

# Safe Streets for Seniors

## East Concourse, Bronx

**FINAL REPORT**

**September 2015**



Polly Trottenberg, Commissioner



**Safe Streets for Seniors**  
**EAST CONCOURSE**

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# PROJECT DESCRIPTION

## 1. PROJECT DESCRIPTION

Since 1990 the number of pedestrian fatalities in New York City has decreased by 56%. Moreover, prior to 1950, pedestrians accounted for three-fourths of all traffic fatalities and since then, that percentage has decreased to account for about one-half of all traffic fatalities. Despite these statistical improvements, pedestrians continue to be the largest at risk mode – with older adults more likely to suffer serious injuries or fatalities from traffic crashes than other pedestrians. The rate of pedestrian fatalities for every 100,000 persons in the City has decreased by nearly half since 1991 – to 2.0 from 3.8 – while the rate of senior pedestrian fatalities per 100,000 seniors has decreased even more sharply – to 6.6 from 13.1. Nevertheless, while seniors make up only 12% of the population in New York City, they still comprise 39% of pedestrian fatalities. The recognition of the disproportional representation of the senior population among severe pedestrian injuries and fatalities led to the development of the Department of Transportation’s Safe Streets for Seniors (SSS) Program.

The purpose of this project is to address senior pedestrian safety issues at 25 Senior Pedestrian Focus Areas (SPFAs) in the five boroughs of New York City and to develop and implement mitigation measures to improve the safety of seniors and other pedestrians within the 25 SPFAs. DOT identified SPFAs to include the top senior pedestrian crash (severe injury and fatality) areas within each borough. Four of the SPFAs are located in the Bronx, seven in Brooklyn, five in Queens, eight in Manhattan and one in Staten Island. The SPFAs have been selected based on the density of senior pedestrian crashes resulting in fatalities or severe injuries in a five-year period. DOT conducted in-house studies for five pilot SPFAs and is utilizing consultant services to perform a comprehensive study of pedestrian safety conditions at intersections and along corridors within 20 selected SPFAs.

The project evaluates the crash history and existing traffic conditions and controls (e.g., roadway geometry, signal timing) at selected intersections and corridors within each SPFA in order to develop short- and long-term measures to reduce pedestrian crashes specifically for seniors, and improve safety and traffic operations for all users. The DOT makes specific safety recommendations consisting of low-cost as well as capital engineering and design improvements for these 20 areas. In addition, the DOT conducts data analysis as needed, prepares engineering and design schematics and related services, as necessary, for capital improvements.

In this report, the East Concourse SPFA located in Bronx has been studied and improvements have been recommended.

## 2. BACKGROUND

Land-use in the East Concourse Study Area is a mix of commercial and residential buildings. There is one senior center, Rain College Avenue Senior Center, located near the study area on the north side of E 165<sup>th</sup> Street between Findlay and College Avenues.

Bronx Lebanon Hospital is in close proximity to the study area of East Concourse.

There are two schools located inside the study area (list of school names and addresses shown in Exhibit 5).

### Bicycle Facilities

The 2010 NYC Bike Map shows “existing” and “planned/proposed” bicycle facilities throughout the city. The following existing bike routes are located in the vicinity of the East Concourse Study Area, as shown in Exhibit 2:

- Class 2 two-way bicycle lanes on Grand Concourse and on E 167<sup>th</sup> Street
- Class 2 one-way bicycle lane southbound on Walton Avenue starting from E 167<sup>th</sup> Street

### Truck Routes

The local truck route along Jerome Avenue is included in the study area. There are no more truck routes of any types along any street in close proximity to the study area (Exhibit 3).

### Bus Lines and Subway

Five bus lines operate within the study area, including (Exhibit 4):

- B1: Operates along Grand Concourse
- B2: Operates along Grand Concourse
- BXM4: Operates along Grand Concourse
- B32: Operates along Morris Avenue
- B35: Operates along E 167<sup>th</sup> Street

The subways lines **B** & **D** operate near Grand Concourse, while line **4** operates along Jerome Avenue within the study area (Exhibit 4). A subway station for the lines **B** & **D** is located at the following intersection:

- E 167<sup>th</sup> Street and Grand Concourse

The subway station for line **4** is located outside of the study area at the intersection of Jerome Avenue and E 170<sup>th</sup> Street.

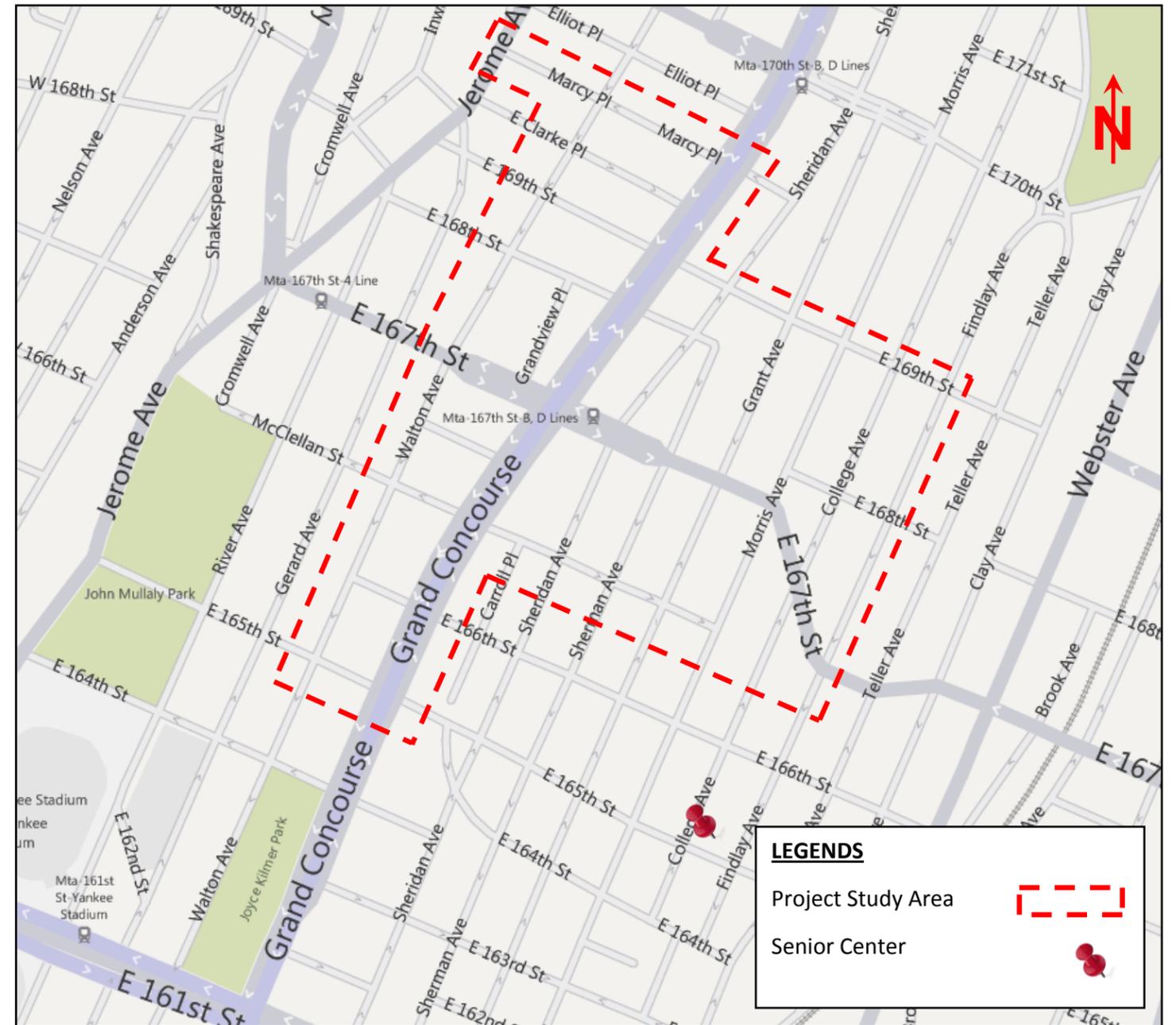


EXHIBIT 1 – AREA MAP

# 2

# BACKGROUND

EXHIBIT 2 – BIKE MAP

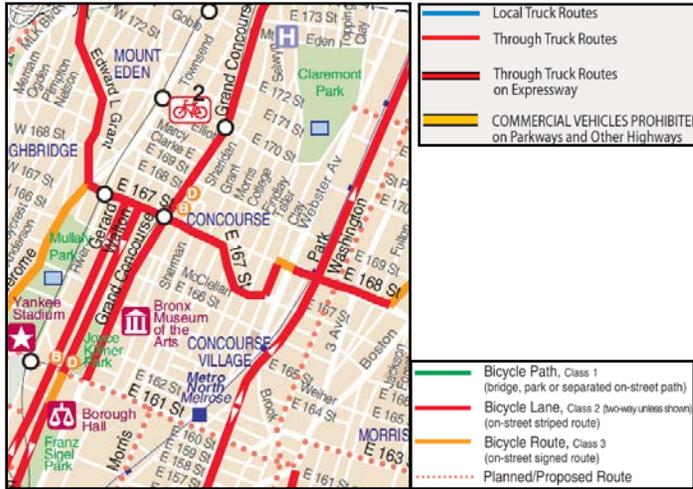


EXHIBIT 3 – TRUCK MAP

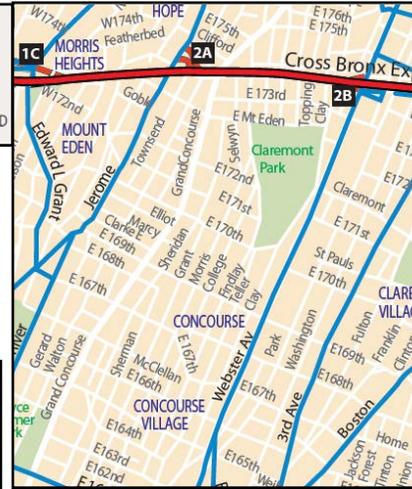


EXHIBIT 4 – TRANSIT MAP



EXHIBIT 5 – LIST OF SCHOOLS IN STUDY AREA

SCHOOL NAME	ADDRESS
Christ the King School	1345 Grand Concourse, New York, NY 10452
City of New York: JHS 22	270 East 167th Street, New York, NY 10456
Grand Concourse Academy	116 East 169th Street, New York, NY 10452
PS/IS 218 Rafael Hernandez	1220 Gerard Avenue, New York, NY 10452
PS 53 Bronx Basheer Quisim	360 E 168th Street, New York, NY 10456
PS 88 Silverstein Little Sparrow	1340 Sheridan Avenue, New York, NY 10456

