New York City Department of Transportation

Office of School Safety Engineering

School Safety Engineering Project

FINAL REPORT: Oholei Torah Elementary School, Brooklyn

Prepared by
The RBA Group/Urbitran Associates

AUGUST 29, 2006

School Safety Engineering Project

Oholei Torah Elementary 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, accident 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). Oholei Torah Elementary in Brooklyn is one of the 135 priority schools.

2. BACKGROUND—EXISTING CONDITIONS AND ANALYSIS

[redacted]

2.2 NEIGHBORHOOD DESCRIPTION

Eastern Parkway is a main thoroughfare through the Crown Heights section of Brooklyn that divides a mostly residential neighborhood. The north and south service roads are each one-lane roadways with parking on both sides. (See Exhibit 1 for Aerial Photograph).

Figure 1: Front of Oholei Torah Elementary school (looking west)

Figure 2: Eastern Parkway – main roadway (looking east)

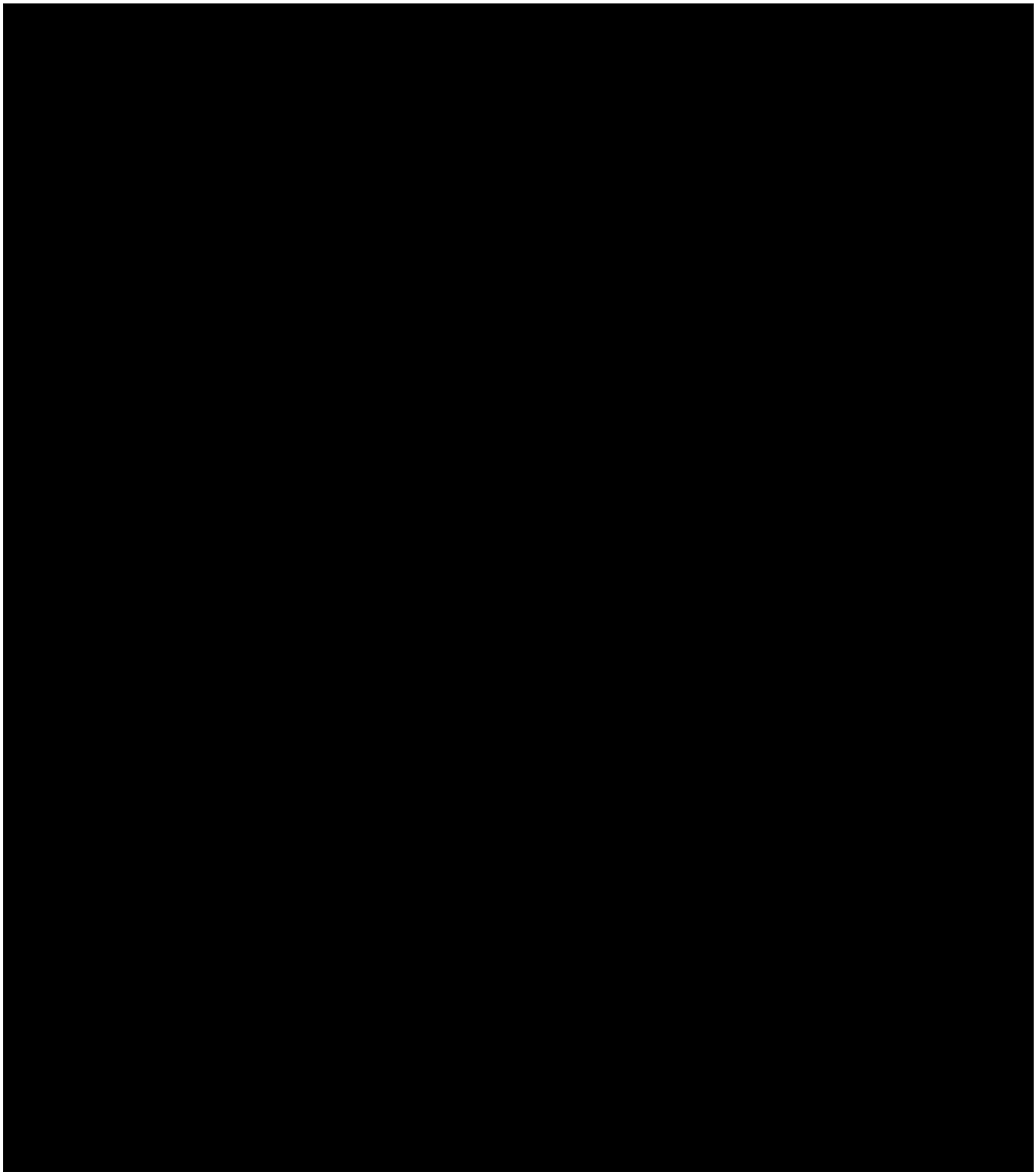
2.3 MEETING WITH SCHOOL REPRESENTATIVES

Representatives from the consultant team, Oholei Torah Elementary School, New York City Police Department (77th Precinct), parent coordinators, and community board representatives met at the school on June 8, 2004.

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

- School officials felt that pedestrian crossing time is not adequate for student pedestrians to cross Eastern Parkway at its intersection with Brooklyn Avenue;
- Southbound vehicles on Brooklyn Avenue turning right onto the Eastern Parkway North Service Road (westbound) conflict with student pedestrians at the crosswalk;
- Uncontrolled pedestrian crossing at the south leg of the intersection of Brooklyn Avenue and the South Service Road of Eastern Parkway.

[redacted]



1 inch equals 125 feet

EXHIBIT 1

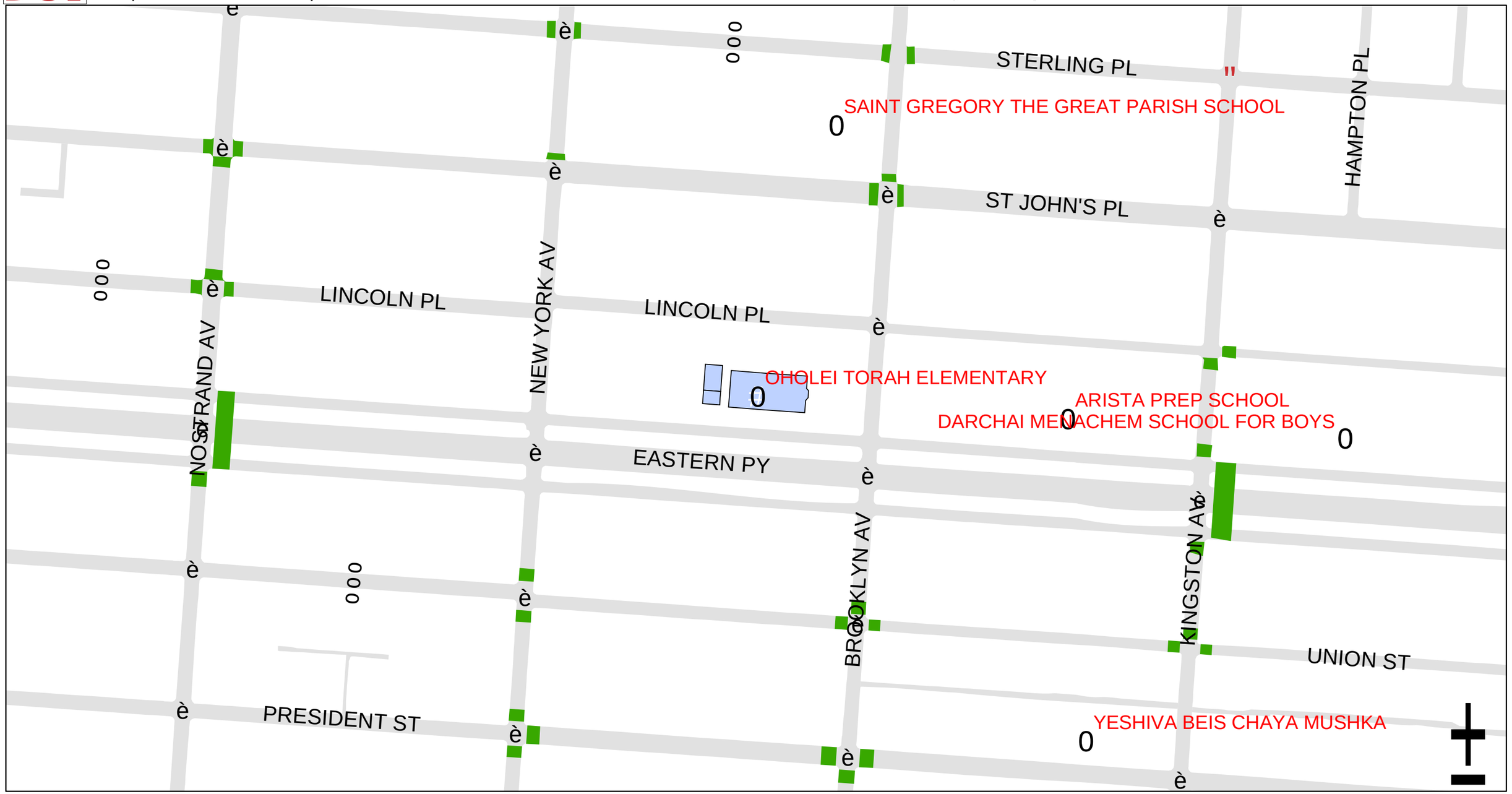
OHOLEI TORAH ELEMENTARY
BROOKLYN

AERIAL PHOTOGRAPH

New York City
Department of Transportation

School Traffic Safety Map

Traffic Operations Division



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 advance warning signs, 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 only shows 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

Brooklyn

OHOLEI TORAH ELEMENTARY

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

Map created on 6/27/2006

EXHIBIT 2

COMM. BOARD: 308
PRECINCT: 77

1.3.3

2.6 PRIMARY MODES OF TRANSPORT TO AND FROM SCHOOL

According to school officials, 45% of students walk to and from school, 45% are transported by school buses, and the remaining 10% by parents or guardians. See Table 1 for the school's estimate of the modes of travel.

