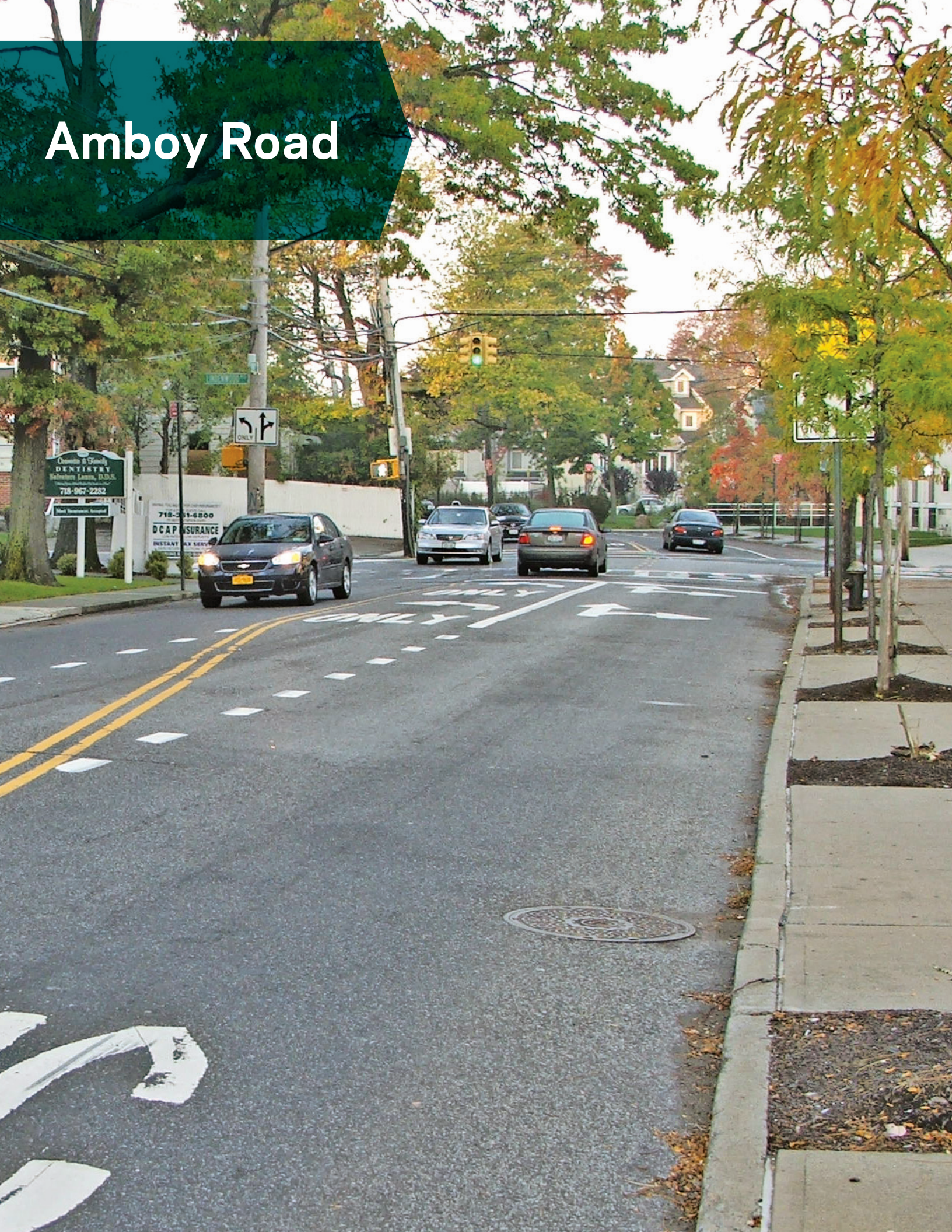
Amboy Road



Purpose

- Reduce traffic congestion
- Improve mobility and safety for all users of the street system
- Improve air quality