# 3

# EXISTING CONDITIONS

## 3. EXISTING CONDITIONS

### 3.1 ABOUT THE STUDY AREA

The East Concourse Study Area consists of one major arterial north-south corridor: Grand Concourse between E 165<sup>th</sup> Street and Marcy Place (Photo No. 1). There are also several minor north-south corridors: Walton Avenue from E 165<sup>th</sup> Street to Marcy Place; Sheridan Avenue, Sherman Avenue, Grant Avenue and Morris Avenue all between McClellan Street and E 169<sup>th</sup> Street; and College Avenue and Findlay Avenue between E 167<sup>th</sup> Street and E 169<sup>th</sup> Street. There is one major east-west corridor included in the study area: E 167<sup>th</sup> Street from Walton Avenue to Findlay Avenue. Several other minor east-west corridors are also included in the study area: Marcy Place from Jerome Avenue to Grand Concourse Avenue; Clark Place E from Walton Avenue to Grand Concourse; E 169<sup>th</sup> Street and E 167<sup>th</sup> Street from Walton Avenue to Findlay Avenue; E 168<sup>th</sup> Street from Walton Avenue to Sheridan Avenue; McClellan Street from Walton Avenue to Morris Avenue; and both E 166<sup>th</sup> Street and E 165<sup>th</sup> Street from Walton Avenue to Grand Concourse. The major corridors also carry several NYCT routes (Exhibit 4). Many of the senior residents interviewed showed some concerns about these corridors, especially the Grand Concourse. The combination of heavy traffic volumes, operational factors and geometric factors make these corridors difficult for senior pedestrians to safely cross.



*Photo No. 1: Grand Concourse – Bronx*

### 3.2 FIELD OBSERVATIONS AND SENIOR PEDESTRIANS CONCERNS

There were numerous issues that were repeatedly observed during the field visits and/or conveyed by senior pedestrians during interviews. Those issues are listed here:

- Insufficient pedestrian crossing time
- Missing crosswalk markings
- Missing or non-standard ADA pedestrian ramps
- Length of crosswalks
- Missing pedestrian refuge islands
- Turning vehicles not yielding to pedestrians with right-of-way at intersection
- Poor drainage and ponding
- Potholes and poor surface conditions at crosswalks

# 4

# TRAFFIC OPERATIONS

## 4. TRAFFIC OPERATIONS

### 4.1 CRASH SUMMARY

Crash data was obtained from the New York City Department of Transportation (NYCDOT) for the East Concourse study area from 2001 through 2006. This data provides some details relating the circumstances and cause of each crash. Table 1 and Exhibit 6 show a summary of crashes.

**TABLE 1: DMV SIX YEAR CRASH SUMMARY (2001-2006)**

INTERSECTION		SENIOR PEDESTRIAN CRASHES	SENIOR PEDESTRIAN FATALITIES
Jerome Avenue	Marcy Place	1	0
Walton Avenue	East 165 <sup>th</sup> Street	1	0
Grand Concourse	East 166 <sup>th</sup> Street	1	0
Grand Concourse	East 167 <sup>th</sup> Street	1	0
Grand Concourse	East 169 <sup>th</sup> Street	1	0
Sherman Avenue	East 167 <sup>th</sup> Street	1	0
Findlay Avenue	East 167 <sup>th</sup> Street	1	0
Findlay Avenue	East 169 <sup>th</sup> Street	1	0
<b>TOTAL</b>		<b>8</b>	<b>0</b>

# 4

# TRAFFIC OPERATIONS



EXHIBIT 6 – PEDESTRIAN CRASH STATISTICS

# 4

# TRAFFIC OPERATIONS

## 4.2 TRAFFIC VOLUMES

In order to analyze conditions for vehicles and pedestrians, traffic volume data was collected at key locations (see Table 2).

The results of the ATR, TMC and pedestrian counts are included in Appendices A, B, and C and the Technical Supplement.

**TABLE 2: TRAFFIC VOLUME DATA**

LOCATION	ATR <sup>1</sup>	TMC <sup>2</sup>	PED COUNTS
Grand Concourse and East 167th Street	x <sup>3</sup>	x <sup>3</sup>	x <sup>3</sup>
Grand Concourse and East 169th Street		x <sup>4</sup>	x <sup>4</sup>
Morris Avenue and East 167th Street		x <sup>4</sup>	x <sup>4</sup>

Notes:

1. Twenty-four hour Automatic Traffic Recorder (ATR)
2. Turning Movement Counts (TMC's)
3. Count data provided by NYCDOT for June 2007 and projected to year 2010 at a growth rate of ½ percent per year, as per CEQR Manual directives
4. Count data provided by NYCDOT for May 2010

# 4

# TRAFFIC OPERATIONS

## 4.3 SIGNAL TIMING: PEDESTRIAN INTERVAL

According to the MUTCD 2009 (Manual on Uniform Traffic Control Devices), Section 4E.06, a minimum of seven (7) seconds is allocated for a walk interval, in addition to a pedestrian clearance time based on a walking speed of 3.5 feet per second. All signalized intersections within the study area were modified to provide a clearance interval of 3 feet per second to accommodate slower walking speeds (see Appendix C).

# 5

# ILLUSTRATING THE SOLUTION

## 5. ILLUSTRATING THE SOLUTION

### 5.1 EXECUTIVE SUMMARY AND GENERAL RECOMMENDATIONS

**TABLE 3: SUMMARY OF SPECIFIC RECOMMENDATIONS**

Locations	Install Traffic Signal	Installation/ replacement of Pedestrian Ramps	Extended / Raised Median	Curb Extension	High-visibility Crosswalk	Standard/School Crosswalk	Stripe Median	Stripe Parking Lane	Stripe Channelization	Enforce Day Light Saving	Installation of Y2P and/or any other Signs	Left-turn Bay	Striping Improvements
Marcy Place & Jerome Avenue		x											
Marcy Place & Walton Avenue										x			x
Grand Concourse & Marcy Place		x	x	x <sup>1</sup>							x <sup>1</sup>		x
Grand Concourse & Clarke Place E		x		x <sup>1</sup>							x		x
Grand Concourse & E 169 <sup>th</sup> Street		x	x	x <sup>1</sup>							x <sup>1</sup>	x	x
Grand Concourse & E 168 <sup>th</sup> Street	x <sup>1</sup>	x	x			x <sup>1</sup>					x <sup>1</sup>		x x <sup>1</sup>
Grand Concourse & E 167 <sup>th</sup> Street		x	x			x <sup>1</sup>					x <sup>1</sup>		x x <sup>1</sup>
Grand Concourse & Tudor Place											x		
Grand Concourse & McClellan Street		x	x										
Grand Concourse & E 166 <sup>th</sup> Street		x											
Grand Concourse & E 165 <sup>th</sup> Street			x		x		x	x	x			x	x
Walton Avenue & Clarke Place E													x
Walton Avenue & E 169 <sup>th</sup> Street		x		x									x
Walton Avenue & E 167 <sup>th</sup> Street		x x <sup>1</sup>	x x <sup>1</sup>			x <sup>1</sup>			x				x <sup>1</sup>
Walton Avenue & E 166 <sup>th</sup> Street						x							x
Walton Avenue & E 165 <sup>th</sup> Street		x			x		x	x	x			x	x
Sheridan Avenue & E 167 <sup>th</sup> Street		x				x					x		x
Sheridan Avenue & E 165 <sup>th</sup> Street					x		x	x	x			x	x
Sherman Avenue & E 167 <sup>th</sup> Street		x			x						x		x
Sherman Avenue & McClellan Street		x											x

