

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



School Safety Engineering Project

FINAL REPORT: P.S. 73, Bronx



August 16, 2006

**School Safety Engineering Project
Final Report: P.S. 73, 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. 73 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



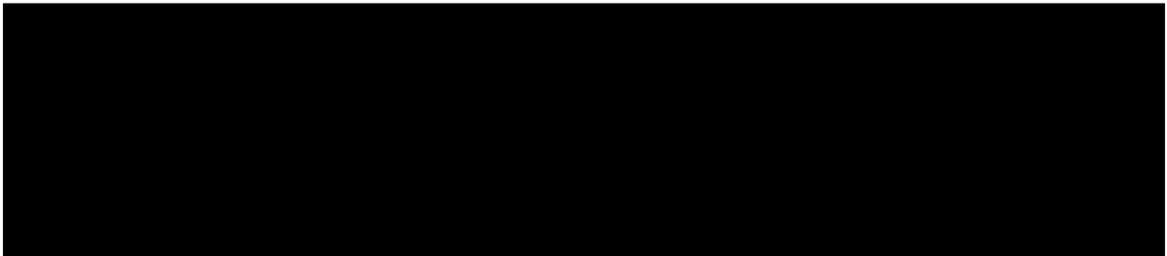
2.2 NEIGHBORHOOD DESCRIPTION

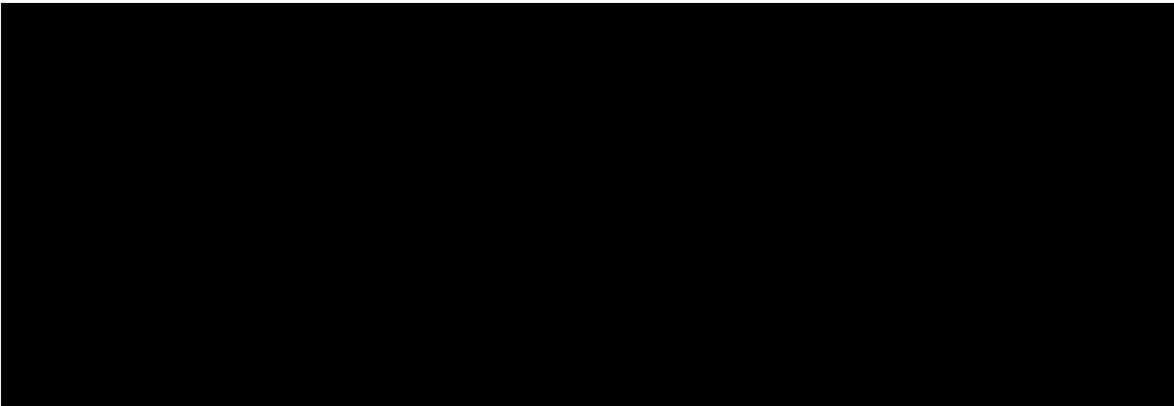
Exhibit 1 shows an aerial view of the neighborhood surrounding the school. P.S. 73 is bounded by Jerome Avenue to the east and south, Anderson Avenue to the west, and West 166th Street to the north. The neighborhood surrounding the school generally consists of high-density residential land uses. John Mullay Park is located east of the school, on the east side of Jerome Avenue.

2.3 MEETING WITH SCHOOL REPRESENTATIVES

Staff from the consultant team met at the school with the assistant principal, a school aide, the P.T.A. president and co-secretary, and the parent coordinator in the afternoon of June 16, 2004. According to these school representatives, P.S. 73 students face the following problems:

- Parking is usually a problem in the vicinity of the P.S. 73. The parking situation becomes much worse when there is a baseball game or other activity at Yankee Stadium. During these times, parking is not only at a premium, but vehicles are parked anywhere they can be left, even in such locations as at corners and across driveways.
- A traffic sign on Woodycrest Avenue at West 165th Street is too close to the intersection.
- A tree on Woodycrest Avenue is blocking the view of drivers on Woodycrest Avenue at West 164th Street.
- A pothole in the street at West 162nd Street and Woodycrest Avenue is a big problem. Drivers swerve to avoid it.





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. The catchment area generally runs from West 161st Street to the south, to West 167th Street to the north, and from Riverside Drive to the west, to Jerome Avenue to the east.

A more detailed description of the catchment area boundaries is as follows: The western boundary runs along the Riverside Drive between West 161st Street to West 165th Street; the northern boundary runs from the Riverside Drive along West 165th Street to Dr. Martin Luther King Jr. Boulevard, then continues along West 165th Street halfway between Summit Avenue and Ogden Avenue, then north midway between these two streets to south of West 166th Street, then easterly to Ogden Avenue, then northerly along Ogden Avenue to West 166th Street, then easterly along West 166th Street to Nelson Avenue, then northerly along Nelson Avenue to West 166th Street to West 167th Street, then easterly along West 167th Street to Shakespeare Avenue; then the easterly border runs southerly along Shakespeare Avenue to Jerome Avenue, then continues along Jerome Avenue to approximately Woodycrest Avenue, then the southerly border runs across Woodycrest Avenue and Ogden Avenue to the intersection of West 161st Street and Summit Avenue, then continues across the Major Deegan Expressway and FDR Drive to continue along West 161st Street back to Riverside Drive.

Table 1 presents the modes of travel for P.S. 73 as identified by school representatives.