Outreach

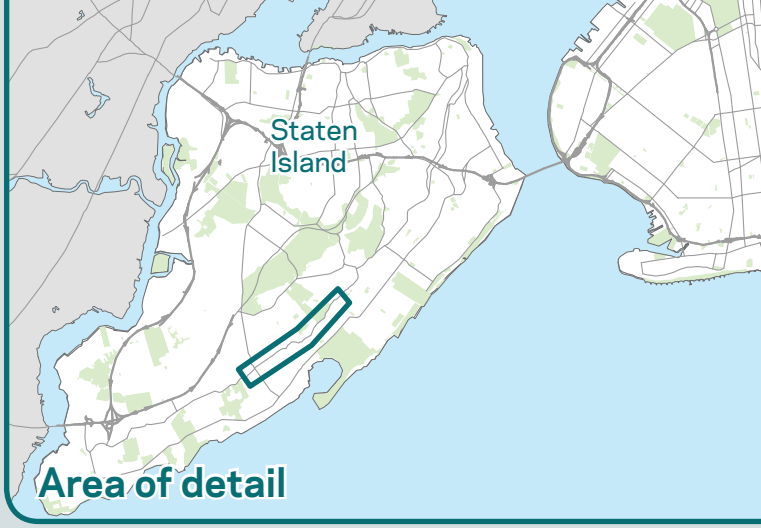
- DOT presented plans to the Staten Island Community Board 3 Transportation Committee (CB3) in February 2008 and received feedback
- DOT conducted community walk-through and drive-through with CB3 in June 2008
- DOT presented revised plans to CB3 in May 2009 and received support for the plan
- DOT installed short-term improvements July 2009
- DOT presented results of short-term improvements and modifications to long-term plans to CB3 in October 2009

Approach

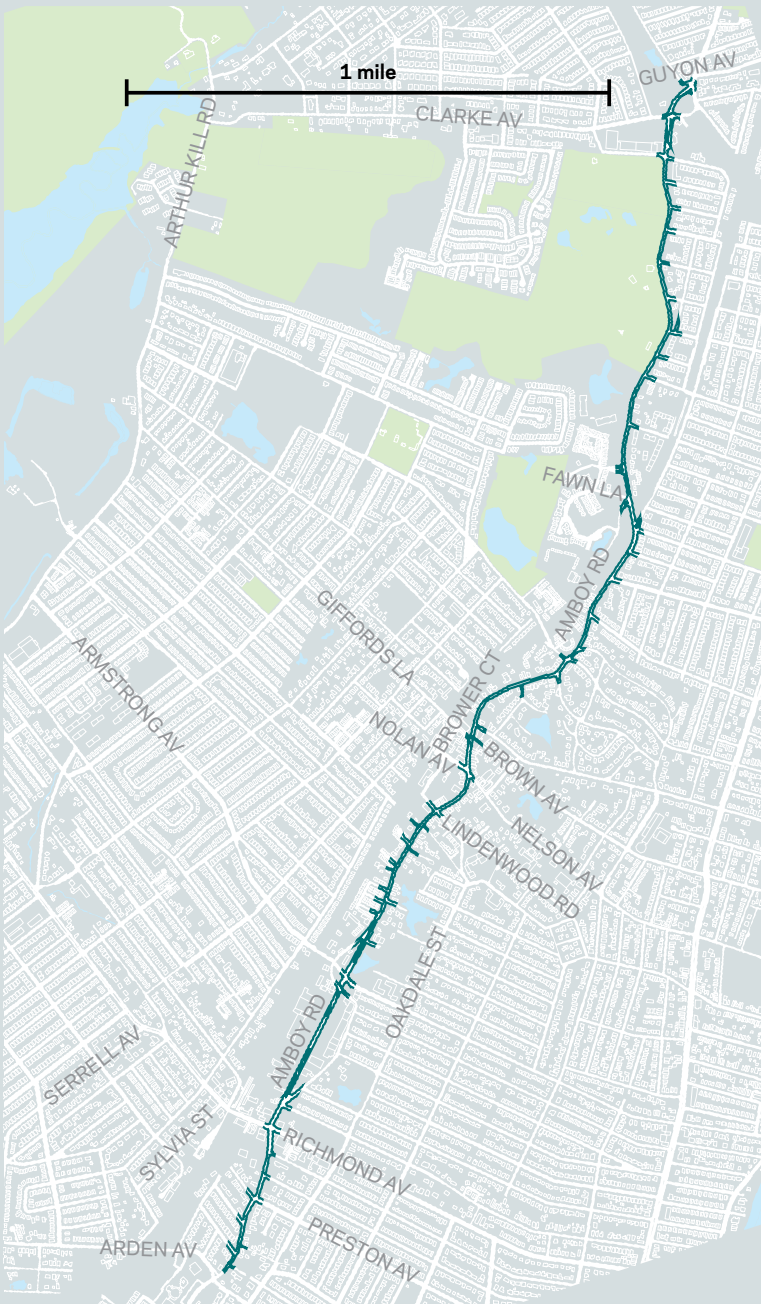
- Adjusted signal timing along corridor
- Installed left-turn bays at key intersections
- Rerouted S54 bus to eliminate left turns from Amboy Road to reduce congestion
- Reconfigured intersection at Richmond Avenue and Amboy Road
- Realigned traffic lanes on Richmond Avenue from Serrell Avenue to Sylia Street to match adjoining segments
- Constructed channelized right-turn lane at Amboy Road and Nelson Avenue
- Added, removed and relocated parking spaces