TABLE 1: MODES OF TRAVEL (AS ESTIMATED BY SCHOOL OFFICIALS)

Description	Percentage
Walk	45%
Driven by car, livery cab or mini-bus	10%
School bus	45%
MTA bus or subway	0%
TOTAL	100%

2.7 ADDITIONAL STUDENT PEDESTRIAN TRAFFIC GENERATORS

Arista Preparatory School is located on Eastern Parkway between Brooklyn and Kingston Avenues, only one block east of Oholei Torah School (Arista Prep is also a priority school). St Gregory the Great, Parish School is located on Saint John's Place two blocks north of the Oholei Torah School. The Jewish Children's Museum is located at the southeast corner of Kingston Avenue and Eastern Parkway South Service Road. There are two subway stations in the vicinity of the school, served by the No. 3 subway line. No other major pedestrian generators were identified in the vicinity of the school.

2.8 CROSSING GUARD LOCATIONS

There are two crossing guards assigned to this school. One crossing guard is stationed at the intersection of Eastern Parkway North Service Road and Brooklyn Avenue, and the second crossing guard is stationed at the intersection of Eastern Parkway South Service Road and Brooklyn Avenue. It was noted that during dismissal times the crossing guard stationed on the north side of Eastern Parkway accompanied students across the North Service Road to the north median, waited for the mainline walk signal and then directed students across the four lane roadway while the second crossing guard awaits them on the other side (on the south median). The school officials expressed concern regarding this operation, and repeatedly asked for another crossing guard to accompany students across the mainline of Eastern Parkway. See Exhibit 3 for a map of crossing guard locations.

New York City
Department of Transportation

School Traffic Safety Map

Traffic Operations Division

0 300 600 1,200 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

Brooklyn

OHOLEI TORAH ELEMENTARY

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

Map created on 11/16/2006

EXHIBIT 3

COMM. BOARD: 308
PRECINCT: 77

1.5.1

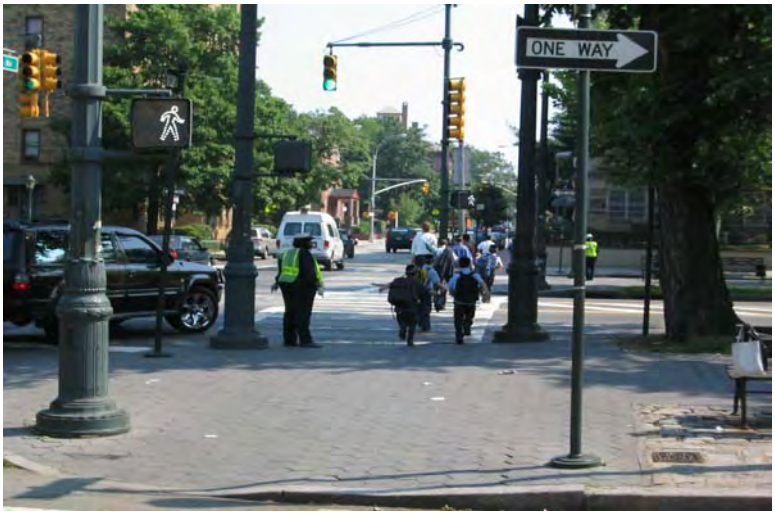


Figure 5: Crossing guards accompanying students to the median on Eastern Parkway (looking south)

Figure 6: Students crossing the mainline of Eastern Parkway

Figure 7: The second crossing guard waits for students to arrive on the south side of the Parkway

3. TRAFFIC OPERATIONS

3.1 SCHOOL BUS OPERATIONS

According to school representatives, 13 school buses drop students off at the school in the morning, and approximately 20 buses pick them up during afternoon dismissal time. School buses park or double-park on the North Service Road in front of the school. It was observed that the service road is often completely blocked during afternoon dismissal time (see Figure 8).

Figure 8: The Service Road in front of the school during afternoon dismissal time

3.2 PARENT DROP-OFF OPERATIONS

School officials reported that approximately 10 percent of students arriving at Oholei Torah School are dropped off and picked up by parents or guardians. Field observations performed in the morning of June 8, 2004 indicated that parent's vehicles share the North Service Road with school buses while dropping off students. As described in section 3.1, the North Service Road is partially or completely blocked for approximately 30-40 minutes during dismissal time. During this time, the school closes the North Service Road to traffic with a temporary metal barrier. This measure is not authorized by the NYCDOT. During this time westbound service road traffic is diverted to the mainline of Eastern Parkway (see Figure 9).

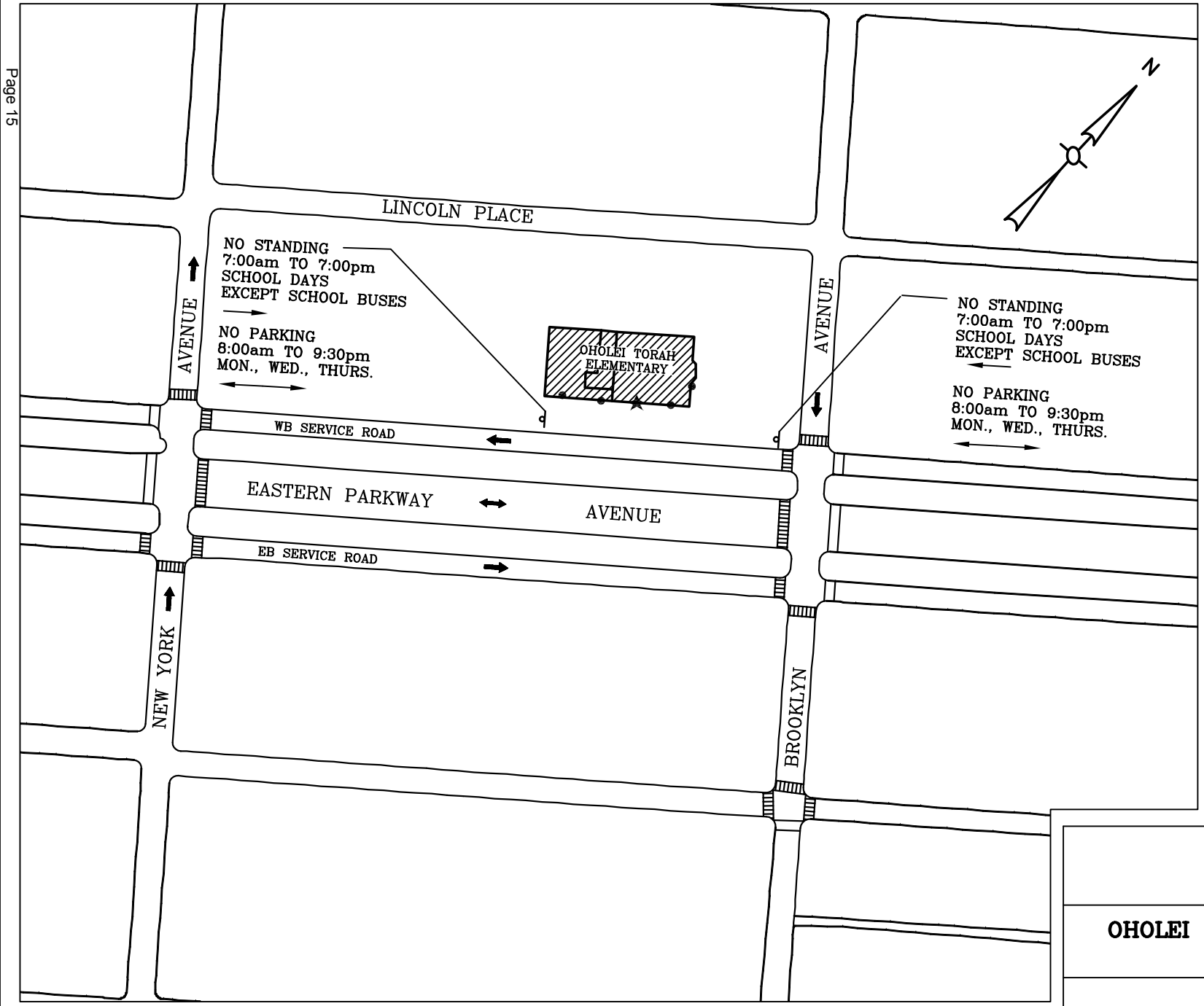
Figure 9: Temporary metal barricade being placed during school dismissal time

3.3 PARKING REGULATIONS

A "NO STANDING 7:00 AM TO 4:00 PM, SCHOOL DAYS, EXCEPT SCHOOL BUSES" parking regulation is posted on the north side of the North Service Road in front of the school. Parking is prohibited on the North Service Road of Eastern Parkway on alternating sides of the roadways between 8:30 am and 9:00 am. Exhibit 4 displays parking regulations in front of Oholei Torah School.

