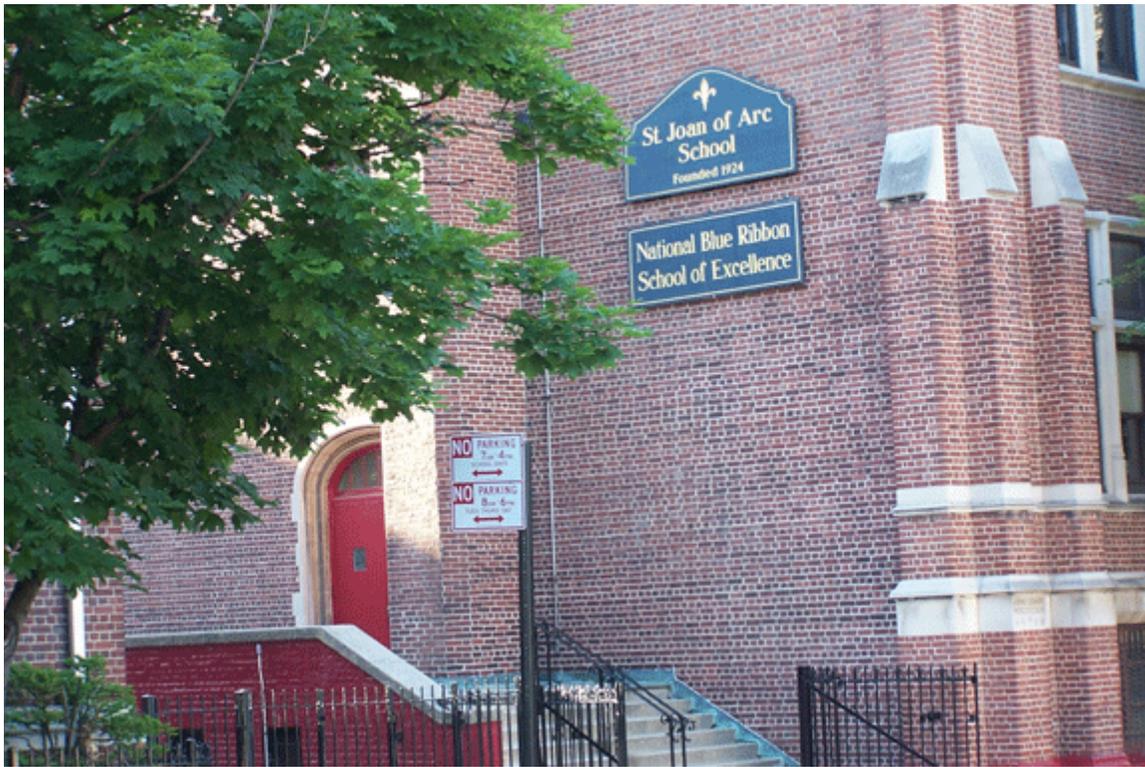


**New York City Department of Transportation  
Office of School Safety Engineering**



**School Safety Engineering Project**

**FINAL REPORT: St. Joan of Arc, Queens**



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



**August 16, 2006**

**School Safety Engineering Project  
Final Report: Saint Joan of Arc, Queens**

**TABLE OF CONTENTS**

**1. INTRODUCTION ..... 3**

    1.1 PROJECT DESCRIPTION ..... 3

**2. BACKGROUND—EXISTING CONDITIONS AND ANALYSIS..... 4**

    2.2 NEIGHBORHOOD DESCRIPTION ..... 4

    2.3 MEETING WITH SCHOOL REPRESENTATIVES ..... 4

    2.6 PRIMARY MODES OF TRANSPORT TO AND FROM SCHOOL ..... 6

    2.7 ADDITIONAL STUDENT PEDESTRIAN TRAFFIC GENERATORS ..... 7

    2.8 CROSSING GUARD LOCATION ..... 7

**3. TRAFFIC OPERATIONS ..... 11**

    3.1 SCHOOL BUS OPERATIONS ..... 11

    3.2 PARENT DROP-OFF OPERATIONS ..... 11

    3.3 PARKING REGULATIONS ..... 11

    3.4 EXISTING SCHOOL SIGNS AND MARKINGS ..... 11

    3.5 ACCIDENT SUMMARY ..... 13

    3.6 TRAFFIC OPERATIONS AND ISSUES..... 15

        3.6.1 35<sup>th</sup> Avenue and 80<sup>th</sup> Street ..... 16

        3.6.2 35<sup>th</sup> Avenue and 81<sup>st</sup> Street..... 16

        3.6.3 35<sup>th</sup> Avenue and 82<sup>nd</sup> Street ..... 16

        3.6.4 35<sup>th</sup> Avenue and 83<sup>rd</sup> Street ..... 18

        3.6.5 35<sup>th</sup> Avenue and 84<sup>th</sup> Street ..... 18

        3.6.6 37<sup>th</sup> Avenue and 81<sup>nd</sup> Street..... 18

        3.6.7 37<sup>th</sup> Avenue and 82<sup>nd</sup> Street..... 19

        3.6.8 37<sup>th</sup> Avenue and 83<sup>rd</sup> Street ..... 20

    3.7 SIGNAL TIMING ..... 21

    3.8 PHYSICAL CONDITIONS ..... 22

3.8.1 Roadways and Sidewalks ..... 22

3.8.2 Pedestrian Ramps ..... 22

**4. POTENTIAL MEASURES TO IMPROVE STUDENT PEDESTRIAN SAFETY ..... 23**

4.1 SHORT-TERM MEASURES ..... 23

4.2 LONG-TERM MEASURES ..... 24

**LIST OF EXHIBITS**

EXHIBIT 1 - AERIAL PHOTOGRAPH ..... 8

EXHIBIT 2 - SCHOOL TRAFFIC SAFETY MAP ..... 9

EXHIBIT 3 - CROSSING GUARD LOCATIONS ..... 10

EXHIBIT 4 - EXISTING PARKING REGULATIONS ..... 12

EXHIBIT 5 - ACCIDENT SUMMARY ..... 15

EXHIBIT 6 - POTENTIAL MEASURES TO IMPROVE STUDENT PEDESTRIAN SAFETY ..... 26

**LIST OF TABLES**

TABLE 1: MODES OF TRAVEL ..... 6

TABLE 2: ACCIDENT SUMMARY OF NYS DMV DATA (1998-2000) ..... 13

TABLE 3: ACCIDENT SUMMARY OF NYPD DATA (2001-2004) ..... 14

TABLE 4: PEDESTRIAN CROSSING TIMES AT SIGNALIZED INTERSECTIONS ..... 21

**APPENDIX**



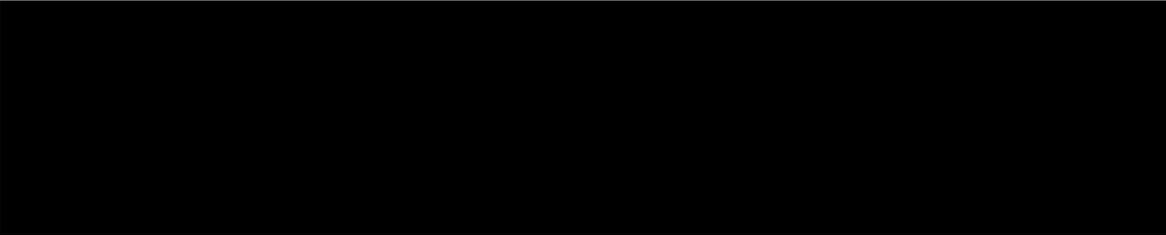
## **1. INTRODUCTION**

### **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). Saint Joan of Arc 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 shows an aerial view of the neighborhood surrounding Saint Joan of Arc, which is generally a combination of residential and commercial. Saint Joan of Arc is situated on the east side of 82<sup>nd</sup> Street, between 35<sup>th</sup> Avenue to the north and 37<sup>th</sup> Avenue to the south, and also fronts on the west side of 83<sup>rd</sup> Street. Northern Boulevard is located two blocks north of the school, and Roosevelt Avenue is located a block and a half to the south.

