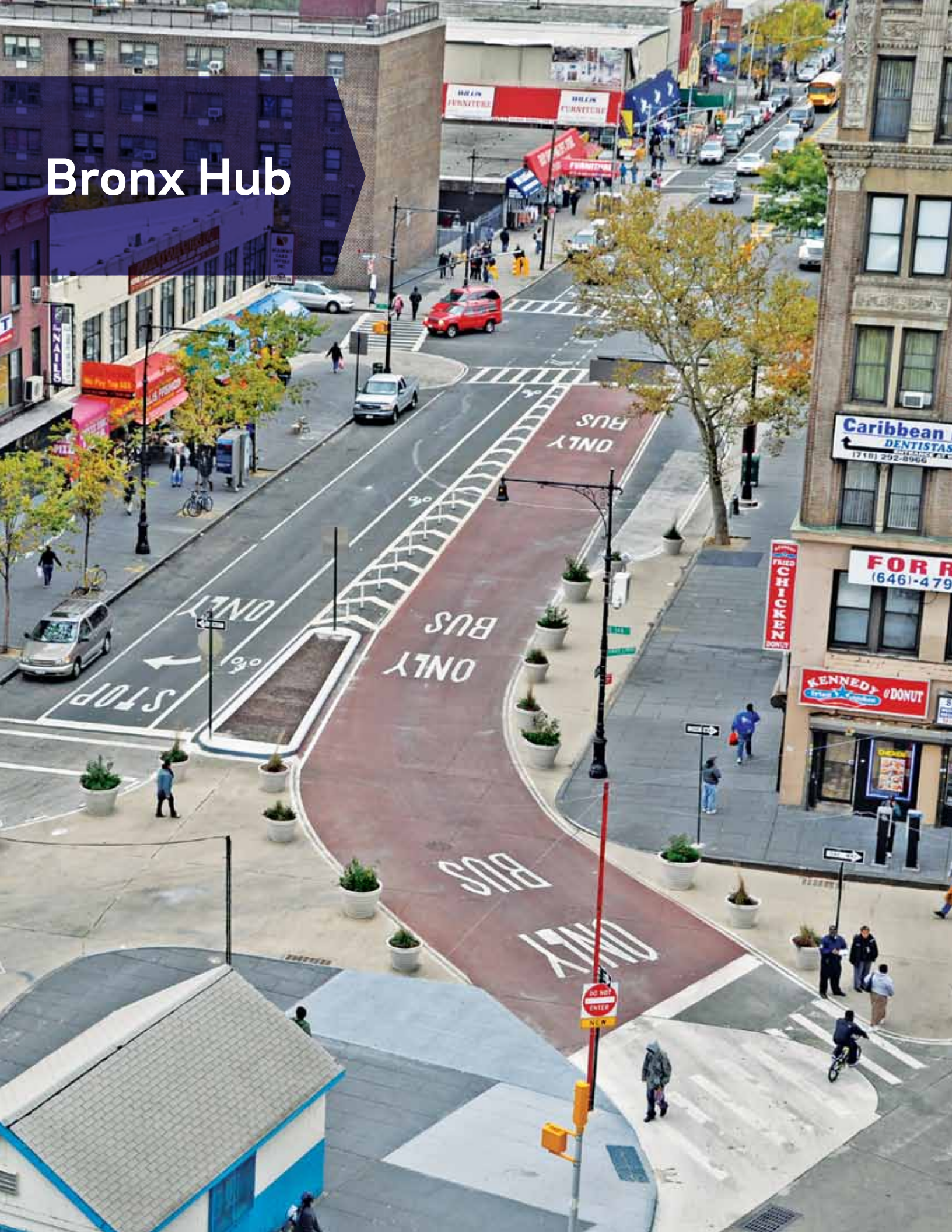


Bronx Hub



Purpose

- Make major shopping and transit hub safer and more pedestrian friendly
- Simplify complex traffic intersection
- Enhance public space and expand space for bus transfers
- Expand bicycle network