3.4 EXISTING SCHOOL SIGNS AND MARKINGS

The Traffic Safety Map, Exhibit 2, shows existing crosswalk pavement markings. It is noted that a citywide signage program is currently underway to upgrade school signage to current Federal Manual of 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" on Exhibit 7.



NOT TO SCALE

EXHIBIT 4

OHOLEI TORAH ELEMENTARY
BROOKLYN

EXISTING PARKING REGULATIONS

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 Oholei Torah Elementary 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 cause of the accidents. Table 3 is a summary of more recent accident data obtained from the NYC Police Department (NYPD). Though current through 2004, the NYPD data does not provide the same level of detail as the DMV data.

This report targets intersections closest to the school where the highest concentration of student pedestrians occurs. Intersections farther from the school and locations for which detailed data was not available at the time of this study will be addressed with the ongoing work of DOT's School Safety Engineering Program. DMV accident data is discussed in Section 3.6, Traffic Operations and Issues.

TABLE 2: DMV THREE-YEAR ACCIDENT SUMMARY (1998-2000)

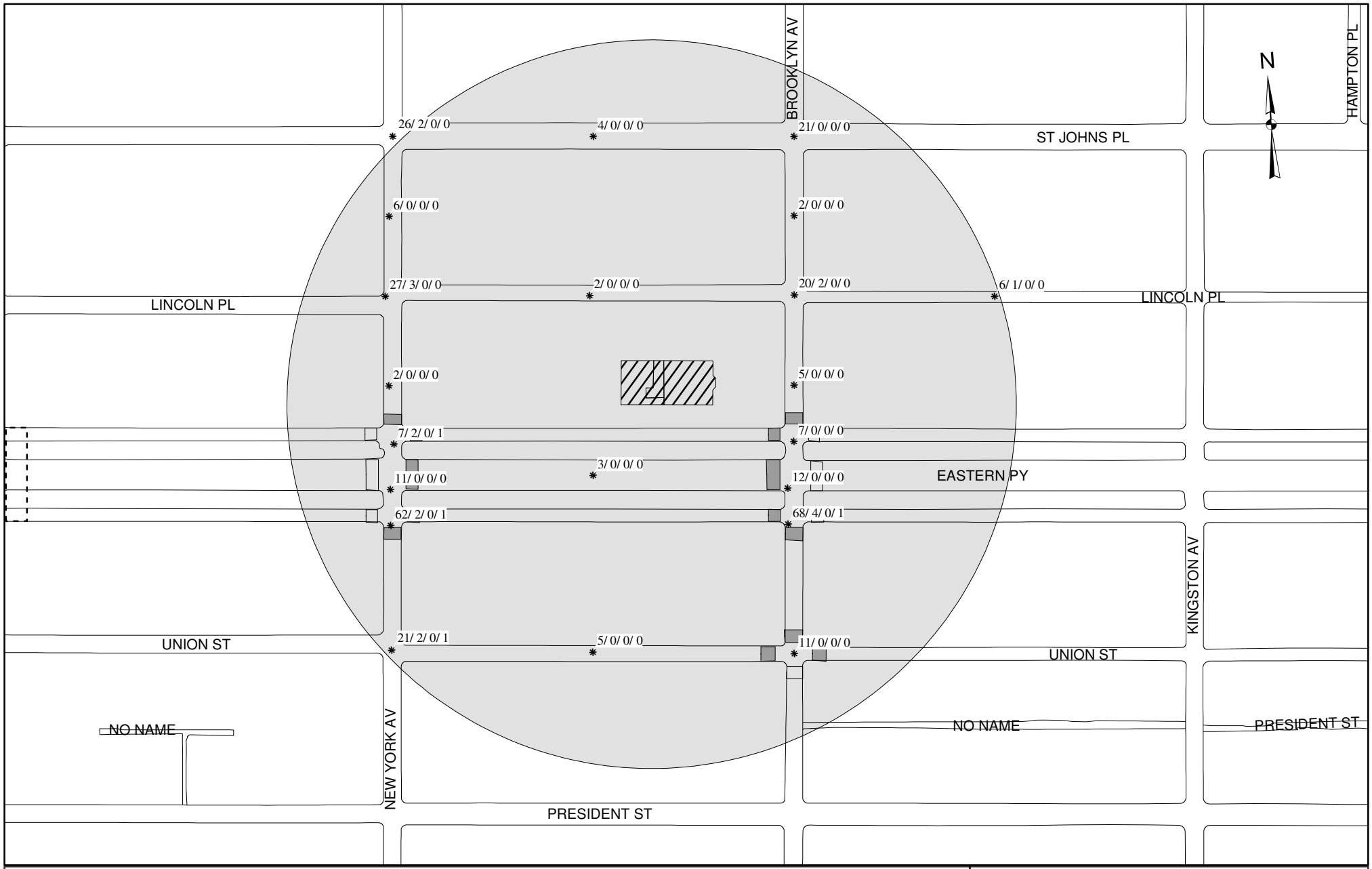
INTERSECTION	TOTAL ACCIDENTS	PEDESTRIAN ACCIDENTS	PEDESTRIAN FATALITIES	SCHOOL-RELATED ACCIDENTS*
Eastern Pkwy and Brooklyn Avenue	87	4	0	1
Eastern Pkwy and New York Avenue	80	4	0	2
Union Street and Brooklyn Avenue	0	0	0	0
Union Street and New York Avenue	21	2	0	1
TOTAL	188	10	0	4

TABLE 3: NYPD FOUR-YEAR ACCIDENT SUMMARY (2001-2004)

INTERSECTION	TOTAL ACCIDENTS	PEDESTRIAN ACCIDENTS	PEDESTRIAN FATALITIES	SCHOOL-RELATED* ACCIDENTS
Eastern Pkwy and Brooklyn Ave**	123	15	0	1
Eastern Pkwy and New York Ave**	96	7	1	1
Union Street and Brooklyn Avenue	15	1	0	0
Union Street and New York Avenue	23	0	0	0
TOTAL	257	23	1	2

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

** Accident data is shown for both eastbound and westbound Eastern Parkway



ACCIDENT LOCATION *

SCHOOL CROSSWALK ASSIGNED TO OHOLEI TORAH SCHOOL

SCHOOL CROSSWALK ASSIGNED TO ANOTHER SCHOOL

CROSSWALK

X/X/X/X — **TOTAL ACCIDENTS / PED ACCIDENTS / PED FATAL / SCHOOL_PED ACCIDENTS**

1 inch equals 250 feet

EXHIBIT 5
OHOLEI TORAH ELEMENTARY
BROOKLYN

ACCIDENT SUMMARY
THREE YEAR PERIOD
1998-2000

3.6 TRAFFIC OPERATIONS AND ISSUES

The following outlines the traffic accidents and operational issues at the intersections in the vicinity of Oholei Torah Elementary School.

3.6.1 Eastern Parkway and Brooklyn Avenue

Eastern Parkway has eastbound and westbound service roads, each with one moving lane of traffic and parking on both sides. The service roads are separated from the main line traffic by landscaped islands, which are approximately 35 feet wide. The mainline is composed of two through lanes (with a left turn lane) in the westbound direction and three through lanes in the eastbound direction. Brooklyn Avenue is a 35-foot wide, one-way southbound street with two travel lanes and parking on both sides. There are school crosswalks on the west, south and north legs of the intersection.

According to school officials, over ninety percent (90-95%) of students walking from Oholei Torah School cross at this intersection en route to and from school. Most safety concerns expressed by the parents, school officials, crossing guards and safety personnel were focused on crossing students safely at this intersection.

All traffic movements, on the mainline and service roads, are controlled by traffic signals with the exception of eastbound traffic on the south service road, which is controlled by a stop sign.

Pedestrians tend to cross the entire street (mainline and service roads) from curb-to-curb in one pedestrian signal phase, although there are two wide medians where pedestrians can wait for the next pedestrian phase. As shown in Table 4 and the signal plan for this intersection (attached in the Appendix) the signal timing at this location is structured for pedestrians to cross the street in two signal phases.

Figure 10: School crosswalk at Eastern Parkway and Brooklyn Avenue (looking south)

Another concern was the stop-controlled intersection of the Eastern Parkway South Service Road and Brooklyn Avenue. School officials requested that the South Service Road be signalized.

A review of traffic operations at this intersection indicates that a signal cannot be installed on the South Service Road unless left turns from the mainline are prohibited.