TABLE 1: MODES OF TRAVEL (AS ESTIMATED BY SCHOOL OFFICIALS)	STUDENTS (Percentage)
Walk	85%
Driven by car	10%
School bus	3%
MTA Bus / Subway	2%
Bicycle	0%
TOTAL	100%



Figure 1: Students boarding a bus in front of P.S. 73 on Anderson Avenue

2.7 ADDITIONAL STUDENT PEDESTRIAN TRAFFIC GENERATORS

West 165th Street and Anderson Avenue has as a grocery/deli on the southwest corner that attracts student pedestrians from P.S. 73 (see Figure 2). There are also other commercial uses along West 165th Street, and at its intersection with Woodycrest Avenue. In addition, John Murray Park, located within walking distance east of the school is an attraction for students from P.S. 73.



Figure 2: Looking west across Anderson Avenue at deli on corner of West 165th Street

2.8 CROSSING GUARD LOCATION

There are two crossing guards assigned to P.S. 73. According to the school representatives, the crossing guards are assigned to the following intersections:

- West 165th Street and Anderson Avenue (see Figure 3).
- West 164th Street and Anderson Avenue (see Figure 4).

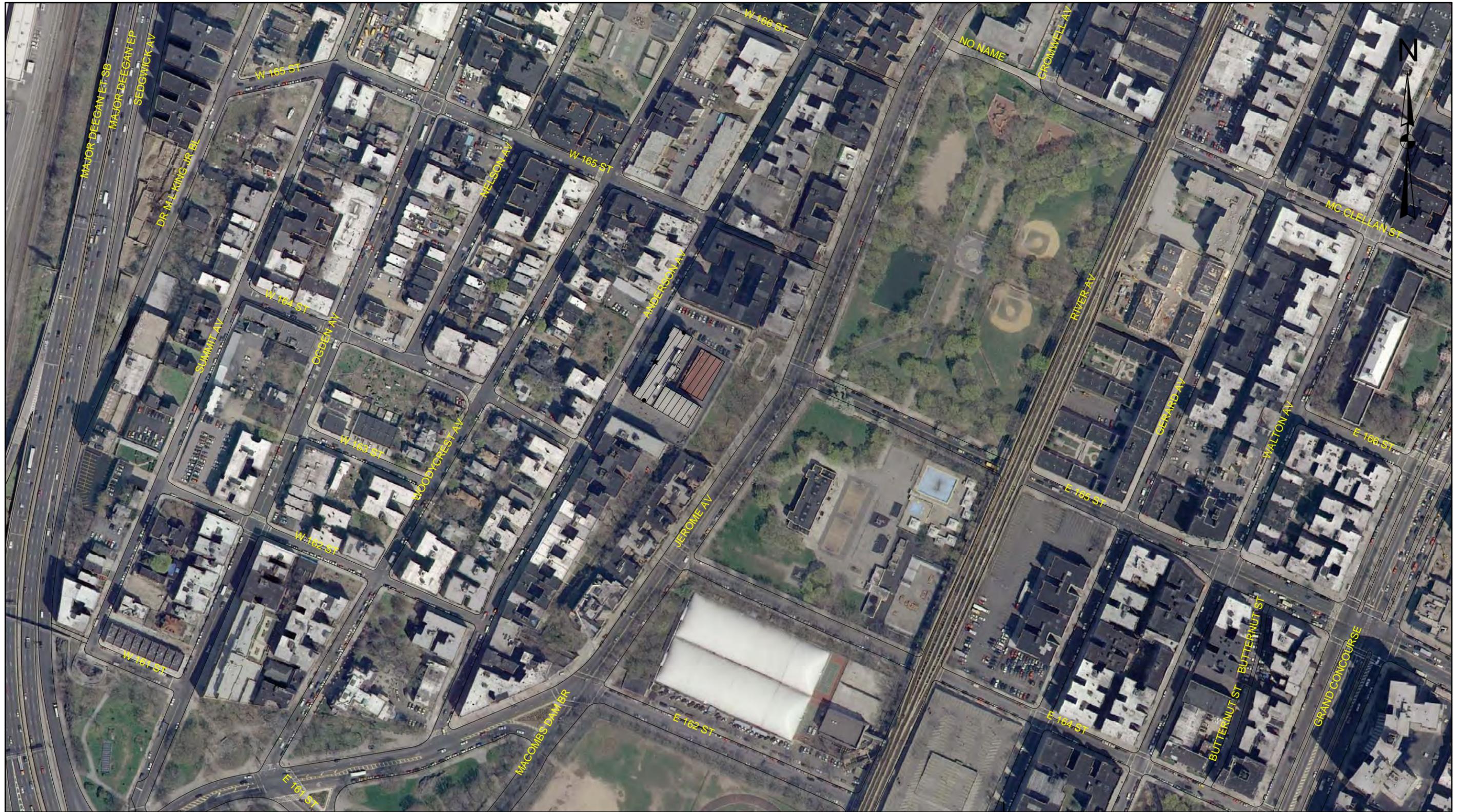
The crossing guard locations are shown in Exhibit 4 at the end of this section.