### **2.3 MEETING WITH SCHOOL REPRESENTATIVES**

Consultant staff met with school representatives in the morning of Friday, June 4, 2004. The following problems facing Saint Joan of Arc student pedestrians and staff were discussed:

- Garbage collection on Fridays overlaps with the morning arrival time, causing traffic congestion around the school.
- School representatives requested that a bus stop (Q32 and Q33) located on the far side of 82<sup>nd</sup> Street at its intersection with 35<sup>th</sup> Avenue be relocated. Stopped buses block traffic flow on 35<sup>th</sup> Avenue in front of the school (see Figure 1).
- School representatives requested additional staff parking.



*Figure 1: Looking southwest across 82<sup>nd</sup> Street at buses at the far-side stop backed-up into the intersection with 35<sup>th</sup> Avenue*

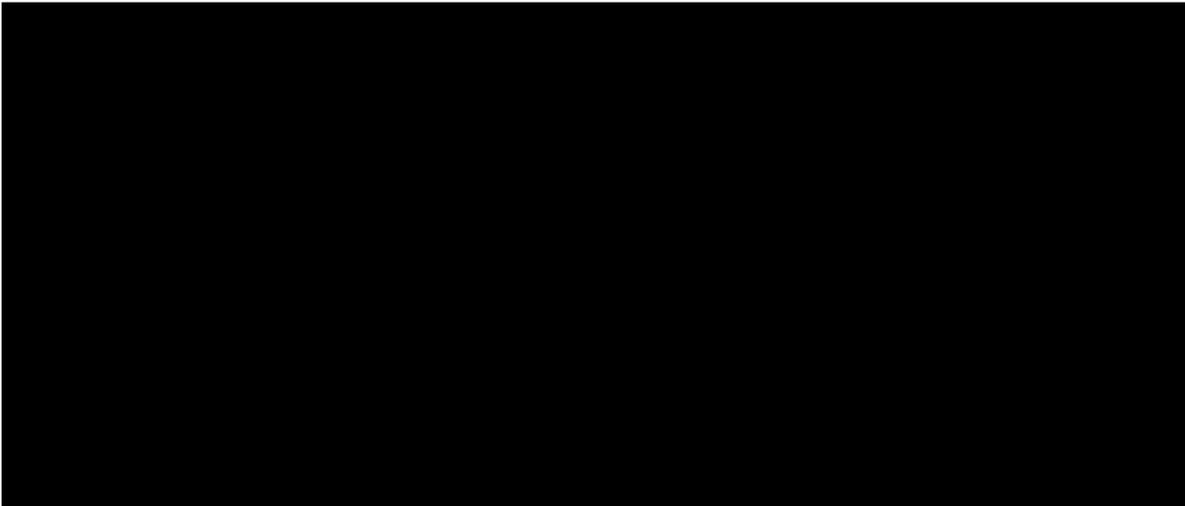




Figure 2: Looking east across 82<sup>nd</sup> Street at Saint Joan of Arc school entrance at dismissal time

## 2.6 PRIMARY MODES OF TRANSPORT TO AND FROM SCHOOL

The school’s catchment area is typically defined by the Department of Education and normally shown in an Exhibit at the end of this section. Since Saint Joan of Arc is a private parochial school, the actual “catchment area” is dependent upon a variety of factors, determined by the school administrators. The school principal reports approximately 70 percent of the students at Saint Joan of Arc reside within walking distance of the school

Table 1 presents the modes of travel for Saint Joan of Arc as estimated by school representatives.

<b>TABLE 1: MODES OF TRAVEL (AS ESTIMATES BY SCHOOL OFFICIALS)</b>	<b>STUDENTS (Percentage)</b>
Walk	50%
Driven by Car	20%
School Bus	20%
MTA Bus	10%
MTA Subway	0%
Bicycle	0%
<b>TOTAL</b>	<b>100%</b>

## 2.7 ADDITIONAL STUDENT PEDESTRIAN TRAFFIC GENERATORS

The Jackson Heights branch of the Queens Public Library (see Figure 3) and the Renaissance Charter School are both located on 81<sup>st</sup> Street, one block to the west of Saint Joan of Arc. P.S. 212 is located one block to the north, also on 82<sup>nd</sup> Street, as is the Hebrew Academy of West Queens. All of these schools generate vehicular and pedestrian traffic in the vicinity of Saint Joan of Arc. There are also many commercial activities along 37<sup>th</sup> Avenue that attract pedestrian and vehicular traffic, including students from Saint Joan of Arc.



*Figure 3: Looking northeast at Jackson Heights Branch of Queens Public Library on east side of 81<sup>st</sup> Street*

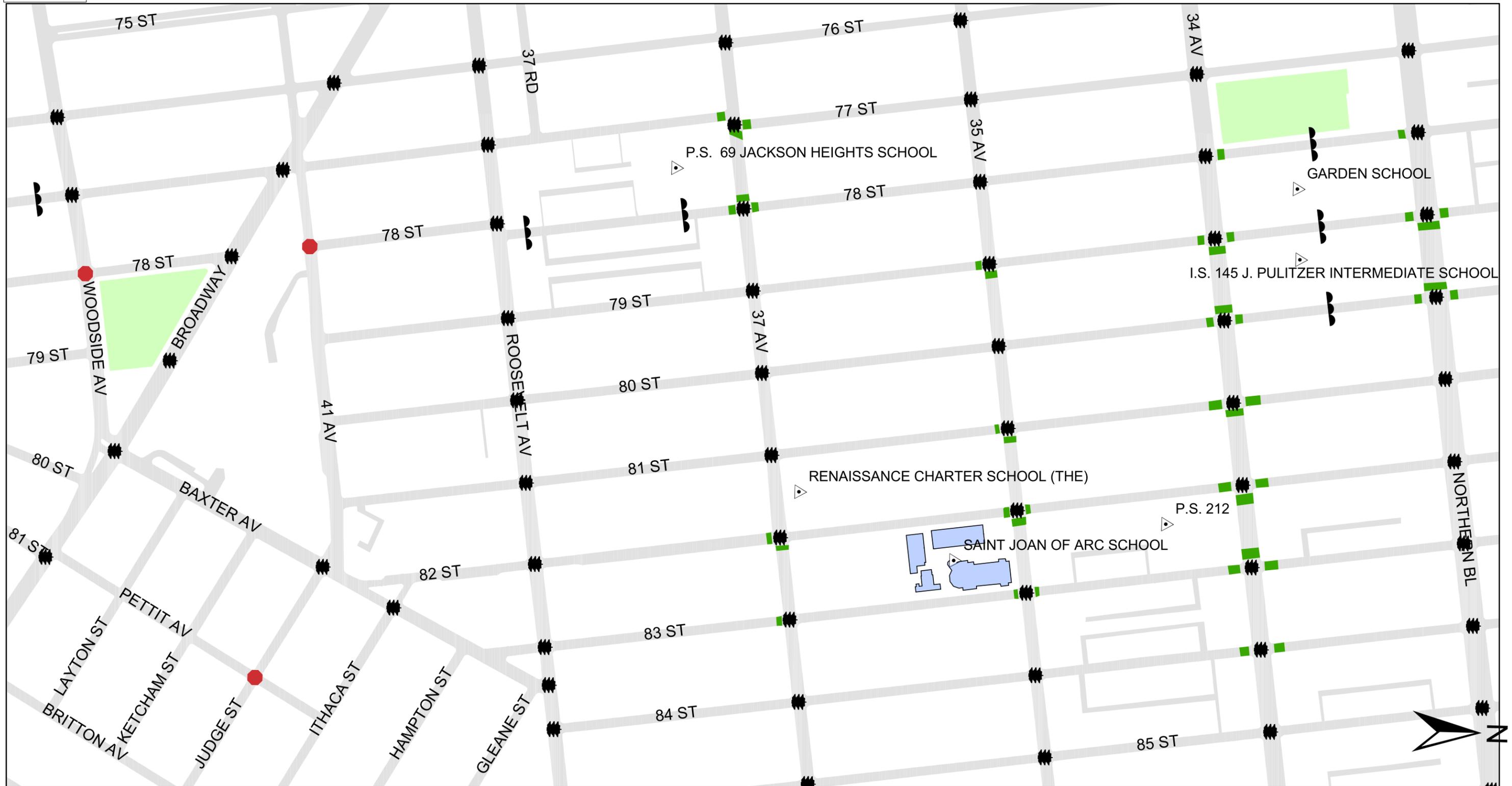
## 2.8 CROSSING GUARD LOCATIONS

School representatives reported that a school crossing guard is assigned to the intersection of 35<sup>th</sup> Avenue and 82<sup>nd</sup> Street. The crossing guard location is shown in Exhibit 3.





