

Belt Parkway Access/ Egress Improvements



Purpose

- Reduce traffic congestion and delays
- Improve traffic operations
- Improve pedestrian and motorist safety

Outreach

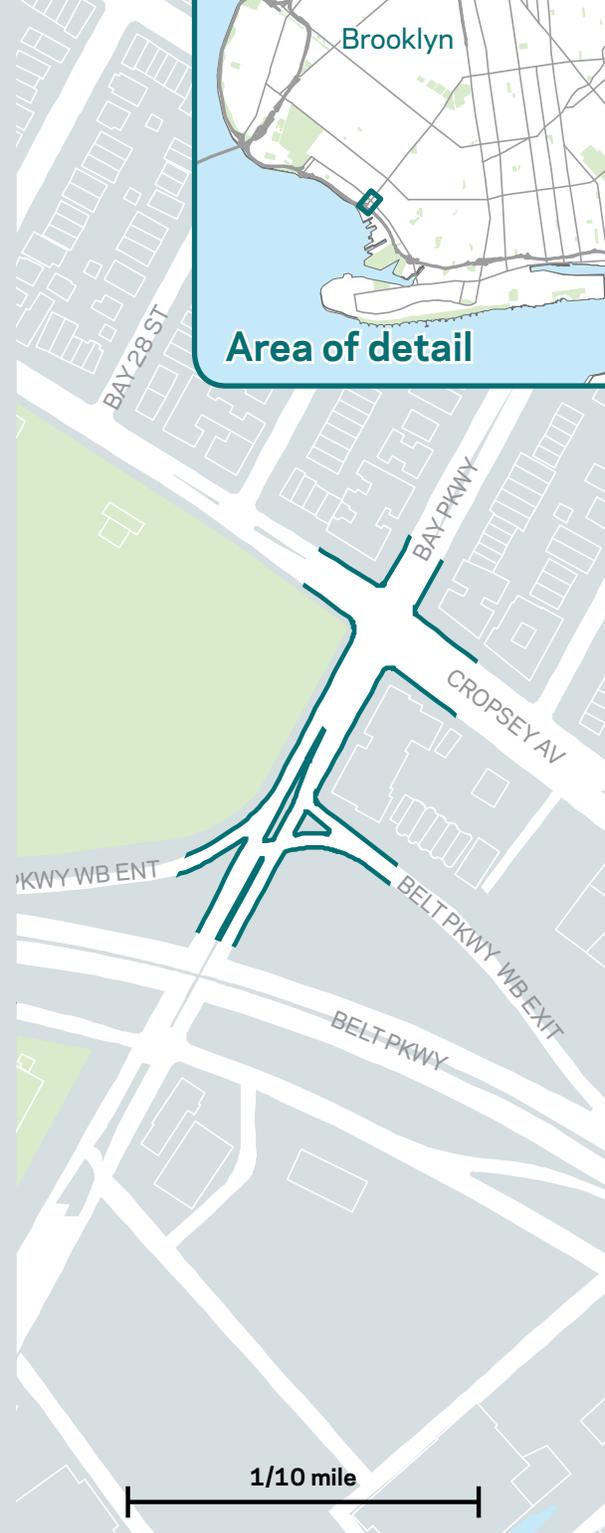
- Project recommendations developed from the Coney Island/ Gravesend Sustainable Development Transportation Study
- DOT presented plans to the Brooklyn Community Board 11 Transportation Committee (CB11) in May 2009 and received feedback
- DOT presented the modified plans to CB11 in June 2009 and received support for the plan

Approach

- Provided additional southbound lane on Bay Parkway designated for westbound Belt Parkway vehicles by removing concrete median along Bay Parkway between Cropsey Avenue and Belt Parkway
- Reconfigured the Belt Parkway westbound exit ramp to increase capacity for vehicles exiting the parkway
- Adjusted signal timing at the intersection of Bay Parkway and Cropsey Avenue and restriped the westbound approach on Cropsey Avenue to provide a second left-turn lane

Results

- Southbound Bay Parkway can accommodate 34% more through traffic and 37% more traffic turning right onto westbound Belt Parkway during the morning peak period due to the additional southbound lane
- Number of crashes involving injuries to pedestrians and motor vehicles lower than the average for the three prior years



The Belt Parkway is an east-west six-lane parkway that provides access to Brooklyn, Staten Island, Queens and Long Island as well as John F. Kennedy International Airport. Bay Parkway is a major north-south arterial in southwest Brooklyn that connects to the Belt Parkway near Caesar's Bay Shopping Center.

Coney Island is one of New York City's major summer destinations that attracts millions of visitors each year. It is home to the amusement park, Luna Park; the New York Aquarium; the MCU Baseball Park where the Brooklyn Cyclones play; and Nathan's, home of the famous hot dog. Coney Island is the world's most iconic urban amusement park. Once a vital and thriving community, the area now contains large vacant lots, lacks basic retail shops and services such as grocery stores and restaurants, and has a high unemployment rate.

Coney Island and several other communities such as Brighton Beach and Gravesend in southwestern Brooklyn are undergoing revitalization. DOT and other City agencies including New York City Economic Development Corporation, Parks, Housing Preservation and Development, and Department of City Planning are working with the community to bring jobs, housing, retail, services and amenities to the area through commercial, residential and recreational development. DOT has been upgrading and enhancing roadway features in many locations in southwestern Brooklyn as described in the Coney Island/Gravesend Sustainable Development Transportation Study, a multimodal transportation and planning study. The recommendations developed in this study included short-term and long-term improvements at over thirty locations in the area to improve traffic operations and safety.

