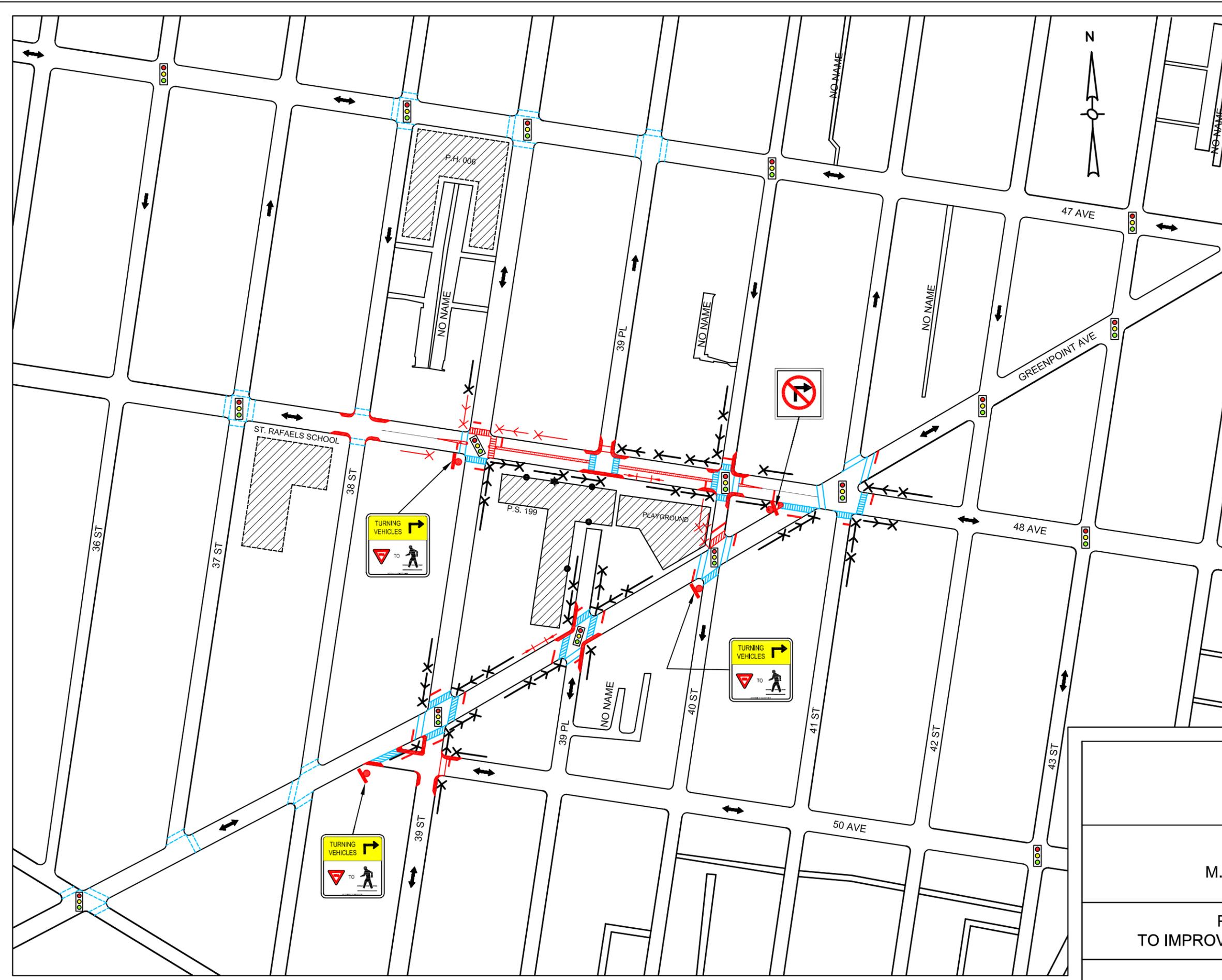
Curb extensions (neckdowns) should be installed at the corners as shown in Exhibit 8. The purpose of the curb extensions is to provide additional refuge space for pedestrians, to shorten the crossing distance for pedestrians, and to reduce the speed of vehicles approaching and turning on school crosswalks. The curb extensions will not eliminate or reduce the width of any travel lanes. Curb extensions are not proposed where they would hinder the ability of a vehicle to turn.

➤ *Consider refuge islands at the intersection of 48th Avenue and 39th Street:*

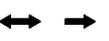
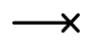
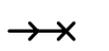
48th Avenue, which is about 45 feet wide, provides one travel lane in each direction and permits parking on both sides of the roadway. It is therefore recommended to:

- Provide a five-foot striped median between 39th Street and 40th Street, as shown in Exhibit 8.
- Provide a pedestrian refuge island at the east and west legs of 48th Avenue at its intersection with 39th Street.

The refuge islands with extended medians will provide a refuge for pedestrians who do not complete the crossing during the flashing “Don’t Walk” indication. The proposed extended median should extend beyond the crosswalk, and should have at least 5-feet at grade cut through section. These medians are not proposed where they would hinder the ability of vehicles to turn. Final details pertaining to proposed extended medians will be developed during Final Design.