Outreach

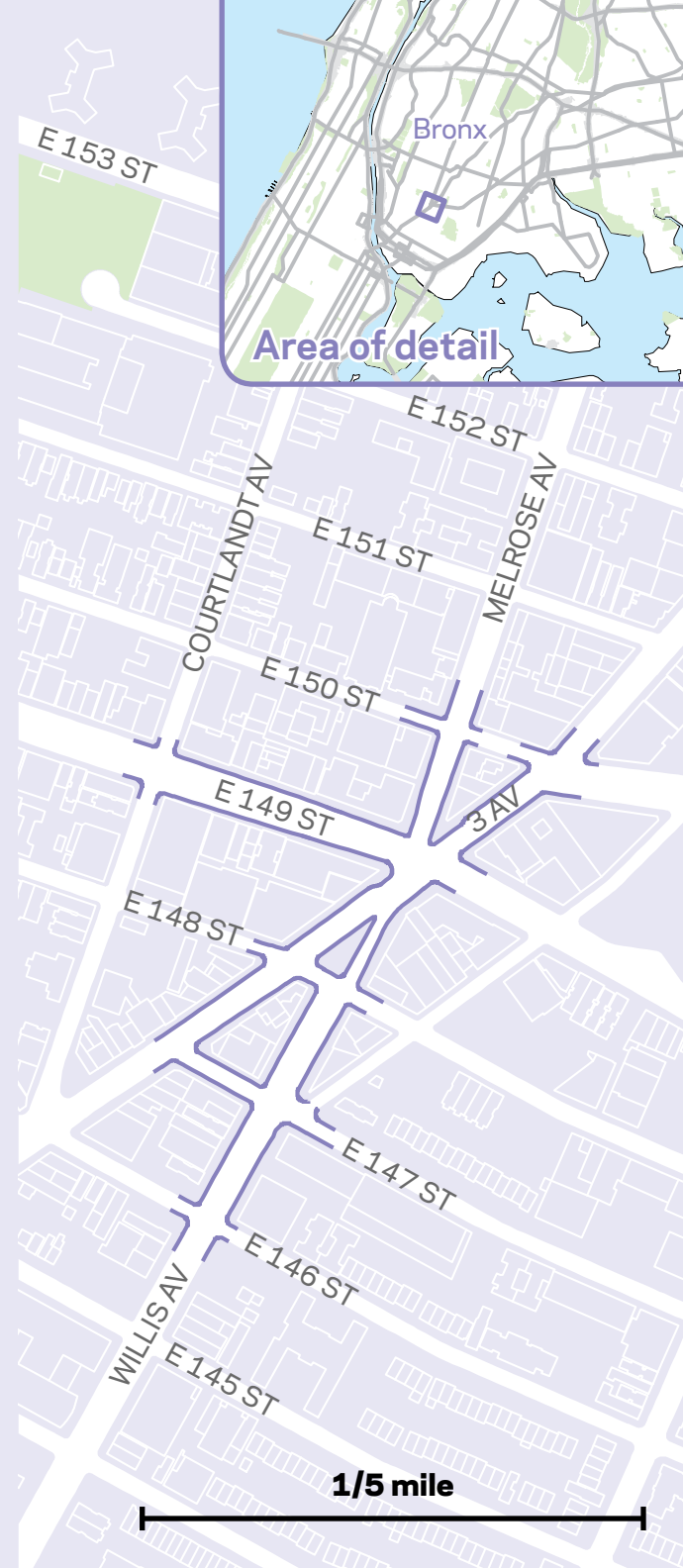
- DOT presented plans for redesign of intersection with proposal for expanded Roberto Clemente Plaza to Community Board 1
- Worked with South Bronx Overall Economic Development and Third Avenue Business Improvement District (BID) to become plaza maintenance partners
- DOT adjusted elements of the plan based on community feedback regarding parking and deliveries

Approach

- Eliminated certain turning movements to reduce conflicts and simplify intersection
- Adjusted signal timing to have fewer phases and thus shorter waits for pedestrians to cross
- Created plaza space, extended curbs and created pedestrian refuge islands; provided additional space for transit riders making transfers or waiting for buses
- Installed new bike lanes

Results

- Increased overall space for pedestrians by 15,000 square feet, including 6,800 square feet in Roberto Clemente Plaza
- Total number of crashes involving injuries lower than any of the 10 prior years
- 10% increase in the number of vehicles being processed through the Hub intersection
- Travel times along the key north-south corridors through the Hub fluctuated



The Bronx Hub is formed by the intersection of Third Avenue, E. 149th Street, Willis Avenue and Melrose Avenue in the South Bronx. It is a vibrant retail and cultural center for the surrounding neighborhoods of Melrose and Mott Haven. The area is served by the #2 and #5 subway trains and eight bus lines (Bx2, 4, 15, 19,21,41, and 55), and as such, is a major transfer point between the bus and subway.

