

Southern Boulevard



Purpose

- Improve safety for pedestrians and drivers
- Reduce traffic congestion and simplify complex intersection at Crames Square
- Shorten crossing distances between bus stops, subway entrances and retail land uses
- Enhance streetscape

Outreach

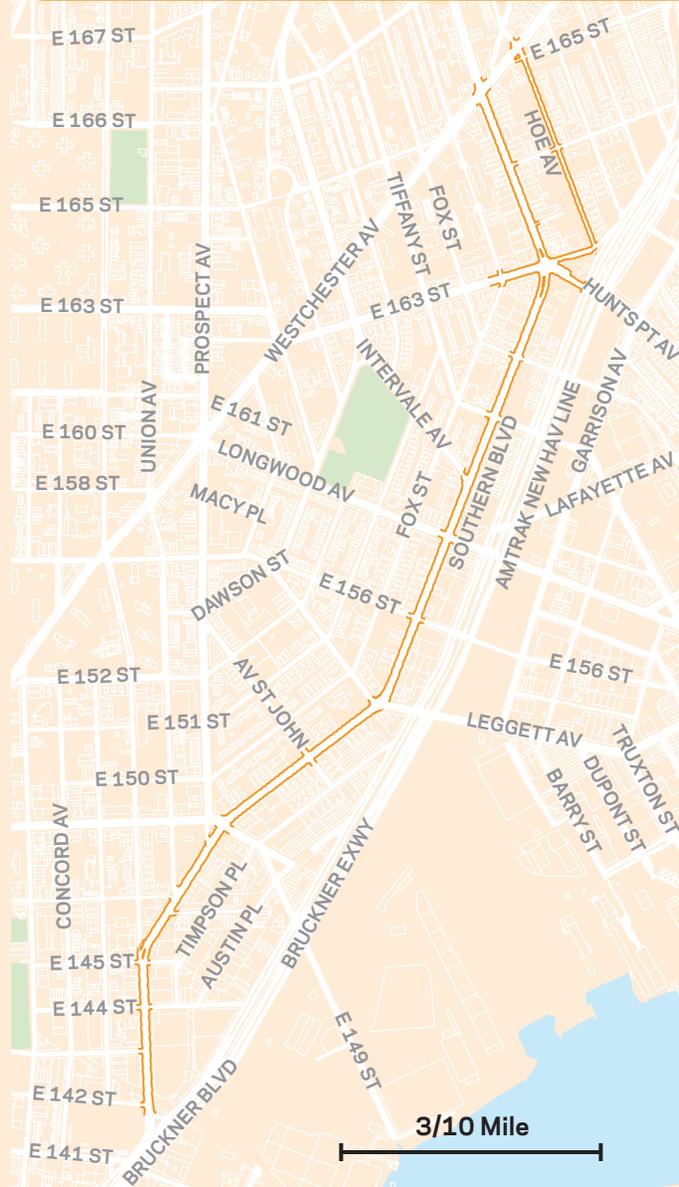
- Bronx Community Board 2 (CB2) requested improvements and Crames Square was identified as a High Pedestrian Crash Location
- DOT and CB2 held a workshop in March 2010 to identify issues in the project area
- DOT developed plans addressing the community generated issues and presented them at the CB2 meeting in May 2010
- CB2 voted to support the project in July 2010

Approach

- Narrowed Southern Boulevard from two moving lanes to one moving lane in each direction between Westchester Avenue and East 142nd Street
- Installed a painted median, pedestrian refuge islands and left-turn bays at key intersections
- Expanded pedestrian plaza space at Crames Square, adding new islands and shortening crosswalks
- Eliminated low-volume turns and simplified signal phasing at Crames Square intersection to improve traffic flow
- Reversed direction of Hoe Avenue from East 163rd Street to Westchester Avenue to reduce traffic volume at Crames Square
- Added landscaping to new public spaces

Results

- 14% reduction in total crashes involving injuries within the Southern Boulevard project area
- Fewer lanes have not caused congestion
- Average travel speeds through the Crames Square intersection improved 4% in the morning peak period and 35% in the evening peak period



Southern Boulevard from Westchester Avenue to East 142nd Street, one block west of Bruckner Boulevard and the Bruckner Expressway, is lined with medium density residential buildings with ground floor retail. The project is located in the Longwood neighborhood of the Bronx. The corridor is served by the #6 subway train and the Bx4, Bx19 and Bx6 bus lines.

Crames Square--the five-legged intersection of Southern Boulevard, Hunts Point Avenue, and East 163rd Street--lies at the heart of the Southern Boulevard project. This active intersection is within the Southern Boulevard Business Improvement District (BID), serves as a transportation hub, and features a central plaza, Del Valle Square. However, the long crossing distances and vehicle-pedestrian conflicts within the complicated intersection made pedestrian access between these destinations difficult. Being well served by transit, the project area has stops on the Southern Boulevard Bx19 and Bx4 bus lines and the Hunts Point Avenue Bx6 line. The subway stop for the # 6 line serves both the retail district and surrounding Longwood and Hunts Point communities. In addition to accommodating high pedestrian use, the project location plays an important role in the Bronx street network and East 163rd Street is a key east-west corridor. Streets in the area serve traffic going to and from Hunts Point, traffic accessing Bruckner Boulevard and a ramp to the Sheridan Expressway. Additionally, Southern Boulevard, lined with residential buildings with ground floor retail, is sometimes used as an alternative to Bruckner Boulevard and the Bruckner Expressway.