Results

- Eastbound travel times decreased by more than two minutes during the weekday afternoon, weekday evening and weekend midday peak periods; travel time decreased by 45 seconds during the morning peak period
- Westbound travel times decreased throughout all peak periods by as much as 45 seconds in the morning peak and by as little as 9 seconds in the evening peak
- Weekday traffic volumes were virtually unchanged along the Amboy Road corridor
- Number of crashes involving injuries to motor vehicle occupants and pedestrians lower than the average for the three prior years



Amboy Road traverses Staten Island's southeastern quadrant. Most of Amboy Road has narrow, winding single lanes in each direction. The study area's land use is primarily residential with pockets of commercial businesses and retail establishments. Amboy Road parallels Hylan Boulevard and the Staten Island Railway. The three-mile project corridor runs through the Annadale, Eltingville, Great Kills, and Bay Terrace neighborhoods. The corridor also serves as a local truck route.



Amboy Road

In 2008, DOT began the Congested Corridors Study to reduce traffic congestion and improve air quality across the five boroughs. One of the five pilot locations was Amboy Road in Staten Island, from Guyon Avenue to Arden Avenue. The Congested Corridors Study is a PlaNYC initiative, funded through the federal Congestion Mitigation and Air Quality Improvement (CMAQ) program. The studies are one avenue in which DOT carries out the City policy accommodating the needs of all street users including motorists, pedestrians, bicyclists, and transit users.

Much of the congestion that results on Amboy Road is due to the single-lane operation in each direction. Vehicles frequently queue behind slow moving vehicles, turning vehicles, and buses, thus causing congestion. Congestion is also experienced at intersections where vehicle volumes are much larger than the capacity of the intersection. Parking availability was also a concern in the project area. Parking is permitted along certain sections of the corridor; however, parking maneuvers can impact traffic flow.

In February 2008, DOT met with CB3 to present project plans and received feedback from the board. In June 2008, DOT conducted a walk-through and drive-through with CB3 to see and hear firsthand the issues along the corridor. DOT presented revised plans to CB3 in May 2009 and received support for the project. DOT installed the short-term improvements in July 2009. In October 2009, DOT presented the monitoring results of the short-term improvements and presented the modified long-term improvements to CB3.

Short-term improvements included signal timing adjustments throughout the corridor to improve traffic flow. Left-turn bays were installed along Amboy Road at the intersections of Waimer Place/Preston Avenue, Lindenwood Road, and Nolan Avenue. DOT constructed a channelized right-turn lane for eastbound Amboy Road traffic at Nelson Avenue. Channelization was installed to help calm traffic and make the movement more noticeable to pedestrians and other motorists, and therefore safer.

The intersection of Amboy Road and Richmond Avenue was reconfigured to reduce congestion and improve safety. DOT prohibited northbound left turns from Richmond Avenue onto Amboy Road and converted the lane into a through-only lane. Signal time that was originally used for northbound left turns was reallocated to a new phase for left-turning vehicles from eastbound and westbound Amboy Road. Vehicles which are now unable to make the northbound left turn onto Amboy Road from Richmond Avenue can access westbound Amboy Road via Oakdale Street and Arden Avenue. Left-turn bays were added at the intersection of Oakdale Street and Richmond Avenue to accommodate the rerouted vehicles. Parking spaces had to be removed along Richmond Avenue to accommodate the turn bays, but DOT is considering replacing the lost spaces along Oakdale Street.

