

**NEW YORK CITY DEPARTMENT OF TRANSPORTATION  
Office of School Safety Engineering**



**School Safety Engineering Project**

**FINAL REPORT: P.S. 327: Dr. Rose B. English School, Brooklyn**



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



**SEPTEMBER 27, 2006**



**School Safety Engineering Project**  
**P.S. 327, Dr. Rose B. English School, Brooklyn**

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## **1. INTRODUCTION**

### **1.1 PROJECT DESCRIPTION**

The Department of Transportation has developed school safety maps for 1,471 schools throughout the City. Schools currently in the program are primarily elementary and intermediate schools with an enrollment of at least 250 students. The safety plans include the designation of official school crosswalks, identified by prominent warning signs and roadway markings. DOT also designates curbside locations for school bus loading and unloading and other parking controls to improve conditions for students. In addition, nearly 350 speed reducers (humps) have been installed in the immediate vicinity of schools.

Under this consultant study, the School Safety Engineering Project, 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. 327 (Rose B. English School) in Brooklyn is one of the 135 priority schools.

## 2. BACKGROUND—EXISTING CONDITIONS AND ANALYSIS



### 2.2 NEIGHBORHOOD DESCRIPTION

Located at 111 Bristol Street, P.S. 327 occupies most of the city block between Bristol Street, Chester Street, Pitkin Avenue and Sutter Avenue. The school shares the building with P.S. 396. The main entrance for P.S. 396 is on Chester Street. The surrounding area is a mix of single-family homes, apartment buildings with first floor retail space, and stand-alone commercial buildings. (See Exhibits 1 for Aerial Photograph).



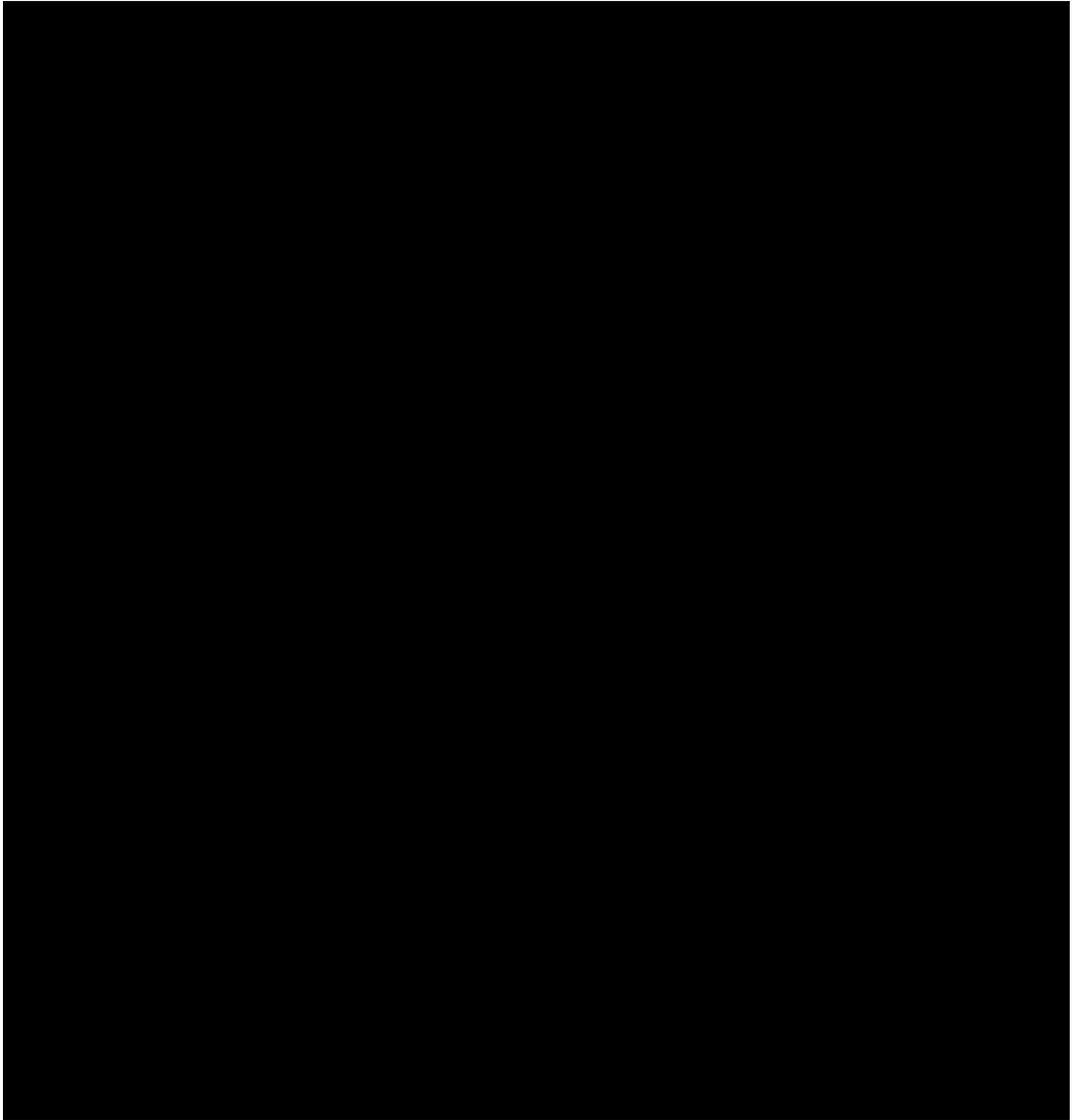
*Figure 1 - Pitkin Avenue at Chester Street*

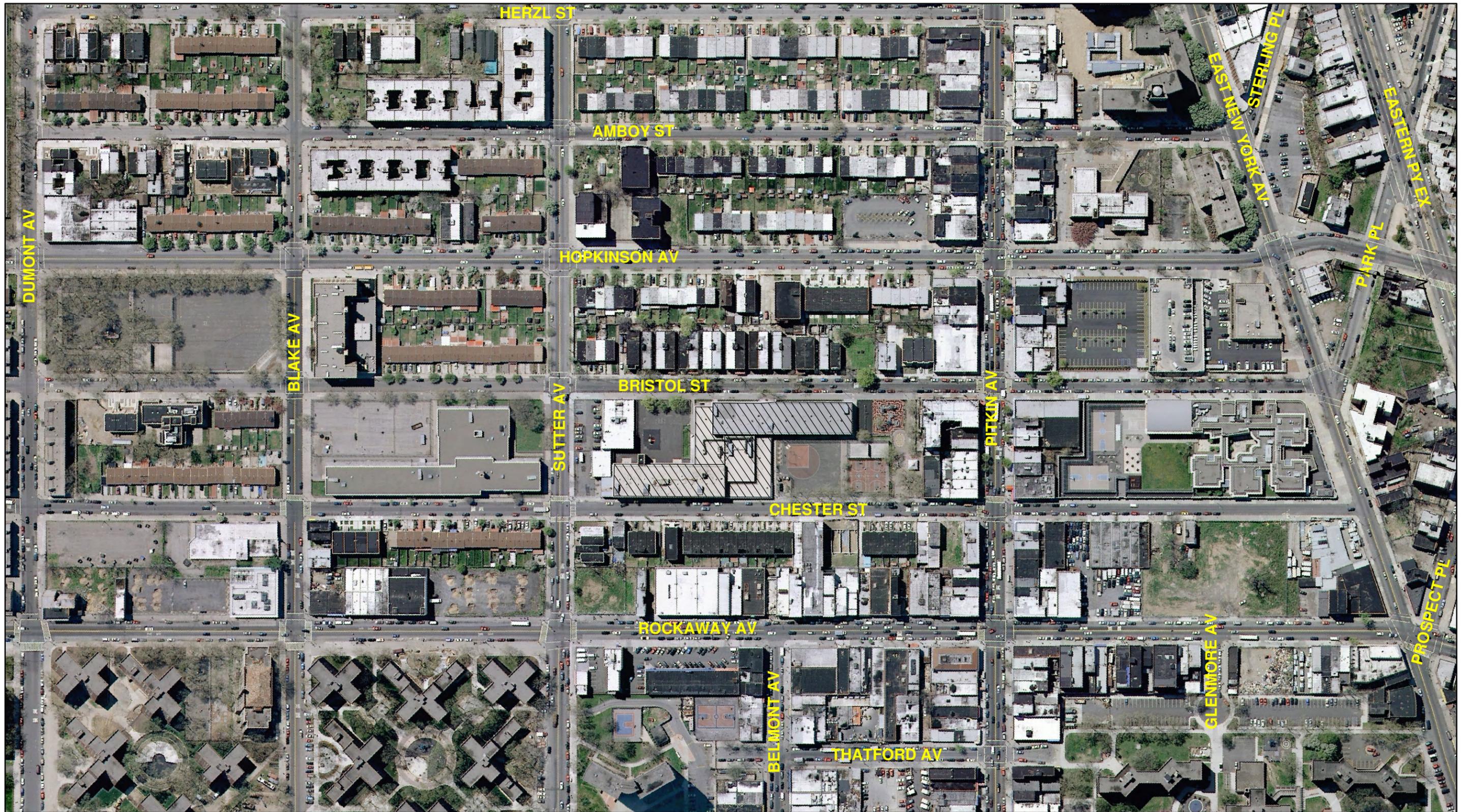
### 2.3 MEETING WITH SCHOOL REPRESENTATIVES

Representatives from the New York City Department of Transportation, the consultant team, a parent coordinator, a member from Community Board #16 and the dean from P.S. 327 met at the school on the afternoon of May 6, 2004.

