

HIGH PEDESTRIAN CRASH LOCATIONS

Pedestrian Safety Improvements at the
Top 20 Crash Intersections: 2010

May 2013



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Commissioner

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INTRODUCTION

Over the past five years, 2008 to 2012, New York City recorded the fewest traffic fatalities since record keeping began in 1910, an average of 268 cases per year. Annual traffic fatalities have decreased 30 percent since 2001. While traffic fatalities decreased rapidly in recent years, the New York City Department of Transportation (DOT) is committed to finding new ways to further improve safety on our City's streets.

This report specifically addresses DOT's ongoing commitment to improve safety at high pedestrian crash locations. Local Law 12 of 2011 requires DOT to "identify the twenty highest crash locations based upon a ranking of the total number of crashes involving pedestrians killed or seriously injured, occurring over a five-year period." The top twenty high pedestrian crash locations for 2010 are addressed in this report. The number of locations in each borough is based on the proportion of citywide pedestrian injuries by borough. Safety improvements have been recently implemented at a majority of the locations and some are scheduled to be implemented in the near future. Other locations—because of their complex roadway geometry, land use and other constraints—require further study.

Other Major DOT Safety Programs & Initiatives

The New York City Pedestrian Safety Study & Action Plan, released in August 2010, examined eight years of traffic crash data, analyzing over 7,000 records of fatal or severe-injury pedestrian crashes, and identifies underlying causes that can be addressed to reduce these crashes. Based on the findings of this study, DOT developed a comprehensive safety action plan. This action plan consists of highly targeted, data-driven elements including engineering, enforcement, public communication, and policy and legislation. The full report is available on DOT's website (www.nyc.gov/dot).

The dramatic decrease in fatalities and injuries in recent years is in part attributable to DOT's data-driven efforts to focus its resources on particular groups of at-risk pedestrians, and high-crash locations and corridors. Two citywide programs, Safe Streets for Seniors and Safe Routes to Schools, use crash statistics to identify and address safety problems experienced by the most vulnerable pedestrian populations: the elderly and children. Launched in 2008, Safe Streets for Seniors focuses on 25 neighborhoods that have a high number of pedestrian fatalities or severe injuries involving adults 65 years and older. The program has completed improvements in 17 of these neighborhoods with plans underway for the remaining locations. DOT has identified twelve new areas throughout the five boroughs for study. The new areas were selected using a similar methodology as the original areas, but also involved new variables such as senior trip generators, concentrations of senior centers, and senior housing locations. The expanded program will go beyond improving intersections with high-crash histories to achieve greater livability goals through a richer understanding of neighborhood user needs.

INTRODUCTION

Through the Safe Routes to Schools program, short-term safety improvements have been completed at 135 schools in the first group of the Priority Schools. Long-term capital improvements have also been completed at 35 locations, and 52 schools are in the design stage for first group of schools. Additionally, studies for 75 schools in the second group of the Priority Schools are underway. An independent study, recently published in the National Institutes of Health's Pediatrics February 2013 journal, found that the Safe Routes to School program contributed to a 44% decrease in school-age pedestrian injuries during school-travel hours.

Traffic calming projects have transformed high-crash corridors across New York City into safer and more complete streets. These projects use left turn bays, roadway narrowing, pedestrian safety islands, curb extensions, and bicycle lanes to reduce the number and severity of crashes by addressing speeding and other safety issues. Signal timing modifications and the installation of Leading Pedestrian Intervals—where pedestrians get a head start to cross streets before turning vehicles receive a green signal—have also been implemented at many intersections across New York City, improving pedestrian safety. In 2012 the City recorded the 3rd fewest number of pedestrian fatalities on record (149 cases), a decrease of 25 percent since 2001.

The Neighborhood Slow Zone program (launched in 2011) is ongoing and expanding throughout the City, with 13 zones slated to receive the 20 mph treatment in 2012-2013. Nearly 100 neighborhoods applied for this first round of zones and applications for the 2014 season were opened up on March 5, 2013. The Speed Reducer program, also geared toward neighborhood streets, has installed nearly 2,000 speed humps in neighborhoods citywide, with a majority located adjacent to schools. DOT's Safe Routes to Transit program improves safety and security for pedestrians at intermodal transit hubs.

DOT's Safety Education program provides information and guidance to school children, senior citizens, drivers, pedestrians and cyclists, to keep New York City informed about traffic laws and the best techniques for avoiding danger and protecting other road users. DOT is also using social marketing techniques to help change behavior on city streets, and promote its safety messages more broadly through television, radio, outdoor, online, and experiential media.

In May 2011, DOT debuted *Don't Be a Jerk/Bike Smart*, a TV campaign featuring celebrities that humorously highlighted the top cycling rules of the road—yielding to pedestrians, staying off the sidewalk, and riding in the direction of traffic.

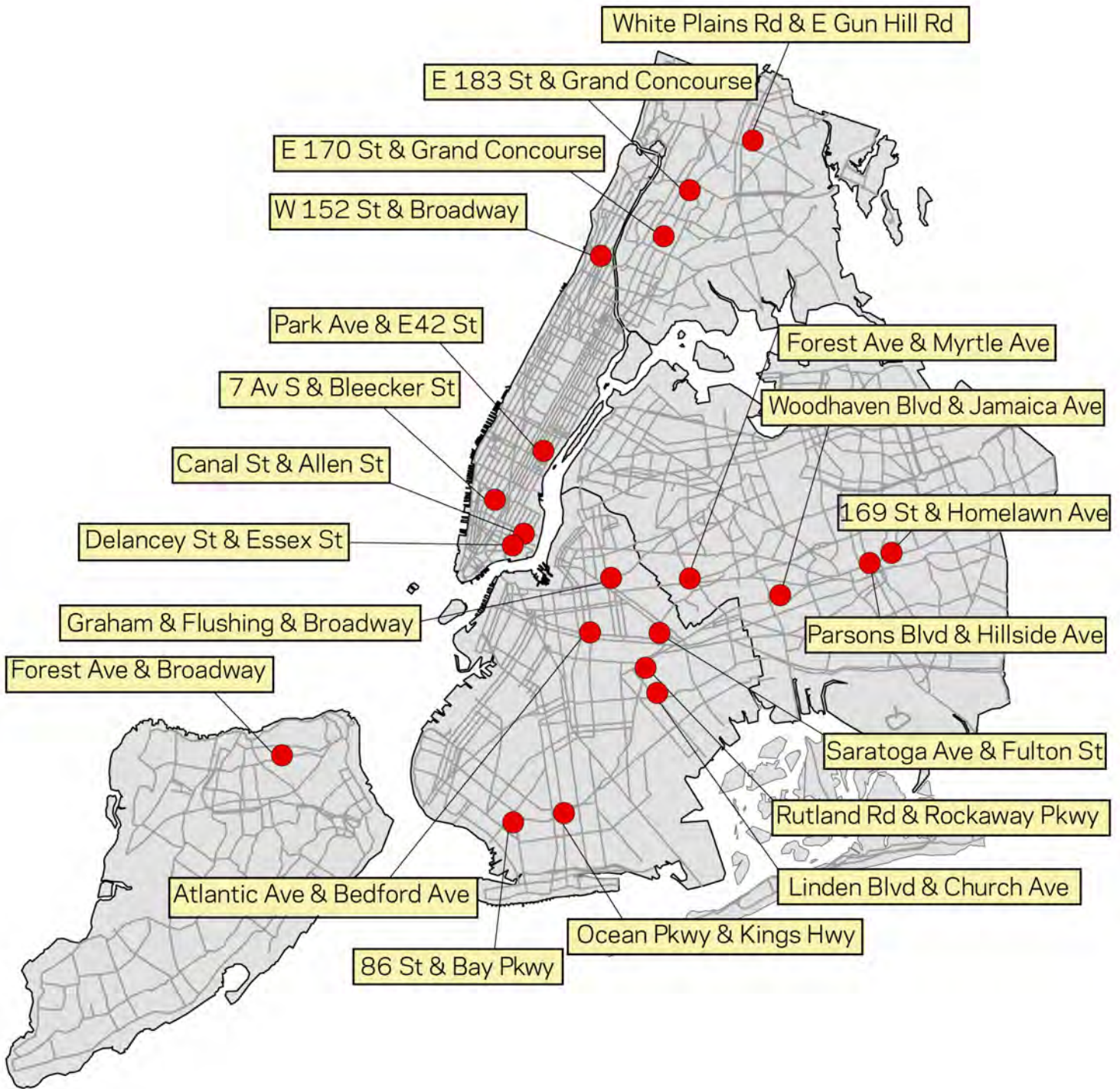
INTRODUCTION

In 2012, DOT launched two special campaigns aimed at all road users collectively—drivers, cyclists, and pedestrians. The first, **Heads Up**, is a safety ad program that highlights the most dangerous behaviors on city streets. It reminds cyclists, pedestrians and drivers to stay alert and obey the rules of the road. The ads appear on billboards, bus shelters, newsstands, and coffee cup sleeves across the city. The second innovative project, **LOOK**, includes visible pavement markings and out-of-home ads depicting the eyes of New Yorkers, with a call to look up and at the streetscape to avoid a crash. Placement for both campaigns are geotargeted to appear where crashes occur most frequently.