# 5

# ILLUSTRATING THE SOLUTION

**TABLE 3: SUMMARY OF SPECIFIC RECOMMENDATIONS**

Locations	Install Traffic Signal	Installation/ replacement of Pedestrian Ramps	Extended / Raised Median	Curb Extension	High-visibility Crosswalk	Standard/School Crosswalk	Stripe Median	Stripe Parking Lane	Stripe Channelization	Enforce Day Light Saving	Installation of Y2P and/or any other Signs	Left-turn Bay	Striping Improvements
Sherman Avenue & E 165 <sup>th</sup> Street					x		x	x	x				x
Grant Avenue & E 169 <sup>th</sup> Street						x <sup>1</sup>							x
Grant Avenue & E 167 <sup>th</sup> Street		x <sup>1</sup>		x <sup>1</sup>	x								x
Grant Avenue & McClellan Street		x											x
Morris Avenue & E 167 <sup>th</sup> Street		x <sup>1</sup>		x <sup>1</sup>									
College Avenue & E 169 <sup>th</sup> Street					x								
College Avenue & E 167 <sup>th</sup> Street		x <sup>1</sup>		x <sup>1</sup>									
Findlay Avenue & E 169 <sup>th</sup> Street		x <sup>1</sup>		x <sup>1</sup>									x
Findlay Avenue & E 167 <sup>th</sup> Street		x		x x <sup>1</sup>									
Along the corridors of E 165 <sup>th</sup> Street, E 167 <sup>th</sup> Street, E 169 <sup>th</sup> Street, McClellan Street and Walton Avenue								x					

x – Recommendations proposed by study of Safe Street for Seniors - East Concourse

x<sup>1</sup> – Recommendations proposed under other NYCDOT projects

### General Recommendations

- Place stop bars ten feet in advance of all crosswalks  
The NYCDOT standard for placement of a stop bar is ten feet in advance of any marked pedestrian crosswalk, including school and high-visibility crosswalks. This positioning helps to maximize pedestrian visibility and to minimize the potential for pedestrian/vehicle conflicts. Therefore, it is recommended that stop bars be placed ten feet in advance of all crosswalks.
- Provide additional crossing time where feasible  
A number of senior residents interviewed indicated that there was not enough time to cross many of the streets. Therefore, all of the signals, where possible, will be retimed to allow more crossing time for pedestrians.
- Green projects where feasible  
All medians, pedestrian plazas and curb extensions will be part of the Greenstreets project, where feasible. The Greenstreets project is a citywide program to convert paved vacant traffic islands and medians into green spaces filled with shade trees, flowering trees, shrubs and groundcover.

# 5

# ILLUSTRATING THE SOLUTION

## 5.2 JEROME AVENUE AND MARCY PLACE

This intersection is one of the uncommon types of 4-legged intersections within the study area (Photo No. 2 and Figure 1). The southbound traffic approaches this intersection from both Jerome Avenue and Plaza Drive. The alignment of Jerome Avenue is north-south, and it is approximately 60 feet wide. Plaza Drive has a one-way travel lane with on-street parking on both sides of the road. The width of Plaza Drive is 35 feet. There is a striped, channelized gore area at the corner separating southbound Plaza Drive traffic and southbound Jerome Avenue traffic. Under the School Safety Project, it is recommended that Plaza Drive be entirely closed from W 170<sup>th</sup> Street to Marcy Place. This proposal is forwarded by GPI and is shown in Illustration Exhibit 7. This closure will prevent all traffic from entering Plaza Drive, relieving congestion and bottlenecks, and resulting in a safer pedestrian crossing. Access to eastbound Elliot Place from southbound Plaza Drive will also be prohibited. All improvements proposed at this location are shown in Exhibit 8.



Photo No. 2: Jerome Avenue and Marcy Place (looking north)

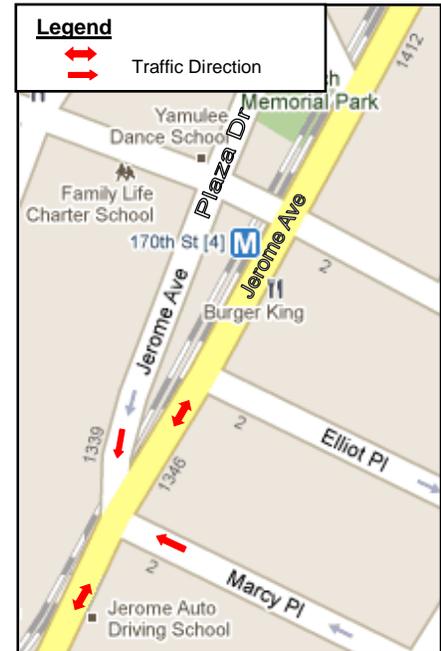


Figure 1: Jerome Avenue Traffic Pattern

# 5

# ILLUSTRATING THE SOLUTION

## 5.3 WALTON AVENUE

Walton Avenue from Marcy Place to E 165<sup>th</sup> Street is included within the study area. The length of this corridor is approximately 0.6 miles and the average width is 33 feet, with one moving lane in the southbound direction. There is an existing bike lane on the west side of Walton Avenue between E 167<sup>th</sup> Street and E 165<sup>th</sup> Street (Photo No. 3). It is recommended that 8 foot wide parking lanes be installed on both sides of Walton Avenue from Marcy Place to E 167<sup>th</sup> Street and on the east side of Walton Avenue between E 167<sup>th</sup> Street and E 165<sup>th</sup> Street.



Photo No. 3: Walton Avenue & E 167<sup>th</sup> St. (looking north)

In order to shorten the crossing distance, slow down vehicular traffic and provide better visibility for senior pedestrians, it is recommended that a neck-down or curb extension be constructed at the following location:

- Southeast corner of Walton Avenue and E 169<sup>th</sup> Street

Daylighting is recommended at the following intersection in order to improve pedestrian visibility to the drivers:

- Walton Avenue and Marcy Place: on the north side of Marcy Place in advance of the east crosswalk

Crosswalks and/or stop bars are recommended at the following intersections:

- Walton Avenue and Marcy Place
- Walton Avenue and E Clarke Place
- Walton Avenue and E 167<sup>th</sup> Street (Under the School Safety Project, it is recommended that the north, south and west crosswalks be replaced with school crosswalks)
- Walton Avenue and E 166<sup>th</sup> Street
- Walton Avenue and E 165<sup>th</sup> Street (Install high visibility crosswalks at this intersection as the steep gradient can impact a driver's line of sight)

In order to shorten the crossing distance of long crosswalks and to provide a safer refuge for senior pedestrians, refuge islands or extensions of raised medians are recommended at the following locations:

- Walton Avenue and E 167<sup>th</sup> Street: Under the School Safety Project, it is recommended that 6 foot wide raised medians be installed on the east side crosswalk. It is further recommended that raised pedestrian and channelized islands be installed on the west side crosswalk.

Installation of channelized striping is recommended at Walton Avenue and E 165<sup>th</sup> Street intersection.

All improvements proposed along Walton Avenue are shown in Exhibit 9.

# 5

# ILLUSTRATING THE SOLUTION

## 5.4 GRAND CONCOURSE

Grand Concourse is the most critical corridor in this Senior Pedestrian Study Area. The project limits for this corridor extend approximately 0.65 miles from E 165<sup>th</sup> Street to Marcy Place. The width of Grand Concourse within the study area varies from 140 to 145 feet. In addition, this corridor has north and south service roads (Photo No. 4). The traffic data was gathered along Grand Concourse at the E 167<sup>th</sup> Street and E 169<sup>th</sup> Street intersections. Turning movement and pedestrian counts were collected during the AM and PM peak hours at these intersections. In general, improvements are recommended at the following intersections:



*Photo No. 4: Grand Concourse & E 169<sup>th</sup> St. (looking north)*

- Grand Concourse & Marcy Place
- Grand Concourse & E Clarke Place
- Grand Concourse & E 169<sup>th</sup> Street
- Grand Concourse & E 168<sup>th</sup> Street
- Grand Concourse & E 167<sup>th</sup> Street
- Grand Concourse & McClellan Street
- Grand Concourse & E 166<sup>th</sup> Street
- Grand Concourse & E 165<sup>th</sup> Street

It should be noted that Academy Charter, P.S. 88 S Silverstein Little Sparrow and Christ the King Schools Safety Projects have proposed several recommendations along Grand Concourse. Proposed recommendations for this project concur with School Safety recommendations.

Under the School Safety Projects, it is recommended that a new traffic signal be installed at E 168<sup>th</sup> Street and Grand Concourse in conjunction with new school crosswalks on the north side.

A neck-down or curb extension is recommended at the following locations to shorten the crossing distance, slow down vehicular traffic and provide better visibility for senior pedestrians:

- Southeast and southwest corners of Grand Concourse and Marcy Place (School Safety Project)
- Southwest side of Grand Concourse and E Clarke Place (School Safety Project)
- Along the north and south service roads of Grand Concourse and E 169<sup>th</sup> Street (School Safety Project)

It is also recommended that a raised center median with flush pedestrian ramps be installed at the intersection of Grand Concourse and Marcy Place. (This recommendation is in agreement with DOT's capital plan.)

# 5

## ILLUSTRATING THE SOLUTION

A raised pedestrian refuge island with flush painted median and flush pedestrian ramps are recommended for the E 165<sup>th</sup> Street crosswalks at the intersection of Grand Concourse and E 165<sup>th</sup> Street.

An extension of the median separating the Grand Concourse mainline and service roads is recommended at the following intersections in order to provide more refuge area for pedestrians and to improve visibility:

- Grand Concourse and Marcy Place
- Grand Concourse and E Clarke Place
- Grand Concourse and E 169<sup>th</sup> Street
- Grand Concourse and E 168<sup>th</sup> Street
- Grand Concourse and E 167<sup>th</sup> Street
- Grand Concourse and McClellan Street

Installation of ‘Do Not Walk’ symbol/”Use Crosswalk” signs are recommended at the following locations to avoid confusion and improve safety for pedestrians:

- Grand Concourse and E Clarke Place (‘Do Not Walk’ symbol/”Use Crosswalk” sign)
- Grand Concourse and Tudor Place (‘Do Not Walk’ symbol/”Use Crosswalk” sign)

Under the School Safety Projects, pedestrian countdown timers and “Cross With Care” signs are to be installed at the corners of the following intersections:

- Grand Concourse and Marcy Place
- Grand Concourse and E 169<sup>th</sup> Street
- Grand Concourse and E 168<sup>th</sup> Street
- Grand Concourse and E 168<sup>th</sup> Street

Lane channelization is proposed at Grand Concourse and E 165<sup>th</sup> Street intersection to provide better guidance for E 165<sup>th</sup> Street traffic while entering and traversing through a wider intersection. Additionally, high visibility crosswalks and/or stop bars are also recommended at this intersection to improve pedestrian safety.