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

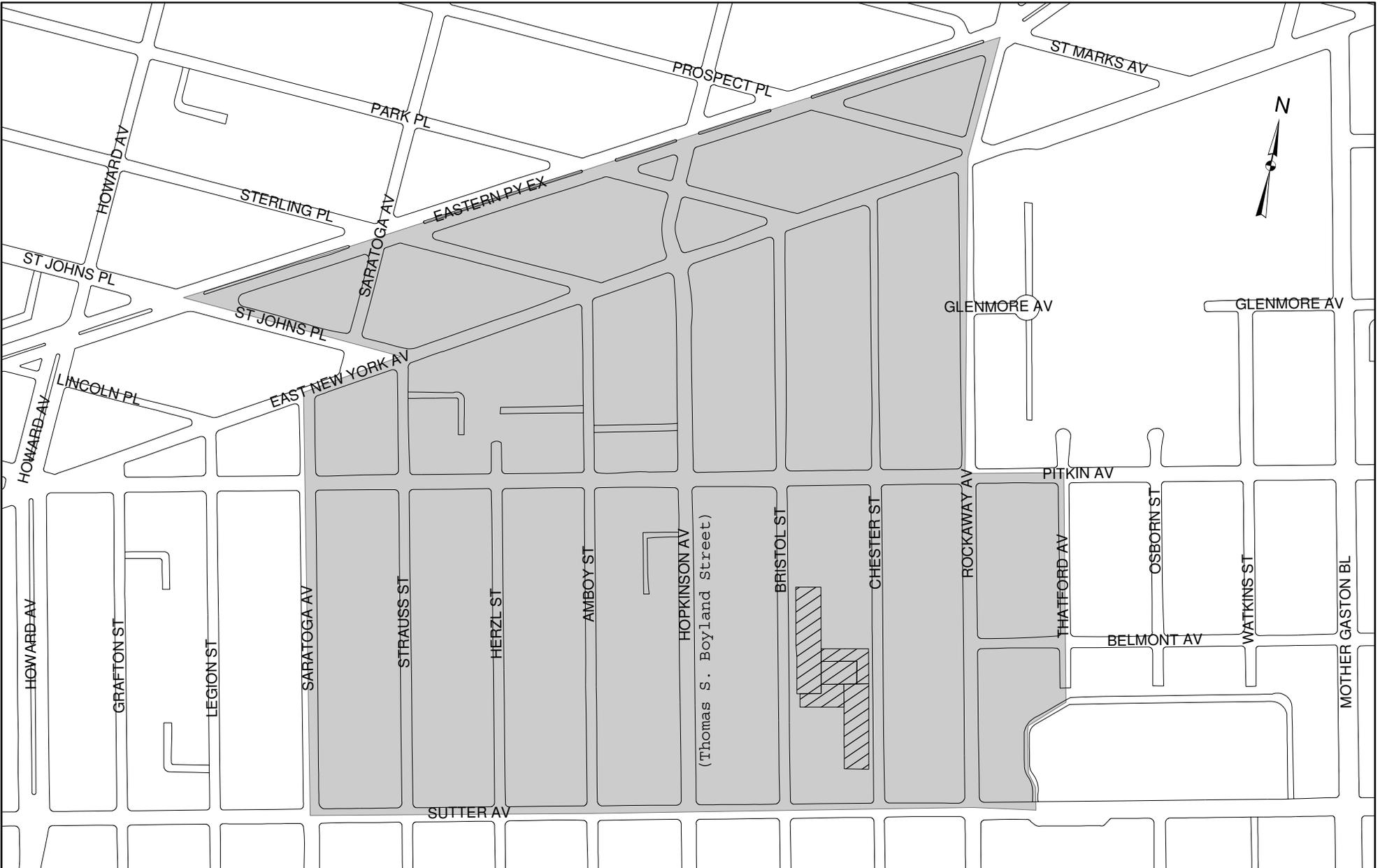
- Vendors blocking the sidewalks on Pitkin Avenue.
- Students crossing at Bristol Street and Pitkin Avenue
- Students crossing at Bristol Street and Sutter Avenue.
- Poor sight distance due to parked vehicles near the intersections and crosswalks.





1 inch equals 200 feet

**EXHIBIT 1**  
**P.S. 327, BROOKLYN**  
**DR. ROSE B. ENGLISH SCHOOL**  
**AERIAL PHOTOGRAPH**



 CATCHMENT AREA

1 inch equals 375 feet

**EXHIBIT 2**  
**P.S. 327, BROOKLYN**  
**DR. ROSE B. ENGLISH 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		TRAFFIC SIGNAL	
SCHOOL CROSSWALK		ALL - WAY STOP	
		SPEED REDUCER	

**PS 327 Brooklyn**  
**DR. ROSE B. ENGLISH SCHOOL**

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

**EXHIBIT 3**

Map created on 11/16/2006

1.5.1

COMM. BOARD: 316  
 PRECINCT: 73

## 2.6 PRIMARY MODES OF TRANSPORT TO AND FROM SCHOOL

According to school officials, approximately 95% of students walk to P.S. 327, 3% arrive by school buses, and the remaining 2% are driven by a parent or guardian. See Table 1 for the school’s estimate of modes of travel. See Exhibit 2 for the school catchment area

<b>TABLE 1: MODES OF TRAVEL (AS ESTIMATED BY SCHOOL OFFICIALS)</b>	
Description	Percentage
Walk	95%
Driven by parent or guardian	2%
School bus	3%
MTA bus or subway	0%
<b>TOTAL</b>	<b>100%</b>

## 2.7 ADDITIONAL STUDENT PEDESTRIAN TRAFFIC GENERATORS

There are several other schools in the area of P.S. 327. P.S. 396, located in the same building as P.S. 327, has an enrollment of 358 students. P.S./I.S. 323 with its 588 students and P.S. 140K with its 71 students are located immediately to the south across Sutter Avenue. P.S./I.S. 323 is also a priority school.

Various stores on Rockaway Avenue are popular with the students of P.S. 327. Sutter Avenue is also a gathering point for students from P.S./I.S. 323 and P.S. 327.