In 2013, DOT continued to install Pedestrian Countdown Signals along major high-crash corridors such as Queens Boulevard in Queens and the Grand Concourse in the Bronx, and dozens of other streets in all five boroughs. To date, nearly 1,900 countdown signals have been installed citywide with an additional 1,950 planned for new locations.

DOT continues to look at innovative, creative ways to improve safety for all users.

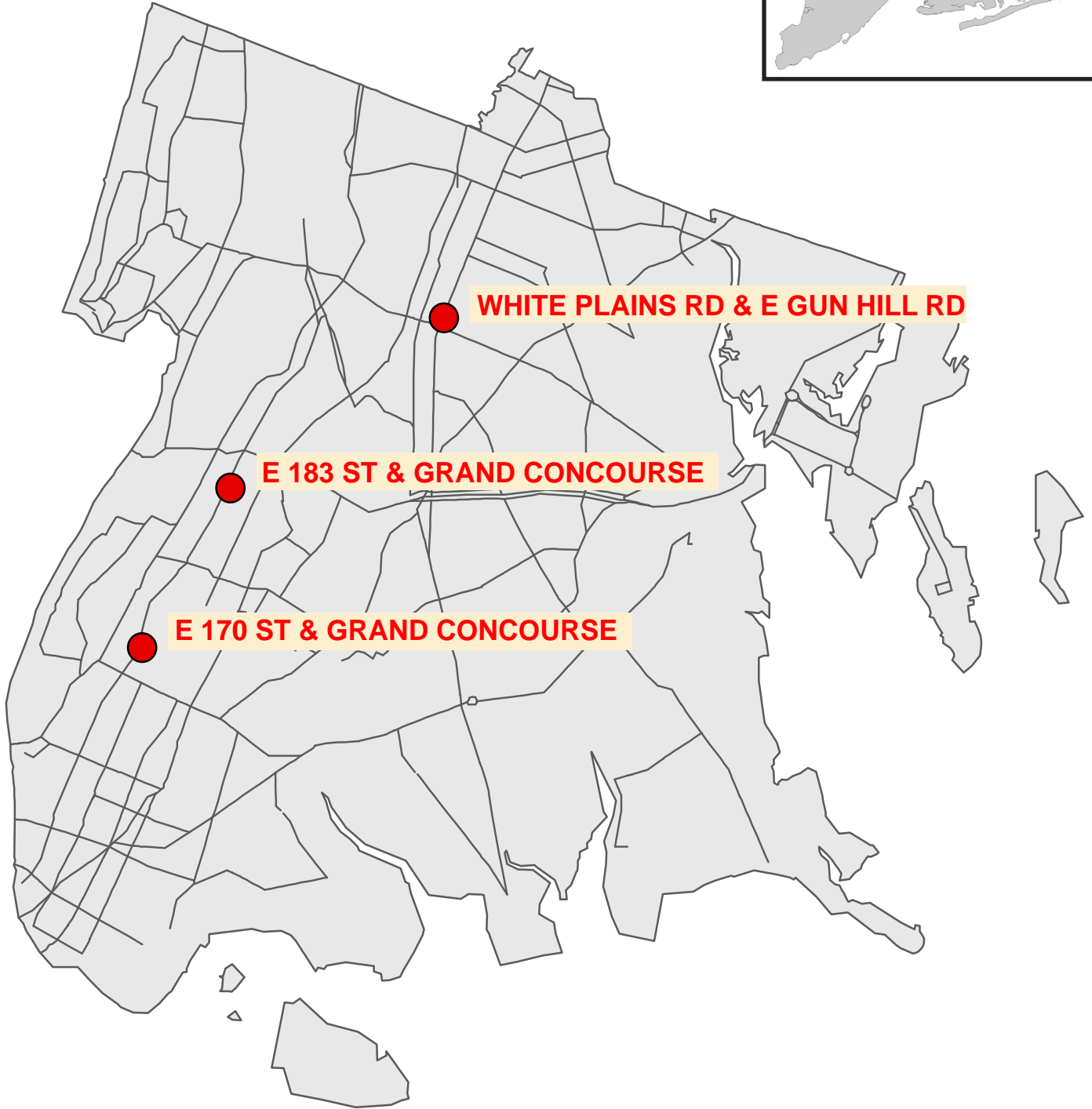
TOP TWENTY HIGH PEDESTRIAN CRASH LOCATIONS



TOP TWENTY HIGH PEDESTRIAN CRASH LOCATIONS

| Intersection | Borough | Number of Pedestrian Crashes (2010) |
|--|---------------|-------------------------------------|
| East 170th Street & Grand Concourse | Bronx | 8 |
| Delancey Street & Essex Street | Manhattan | 7 |
| 7 Avenue South & Bleecker Street | Manhattan | 7 |
| Atlantic Avenue & Bedford Avenue | Brooklyn | 7 |
| Park Avenue & East 42nd Street | Manhattan | 6 |
| W 152nd Street & Broadway | Manhattan | 6 |
| Canal Street & Allen Street | Manhattan | 6 |
| White Plains Road & East Gun Hill Road | Bronx | 6 |
| East 183rd Street & Grand Concourse | Bronx | 6 |
| Graham Avenue & Flushing Avenue & Broadway | Brooklyn | 6 |
| Rutland Road & Rockaway Parkway | Brooklyn | 6 |
| Ocean Parkway & Kings Highway | Brooklyn | 5 |
| 86th Street & Bay Parkway | Brooklyn | 5 |
| Linden Boulevard & Church Avenue | Brooklyn | 5 |
| Saratoga Avenue & Fulton Street | Brooklyn | 5 |
| Woodhaven Boulevard & Jamaica Avenue | Queens | 5 |
| Forest Avenue & Myrtle Avenue | Queens | 4 |
| Parsons Boulevard & Hillside Avenue | Queens | 4 |
| 169th Street & Homelawn Street | Queens | 4 |
| Forest Avenue & Broadway | Staten Island | 3 |

CRASH LOCATION: BRONX



CRASH LOCATION: BRONX

East 170th St & Grand Concourse

Crashes

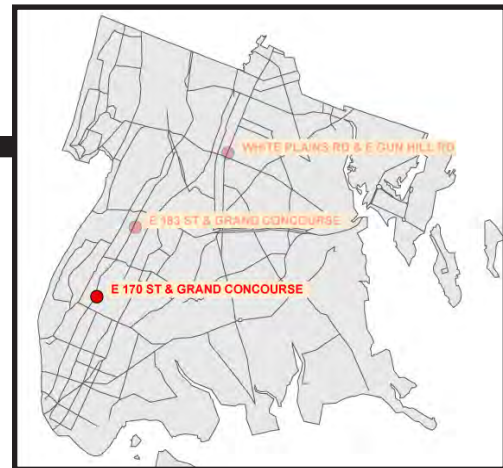
- Ranked 1st in Bronx
- 8 pedestrian crashes in 2010

Location/Context

- Project Area: Very wide roadway with median-separated multi-roadbed and bike lanes on service road
- Neighborhood: Mount Eden
- Community Board: 4
- Council District: 14 and 16
- Land Use: Residential, Mixed Use, Commercial, Institutions
- Bus Routes: BX1, BX2, BxM4, BX11, BX18
- Subway: B/D at 170th St
- Bike Route: Grand Concourse
- Schools: William Howard Taft High School