Green island installations are recommended along the north and south service roads of Grand Concourse from E 165<sup>th</sup> Street to Marcy Place. These recommendations comply with DOT’s proposed capital plan.

Pedestrian ramps are to be realigned, installed new or made flush wherever necessary along Grand Concourse.

New pavement marking installations for the southbound left turn bay at E 169<sup>th</sup> Street are also recommended.

All improvements proposed along Grand Concourse are shown in Exhibit 10.

# 5

# ILLUSTRATING THE SOLUTION

## 5.5 McCLELLAN STREET

Within the study area, the project limits for McClellan Street extend from Walton Avenue to Morris Avenue. The length of this corridor is approximately 0.33 miles with an average width of about 33 feet. McClellan Street has one moving lane eastbound from Sheridan Avenue to Morris Avenue, and one moving lane westbound from Sheridan Avenue to Walton Avenue (Photo No. 5). It is recommended that 8 foot wide parking lanes be installed on both sides of McClellan Street from Morris Avenue to Grand Concourse. It is also recommended that new pedestrian ramps be installed at the northwest and southwest corners of Sherman Avenue, and at the northeast, northwest and southwest corners of Grant Avenue, and southeast corner of Grand Concourse.



*Photo No. 5: McClellan St. & Morris Ave. (looking west)*

All improvements proposed along McClellan Street are shown in Exhibit 11.

## 5.6 E 165<sup>TH</sup> STREET

Within the study area, E 165<sup>th</sup> Street is a two-way street that provides access in the east-west directions. Between Walton Avenue and Sherman Avenue, E 165<sup>th</sup> Street is approximately 0.21 miles in length and approximately 75 feet wide (Photo No. 6). In this segment there are two moving lanes (11 feet and 18 feet wide) in each direction. Beyond this segment, E 165<sup>th</sup> Street funnels down to one moving lane in each direction with approximate width ranging from 9 feet to 11 feet. The wider roadway segment on E 165<sup>th</sup> Street is noted to encourage speeding and thus, consideration should be given to calm traffic operations on this wider section of E 165<sup>th</sup> Street in order to improve pedestrian safety.



Photo No. 6: E 165<sup>th</sup> St. & Grand Concourse (looking west)

Under this project, the study area of E 165<sup>th</sup> Street is limited to a short segment between Walton Avenue and Grand Concourse. However, after field observations it is recommended to include pedestrian safety improvements beyond this short segment and develop a comprehensive recommendation plan between Walton Avenue and Sherman Avenue, where the roadway is wider. As a result, the proposed recommendation measures presented below are inclusive of the recommendations that are located beyond the original project study area boundary of E 165<sup>th</sup> Street.

A median pedestrian refuge Island is recommended at the east and west crosswalks of Grand Concourse and E 165<sup>th</sup> Street intersection in order to calm traffic operations and shorten the pedestrian crossing distance to improve pedestrian safety.

A hatched median Island with varying width is recommended along E 165<sup>th</sup> Street between Walton Avenue and Sherman Avenue to improve pedestrian safety.

It is recommended that 11-foot wide parking lanes be striped along with 5-foot wide bike lanes on both sides of E 165<sup>th</sup> Street from Walton Avenue to Sherman Avenue. This lane striping configuration will result in one through lane with left turn bays at various intersections.

Lane channelization is also proposed at following intersections.

- Walton Avenue and E 165<sup>th</sup> Street
- Grand Concourse and E 165<sup>th</sup> Street
- Sherman Avenue and E 165<sup>th</sup> Street

Other specific intersection improvements at Walton Avenue and Grand Concourse intersections with E 165<sup>th</sup> Street are previously discussed under sections 5.3 and 5.4 of this report.

All improvements proposed along E 165<sup>th</sup> Street are shown in Exhibit 12.

# 5

# ILLUSTRATING THE SOLUTION

## 5.7 E 167<sup>TH</sup> STREET

Within the study area, E 167<sup>th</sup> Street is a two-way street that provides access in the east-west direction. This corridor extends from Walton Avenue to Morris Avenue and is approximately 0.5 miles in length. The roadway width is approximately 90 feet between Walton Avenue and Sherman Avenue, and then tapers down to about 50 feet wide between Grant Avenue and Findlay Avenue. The wider roadway width is due to the additional two-way travel lanes for the main roadway underpass between Walton Avenue and Sherman Avenue (Photo No. 7). Outside of this area, the roadway is one lane in each direction.



*Photo No. 7: E 167<sup>th</sup> St. & Walton Ave. (looking west)*

Existing bike lanes are striped for both the eastbound and westbound directions on E 167<sup>th</sup> Street from Grant Avenue to Findlay Avenue.

It should be noted that the J.H.S. 22 – Jordan L. Mott Junior High School and the P.S. /I.S. 218 Rafael Hernandez Dual Language Magnet School Safety Projects have proposed several recommendations along E 167<sup>th</sup> Street, which are also included in these improvements.

Neck-downs or curb extensions are recommended at the following locations to shorten the crossing distance, slow down vehicular traffic and provide better visibility for senior pedestrians:

- All corners of E 167<sup>th</sup> Street and Grant Avenue (proposed under School Safety Project)
- The northwest, northeast and southeast corners of E 167<sup>th</sup> Street and Morris Avenue (proposed under School Safety Project)
- All corners of E 167<sup>th</sup> Street and College Avenue (proposed under School Safety Project)
- The northwest and southwest corners of E 167<sup>th</sup> Street and Findlay Avenue (southwest corner curb extension proposed under School Safety Project)

The installation of “STOP” and “No Left Turn” signs are recommended at the following intersections:

- E 167<sup>th</sup> Street and Sheridan Avenue (“STOP” signs)
- E 167<sup>th</sup> Street and Sherman Avenue (“No Left Turn” sign)

The installation of high visibility crosswalks is recommended at the following intersections:

- E 167<sup>th</sup> Street and Sherman Avenue intersection (east and west crosswalks)
- E 167<sup>th</sup> Street and Grant Avenue (east and west crosswalks)

All improvements proposed along E 167<sup>th</sup> Street are shown in Exhibit 13.

# 5

# ILLUSTRATING THE SOLUTION

## 5.8 E 169<sup>TH</sup> STREET

Within the study area, E 169<sup>th</sup> Street is a two-way street providing east-west access (Photo No. 8). The corridor extends from Walton Avenue to Findlay Avenue and is approximately 0.42 miles in length. The roadway is approximately 43 feet wide. It is recommended that 8 foot wide parking lanes be installed on both sides of E 169<sup>th</sup> Street from Sheridan Avenue to Findlay Avenue. A realignment of the pedestrian ramps is proposed at the Findlay Avenue intersection.



*Photo No. 8: Findlay Ave. & E 169<sup>th</sup> St. (looking east)*

It should be noted that J.H.S. 22 – Jordan L. Mott Junior High School and P.S 88 S Silverstein Little Sparrow School Safety Projects have proposed several recommendations along E 169<sup>th</sup> Street, which are also included in these improvements.

Neck-downs or curb extensions are recommended at the following locations to shorten the crossing distance, slow down vehicular traffic and provide better visibility for senior pedestrians:

- All corners of E 169<sup>th</sup> Street and Findlay Avenue (proposed under School Safety Project)