LEGEND

-  MAIN ENTRANCE
-  OTHER ENTRANCES
-  EXISTING TRAVEL DIRECTION
-  EXISTING ADVANCE WARNING SIGN OR SCHEDULED TO BE INSTALLED
-  EXISTING SCHOOL CROSSWALK WARNING ASSEMBLY OR SCHEDULED TO BE INSTALLED
-  EXISTING SIGNALIZED LOCATION
-  EXISTING SCHOOL CROSSWALK
-  EXISTING PEDESTRIAN CROSSWALK
-  EXISTING SCHOOL CROSSWALK ASSIGNED TO ANOTHER SCHOOL
-  PROPOSED PEDESTRIAN CROSSWALK
-  PROPOSED PEDESTRIAN CROSSWALK
-  PROPOSED ADVANCE WARNING SIGN
-  PROPOSED SCHOOL CROSSWALK WARNING ASSEMBLY
-  PROPOSED TRAFFIC SIGN
-  PROPOSED STOP LINE IN ADVANCE OF SCHOOL CROSSWALK
-  PROPOSED "NO STANDING 7:00AM - 4:00PM SCHOOL DAYS"
-  PROPOSED CURB EXTENSION (NECKDOWN)

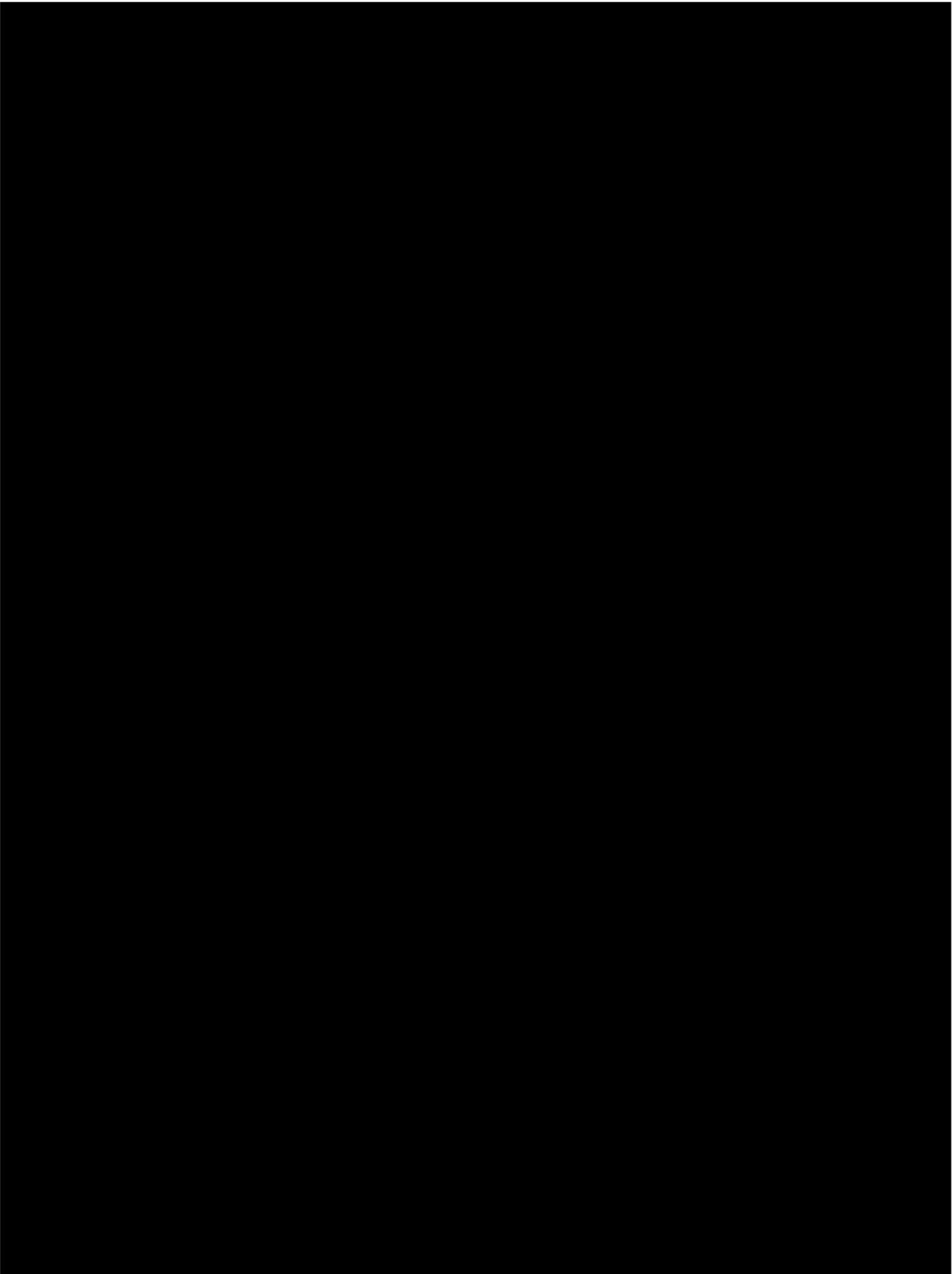
1" = 200'

