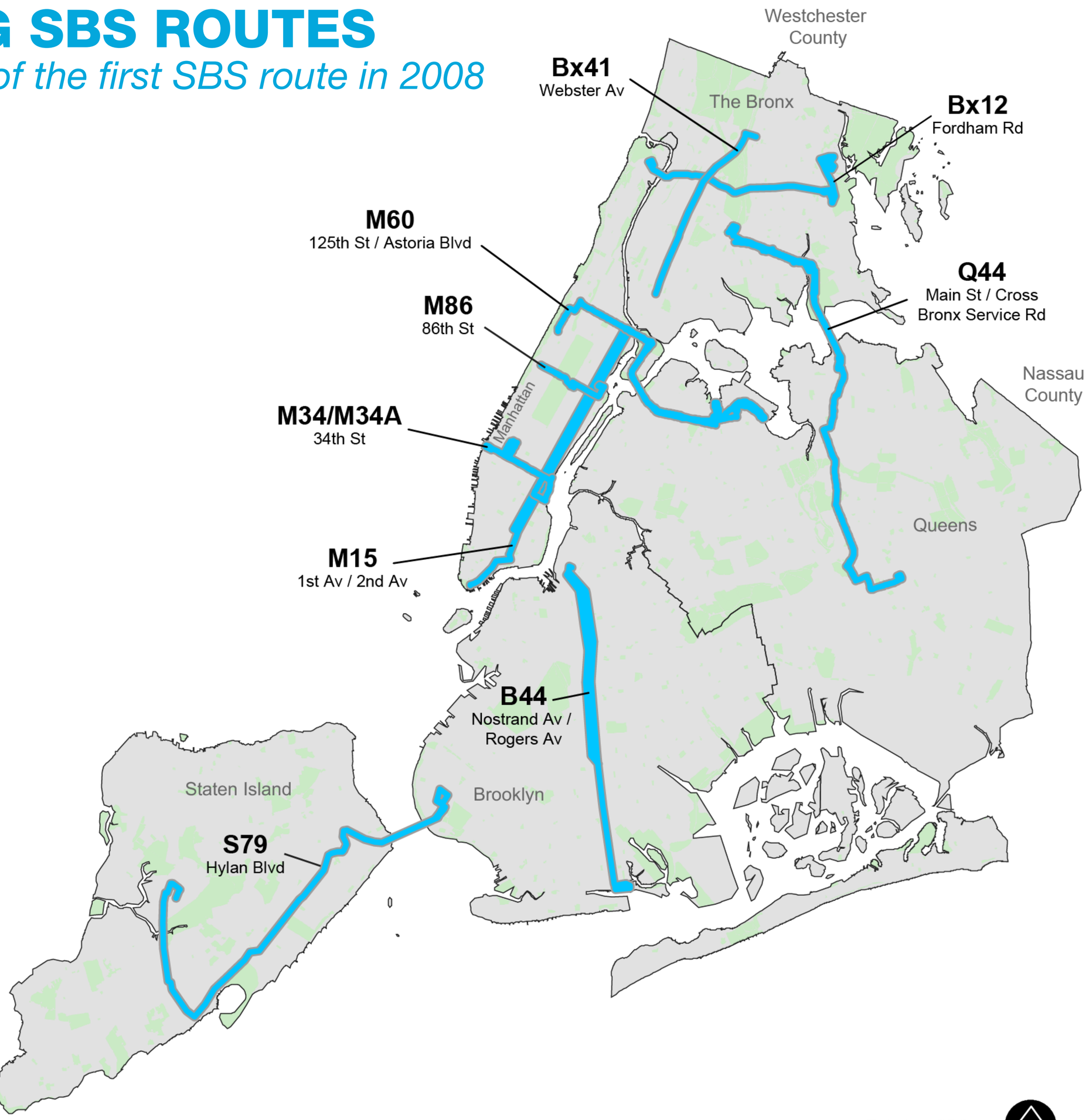
# SELECT BUS SERVICE IN NYC

## EXISTING SBS ROUTES

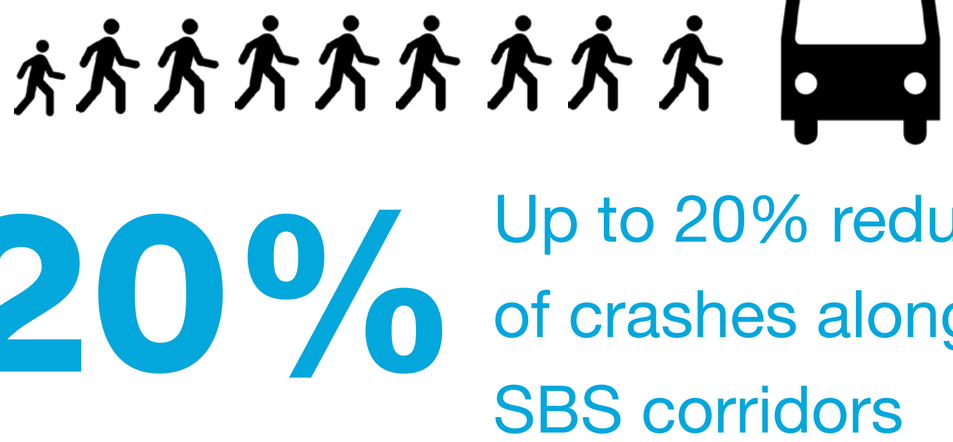
*since launch of the first SBS route in 2008*




