

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



School Safety Engineering Project

FINAL REPORT: P.S. 70 (The Max Schoenfeld School), Bronx



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



September 1, 2006

**School Safety Engineering Project
Final Report: P.S. 70, Bronx**

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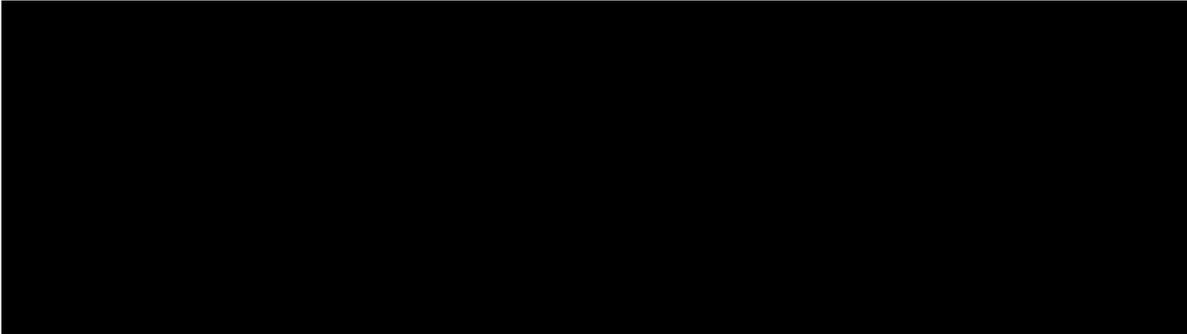
1. INTRODUCTION

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. 70 (The Max Schoenfeld School) in the Bronx 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 shows an aerial view of the neighborhood surrounding the school. P.S. 70 is bounded by East 173rd Street to the south, Eastburn Avenue to the west, Weeks Avenue to the east, and East 174th Street to the north. The primary land use in the neighborhood surrounding the school is high-density residential, although East 174th Street is a commercial street mixed with residential uses. East 174th Street carries significant traffic volumes. Claremont Park is located south of the school (south of Mt. Eden Parkway).



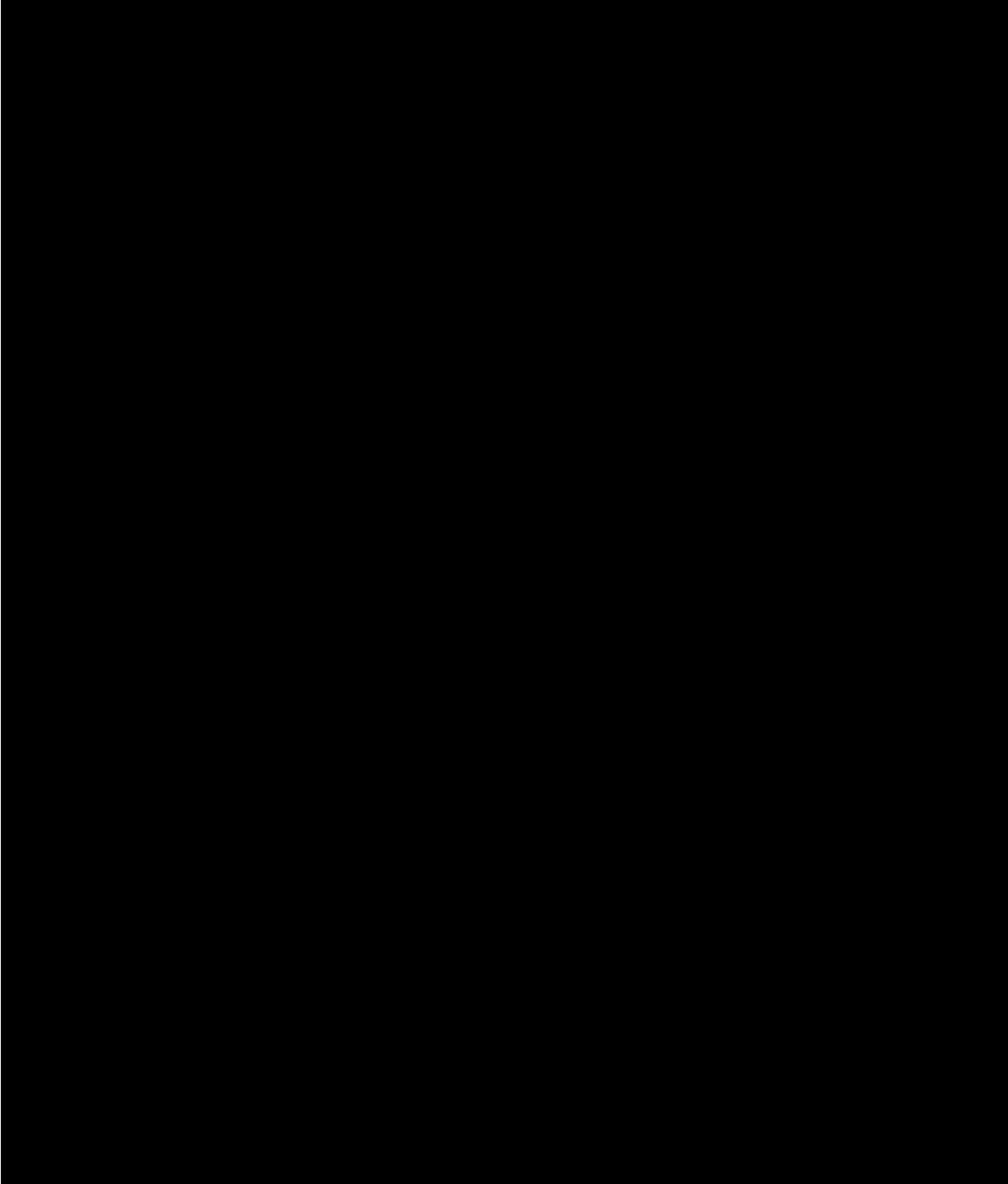
Figure 1: Looking west along East 174th Street at Weeks Avenue (school is on the left)

2.3 MEETING WITH SCHOOL REPRESENTATIVES

Staff from the consultant team met with the principal, assistant principal, and parents from P.S. 70 at the school on the morning of June 15, 2004. According to representatives of the school, students at P.S. 70 face the following problems:

- Conflicts between speeding vehicles and students leaving the school and crossing mid-block along Weeks Avenue between East 174th Street and East 173rd Street.

- A lack of warning signs to inform drivers of pedestrians on all approaches at intersections in the vicinity of the school.
- The lack of dedicated parking spaces on school block faces for faculty and staff.
- The need for two additional crossing guards at the intersections of Eastburn Avenue with East 173rd and East 174th Streets.
- Faded pavement markings.



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. The school’s catchment area is roughly bounded by East 176th Street to the north, East 172nd Street to the south-west along Teller Avenue to the corner of East 170th Street, Clay Avenue to the east, and Grand Concourse to the west, with a northwest boundary extending to Jerome Avenue between Clifford Place and East 176th Street.

Table 1 presents the modes of travel for P.S. 70 as identified by school representatives.

TABLE 1: MODES OF TRAVEL (AS ESTIMATED BY SCHOOL OFFICIALS)	STUDENTS (Percentage)
Walk	83%
Driven by car	10%
School bus	3%
MTA Bus/ Subway	4%
Bicycle	0%
TOTAL	100%

2.7 ADDITIONAL STUDENT PEDESTRIAN TRAFFIC GENERATORS

East 174th Street has a variety of commercial uses that attract student pedestrians from P.S. 70. A supermarket, located on the corner of East 174th Street and Monroe Avenue, as well as other stores and restaurants along East 174th Street between Morris Avenue and Monroe Avenue, generate pedestrian and vehicular traffic, including student pedestrians from P.S. 70. In addition, Claremont Park is located south of Mt. Eden Parkway, within walking distance of P.S. 70, and thus is an attraction for students.