One-hour traffic counts, including pedestrian counts were conducted at this location on Tuesday, November 9, 2004 between 7:30 am and 8:30 am, and on Thursday afternoon June 2, 2005 between 2:30 pm - 3:30 pm. Also, a gap study was conducted at the same location on Tuesday, April 12, 2005 between 7:30 am and 8:30 am.

The number of pedestrians crossing Brooklyn Avenue was 85 pedestrians/hour in the AM peak and 121 pedestrians/hour in the PM peak. In addition, a total of 109 gaps of 13 or more seconds were available to pedestrians crossing Brooklyn Avenue during the study hour. Neither of these counts, morning or afternoon, satisfies the MUTCD Section 4C.05 Signal Warrant 4 (Pedestrian Volume) criteria of 190 pedestrians/hour and less than 60 gaps per study hour.

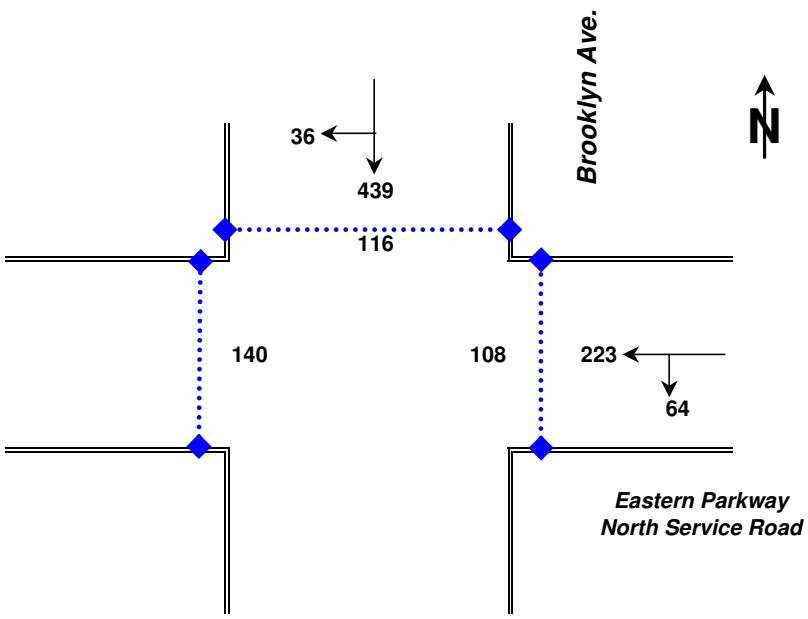
Therefore, even if left turns from the mainline could be prohibited, the South Service Road intersection does not meet MUTCD criteria for a traffic signal (see section 4 for alternative recommendations).

According to the accident data provided for the three-year period between 1998 and 2000, a total of 87 accidents occurred at this intersection (Table 2 and Exhibit 5). Most of these accidents occurred at the intersection of Brooklyn Avenue and the South Service Road. Four accidents involved pedestrians. One was school related. According to the accident data, two pedestrians were struck by southbound left turning vehicles while crossing the South Service Road. There is no information on the other two pedestrian accidents.

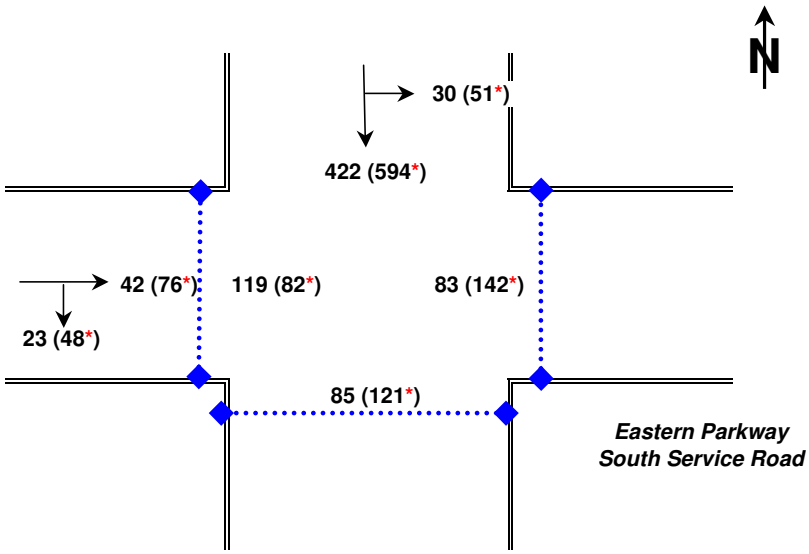
Figure 11: The Brooklyn Avenue and Eastern Parkway South Service Road (looking east)

One Hour Traffic Count Volumes

(7:30 AM - 8:30 AM Novemebr 9, 2004)



Intersection of Eastern Parkway North S.R and Brooklyn Avenue



Intersection of Eastern Parkway South S.R and Brooklyn Avenue

Note: * indicates 2:30-3:30 pm counts

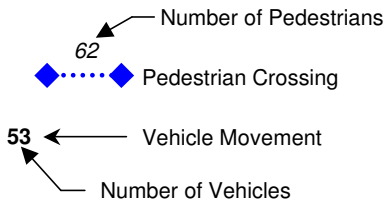


EXHIBIT 6
OHOLEI TORAH ELEMENTARY BROOKLYN
TRAFFIC COUNTS

3.6.2 Eastern Parkway and New York Avenue

According to school officials only a few students from Oholei Torah Elementary School utilize this intersection en route to/from school. Eastern Parkway has an eastbound and westbound service road, each with one moving lane of traffic and parking on both sides. New York Avenue is a 35-foot wide, one-way (northbound) street with two travel lanes and parking on both sides. All traffic movements, on the mainline and service roads, are controlled by traffic signals with the exception of westbound traffic on the north service road, which is controlled by a stop sign. The westbound service road must be stop controlled as to avoid conflicts with vehicles from the mainline. There are school crosswalks on the north, south and east legs of the intersection.

There were 80 accidents at this intersection during the 1998 and 2000 study period. Four accidents involved pedestrians, of which two were school related accidents. The school related accidents included an eight-year old student crossing Brooklyn Avenue against the signal who was struck by a northbound vehicle, and a second eight -year old student struck by an eastbound vehicle, which according to the accident data, disregarded the signal. The other pedestrian accidents at this intersection were due to pedestrians crossing against the signal.

Figure 12: New York Avenue and Eastern Parkway (looking south)

3.6.3 Brooklyn Avenue and Union Street

This is a typical four-way signalized intersection. Union Street is a 30-foot wide, one-way (eastbound) street with one travel lane and parking on both sides. There are school crosswalks on the east, west and north legs of the intersection.

There were 11 accidents at this intersection during the 1998-2000 study period. None of the accidents involved pedestrians.

3.6.3 New York Avenue and Union Street

This is an offset signalized intersection with school crosswalks on the north and south legs of the intersection.

There were 21 accidents during the 1998-2000 study period. Two accidents involved pedestrians. One was school related. One pedestrian was struck by an eastbound vehicle, while crossing against the signal. There is no information on the second pedestrian accident.

3.7 SIGNAL TIMING: PEDESTRIAN PHASE

Pedestrian crossing time was field verified at all signalized intersections in the vicinity of Oholei Torah Elementary School, and found to be adequate in all directions and approaches.

TABLE 4: PEDESTRIAN CROSSING TIMES AT SIGNALIZED INTERSECTIONS

Intersection Name	Crosswalk Width (Feet)	Ped. Phase Actual (Seconds)	Ped. Phase Req'd (Seconds)	Timing Adjustment? (Yes/No)
Eastern Pkwy @ Brooklyn Ave				
Crossing Eastern Pkwy	25/60/25[2]	57.6/43.2[3]	12/33	NO
Crossing Brooklyn Avenue	35	62.4	15	NO
Eastern Pkwy @ New York Avenue				
Crossing Eastern Pkwy.	25/60/25[2]	57.6/43.2[3]	12/23	NO
Crossing New York Avenue		76.8		
Brooklyn Avenue @ Union Street				
Crossing Brooklyn Avenue	34	35	14	NO
Crossing Union Street	25	55	12	NO

[1] *A rate of 3 ft/sec plus 3 seconds reaction time was utilized as the rate that a child pedestrian will travel*

[2] *The Service roads are each 25' wide and the mainline is 60' wide.*

[3] *The South Service Road intersection is not signalized*

Figure 13: Shows the Do Not Walk Symbol for the mainline while the walk signal allows pedestrians to cross the service road.

3.8 PHYSICAL CONDITIONS (ROADWAYS AND SIDEWALKS)

Generally the roadways and sidewalks were observed to be in good condition.

4. POTENTIAL MEASURES TO IMPROVE STUDENT PEDESTRIAN SAFETY

This section describes potential countermeasures. 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 are capital improvements.

4.1 SHORT-TERM MEASURES

- *No-Standing Zone*

  "NO STANDING, 7:00 AM – 4:00 PM, SCHOOL DAYS" parking regulations should be installed for a length of approximately 300' on both sides of the Eastern Parkway North Service Road from in front of the school to Brooklyn Avenue. This will provide sufficient clear frontage for parents to drop off and pick up students.