Figure 3: Looking south at crossing guard on duty at Anderson Avenue and West 165th Street



Figure 4: Looking north at crossing guard on duty on Anderson Avenue at West 164th Street



MAJOR DEEGAN ET SB
MAJOR DEEGAN EP
SEDGWICK AV

DR M L KING JR BL

SUMMIT AV

W 165 ST

W 164 ST

OGDEN AV

W 163 ST

WOOLCREST AV

W 162 ST

MACOMBS DAM BR

E 161 ST

NELSON AV

W 165 ST

ANDERSON AV

JEROME AV

E 162 ST

W 166 ST

NO NAME

FROMWELL AV

RIVER AV

E 165 ST

GERARD AV

WALTON AV

MC CLELLAN ST

E 166 ST

BUTTERNUT ST
BUTTERNUT ST

GRAND CONCOURSE

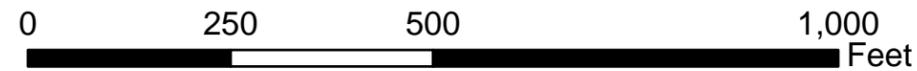
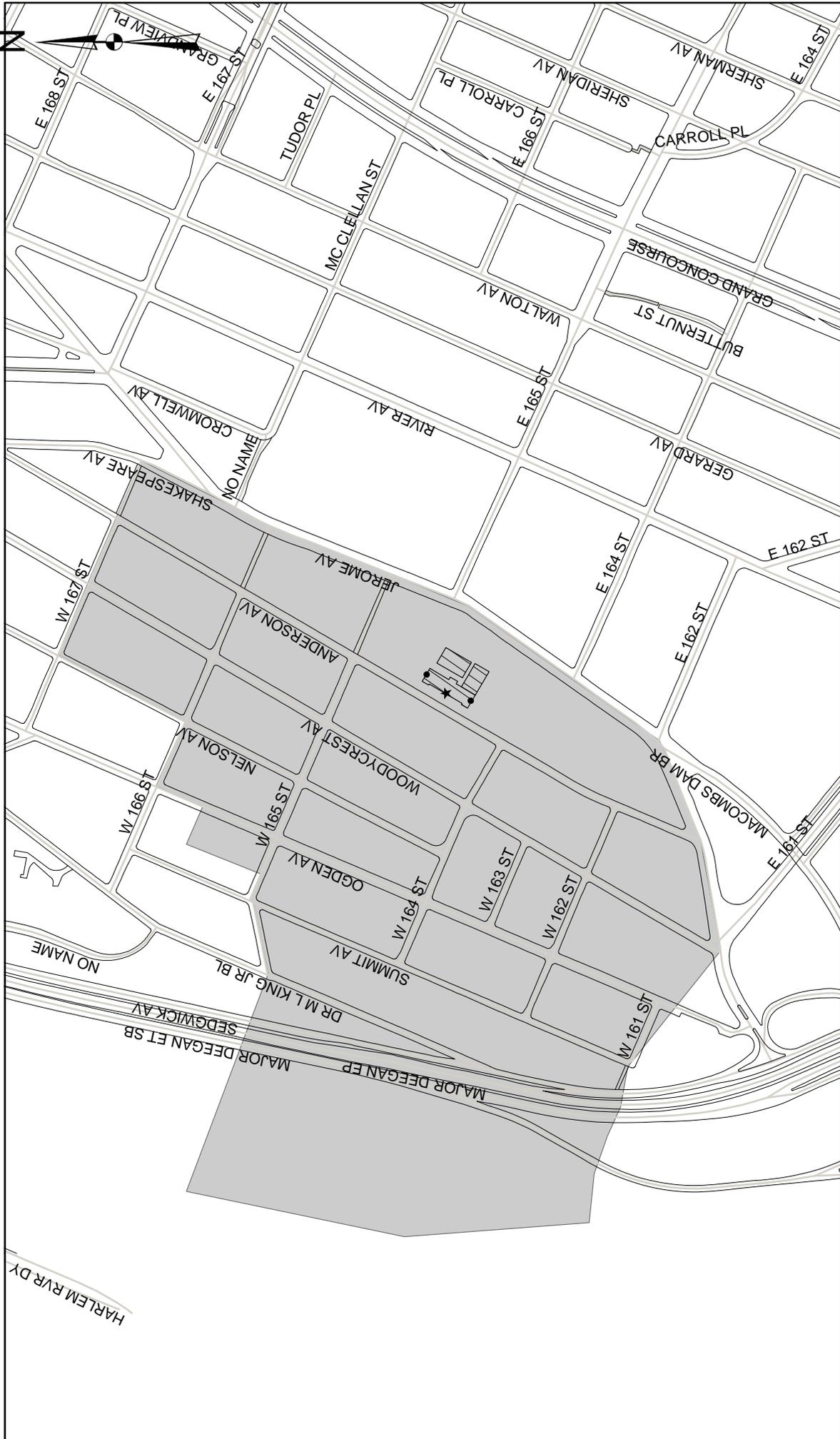


EXHIBIT 1

P.S. 73 BRONX

AERIAL PHOTOGRAPH



LEGEND:

CATCHMENT AREA, (DEPARTMENT OF EDUCATION DESIGNATED AREA FROM WITHIN WHICH STUDENTS ARE ENTITLED TO ATTEND P.S. 73)