## 2.8 CROSSING GUARD LOCATIONS

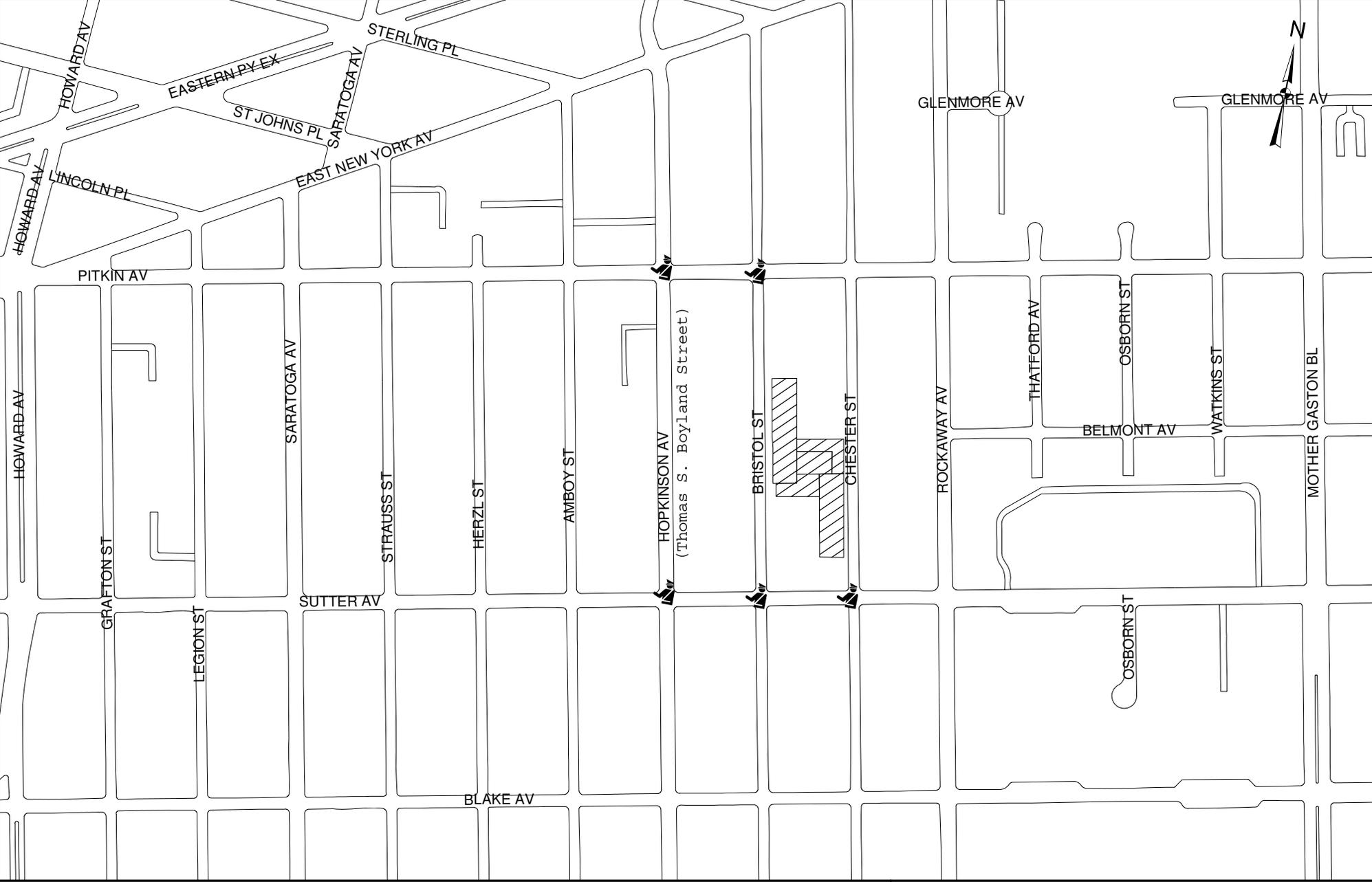
According to the school officials, five crossing guards are assigned to P.S. 327 and stationed at the following intersections:

- Pitkin Avenue and Bristol Street
- Pitkin Avenue and Thomas S. Boyland Street
- Sutter Avenue and Thomas S. Boyland Street
- Sutter Avenue and Bristol Street
- Sutter Avenue and Chester Street

See Exhibit 4 for a map of the crossing guard locations.



*Figure 3 - Crossing guard at Pitkin Avenue and Bristol Street*



1 inch equals 375 feet



Crossing guard assigned to P.S.327

**EXHIBIT 4**  
**P.S. 327, BROOKLYN**  
**DR. ROSE B. ENGLISH SCHOOL**  
**CROSSING GUARDS**

### 3. TRAFFIC OPERATIONS

#### 3.1 SCHOOL BUS OPERATIONS

Approximately 3% of the students are transported by school buses to P.S. 327. School buses load and unload students on Chester Street, in front of the school's rear entrance. School buses for P.S. 396 use Bristol Street as a pick-up and drop-off point. School buses park or double-park, depending on traffic conditions.

At dismissal time, the school traffic safety officer was observed stopping traffic while students are being picked up by school buses.



*Figure 4 - School buses staged along Bristol Street for P.S. 396*

#### 3.2 PARENT DROP-OFF OPERATIONS

School representatives indicated that parents or guardians transport approximately 2% of the students to and from P.S. 327. Vehicles dropping off students typically double-park along Bristol Street or within bus stop areas.

#### 3.3 PARKING REGULATIONS

On the east side of Bristol Street between Sutter Avenue and Pitkin Avenue, “NO PARKING, 7 AM - 4 PM, SCHOOL DAYS, EXCEPT BOARD OF EDUCATION” parking regulations are posted on the north of the block and “NO STANDING, 7 AM - 4 PM, SCHOOL DAYS, EXCEPT SCHOOL BUSES” regulations are posted for approximately 60 feet in front of the school's secondary entrance.

“NO PARKING, 7 AM - 4 PM, SCHOOL DAYS, EXCEPT BOARD OF EDUCATION” parking regulations are posted on the west side of Chester Street and “NO STANDING, 7 AM - 4 PM” regulations are posted in front of P.S. 396.

Alternate side of the street parking regulations are in effect 9:00 am – 10:30 am on the surrounding streets. Exhibit 5 shows parking regulations on the roadways surrounding the school.

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

The Traffic Safety Plan, Exhibit 2, shows existing crosswalk pavement markings in the vicinity of the school. It is noted that a citywide signage program is currently underway to upgrade school signage to current Federal Manual of Uniform Traffic Control (MUTCD) standards of fluorescent yellow-green signs with downward pointing arrows. Signs scheduled to be installed under this program are shown as "existing" on Exhibit 8.

PITKIN AVE.

THOMAS S. BOYLAND STREET

BRISTOL ST.

CHESTER ST.

ROCKAWAY AVE.

THATFORD AVE.

BELMONT AVE.

SUTTER AVE.

NO PARKING  
8:00 am - 8:30 am  
EXCEPT SUNDAY  
1 HOUR PARKING  
8:30am TO 7:00pm  
EXCEPT SUNDAY

NO PARKING  
ANY TIME

NO PARKING  
9:00am TO 10:30am  
MONDAY AND THURSDAY

NO PARKING  
SCHOOL DAYS  
7:00am TO 4:00pm  
EXCEPT BOARD OF  
EDUCATION

NO STANDING  
SCHOOL DAYS  
7:00am TO 4:00pm

NO PARKING  
SCHOOL DAYS  
7:00am TO 4:00pm  
EXCEPT BOARD OF  
EDUCATION

NO PARKING  
9:00am TO 10:30am  
MONDAY AND THURSDAY

NO PARKING  
9:00am TO 10:30am  
TUESDAY AND FRIDAY

NO PARKING  
SCHOOL DAYS  
7:00am TO 4:00pm  
EXCEPT BOARD OF  
EDUCATION

NO STANDING  
SCHOOL DAYS  
7:00am TO 4:00pm  
EXCEPT SCHOOL  
BUSSES

NO PARKING  
9:00am TO 10:30am  
TUESDAY AND FRIDAY

NO PARKING  
9:00am TO 10:30am  
TUESDAY AND FRIDAY

NO PARKING  
SCHOOL DAYS  
7:00am TO 4:00pm  
EXCEPT BOARD OF  
EDUCATION



LEGEND

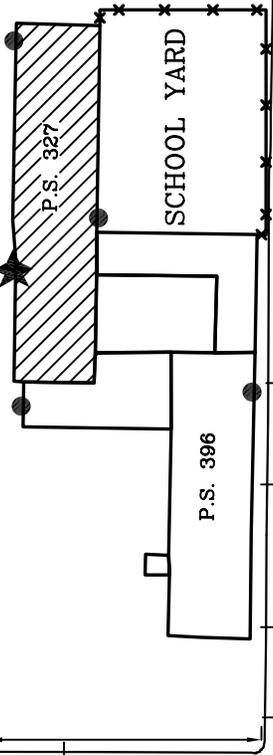
- ★ MAIN ENTRANCE
- ENTRANCE

SCALE: 1"=160'