- *Install pedestrian signal head information signs*

  Pedestrian signal head information signs should be installed at the north and south Eastern Parkway service roads at the intersection with Brooklyn Avenue. These signs will help educate pedestrians on how to cross Eastern Parkway in two cycles.

Figure 14: "Cross with Care" sign

- *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 WALK - FLASHING DON'T WALK - DON'T WALK pedestrian signal sequence.

- *Place advance stop bar ten feet before school crosswalks*

  It is recommended that the advanced stop bar be placed ten feet in advance of the crosswalks 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.

Figure 15: Temporary closure to through traffic on the North Service Road.

- *Reconfigure School Crosswalks*

  - Brooklyn Avenue and Lincoln Place – west and south legs

  This intersection was identified as a school crossing by the school officials. Therefore, it is recommended that school crosswalks be installed across the west, and south legs of the intersection.

- *Review bus management / staging procedures*

  300 feet of curbside space has been provided for school bus operations. Some buses may still be required to stage at other locations until sufficient curbside space becomes available. School officials should review the bus operations at the school and consider the following:

  - Restrict drop-off/pick-up of students from school buses to the designated curbside area fronting the school
  - Define a staging area for buses to queue until they can safely pull into the curbside directly fronting the school for drop-off/pick-up operations.

  It is important that students not enter/exit buses while the buses are in the staging area. By reducing the number of students entering or exiting the buses at one time, it may be easier to manage the students' actions at arrival and dismissal times.

4.2 LONG TERM MEASURES

- *Install curb extensions at:*
  - Eastern Parkway Eastbound Service Road and Brooklyn Avenue –southeast and northwest corners
  - Eastern Parkway Westbound Service Road and Brooklyn Avenue – northeast corner

  Curb extensions should be installed at the corners as shown in Exhibit 7.

  The purpose of the curb extensions is to reduce speeds of vehicles approaching and turning at these heavily utilized school crosswalks.

  These curb extensions will not eliminate or reduce the width of any moving lanes. Curb extensions are not proposed where they would hinder the ability of vehicles to turn. Final details pertaining to curb extensions will be developed during the Final Design/Contract Document preparation.

- *Install raised concrete refuge islands at the following location:*
  - At Eastern Parkway and Brooklyn Avenue intersection – eastbound approach

  The proposed raised median will replace the existing striped median and extend through the crosswalk to provide refuge for pedestrians (see Exhibit 7). The median should have an ADA compliant at-grade cut-through.

4.3 ADDITIONAL RECOMMENDATIONS FOR PRIORITY SCHOOLS IN THE VICINITY

4.3.1 RECOMMENDATIONS FOR ARISTA PREPARATORY SCHOOL:

(All references in Section 4.3.1 refer to the Arista Preparatory Priority School Report)

- *Reconfigure School Crosswalks*
  - *Kingston Avenue and Lincoln Place*

    Currently there is no school crosswalk across the west leg on Lincoln Avenue. A traffic count (See Exhibit 7) indicated that the crosswalk was used by 191 pedestrians/hour. Therefore, it is recommended a school crosswalk be installed on the west leg, across Lincoln Place.
  - *St. Johns Place and Kingston Avenue*

    St. Johns Place and Kingston Avenue intersection is a signalized intersection. As noted in Section 3.7 many Arista Preparatory school students use Kingston Avenue en route to school. This intersection was identified as a school crossing by the school officials. Therefore, it is recommended that school crosswalks be delineated across the east, south, and west legs of the intersection.

- *Install enlarged signal lens for vehicles traveling northbound on Kingston Avenue at Eastern Parkway*

  An enlarged signal lens should be considered for all traffic signal heads at this location. The enlarged heads will allow drivers to see the red lights and deter drivers from traveling through the red light.

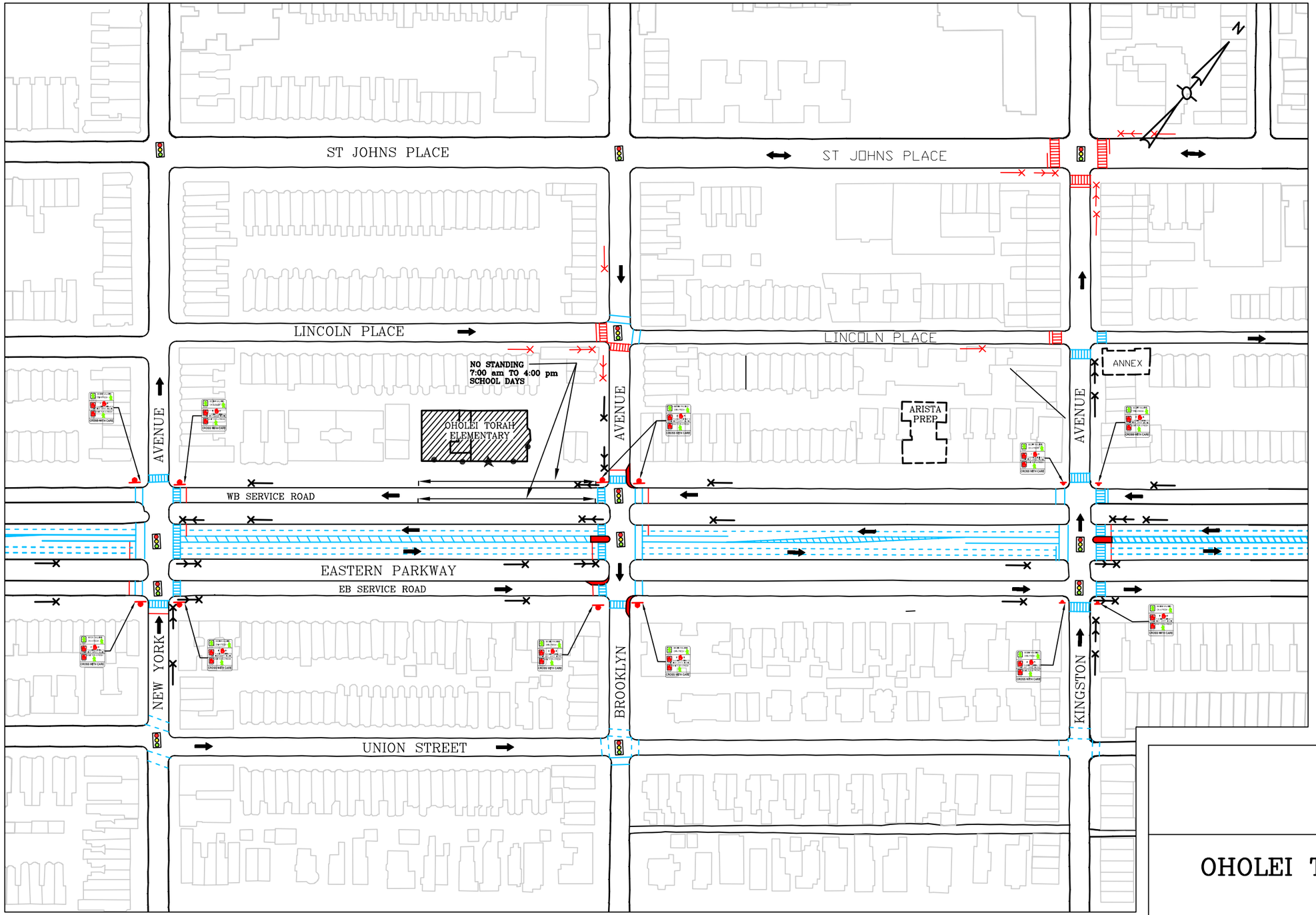
- *Submit a request to the Police Department for a Crossing Guard at Kingston Avenue and Lincoln Place intersection*

  Currently the northbound traffic is uncontrolled at Kingston Avenue and Lincoln Place, although the south leg of the intersection is marked as a school crosswalk. Therefore, as a mitigation measure to improve student safety at this location it is recommended that a request be submitted to the Police Department for a crossing guard during the arrival and dismissal times at this intersection.

- *Install raised concrete refuge islands at the following location:*

  - At Eastern Parkway and Kingston Avenue intersection – westbound approach

  The proposed raised median will replace an existing painted median and extend through the crosswalk to provide refuge for pedestrians (See Exhibit 7). The median should have an ADA compliant at-grade cut-through.