**Select Bus Service (SBS)** is New York City's brand name for a package of improvements that result in faster and more reliable service on high-ridership bus routes. SBS routes operate in **every** borough in New York City.

**15-23%** faster bus service for shorter waits and shorter rides

**↑10%** average increase in ridership along SBS routes



**95%** bus rider satisfaction

**↓20%** Up to 20% reduction of crashes along SBS corridors

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# SELECT BUS SERVICE FEATURES

## *A faster, more reliable bus ride*

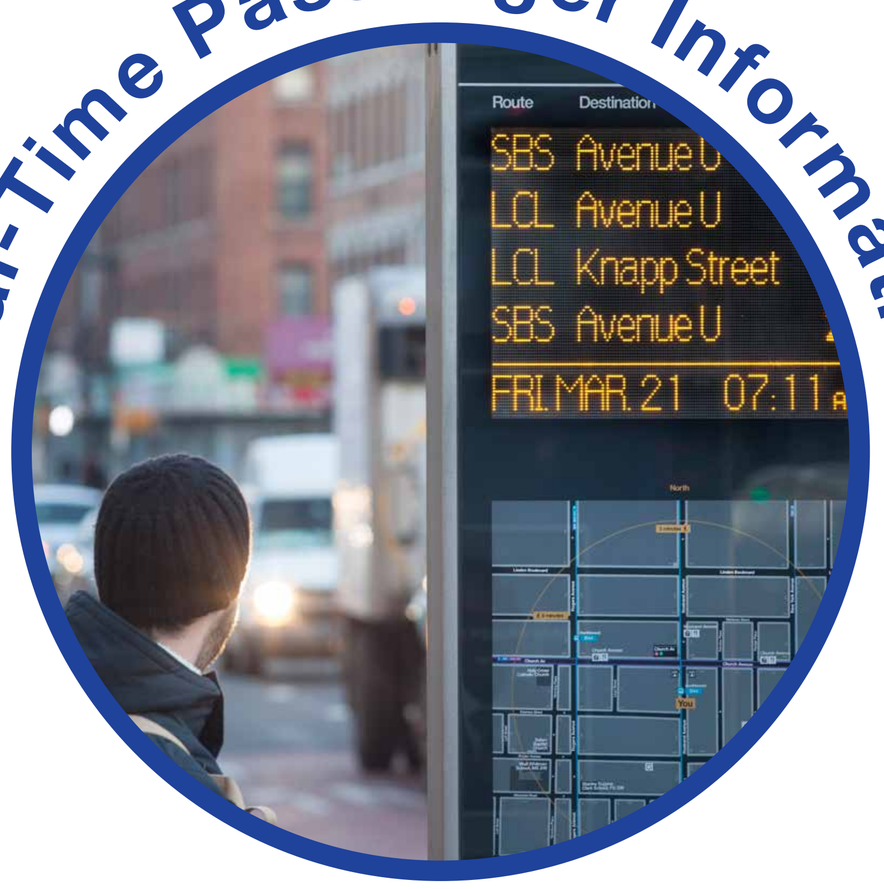
### Dedicated Bus Lanes

### Signal Priority for Buses


## *A better bus riding experience*

### Improved Station Amenities


### Real-Time Passenger Information




## *A quicker way to board the bus*

### Off-Board Fare Collection


### All-Door Boarding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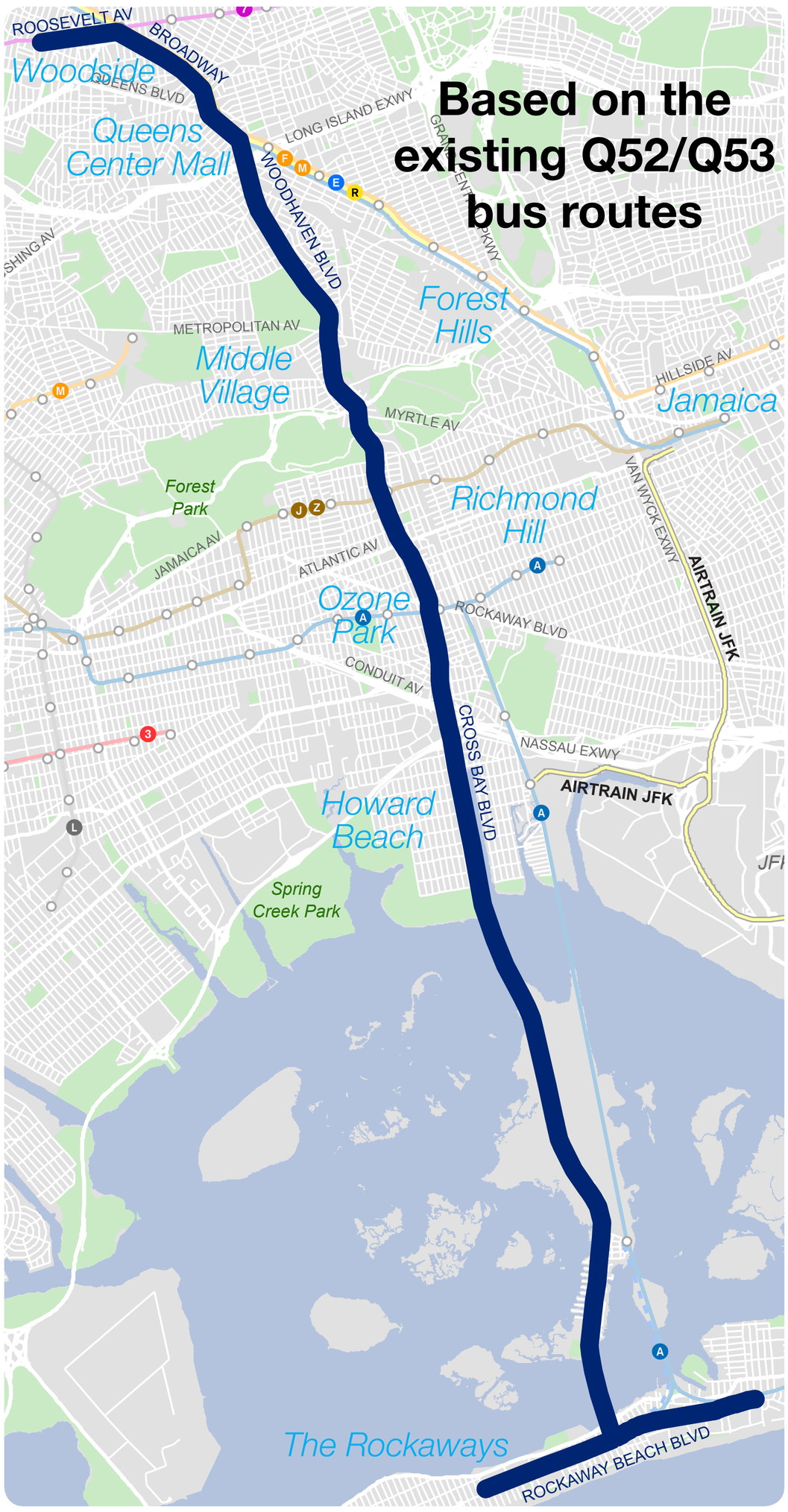
# WOODHAVEN / CROSS BAY SBS

## Study Corridor




**Based on the existing Q52/Q53 bus routes**

**30,000 daily bus riders**

**9 Bus routes**
2 Limited
3 Local
4 Express

*Within a 15 minute walk of the corridor*