Issues Identified

- Heavy pedestrian volumes
- Heavy vehicle volumes
- Pedestrian/vehicle conflicts
- Long crossing distances
- High retail-related pedestrian activity



Implemented Improvements

- Installed **pedestrian countdown signals**
- Installed **“LOOK” pavement markings** at crosswalks to alert pedestrians to oncoming traffic

Projected Improvements

- **Install wide landscaped medians** to replace narrow concrete slabs and to shorten pedestrian crossing distance (capital construction beginning in October 2013)



Before: Wide crossing and faded markings



After: Example of widened landscaped medians (at 161st Street and Grand Concourse)

CRASH LOCATION: BRONX

White Plains Rd & East Gun Hill Rd

Crashes

- Tied for 2nd in the Bronx
- 6 pedestrian crashes in 2010

Location/Context

- Project Area: Wide roadway with dangerous turns under elevated subway line
- Neighborhood: Olinville
- Community Board: 12
- Council District: 12
- Land Use: Residential, Mixed Use, Commercial, Institutions, Transportation
- Bus Routes: Bx28, Bx30, Bx38, Bx39, Bx41, Bx55, BxM11
- Subway: 2/5 at Gun Hill Road
- Local and Through Truck Routes: White Plains Road
- Schools: City of Faith Christian School

Issues Identified

- Heavy pedestrian volumes
- Heavy vehicle volumes
- Visibility issues relating to elevated subway line



Implemented Improvements

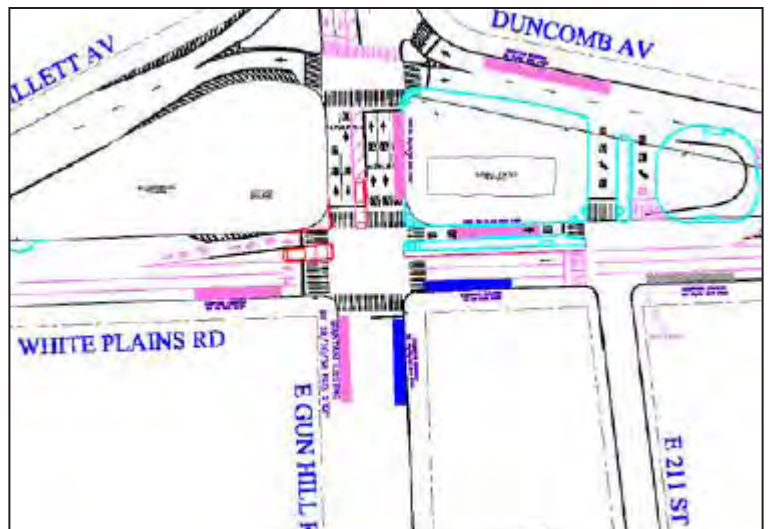
- **Narrowed lanes and installed lane designations** on White Plains Road to organize traffic flow
- **Installed new high visibility crosswalks** for better pedestrian visibility
- **Installed pedestrian countdown signals**
- **Installed "LOOK" pavement markings** at crosswalks to alert pedestrians to oncoming traffic

Projected Improvements

- **MTA construction of intermodal station** at intersection



Design and rendering of Intermodal Facility at East Gun Hill Road and White Plains Road



CRASH LOCATION: BRONX

E 183rd Street & Grand Concourse

Crashes

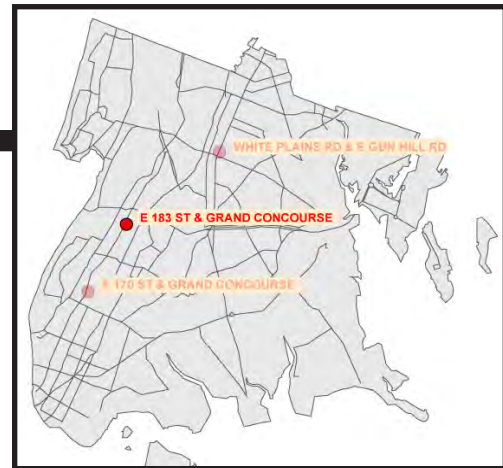
- Tied for 2nd in the Bronx
- 6 pedestrian crashes in 2010

Location/Context

- Project Area: Major north-south arterial
- Neighborhood: Fordham Heights
- Community Board: 5
- Council District: 14 and 15
- Land Use: Residential, Mixed Use, Commercial, Institutions
- Bus Routes: Bx1, Bx2
- Subway: B/D at 182nd - 183rd St
- Bike Route: Grand Concourse
- School: P.S. 9

Issues Identified

- Heavy vehicle volumes
- Pedestrian/vehicle conflicts
- Long crossing distances



Implemented Improvement

- **Installed four concrete median tip extensions** on medians separating the service road and main road
- **Installed daylighting** at NE and SW corners to reduce pedestrian-driver conflicts
- **Added parking lane** alongside medians
- **Refurbished markings and crosswalks** with advance stop bars to increase visibility of pedestrians in crosswalk
- **Installed left turn signal** to organize traffic flow
- **Installed pedestrian countdown signals**
- **Installed "LOOK" pavement markings** at crosswalks to alert pedestrians to oncoming traffic



After: Median tip expansion at Grand Concourse and E 183rd Street

CRASH LOCATION: BROOKLYN



CRASH LOCATION: BROOKLYN

Atlantic Avenue & Bedford Avenue

Crashes

- Ranked 1st in Brooklyn
- 7 pedestrian crashes in 2010

Location/Context

- Project Area: Heavily congested intersection with confusing lane designations and long crossing distances
- Neighborhood: Crown Heights/Prospect Heights
- Community Boards: 3 and 8
- Council District: 35 and 36
- Land Use: Retail, Industrial, Multi Level Residential, Public Facilities
- Bus Routes: SBS Route
- Subway: A and C at Nostrand Avenue, S at Franklin Avenue
- Truck Routes: Atlantic Ave (Through) and Bedford Ave (Local)
- Bike Route: Bedford Avenue

Issues Identified

- Heavy vehicle volumes
- Heavy pedestrian volumes
- Pedestrian/vehicle conflicts
- Poor compliance by pedestrians
- Long crossing distances
- Speeding on Atlantic Avenue, approaching Bedford Avenue
- Most crashes involve right turns from NB Bedford Avenue to Atlantic Avenue
- Poor visibility
- Disorganized traffic flow



Implemented Improvements

- Installed pedestrian countdown signals
- Installed "LOOK" pavement markings at crosswalks to alert pedestrians to oncoming traffic

Projected Improvements

- Upgrade to high visibility crosswalks for better pedestrian visibility
- Install lane designation markings to better organize traffic flow



Before: Long crossing distances

CRASH LOCATION: BROOKLYN

Graham Avenue & Flushing Avenue & Broadway

Crashes

- Tied for 2nd in Brooklyn
- 6 pedestrian crashes in 2010

Location/Context

- Project Area: Heavily congested intersection with subway stations, high pedestrian traffic, and commercial retail
- Neighborhood: Williamsburg
- Community Boards: 1, 3, 4
- Council District: 33, 34 and 36
- Land Use: Commercial Retail, Multi Level Residential
- Bus Routes: B57 Flushing Avenue, B46 Broadway
- Subway: J/M at Flushing Avenue
- Local Truck Routes: Flushing Avenue and Broadway

Issues Identified

- Heavy pedestrian and vehicle volumes
- Pedestrian/vehicle conflicts
- Long crossing distances
- Poor compliance by pedestrians
- High retail-related pedestrian activity
- Poor visibility
- Lack of available sidewalk space
- Disorganized traffic flow
- Skewed intersection and crosswalks



Implemented Improvements

- Installed pedestrian countdown signals
- Installed “LOOK” pavement markings at crosswalks to alert pedestrians to oncoming traffic

Projected Improvements

- Under study by NYC DOT for potential traffic calming project
- Construct pedestrian safety islands in the Graham Avenue and Broadway crosswalks to reduce crossing distance
- Construct curb extensions on northwest corner to shorten pedestrian crossings
- Ban left turn from slip lane to Graham Avenue to reduce vehicle and pedestrian conflicts
- Install leading pedestrian interval to provide pedestrians with more conflict-free crossing time
- Realign crosswalks for better pedestrian and vehicular visibility