LEGEND

- MAIN ENTRANCE
- OTHER ENTRANCES
- EXISTING ADVANCE WARNING SIGN
- EXISTING (OR SCHEDULED TO BE INSTALLED BY DOT) ADVANCE WARNING SIGN WITH ARROW
- EXISTING TRAVEL DIRECTION
- SIGNALIZED INTERSECTION
- EXISTING SCHOOL CROSSWALK
- EXISTING STANDARD (NON-SCHOOL) CROSSWALK
- EXISTING SCHOOL CROSSWALK ASSOC. WITH OTHER SCHOOL
- PROPOSED ADVANCE WARNING SIGN WITH ARROW
- PROPOSED ADVANCE WARNING SIGN
- PROPOSED STOP LINE
- PROPOSED SCHOOL CROSSWALK
- PROPOSED TRAFFIC SIGN
- PROPOSED REFUGE ISLAND
- PROPOSED PARKING REGULATIONS

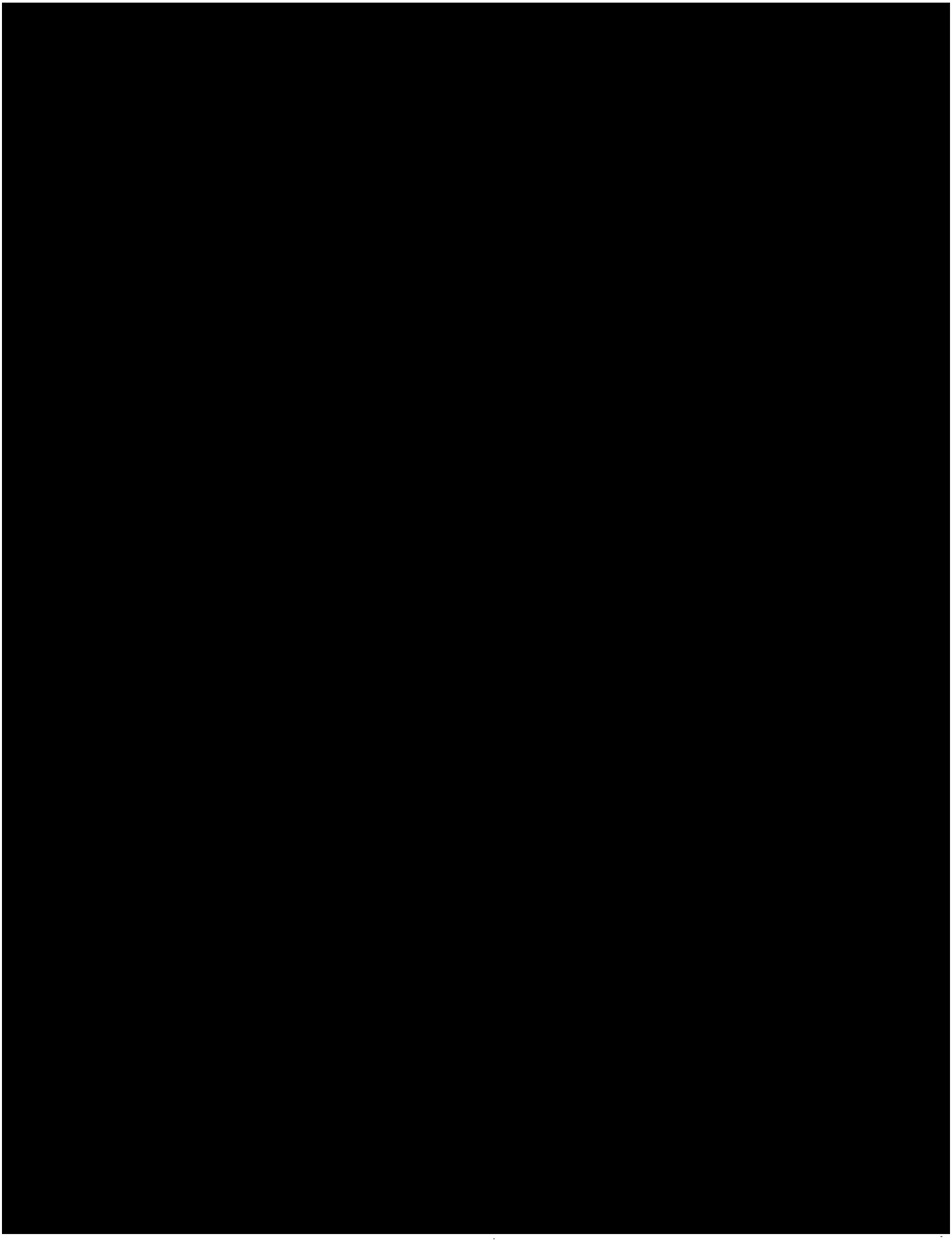
SCALE: 1" : 120'

EXHIBIT 7

OHOLEI TORAH ELEMENTARY
BROOKLYN

PROPOSED MEASURES TO IMPROVE STUDENT PEDESTRIAN SAFETY

APPENDIX



Oholei Torah Elementary

Novemebr 9, 2004
7:30 am - 8:30 am

Title1 : SCHOOL SAFETY ENGINEERING
Title2 : BOROUGH OF BROOKLYN
Title3 : NYC-DOT

Site:
Date: 11/09/04

Combined
**Peds not included in table data*

Begin		Brooklyn Avenue			Eastern Parkway North			Brooklyn Avenue			Eastern Parkway North		
Time	**Total**	**SB-R**	**SB-T**			**WB-T**	**WB-L**						
07:30:00	160	4	86	0	0	52	18	0	0	0	0	0	0
07:45:00	227	12	126	0	0	71	18	0	0	0	0	0	0
08:00:00	183	7	116	0	0	47	13	0	0	0	0	0	0
08:15:00	192	13	111	0	0	53	15	0	0	0	0	0	0
	762	36	439	0	0	223	64	0	0	0	0	0	0

Peak Volume Periods *(1 hour Res:15 min.)*

	Period			Peak Period			Volume
AM	05:00:00	To	10:00:00	07:30:00	To	08:30:00	602
Noon	10:00:00	To	15:00:00	NA	To	NA	0
PM	15:00:00	To	20:00:00	NA	To	NA	0

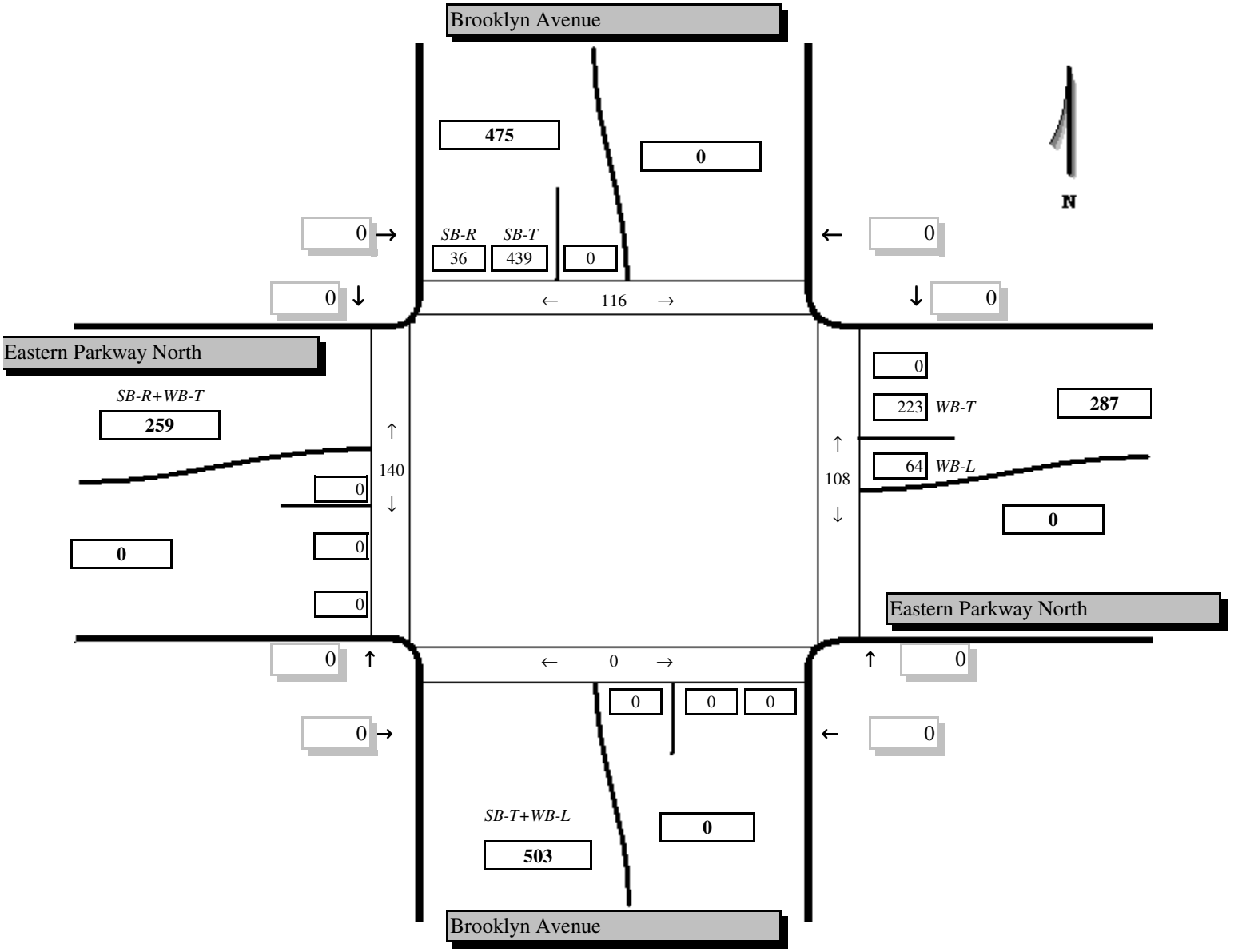
Oholei Torah Elementary

Novemebr 9, 2004
7:30 am - 8:30 am

Title1 : SCHOOL SAFETY ENGINEERING
Title2 : BOROUGH OF BROOKLYN
Title3 : NYC-DOT

Site:
Date: 11/09/04

Combined
**Peds not included in table data*



Oholei Torah Elementary

Novemebr 9, 2004
7:30 am - 8:30 am

Title1 : SCHOOL SAFETY ENGINEERING
Title2 : BOROUGH OF BROOKLYN
Title3 : NYC-DOT

Site:
Date: 11/09/04

Combined
**Peds not included in table data*

Begin		Brooklyn Avenue			Eastern Parkway South			Brooklyn Avenue			Eastern Parkway South		
Time	**Total**		**SB-T**	**SB-L**							**EB-R**	**EB-T**	
07:30:00	89	0	68	12	0	0	0	0	0	0	4	5	0
07:45:00	121	0	97	9	0	0	0	0	0	0	4	11	0
08:00:00	147	0	128	3	0	0	0	0	0	0	5	11	0
08:15:00	139	0	110	5	0	0	0	0	0	0	9	15	0
	496	0	403	29	0	0	0	0	0	0	22	42	0