EXHIBIT 5

P.S. 327, BROOKLYN  
DR. ROSE B. ENGLISH SCHOOL

EXISTING PARKING REGULATIONS



### 3.5 ACCIDENT SUMMARY

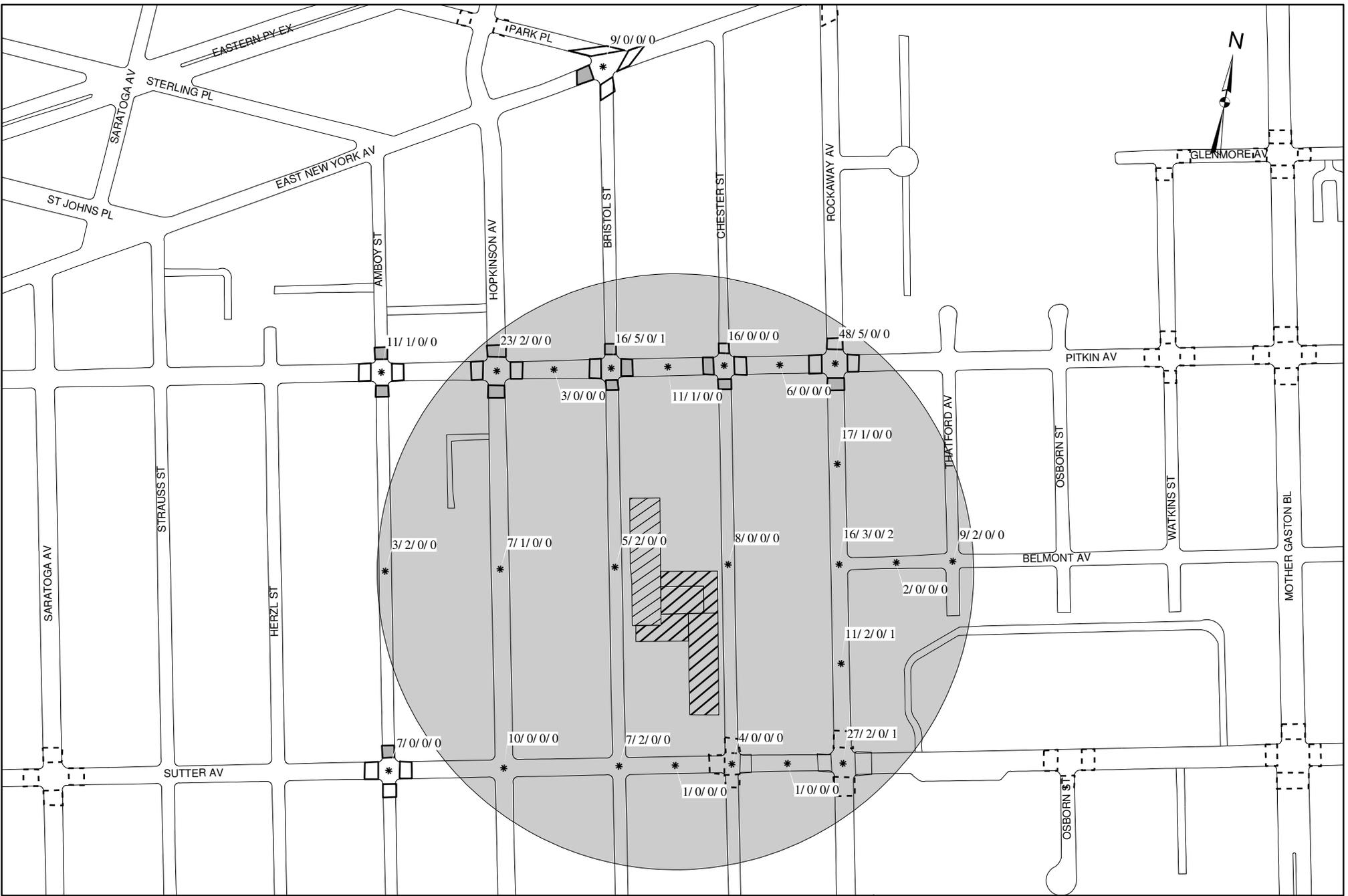
Exhibit 6 and Table 2 show a summary of accidents, as obtained from the New York State Department of Motor Vehicles (DMV), in the vicinity of P.S. 327 for the three-year period from January 1, 1998 through December 31, 2000. The DMV data provides some detail relating to the circumstances and cause of 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 concentrations of student pedestrians occur. Intersections that are farther from the school, which did not have detailed data available at the time of this study, will be addressed with DOT's School Safety Engineering Program's ongoing work. DMV accident data is discussed in Section 3.6, Traffic Operations and Issues.

<b>TABLE 2: DMV THREE-YEAR ACCIDENT SUMMARY (1998-2000)</b>				
<b>INTERSECTION</b>	<b>TOTAL ACCIDENTS</b>	<b>PEDESTRIAN ACCIDENTS</b>	<b>PEDESTRIAN FATALITIES</b>	<b>SCHOOL-RELATED ACCIDENTS*</b>
Pitkin Ave. and Chester St.	16	0	0	0
Pitkin Ave. and Bristol St.	16	5	0	1
Pitkin Ave. and Thomas S. Boyland St.	23	2	0	0
Pitkin Ave. and Amboy St.	11	1	0	0
Pitkin Ave. and Rockaway Ave.	48	5	0	0
Sutter Ave. and Amboy St.	7	0	0	0
Sutter Ave. and Bristol St.	7	2	0	0
Bristol St. and E. New York Ave.	9	0	0	0
Sutter Ave. and Rockaway Ave.	27	2	0	1
Belmont Ave. and Rockaway Ave.	16	3	0	2
<b>TOTAL</b>	<b>180</b>	<b>20</b>	<b>0</b>	<b>4</b>

<b>TABLE 3: NYPD FOUR-YEAR ACCIDENT SUMMARY (2001-2004)</b>				
<b>INTERSECTION</b>	<b>TOTAL ACCIDENTS</b>	<b>PEDESTRIAN ACCIDENTS</b>	<b>PEDESTRIAN FATALITIES</b>	<b>SCHOOL-RELATED ACCIDENTS*</b>
Pitkin Ave. and Chester St.	34	3	0	2
Pitkin Ave. and Bristol St.	27	3	0	0
Pitkin Ave. and Thomas S. Boyland St.	37	6	0	0
Pitkin Ave. and Amboy St.	17	0	0	0
Pitkin Ave. and Rockaway Ave.	104	21	0	1
Sutter Ave. and Amboy St.	12	0	0	0
Sutter Ave. and Bristol St.	18	4	0	1
Bristol St. and E. New York Ave.	14	0	0	0
Sutter St. and Rockaway Ave.	54	14	0	4
Belmont Ave. and Rockaway Ave.	41	13	0	0
<b>TOTAL</b>	<b>358</b>	<b>64</b>	<b>0</b>	<b>8</b>

\* School-Related Accidents are defined as accidents involving school-age pedestrians (age 4 – 14), occurring weekdays during the school year.



**ACCIDENT LOCATION** \*

**SCHOOL CROSSWALK ASSIGNED TO P.S. 327**

**SCHOOL CROSSWALK ASSIGNED TO ANOTHER SCHOOL**

**CROSSWALK**

X/X/X/X

TOTAL ACCIDENTS	PED ACCIDENTS	PED FATAL	SCHOOL_PED ACCIDENTS
9/0/0/0			
11/1/0/0			
23/2/0/0			
16/5/0/1			
16/0/0/0			
48/5/0/0			
3/0/0/0			
11/1/0/0			
6/0/0/0			
17/1/0/0			
3/2/0/0			
7/1/0/0			
5/2/0/0			
8/0/0/0			
16/3/0/2			
9/2/0/0			
2/0/0/0			
11/2/0/1			
7/0/0/0			
10/0/0/0			
7/2/0/0			
4/0/0/0			
27/2/0/1			
1/0/0/0			
1/0/0/0			

1 inch equals 300 feet

**EXHIBIT 6**  
**P.S. 327, BROOKLYN**  
**DR. ROSE B. ENGLISH SCHOOL**

**ACCIDENT SUMMARY**  
**THREE YEAR PERIOD (1998-2000)**

### 3.6 TRAFFIC OPERATIONS AND ISSUES

The following outlines the traffic accidents and operational issues at intersections in the vicinity of P.S. 327:

#### 3.6.1 Pitkin Avenue and Chester Street

Pitkin Avenue is a 42-foot wide, two-way roadway with one travel lane in each direction and parking on both sides. Chester Street is a 30-foot wide, one-way northbound street with one travel lane and parking on both sides. This is a signal-controlled intersection. There are school crosswalks in place on the west and south legs of the intersection. Pitkin Avenue is a bus route for the B14 line.



*Figure 5 - Chester Street at Pitkin Avenue, looking north*

The school officials indicated that vehicles speed on Pitkin Avenue in the vicinity of P.S. 327. A spot study was conducted on Pitkin Avenue between Bristol Street and Chester Street on August 9, 2005.

The speed study results are shown in Table 4 and in the Appendix. The 85th percentile speed on Pitkin Avenue is 30 mph, which is equal to the legal speed limit of 30 mph. Pitkin Avenue is a bus route for the B14 line. Therefore, a speed reducer (hump) is not recommended for Pitkin Avenue.