The Bronx Hub project arose from community desires for a more pedestrian-friendly setting, local leaders' desire to support the revitalization of the area's retail and cultural activities and DOT analyses of safety and operational issues. DOT conducted a study of the area, which started in summer 2007. Based on this study and the earlier community input, DOT developed a plan that was presented to Community Board 1. The board was receptive and made suggestions to improve parking and accommodate delivery vehicles. DOT also met with the South Bronx Overall Economic Development Corporation and the Third Avenue BID in spring 2008. Both groups became key partners in finalizing the plan and supporting the local maintenance program. Project construction began in August 2008. The changes were fully operational in September 2008.

The final plan was designed to better accommodate high pedestrian volumes, improve safety for all users, reduce congestion through the intersection and enhance the experience of transit riders transferring between buses and subways.

Most of the changes in the project area were made at the main Hub intersection of E. 149th Street at Third, Willis and Melrose Avenues. DOT converted Willis Avenue between E. 148th and E. 149th Streets into a pedestrian plaza. Traffic on the approaches with lower vehicle volumes were diverted away from the intersection—southbound Melrose Avenue redirected onto westbound E. 149th Street and northbound Willis Avenue redirected onto eastbound E. 148th Streets, with the exception of buses which were provided with a dedicated lane onto northbound Third Avenue. Courtlandt Avenue south of E. 149th Street was changed to southbound operation to accommodate the southbound vehicles on Melrose Avenue that are now diverted onto E. 149th Street.

In addition, the signal phase modifications shortened the length of time pedestrians have to wait for the signal to change. Pedestrians were also provided refuges on E. 149th Street both east and west of Third Avenue and curb extensions at various locations. The bicycle network was improved with the addition of more than five miles of new bike lanes on Courtlandt, Melrose, Third and Willis Avenues. Overall, the project converted 15,000 square feet of space from roadway to pedestrian and bike use, including 6,800 square feet for the Roberto Clemente Plaza.

DOT gathered information on traffic conditions, volumes and speeds prior to construction and repeated the data collection after the project was completed to analyze the impacts. DOT also examined crash data from the New York City Police Department for the period before and after project implementation.

The new turning restrictions, revised signal timing and simplification of traffic patterns enabled the intersection to process vehicles more efficiently. As a result, the total number of vehicles passing through the Hub intersection increased by 10%.

Travel times along the key north-south corridors through the Hub decreased on some routes and increased on others. Due to the creation of the plaza along one block of Willis Avenue, travel times for southbound trips on Third Avenue and Willis Avenue from E. 151st Street to E. 146th Street increased by 11 seconds. Northbound trips on these avenues between E. 146th Street and E. 150th Street, increased by 51 seconds, from 1 minute, 35 seconds to 2 minutes, 26 seconds. On the other hand, the southbound route away from the Hub along Willis Avenue took less time; the average weekday



Construction of two new pedestrian refuge islands on E. 149th Street, reduced a 60 foot crosswalk into two 25 foot sections.



Willis Avenue, north of E. 147th Street features a dedicated bus lane painted red, a new bike lane and one vehicle travel lane that is diverted right at E. 148th Street. This allows Willis Avenue to become a plaza.

The Bronx Hub project converted 15,000 square feet of space from roadway to pedestrian and bike use.

morning trip from E. 146th Street to E. 135th Street now took 3 minutes, 17 seconds which is 27 seconds quicker than before.

The annualized crash rate after implementation was lower than the number of crashes in any of the 10 prior years, although the change was not statistically significant based on roughly one year of “after” data (for crash analysis methodology, see page 72).

The Bronx Hub is a vibrant and important retail and transportation center that is now easier to navigate and more pedestrian friendly. This project gave more space to more efficient modes of transportation; these results show that these types of improvements produce benefits for non-motorized users while not significantly disrupting the flow of traffic.

Bronx Hub Travel Times

	Before	After	Time Change	% Change
Northbound on Willis Avenue	1:35	2:26	0:51	53%
Southbound on Third Avenue	2:34	2:44	0:11	7%
Southbound on Willis Avenue	3:44	3:17	-0:27	-12%

All data for Time Period: weekdays 7-10 a.m. Before data collected October 2007. After data collected fall 2008.

Crashes with Injuries at the Bronx Hub Intersection - Third and Melrose Avenues at E. 149th Street

	Before* (three previous years)			After
Total Crashes with Injuries	11	12	10	8.8
Number of Crashes with Injuries to:				
Motor Vehicle Occupants	6	4	6	4.0
Pedestrians	6	6	4	5.6
Bicyclists	0	2	0	0.0

* 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 November 2009) at annual rate. See page 72 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.



Curb extensions that were installed at four locations helped reduce crossing distances by up to 20 feet.