

# 233<sup>rd</sup> St: Laconia Ave to Provost Ave

## Traffic Calming

Bronx



# 233<sup>rd</sup> St: Laconia Ave to Provost Ave

## Executive Summary

A high crash corridor, 233<sup>rd</sup> Street had high speeds and excess capacity. As a result, DOT developed plans to improve safety primarily via a four lane to three lane road diet. Community Board 12 was supportive of the redesign and expressed need for the project. As a result, crossing distances were shortened, speeding was reduced, and overall mobility was maintained.



233<sup>rd</sup> St at Baychester Ave facing west

### Results Summary

#### *Safety*

- Total crashes for all users decreased by 17%
- Speeding on 233<sup>rd</sup> St decreased by 35% in the eastbound direction and by 21% in the westbound direction

#### *Mobility*

- Vehicular volumes on 233<sup>rd</sup> St were maintained for eastbound and westbound movements
- At the intersection of 233<sup>rd</sup> St, Baychester Ave, and Grenada Pl, average delay per vehicle reduced from 56 seconds to 41 seconds improving the level of service from E to D
- The east crosswalk at 233<sup>rd</sup> St and Grenada Pl is 23% shorter (from 70' to 54')

#### *Economic Vitality & Quality of Life*

- FDNY and NYPD report no adverse effect to their operations
- “I would like to take this opportunity to thank you for your continued support and input in ensuring the safety of the residents in Bronx Community Board 12, with this much needed safety improvement.”

—Father Richard F. Gorman, Chairman,  
Bronx Community Board 12



# Project Summary



233<sup>rd</sup> St at Baychester Ave facing east

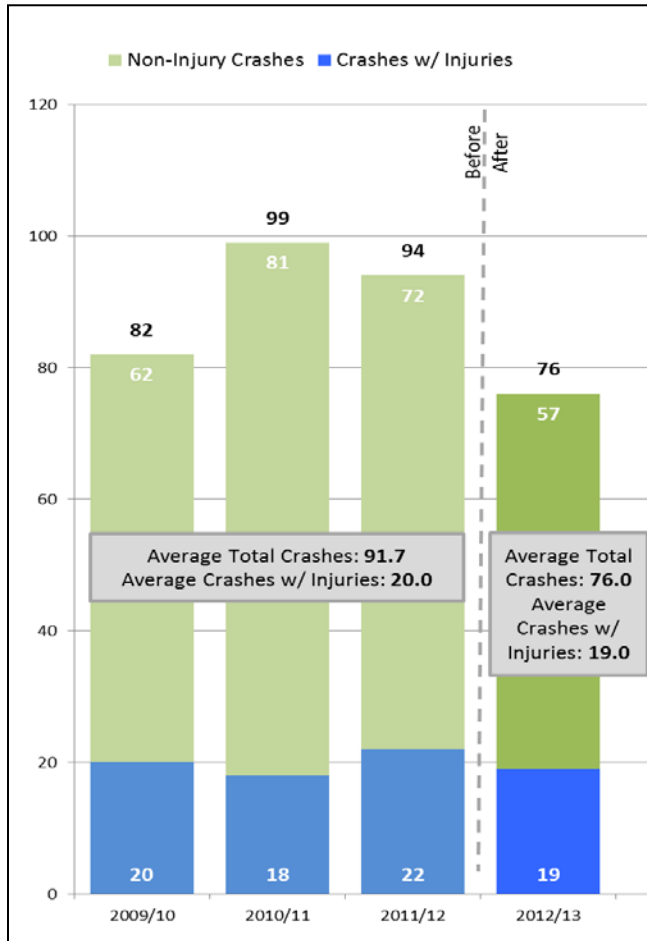
## Completed September 2012:

- Installed flush center median with left turn bays
- Constructed curb extension on southwest corner of Grenada Pl at 233rd St
- Installed a 14-foot parking lane stripe and other lane designation markings to better organize traffic

# 233<sup>rd</sup> St: Laconia Ave to Provost Ave

## Safety- Crashes and Injuries

### Crashes, One-Year After Analysis



- Total crashes for all users decreased by 17%



233<sup>rd</sup> St at Baychester Ave facing west

Each before year period is the 12-month period beginning July 1 and ending June 30. The 1-yr after period is October 1, 2012 to September 30, 2013. The implementation period of July 1, 2012 to September 30, 2012 is excluded.  
 Source: NYPD AIS/TAMS Crash Database