One area where DOT completed improvements is located along Bay Parkway between Cropsey Avenue and the Belt Parkway. Bay Parkway south of Cropsey Avenue provides access to and egress from the Belt Parkway. Just south of the Belt Parkway, Bay Parkway connects to Caesar's Bay Shopping Center, a major retail destination in the area. Along the west side of Bay Parkway from Cropsey Avenue to the south where Bay Parkway ends, is Bensonhurst Park. A residential area begins just north of the westbound Belt Parkway exit ramp.

The project improvements along Bay Parkway were developed from the Coney Island/Gravesend Sustainable Development Transportation Study. DOT presented the

project plans to CB11 in May 2009. DOT incorporated feedback from CB11 into the plans. In June 2009, DOT presented the modified plans to CB11 and received support for the plan. Project implementation began in September 2009 and was completed in October 2009.

The Bay Parkway roadway configuration provided two southbound and three northbound lanes between Cropsey Avenue and the Belt Parkway westbound entrance and exit ramps. The volume of vehicles traveling southbound on Bay Parkway to access westbound Belt Parkway was much larger than the roadway capacity allowed. As a result of the inadequate capacity, queues on southbound Bay Parkway extended beyond Cropsey Avenue. To alleviate the congestion, DOT created an additional lane on southbound Bay Parkway by removing the raised, concrete median on Bay Parkway between Cropsey Avenue and the westbound Belt Parkway ramps. The underutilized crosswalk across Bay Parkway at the westbound Belt Parkway ramps was also removed to make way for the additional lane and to improve traffic operations at the Belt Parkway intersections with Bay Parkway. The additional southbound lane is designated only for motorists needing to access westbound Belt Parkway.

The Belt Parkway westbound exit ramp was reconfigured to increase capacity for vehicles exiting the parkway. The size of the island was reduced to create two right-turn and two left-turn lanes where there previously was one lane for each turning movement. Both the right-turn and left-turn movements are now signalized. Prior to this project, only the left-turn was signalized. New crosswalks were painted at the ramp approach with Bay Parkway.

The intersection of Bay Parkway and Cropsey Avenue is congested with heavy vehicular traffic during the peak hours and throughout the day because both roadways are major arterials in the area and because of the proximity to the Belt Parkway. The westbound approach on Cropsey Avenue was restriped to provide a second left-turn lane which was previously a second through



An additional southbound lane designated for westbound Belt Parkway vehicles was added on Bay Parkway to improve traffic operations.



The Belt Parkway westbound exit ramp at Bay Parkway was reconfigured to increase capacity for vehicles exiting the parkway.

Southbound Bay Parkway can accommodate 34% more through traffic and 37% more traffic turning right onto westbound Belt Parkway during the morning peak period due to the additional southbound lane.

lane. Signal timing changes were implemented to reduce conflicts between pedestrians and vehicles making left turns from westbound Cropsey Avenue.

Turning movement counts were collected in the study area before and after project implementation at the intersection of Bay Parkway and the westbound Belt Parkway ramps. The largest changes in traffic flow were due to the additional southbound lane on Bay Parkway. The improvement did not induce more traffic but rather the additional capacity allowed more vehicles to be counted because they were not stuck in queues. Southbound Bay Parkway can accommodate 34% more through traffic and 37% more traffic turning right onto westbound Belt Parkway during the morning peak period due to the additional southbound lane. The operations at the intersection of Bay Parkway and Cropsey Avenue also improved since traffic no longer spills back from the Belt Parkway ramps.

Analysis of NYPD crash data shows there were no statistically significant changes in the number of crashes involving injuries on Bay Parkway in the project area. The number of crashes involving injuries to pedestrians and motor vehicles after implementation was lower than the average for the three prior years.

The improvements focused on providing additional capacity and relieving conflicts while maintaining a safe roadway for vehicles and pedestrians alike.

Crashes with Injuries on Bay Parkway Cropsey Avenue to Westbound Belt Parkway Exit and Entrance

	Before* (three previous years)			After
Total Crashes with Injuries	24	10	18	17
Number of Crashes with Injuries to:				
Motor Vehicle Occupants	13	2	13	9
Pedestrians	10	7	4	4
Bicyclists	1	1	1	4

*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 October 2010) 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.

Westbound Belt Parkway Ramps and Bay Parkway Intersection Traffic Volumes (average vehicles per hour)

Location	Time	Before	After	% Change
Northbound Through Traffic on Bay Parkway	8-9 a.m.	477	536	12%
	1-2 p.m.	633	610	-4%
	5-6 p.m.	852	732	-14%
Southbound Through Traffic on Bay Parkway	8-9 a.m.	647	870	34%
	1-2 p.m.	739	714	-3%
	5-6 p.m.	799	879	10%
Southbound Bay Parkway Traffic Turning Right to Belt Parkway	8-9 a.m.	546	746	37%
	1-2 p.m.	491	404	-18%
	5-6 p.m.	600	638	6%
Westbound Traffic Exiting the Belt Parkway	8-9 a.m.	599	667	11%
	1-2 p.m.	709	650	-8%
	5-6 p.m.	895	646	-28%

Before data collected in August 2008. After data collected in November 2010. All data collected on weekdays.