2.8 CROSSING GUARDS LOCATIONS

There are two crossing guards assigned to P.S. 70. According to school representatives, the crossing guards are assigned to the following locations:

- Weeks Avenue and East 174th Street
- Weeks Avenue and East 173rd Street

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



Figure 3: Looking south at crossing guard at intersection of Weeks Avenue and East 174th Street

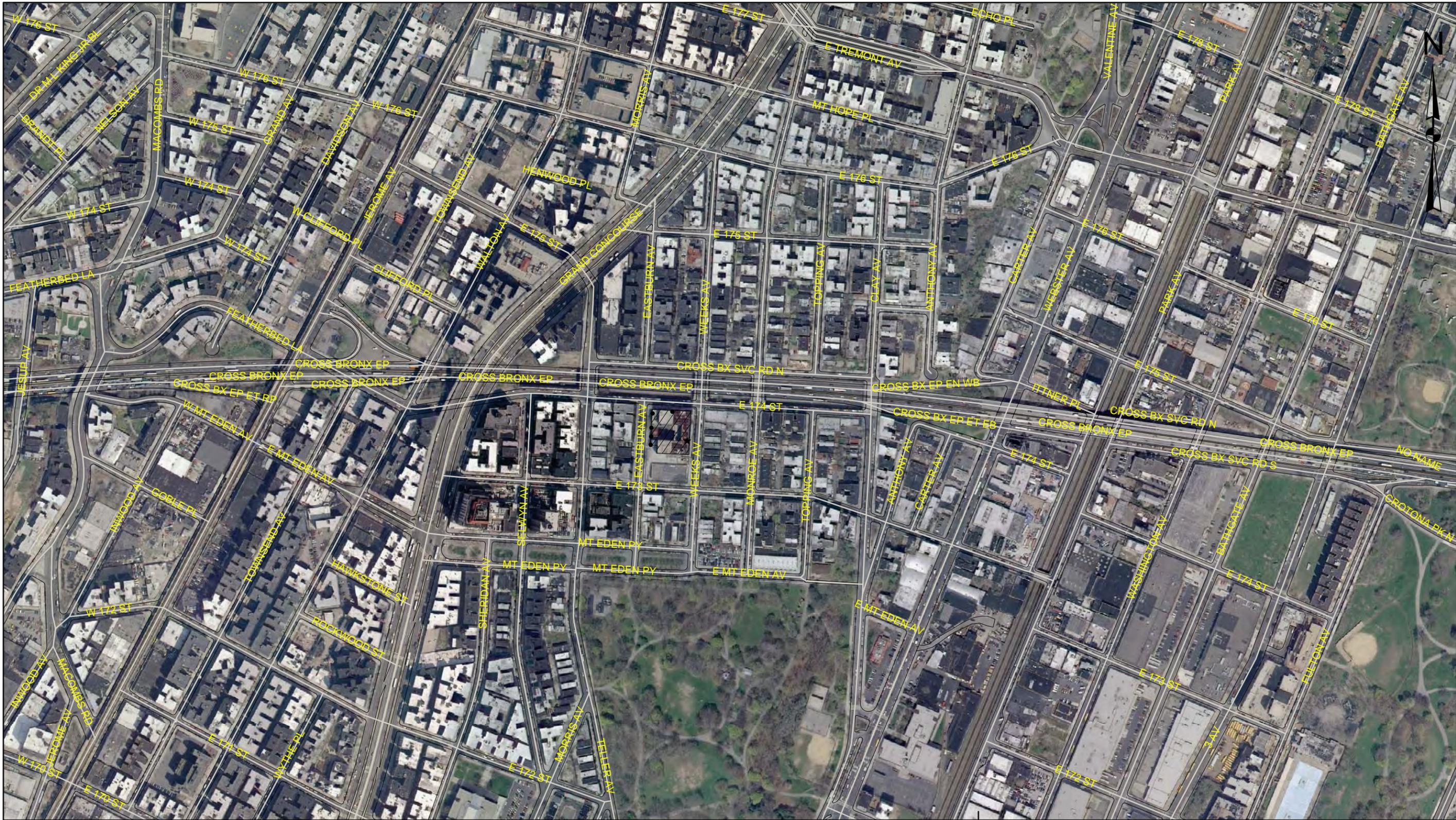
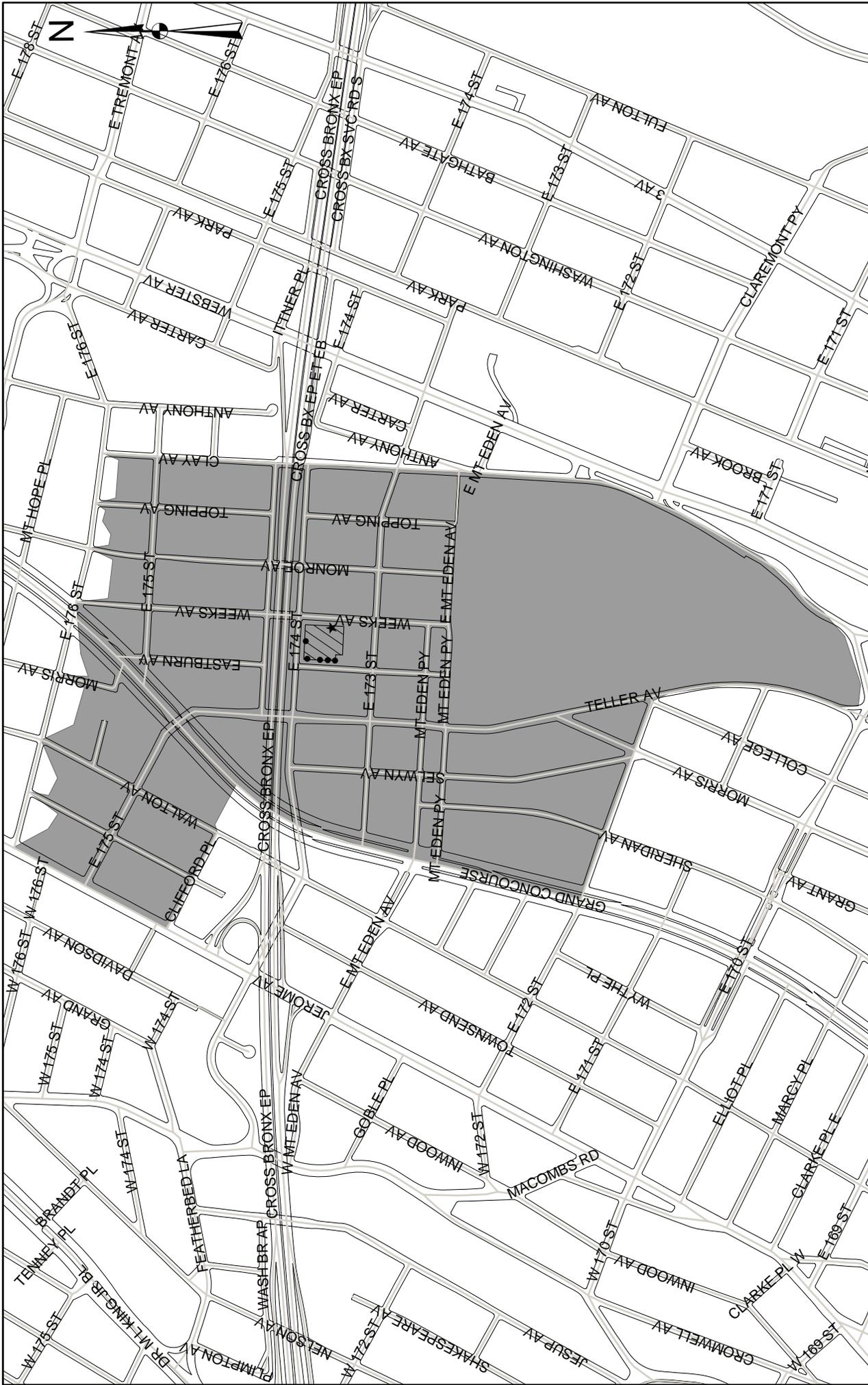


EXHIBIT 1
P.S. 70 BRONX
MAX SCHOENFELD SCHOOL
AERIAL PHOTOGRAPH



LEGEND:

CATCHMENT AREA, (DEPARTMENT OF EDUCATION DESIGNATED AREA FROM WITHIN WHICH STUDENTS ARE ENTITLED TO ATTEND P. S. 70)



EXHIBIT 2

P. S. 70 BRONX

MAX SCHOENFELD 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 70 Bronx
MAX SCHOENFELD SCHOOL

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

Map created on 11/16/2006

EXHIBIT 3

COMM. BOARD: 204
 PRECINCT: 44

3. TRAFFIC OPERATIONS

3.1 SCHOOL BUS OPERATIONS

According to school representatives, there are approximately 70 students who ride an MTA bus to school, and approximately 50 who ride a yellow school bus to school. Bus transportation for the students consists of six yellow buses. The yellow buses stop along Weeks Avenue and Eastburn Avenue near the school, which occasionally results in double-parking. Buses will stop such that students must cross the street to get to the school (see Figures 4 and 5).