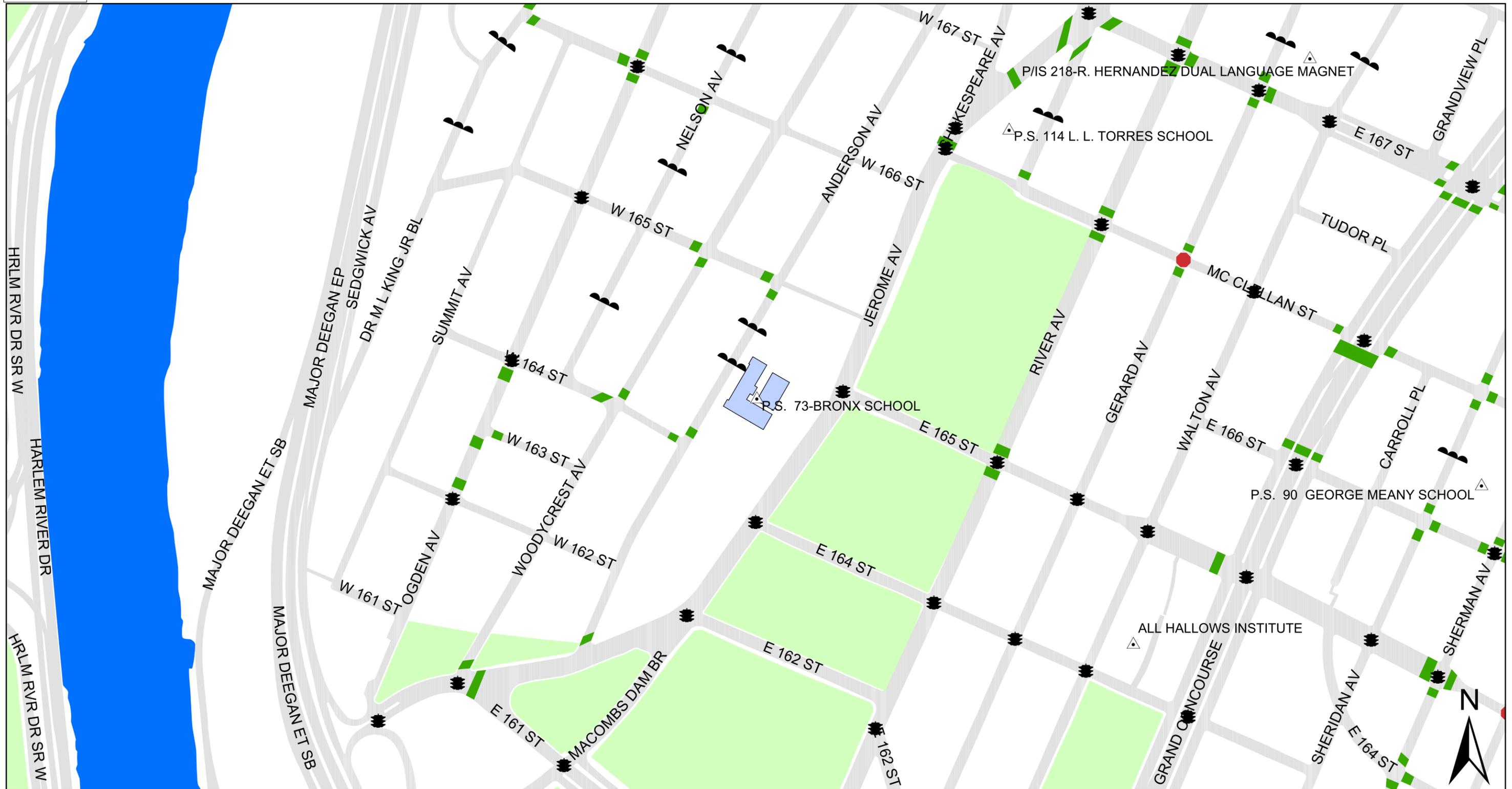
EXHIBIT 2

P.S. 73 BRONX

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 73 Bronx

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

EXHIBIT 3

Map created on 11/16/2006

COMM. BOARD: 204
 PRECINCT: 44

1.5.1 11

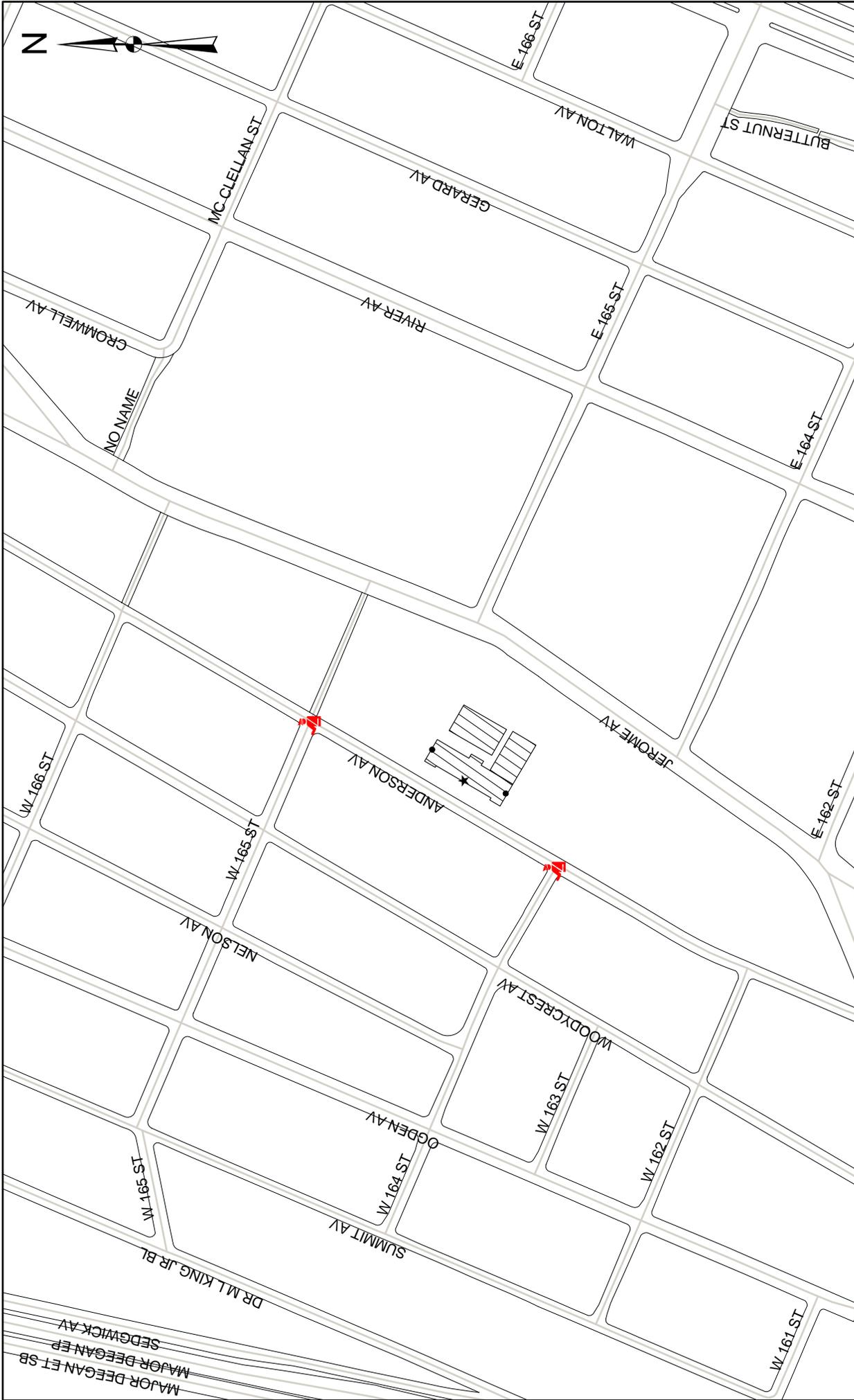


EXHIBIT 4

P.S. 73 BRONX

CROSSING GUARDS LOCATION

LEGEND:



CROSSING GUARD LOCATION



3. TRAFFIC OPERATIONS

3.1 SCHOOL BUS OPERATIONS

According to school representatives, there are approximately 20 students who ride an MTA bus to school, and approximately 30 who ride a yellow school bus to school. Bus transportation for the students consists of nine yellow buses. The yellow buses stop near the front entrance of the school, which occasionally results in double-parking.