EXHIBIT 8

P.S. 199 QUEENS
M.A. FITZGERALD SCHOOL

PROPOSED MEASURES
TO IMPROVE SCHOOL 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:

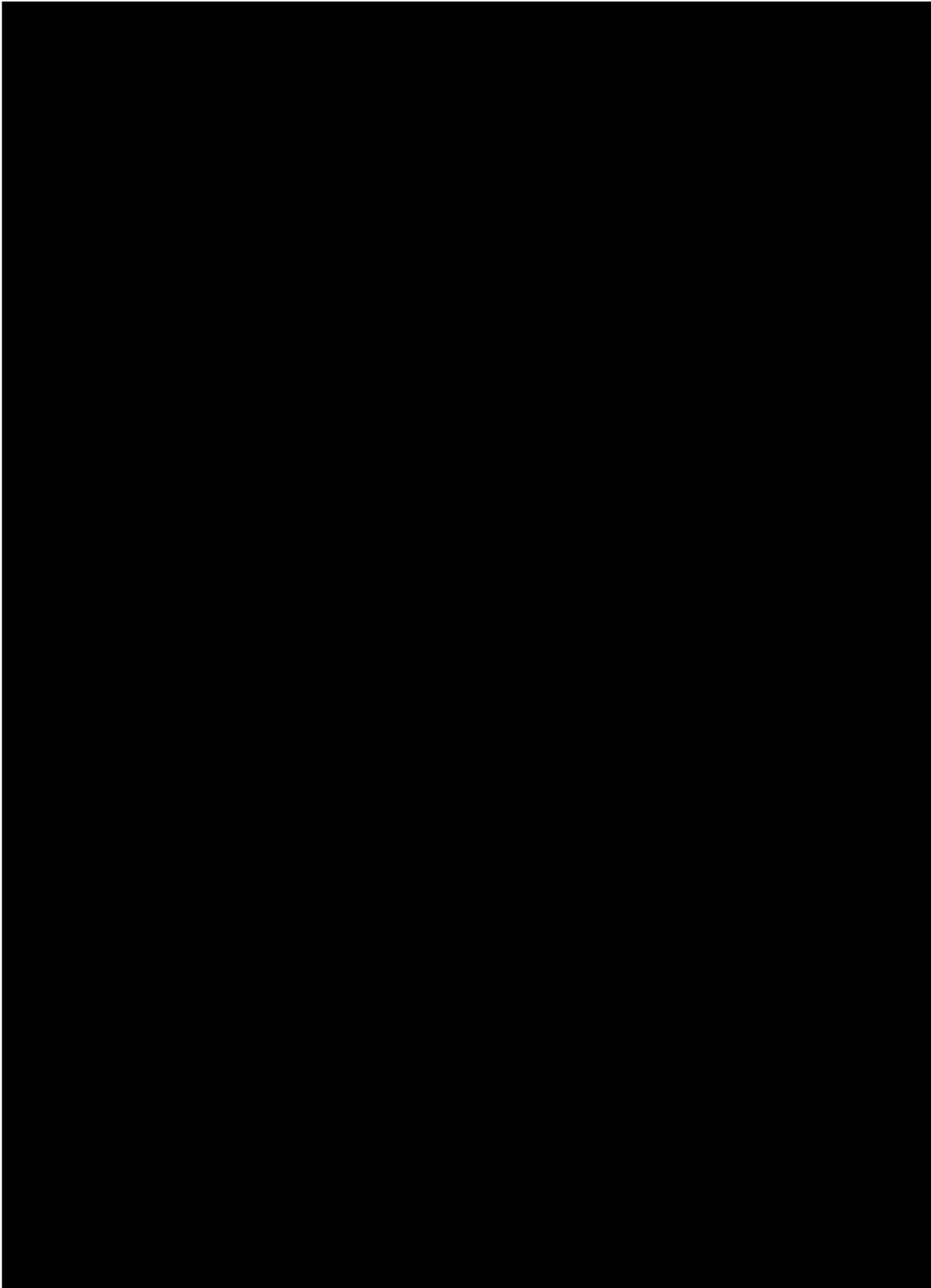
- TRAFFIC FLOW
- ROUTE TO SCHOOL
- ADV. WARNING SIGN
- SCHOOL LOCATION
- MAIN SCHOOL ENTRANCE
- OTHER SCHOOL ENTRANCES
- SCHOOL X-WALK
- PED. X-WALK
- X-WALKS ASSOCIATED WITH OTHER SCHOOLS
- SPEED HUMP
- TRAFFIC SIGNAL
- ALL-WAY STOP
- 2-WAY STOP