Figure 4: Looking south at yellow buses along Weeks Avenue

3.3 PARKING REGULATIONS

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

3.4 EXISTING SCHOOL SIGNS AND MARKINGS

Exhibit 3 shows the existing school signals and pavement markings around P.S. 70. 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 signs accompanied by downward pointing arrows. (Signs scheduled to be installed under this program are shown as “existing” in Exhibit 8.)



Figure 5: Looking south on Eastburn Avenue at yellow buses and parental drop-off

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. 70 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.

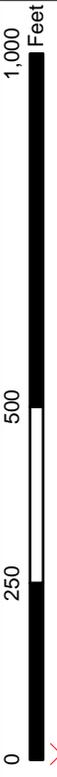
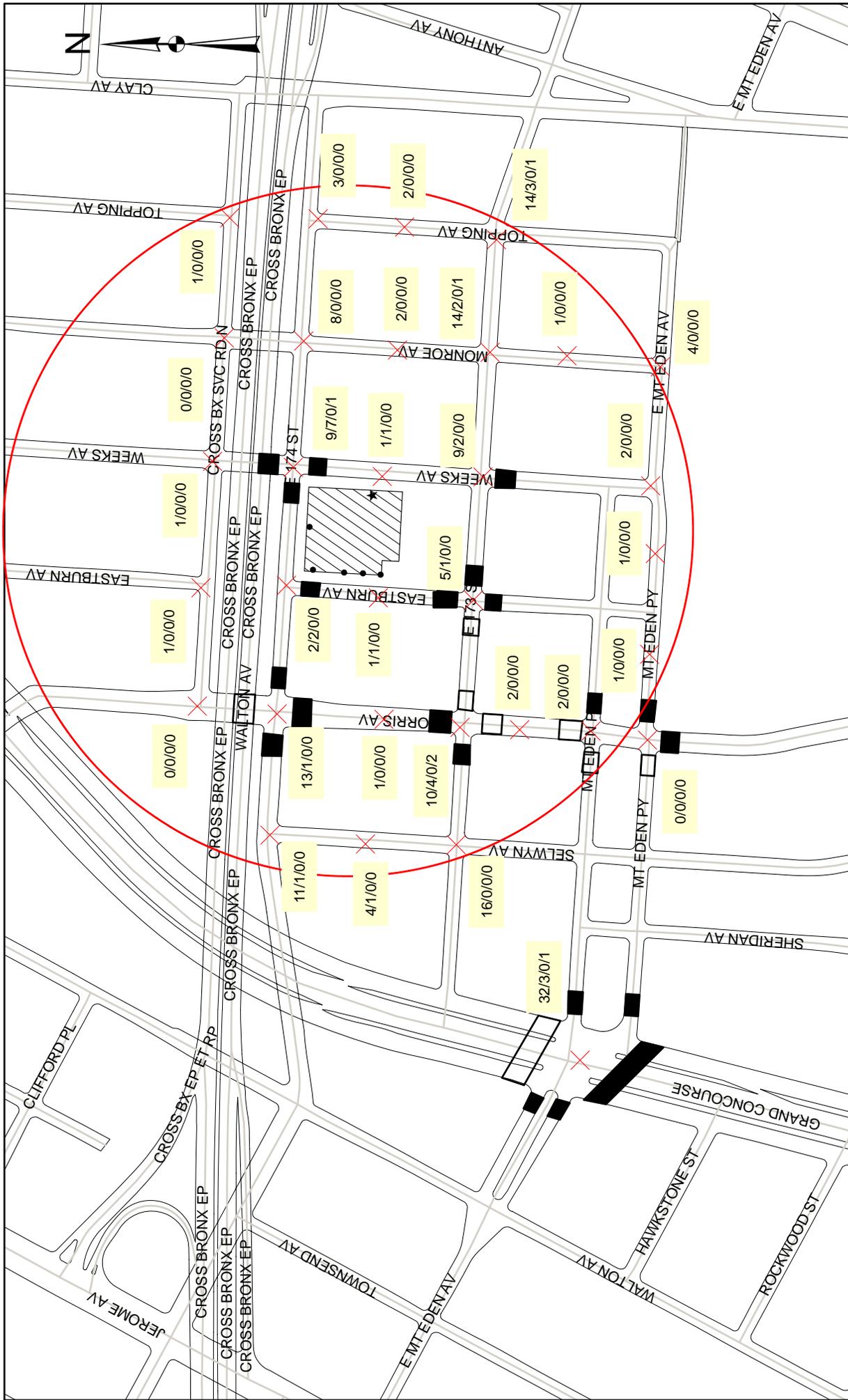
This report targets intersections closest to the school where the highest concentration of student pedestrians occurs. Intersections farther from the school and locations for which detailed data was not available at the time of this study will be addressed with the ongoing work of DOT's School Safety 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*
Grand Concourse and Mt Eden Parkway	32	3	0	1
East 174 th Street and Selwyn Avenue	11	1	0	0
East 174 th Street and Morris Avenue	13	1	0	0
East 174 th Street and Eastburn Avenue	2	2	0	0
East 174 th Street and Weeks Avenue	9	7	0	1
East 174 th Street and Monroe Avenue	8	0	0	0
East 174 th Street and Topping Avenue	3	0	0	0
East 173 rd Street and Selwyn Avenue	16	0	0	0
East 173 rd Street and Morris Avenue	10	4	0	2
East 173 rd Street and Eastburn Avenue	5	1	0	0
East 173 rd Street and Weeks Avenue	9	2	0	0
East 173 rd Street and Monroe Avenue	14	2	0	1
East 173 rd Street and Topping Avenue	14	3	0	1
Mt. Eden Parkway and Morris Avenue	2	0	0	0
TOTAL	148	26	0	6

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

TABLE 3: ACCIDENT SUMMARY OF NYPD DATA (2001-2004)				
INTERSECTION	TOTAL ACCIDENTS	PEDESTRIAN ACCIDENTS	PEDESTRIAN FATALITIES	SCHOOL-RELATED ACCIDENTS*
Grand Concourse and Mt Eden Parkway	123	15	0	0
East 174 th Street and Selwyn Avenue	20	1	0	1
East 174 th Street and Morris Avenue	16	3	0	0
East 174 th Street and Eastburn Avenue	13	1	0	0
East 174 th Street and Weeks Avenue	12	2	0	1
East 174 th Street and Monroe Avenue	9	0	0	0
East 174 th Street and Topping Avenue	10	1	0	0
East 173 rd Street and Selwyn Avenue	21	0	0	0
East 173 rd Street and Morris Avenue	14	0	0	0
East 173 rd Street and Eastburn Avenue	3	1	0	0
East 173 rd Street and Weeks Avenue	7	2	0	1
East 173 rd Street and Monroe Avenue	19	0	0	0
East 173 rd Street and Topping Avenue	22	2	0	0
Mt. Eden Parkway and Morris Avenue	0	0	0	0
TOTAL	289	28	0	3

*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
 - TOTAL ACCD
 - PED ACCD
 - PED FATAL
 - SCHOOL PED ACCD

EXHIBIT 6

P.S. 70 BRONX
MAX SCHOENFELD SCHOOL
ACCIDENT SUMMARY (1998-2000)

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. 70. Details on specific intersections or roadway segments are given in the following Sections.

3.6.1 East 174th Street and Selwyn Avenue

This is a three-leg, T-type signalized intersection with no crosswalks. East 174th Street is a two-way east-west street with two traffic lanes and parking on both sides of the roadway. Selwyn Avenue is a one-way northbound street with one traffic lane and a parking lane on each side of the roadway. The northbound approach of Selwyn Avenue is stop-controlled at East 174th Street.

This intersection was the site of 11 accidents between 1998 and 2000, including one pedestrian accident that was not school-related (Table 2). There were no pedestrian fatalities during this time period.

3.6.2 East 174th Street and Morris Avenue

This is a signalized intersection with school crosswalks located across the west, east, and south legs. East 174th Street is a two-way east-west street west to Morris Avenue and a one-way eastbound at this intersection. It has one traffic lane and parking on both sides of the roadway. Morris Avenue is a two-way street with one traffic lane and a parking lane on each side of the roadway.