3.2 PARENT DROP-OFF OPERATIONS

According to school representatives, ten percent of the students are being dropped off. Parents will often double-park while dropping off or picking up students at the school. There is also occasional double-parking and some congestion when the buses are dropping off or picking up students.

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. 73. 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 7.)

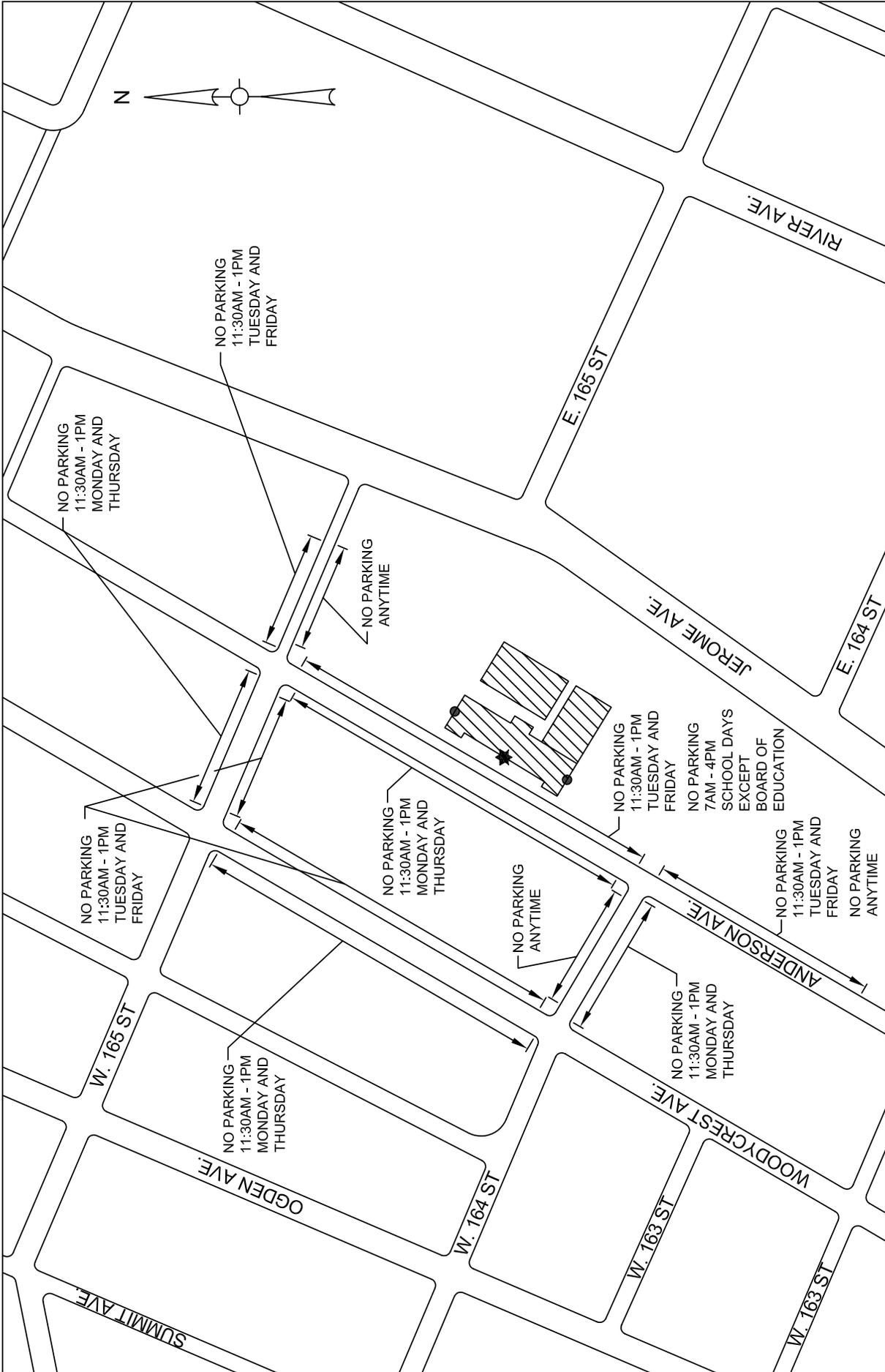


EXHIBIT 5
P.S. 73 BRONX
EXISTING PARKING REGULATIONS

LEGEND:

- ★ MAIN ENTRANCE
- ENTRANCE

1 2 3 FEET

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 73 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.