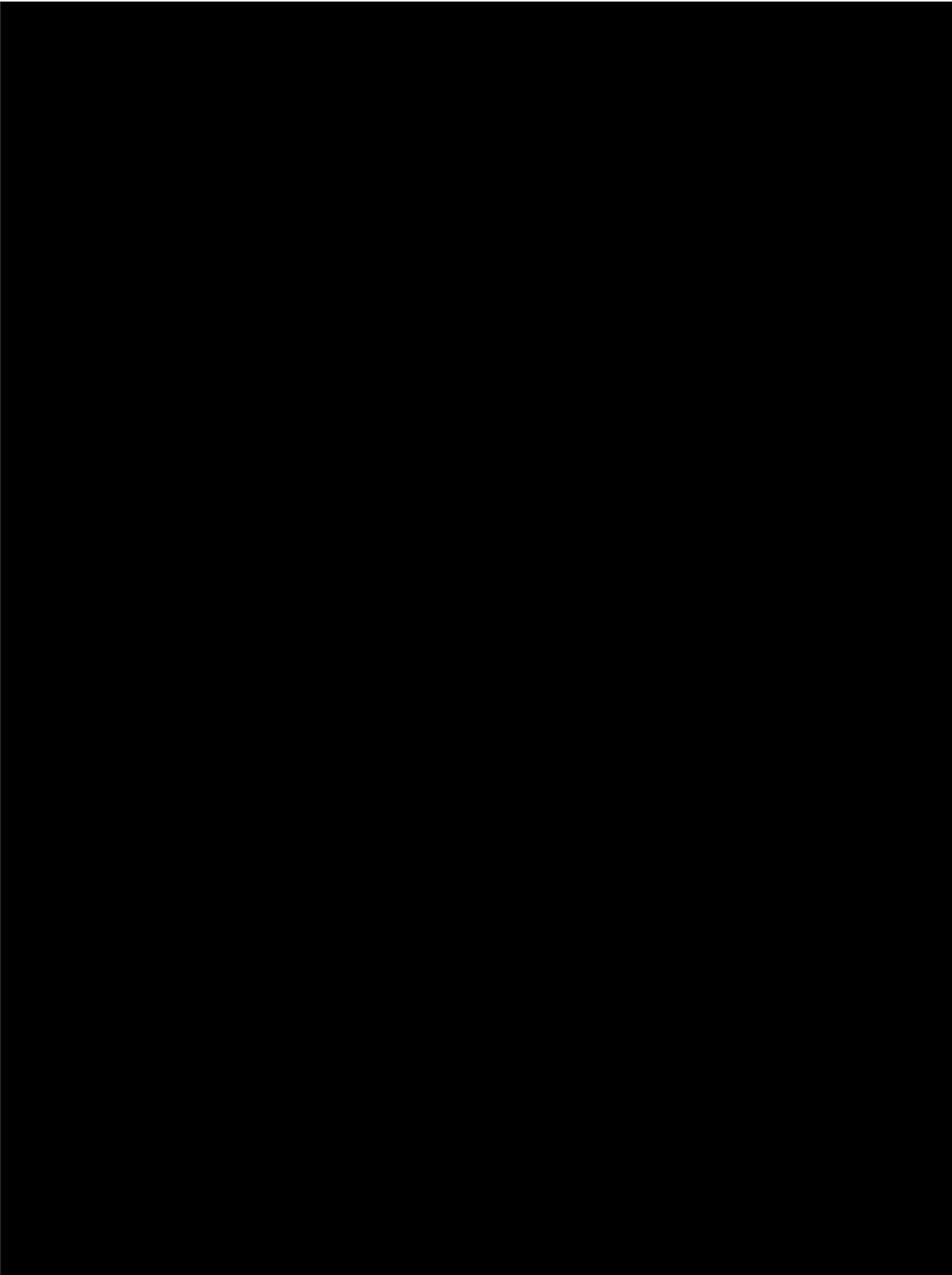
**M. A. FITZGERALD SCHOOL
P.S. 199**

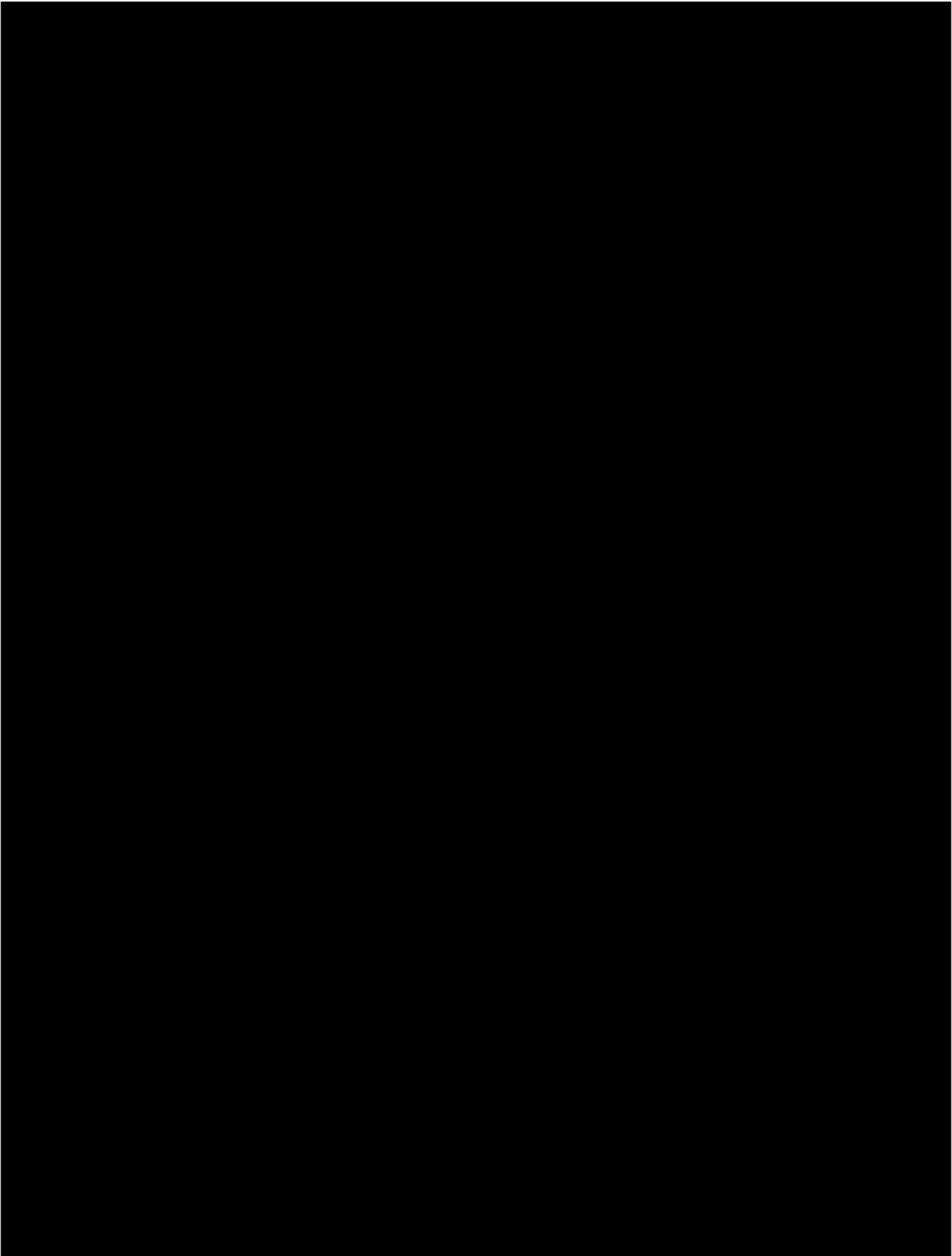
Prepared by the NEW YORK CITY DEPARTMENT OF TRANSPORTATION,
Iris Weinstahl, COMMISSIONER, in cooperation with SCHOOL, and
POLICE OFFICIALS.

ORIG. DATE: 8/13/1972
GIS CONVRT: 04/7/2002
DRAWING NO. CC-988
REVISIONS: MS-4937

COMM. BOARD: 2
BOROUGH: QUEENS
PRECINCT: 108







SPOT SPEED STUDY

Date: **October 7, 2005**
 Location: **48 Avenue between 39 Street & 39 Place**
 Surveyor: **R. Calvache/H. Salinas**

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

School: **P.S. 199**
 Direction: **EB**
 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	0	0.0%	0.0%	0	0
21	0	0.0%	0.0%	0	0
22	0	0.0%	0.0%	0	0
23	2	5.0%	5.0%	46	1058
24	1	2.5%	7.5%	24	576
25	4	10.0%	17.5%	100	2500
26	3	7.5%	25.0%	78	2028
27	3	7.5%	32.5%	81	2187
28	3	7.5%	40.0%	84	2352
29	5	12.5%	52.5%	145	4205
30	5	12.5%	65.0%	150	4500
31	2	5.0%	70.0%	62	1922
32	2	5.0%	75.0%	64	2048
33	4	10.0%	85.0%	132	4356
34	2	5.0%	90.0%	68	2312
35	1	2.5%	92.5%	35	1225
36	0	0.0%	92.5%	0	0
37	2	5.0%	97.5%	74	2738
38	1	2.5%	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
	40	100.0%		1181	35451

Mean Speed = 29.5 mph
 Standard Deviation = 3.9 mph
 Margin of Error (95% Confidence) = ± 1.2 mph

Median Speed = 29.5 mph
 15th Percentile Speed = 25.5 mph
 85th Percentile Speed = 33.5 mph