TABLE 4: SPOT SPEED STUDIES (PITKIN AVENUE)		
LOCATION	MEDIAN SPEED (MPH)	85TH PERCENTILE SPEED (MPH)
Pitkin Avenue between Bristol Street and Chester Street	25	30

According to school officials, this intersection poses one of the greatest concerns to P.S. 327. Many school children cross both Pitkin Avenue and Chester Street en route to school.

Sixteen accidents occurred at this intersection during the 1998-2000 study period, none of which involved pedestrians.

### 3.6.2 Pitkin Avenue and Bristol Street

Bristol Street is a 30-foot wide, one-way northbound roadway with one travel lane and parking on both sides. This intersection is controlled by a two-phase signal. There are school crosswalks in place on the north, south and east legs of the intersection.

Sixteen accidents occurred at this intersection during the 1998-2000 study period. Five accidents involved pedestrians, one of which was school-related. Two pedestrians, including a seven-year-old student, were struck when crossing against the signal. Another pedestrian was stuck when emerging from between parked vehicles. The fourth accident involved a pedestrian getting out of a vehicle who was struck by a speeding motorist. The last accident involved a driver backing up unsafely.



*Figure 6 - Pitkin Avenue and Bristol Street*

### 3.6.3 Pitkin Avenue and Thomas S. Boyland Street

Pitkin Avenue and Thomas S. Boyland Street is a signalized intersection. Thomas S. Boyland Street is a 43-foot wide, two-way roadway with one travel lane in each direction and parking on both sides. There are school crosswalks on the north and south legs of the intersection.

Twenty-three accidents occurred at this intersection during the 1998-2000 study period. Two accidents involved pedestrians, neither of which was school-related. In one of the accidents a pedestrian was struck while getting out of a vehicle. There were no details for the second accident.

#### 3.6.4 Pitkin Avenue and Amboy Street

Pitkin Avenue and Amboy Street is a signalized intersection. Amboy Street is a 28-foot wide, one-way southbound roadway with one travel lane and parking on both sides. There are school crosswalks on the north and south legs of the intersection.

Eleven accidents occurred at this intersection during the 1998-2000 study period. One accident involved a pedestrian, which was not school-related. There were no details for this pedestrian accident.

#### 3.6.5 Pitkin Avenue and Rockaway Avenue

Pitkin Avenue and Rockaway Avenue is a signalized intersection. Rockaway Avenue is a 40-foot wide, two-way roadway with one travel lane in each direction and parking on both sides. There is a school crosswalk on the south leg of the intersection.

There were 48 accidents at this intersection during the 1998-2000 study period. Five accidents involved pedestrians, none of which were school-related. Three accidents involved turning vehicles. Two other accidents involved pedestrians crossing against the signal.

#### 3.6.6 Sutter Avenue and Amboy Street

Sutter Avenue and Amboy Street is a signalized intersection. Sutter Avenue is a 41-foot wide, two-way roadway with one travel lane in each direction and parking on both sides. There is a school crosswalk on the north leg of the intersection.

Seven accidents occurred at this intersection during the 1998-2000 study period, none of which involved pedestrians.

#### 3.6.7 Sutter Avenue and Bristol Street

Sutter Avenue and Bristol Street is a signalized intersection located immediately south of the school entrance. Bristol Street is a one-way southbound street south of Sutter Avenue and one-way northbound street north of Sutter Avenue. Parking is allowed on both sides of Bristol Street. There are pedestrian crosswalks on all four approaches, but none of them are school crosswalks.

The safety of pedestrians at this intersection is one of the major concerns of school officials. P.S./I.S. 323 is located on the next block south of this intersection. A traffic count was conducted at this intersection on Wednesday, May 25, 2005 to better understand pedestrian and vehicle conflicts (Exhibit 7).



*Figure 7 - Sutter Avenue between Chester Street and Bristol Street*

Seven accidents occurred at this intersection during the 1998-2000 study period. Two accidents involved pedestrians, neither of which was school-related. In one of the accidents a right-turning driver stuck a pedestrian who was crossing with the signal. In the second accident the driver struck a pedestrian while backing up his vehicle unsafely.

### 3.6.8 Bristol Street and East New York Avenue

Bristol Street and East New York Avenue is a signalized intersection located two blocks north of P.S. 327. East New York Avenue is a 38-foot wide, two-way street with one travel lane in each direction and parking on both sides. Bristol Street runs one way northbound and terminates at this intersection. Park Place is a one-way westbound street that starts from this intersection. Park Place is orientated at a skewed angle at the intersection forming an irregularly-shaped intersection.

There were nine accidents at this intersection during the 1998-2000 study period, none of which involved pedestrians.

### 3.6.9 Sutter Avenue and Rockaway Avenue

Sutter Avenue and Rockaway Avenue is a signalized intersection. There are school crosswalks on the north and south legs of this intersection.

At the southwest corner of Sutter Avenue and Rockaway Avenue, construction is planned for the Heritage Houses, a complex of 21 two-story buildings and parking lots.

Twenty-seven accidents occurred at this intersection during the 1998-2000 study period. Two accidents involved pedestrians, one of which was school-related. Both pedestrians, including a nine-year-old student, were struck when emerging from parked vehicles.

On Rockaway Avenue a ten-year-old student was struck when crossing between Sutter Avenue and Belmont Avenue.



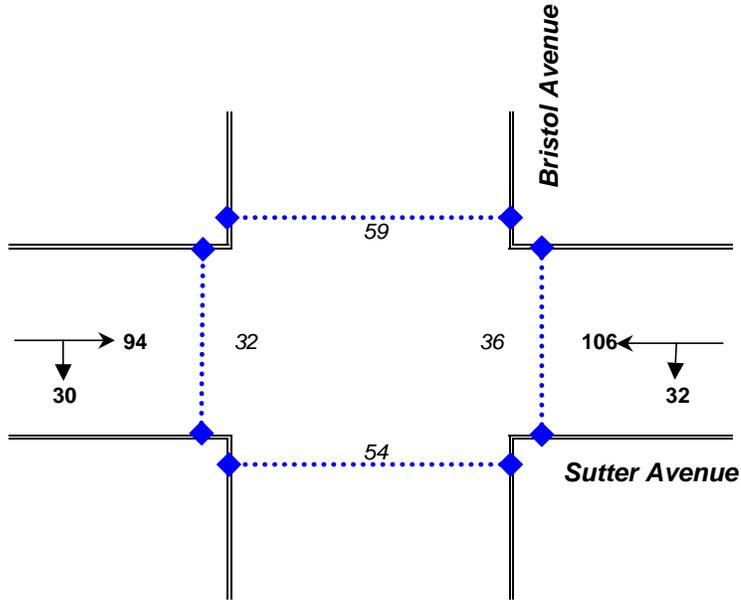
*Figure 8 - Looking south on Rockaway Avenue at Sutter Avenue*

### 3.6.10 Rockaway Avenue and Belmont Avenue

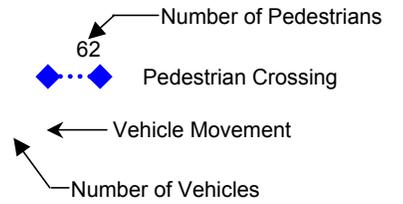
Rockaway Avenue and Belmont Avenue is an un-signalized T-intersection. Belmont Avenue is a 28-foot wide, one-way eastbound roadway with one travel lane and parking on both sides. The traffic on Rockaway Avenue is not controlled. There are no pedestrian crosswalks at this intersection.

Sixteen accidents occurred at this intersection during the 1998-2000 study period. Three accidents involved pedestrians, two of which were school-related. In all three cases, pedestrians were struck while crossing Rockaway Avenue.

**One Hour Traffic Count Volumes**  
 (7:30 AM - 8:30 AM May 25, 2005)



**Sutter Avenue and Bristol Street**



<b>EXHIBIT 7</b>
<b>P.S. 327</b>
<b>TRAFFIC COUNTS</b>

### 3.7 SIGNAL TIMING: PEDESTRIAN PHASE

Pedestrian crossing times were field-verified at all signalized intersections in the vicinity of P.S. 327 and found to be adequate for a child pedestrian walking rate of three feet per second in all directions and approaches.