Before: Heavy pedestrian traffic near subway exit at Flushing Avenue

CRASH LOCATION: BROOKLYN

Rutland Road & Rockaway Parkway

Crashes

- Tied for 2nd in Brooklyn
- 6 pedestrian crashes in 2010

Location/Context

- Project Area: Congested intersection with heavy left turn volumes
- Neighborhood: East Flatbush
- Community Board: 17
- Council District: 41
- Land Use: Residential, Mixed Use, Commercial, Institutional
- Bus Routes: B47
- Subway: #3 at Sutter Avenue-Rutland Road
- Schools: P.S. 189

Issues Identified

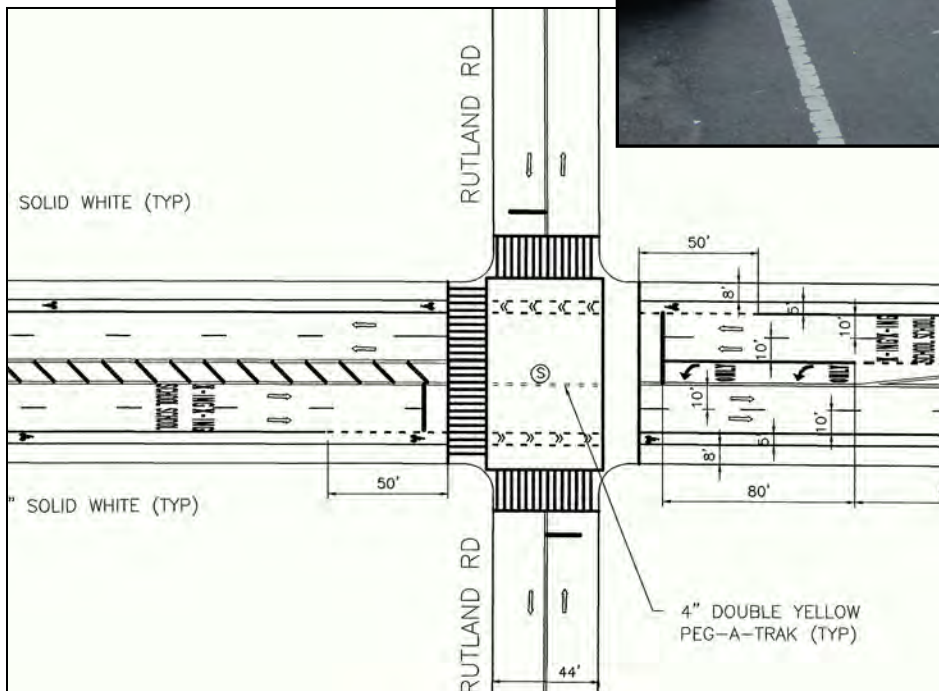
- Heavy vehicle volumes
- Pedestrian/vehicle conflicts
- Long crossing distances
- Poor compliance by pedestrians
- Substandard turn bays with heavy turn volumes

Implemented Improvements

- Installed **painted center median** on Rockaway Parkway and refurbished markings and crosswalks
- Installed **pedestrian countdown signals**
- Installed **"LOOK" pavement markings** at crosswalk to alert pedestrians to oncoming traffic



After: Installed new markings



CRASH LOCATION: BROOKLYN

Ocean Parkway & Kings Highway

Crashes

- Tied for 3rd in Brooklyn
- 5 pedestrian crashes in 2010

Location/Context

- Project Area: Congested intersection with heavy left turn crashes
- Neighborhood: Gravesend
- Community Board: 15
- Council District: 44
- Land Use: Residential, Mixed Use, Institutional
- Bus Routes: B82
- Local Truck Routes: Kings Highway
- Bike Route: Ocean Parkway

Issues Identified

- Heavy pedestrian and vehicle volumes
- Pedestrian/vehicle conflicts
- Poor compliance by pedestrians
- Pedestrians crossing where no crosswalk exists
- Long crossing distances
- Skewed intersection
- High retail-related pedestrian activity
- Disorganized traffic flow



Implemented Improvements

- **Banned eastbound left turn** on Kings Highway approaching Ocean Parkway
- **Redirected eastbound vehicles** to Avenue R for a left turn at Ocean Parkway
- **Installed pedestrian countdown signals**
- **Installed "LOOK" pavement markings** at crosswalks to alert pedestrians to oncoming traffic



After: No left turns from Kings Highway to Ocean Parkway

CRASH LOCATION: BROOKLYN

86th Street & Bay Parkway

Crashes

- Tied for 3rd in Brooklyn
- 5 pedestrian crashes in 2010

Location/Context

- Project Area: Under elevated train with poor visibility for vehicles and pedestrians
- Neighborhood: Bath Beach
- Community Board: 11
- Council District: 47
- Land Use: Residential, Mixed Use, Commercial
- Bus Routes: B1, B6, B82
- Subway: D at Bay Parkway
- Local Truck Routes: Bay Parkway
- Senior Area: Bath Beach Senior Area

Issues Identified

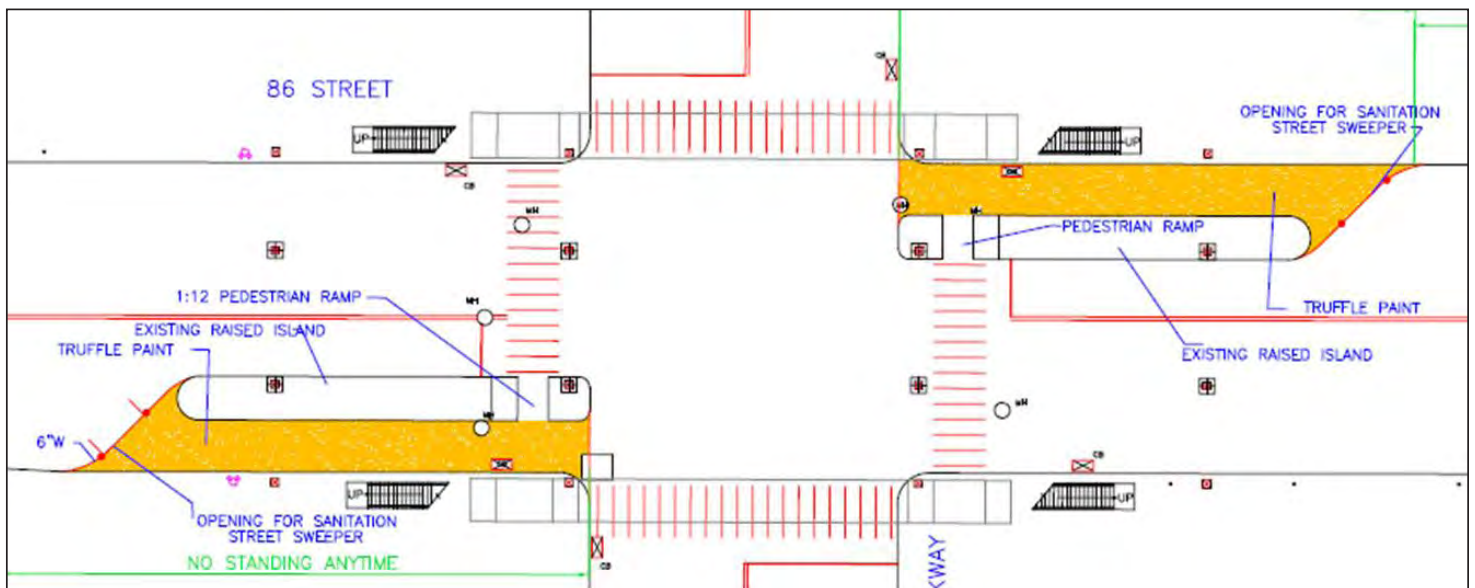
- Heavy pedestrian and vehicle volumes
- Pedestrian/vehicle conflicts
- Poor compliance by pedestrians
- Long crossing distances
- High retail-related pedestrian activity
- Heavy truck loading
- Poor visibility

Implemented Improvements (to be completed May 2013)