Peak Volume Periods *(1 hour Res:15 min.)*

	Period			Peak Period			Volume
AM	05:00:00	To	10:00:00	07:30:00	To	08:30:00	496
Noon	10:00:00	To	15:00:00	NA	To	NA	0
PM	15:00:00	To	20:00:00	NA	To	NA	0

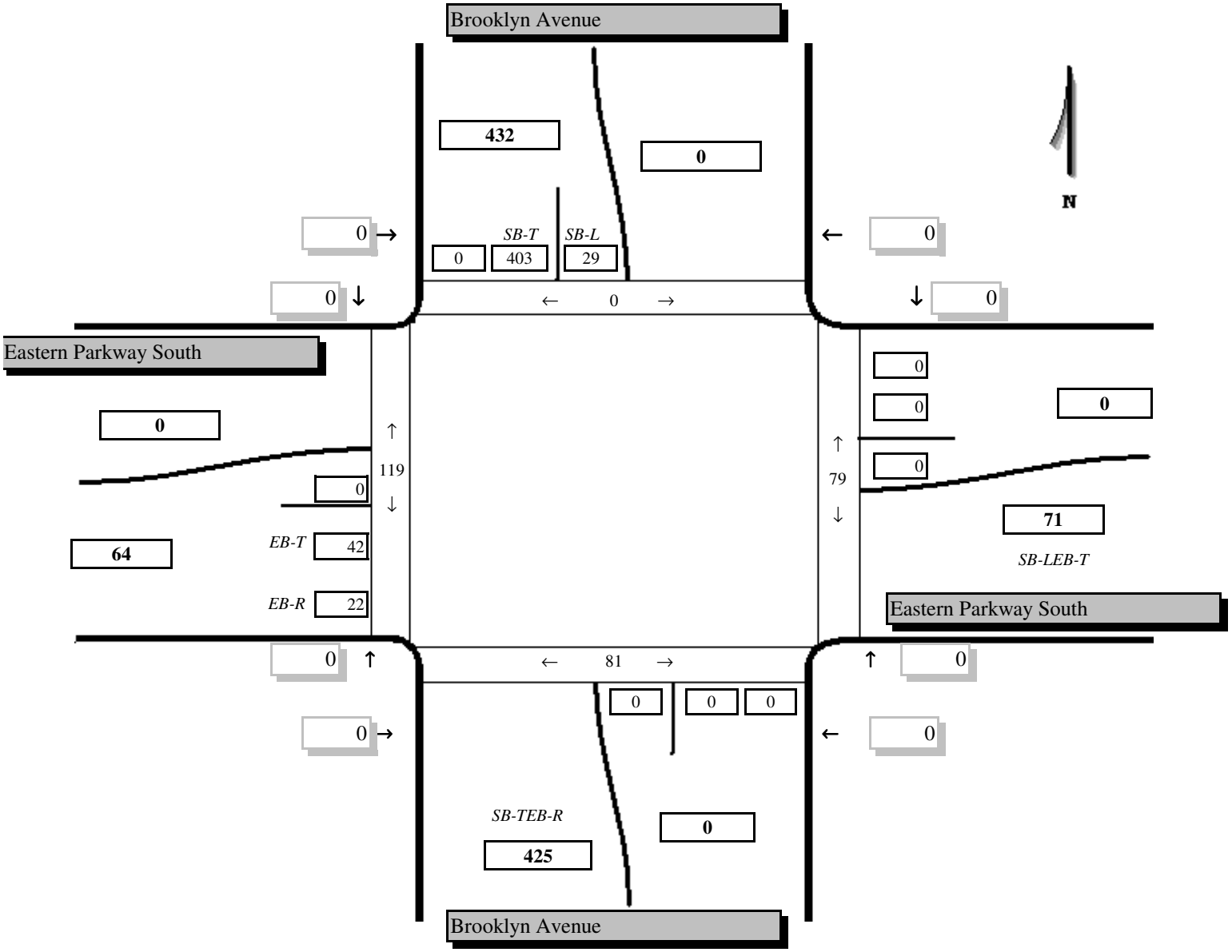
Oholei Torah Elementary

Novemebr 9, 2004
7:30 am - 8:30 am

Title1 : SCHOOL SAFETY ENGINEERING
Title2 : BOROUGH OF BROOKLYN
Title3 : NYC-DOT

Site:
Date: 11/09/04

Combined
**Peds not included in table data*



Oholei Torah Elementary

June 3, 2005
2:30 pm - 3:30 pm

Title1 : SCHOOL SAFETY ENGINEERING
Title2 : BOROUGH OF BROOKLYN
Title3 : NYC-DOT

Site:
Date: 06/03/05

Combined
**Peds not included in table data*

Begin		BROOKLYN AVENUE			EB SERVICE ROAD			BROOKLYN AVENUE			EB SERVICE ROAD		
Time	**Total**		**S-T**	**S-L**							**E-R**	**E-T**	
14:30:00	189	0	148	20	0	0	0	0	0	0	8	13	0
14:45:00	173	0	144	11	0	0	0	0	0	0	9	9	0
15:00:00	190	0	148	9	0	0	0	0	0	0	13	20	0
15:15:00	217	0	154	11	0	0	0	0	0	0	18	34	0
	769	0	594	51	0	0	0	0	0	0	48	76	0

Peak Volume Periods *(1 hour Res:15 min.)*

	Period			Peak Period			Volume
AM	05:00:00	To	10:00:00	NA	To	NA	0
Noon	10:00:00	To	15:00:00	14:15:00	To	15:15:00	362
PM	15:00:00	To	20:00:00	14:30:00	To	15:30:00	769