SPOT SPEED STUDY

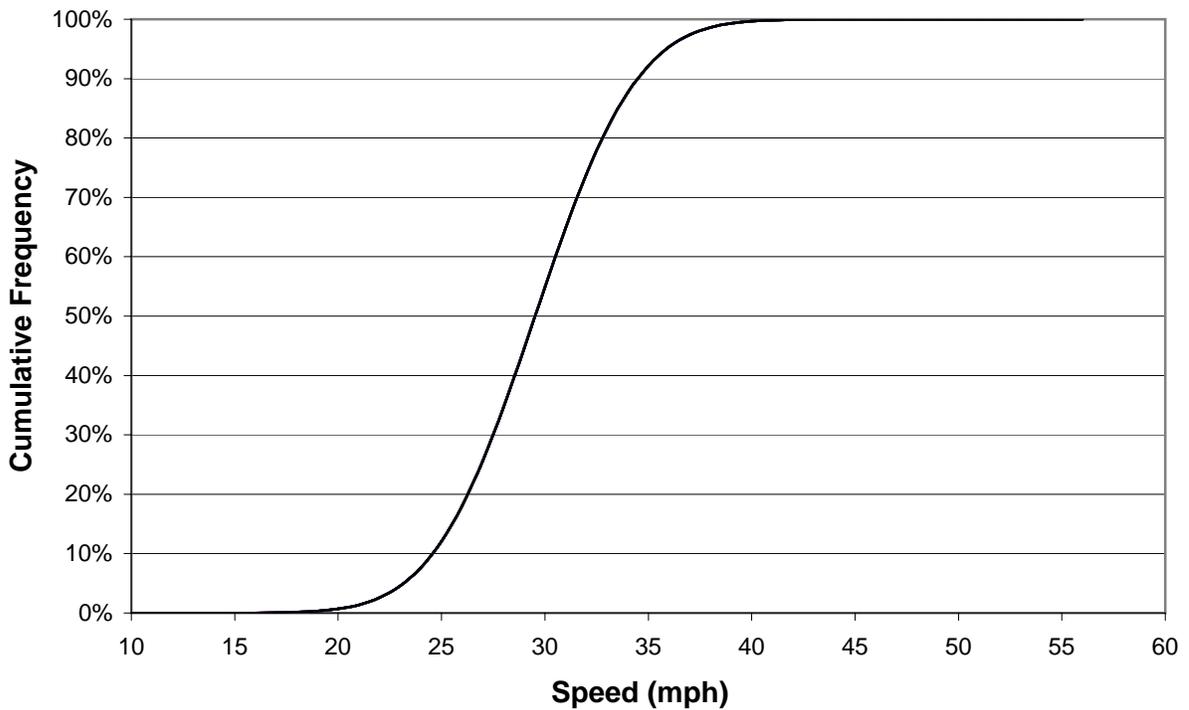
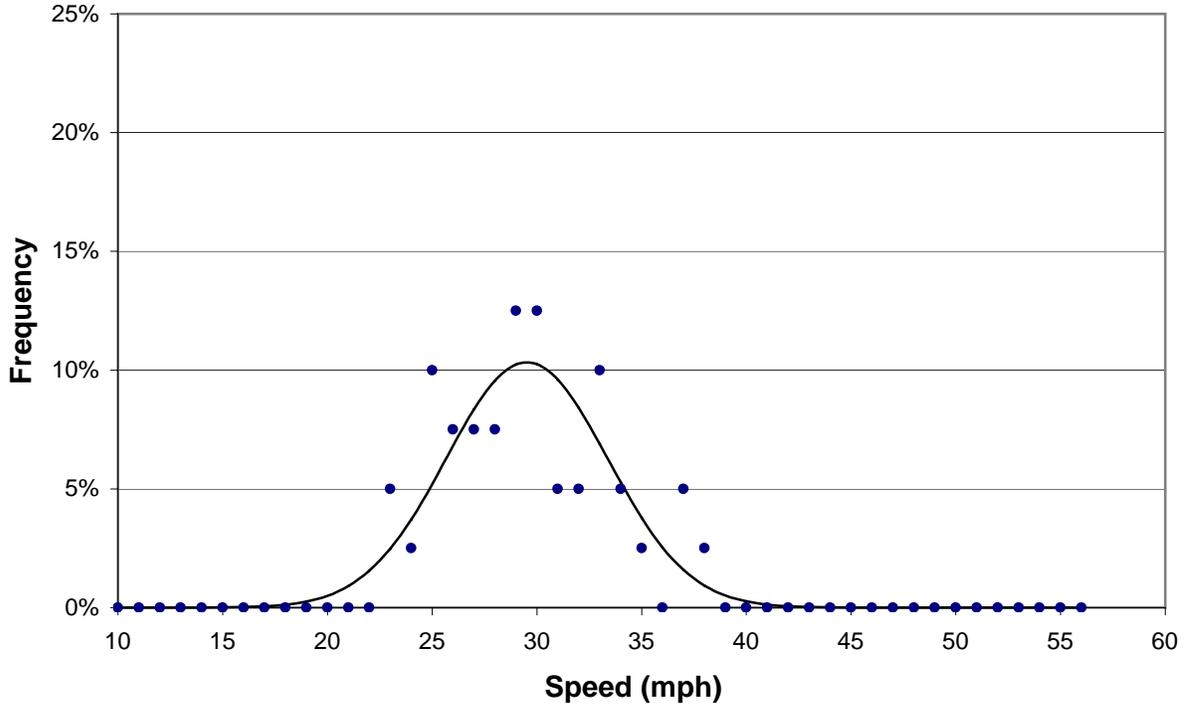
Date: **October 7, 2005**
 Location: **48 Avenue between 39 Street & 39 Place**
 Surveyor: **R. Calvache/H. Salinas**