# School Traffic Safety Map



0 237.5 475 950 Feet

The School Traffic Safety Map was established to help provide the maximum degree of safety for children going to and from school - by indicating the location of speed reducers, school crosswalks and some traffic control devices. (While virtually all intersections in NYC benefit from traffic control devices - such as stop signs, traffic signals, yield signs, and all way stop signs - this map shows only traffic signals and all way stop signs.) The school crosswalks that are shown are ladder striped and make the crosswalk more visible to drivers and help make the intersection safer. These crosswalks are where school children are recommended to cross.

Note: Every attempt has been made to provide complete and accurate information that is updated regularly. The City's streets are constantly changing and it is not always possible to present information without error.

**LEGEND:**

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

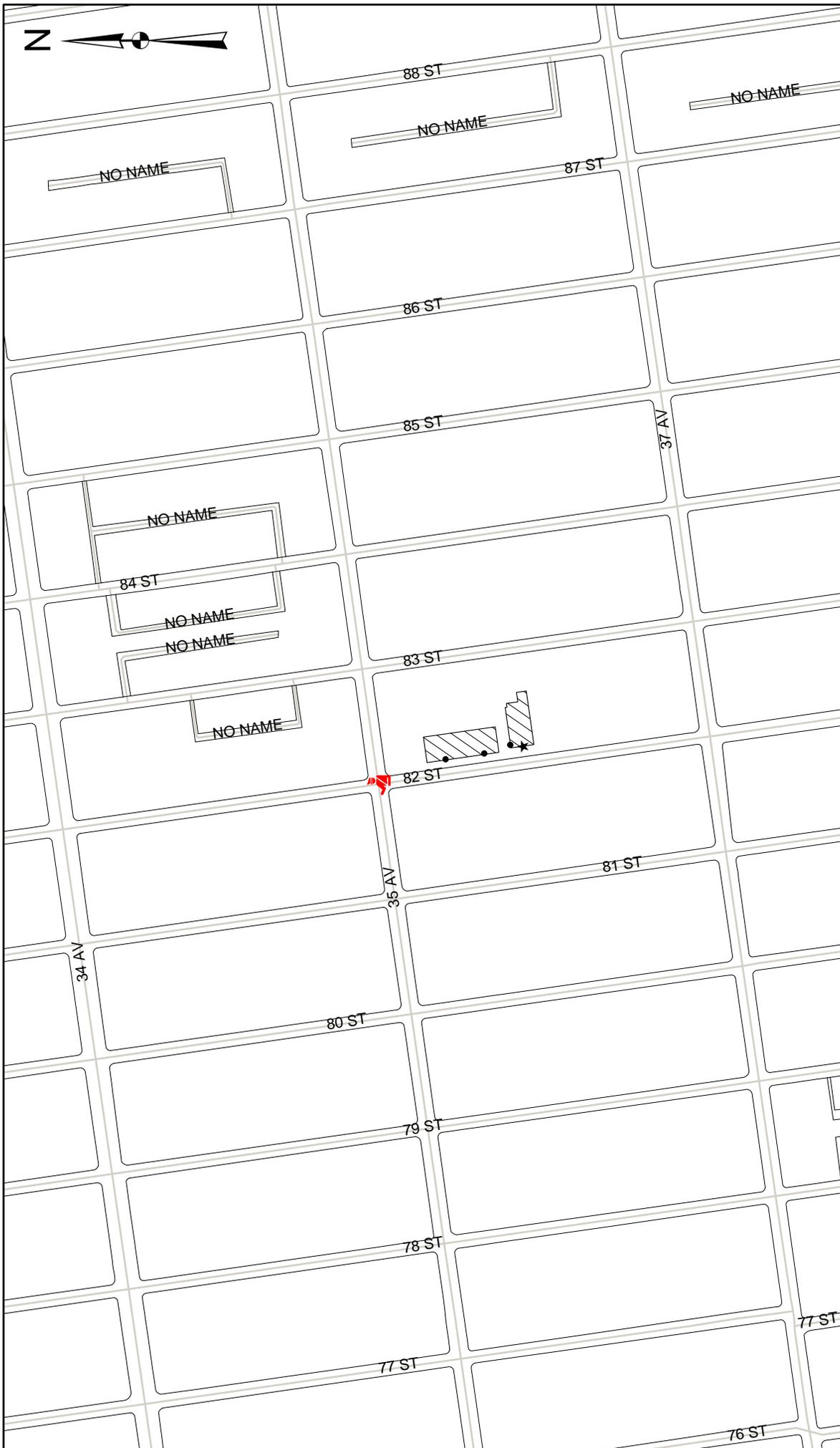
**Queens**  
**SAINT JOAN OF ARC SCHOOL**

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

Map created on 11/17/2006

**EXHIBIT 2**

COMM. BOARD: 403  
 PRECINCT: 115



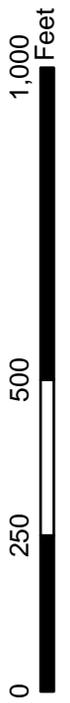
**LEGEND:**

CROSSING GUARD LOCATION



**EXHIBIT 3**

**ST. JOAN OF ARC SCHOOL QUEENS**



**CROSSING GUARD LOCATION**

### **3. TRAFFIC OPERATIONS**

#### **3.1 SCHOOL BUS OPERATIONS**

The school provides private yellow bus transportation for school. According to school representatives, approximately 20 percent of the students ride a yellow school bus to school. Local bus transportation for Q32 and Q33 lines is provided on 82<sup>nd</sup> Street. A bus stop is located on the far side of 82<sup>nd</sup> Street at its intersection with 35<sup>th</sup> Avenue.

#### **3.2 PARENT DROP-OFF OPERATIONS**

Parent drop-off operations are not a major concern although some disruption of traffic on 82<sup>nd</sup> Street occurs during arrival and dismissal times.

#### **3.3 PARKING REGULATIONS**

Parking regulations around the school block are shown in Exhibit 4.

#### **3.4 EXISTING SCHOOL SIGNS AND MARKINGS**

Exhibit 3 shows the existing signals, school crosswalks, and speed reducers in the vicinity of Saint Joan of Arc. 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 6.