- **Installed painted curb extension** at intersection to shorten pedestrian crossing
- **Installed lane designation markings** on 86th Street to organize traffic flow
- **Reduced sign clutter** to simplify intersection
- **Replaced existing broken pedestrian signals** to enhance safety
- **Installed pedestrian countdown signals**
- **Installed "LOOK" pavement markings** at crosswalks to alert pedestrians to oncoming traffic



Before: Pedestrian/vehicle conflicts on 86th Street



CRASH LOCATION: BROOKLYN

Linden Boulevard & Church Avenue

Crashes

- Tied for 3rd in Brooklyn
- 5 pedestrian crashes in 2010

Location/Context

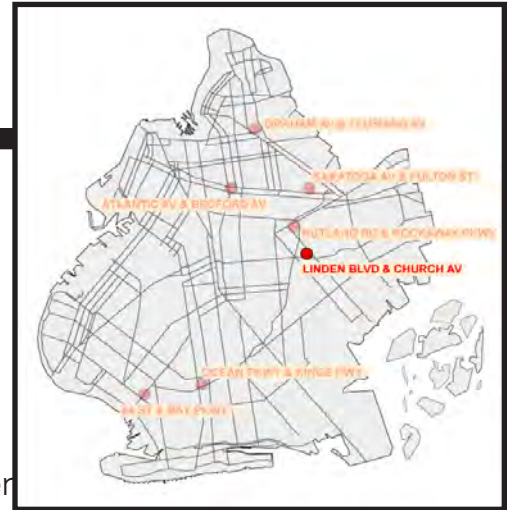
- Project Area: Linden Boulevard and Church Avenue
- Neighborhood: East Flatbush/Remsen Village
- Community Board: 17
- Council District: 42
- Land Use: Commercial, Residential, Open Space & Recreation, Public Facilities & Institutions
- Bus Routes: B8, B35
- Local Truck Routes: Linden Boulevard and Church Avenue

Issues Identified

- Long crossing distances
- Pedestrian/vehicle conflicts
- Heavy pedestrian and vehicle volumes
- Poor compliance by pedestrians
- Pedestrians crossing where no crosswalk exists
- High retail-related pedestrian activity
- Skewed intersection and crosswalks
- Speeding on Linden Boulevard

Implemented Improvements

- Installed pedestrian countdown signals
- Installed “LOOK” pavement markings at crosswalks to alert traffic



Projected Improvements

- Under study by NYC DOT for potential traffic calming project
- Modify signal timing to provide safer pedestrian crossings
- Refurbish markings and crosswalks with advance stop bars to increase visibility of pedestrians in crosswalk



Before: Wide road with narrow medians

CRASH LOCATION: BROOKLYN

Saratoga Avenue & Fulton Street

Crashes

- Tied for 3rd in Brooklyn
- 5 pedestrian crashes in 2010

Location/Context

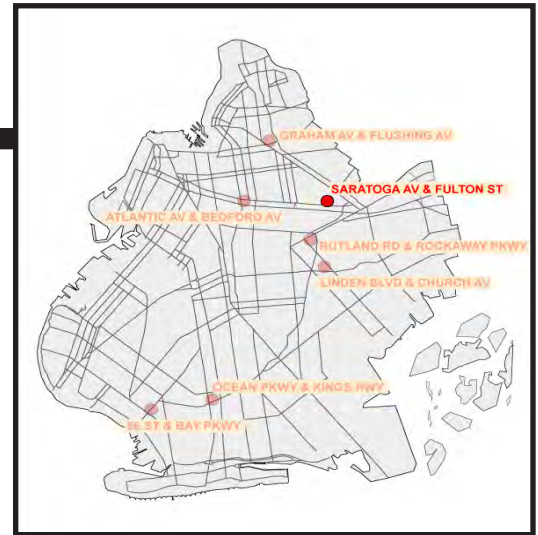
- Project Area: Low traffic location with poor sight lines
- Neighborhood: Bedford Stuyvesant
- Community Boards: 3 and 16
- Council District: 41
- Land Use: Commercial Retail, Medium Density Residential
- Bus Routes: B25 Fulton Street, B7 Saratoga Avenue
- Subway lines: A and C two blocks away
- Schools: Mott Hall Intermediate School

Issues Identified

- Speeding on Saratoga Avenue approaching Fulton Street
- Poor visibility

Implemented Improvements

- Installed pedestrian countdown signals
- Installed “LOOK” pavement markings at crosswalks to alert pedestrian to oncoming traffic



Projected Improvements

- Under study by NYC DOT for potential traffic calming project
- Install lane designation markings to organize traffic flow
- Construct curb extensions in NE and SW corners to shorten pedestrian crossings
- Relocate bus stop to far side of the intersection for safer pedestrian crossings



Before: Faded markings at intersection

CRASH LOCATION: MANHATTAN



CRASH LOCATION: MANHATTAN

Delancey Street & Essex Street

Crashes

- Tied for 1st in Manhattan
- 7 pedestrian crashes in 2010

Location/Context

- Project Area: Congested intersection near Williamsburg Bridge entrance
- Neighborhood: Lower East Side
- Community Board: 3
- Council District: 1
- Land Use: Mixed Use, Commercial
- Bus Routes: M9, M14AD, M21
- Subway: F at Delancey, J/M/Z at Essex
- Through Truck Route: Delancey Street

Issues Identified

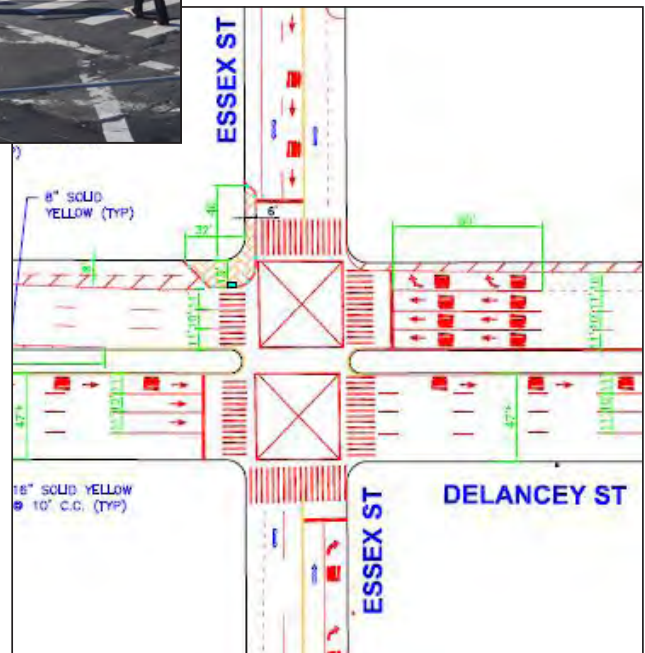
- Heavy vehicle volumes
- Long crossing distances
- Pedestrian / vehicle conflicts
- Heavy pedestrian volumes near subway
- Speeding

Implemented Improvements

- **Installed painted neckdown** on the northwest corner to shorten crossing distance
- **Refurbished markings** to clarify travel lanes
- **Modified signal timing** to provide safer pedestrian crossings
- **Banned left turn** from southbound Essex Street to eastbound Delancey Street
- **Installed pedestrian countdown signals**
- **Installed "LOOK" pavement markings** at crosswalks to alert pedestrian to oncoming traffic



After: Curb extension in northwest corner



CRASH LOCATION: MANHATTAN

7th Avenue South & Bleecker Street & Barrow Street

Crashes

- Tied for 1st in Manhattan
- 7 pedestrian crashes in 2010

Location/Context

- Project Area: Multi-legged skewed intersection with wide streets and heavy turns
- Neighborhood: West Village
- Community Board: 2
- Council District: 3
- Land Use: Residential, Mixed Use, Commercial, Institutional, Historic Preservation District
- Bus Routes: M20
- Subway: 1 at Christopher Street-Sheridan Square
- Local Truck Route: 7th Avenue South
- Bike Route: Bleecker Street

Issues Identified

- Heavy pedestrian and vehicle volumes
- Pedestrian and vehicle conflicts
- Poor compliance by pedestrians
- High retail-related pedestrian activity
- Double right- and left-turns from 7th Avenue to Bleecker and Barrow Streets cause vehicle-to-vehicle crashes