This intersection was the site of 13 accidents between 1998 and 2000, including one pedestrian accident which was not school-related (Table 2). There were no pedestrian fatalities during this time period.

3.6.3 East 174th Street and Eastburn Avenue

This is an unsignalized T-intersection with a school crosswalk located across the south leg. East 174th Street is a one-way eastbound street with one traffic lane and parking on both sides of the roadway. Eastburn Avenue is a one-way southbound street with one traffic lane and parking on both sides of the roadway.

This intersection was the site of two accidents between 1998 and 2000, both of which were pedestrian accidents, but were not school-related (Table 2). There were no pedestrian fatalities during this time period.

3.6.4 East 174th Street and Weeks Avenue

This is an unsignalized intersection with school crosswalks located across the north, south, and west legs. East 174th Street is a one-way eastbound street with one traffic lane and parking on both sides of the roadway. Weeks Avenue is a one-way northbound street with one traffic lane and parking on both sides of the roadway.

The school representatives report that cars tend to speed on Weeks Avenue. It was also reported by school representatives that there is a problem with delivery trucks on Weeks Avenue during arrival time. These trucks often double-park and block sight lines for children using the crosswalk located across the south leg of the intersection (see Figure 6).

There were nine accidents reported at this intersection between 1998 and 2000, including seven pedestrian accidents, one of which was school-related (Table 2). In the school-related accident, a nine-year-old pedestrian sustained an undetermined injury while playing in the roadway on May 9, 2000 at 8:00 am. The road was dry and the weather was clear. There were no pedestrian fatalities during this time period.

To assess vehicle and pedestrian volumes on Weeks Avenue in the vicinity of P.S. 70, field counts were conducted at the intersection of Weeks Avenue and East 174th Street from 7:20 to 9:00 am on Tuesday, June 7, 2005. The results of the vehicle and pedestrian counts during the peak hour (7:45 to 8:45 am) are shown in Tables 4 and 5, and in Exhibit 7B at the end of this section.

TABLE 4: VEHICLE VOLUMES (7:45-8:45 AM)				
INTERSECTION	Weeks Avenue NORTHBOUND		East 174th Street EASTBOUND	
	Straight	Right	Straight	Left
Weeks Avenue and East 174th Street	78	38	199	80
TOTAL	116		279	

TABLE 5: PEDESTRIAN VOLUMES (7:45-8:45 AM)				
INTERSECTION	Crossing Weeks Avenue SOUTH-LEG CROSSWALK	Crossing Weeks Avenue NORTH-LEG CROSSWALK	Crossing East 174th Street WEST-LEG CROSSWALK	Crossing East 174th Street EAST-LEG CROSSWALK
Weeks Avenue and East 174th Street	623	17	324	138

Intersection	Total Hourly 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	
East 174th Street and Weeks Ave	462	640	1,102	TBD**	Yes	TBD**

* The available gap is based on the time need for a pedestrian to walk across the street. The analysis assumed 12 seconds.
 ** NYCDOT will conduct a warrant analysis in FALL 2006 to see if a signal or stop control is warranted at this intersection

The school principal reported a speeding problem on Weeks Avenue. Therefore, a speed survey was conducted on Weeks Avenue between East 173rd Street and East 174th Street in order to verify the existence of a speeding problem and to determine its extent.

Northbound vehicles on Weeks Avenue between East 173rd Street and East 174th Street were found to be traveling at an 85th percentile speed was 30 mph. The 85th percentile speed is considered to be the representative speed for the street segment. Speeds above the 30 mph threshold would indicate a speeding problem and may require appropriate traffic calming measures.

The detailed results of the spot speed survey on Weeks Avenue between East 173rd Street and East 174th Street are shown in the Appendix at the end of the document.



Figure 6: Looking north on Weeks Avenue at double-parked delivery truck south of East 174th Street



Figure 7: Looking south along Eastburn Avenue from East 174th Street (P.S. 70 is on the left)

3.6.5 East 173rd Street and Morris Avenue

This is a signalized intersection with school crosswalks located across the west and north legs. East 173rd Street is a two-way street with one traffic lane and a parking lane on each side of the roadway. Morris Avenue is a two-way street with one traffic lane and a parking lane on each side of the roadway.

This intersection was the site of ten accidents between 1998 and 2000, including four pedestrian accidents, two of which were school-related (Table 2). In the first school-related accident, an eight-year-old pedestrian sustained an “incapacitating injury” on May 10, 1998 at 3:00 pm while playing in the roadway. The road was dry and the weather was clear. In the second school-related accident, another eight-year old pedestrian sustained a “possible injury” on March 24, 2000 at 3:00 pm, while emerging from behind a parked vehicle. The road was dry and the weather was clear. There were no pedestrian fatalities during this time period.

3.6.6 East 173rd Street and Weeks Avenue

This is an unsignalized intersection with a school crosswalk located across the south leg of Weeks Avenue. East 173rd Street is a two-way street with one traffic lane and a parking lane on each side of the roadway. Weeks Avenue is a one-way northbound street with one traffic lane and parking on both sides of the roadway (see Figure 8).

This intersection was the site of nine accidents between 1998 and 2000, including two pedestrian accidents, neither of which was school-related (Table 2). There were no pedestrian fatalities during this time period.

To assess vehicle and pedestrian volumes on Weeks Avenue in the vicinity of P.S. 70, field counts were conducted at the intersection of Weeks Avenue and East 173rd Street from 7:40 to 9:00 am on Thursday, June 2, 2005. The results of these counts for the peak

hour (7:45 to 8:45 am) are shown in Tables 7 and 8, and in Exhibit 7A at the end of this section.

TABLE 7: VEHICLE VOLUMES (7:45-8:45 AM)							
INTESECTION	Weeks Avenue NORTHBOUND			East 173rd Street EASTBOUND		East 173rd Street WESTBOUND	
	Left	Straight	Right	Left	Straight	Straight	Right
Weeks Avenue and East 173 rd Street	6	60	22	19	74	160	38
TOTAL	88			93		198	

TABLE 8: PEDESTRIAN VOLUMES (7:45-8:45 AM)				
INTERSECTION	Crossing Weeks Avenue SOUTH-LEG CROSSWALK	Crossing Weeks Avenue NORTH-LEG CROSSWALK	Crossing East 173rd Street WEST-LEG CROSSWALK	Crossing East 173rd Street EAST-LEG CROSSWALK
Weeks Avenue and East 173 rd Street	95	217	75	42

A preliminary signal warrant analysis, based on the pedestrian and student volumes, was conducted at this intersection. Based on this analysis a traffic signal or a stop control is not warranted at the intersection. A summary of the signal warrant analysis is shown in Tables 10 and 11:

TABLE 9: TRAFFIC SIGNAL WARRANT ANALYSIS (ONE HOUR PEDESTRIAN VOLUMES)						
Intersection	Total Hourly (7:45-8:45 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	
Weeks Avenue and East 173 rd Street	117	312	429	Yes	No	No

* The available gap is based on the time needed for a pedestrian to walk across the street. The analysis assumed 12 seconds.

TABLE 10: MULTI-WAY STOP WARRANT ANALYSIS (ONE HOUR PEDESTRIAN VOLUMES)						
Intersection	Total Hourly Pedestrian Volumes			Criteria		Multi-way Stop Warranted
	Crossing Street			Gap	Crossing Major Street	
	Major	Minor	Total	Fewer than 60 gaps / hour ⁽¹⁾	Greater than 190 pedestrians / hour	
Weeks Avenue and East 173 rd Street	117	312	429	Yes	No	No

Note:
 1. The available gap is based on the time need for a pedestrian to walk across the street. The analysis assumed 12 seconds.



Figure 8: Looking west along East 173rd Street at Weeks Avenue.

3.6.7 East 173rd Street and Eastburn Avenue

This is a signalized intersection with school crosswalks located across the north, east and south legs, and pedestrian crosswalks located across west leg. East 173rd Street is a two-way street with one traffic lane and a parking lane on each side of the roadway. Eastburn Avenue is a one-way southbound street with one traffic lane and parking on both sides of the roadway.

This intersection was the site of five accidents between 1998 and 2000, including one pedestrian accident which was not school-related (Table 2). There were no pedestrian fatalities at this intersection during this time period.