DOT made several other changes in the area of the Richmond Avenue and Amboy Road intersection. The two northbound bus stops along Richmond Avenue just north of Amboy Road were combined and relocated closer to the nearby Staten Island Railway entrance. Metered parking spaces were removed on northbound Richmond Avenue to provide space for the relocated bus stop and to decrease friction with the travel lanes. Metered parking spaces were added on side streets throughout the area creating a net increase of 19 parking spaces. Just north of the intersection, the lanes on Richmond Avenue between Sylvia Street and Serrell Avenue were realigned from two southbound and one northbound lane to one southbound and two northbound lanes to match the lane arrangement on the rest of Richmond Avenue.

DOT worked with the MTA to reroute the S54 bus in order to reduce congestion caused by left-turning buses at the Amboy Road intersections at Giffords Lane for northbound buses and Nelson Avenue for southbound buses. The S54 travels between Giffords Lane and Nelson Avenue on Brower Court instead of Amboy Road. One bus stop was removed and three new bus stops were added to accommodate the route change.

Travel time runs were completed before and after project implementation. Travel times have decreased along the corridor in both directions. In the eastbound direction during the morning peak period, travel times dropped by approximately 45 seconds and decreased even further to a savings of more than two minutes during the midday,

A channelized right-turn lane was constructed at Nelson Avenue for eastbound Amboy Road traffic to help calm traffic.

Northbound left turns are prohibited from Richmond Avenue onto Amboy Road to reduce congestion and improve safety.

Travel times improved by up to 2 minutes on Amboy Road, after implementation of signal timing adjustments, lane reconfigurations, left-turn bays and other improvements.

evening and weekend peak periods. Westbound travel times were reduced throughout all periods as well, though less significantly in the evening peak period.

Weekday traffic volumes were virtually unchanged for eastbound and westbound traffic along Amboy Road. Volumes on Richmond Avenue just north and south of Amboy Road were also relatively unchanged after project implementation. There was a small decrease of 7% in the northbound vehicle volumes which may be due to seasonal variation or the rerouting of northbound left-turning traffic at Amboy Road.

Analysis of the NYPD crash data shows that there were no significant changes in the number of crashes involving injuries along Amboy Road in the project section. The number of crashes involving injuries to motor vehicle occupants and pedestrians after implementation was lower than the average for the three prior years.

Further improvements will be made as the long-term changes are implemented. Pedestrian improvements will be completed at the Amboy Road/Fawn Lane intersection. The Amboy Road intersections at Arden Avenue, Clarke Avenue and Guyon Avenue will be reconstructed to improve traffic flow and safety.

Crashes with Injuries along Amboy Road

	Before* (three previous years)			After
Total Crashes with Injuries	4	9	16	8.8
Number of Crashes with Injuries to:				
Motor Vehicle Occupants	4	7	10	6.4
Pedestrians	0	2	5	1.6
Bicyclists	0	0	1	0.8

*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.
Note: Crash data was analyzed for the six intersections where improvements were implemented: Preston Avenue/Waimer Place, Richmond Avenue, Lindenwood Road, Nolan Avenue, Nelson Avenue, and Giffords Lane.

Eastbound Amboy Road Travel Times Arden Avenue to Clarke Avenue

	Before	After	Change	% Change
Weekday 7-10 a.m.	10:27	09:43	-00:44	7%
Weekday 12-2 p.m.	11:24	09:17	-02:08	19%
Weekday 4-7 p.m.	11:51	09:32	-02:19	20%
Weekend 11 a.m.-2 p.m.	12:32	09:39	-02:53	23%

Before data collected in April 2007. After data collected in October 2009.
Times shown in minutes, seconds.

Westbound Amboy Road Travel Times Clarke Avenue to Arden Avenue

	Before	After	Change	% Change
Weekday 7-10 a.m.	10:18	09:32	-00:46	7%
Weekday 12-2 p.m.	10:47	09:45	-01:02	10%
Weekday 4-7 p.m.	09:45	09:36	-00:09	2%
Weekend 11 a.m.-2 p.m.	10:34	10:11	-00:22	4%

Before data collected in April 2007. After data collected in October 2009.
Times shown in minutes, seconds.

Daily Weekday Traffic Volumes (average vehicles per hour)

Roadway Segment	Before	After	% Change
Amboy Road from Arden Avenue to Clarke Avenue	1,460	1,423	-3%
Amboy Road from Clarke Avenue to Arden Avenue	1,823	1,717	-6%
Richmond Avenue from Lyndale Lane to Amboy Road	441	409	-7%
Richmond Avenue from Mosely Avenue to Amboy Road	325	307	-6%

Before data collected in May 2007. After data collected in November 2010.