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

School: **P.S. 199**
 Direction: **EB**
 Comments:

Mean Speed = 29.5 mph
 Standard Deviation = 3.9 mph
 Margin of Error (95% Confidence) = ± 1.2 mph

Median Speed = 29.5 mph
 15th Percentile Speed = 25.5 mph
 85th Percentile Speed = 33.5 mph



SPOT SPEED STUDY

Date: **October 7, 2005**
 Location: **48 Avenue between 39 Street & 39 Place**
 Surveyor: **R. Calvache/H. Salinas**

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

School: **P.S. 199**
 Direction: **WB**
 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	0	0.0%	0.0%	0	0
21	0	0.0%	0.0%	0	0
22	1	1.7%	1.7%	22	484
23	4	6.8%	8.5%	92	2116
24	2	3.4%	11.9%	48	1152
25	3	5.1%	16.9%	75	1875
26	6	10.2%	27.1%	156	4056
27	3	5.1%	32.2%	81	2187
28	6	10.2%	42.4%	168	4704
29	2	3.4%	45.8%	58	1682
30	5	8.5%	54.2%	150	4500
31	3	5.1%	59.3%	93	2883
32	7	11.9%	71.2%	224	7168
33	5	8.5%	79.7%	165	5445
34	1	1.7%	81.4%	34	1156
35	2	3.4%	84.7%	70	2450
36	2	3.4%	88.1%	72	2592
37	4	6.8%	94.9%	148	5476
38	0	0.0%	94.9%	0	0
39	0	0.0%	94.9%	0	0
40	0	0.0%	94.9%	0	0
41	1	1.7%	96.6%	41	1681
42	0	0.0%	96.6%	0	0
43	0	0.0%	96.6%	0	0
44	1	1.7%	98.3%	44	1936
45	0	0.0%	98.3%	0	0
46	0	0.0%	98.3%	0	0
47	0	0.0%	98.3%	0	0
48	0	0.0%	98.3%	0	0
49	0	0.0%	98.3%	0	0
50	0	0.0%	98.3%	0	0
51	0	0.0%	98.3%	0	0
52	1	1.7%	100.0%	52	2704
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
	59	100.0%		1793	56247

Mean Speed = 30.4 mph
 Standard Deviation = 5.5 mph
 Margin of Error (95% Confidence) = ± 1.4 mph

Median Speed = 30.4 mph
 15th Percentile Speed = 24.7 mph
 85th Percentile Speed = 36.1 mph