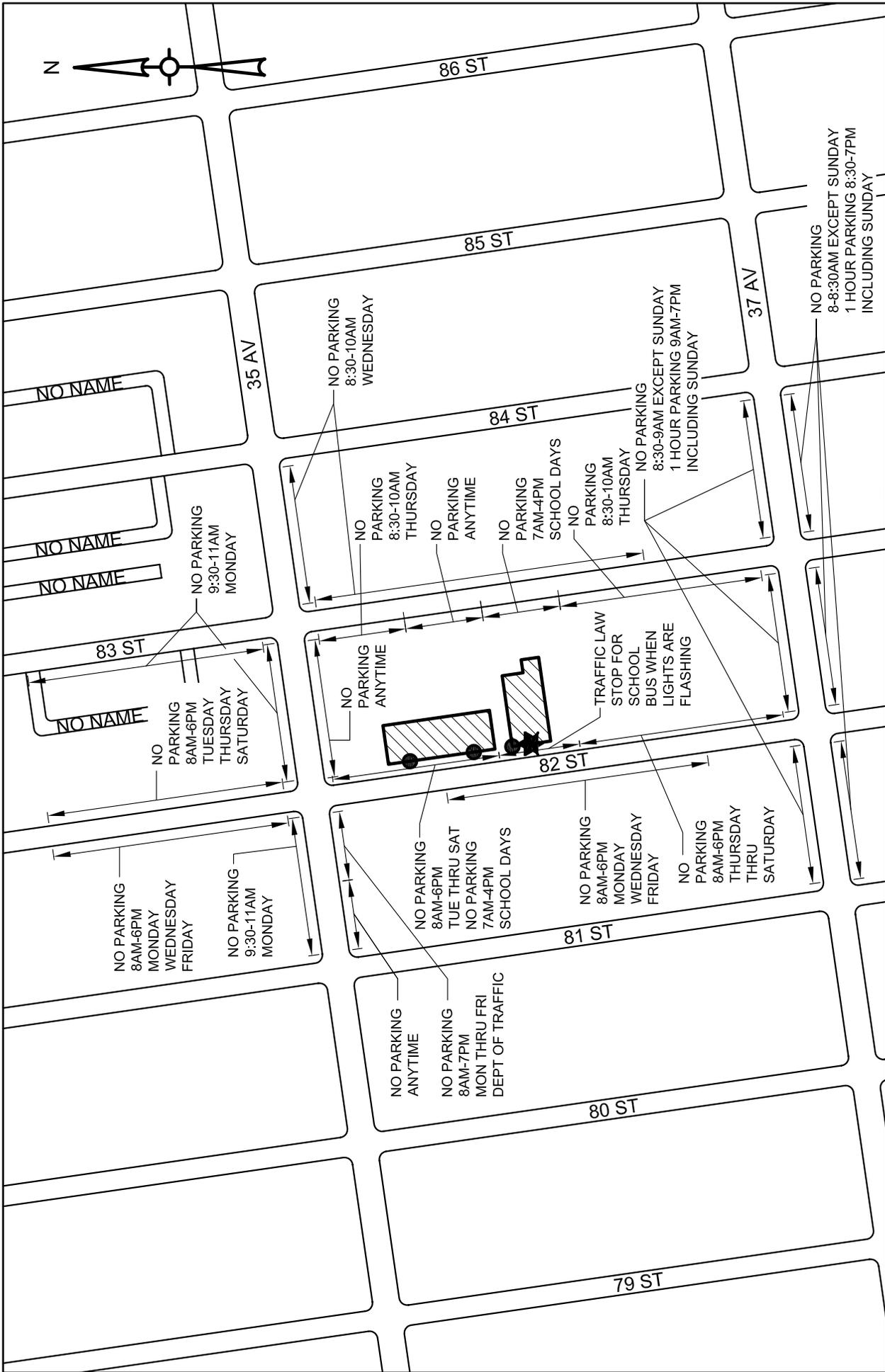
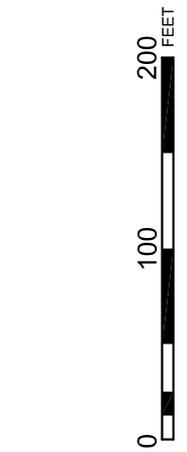


EXHIBIT 4  
ST. JOAN OF ARC SCHOOL  
QUEENS

EXISTING PARKING REGULATIONS



- LEGEND:**
- ★ MAIN ENTRANCE
  - ENTRANCE

### 3.5 Accident Summary

Exhibit 5 and Table 2 show a summary of accidents, as obtained from the New York State Department of Motor Vehicles (DMV), in the vicinity of Saint Joan of Arc School for the three-year period from January 1, 1998 through December 31, 2000. The DMV data provides some detail relating to the circumstances and probable cause(s) of an 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.

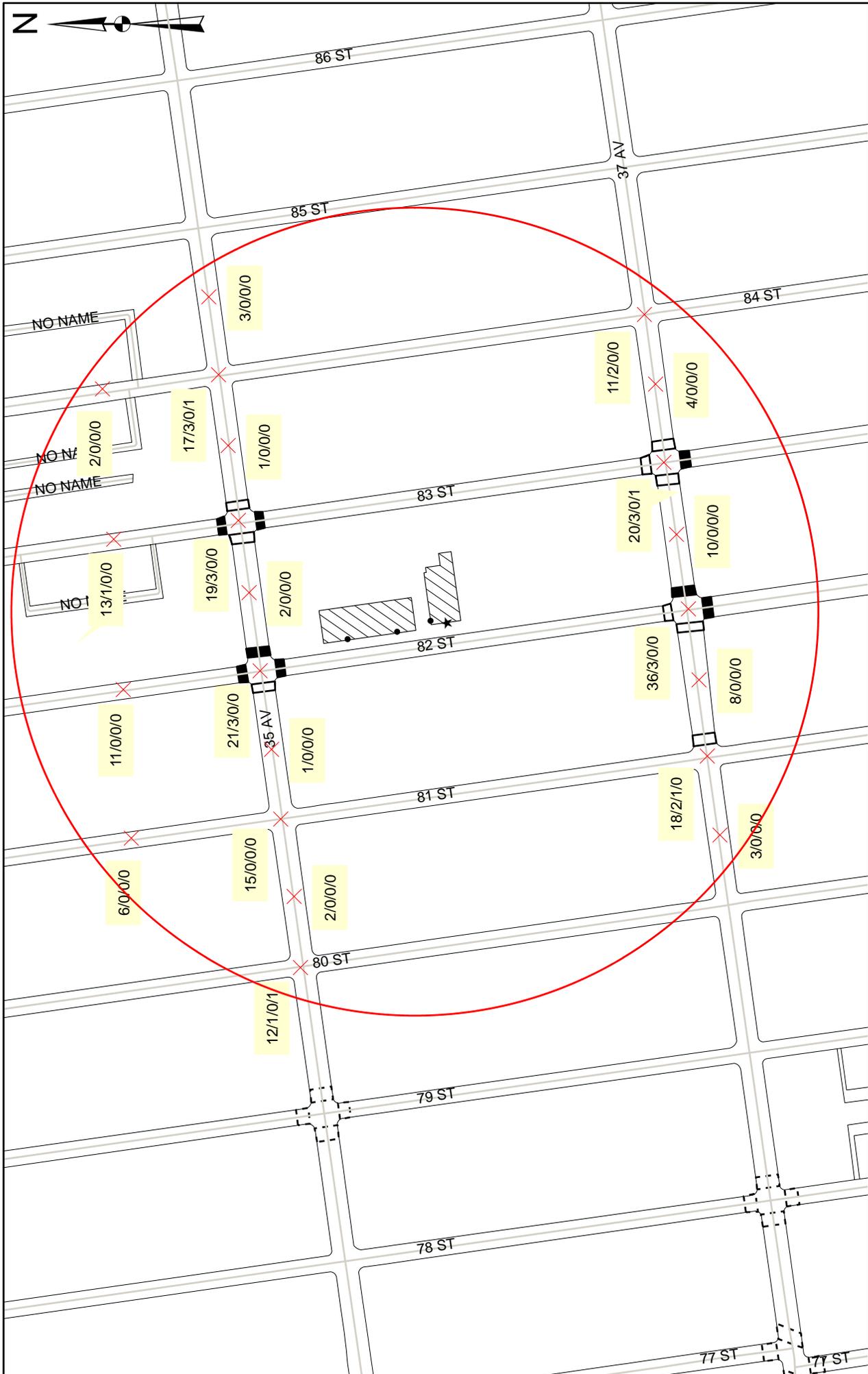
<b>TABLE 2: ACCIDENT SUMMARY OF NYS DMV DATA (1998-2000)</b>				
<b>INTERSECTION</b>	<b>TOTAL ACCIDENTS</b>	<b>PEDESTRIAN ACCIDENTS</b>	<b>PEDESTRIAN FATALITIES</b>	<b>SCHOOL-RELATED ACCIDENTS*</b>
35 <sup>th</sup> Avenue and 80 <sup>th</sup> Street	12	1	0	1
35 <sup>th</sup> Avenue and 81 <sup>st</sup> Street	15	0	0	0
35 <sup>th</sup> Avenue and 82 <sup>nd</sup> Street	21	3	0	0
35 <sup>th</sup> Avenue and 83 <sup>rd</sup> Street	19	3	0	0
35 <sup>th</sup> Avenue and 84 <sup>th</sup> Street	17	3	0	1
37 <sup>th</sup> Avenue and 81 <sup>st</sup> Street	18	2	1	0
37 <sup>th</sup> Avenue and 82 <sup>nd</sup> Street	36	3	0	0
37 <sup>th</sup> Avenue and 83 <sup>rd</sup> Street	20	3	0	1
37 <sup>th</sup> Avenue and 84 <sup>th</sup> Street	11	2	0	0
<b>TOTAL</b>	<b>169</b>	<b>20</b>	<b>1</b>	<b>3</b>