TABLE 5: PEDESTRIAN CROSSING TIME AT SIGNALIZED INTERSECTIONS				
Intersection Name	Crosswalk Width (Feet)	Ped. Phase Actual (Seconds)	Ped. Phase Req'd (Seconds)	Timing Adjustment? (Yes/No)
<b>Pitkin Ave. and Rockaway Av.</b>				
Crossing Pitkin Av.	50	42	20	NO
Crossing Rockaway Av.	40	66	17	NO
<b>Pitkin Av. and Chester St.</b>				
Crossing Pitkin Av.	50	29	20	NO
Crossing Chester St.	25	78	12	NO
<b>Pitkin Av. and Bristol St.</b>				
Crossing Pitkin Av.	50	32	20	NO
Crossing Bristol Av.	30	76	13	NO
<b>Pitkin Av. and Thomas S. Boyland St</b>				
Crossing Pitkin Av	50	36	20	NO
Crossing Thomas S. Boyland St.	44	72	18	NO
<b>Pitkin Av. and Amboy St.</b>				
Crossing Pitkin Av	50	36	20	NO
Crossing Amboy St.	40	70	17	NO
<b>Sutter Av. and Amboy St.</b>				
Crossing Sutter Av.	40	43	17	NO
Crossing Amboy St.	30	67	13	NO
<b>Bristol St. and E. New York Av.</b>				
Crossing Bristol St.	30	35	13	NO
Crossing E. New York Av.	35	18	15	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 (ROADWAYS AND SIDEWALKS)

The roadways and sidewalks in the vicinity of the school were observed to be in fair condition.



*Figure 9 - Pitkin Avenue at Bristol Street*

## 4. POTENTIAL MEASURES TO IMPROVE STUDENT PEDESTRIAN SAFETY

### 4.1 SHORT-TERM MEASURES

- Install No-Standing Zone

“NO STANDING 7 AM - 4 PM, SCHOOL DAYS” parking regulations should be installed in front of the school’s main entrance on Bristol Street for a length of 200 feet. Existing teacher parking should be relocated further north on Bristol Street.

“NO STANDING 7 AM - 4 PM, SCHOOL DAYS” parking regulations should be installed in front of the school’s rear entrance on Chester Street for a length of 60 feet.

This will allow for additional clear frontage for school buses and parents to drop off and pick up students. Existing teacher parking should be relocated farther south on Chester Street.

- Administer student pedestrian safety education program

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

- Place stop bars ten feet in advance of 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.

- Install new school crosswalks

It is recommended that new school crosswalks be installed at the following intersections to complete a network of contiguous school crosswalks in the immediate school vicinity. :

- Sutter Avenue and Thomas S. Boyland Street – north leg
- Bristol Street and East New York Avenue – south leg

- Install a speed reducer (hump) on Bristol Street between Pitkin Avenue and Sutter Avenue

According to school officials, vehicles speed on Bristol Street in the vicinity of P.S. 327. A spot speed study was conducted on Bristol Street between Pitkin Avenue and Sutter Avenue on August 9, 2005.

Spot speed study results are shown in Table 6 and in the Appendix. The 85th percentile speed on Bristol Street is 31 mph, which exceeds the legal speed limit of 30 mph. Therefore, to reduce speeding in the vicinity of P.S. 327, a speed hump (reducer) is recommended on Bristol Street between Pitkin Avenue and Sutter Avenue. The location of speed reducer (hump) will be determined by NYCDOT.

TABLE 6: SPOT SPEED STUDIES (BRISTOL STREET)		
LOCATION	MEDIAN SPEED (MPH)	85TH PERCENTILE SPEED (MPH)
Bristol Street between Pitkin Avenue and Sutter Avenue	27	31

#### 4.2 LONG-TERM MEASURES

- Install curb extensions at the following intersections

Consideration should be given to installing a curb extension at the following locations, provided that the Final Design confirms that construction of the recommended curb extension would be feasible and would not interfere with traffic operations. Final details pertaining to the number, location and geometry of curb extensions will be developed during the Final Design/Contract Document preparation.

- Bristol Street and Pitkin Avenue
- Chester Street and Pitkin Avenue
- Belmont Avenue and Rockaway Avenue

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

The purpose of the curb extensions is to shorten the crossing distance for pedestrians, and to reduce speeds of vehicles approaching and turning at these heavily utilized school crosswalks (or intersections). These curb extensions would not eliminate or reduce the width of any moving lanes.

#### **4.3 ADDITIONAL MEASURES FOR PRIORITY SCHOOLS IN THE VICINITY OF P.S. 327**

The following recommendations are part of the proposed measures to improve student pedestrian safety around P.S./I.S. 323, which is also a priority school. (All references in Section 4.3 refer to the P.S./I.S. 323 Priority School Report)

- *Submit Request to Police Department for Crossing Guard*

As noted in section 3.6.1, the intersection of Blake Avenue and Chester Street is not signalized and has an uncontrolled school crossing. According to school officials, some students cross the un-controlled school crosswalk at the western leg en route to P.S. /I.S. 323. Traffic counts performed on Wednesday May 25, 2005 indicated that the existing traffic and pedestrian volumes do not meet the criteria for signalizing the intersection or installing an all-way stop control. Therefore, it is recommended that a crossing guard be requested at this intersection.

- *Install new school crosswalks*

According to school officials, a large number of students come from west of the school. Providing school crosswalks at the following two intersections will facilitate students walking to P.S./I.S. 323. Therefore, it is recommended that school crosswalks be installed at the following intersections:

- Sutter Avenue and Bristol Street – east, north and south legs
- Blake Avenue and Bristol Street – east, west, and north legs

- *Install new sidewalks at the following locations:*

- Sutter Avenue on the south side, in front of and east of P.S. /I.S. 323
- Bristol Street and Chester Street in front of the school

It is recommended to install new sidewalk and street trees at these locations to correct the broken and heaved sidewalks and to replace missing trees. Existing tree pits are empty.

- *Utilization of buses equipped with left side exit doors*

Currently buses unload P.S. /I.S. 323 students through right side doors, though the school entrance is on the left side of the bus. The Department of Education bus fleet includes buses with left side doors. Therefore, it is recommended that buses with left side doors be used to transport students to and from P.S. /I.S. 323.

This measure, in conjunction with posting “NO STANDING 7 AM - 4 PM” regulations in front of the school entrance, would allow students to load and unload from the bus to the curbside, directly in front of the school.

- *Install/replace pedestrian ramps*

Consideration should be given to the installation and/or replacement of pedestrian ramps per NYCDOT standards at the following locations:

- Blake Avenue and Chester Street – southeast corner
- Sutter Avenue and Chester Street – southeast and southwest corners
- Sutter Avenue and Rockaway Avenue – northwest corner

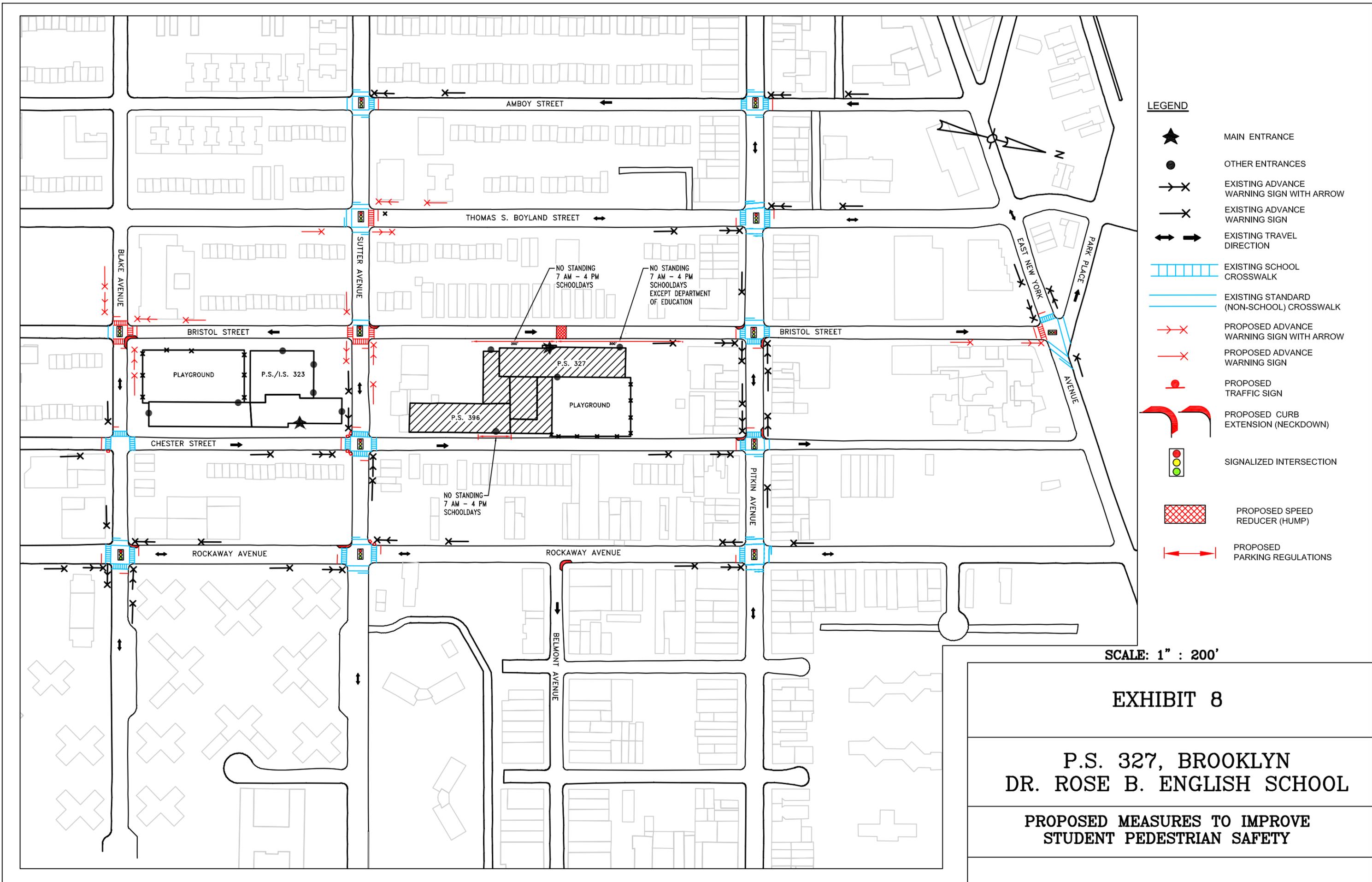
- *Install curb extensions at the following intersections*