SPOT SPEED STUDY

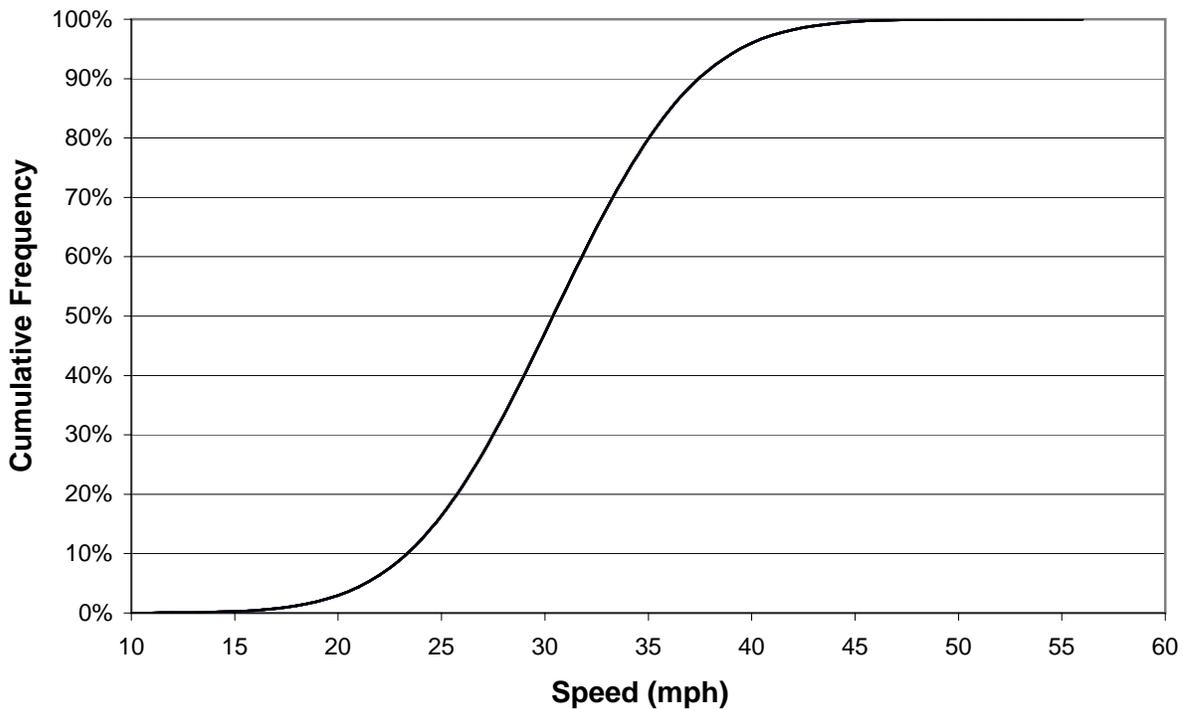
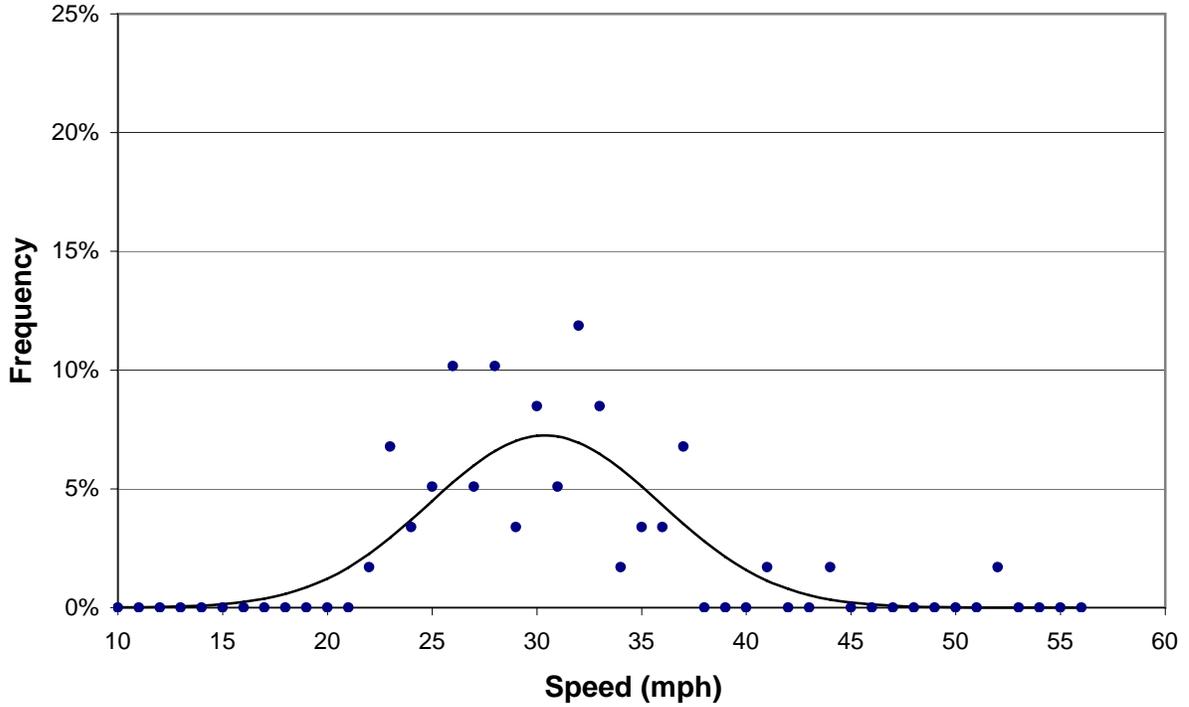
Date: **October 7, 2005**
 Location: **48 Avenue between 39 Street & 39 Place**
 Surveyor: **R. Calvache/H. Salinas**

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

School: **P.S. 199**
 Direction: **WB**
 Comments:

Mean Speed = 30.4 mph
 Standard Deviation = 5.5 mph
 Margin of Error (95% Confidence) = ± 1.4 mph

Median Speed = 30.4 mph
 15th Percentile Speed = 24.7 mph
 85th Percentile Speed = 36.1 mph



GAP STUDY FIELD SHEET

Date: 10/7/05

Location: ps 199 - 48 Avenue & 39 place.

Gap Information:

Crossing Distance	<u>44</u> ft
Reaction Time	<u>3</u> sec
Walking Speed	<u>3</u> sec/ft
Minimum Acceptable Gap	<u>18</u> sec

Gap Survey:

	Time:	From: <u>7:45 am</u>	To: <u>8:45 am</u>	
Gap (sec)	Tally			Total
10				3
11				4
12				1
13				3
14				2
15				3
16				4
17				2
18				2
19				
20				2
21				1
22				4
23				2
24				4
25				
26				2
27				
28				2
29				5
30				2
31				
32				3
33				
34				1
35				3
36				
37				1
38				3
39				
40				2
41				
42				2
43				
44				2
45				
	<i>total:</i>			66

DISCARD GAPS THAT ARE LESS THAN 18 SEC

(66)