\* 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)**

<b>INTERSECTION</b>	<b>TOTAL ACCIDENTS</b>	<b>PEDESTRIAN ACCIDENTS</b>	<b>PEDESTRIAN FATALITIES</b>	<b>SCHOOL-RELATED ACCIDENTS*</b>
35 <sup>th</sup> Avenue and 80 <sup>th</sup> Street	21	0	0	0
35 <sup>th</sup> Avenue and 81 <sup>st</sup> Street	19	3	0	1
35 <sup>th</sup> Avenue and 82 <sup>nd</sup> Street	36	5	0	0
35 <sup>th</sup> Avenue and 83 <sup>rd</sup> Street	29	1	0	0
35 <sup>th</sup> Avenue and 84 <sup>th</sup> Street	29	3	0	0
37 <sup>th</sup> Avenue and 81 <sup>st</sup> Street	51	5	0	0
37 <sup>th</sup> Avenue and 82 <sup>nd</sup> Street	76	6	0	0
37 <sup>th</sup> Avenue and 83 <sup>rd</sup> Street	50	1	0	0
37 <sup>th</sup> Avenue and 84 <sup>th</sup> Street	21	4	0	0
<b>TOTAL</b>	<b>332</b>	<b>28</b>	<b>0</b>	<b>1</b>

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



**EXHIBIT 5**  
**ST. JOAN OF ARC SCHOOL QUEENS**  
**ACCIDENT SUMMARY (1998-2000)**



- 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

### **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 specific 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 Saint Joan of Arc School.

#### 3.6.1 35<sup>th</sup> Avenue and 80<sup>th</sup> Street

This is a four-leg signalized intersection with pedestrian crosswalks located across all four legs. 35<sup>th</sup> Avenue is a two-way street with one travel lane and a parking lane on each side of the roadway. 80<sup>th</sup> Street is a one-way southbound street with one travel lane and parking on both sides of the roadway.

There were a total of 12 accidents reported at this intersection between 1998 and 2000, one of which involved a pedestrian and was also school-related (Table 2). This school-related accident occurred at approximately 2:00 pm on September, 23, 1998 when a 12-year-old pedestrian sustained an undetermined injury after being struck while crossing with the signal at the intersection. The accident occurred under clear, daylight conditions and the road surface was reported as dry. There were no pedestrian fatalities at this intersection.

#### 3.6.2 35<sup>th</sup> Avenue and 81<sup>st</sup> Street

This is a four-leg signalized intersection with school crosswalks located across the east leg of 35<sup>th</sup> Avenue and the north leg of 81<sup>st</sup> Street. Pedestrian crosswalks located across the west leg of 35<sup>th</sup> Avenue and the south leg of 81<sup>st</sup> Street. 35<sup>th</sup> Avenue is a two-way street with one travel lane and a parking lane on each side of the roadway. 81<sup>st</sup> Street is a one-way northbound street with one travel lane and parking on both sides of the roadway.

There were a total of 15 accidents reported at this intersection between 1998 and 2000, none of which involved pedestrians (Table 2). There were no pedestrian fatalities at this intersection.

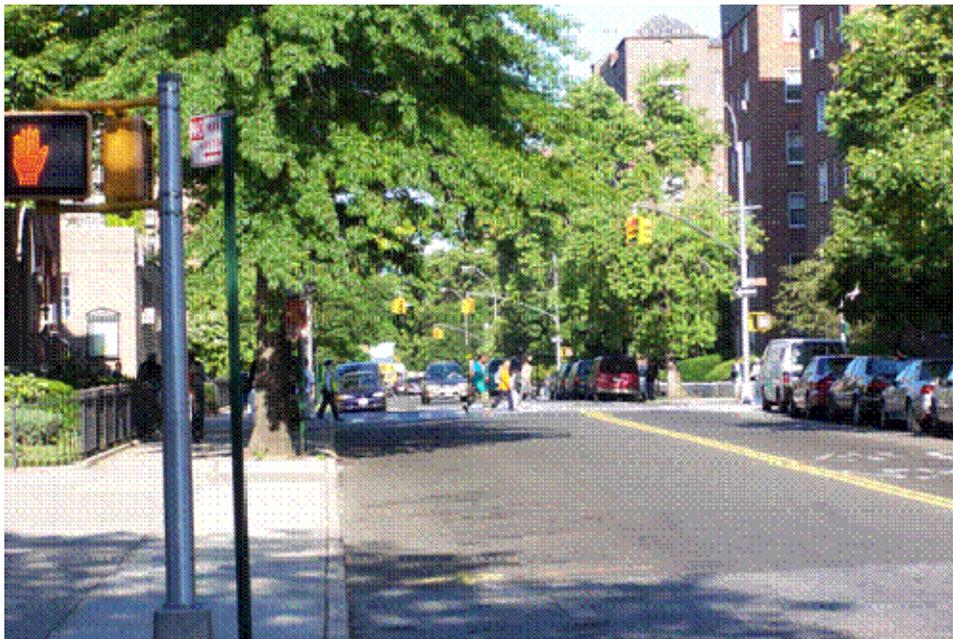
#### 3.6.3 35<sup>th</sup> Avenue and 82<sup>nd</sup> Street

This is a four-leg signalized intersection with school crosswalks located across the east leg of 35<sup>th</sup> Avenue, and the north and south legs of 82<sup>nd</sup> Street. A pedestrian crosswalk is located across the west leg of 35<sup>th</sup> Avenue. 35<sup>th</sup> Avenue is a two-way street with one travel lane and a parking lane on each side of the roadway. 82<sup>nd</sup> Street is a one-way southbound street with one travel lane and parking on both sides of the roadway (see Figures 4 and 5). A school crossing guard is assigned to the intersection of 35<sup>th</sup> Avenue and 82<sup>nd</sup> Street.

There were a total of 21 accidents reported at this intersection between 1998 and 2000 (Table 2), including three accidents involved pedestrians, none of which were school-related. There were no pedestrian fatalities at this intersection.



*Figure 4: Looking south across 35<sup>th</sup> Avenue at the intersection with 82<sup>nd</sup> Street, (note school crossing guard on corner)*



*Figure 5: Looking west on 35<sup>th</sup> Avenue toward the intersection with 82<sup>nd</sup> Street*

#### 3.6.4 35<sup>th</sup> Avenue and 83<sup>rd</sup> Street

This is a four-leg signalized intersection with school crosswalks located across the north and south legs of 83<sup>rd</sup> Street, and pedestrian crosswalks located across the east and west legs of 35<sup>th</sup> Avenue. 35<sup>th</sup> Avenue is a two-way street with one travel lane and a parking lane on each side of the roadway. 83<sup>rd</sup> Street is a one-way northbound street with one travel lane and parking on both sides of the roadway.

There were a total of 19 accidents reported at this intersection between 1998 and 2000 (Table 2), including three pedestrian accidents, none of which were school-related. There were no pedestrian fatalities at this intersection.

#### 3.6.5 35<sup>th</sup> Avenue and 84<sup>th</sup> Street

This is a four-leg signalized intersection with pedestrian crosswalks located across all four legs. 35<sup>th</sup> Avenue is a two-way street with one travel lane and a parking lane on each side of the roadway. 84<sup>th</sup> Street is a one-way southbound street with one travel lane and parking on both sides of the roadway.

There were a total of 17 accidents reported at this intersection between 1998 and 2000 (Table 2), including three pedestrian accidents, one of which involved a school-aged pedestrian. This accident occurred at approximately 6:00 pm on March 8, 1999 when an 11-year-old pedestrian sustained a “possible injury” while crossing against the signal at the intersection. The road surface was reported as dry, and the lighting condition was reported as dark with the road lighted. There were no pedestrian fatalities at this intersection.