Implemented Improvements

- Installed two painted neckdowns to shorten crossing distance
- Created left-turn bay separated with channelization and flexible delineators to prevent double left turns from 7th Avenue
- Separated the right-turns onto Barrow Street with right-turn-only lane to be shared with the bus stop that will be signed "Right-Turn-Only Except Buses"
- Installed pedestrian countdown signals
- Installed "LOOK" pavement markings at crosswalks to alert pedestrians to oncoming traffic

Projected Improvements

- Under study by NYC DOT for additional safety project (Phase II) involving the construction of a pedestrian safety island in the channelization from Phase I



Before: Long crossing



After: Painted neckdowns with flexible delineators

CRASH LOCATION: MANHATTAN

Park Avenue & 42nd Street

Crashes

- Tied for 2nd in Manhattan
- 6 pedestrian crashes in 2010

Location/Context

- Project Area: Busy vehicle and pedestrian area near Grand Central Terminal
- Neighborhood: Midtown East
- Community Board: 5
- Council District: 3 and 4
- Land Use: Transportation, Commercial and retail
- Bus Routes: M42, X22, X22A, X31, X68
- Subway: 4/5/6, 7 at Grand Central
- Local Truck Route: 42nd Street

Issues Identified

- Heavy pedestrian / vehicle volume
- Pedestrian / vehicle conflicts
- Poor compliance by pedestrians
- Pedestrians crossing where no crosswalk exists
- Poor visibility due to viaduct

Implemented Improvements

- Installed pedestrian countdown signals
- Installed "LOOK" pavement markings at crosswalks to alert pedestrians to oncoming traffic



Projected Improvements

- **Pershing Square Plaza** planned for southbound Park Ave between 41st Street and 42nd Street as part of NYC DOT Plaza Program (spring 2013)



Before: Park Avenue closed to vehicles for part of the day

Before: Heavy pedestrian volumes on E 42nd Street near Park Avenue



CRASH LOCATION: MANHATTAN

West 152nd Street & Broadway

Crashes

- Tied for 2nd in Manhattan
- 6 pedestrian crashes in 2010

Location/Context

- Project Area: Wide road in residential area along retail corridor
- Neighborhood: Hamilton Heights
- Community Board: 9
- Council District: 7
- Land Use: Mixed-use, Residential, Ground floor retail
- Bus Routes: M4, M5
- Local Truck Route: Broadway

Issues Identified

- Heavy vehicle/ pedestrian volumes
- Vehicle and pedestrian conflicts
- Long crossing distances
- High retail-related pedestrian activity

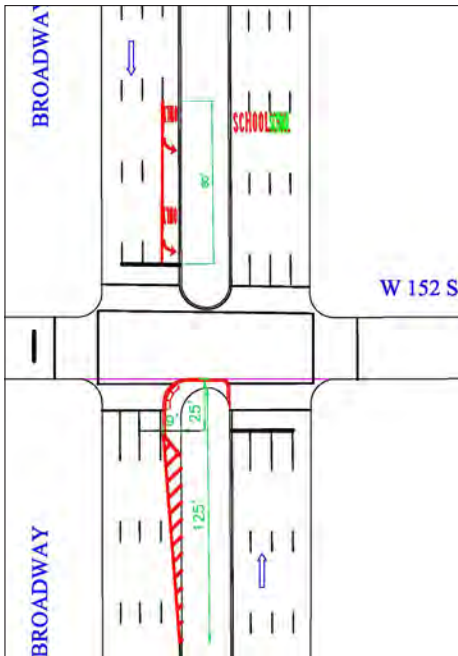


Implemented Improvements

- Installed pedestrian countdown signals
- Installed new pedestrian signal heads on center median to promote safer pedestrian crossings
- Installed "LOOK" pavement markings at crosswalks to alert pedestrians to oncoming traffic

Projected Improvements

- Under study by NYC DOT for additional safety project
- Install left turn lane on SB Broadway and expand pedestrian median to narrow crossing distance



LOOK markings in place

CRASH LOCATION: MANHATTAN

Canal Street & Allen Street

Crashes

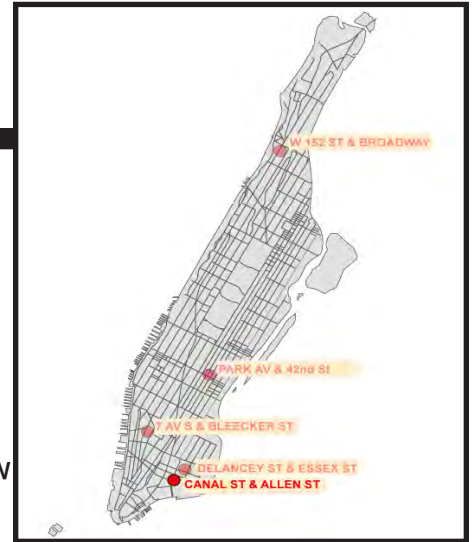
- Tied for 2nd in Manhattan
- 6 pedestrian crashes in 2010

Location/Context

- Project Area: Intersection of two wide, busy roads with bike lanes and pedestrian mall
- Neighborhood: Chinatown
- Community Board: 3
- Council District: 1
- Land Use: Mixed Use, Commercial, Institutions, Industrial
- Bus Routes: M15
- Local Truck Routes: Allen Street
- Bike Route: Allen Street and Canal Street

Issues Identified

- Long crossing distances
- Heavy pedestrian volumes
- Heavy vehicle volumes
- Pedestrian/vehicle conflicts
- Poor compliance by pedestrians
- High retail-related activity



Implemented Improvements

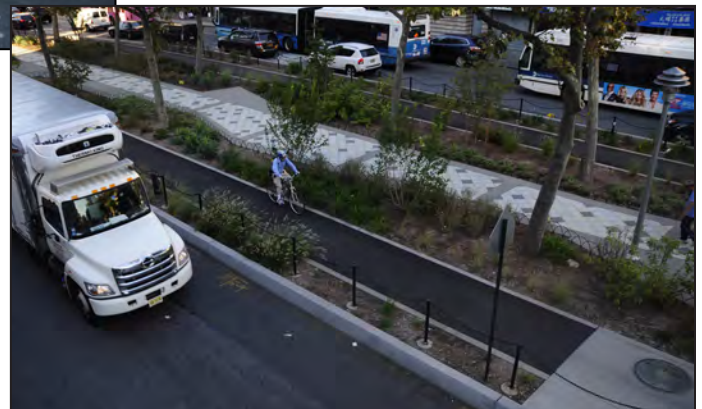
- Installed lane designations markings to organize traffic flow
- Installed pedestrian countdown signals
- Installed “LOOK” pavement markings at crosswalks to alert pedestrians to oncoming traffic

Projected Improvements

- Capital construction to upgrade in-house Allen Street pedestrian mall treatment
- Expand center median on Allen Street to shorten pedestrian crossings