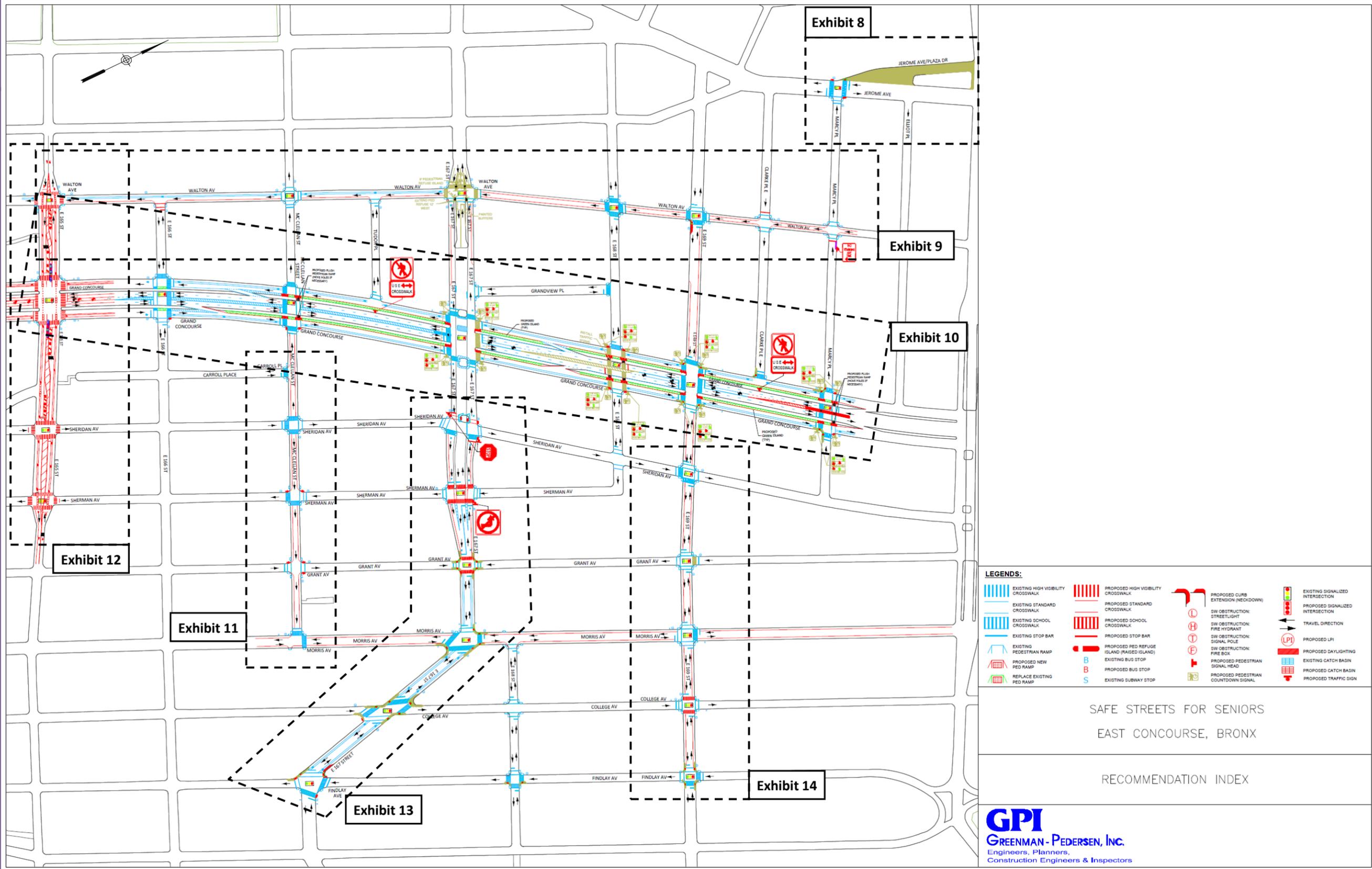
The installation of high visibility crosswalks are proposed at the following intersection:

- E 169<sup>th</sup> Street and College Avenue (east and west crosswalks)

The installation of a school crosswalk is proposed at the following intersection:

- E 169<sup>th</sup> Street and Grant Avenue, north side crosswalk (proposed under School Safety Project)

All improvements proposed along E 169<sup>th</sup> Street are shown in Exhibit 14.



**LEGENDS:**

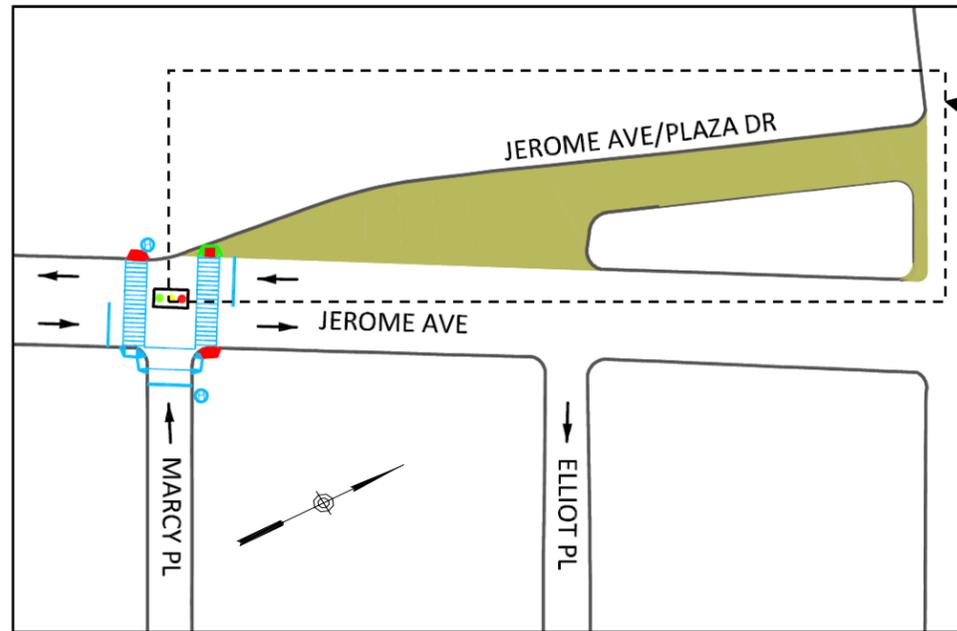
	EXISTING HIGH VISIBILITY CROSSWALK		PROPOSED HIGH VISIBILITY CROSSWALK		PROPOSED CURB EXTENSION (NECKDOWN)		EXISTING SIGNALIZED INTERSECTION
	EXISTING STANDARD CROSSWALK		PROPOSED STANDARD CROSSWALK		SW OBSTRUCTION: STREETLIGHT		PROPOSED SIGNALIZED INTERSECTION
	EXISTING SCHOOL CROSSWALK		PROPOSED SCHOOL CROSSWALK		SW OBSTRUCTION: FIRE HYDRANT		TRAVEL DIRECTION
	EXISTING STOP BAR		PROPOSED STOP BAR		SW OBSTRUCTION: SIGNAL POLE		PROPOSED LPI
	EXISTING PEDESTRIAN RAMP		PROPOSED PEDESTRIAN RAMP		SW OBSTRUCTION: FIRE BOX		PROPOSED DAYLIGHTING
	PROPOSED NEW PEDESTRIAN RAMP		PROPOSED PEDESTRIAN REFUGE ISLAND (RAISED ISLAND)		PROPOSED PEDESTRIAN SIGNAL HEAD		EXISTING CATCH BASIN
	REPLACE EXISTING PEDESTRIAN RAMP		PROPOSED BUS STOP		PROPOSED PEDESTRIAN COUNTDOWN SIGNAL		PROPOSED TRAFFIC SIGN
			EXISTING SUBWAY STOP				

SAFE STREETS FOR SENIORS  
EAST CONCOURSE, BRONX

RECOMMENDATION INDEX



EXHIBIT 8 – JEROME AVENUE AND MARCY PLACE



CLOSURE OF PLAZA DRIVE PROPOSED UNDER FAMILY LIFE ACADEMY CHARTER SCHOOL SAFETY PROJECT (SHOWN IN ■ COLOR)

**Recommended improvements include:**

- Time all signals for seniors and where feasible, the crossing time will be extended
- Install new pedestrian ramps. Where proposed, align the ramps with the crosswalks
- Close Plaza Drive from W 170<sup>th</sup> Street to Marcy Place as shown in the illustration (proposed under School Safety Project)

**LEGENDS:**

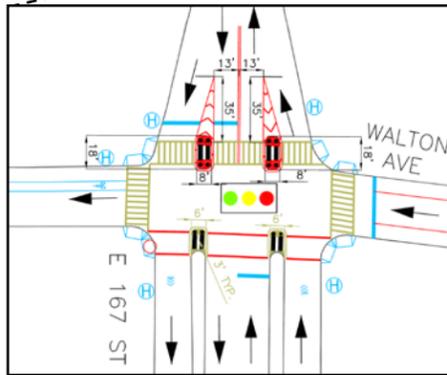
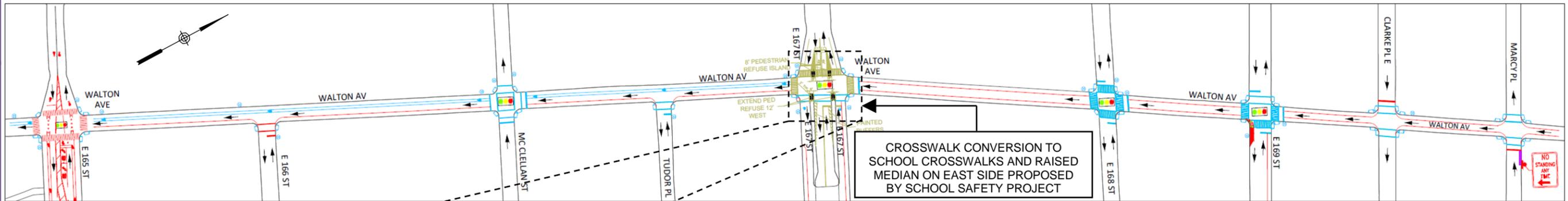
	EXISTING HIGH VISIBILITY CROSSWALK		PROPOSED HIGH VISIBILITY CROSSWALK		PROPOSED CURB EXTENSION (NECKDOWN)		EXISTING SIGNALIZED INTERSECTION
	EXISTING STANDARD CROSSWALK		PROPOSED STANDARD CROSSWALK		SW OBSTRUCTION: STREETLIGHT		PROPOSED SIGNALIZED INTERSECTION
	EXISTING SCHOOL CROSSWALK		PROPOSED SCHOOL CROSSWALK		SW OBSTRUCTION: FIRE HYDRANT		TRAVEL DIRECTION
	EXISTING STOP BAR		PROPOSED STOP BAR		SW OBSTRUCTION: SIGNAL POLE		PROPOSED LPI
	EXISTING PEDESTRIAN RAMP		PROPOSED PED REFUGE ISLAND (RAISED ISLAND)		SW OBSTRUCTION: FIRE BOX		PROPOSED DAYLIGHTING
	PROPOSED NEW PED RAMP		EXISTING BUS STOP		PROPOSED PEDESTRIAN SIGNAL HEAD		EXISTING CATCH BASIN
	REPLACE EXISTING PED RAMP		PROPOSED BUS STOP		PROPOSED PEDESTRIAN COUNTDOWN SIGNAL		PROPOSED CATCH BASIN
			EXISTING SUBWAY STOP				PROPOSED TRAFFIC SIGN