#### 3.6.6 37<sup>th</sup> Avenue and 81<sup>st</sup> Street

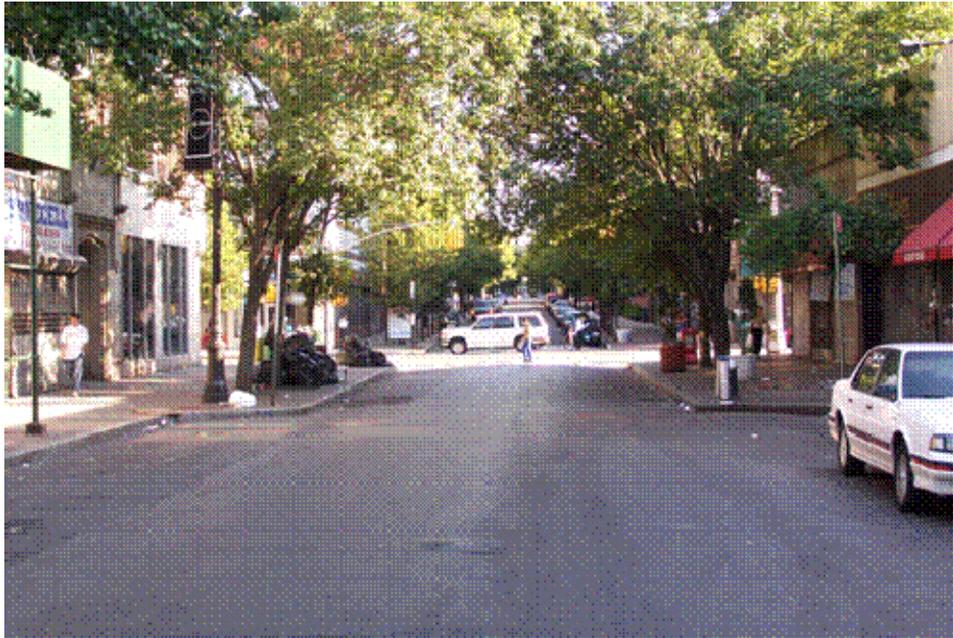
This is a four-leg signalized intersection with school crosswalks located across the north and west legs, and pedestrian crosswalks located across the south and east legs. 37<sup>th</sup> Avenue is a two-way street with one travel lane and a parking lane on each side of the roadway. 81<sup>st</sup> Street is a one-way northbound street with one travel lane and parking on both sides of the roadway.

There were a total of 18 accidents reported at this intersection between 1998 and 2000 (Table 2), including two pedestrian accidents, one of which was fatal. Neither of the pedestrian accidents was school-related. The fatal pedestrian accident occurred at approximately 11:00 am on January 10, 1998 when an 88-year-old pedestrian was struck while crossing against the signal at the intersection. The accident occurred under clear, daylight conditions, and the road surface was reported as dry. There were no pedestrian fatalities at this intersection.

### 3.6.7 37<sup>th</sup> Avenue and 82<sup>nd</sup> Street

This is a four-leg signalized intersection with school crosswalks located across the east leg of 37<sup>th</sup> Avenue and the south leg of 82<sup>nd</sup> Street. Pedestrian crosswalks are located across the west leg of 37<sup>th</sup> Avenue and the north leg of 82<sup>nd</sup> Street. 37<sup>th</sup> Avenue is a two-way street with one travel lane and a parking lane on each side of the roadway. 82<sup>nd</sup> Street is a one-way southbound street with one travel lane and parking on both sides of the roadway (see Figures 6 and 7). A near side bus stop is located on 82<sup>nd</sup> Street at its intersection with 37<sup>th</sup> Avenue. Curb extensions (neckdowns) are provided on both sides of 82<sup>nd</sup> Street, south of 37<sup>th</sup> Avenue (see Figure 6).

There were a total of 36 accidents reported at this intersection between 1998 and 2000 (Table 2), including three pedestrian accidents, none of which were school-related. There were no pedestrian fatalities at this intersection.



*Figure 6: Looking north on 82<sup>nd</sup> Street toward the intersection with 37<sup>th</sup> Avenue*



*Figure 7: Looking south on 82<sup>nd</sup> Street toward the intersection with 37<sup>th</sup> Avenue*

### 3.6.8 37<sup>th</sup> Avenue and 83<sup>rd</sup> Street

This is a four-leg signalized intersection with a school crosswalk located across the south leg of 83<sup>rd</sup> Street. Pedestrian crosswalks are located across the east and west legs of 37<sup>th</sup> Avenue, and the north leg of 83<sup>rd</sup> Street. 37<sup>th</sup> Avenue is a two-way street with one travel lane and a parking lane on each side of the roadway. 83<sup>rd</sup> Street is a one-way northbound street with one travel lane and parking on both sides of the roadway (see Figure 8).

There were a total of 20 accidents reported at this intersection between 1998 and 2000 (Table 2), including three pedestrian accidents, one of which was school-related. The school-related accident occurred on Thursday, June 17, 1999 at approximately 6:00 pm, and involved a nine-year-old pedestrian who was reported as being struck by a vehicle while crossing the intersection against the signal. The specific crosswalk location was not reported. The accident was reported as resulting in a “possible injury” and occurred on a straight and level segment. The roadway and weather conditions were dry and cloudy, respectively. There were no pedestrian fatalities at this intersection.



Figure 8: Looking west on 37<sup>th</sup> Avenue toward the intersection with 83<sup>rd</sup> Street

### 3.7 SIGNAL TIMING

Pedestrian crossing times were field-verified for crosswalks at signalized intersections in the vicinity of Saint Joan of Arc, and were found to be adequate in all directions and approaches based upon a child pedestrian walking at the rate of 3 feet per second. The signal timings are shown in Table 4.

<b>TABLE 4: PEDESTRIAN CROSSING TIMES AT SIGNALIZED INTERSECTIONS</b>				
<b>INTERSECTION</b>	<b>CROSSWALK LENGTH (FEET)</b>	<b>PEDESTRIAN TIME ACTUAL (SECONDS)</b>	<b>PEDESTRIAN TIME REQUIRED (SECONDS)</b>	<b>TIMING ADJUSTMENT REQUIRED?</b>
<b>35<sup>th</sup> Avenue and 82<sup>nd</sup> Street</b>				
crossing 35 <sup>th</sup> Avenue	40	39	17	NO
crossing 82 <sup>nd</sup> Street	30	73	13	NO
<b>35<sup>th</sup> Avenue and 83<sup>rd</sup> Street</b>				
crossing 35 <sup>th</sup> Avenue	40	39	17	NO
Crossing 83 <sup>rd</sup> Street	30	73	13	NO
<b>37<sup>th</sup> Avenue and 82<sup>nd</sup> Street</b>				
crossing 37 <sup>th</sup> Avenue	40	29	17	NO
crossing 82 <sup>nd</sup> Street	30	56	13	NO
<b>37<sup>th</sup> Avenue and 83<sup>rd</sup> Street</b>				
crossing 37 <sup>th</sup> Avenue	40	29	17	NO
crossing 83 <sup>rd</sup> Street	30	56	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***

The roadways in the vicinity of Saint Joan of Arc were observed to be in fair condition. Sidewalks on the school block faces varied from about 12 to 17 feet in width and were in fair condition.

#### ***3.8.2 Pedestrian Ramps***

Overall, pedestrian ramps in the vicinity of the school were observed to be standard.

## 4. POTENTIAL MEASURES TO IMPROVE STUDENT PEDESTRIAN SAFETY

This section describes the proposed measures to improve student pedestrian safety around Saint Joan of Arc. 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 St. Joan of Arc is discussed as follows, and is shown in more detail in Exhibit 6 at the end of this section.

### 4.1 SHORT-TERM MEASURES

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

A parking regulation should be instituted and signs installed reading: “NO STANDING 7AM - 4PM SCHOOL DAYS” 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 on the following approach of signalized intersections around Saint Joan of Arc School:

- Westbound approach of 35<sup>th</sup> Avenue at 83<sup>rd</sup> Street (right arrow).

➤ *Place advance 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 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.)

Therefore, ten foot advance stop bars are recommended in advance of all school crosswalks and mid-block crossings as shown in Exhibit 7.

➤ *Bus Stop Issues*

A southbound (far-side) bus stop (Q32 and Q33) is currently located on 82<sup>nd</sup> Street, south of 35<sup>th</sup> Avenue, across from the school. The principal has requested

this bus stop be relocated since traffic is impeded on 35<sup>th</sup> Avenue when several buses arrive at approximately the same time. However, enforcement is also an issue, because parents were observed waiting for students within the designated bus stop space at dismissal time and creating congestion.