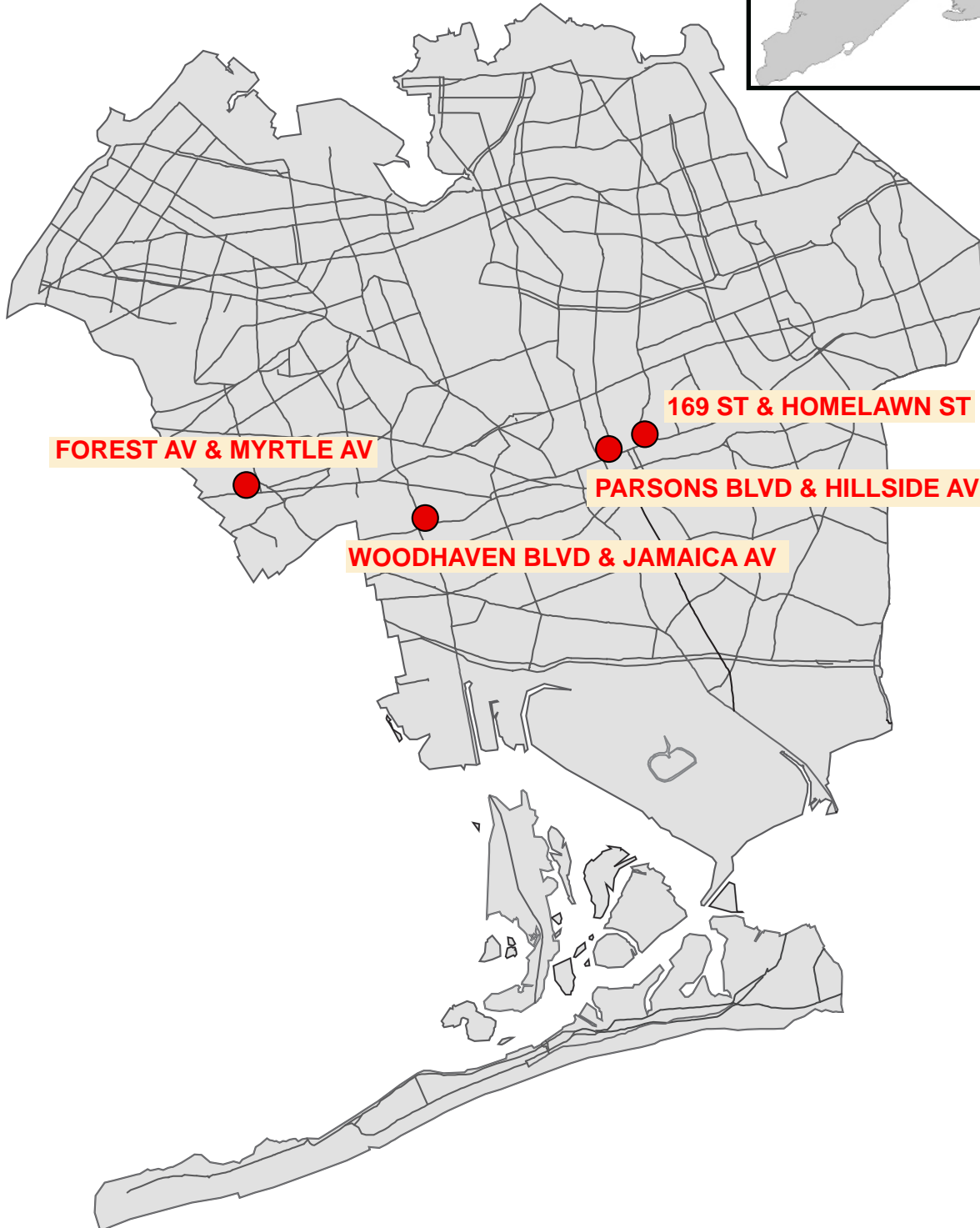


LOOK markings near pedestrians island on Canal Street and Allen Street



Example of capital construction of Allen Street pedestrian malls

CRASH LOCATION: QUEENS



CRASH LOCATION: QUEENS

Woodhaven Boulevard & Jamaica Avenue

Crashes

- Ranked 1st in Queens
- 5 pedestrian crashes in 2010

Location/Context

- Project Area: High speed arterial with service roads and a heavy local retail corridor, under elevated train
- Neighborhood: Woodhaven
- Community Board: 9
- Council District: 30 and 32
- Land Use: Medium-density mixed-use / retail
- Bus Routes: Q11, Q21, Q52, Q53, Q56, QM15
- Subway: B and Q at Woodhaven Boulevard
- Local Truck Route: Woodhaven Boulevard

Issues Identified

- Heavy vehicle/ pedestrian volumes
- Pedestrian-vehicle conflicts
- Long crossing distances
- High retail-related pedestrian activity
- Poor compliance by pedestrians
- Substandard turn bays with heavy turn volumes
- Speeding on Woodhaven Boulevard approaching Jamaica Avenue
- Poor visibility
- Disorganized traffic flow

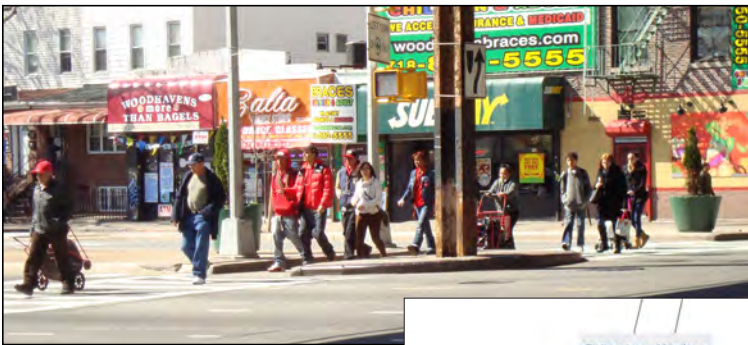


Implemented Improvements

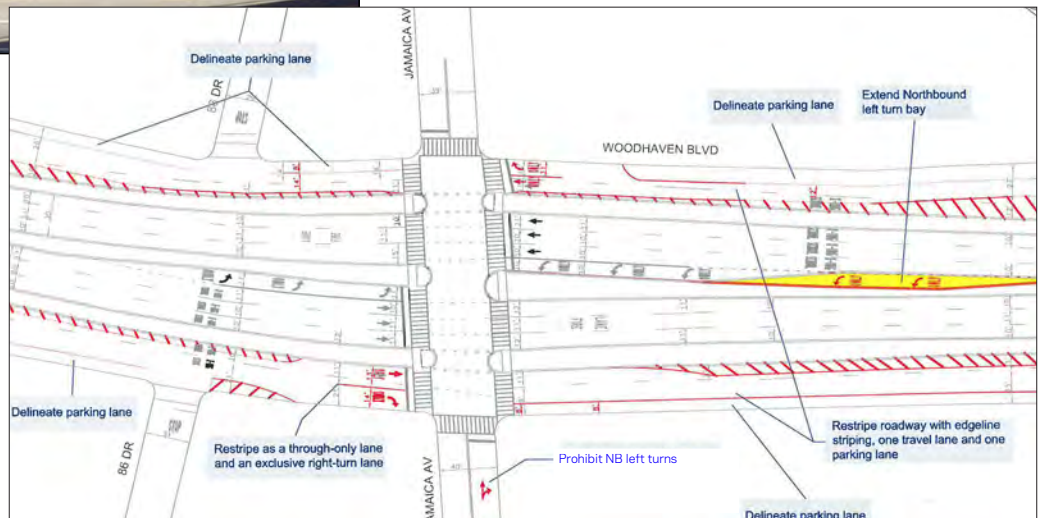
- Installed pedestrian countdown signals
- Installed “LOOK” pavement markings at crosswalks to alert pedestrians to oncoming traffic

Projected Improvements

- Under study by NYC DOT for potential traffic calming project
- Modify signal timing to provide safer crossing of pedestrians as well as increase clearance time for vehicles and pedestrians
- Install new lane markings on service roads to calm traffic and organize flow
- Ban northbound to westbound left turn to reduce vehicle and pedestrian conflicts



Before: Heavy pedestrian volumes, long crossing distances, and poor sight lines



CRASH LOCATION: QUEENS

Forest Avenue & Myrtle Avenue & George Street

Crashes

- Tied for 2nd in Queens
- 4 pedestrian crashes in 2010

Location/Context

- Project Area: Complex intersection with multiple approaches
- Neighborhood: Ridgewood
- Community Board: 5
- Council District: 30 and 34
- Land Use: Commercial Retail, Medium Density Residential
- Bus Routes: Q39, Q55
- Through Truck Route: Myrtle Avenue

Issues Identified

- High retail-related pedestrian activity
- Speeding on Forest Avenue approaching Myrtle Avenue
- Poor visibility
- Skewed intersection and crosswalks



Implemented Improvements

- Installed pedestrian countdown signals
- Installed “LOOK” pavement markings at crosswalks to alert pedestrians to oncoming traffic

Projected Improvements

- Under study by NYC DOT for potential traffic calming project
- Install leading pedestrian interval to provide pedestrians with more conflict-free crossing time
- Modify signal timing to provide safer crossing of Myrtle Avenue
- Realign crosswalk for better pedestrian and vehicular visibility