Figure 9: Looking west along East 173rd Street across Eastburn Avenue

3.6.8 East 173rd Street and Monroe Avenue

This is a four-leg stop-controlled intersection with pedestrian crosswalks located across the north and south legs. East 173rd Street is a two-way street with one traffic lane and a parking lane on each side of the roadway. Monroe Avenue is a one-way southbound street with one traffic lane and parking on both sides of the roadway. The southbound approach of Monroe Avenue at East 173rd Street is stop-controlled.

This intersection was the site of 14 accidents between 1998 and 2000, including two pedestrian accidents, one of which was school-related (Table 2). This accident occurred at approximately 4:00 pm on Thursday, March 9, 2000 when a ten-year-old pedestrian emerged from behind a parked vehicle and sustained a “possible injury.” The road surface was dry, and the accident occurred under clear weather conditions in daylight. There were no pedestrian fatalities at this intersection during this time period.

3.6.9 East 173rd Street and Topping Avenue

This is a four-leg stop-controlled intersection with pedestrian crosswalks located across the north and south legs. East 173rd Street is a two-way street with one traffic lane and a parking lane on each side of the roadway. Topping Avenue is a one-way northbound street with one traffic lane and parking on both sides of the roadway.

This intersection was the site of 14 accidents between 1998 and 2000, including three pedestrian accidents, one of which was school-related (Table 2). This accident occurred at approximately 3:00 pm on Friday, May 8, 1998 when a 14-year-old pedestrian sustained an undetermined injury while crossing at the intersection where there was no crosswalk. The road surface was dry, and the accident occurred under cloudy, daylight conditions. (It should be noted that this intersection is reported twice [once as a duplicate] in the DMV accident database.) There were no pedestrian fatalities at this intersection during this time period.

3.6.10 Mt. Eden Parkway and Morris Avenue

Between Weeks Avenue and Walton Avenue, Mt. Eden Parkway is configured as an east-west, one-way couplet separated by a landscaped median. Therefore, Morris Avenue intersects with both the westbound and eastbound lanes at two closely-spaced signalized intersections. At the intersection of westbound Mt. Eden Parkway and Morris Avenue, pedestrian crosswalks are located across the north, south, and west legs, and a school crosswalk is located across the east leg. At the intersection of eastbound Mt. Eden Parkway and Morris Avenue, pedestrian crosswalks are located across the north and west legs, and school crosswalks are located across the south and east legs. Both eastbound and westbound Mt. Eden Parkway provide one travel lane and on-street parking on both sides. Morris Avenue is a two-way street with one traffic lane and one parking lane on each side of the roadway.

This intersection was the site of two accidents between 1998 and 2000. There were no pedestrian accidents or fatalities at this intersection during this time period.

3.6.11 Grand Concourse and Mt. Eden Parkway

This is a four-way signalized intersection with school crosswalks located across the south, east, and west legs, and a pedestrian crosswalk located across the north leg. The Grand Concourse is a two-way street with four lanes (two “express” lanes and two “service” lanes, separated by a median), and one on-street parking lane in each direction. One exclusive left-turn lane is also provided in both the northbound and southbound directions on the Grand Concourse at the intersection of Mt. Eden Parkway. Mt. Eden Parkway is a two-way street with one travel lane and one on-street parking lane in either direction, with the directional lanes separated by landscaped islands.

This intersection was the site of 32 accidents between 1998 and 2000, including three pedestrian accidents, one of which was school-related (Table 2). The school-related accident occurred at approximately 4:00 pm on Monday, February 22, 1999 when a four year old pedestrian sustained a “possible injury” while crossing with the signal at the intersection. The road surface was dry, and the accident occurred during clear, daylight conditions. There were no pedestrian fatalities at this intersection during this time period.

3.7 SIGNAL TIMING

Pedestrian crossing times were field verified at all signalized intersections in the vicinity of P.S. 70, and found to be adequate (for a child pedestrian walking rate of 3 ft/sec) in all directions and approaches (see Table 11).

TABLE 11: PEDESTRIAN CROSSING TIMES AT SIGNALIZED INTERSECTIONS				
INTERSECTION	CROSSWALK LENGTH (FEET)	PEDESTRIAN TIME ACTUAL (SECONDS)	PEDESTRIAN TIME REQUIRED (SECONDS)	TIMING ADJUSTMENT REQUIRED?
East 174th Street and Morris Avenue				
crossing East 174 th Street	30	35	13	NO
crossing Morris Avenue	60	23	23	NO
East 173rd Street and Morris Avenue				
crossing East 173 rd Street	34	35	15	NO
crossing Morris Avenue	44	23	18	NO
East 173rd Street and Eastburn Avenue				
crossing East 173 rd Street	38	30	16	NO
crossing Eastburn Avenue	34	20	15	NO
Grand Concourse and East Mt. Eden Avenue				
crossing East Mt. Eden Avenue	75	65	28	NO
crossing Grand Concourse	140	40	49	NO*

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

** Students crossing Grand Concourse are expected to utilize the center medians to wait between signal cycles.*

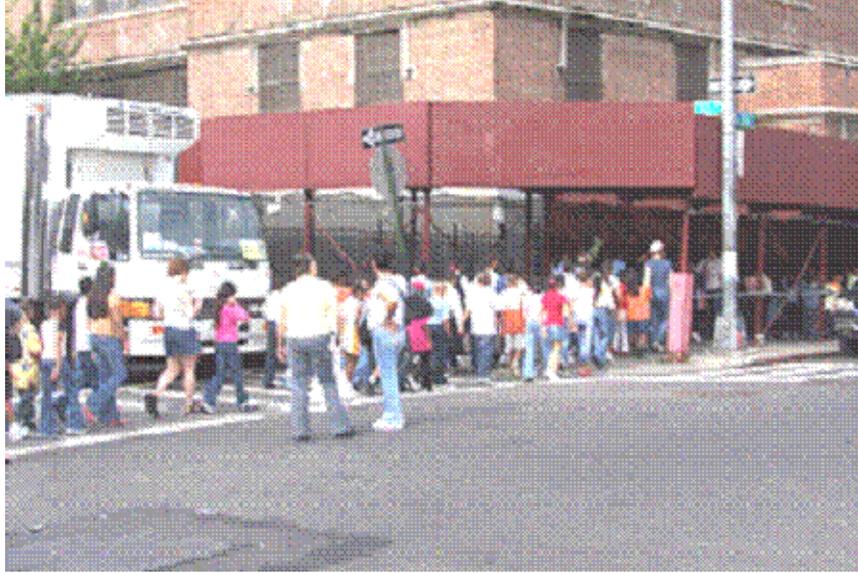
3.8 PHYSICAL CONDITIONS

3.8.1 Roadways and Sidewalks

The roadways in the vicinity of P.S. 70 are generally in good condition. Sidewalks on the school block faces are nine to 13 feet wide on Weeks Avenue, nine to 15 feet wide on Eastburn Avenue, and 13 feet wide on both East 174th Street and East 173rd Street. These particular sidewalks are in fair condition.