It is therefore recommended that:

- NYCDOT should work with MTA to inform their drivers not to block the intersection and to stagger their bus arrival times.
- School officials should educate parents on keeping their vehicles clear of the bus stop during arrival and dismissal times.

➤ Other Traffic Issues

The school principal reported the following additional traffic issues:

Garbage collection on Fridays overlaps with the morning arrival time, causing traffic congestion around the school. It is therefore recommended that:

- The school officials should contact the Department of Sanitation and discuss the traffic situation to determine if it is possible to reschedule garbage pick-up in the area of the school to not coincide with arrival or dismissal in order to alleviate the associated traffic congestion problems.

#### 4.2 LONG-TERM MEASURES

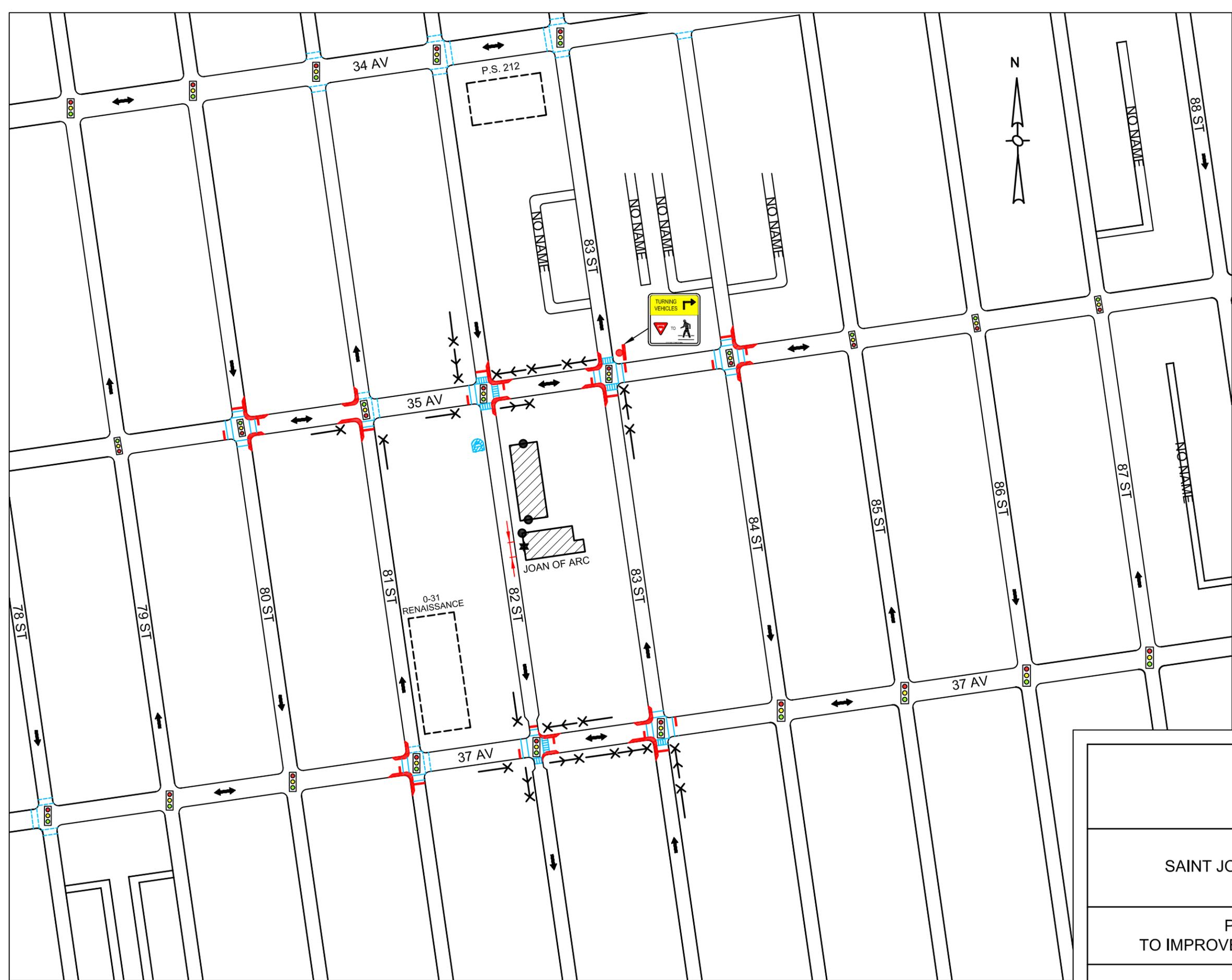
➤ Install curb extensions (neckdowns) at the following locations

The intersection of 37<sup>th</sup> Avenue and 82<sup>nd</sup> Street experienced 76 accidents between 2001 and 2004, including six pedestrian accidents. There were 50 accidents reported at the intersection of 37<sup>th</sup> Avenue and 83<sup>rd</sup> Street during the same four-year period, including one pedestrian accident. 37<sup>th</sup> Avenue is not a bus route. At present, one-hour parking is permitted on both sides of 37<sup>th</sup> Avenue between 8:30 am and 7:00 pm in the vicinity of Saint Joan of Arc School. Curb extensions (neckdowns) are provided on both sides of 82<sup>nd</sup> Street, south of 37<sup>th</sup> Avenue (see Figure 6). It is therefore recommended to provide curb extensions (neckdowns) at the following locations:

- At the northwest and southwest corners of the 37<sup>th</sup> Avenue and 81<sup>st</sup> Street intersection.
- At the northeast and southeast corners of the 37<sup>th</sup> Avenue and 82<sup>nd</sup> Street intersection.
- At northwest and southwest corners of the 37<sup>th</sup> Avenue and 83<sup>rd</sup> Street intersection.

- At the northeast and southeast corners of the 35<sup>th</sup> Avenue and 80<sup>th</sup> Street intersection.
- At the northwest and southwest corners of the 35<sup>th</sup> Avenue and 81<sup>st</sup> Street intersection.
- At the northeast and southeast corners of the 35<sup>th</sup> Avenue and 82<sup>nd</sup> Street intersection.
- At the northwest and southwest corners of the 35<sup>th</sup> Avenue and 83<sup>rd</sup> Street intersection.
- At the northeast and southeast corners of the 35<sup>th</sup> Avenue and 84<sup>th</sup> Street intersection.

Curb extensions should be installed at the corners as shown in Exhibit 6. The purpose of a curb extension is 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
  - SIGNALIZED LOCATION
  - EXISTING BUS STOP LOCATION TO BE RELOCATED
  - EXISTING SCHOOL CROSSWALK
  - EXISTING PEDESTRIAN CROSSWALK
  - EXISTING SCHOOL CROSSWALK ASSOCIATED WITH ANOTHER SCHOOL
  - PROPOSED TRAFFIC SIGN
  - PROPOSED STOP LINE IN ADVANCE OF SCHOOL CROSSWALK
  - PROPOSED "NO STANDING 7:00AM - 4:00PM SCHOOL DAYS"
  - PROPOSED CURB EXTENSION (NECKDOWN)