Consideration should be given to installing a curb extension at the following locations, provided that the Final Design confirms that construction of the recommended curb extension would be feasible and would not interfere with traffic operations. Final details pertaining to the number, location and geometry of curb extensions will be developed during the Final Design/Contract Document preparation.

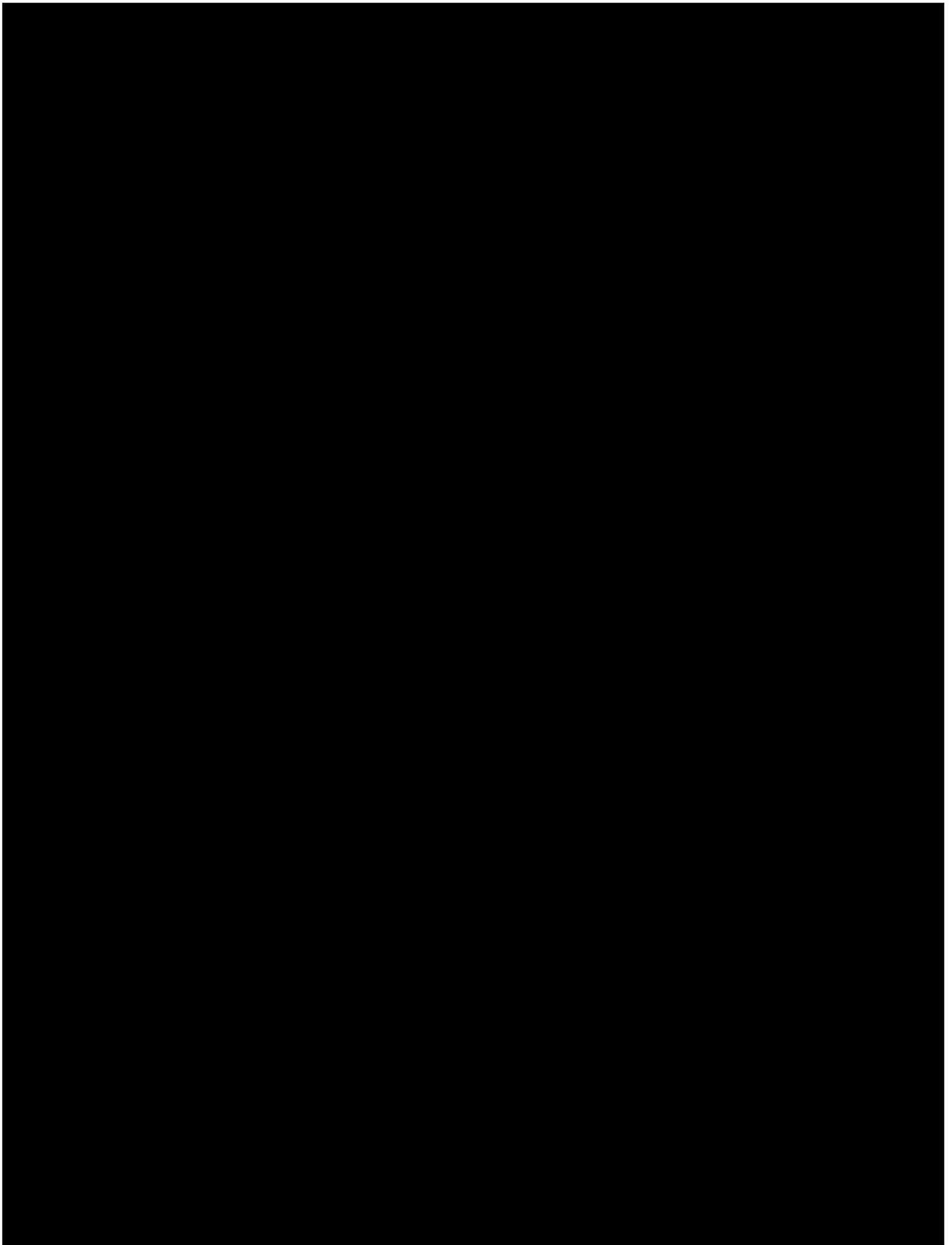
- Blake Avenue and Bristol Street
- Sutter Avenue and Bristol Street
- Blake Avenue and Rockaway Avenue
- Sutter Avenue and Rockaway Avenue

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

The purpose of the curb extensions is to shorten the crossing distance for pedestrians, and to reduce speeds of vehicles approaching and turning at these heavily utilized school crosswalks (or intersections). These curb extensions would not eliminate or reduce the width of any moving lanes.



# APPENDIX



## SPOT SPEED STUDY

Date: **August 9, 2005**  
 Location: **Bristol between Sutter and Pitkin**  
 Surveyor: **Eyad Yousef**

Time: **3:00 pm - 4:00 pm**

School: **PS 327**  
 Direction:  
 Comments: **Clear and dry**

Speed S (mph)	No. of Vehicles in Group n	% of Vehicles in Group	% Cumulative Vehicles	nS	nS <sup>2</sup>
8	0	0.0%	0.0%	0	0
9	0	0.0%	0.0%	0	0
10	0	0.0%	0.0%	0	0
11	0	0.0%	0.0%	0	0
12	0	0.0%	0.0%	0	0
13	0	0.0%	0.0%	0	0
14	0	0.0%	0.0%	0	0
15	0	0.0%	0.0%	0	0
16	0	0.0%	0.0%	0	0
17	0	0.0%	0.0%	0	0
18	0	0.0%	0.0%	0	0
19	0	0.0%	0.0%	0	0
20	4	5.2%	5.2%	80	1600
21	2	2.6%	7.8%	42	882
22	1	1.3%	9.1%	22	484
23	8	10.4%	19.5%	184	4232
24	12	15.6%	35.1%	288	6912
25	17	22.1%	57.1%	425	10625
26	3	3.9%	61.0%	78	2028
27	2	2.6%	63.6%	54	1458
28	4	5.2%	68.8%	112	3136
29	12	15.6%	84.4%	348	10092
30	2	2.6%	87.0%	60	1800
31	2	2.6%	89.6%	62	1922
32	2	2.6%	92.2%	64	2048
33	1	1.3%	93.5%	33	1089
34	0	0.0%	93.5%	0	0
35	0	0.0%	93.5%	0	0
36	2	2.6%	96.1%	72	2592
37	0	0.0%	96.1%	0	0
38	3	3.9%	100.0%	114	4332
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
	77	100.0%		2038	55232

Mean Speed = 26.5 mph  
 Standard Deviation = 4.1 mph  
 Margin of Error (95% Confidence) = ± 0.9 mph

Median Speed = 26.5 mph  
 15th Percentile Speed = 22.2 mph  
 85th Percentile Speed = 30.7 mph