INTERSECTION	TOTAL ACCIDENTS	PEDESTRIAN ACCIDENTS	PEDESTRIAN FATALITIES	SCHOOL-RELATED ACCIDENTS*
West 165 th St and Nelson Ave	5	0	0	0
West 165 th St and Woodycrest Ave	9	2	0	0
West 165 th St and Anderson Ave	6	1	0	1
East 165 th St and Jerome Ave	26	1	0	0
Anderson Ave and Jerome Ave	2	0	0	0
Woodycrest Ave and Jerome Ave	3	0	0	0
West 162 nd St and Anderson Ave	6	1	0	0
West 164 th St and Anderson Ave	5	2	0	0
West 164 th St and Woodycrest Ave	9	0	0	0
TOTAL	71	7	0	1

INTERSECTION	TOTAL ACCIDENTS	PEDESTRIAN ACCIDENTS	PEDESTRIAN FATALITIES	SCHOOL-RELATED ACCIDENTS*
West 165 th St and Nelson Ave	13	3	0	1
West 165 th St and Woodycrest Ave	14	0	0	0
West 165 th St and Anderson Ave	14	2	1	1
East 165 th St and Jerome Ave	65	6	0	2
Anderson Ave and Jerome Ave	0	0	0	0
Woodycrest Ave and Jerome Ave	0	0	0	0
West 162 nd St and Anderson Ave	16	5	0	2
West 164 th St and Anderson Ave	15	1	0	0
West 164 th St and Woodycrest Ave	6	1	0	0
TOTAL	143	18	1	6

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

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

3.6.1 West 165th Street and Anderson Avenue

This is an unsignalized intersection with school crosswalks located across the west and south legs. West 165th Street is a two-way street with one traffic lane and a parking lane on each side of the roadway. Anderson Avenue is a one-way southbound street with one traffic lane and parking on both sides of the roadway (see Figure 5).

This intersection was the site of six accidents between 1998 and 2000, including one pedestrian accident, which was also school-related (Table 2). In the school-related accident, a five-year-old pedestrian sustained a "possible injury" while emerging from behind a parked vehicle at the intersection on October 23, 1998 at 3:00 pm. The road was dry and the weather was clear. There was also one mid-block school-related pedestrian accident reported on West 165th Street, between Anderson Avenue and Woodycrest Avenue. In this accident, a 14-year-old pedestrian sustained a "possible injury" while emerging from behind a parked vehicle at the intersection on Tuesday, November 3, 1998 at approximately 6:00 pm. The roadway surface was dry and the weather was clear. The lighting condition was reported as dark with the road lighted.



Figure 5: Looking east on West 165th Street at Anderson Avenue.

3.6.2 West 165th Street and Woodycrest Avenue

This is an unsignalized intersection with school crosswalks located across the west and south legs. West 165th Street is a two-way street with one traffic lane and a parking lane on each side of the roadway. Woodycrest Avenue is a one-way northbound street with one traffic lane and parking on both sides of the roadway (see Figure 7).

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



Figure 6: Looking west on West 165th Street across Woodycrest Avenue

3.6.3 West 165th Street and Nelson Avenue

This is an unsignalized intersection with a pedestrian crosswalk located across the north leg. West 165th Street is a two-way street with one traffic lane and a parking lane on each side of the roadway. Nelson Avenue is a one-way southbound street with one traffic lane and parking on both sides of the roadway (see Figure 7).

This intersection was the site of five accidents between 1998 and 2000, but no pedestrian accidents (Table 2). There were no pedestrian fatalities were reported during this time period.

3.6.4 West 164th Street and Anderson Avenue

This is an unsignalized intersection with school crosswalks located across the west and north legs. West 164th Street is a two-way street with one traffic lane and a parking lane on each side of the roadway. Anderson Avenue is a one-way southbound street with one traffic lane and parking on both sides of the roadway.

The school representatives reported that a former speeding problem has been alleviated by the installation of two speed reducers (humps) on Anderson Avenue in the vicinity of the school, between West 165th Street and West 164th Street.

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

3.6.5 West 164th Street and Woodycrest Avenue

This is an unsignalized intersection with school crosswalks located across the west and north legs. West 164th Street is a two-way street with one traffic lane and a parking lane on each side of the roadway. Woodycrest Avenue is a one-way northbound street with one traffic lane and parking on both sides of the roadway. The school representatives report that a tree on Woodycrest is blocking the view of drivers on Woodycrest Avenue at West 164th Street (see Figure 6).

There were nine accidents reported at this intersection between 1998 and 2000, but no pedestrian accidents (Table 2). There were no pedestrian fatalities reported at this intersection during this time period.