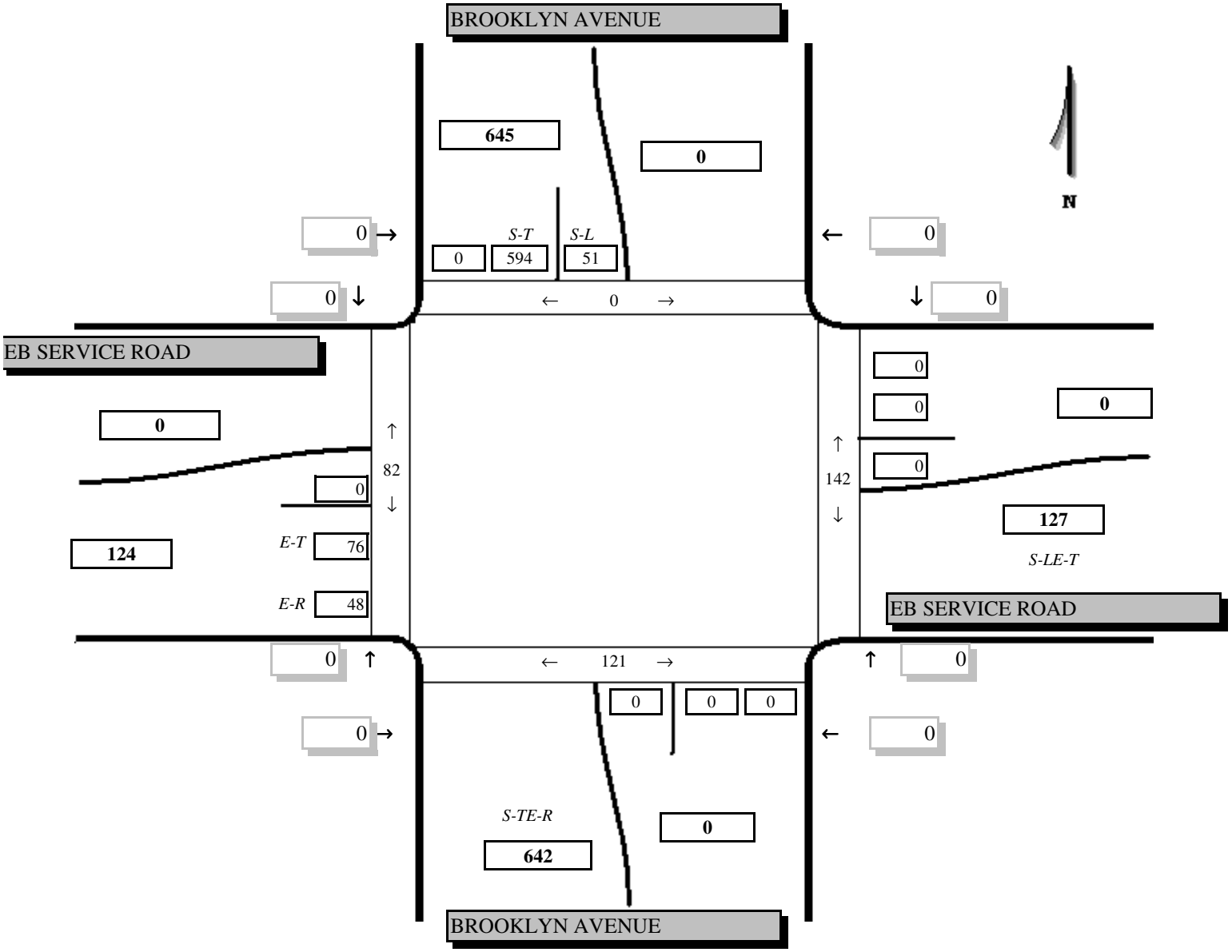
Oholei Torah Elementary

June 3, 2005
2:30 pm - 3:30 pm

Title1 : SCHOOL SAFETY ENGINEERING
Title2 : BOROUGH OF BROOKLYN
Title3 : NYC-DOT

Site:
Date: 06/03/05

Combined
**Peds not included in table data*



SCHOOL SAFETY ENGINERING PROJECT

School: Oholei Torah
Location: Eastern Pkwy South @ Brooklyn Ave

Date: 4-12-05
Time: 7:30 - 8:30 AM

	Gap Time	Veh #		Gap Time	Veh #		Gap Time	Veh #
1	1.01	2	41	.25	1	81	.12	1
2	.11	2	42	.7	1	82	.5	1
3	.5	1	43	.15	3	83	.4	2
4	.28	1	44	.7	2	84	.4	1
5	.3	1	45	.6	1	85	.8	1
6	.2	1	46	.24	1	86	.25	1
7	.13	1	47	.8	1	87	.23	1
8	.2	1	48	.3	1	88	.16	1
9	.3	3	49	.7	1	89	.3	1
10	.42	1	50	.5	2	90	.23	1
11	.6	2	51	.26	1	91	.18	4
12	.9	1	52	.23	1	92	.4	1
13	.10	4	53	.30	2	93	.10	10
14	.11	4	54	.23	15	94	.4	3
15	.6	1	55	.2	1	95	.3	2
16	.20	2	56	.7	2	96	.6	9
17	.24	1	57	.25	1	97	.4	4
18	.20	2	58	.45	1	98	.19	1
19	.7	3	59	.3	1	99	.5	1
20	.6	1	60	.2	1	100	.9	1
21	.13	2	61	.1	1	101	.3	1
22	.3	1	62	.3	2	102	.3	2
23	.8	1	63	.2	2	103	.11	1
24	.32	2	64	.5	1	104	.22	10
25	.13	1	65	.6	1	105	.19	1
26	.8	2	66	.19	1	106	.26	1
27	.2	1	67	.2	1	107	.37	1
28	.22	4	68	.9	1	108	.9	1
29	.9	2	69	.10	2	109	.7	3
30	.16	1	70	//	2	110	.6	2
31	.18	1	71	.6	1	111	.3	2
32	.29	1	72	.3	1	112	.3	4
33	.9	2	73	.5	1	113	.17	1
34	.22	6	74	.10	1	114	.35	1
35	.14	2	75	.32	1	115	.12	1
36	.28	1	76	.34	1	116	.13	1
37	.31	1	77	.12	2	117	.12	1
38	.19	1	78	.28	1	118	.2	1
39	.11	7	79	.21	2	119	.6	1
40	.17	1	80	.5	1	120	.8	8

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SCHOOL SAFETY ENGINERING PROJECT

School: Ohoki Torah
Location: Eastern Parkway South @ Brooklyn Av.

Date:
Time: 8:00 - 8:30

	Gap Time	Veh #		Gap Time	Veh #		Gap Time	Veh #
1	.8	1	41	.8	4	81	.11	2
2	.11	4	42	.33	1	82	.5	1
3	.30	1	43	.10	1	83	.3	1
4	.5	1	44	.25	3	84	.9	2
5	.5	1	45	.34	12	85	.3	1
6	.4	1	46	.20	3	86	.9	1
7	.23	2	47	.6	2	87	.8	2
8	.30	3	48	.23	1	88	.33	5
9	.3	2	49	.8	1	89	.16	8
10	.11	2	50	.8	1	90	.22	2
11	.16	2	51	.8	1	91	.13	1
12	.22	2	52	.7	2	92	.4	1
13	.13	1	53	.10	3	93	.3	1
14	.16	1	54	.16	1	94	.7	1
15	.4	1	55	.10	3	95	.28	8
16	.31	9	56	.25	4	96	.7	1
17	.20	8	57	.14	1	97	.37	11
18	.10	1	58	.10	1	98	.20	1
19	.40	1	59	.25	2	99	.7	1
20	.9	1	60	.13	1	100	.6	1
21	.23	3	61	.9	2	101	.18	1
22	.17	4	62	.10	3	102	.3	1
23	.10	6	63	.32	13	103	.18	2
24	.16	1	64	.16	2	104		
25	.22	1	65	.20	1	105		
26	.6	1	66	.9	1	106		
27	.14	1	67	.30	2	107		
28	.6	1	68	.3	1	108		
29	.16	3	69	.3	1	109		
30	.8	1	70	.6	2	110		
31	.8	1	71	.10	2	111		
32	.19	13	72	.16	8	112		
33	.5	1	73	.41	1	113		
34	.13	2	74	.11	1	114		
35	.22	1	75	.8	1	115		
36	.28	1	76	.30	1	116		
37	.6	1	77	.17	2	117		
38	.3	1	78	.9	4	118		
39	.28	8	79	.17	1	119		
40	.4	1	80	.13	1	120		

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ANALYSIS OF INTERSECTION TIMING

INTERSECTION	Eastern Parkway @ Brooklyn Avenue
TYPE OF SYSTEM	Non - Actuated
TYPE OF CONTROL	Computer
TIME OF OPERATION	Mon-Fri 05:30AM - 10:15AM
CYCLE LENGTH	120Sec
INT. OFFSET	99

MOVEMENT	GREEN	AMBER	RED
Eastern Parkway + Service Road W/B	43	3	2
Eastern Parkway (Clearance)	9	3	2
Brooklyn Avenue	37	3	3
Eastern Pkwy W/B + L/T, Service Road W/B	10	3	2

TIME OF OPERATION	Mon-Fri 10:15AM - 03:00PM, 07:30PM - 05:30AM, Weekend - AAT
CYCLE LENGTH	100 Sec
INT. OFFSET	50

MOVEMENT	GREEN	AMBER	RED
Eastern Parkway + Service Road W/B	35	3	2
Eastern Parkway (Clearance)	7	3	2
Brooklyn Avenue	30	3	3
Eastern Pkwy W/B + L/T, Service Road W/B	7	3	2

TIME OF OPERATION	Mon-Fri 03:00PM - 07:30PM
CYCLE LENGTH	120Sec
INT. OFFSET	108

MOVEMENT	GREEN	AMBER	RED
Eastern Parkway + Service Road W/B	43	3	2
Eastern Parkway (Clearance)	9	3	2
Brooklyn Avenue	37	3	3
Eastern Pkwy W/B + L/T, Service Road W/B	10	3	2

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ANALYSIS OF INTERSECTION TIMING

INTERSECTION	Eastern Parkway @ New York Avenue
TYPE OF SYSTEM	Non - Actuated
TYPE OF CONTROL	Computer
TIME OF OPERATION	Mon-Fri 05:30AM - 10:15AM
CYCLE LENGTH	120Sec
INT. OFFSET	112

MOVEMENT	GREEN	AMBER	RED
Eastern Parkway + Service Road E/B	59	3	2
Eastern Parkway (Clearance)	9	3	2
New York Avenue	36	3	3

TIME OF OPERATION	Mon-Fri 10:15AM - 03:00PM, 07:30PM - 05:30AM, Weekend - AAT
CYCLE LENGTH	100 Sec
INT. OFFSET	68

MOVEMENT	GREEN	AMBER	RED
Eastern Parkway + Service Road E/B	47	3	2
Eastern Parkway (Clearance)	7	3	2
New York Avenue	30	3	3

TIME OF OPERATION	Mon-Fri 03:00PM - 07:30PM
CYCLE LENGTH	120Sec
INT. OFFSET	95

MOVEMENT	GREEN	AMBER	RED
Eastern Parkway + Service Road E/B	59	3	2
Eastern Parkway (Clearance)	9	3	2
New York Avenue	36	3	3

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