# SPOT SPEED STUDY

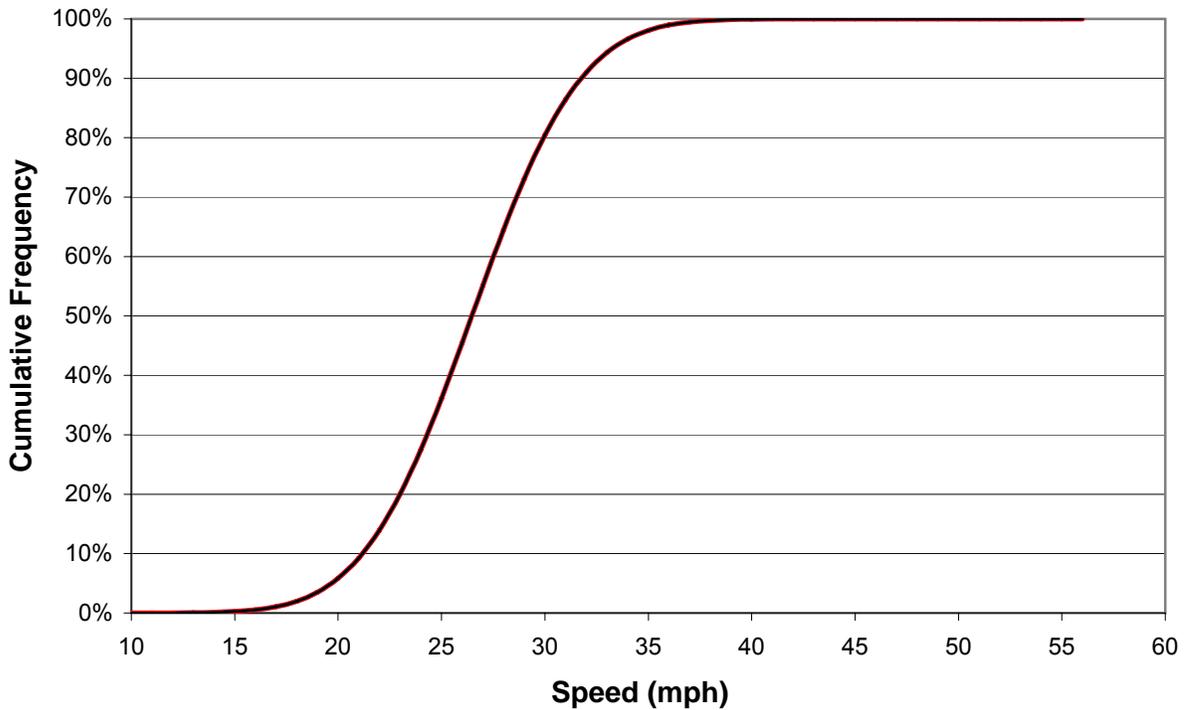
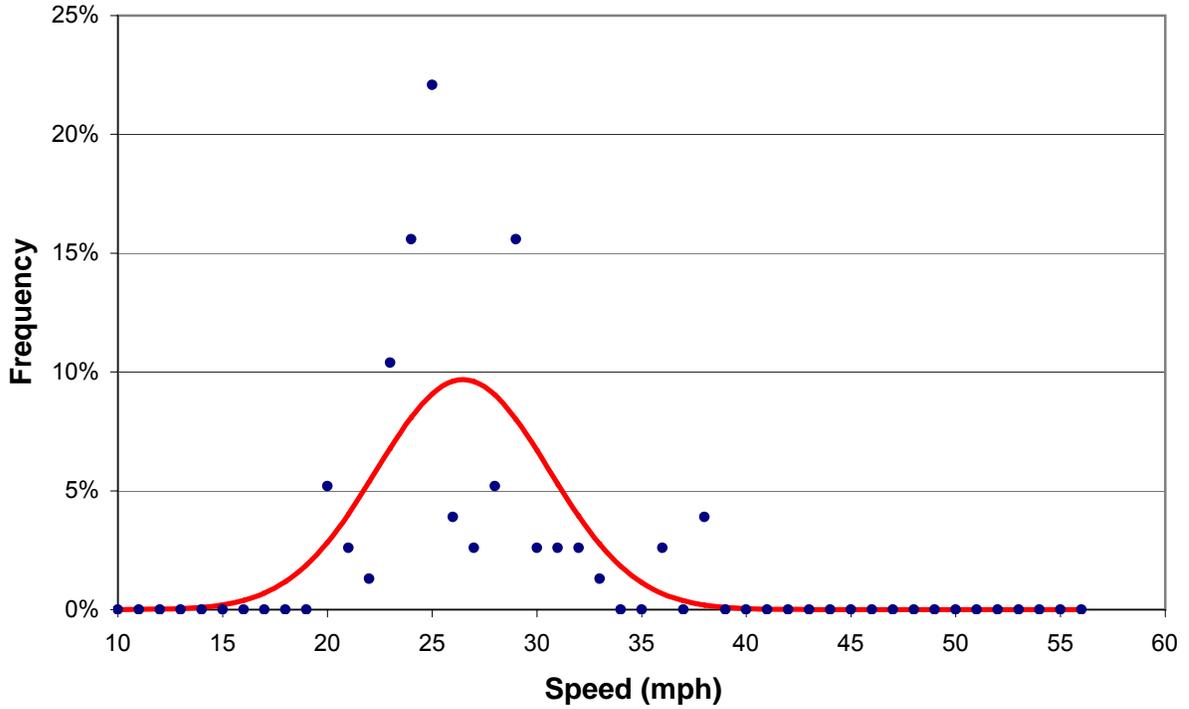
Date: **August 9, 2005**  
 Location: **Bristol between Sutter and Pitkin**  
 Surveyor: **Eyad Yousef**

Time: **3:00 pm - 4:00 pm**

School: **PS 327**  
 Direction:  
 Comments: **Clear and dry**

Mean Speed = 26.5 mph  
 Standard Deviation = 4.1 mph  
 Margin of Error (95% Confidence) =  $\pm 0.9$  mph

Median Speed = 26.5 mph  
 15th Percentile Speed = 22.2 mph  
 85th Percentile Speed = 30.7 mph



## SPOT SPEED STUDY

Date: **August 9, 2005**  
 Location: **Pitkin Ave between Bristol & Chester**  
 Surveyor: **Eyad Yousef**

Time: **2:00 - 3:00 pm**

School: **PS 327**  
 Direction:  
 Comments: **Clear and dry**

Speed S (mph)	No. of Vehicles in Group n	% of Vehicles in Group	% Cumulative Vehicles	nS	nS <sup>2</sup>
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	4	4.8%	4.8%	72	1296
19	3	3.6%	8.3%	57	1083
20	2	2.4%	10.7%	40	800
21	4	4.8%	15.5%	84	1764
22	3	3.6%	19.0%	66	1452
23	13	15.5%	34.5%	299	6877
24	8	9.5%	44.0%	192	4608
25	22	26.2%	70.2%	550	13750
26	3	3.6%	73.8%	78	2028
27	2	2.4%	76.2%	54	1458
28	4	4.8%	81.0%	112	3136
29	2	2.4%	83.3%	58	1682
30	3	3.6%	86.9%	90	2700
31	5	6.0%	92.9%	155	4805
32	2	2.4%	95.2%	64	2048
33	0	0.0%	95.2%	0	0
34	0	0.0%	95.2%	0	0
35	2	2.4%	97.6%	70	2450
36	0	0.0%	97.6%	0	0
37	1	1.2%	98.8%	37	1369
38	0	0.0%	98.8%	0	0
39	1	1.2%	100.0%	39	1521
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
	84	100.0%		2117	54827

Mean Speed = 25.2 mph  
 Standard Deviation = 4.2 mph  
 Margin of Error (95% Confidence) = ± 0.9 mph

Median Speed = 25.2 mph  
 15th Percentile Speed = 20.8 mph  
 85th Percentile Speed = 29.6 mph

# SPOT SPEED STUDY

Date: **August 9, 2005**  
Location: **Pitkin Ave between Bristol & Chester**  
Surveyor: **Eyad Yousef**

Time: **2:00 - 3:00 pm**

School: **PS 327**  
Direction:  
Comments: **Clear and dry**

Mean Speed = 25.2 mph  
Standard Deviation = 4.2 mph  
Margin of Error (95% Confidence) =  $\pm 0.9$  mph

Median Speed = 25.2 mph  
15th Percentile Speed = 20.8 mph  
85th Percentile Speed = 29.6 mph