Figure 7: Looking west on West 164th Street at Woodycrest Avenue

3.6.6 Jerome Avenue and Anderson Avenue

This is a three-way, T-type unsignalized intersection with a school crosswalk located across the north leg. Jerome Avenue is a two-way street with two traffic lanes and a parking lane on each side of the roadway. There is also a painted striped median on Jerome Avenue in the vicinity of the school, with eastbound and westbound left-turn lanes provided at the intersection with East 161st Street and Woodycrest Avenue. Anderson Avenue is a one-way southbound street with one traffic lane and parking on both sides of the roadway. Anderson Avenue is stop-controlled at its intersection with Jerome Avenue.

There were two accidents reported at this intersection between 1998 and 2000, but neither of these was a pedestrian accident (Table 2).

3.6.7 Jerome Avenue and Woodycrest Avenue

This is a four-way, signalized intersection with school crosswalks located across the north, south, and east legs, and a pedestrian crosswalk located across the west leg. Jerome Avenue is a two-way street with two traffic lanes and a parking lane on each side of the roadway. A painted median also exists on Jerome Avenue in the vicinity of the school, with eastbound and westbound exclusive left-turn lanes provided at the intersection with East 161st Street/Woodycrest Avenue. Woodycrest Avenue is a one-way northbound street with one traffic lane and parking on both sides of the roadway.

There were three accidents reported at this intersection between 1998 and 2000, but none of these was a pedestrian accident (Table 2).

3.6.8 East 165th Street and Jerome Avenue

This is a three-way, T-type signalized intersection with pedestrian crosswalks located across the north, south, and east legs. East 165th Street is a two-way street with one traffic lane and a parking lane on each side of the roadway. Jerome Avenue is a two-way street with two traffic lanes and a parking lane on both sides of the roadway.

There were 26 accidents reported at this intersection between 1998 and 2000, including one pedestrian accident that was not school-related (Table 2). There was also one mid-block fatal pedestrian accident (not school-related) that occurred on Jerome Avenue between West 164th Street and West 165th Street. In this accident, a pedestrian of an undetermined age was killed on Sunday, August 29, 1999 at approximately 10:00 pm while emerging from behind a parked vehicle. The road surface was dry and the weather was clear. The lighting condition was reported as dark with the road lighted.

3.6.9 West 162nd Street and Anderson Avenue

This is a three-way, T-type unsignalized intersection with no pedestrian or school crosswalks. Anderson Avenue is a one-way southbound street with one traffic lane and on-street parking on both sides of the roadway. West 162nd Street is a one-way eastbound street with one traffic lane and on-street parking on the south side of the roadway. West 162nd Street is stop-controlled at its intersection with Anderson Avenue.

There were six accidents reported at this intersection between 1998 and 2000, one of which was a pedestrian accident, but was not school-related (Table 2). There were no pedestrian fatalities reported at this intersection during this time period.

3.7 SIGNAL TIMING: PEDESTRIAN PHASE

Pedestrian crossing times were field-verified for crosswalks at signalized intersections in the vicinity of P.S. 73, and were found to be adequate based upon a child pedestrian walking at a rate of 3 feet per second. Signal timings are shown in Table 4.

TABLE 4: PEDESTRIAN CROSSING TIMES AT SIGNALIZED INTERSECTIONS				
INTERSECTION	CROSSWALK LENGTH (FEET)	PEDESTRIAN TIME ACTUAL (SECONDS)	PEDESTRIAN TIME REQUIRED (SECONDS)	TIMING ADJUSTMENT REQUIRED?
Jerome Avenue and East 161st Street/ Woodycrest Avenue				
crossing Jerome Avenue	60	47	23	No
crossing East 161 st Street	75	39	28	No
Jerome Avenue and East 165th Street				
crossing Jerome Avenue	60	34	23	No
crossing East 165 th Street	40	52	16	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

The roadways in the vicinity of P.S. 73 are generally in good condition. Sidewalks on the school block face are 10 to 12 feet wide and are in fair condition.

3.8.2 Pedestrian Ramps

Overall, pedestrian ramps in the area of the school are standard, except for two locations. Pedestrian ramps are missing on the east side of Anderson Avenue, at the intersections of both West 164th Street and West 165th Street.

4. PROPOSED MEASURES TO IMPROVE SCHOOL PEDESTRIAN SAFETY

This section describes the proposed measures to improve school pedestrian safety around P.S. 73. 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. 73 is discussed as follows, and is shown in more detail in Exhibit 7 at the end of this section.

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.)

- Designate pedestrian crosswalks

Field observations also revealed pedestrians crossing at intersections where no crosswalks exist.

- It is therefore recommended that pedestrian crosswalks be designated at the following intersections:
 - The south leg of the West 165th Street and Nelson Avenue intersection.
 - The north leg of the West 165th Street and Woodycrest Avenue intersection.
 - The east leg of the West 164th Street and Woodycrest Avenue intersection.

- Place advanced stop bar before school crosswalk

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 at all intersections.

- Tree Pruning

A tree on the east side of Woodycrest Avenue is blocking sight lines for drivers on the northbound approach to the Woodycrest Avenue and West 164th Street intersection.

- It is therefore recommended to consider extensive pruning the tree located on the east side of Woodycrest Avenue, south of West 164th Street.

- Administer student pedestrian safety education program

There were pedestrian fatalities reported at the intersections of West 165th Street and Anderson Avenue and East 165th Street and Jerome Avenue. It is therefore recommended that:

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

4.2 LONG-TERM MEASURES

- Install Pedestrian Ramps

The pedestrian ramps are missing on the east side of Anderson Avenue (the school side) at the intersections of West 165th Street and West 164th Street.