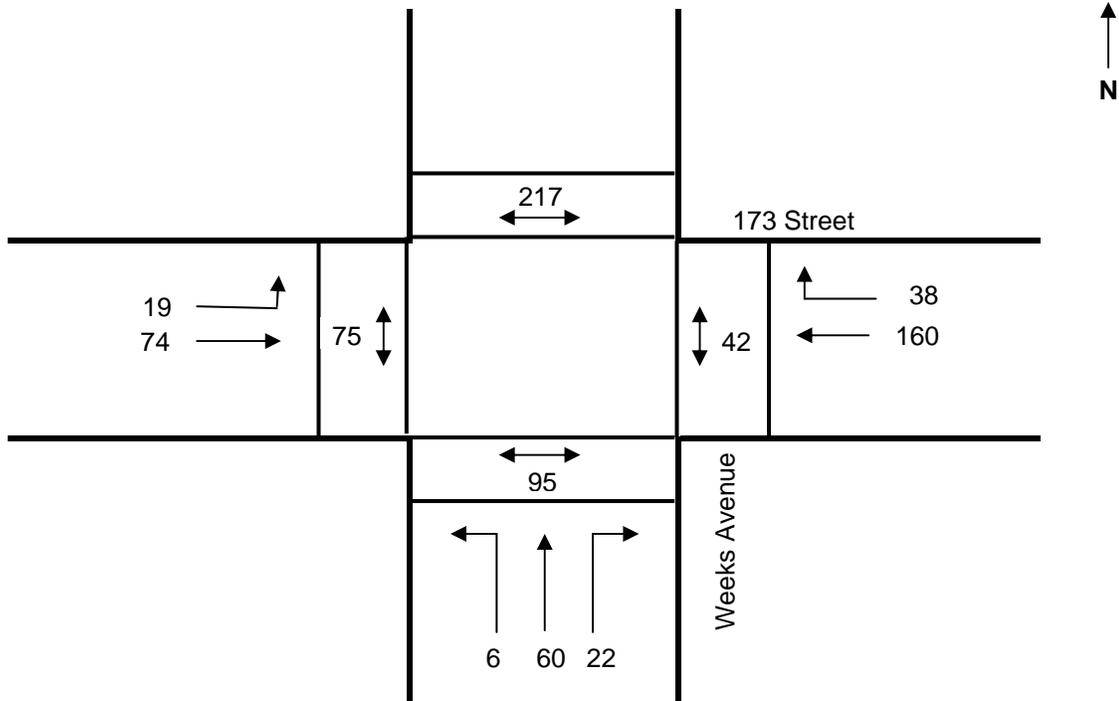
3.8.2 Pedestrian Ramps

Overall, pedestrian ramps in the vicinity of the school are standard, except for the southwest corner of the East 174th Street and Weeks Avenue intersection where a utility stanchion is obstructing the path of the crosswalk located across the south leg of Weeks Avenue (see Figure 10).



*Figure 10: Looking southwest across intersection of East 174th Street and Weeks Avenue
Students are returning to school after fire drill. Note utility stanchion obstructing south leg of crosswalk*

One Hour Traffic Volumes
Thursday, June 2nd, 2005 7:45am - 8:45am

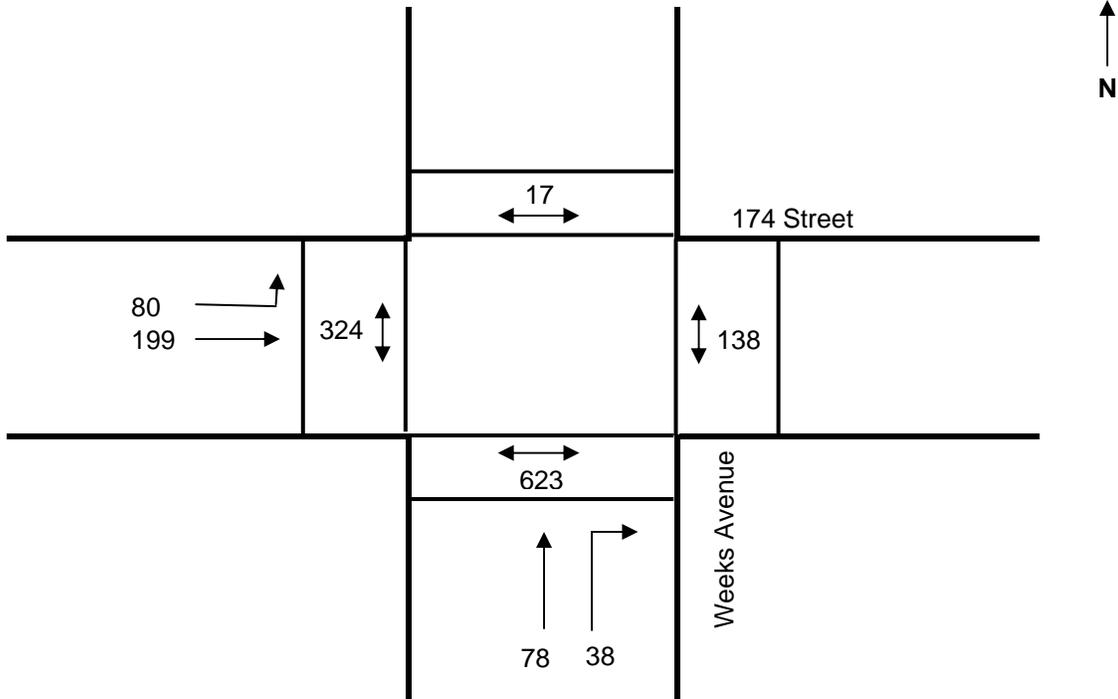


Intersection of 173rd Street and Weeks Avenue

Table of Content:	
←→	Pedestrian Counts
—↑	Vehicle Movement

EXHIBIT 7A
P.S. 70 MAX SCHOENFELD SCHOOL
TRAFFIC AND PEDESTRIAN COUNTS

One Hour Traffic Volumes
Tuesday, June 7th, 2005 7:45am - 8:45am



Intersection of 174th Street and Weeks Avenue

Table of Content:	
←→	Pedestrian Counts
—↑	Vehicle Movement

EXHIBIT 7B
P.S. 70 MAX SCHOENFELD SCHOOL
TRAFFIC AND PEDESTRIAN COUNTS

4. POTENTIAL MEASURES TO IMPROVE STUDENT PEDESTRIAN SAFETY

This section describes the proposed measures to improve school pedestrian safety around P.S. 70. 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. 70 is discussed as follows, and is shown in more detail in Exhibit 8.

4.1 SHORT-TERM MEASURES

➤ *Install “NO STANDING 7AM - 4PM SCHOOL DAYS” signs*

Install “NO STANDING 7AM - 4PM SCHOOL DAYS” signs for 30 feet in front of the school at the main entrance of the school. (This is a typical requirement for all NYC schools 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 at intersections assigned to this school. “YIELD TO PEDESTRIAN” sign is recommended at the following approach to intersection in the vicinity of P.S. 70:

- Eastbound approach to the East 174th Street and Eastburn Avenue intersection

These signs are suggested to improve driver awareness, as well as the visibility and safety of student-pedestrians.

➤ *Place advanced stop bars before school crosswalks*

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

➤ *Designate school crosswalks*

Field observations revealed that P.S. 70 students were using crosswalks that currently are not marked as school crosswalks.

It is therefore recommended that school crosswalks be designated for P.S. 70 at the following intersections:

- The south leg of the East 174th Street and Selwyn Avenue intersection.

- The west and north legs of the Weeks Avenue and East 173rd Street intersection (*Note: There is a crossing guard assigned to this intersection*).
- The north leg of the Mt. Eden Parkway and Grand Concourse intersection.

➤ Restrict deliveries during arrival and dismissal times

Food deliveries to P.S. 70 occur during the school's peak arrival time. These deliveries, and others, interfere with the school's arrival and dismissal times, and obstruct traffic.

It is therefore recommended that school officials schedule deliveries to arrive at non-peak hours.