# 233<sup>rd</sup> St: Laconia Ave to Provost Ave

## Safety- Crashes and Injuries

### Crashes and Injuries One-Year After Analysis

	Before			After
	'09/ '10	'10/ '11	'11/ '12	'12/ '13
<b>Total Crashes</b>	82	99	94	76
<b>Crashes w/ Injuries</b>	20	18	22	19
<b>Motor Vehicle Occupant</b>	25	7	19	21
<b>Pedestrian</b>	7	11	9	9
<b>Cyclist</b>	1	0	1	0
<b>Total Injuries</b>	33	18	29	30

Each before year period is the 12-month period beginning July 1 and ending June 30. The 1-yr after period is October 1, 2012 to September 30, 2013. The implementation period of July 1, 2012 to September 30, 2012 is excluded.  
Source: NYPD AIS/TAMS Crash Database



233<sup>rd</sup> St at Grenada Pl facing west



# 233<sup>rd</sup> St: Laconia Ave to Provost Ave

## Safety- Speeding

### Drivers traveling in excess of 30 mph

Direction	Before	After
Eastbound	72.0%	46.5%
Westbound	78.5%	62.0%

Radar speeds taken on 233 St in both directions between Wilder Ave and Hill Ave.  
Before: 12-2pm September 15, 2010; sample size 200 vehicles  
After: 12-1pm December 5, 2013, sample size 200 vehicles



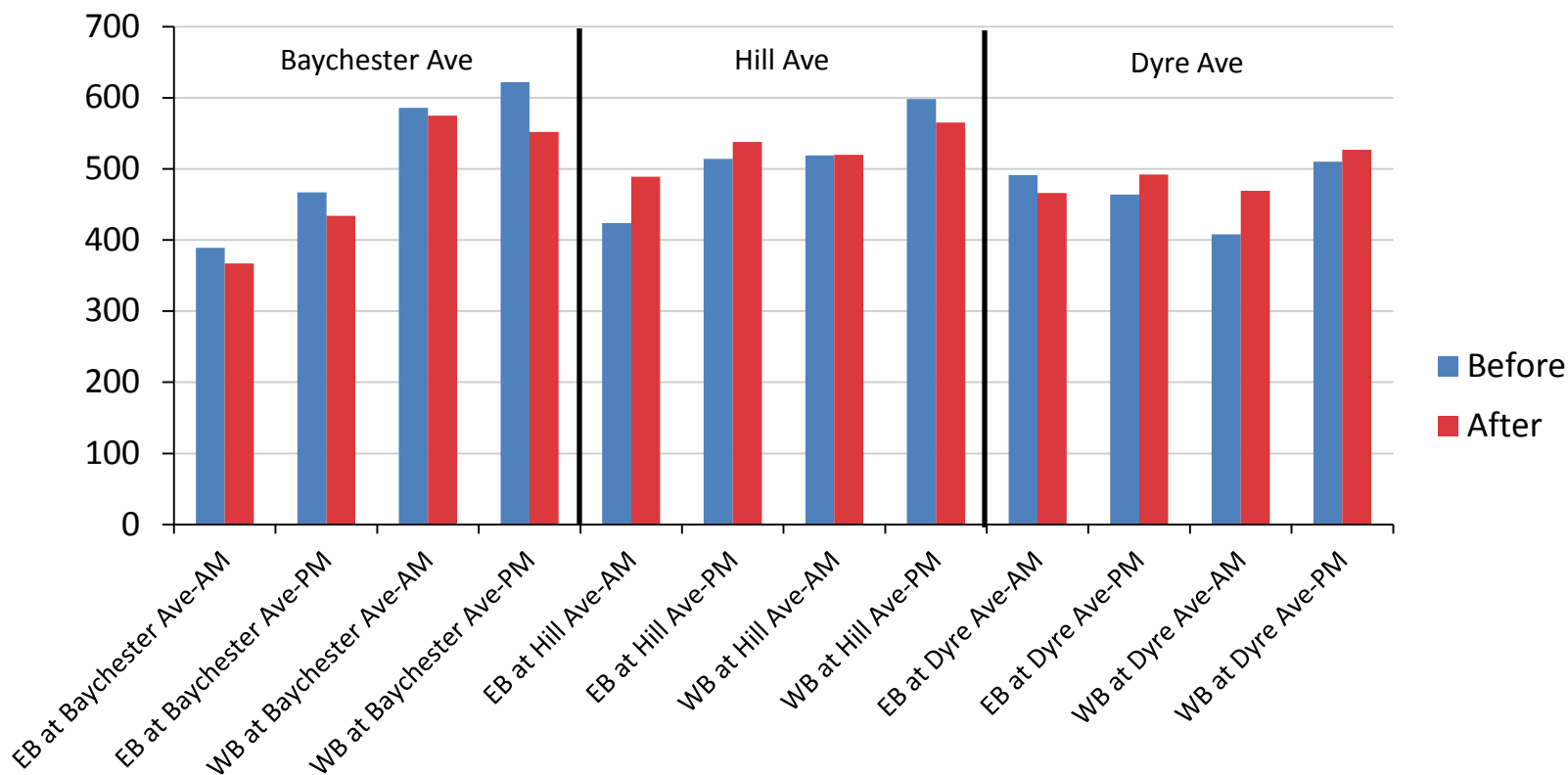
- Speeding on 233<sup>rd</sup> St was reduced by 35% in the eastbound direction and by 21% in the westbound direction