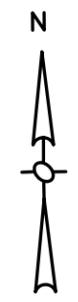
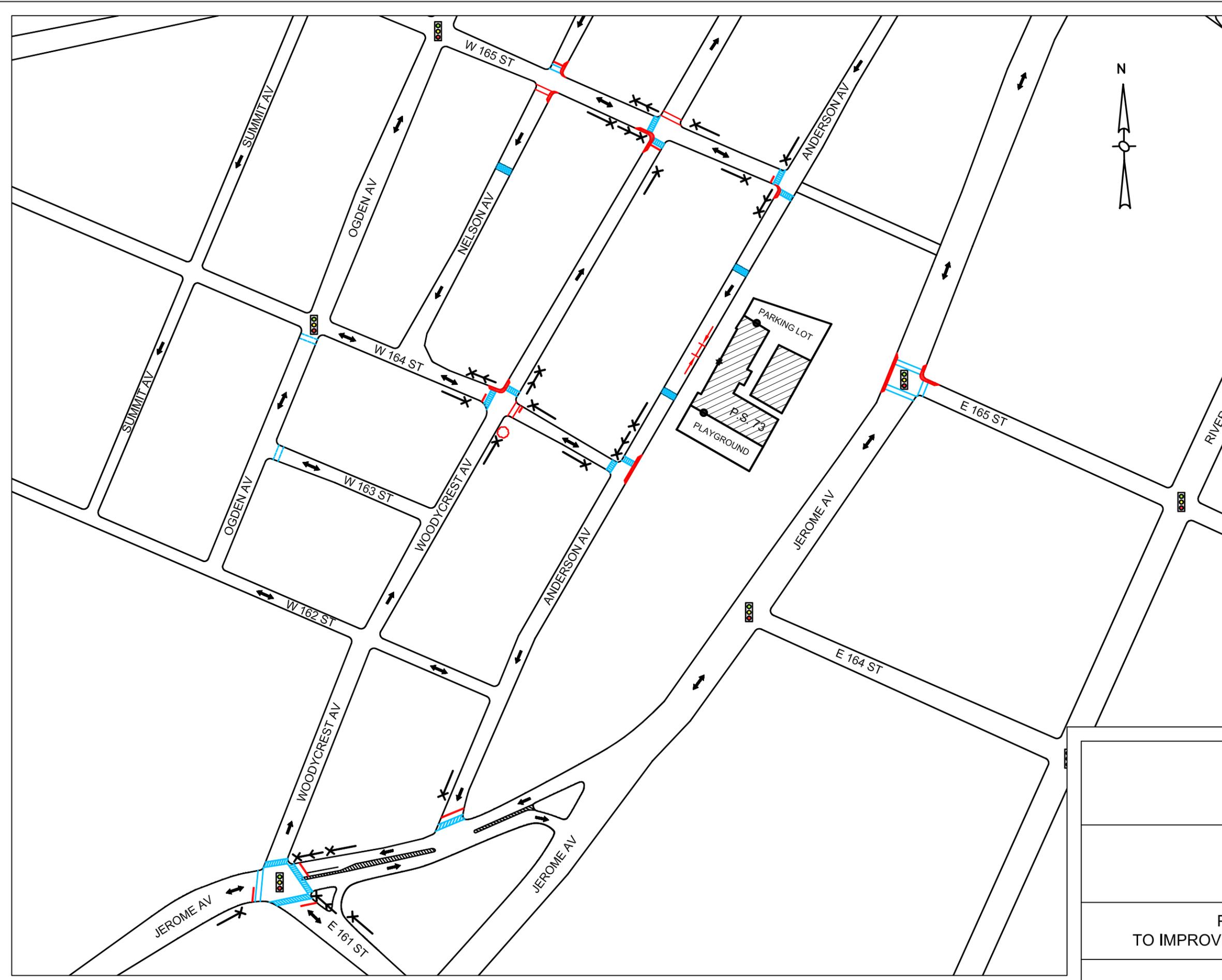
- It is therefore recommended to install pedestrian ramps on the east side of Anderson Avenue at the intersections of both West 164th Street and West 165th Street for the existing school crosswalks across Anderson Avenue.

- Install curb extensions at the following intersections

- The east curb of the West 164th Street and Anderson Avenue intersection.
- The northeast and southeast corners of the West 165th Street and Nelson Avenue intersection.
- The southwest corner of the West 165th Street and Woodycrest Avenue intersection.
- The east west of Anderson Avenue, south of West 165th Street, for the pedestrian crosswalk located across the south leg of the intersection.
- The northwest corner of the West 164th Street and Woodycrest Avenue intersection.

- The northeast corner of the East 165th Street and Jerome Avenue intersection, and also along the west side of Jerome Avenue between the pedestrian crosswalks across the north and south legs.
- On Anderson Avenue at it's intersection with West 164th Street.

Curb extensions (neckdowns) should be installed at the locations shown in Exhibit 7. The purpose of a curb extension 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. A curb extension 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.



- 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 SCHOOL CROSSWALK ASSOCIATED WITH ANOTHER SCHOOL
 -  EXISTING SPEED REDUCER
 -  PROPOSED ADVANCE WARNING SIGN
 -  PROPOSED SCHOOL CROSSWALK WARNING ASSEMBLY
 -  PROPOSED STOP LINE IN ADVANCE OF SCHOOL CROSSWALK
 -  PROPOSED PEDESTRIAN CROSSWALK
 -  TREE TO BE PRUNED OR REMOVED
 -  PROPOSED "NO STANDING 7:00AM - 4:00PM SCHOOL DAYS"
 -  PROPOSED CURB EXTENSION (NECKDOWN)

1" = 200'

EXHIBIT 7
P.S. 73 BRONX
POTENTIAL MEASURES TO IMPROVE STUDENT PEDESTRIAN SAFETY

APPENDIX