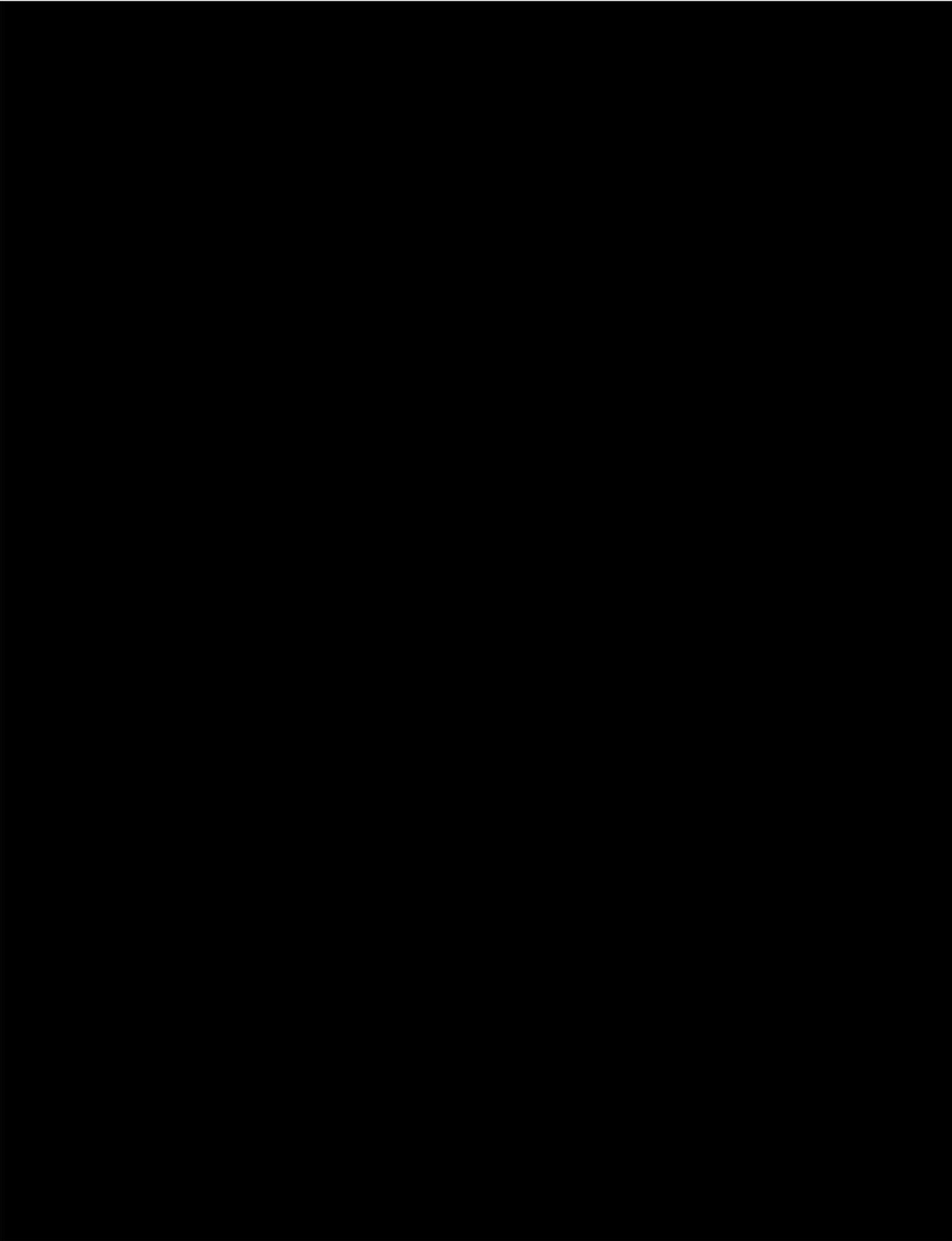
1" = 200'

EXHIBIT 6

SAINT JOAN OF ARC SCHOOL QUEENS

POTENTIAL MEASURES TO IMPROVE STUDENT PEDESTRIAN SAFETY

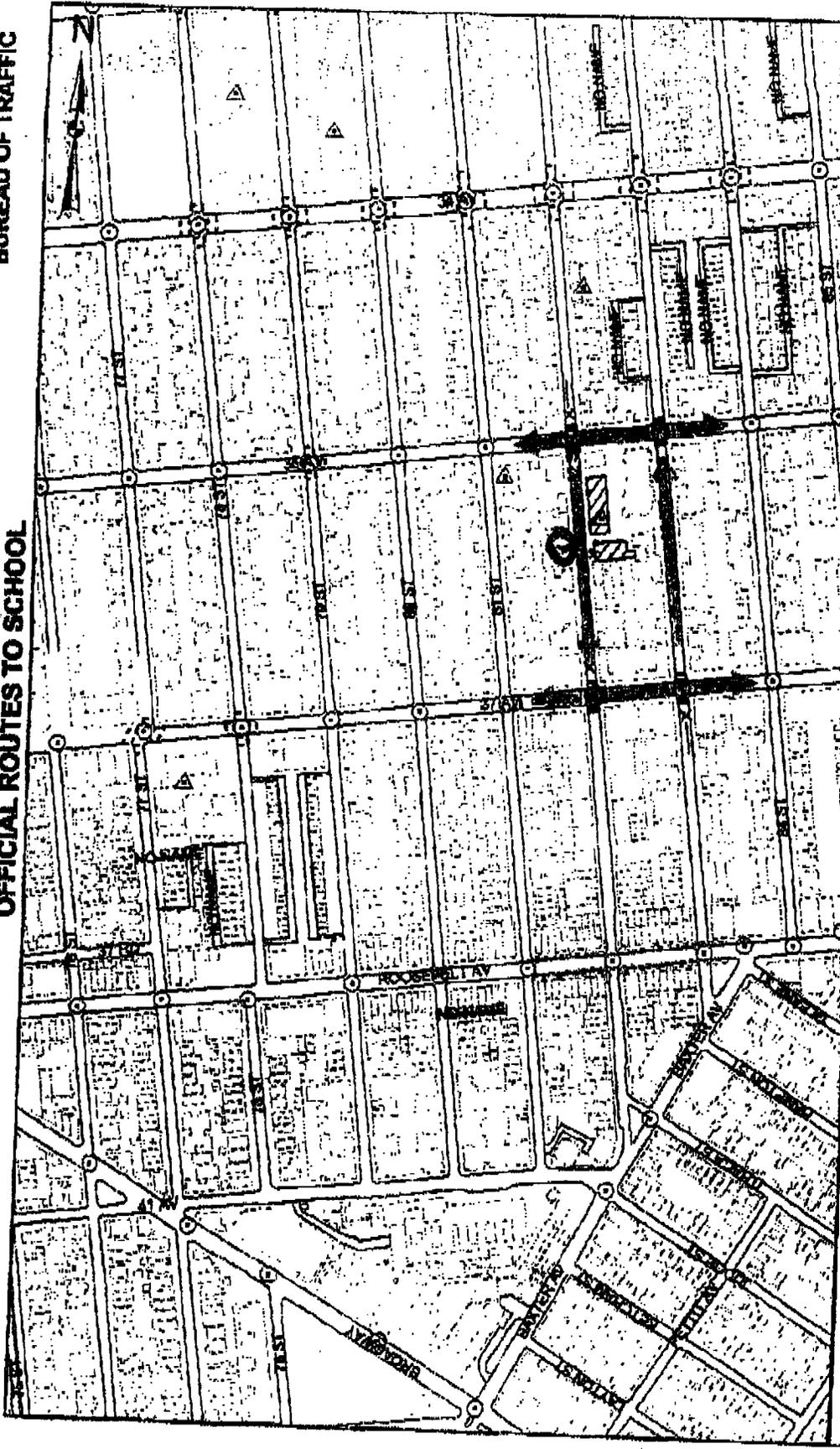
# APPENDIX



NEW YORK CITY  
DEPT. OF TRANSPORTATION

TRAFFIC SAFETY PLAN  
OFFICIAL ROUTES TO SCHOOL

BUREAU OF TRAFFIC



ST. JOAN OF ARC SCHOOL  
(2)

Prepared by the NEW YORK CITY DEPARTMENT OF TRANSPORTATION  
in cooperation with the NEW YORK CITY DEPARTMENT OF EDUCATION  
POLICE OFFICIALS

DATE: 01/13/2004  
BY: [Name]  
REVISION: [Number]

COMM. BOARD  
SUPERVISOR  
SEC. [Name]

- LEGEND:**
- TRAFFIC FLOW
  - ROUTE TO SCHOOL
  - ANY WAY IN
  - SCHOOL LOCATION
  - AMM SCHOOL ENTRANCE
  - OTHER SCHOOL ENTRANCES
  - TRAFFIC SIGNAL
  - ALL-WAY STOP
  - 2-WAY STOP
  - ▬ SCHOOL ZONING
  - ▬ PEA Z-WALK
  - ▬ STOP LINE
  - ▬ KAPPA ASSOCIATED
  - ▬ 1980-1985 SCHOOLS
  - ▬ SPEED LIMIT

The TRAFFIC SAFETY PLAN shown on this map  
is intended to provide the maximum degree of  
safety for children going to and from school. It is  
expected that all drivers follow the prescribed  
routes and are fully alert and attentive.