In response to community concerns about pedestrian safety, DOT worked with CB2 to host a workshop where the public was invited to identify problems and desired changes. They were eager to see safety and traffic improvements. Based on the workshop and analysis of existing conditions, DOT developed a plan for the area and presented it to CB2, which issued a letter in support of the project.

DOT's analysis showed that Southern Boulevard between Westchester Avenue and East 142nd Street had excessive width for the traffic volumes it served. The width averaged 60 feet wide with two lanes in each direction plus parking lanes along each curb, creating long crosswalks. Southern Boulevard was reduced to one lane in each direction with a painted median and left-turn bays where needed while maintaining parking. DOT installed landscaped concrete pedestrian safety islands at the intersections with Leggett Avenue, Hunts Point Avenue and East 163rd Street. At Prospect Avenue between Southern Boulevard and East 149th Street,

an existing Greenstreets triangle was extended with raised concrete pedestrian space by eliminating an un-used bus-only lane. At the intersection of Intervale Avenue at Southern Boulevard, and at East 163rd Street at Bruckner Boulevard, beige colored-coating and flexible delineators were installed to create protected pedestrian space and slow the speeds of turning vehicles. On Bruckner Boulevard at the intersection with Hunts Point Avenue, the median was extended into the crosswalk to provide safer pedestrian crossings.

Crames Square was the most complex intersection in the project area with significant traffic flow and safety problems. Del Valle Square Park was extended at this intersection with landscaped, raised concrete pedestrian space, reducing the length of the pedestrian crossing by 40 feet. In order to improve traffic flow DOT eliminated low-volume turns and modified signal phasing. The prohibited turns included the left turns from East 163rd Street in both directions at Southern Boulevard and the right turns from Hunts Point Avenue onto Southern Boulevard. These turn bans and the relocation of a bus stop from Hunts Point Avenue to East 163rd Street allowed the westbound East 163rd Street movement and Hunts Point Avenue movement to be combined into a single signal phase which provided more signal time for all movements. To improve westbound traffic flow on East 163rd Street at Southern Boulevard, DOT reversed the direction of Hoe Avenue between East 163rd Street and Westchester Avenue from southbound to northbound.

The design resulted in faster travel times and reduced congestion for vehicles traveling through Crames Square while removing lanes and shortening crosswalks. Average vehicle-weighted travel times for the approaches into Crames Square improved by 4% in the morning peak period and 35% in the evening peak period. The turn prohibitions distributed traffic throughout the network reducing the number of vehicles traveling through Crames Square's multi-legged intersection during both the morning and evening peak periods. Travel times have also improved because of the new signal timing and phasing changes.



The Greenstreets triangle at Southern Boulevard and Prospect Avenue was extended by removing an un-used bus-only lane.



An extended, landscaped Del Valle Square at Crames Square enhances the neighborhood and improves safety for pedestrians.

Travel speeds improved by 35% in the evening rush hour while crash incidence fell after the redesign simplified traffic movements and shortened crosswalks.

The total number of crashes involving injuries within the Southern Boulevard project area decreased by 14% from an average of 77.3 crashes per year during the three years prior to implementation to an annual rate of 66.5 since the project was completed. This decline represents a statistically significant reduction in crashes (for crash analysis methodology, see page 68). In addition, the total number of crashes involving injuries is lower than any of the 10 prior years.

This project demonstrates how relatively inexpensive materials and infrastructure such as signal timing, pavement markings and carefully placed concrete have improved pedestrian access and safety. The project area today provides inviting and safe public spaces. Since the project's completion, DOT's Plaza Program accepted the Southern Boulevard BID's proposal for further improvements to Del Valle Plaza. DOT will transfer funds to the Department of Parks and Recreation, which owns this parkland property, for the capital transformation.

Crashes with Injuries for the Southern Boulevard Project Area

	Before* (three previous years)			After
Total Crashes with Injuries	75	73	84	66.5
Number of Crashes with Injuries to:				
Motor Vehicle Occupants	47	34	53	39.7
Pedestrians	27	37	23	22.2
Bicyclists	1	2	8	4.6

*Before columns show the crash history for each of the three years immediately prior to project implementation. After column shows number of crashes since implementation (through January 2012) at annual rate. See page 68 for further information on crash data source and analysis methodology. The sum of the three specific categories may not equal "Total Crashes with Injuries" because some crashes involved injuries in multiple categories.

AM Weekday Traffic Volumes (average vehicles per hour) Crames Square Intersection (Southern Boulevard/Hunts Point Avenue/East 163rd Street)

Approach	Before	After	% Change
Eastbound East 163rd Street	420	425	1%
Westbound East 163rd Street	660	450	-32%
Westbound Hunts Point Avenue	465	350	-25%
Northbound Southern Boulevard	290	305	5%
Southbound Southern Boulevard	455	445	-2%

Before data collected in May 2009. After data collected in March 2011. Volumes shown in average vehicles per hour.

PM Weekday Traffic Volumes (average vehicles per hour) Crames Square Intersection (Southern Boulevard/Hunts Point Avenue/East 163rd Street)

Approach	Before	After	% Change
Eastbound East 163rd Street	420	470	12%
Westbound East 163rd Street	540	480	-11%
Westbound Hunts Point Avenue	440	320	-27%
Northbound Southern Boulevard	410	380	-7%
Southbound Southern Boulevard	435	425	-2%

Before data collected in May 2009. After data collected in March 2011. Volumes shown in average vehicles per hour.