Before: Skewed intersection and crosswalks

CRASH LOCATION: QUEENS

Parsons Boulevard & Hillside Avenue

Crashes

- Tied for 2nd in Queens
- 4 pedestrian crashes in 2010

Location/Context

- Project Area: Busy intersection on major traffic route
- Neighborhood: Jamaica Hills bordering Briarwood
- Community Boards: 8 and 12
- Council District: 24
- Land Use: Commercial retail, Medium density residential
- Bus Routes: Q25, Q34, Q43, Q65, Q111, Q112, Q113
- Subway: E/F at Parsons Boulevard
- Through Truck Route: Hillside Avenue
- Bike Route: Parsons Boulevard (Sharrows)
- Schools: Hillcrest High School, P. S. 86, Young Women's Leadership School of Queens

Issues Identified

- Heavy pedestrian and vehicle volumes
- Pedestrian/vehicle conflicts
- High retail-related pedestrian activity
- Poor visibility



Implemented Improvements

- Installed pedestrian countdown signals
- Installed “LOOK” pavement markings at crosswalks to alert pedestrians to oncoming traffic

Projected Improvements

- Install leading pedestrian interval to provide pedestrians with more conflict-free crossing time



Before: Heavy pedestrian/vehicle volumes near retail corridor

CRASH LOCATION: QUEENS

169th Street & Homelawn Street & Hillside Avenue

Crashes

- Tied for 2nd in Queens
- 4 pedestrian crashes in 2010

Location/Context

- Project Area: Commercial intersection with heavy bus activity and many subway entrances
- Neighborhood: Jamaica Hills
- Community Boards: 8 and 12
- Council District: 24 and 27
- Land Use: Residential, Mixed Use, Commercial
- Bus Routes: N1, N6, N22, N24, N26, Q1, Q2, Q3, Q17, Q30, Q31, Q36, Q43, Q76, Q77
- Subway: F at 169th Street
- Through Truck Route: Hillside Avenue

Issues Identified

- Heavy pedestrian volumes
- Long crossing distances
- Illegal U-turns



Implemented Improvements

- Installed pedestrian countdown signals
- Installed “LOOK” pavement markings at crosswalks to alert pedestrians to oncoming traffic

Projected Improvements

- Under study by NYC DOT for potential traffic calming project
- Construct concrete island in channelization on 169th Street to reduce crossing distance
- Convert yield control at Homelawn to stop sign for southbound 169th Street
- Modify angle parking from head-in to back-in 60 degree on Homelawn Street

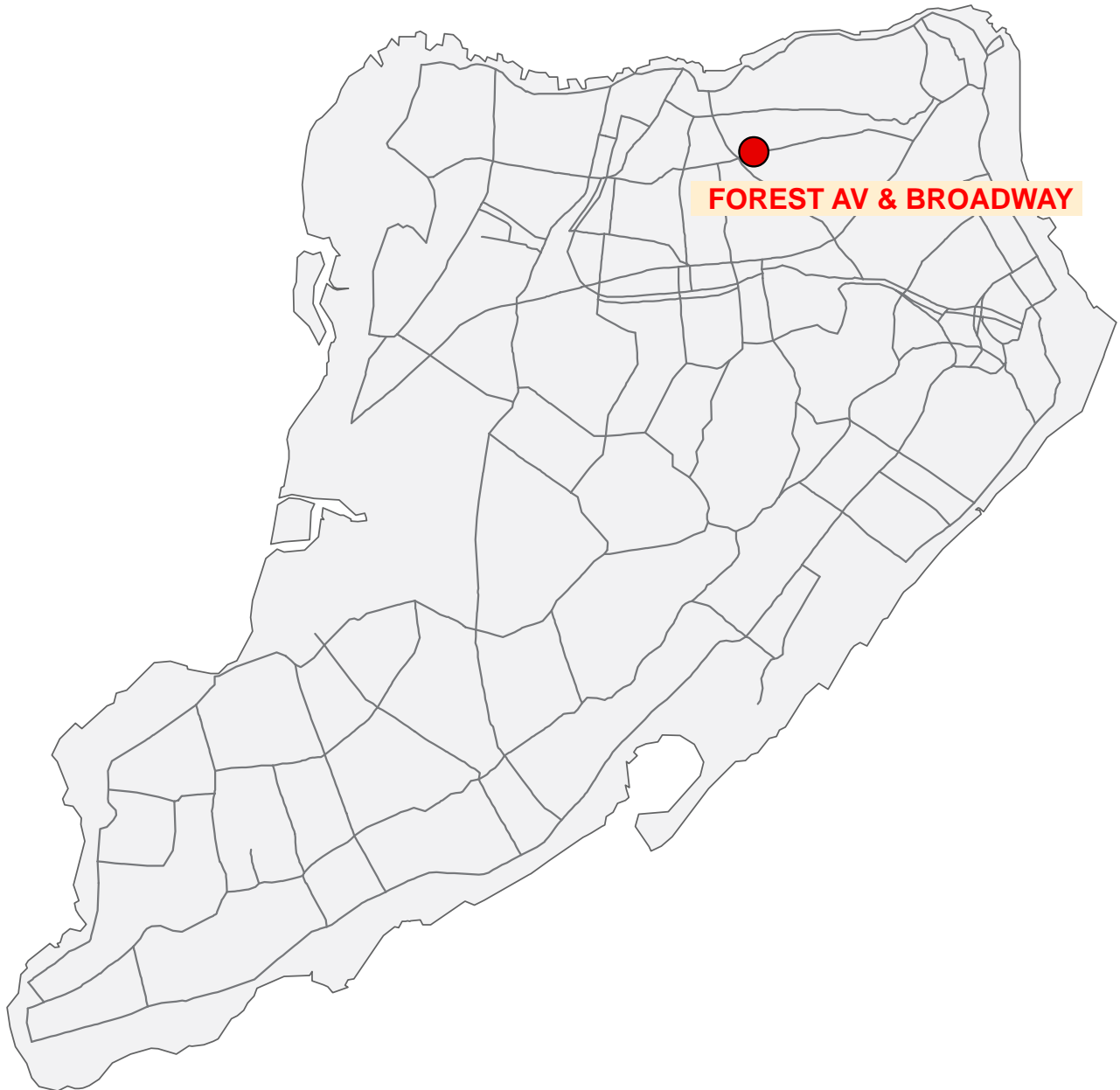


Before: Wide intersection with many vehicle-pedestrian conflicts



Proposed design

CRASH LOCATION: STATEN ISLAND



STATEN ISLAND

Forest Avenue & Broadway

Crashes

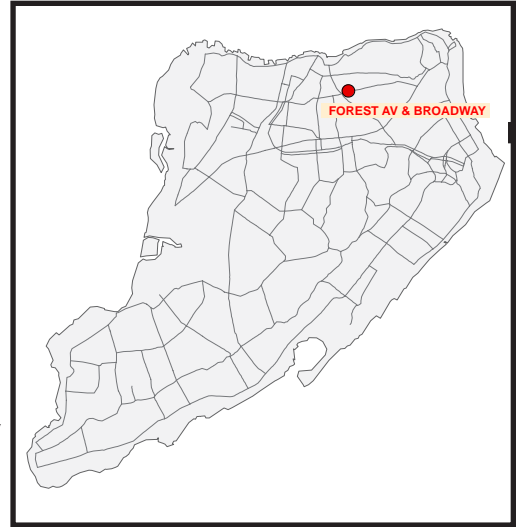
- Ranked 1st in Staten Island
- 3 pedestrian crashes in 2010

Location/Context

- Project Area: Auto-oriented commercial area with substantial pedestrian activity
- Neighborhood: West New Brighton
- Community Board: 1
- Council District: 49
- Land Use: Low density commercial and mixed use
- Bus Routes: S48, S53, S98, X30
- Local Truck Routes: Forest Avenue and Broadway (north of Forest Avenue only)
- Schools: Intermediate School 27

Issues Identified

- Heavy pedestrian volumes
- Pedestrian/vehicle conflicts
- Poor compliance by pedestrians
- High retail-related pedestrian activity
- Most crashes involve left turns from Broadway to Forest Avenue



Implemented Improvements

- **Reconstructed all four corners of intersection** to comply with new ADA regulations
- **Installed pedestrian countdown signals**
- **Installed "LOOK" pavement markings** at crosswalks to alert pedestrians to oncoming traffic



LOOK markings in place