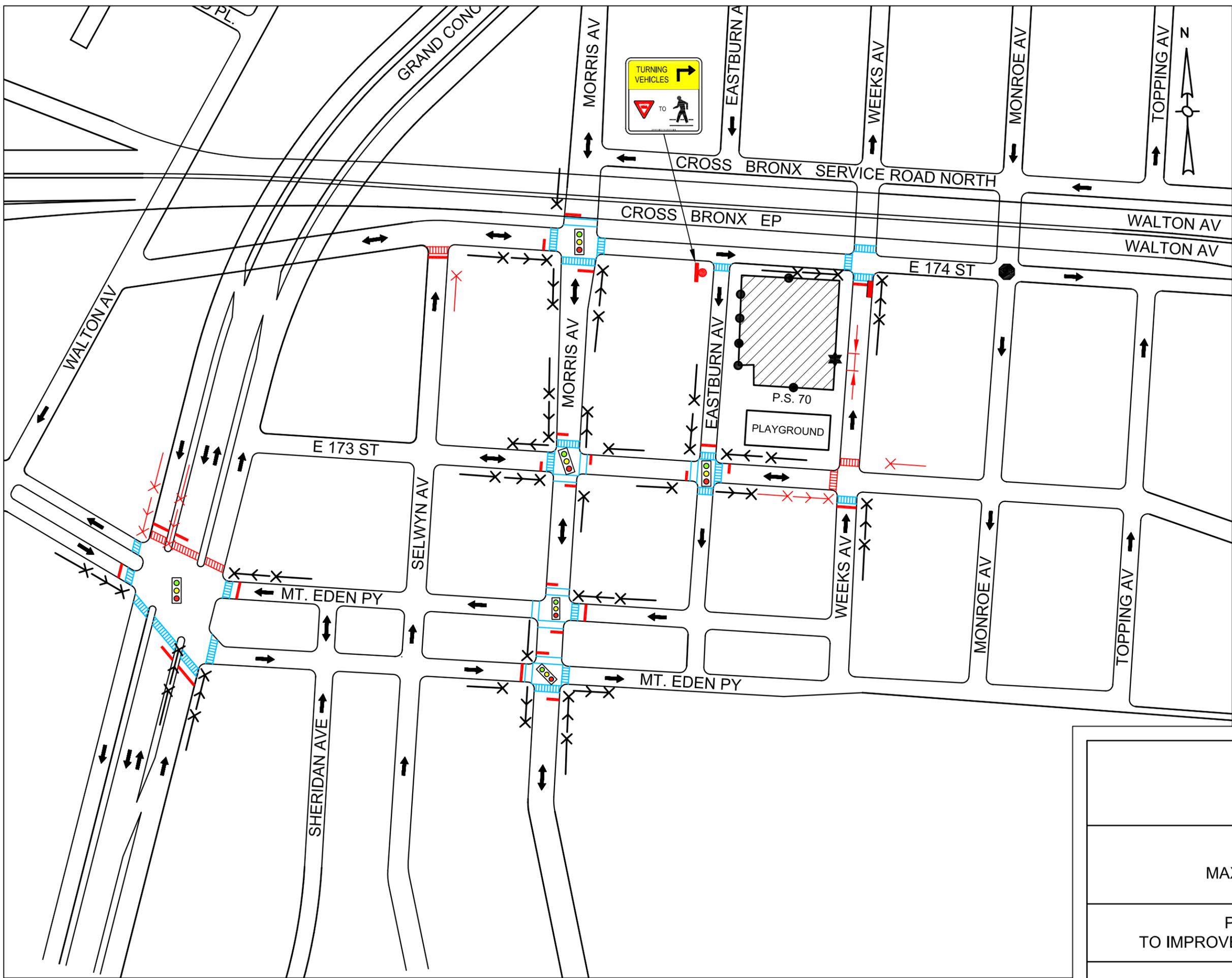
➤ Daylighting

Removing the first parking space adjacent to an intersection at critical locations will provide an improved line of sight for vehicles and pedestrians. It is recommended that a "No Standing Anytime" sign be posted 20 feet from the corner at the following location:

- Southeast corner of Weeks Avenue and East 174th Street.

4.2 LONG-TERM MEASURES

All recommendations for improving pedestrian safety in the vicinity of the school will be implemented as short-term measures.



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 ALL WAY STOP LOCATION
-  EXISTING SCHOOL CROSSWALK
-  EXISTING PEDESTRIAN CROSSWALK
-  PROPOSED ADVANCE WARNING SIGN
-  PROPOSED SCHOOL CROSSWALK WARNING ASSEMBLY
-  PROPOSED SCHOOL CROSSWALK
-  PROPOSED PEDESTRIAN CROSSWALK
-  PROPOSED TRAFFIC SIGN
-  PROPOSED STOP LINE IN ADVANCE OF SCHOOL CROSSWALK
-  PROPOSED "NO PARKING 7:00AM - 4:00PM SCHOOL DAYS"
-  PROPOSED "NO STANDING 7AM - 4PM SCHOOL DAYS"
-  PROPOSED CURB EXTENSION (NECKDOWN)
-  PROPOSED DAYLIGHTING

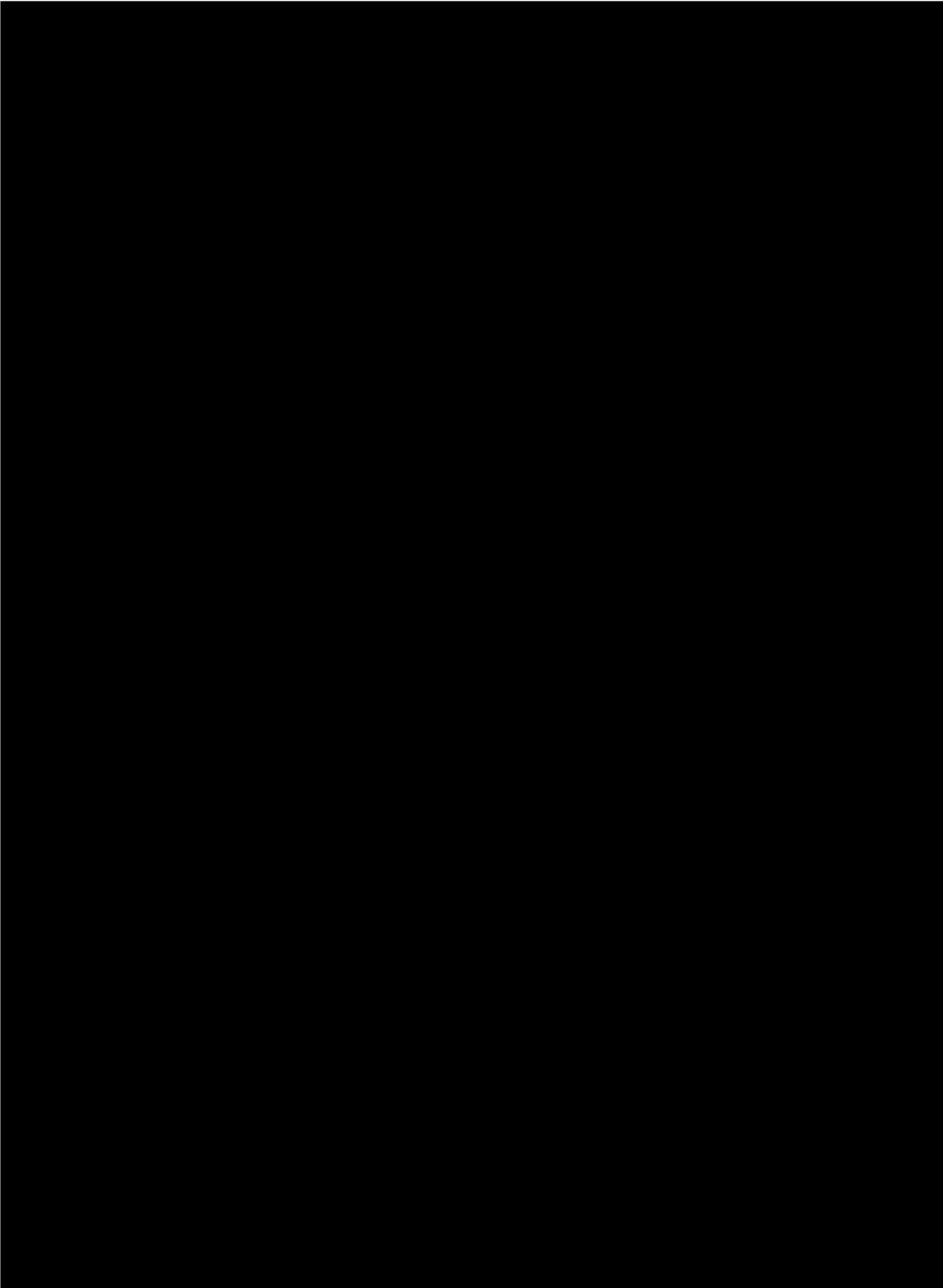
1" = 200'

EXHIBIT 8

P.S. 70 BRONX
MAX SCHOENFELD SCHOOL

POTENTIAL MEASURES
TO IMPROVE STUDENT PEDESTRIAN SAFETY

APPENDIX





SPOT SPEED STUDY

Date: **June 2, 2005** Time: **10am**
 Location: **Weeks Avenue between 173 Street & 174 Street**
 Surveyor: **Richard Calvache & Hugo Salinas**

School: **P.S. 70**
 Direction: **Northbound**
 Comments:

Speed S (mph)	No. of Vehicles in Group n	% of Vehicles in Group	% Cumulative Vehicles	nS	nS ²
8	0	0.0%	0.0%	0	0
9	0	0.0%	0.0%	0	0
10	0	0.0%	0.0%	0	0
11	0	0.0%	0.0%	0	0
12	0	0.0%	0.0%	0	0
13	0	0.0%	0.0%	0	0
14	0	0.0%	0.0%	0	0
15	0	0.0%	0.0%	0	0
16	0	0.0%	0.0%	0	0
17	0	0.0%	0.0%	0	0
18	2	2.0%	2.0%	36	648
19	2	2.0%	4.0%	38	722
20	1	1.0%	5.0%	20	400
21	4	4.0%	9.0%	84	1764
22	5	5.0%	14.0%	110	2420
23	6	6.0%	20.0%	138	3174
24	8	8.0%	28.0%	192	4608
25	15	15.0%	43.0%	375	9375
26	13	13.0%	56.0%	338	8788
27	11	11.0%	67.0%	297	8019
28	9	9.0%	76.0%	252	7056
29	6	6.0%	82.0%	174	5046
30	6	6.0%	88.0%	180	5400
31	2	2.0%	90.0%	62	1922
32	3	3.0%	93.0%	96	3072
33	3	3.0%	96.0%	99	3267
34	1	1.0%	97.0%	34	1156
35	1	1.0%	98.0%	35	1225
36	2	2.0%	100.0%	72	2592
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
	100	100.0%		2632	70654

Mean Speed = 26.3 mph
 Standard Deviation = 3.7 mph
 Margin of Error (95% Confidence) = ± 0.7 mph

Median Speed = 26.3 mph
 15th Percentile Speed = 22.5 mph
 85th Percentile Speed = 30.2 mph

SPOT SPEED STUDY

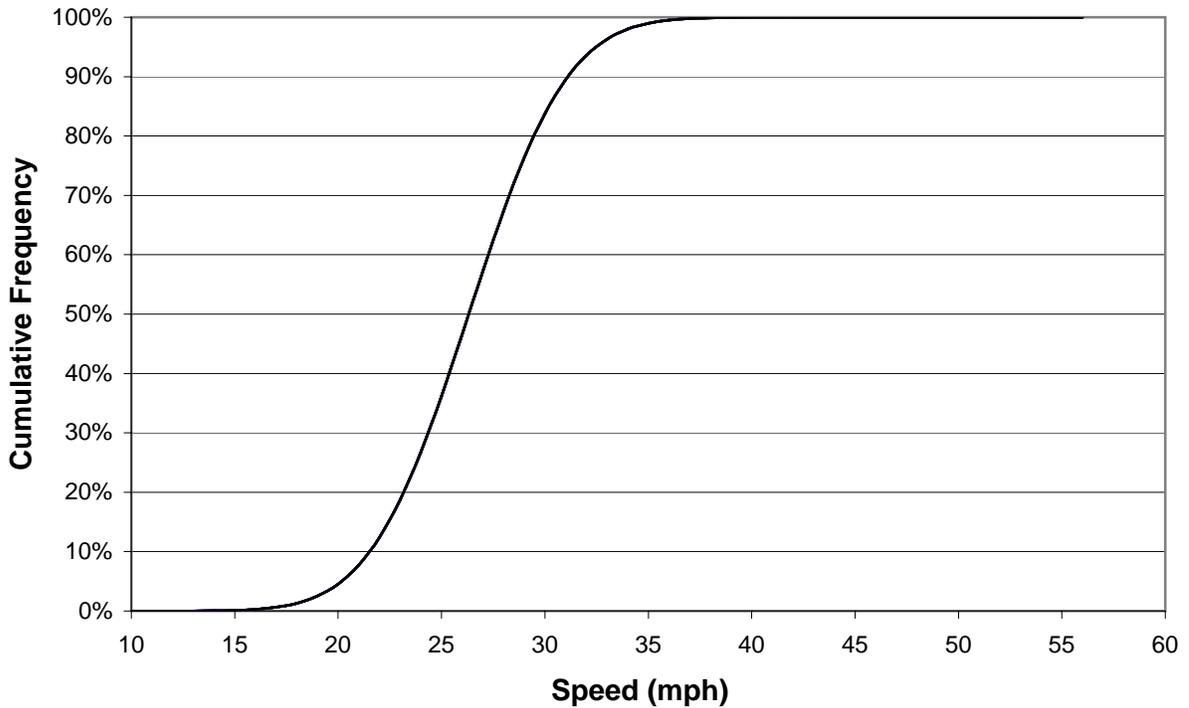
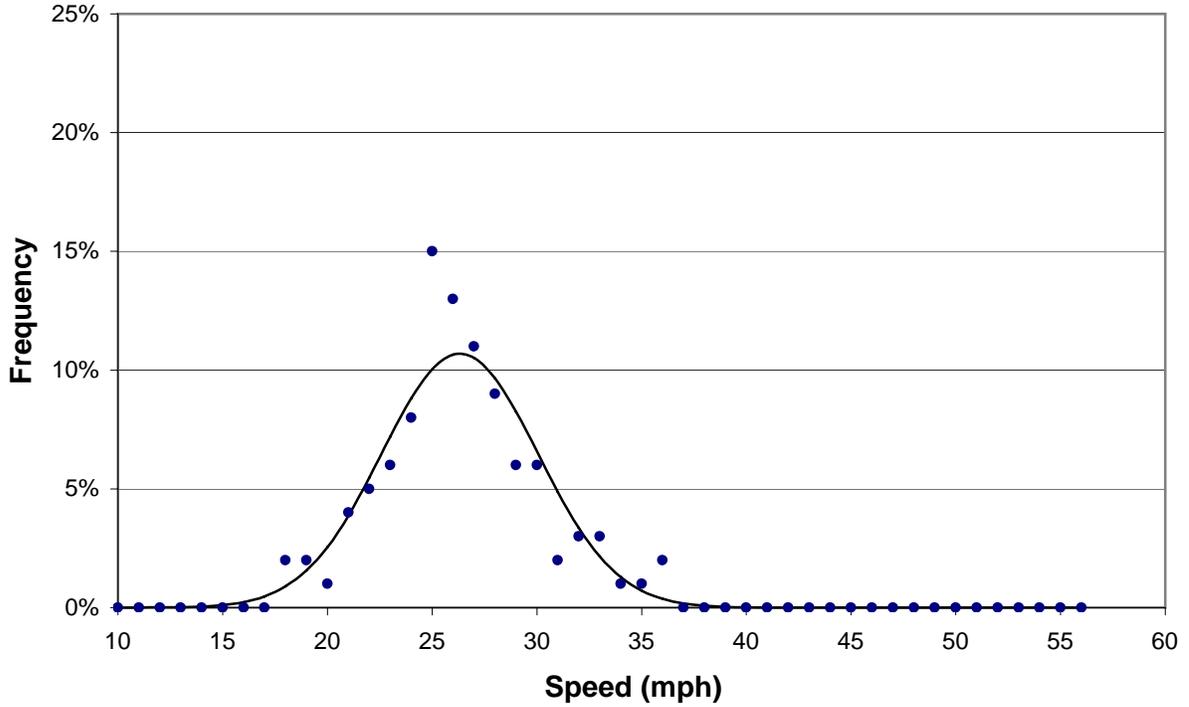
Date: **June 2, 2005**
Location: **Weeks Avenue between 173 Street & 174 Street**
Surveyor: **Richard Calvache & Hugo Salinas**

Time: **10am**

School: **P.S. 70**
Direction: **Northbound**
Comments:

Mean Speed = 26.3 mph
Standard Deviation = 3.7 mph
Margin of Error (95% Confidence) = ± 0.7 mph

Median Speed = 26.3 mph
15th Percentile Speed = 22.5 mph
85th Percentile Speed = 30.2 mph



GAP STUDY FIELD SHEET

Date: June 6, 2005

Location: E. 174 st & Weeks Ave

Gap Information:

Crossing Distance	<u>30</u> ft
Reaction Time	<u>3</u> sec
Walking Speed	<u>3</u> ft/sec
Minimum Acceptable Gap	<u>13</u> sec

Gap Survey:

Time:	From: <u>7:45 AM</u>	To: <u>8:15 AM</u>	
Gap (sec)	Tally	Total	
10		10	
11	DISCARDED GAPS LESS THAN 13 SEC		
12		1	
13		1 x 1 = 1	
14		2 x 1 = 2	
15		1 x 1 = 1	
16			
17		1 x 1 = 1	
18			
19			
20		2 x 1 = 2	
21		1 x 1 = 1	
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			
43		Total for 30 min = 8	
44		Total for 1 hour = 16	
45			