**Pedestrian concerns in this area:**

- Non-standard pedestrian ramps
- Turning vehicles not yielding to pedestrians
- Signal timing (insufficient crossing time)

**Additional Information**

- This study area was visited on April 23, April 25 and August 3, 2010
- Parking regulations for the project area have been collected and are shown in Appendix D



IMPROVEMENTS SHOWN IN ■ COLOR ARE PROPOSED BY PS/IS 218, RAFAEL HERNANDEZ DUAL LANGUAGE MAGNET SCHOOL SAFETY PROJECT

**LEGENDS:**

EXISTING HIGH VISIBILITY CROSSWALK	PROPOSED HIGH VISIBILITY CROSSWALK	PROPOSED CURB EXTENSION (NECKDOWN)	EXISTING SIGNALIZED INTERSECTION
EXISTING STANDARD CROSSWALK	PROPOSED STANDARD CROSSWALK	SW OBSTRUCTION: STREETLIGHT	PROPOSED SIGNALIZED INTERSECTION
EXISTING SCHOOL CROSSWALK	PROPOSED SCHOOL CROSSWALK	SW OBSTRUCTION: FIRE HYDRANT	TRAVEL DIRECTION
EXISTING STOP BAR	PROPOSED STOP BAR	SW OBSTRUCTION: SIGNAL POLE	PROPOSED LPI
EXISTING PEDESTRIAN RAMP	PROPOSED PED REFUGE ISLAND (RAISED ISLAND)	SW OBSTRUCTION: FIRE BOX	PROPOSED DAYLIGHTING
PROPOSED NEW PED RAMP	EXISTING BUS STOP	PROPOSED PEDESTRIAN SIGNAL HEAD	EXISTING CATCH BASIN
REPLACE EXISTING PED RAMP	PROPOSED BUS STOP	PROPOSED PEDESTRIAN COUNTDOWN SIGNAL	PROPOSED CATCH BASIN
	EXISTING SUBWAY STOP		PROPOSED TRAFFIC SIGN

**Pedestrian concerns in this area:**

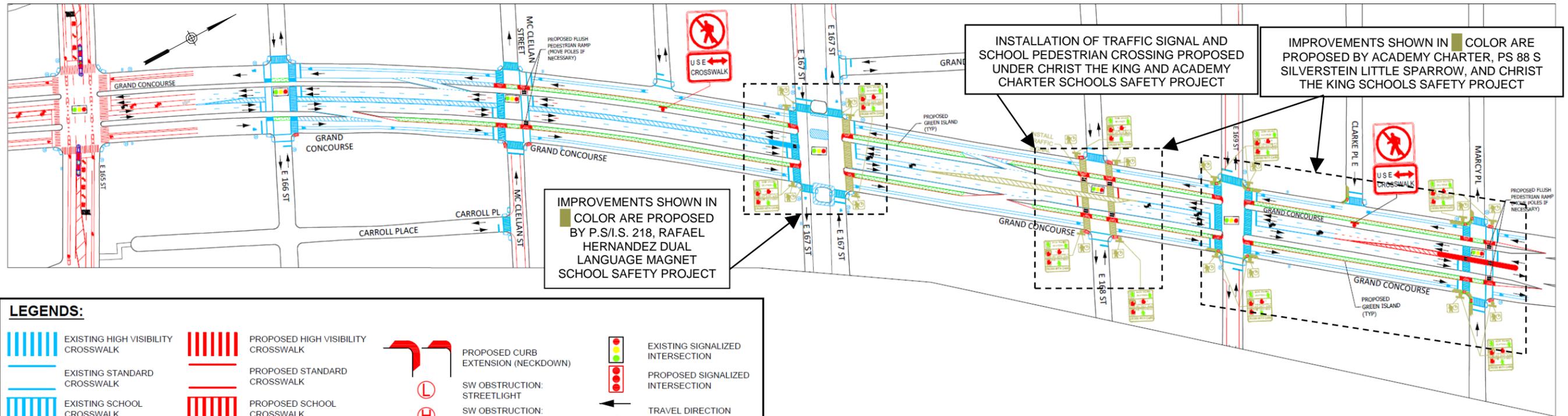
- Non-standard pedestrian ramps
- Turning vehicles not yielding to pedestrians
- Signal timing (insufficient crossing time)

**Additional Information**

- This study area was visited on April 23, April 25 and August 3, 2010
- Parking regulations for the project area have been collected and are shown in Appendix D

**Recommended improvements include:**

- Time all signals for seniors and where feasible, the crossing time will be extended
- Install new high visibility crosswalks at E 165<sup>th</sup> Street
- Install standard crosswalks at E 166<sup>th</sup> Street as shown in the illustration
- Install new advanced stop bars at E 166<sup>th</sup> Street, Clarke Place E and Marcy Place intersections as shown in the illustration
- Install new school crosswalks at the intersection of Walton Avenue and E 167<sup>th</sup> Street as shown in the illustration (proposed under the School Safety Project)
- Install 6 foot wide raised medians along E 167<sup>th</sup> Street on the east side as shown in the illustration (proposed under the School Safety Project)
- Install raised pedestrian and channelized islands at E 167<sup>th</sup> Street on the west side as shown in the illustration
- Install new pavement striping for parking lanes on both sides of Walton Avenue from E 167<sup>th</sup> Street to Marcy Place
- Install new pavement striping for parking lanes on east side of Walton Avenue from E 167<sup>th</sup> Street to E 165<sup>th</sup> Street
- Install new pedestrian ramps. Where proposed, align the ramps with the crosswalks
- Remove the first parking space along the north side of Marcy Place in advance of the east crosswalk as shown in the illustration
- Install a neck-down or a curb extension:



**LEGENDS:**

	EXISTING HIGH VISIBILITY CROSSWALK		PROPOSED HIGH VISIBILITY CROSSWALK		PROPOSED CURB EXTENSION (NECKDOWN)		EXISTING SIGNALIZED INTERSECTION
	EXISTING STANDARD CROSSWALK		PROPOSED STANDARD CROSSWALK		SW OBSTRUCTION: STREETLIGHT		PROPOSED SIGNALIZED INTERSECTION
	EXISTING SCHOOL CROSSWALK		PROPOSED SCHOOL CROSSWALK		SW OBSTRUCTION: FIRE HYDRANT		TRAVEL DIRECTION
	EXISTING STOP BAR		PROPOSED STOP BAR		SW OBSTRUCTION: SIGNAL POLE		PROPOSED LPI
	EXISTING PEDESTRIAN RAMP		PROPOSED PED REFUGE ISLAND (RAISED ISLAND)		SW OBSTRUCTION: FIRE BOX		PROPOSED DAYLIGHTING
	PROPOSED NEW PED RAMP		EXISTING BUS STOP		PROPOSED PEDESTRIAN SIGNAL HEAD		EXISTING CATCH BASIN
	REPLACE EXISTING PED RAMP		PROPOSED BUS STOP		PROPOSED PEDESTRIAN COUNTDOWN SIGNAL		PROPOSED CATCH BASIN
			EXISTING SUBWAY STOP				PROPOSED TRAFFIC SIGN

**Recommended improvements include:**

- Time all signals for seniors and where feasible, the crossing time will be extended
- Install new pavement markings as shown in the illustration
- Install new 'Do Not Walk' symbol/ "Use Crosswalk" signs at the intersections shown in the illustration
- Install raised median islands along Grand Concourse mainline and service roads at Marcy Place intersections as shown in the illustration
- Install new pedestrian ramps. Where proposed as shown in illustration and align the ramps with the crosswalks
- Flush pedestrian ramps and move if necessary at Marcy Place and McClellan Street intersections of Grand Concourse
- Install grass island along the north and south service roads as shown in the illustration
- Extend raised median Marcy Place, E 169<sup>th</sup> Street, E 168<sup>th</sup> Street, E 167<sup>th</sup> Street, McClellan Street intersection of Grand Concourse as shown in the illustration
- Install a neck-down or a curb extension
- Install a mid-block signal and school pedestrian crossings at E 168<sup>th</sup> Street and Grand Concourse (proposed under the School Safety Project)

**Pedestrian concerns in this area:**

- Non-standard pedestrian ramps
- Turning vehicles not yielding to pedestrians
- Signal timing (insufficient crossing time)
- Long crosswalks especially on E 165<sup>th</sup> Street, E 167<sup>th</sup> Street and Grand Concourse