233<sup>rd</sup> St at Baychester Ave facing east

## Mobility- Vehicular Volumes

- Vehicular volumes on 233<sup>rd</sup> St were maintained for eastbound and westbound movements

**BEFORE AND AFTER VEHICULAR VOLUMES ON 233<sup>RD</sup> ST\***



\*At select cross streets within project limits

**Before:** Average midweek peak volume week of October 25, 2010

**After:** Average midweek peak volume week of October 15, 2012

## Mobility-Level of Service

- At the intersection of 233<sup>rd</sup> St, Baychester Ave, and Grenada Pl; average delay per vehicle reduced from 56 seconds to 41 seconds improving the level of service from E to D

### BEFORE

Intersection Approach	Movement	Volumes	AM Peak		
			v/c Ratio	Avg Delay	LOS
SEB: E 233 St	LLRR-2 lanes	L2 = 6	0.48	41.3	D
		L1 = 171			
		R1 = 186			
		R2 = 3			
WB: E 233 St	LTRR-2 lanes	L = 114	1.05	114.0	F
		T = 89			
		R1 = 234	0.33	18.4	B
		R2 = 72			
NB: Baychester Ave	LL-1 lane	L2 = 33	1.05	119	F
		L1 = 209			
	TR-2 lanes	T = 334	0.52	42.6	D
		R = 68			
SB: Baychester Ave	L-1 lane	L = 95	0.56	56.5	E
		T = 466			
	TRR-2 lanes	R1 = 25	0.69	46.5	D
		R2 = 12			
EB: Grenada Pl	LLTR-1 lane	L2 = 0	0.49	43.5	D
		L1 = 4			
		T = 131	0.20	38.7	D
		R = 65			
<b>Overall Intersection</b>			<b>56.2</b>	<b>E</b>	

### AFTER

Intersection Approach	Movement	Volumes	AM Peak		
			v/c Ratio	Avg Delay	LOS
SEB: E 233 St	LL-1 lane	L2 = 1	0.34	39.7	D
		L1 = 146			
	RR-1 lane	R1 = 181	0.53	45.8	D
		R2 = 0			
WB: E 233 St	LT-1 lane	L = 107	0.62	50.3	D
		T = 60			
	RR-1 lane	R1 = 294	0.44	20.2	C
		R2 = 44			
NB: Baychester Ave	LL-1 lane	L2 = 30	0.79	69.5	E
		L1 = 162			
	TR-2 lanes	T = 320	0.45	41.2	D
		R = 83			
SB: Baychester Ave	L-1 lane	L = 46	0.19	46.7	D
		T = 239			
	TRR-2 lanes	R1 = 15	0.3	38.9	D
		R2 = 13			
EB: Grenada Pl	TR-1 lane	T = 108	0.25	38.2	D
		R = 50			
			0.14	37.7	D
<b>Overall Intersection</b>			<b>41.2</b>	<b>D</b>	

To determine level of service improvements, Synchro analysis was performed at the most complicated intersection within the corridor (233 St, Baychester Ave, and Grenada Pl). AM peak hour turn movement volumes were used because they were the highest volumes at this location throughout the day. Before turn movement volumes collected 11/4/2010. After turn movement volumes collected 12/4/12.



# Mobility- Crossing Distance



233<sup>rd</sup> St at Grenada Pl facing west

- The east crosswalk at 233<sup>rd</sup> St and Grenada Pl is 23% shorter (from 70' to 54')



# Quality of Life- Emergency Response

- FDNY and NYPD report no adverse effect to their operations



233<sup>rd</sup> St at Baychester Ave facing east

NYPD confirmation date: December 11, 2013  
FDNY confirmation date: December 11, 2013

# Economic Vitality & Quality of Life

- “I would like to take this opportunity to thank you for your continued support and input in ensuring the safety of the residents in Bronx Community Board 12, with this much needed safety improvement.”  
—Father Richard F. Gorman, Chairman,  
Bronx Community Board 12



233<sup>rd</sup> St at Prospect Ave facing south