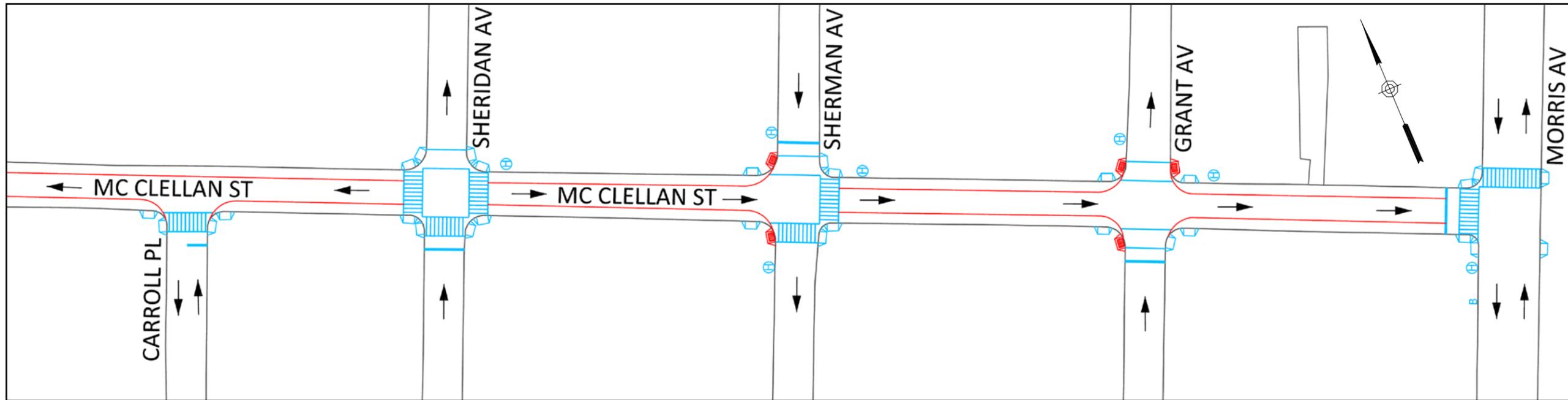
**Additional Information**

- This study area was visited on April 23, April 25 and August 3, 2010
- Parking regulations for the project area have been collected and are shown in Appendix D

**Traffic Analysis**

- ATR, turning movement and pedestrian counts were analyzed at:
  - Grand Concourse and E 167<sup>th</sup> Street (ATR counts are shown in Appendix A)
- Turning movement and pedestrian counts were analyzed at:
  - Grand Concourse and E 167<sup>th</sup> Street
  - Grand Concourse and E 169<sup>th</sup> Street

(Turning movement and pedestrian counts are shown in Appendices B and C)



**LEGENDS:**

	EXISTING HIGH VISIBILITY CROSSWALK		PROPOSED HIGH VISIBILITY CROSSWALK		PROPOSED CURB EXTENSION (NECKDOWN)		EXISTING SIGNALIZED INTERSECTION
	EXISTING STANDARD CROSSWALK		PROPOSED STANDARD CROSSWALK		SW OBSTRUCTION: STREETLIGHT		PROPOSED SIGNALIZED INTERSECTION
	EXISTING SCHOOL CROSSWALK		PROPOSED SCHOOL CROSSWALK		SW OBSTRUCTION: FIRE HYDRANT		TRAVEL DIRECTION
	EXISTING STOP BAR		PROPOSED STOP BAR		SW OBSTRUCTION: SIGNAL POLE		PROPOSED LPI
	EXISTING PEDESTRIAN RAMP		PROPOSED PED REFUGE ISLAND (RAISED ISLAND)		SW OBSTRUCTION: FIRE BOX		PROPOSED DAYLIGHTING
	PROPOSED NEW PED RAMP		EXISTING BUS STOP		PROPOSED PEDESTRIAN SIGNAL HEAD		EXISTING CATCH BASIN
	REPLACE EXISTING PED RAMP		PROPOSED BUS STOP		PROPOSED PEDESTRIAN COUNTDOWN SIGNAL		PROPOSED CATCH BASIN
			EXISTING SUBWAY STOP				PROPOSED TRAFFIC SIGN

**Recommended improvements include:**

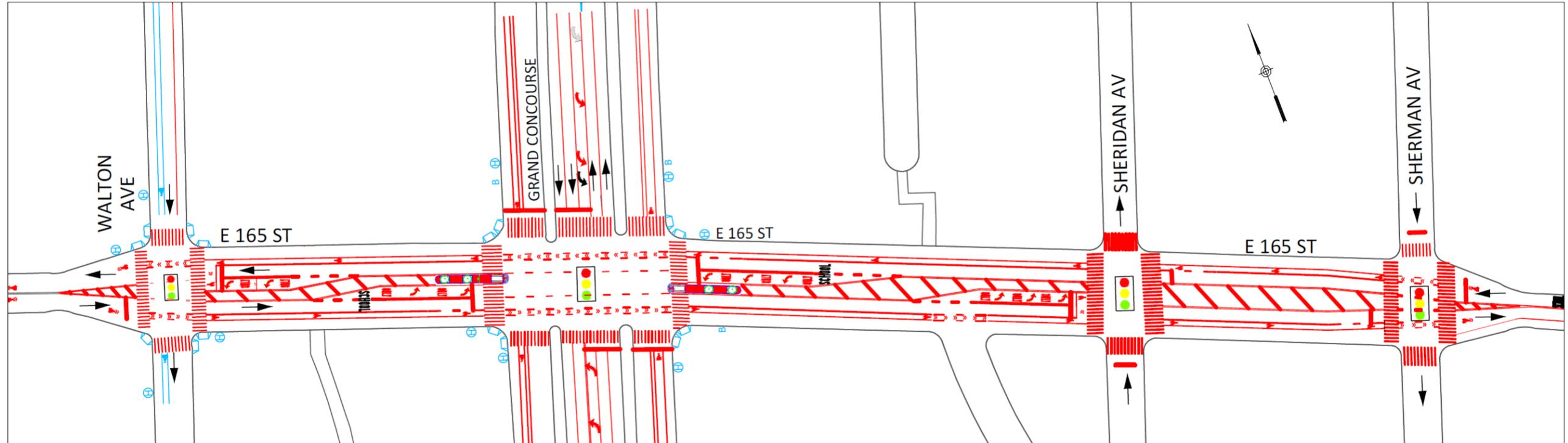
- Install new pedestrian ramps. Where proposed, align the ramps with the crosswalks
- Install new pavement striping for parking lanes on both sides of McClellan Street from Morris Avenue to Grand Concourse

**Pedestrian concerns in this area:**

- Non-standard pedestrian ramps
- Turning vehicles not yielding to pedestrians

**Additional Information**

- This study area was visited on April 23, April 25 and August 3, 2010
- Parking regulations for the project area have been collected and are shown in Appendix D



**LEGENDS:**

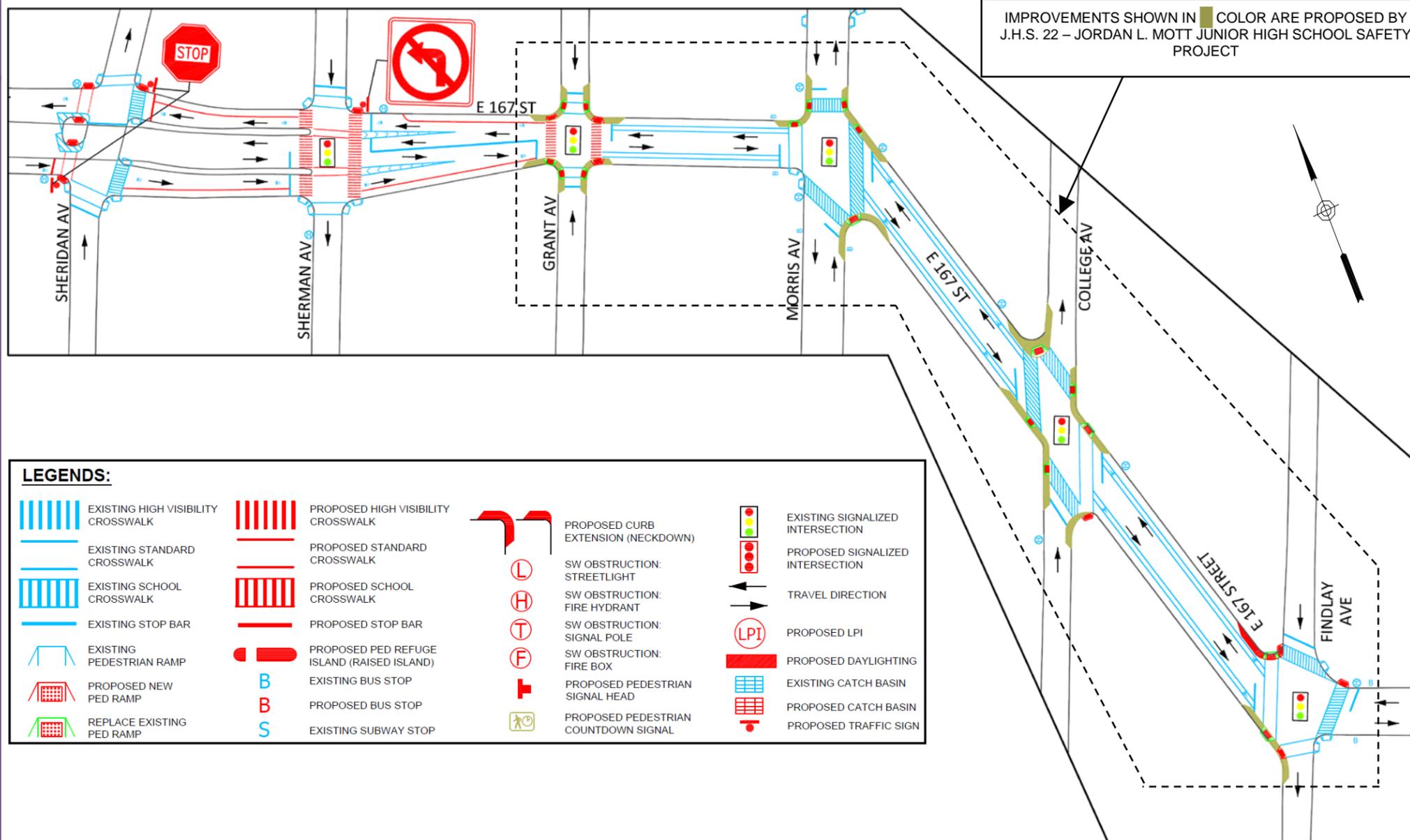
EXISTING HIGH VISIBILITY CROSSWALK	PROPOSED HIGH VISIBILITY CROSSWALK	PROPOSED CURB EXTENSION (NECKDOWN)	EXISTING SIGNALIZED INTERSECTION
EXISTING STANDARD CROSSWALK	PROPOSED STANDARD CROSSWALK	SW OBSTRUCTION: STREETLIGHT	PROPOSED SIGNALIZED INTERSECTION
EXISTING SCHOOL CROSSWALK	PROPOSED SCHOOL CROSSWALK	SW OBSTRUCTION: FIRE HYDRANT	TRAVEL DIRECTION
EXISTING STOP BAR	PROPOSED STOP BAR	SW OBSTRUCTION: SIGNAL POLE	PROPOSED LPI
EXISTING PEDESTRIAN RAMP	PROPOSED PED REFUGE ISLAND (RAISED ISLAND)	SW OBSTRUCTION: FIRE BOX	PROPOSED DAYLIGHTING
PROPOSED NEW PED RAMP	EXISTING BUS STOP	PROPOSED PEDESTRIAN SIGNAL HEAD	EXISTING CATCH BASIN
REPLACE EXISTING PED RAMP	PROPOSED BUS STOP	PROPOSED PEDESTRIAN COUNTDOWN SIGNAL	PROPOSED CATCH BASIN
	EXISTING SUBWAY STOP		PROPOSED TRAFFIC SIGN

- Pedestrian concerns in this area:**
- Turning vehicles not yielding to pedestrians
  - Signal timing (insufficient crossing time)

- Recommended improvements include:**
- Time all signals for seniors and where feasible, the crossing time will be extended
  - Install new high visibility crosswalks along E 165<sup>th</sup> Street as shown in the illustration
  - Install new stop bars as shown in the illustration
  - Install new pavement striping for parking lanes on both sides of E 165<sup>th</sup> Street from Walton Avenue to Sherman Avenue as shown in the illustration
  - Install new Pedestrian Median Islands as shown in the illustration
  - Install new bike lanes as shown in the illustration
  - Install new pavement striping as shown in the illustration
  - Install new left turn bays as shown in the illustration

- Additional Information**
- This study area was visited on April 23, April 25 and August 3, 2010
  - Parking regulations for the project area have been collected and are shown in Appendix D

EXHIBIT 13 – E 167<sup>TH</sup> STREET



**Recommended Improvements Include:**

- Time all signals for seniors and where feasible, the crossing time will be extended
- Install new high visibility crosswalks at Sherman Avenue and Grant Avenue as shown in the illustration
- Install new pedestrian ramps. Where proposed, align the ramps with the crosswalks
- Install new “STOP” signs at Sheridan Avenue as shown in the illustration
- Install new “No Left Turn” sign at Sherman Avenue as shown in the illustration
- Install new pavement striping as shown in the illustration
- Install new pavement marking for parking on both sides of E 167<sup>th</sup> Street between Sheridan Avenue and Grant Avenue
- Install a neck-down or a curb extension:

**LEGENDS:**

	EXISTING HIGH VISIBILITY CROSSWALK		PROPOSED HIGH VISIBILITY CROSSWALK		PROPOSED CURB EXTENSION (NECKDOWN)		EXISTING SIGNALIZED INTERSECTION
	EXISTING STANDARD CROSSWALK		PROPOSED STANDARD CROSSWALK		SW OBSTRUCTION: STREETLIGHT		PROPOSED SIGNALIZED INTERSECTION
	EXISTING SCHOOL CROSSWALK		PROPOSED SCHOOL CROSSWALK		SW OBSTRUCTION: FIRE HYDRANT		TRAVEL DIRECTION
	EXISTING STOP BAR		PROPOSED STOP BAR		SW OBSTRUCTION: SIGNAL POLE		PROPOSED LPI
	EXISTING PEDESTRIAN RAMP		PROPOSED PED REFUGE ISLAND (RAISED ISLAND)		SW OBSTRUCTION: FIRE BOX		PROPOSED DAYLIGHTING
	PROPOSED NEW PED RAMP		EXISTING BUS STOP		PROPOSED PEDESTRIAN SIGNAL HEAD		EXISTING CATCH BASIN
	REPLACE EXISTING PED RAMP		PROPOSED BUS STOP		PROPOSED PEDESTRIAN COUNTDOWN SIGNAL		PROPOSED CATCH BASIN
			EXISTING SUBWAY STOP				PROPOSED TRAFFIC SIGN

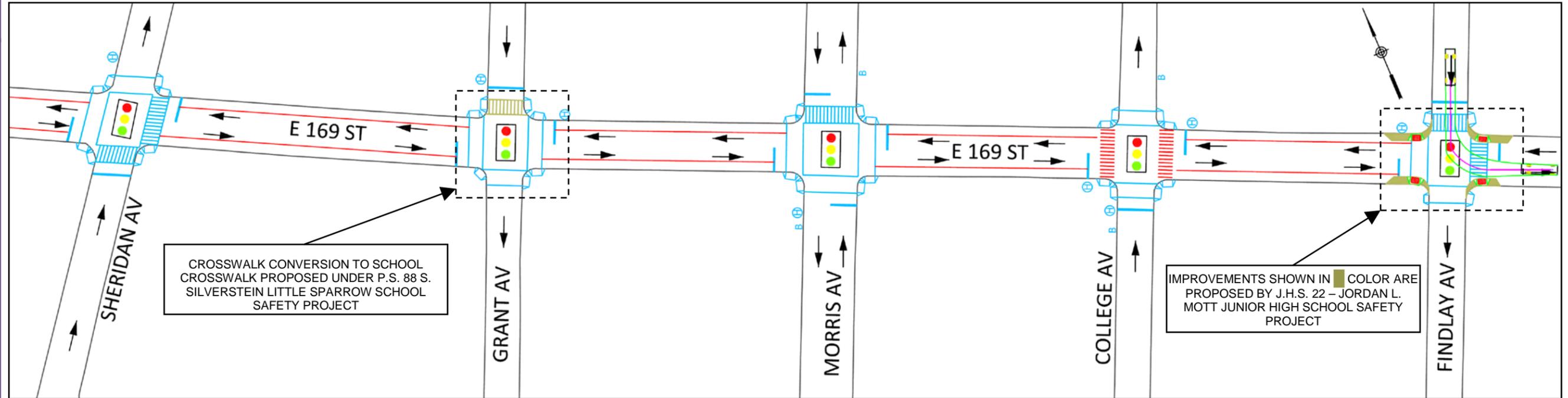
**Pedestrian concerns in this area:**

- Non-standard pedestrian ramps
- Turning vehicles not yielding to pedestrians
- Signal timing (insufficient crossing time)

**Additional Information**

- This study area was visited on April 23, April 25 and August 3, 2010
- Parking regulations for the project area have been collected and are shown in Appendix D

EXHIBIT 14 – E 169<sup>TH</sup> STREET



**LEGENDS:**

EXISTING HIGH VISIBILITY CROSSWALK	PROPOSED HIGH VISIBILITY CROSSWALK	PROPOSED CURB EXTENSION (NECKDOWN)	EXISTING SIGNALIZED INTERSECTION
EXISTING STANDARD CROSSWALK	PROPOSED STANDARD CROSSWALK	SW OBSTRUCTION: STREETLIGHT	PROPOSED SIGNALIZED INTERSECTION
EXISTING SCHOOL CROSSWALK	PROPOSED SCHOOL CROSSWALK	SW OBSTRUCTION: FIRE HYDRANT	TRAVEL DIRECTION
EXISTING STOP BAR	PROPOSED STOP BAR	SW OBSTRUCTION: SIGNAL POLE	PROPOSED LPI
EXISTING PEDESTRIAN RAMP	PROPOSED PED REFUGE ISLAND (RAISED ISLAND)	SW OBSTRUCTION: FIRE BOX	PROPOSED DAYLIGHTING
PROPOSED NEW PED RAMP	EXISTING BUS STOP	PROPOSED PEDESTRIAN SIGNAL HEAD	EXISTING CATCH BASIN
REPLACE EXISTING PED RAMP	PROPOSED BUS STOP	PROPOSED PEDESTRIAN COUNTDOWN SIGNAL	PROPOSED CATCH BASIN
	EXISTING SUBWAY STOP		PROPOSED TRAFFIC SIGN

- Recommended improvements include:**
- Time all signals for seniors and where feasible, the crossing time will be extended
  - Install new high visibility crosswalks at E 169<sup>th</sup> Street and College Avenue as shown in the illustration
  - Install new school crosswalk on the north side at the intersection of E 169<sup>th</sup> Street and Grant Avenue as shown in the illustration (proposed under School Safety Project)
  - Install new pavement striping for parking lanes on both sides of E 169<sup>th</sup> Street from Grand Concourse to Findlay Avenue as shown in the illustration
  - Install a neck-down or a curb extension

- Pedestrian concerns in this area:**
- Non-standard pedestrian ramps
  - Turning vehicles not yielding to pedestrians
  - Signal timing (insufficient crossing time)

- Additional Information**
- This study area was visited on April 23, April 25 and August 3, 2010
  - Parking regulations for the project area have been collected and are shown in Appendix D