**400,000 residents**

**60% of residents commute by transit**

**43% of households do not own a car**

## Project goal

**Transform Woodhaven and Cross Bay Boulevards into a complete street where:**


**Buses operate quickly and reliably**

**Bus customers safely and easily access bus stations**

**Pedestrians are comfortable walking on and crossing the street**

**Drivers get where they need to go at a reasonable and safe speed**

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# COMMUNITY ENGAGEMENT

## *Corridor designs reflect two years of outreach with community members, Community Boards, local stakeholders & elected officials*

### *2014*

- CAC Meeting #1
- Queens Metropolitan High School meeting
- Community Planning Workshop
- CB 10 Full Board
- Community Design Workshop
- On-street bus rider outreach
- Rockaways Bus Planning workshop
- CAC Meeting #2
- Design Concepts Public Open House

### *2015*

- CB 9 Transportation Committee
- Tour of the Corridor with members of U.S. Congress
- CAC Meeting #3
- Public Design Workshop #1 – Woodhaven Blvd (Union Tpke and Rockaway Blvd)
- Public Design Workshop #2 – Woodhaven Blvd (Queens Blvd and Union Tpke)
- Public Design Workshop #3 – Cross Bay Boulevard
- Public Design Workshop #4 – Broad Channel & the Rockaways
- CB 6 Full Board
- Broad Channel Civic Association meeting
- CB 14 Transportation Committee
- CB 9 Full Board


### *2016*

- CB 9 Full Board
- CB 6 Transportation Committee
- Q52/Q53 bus tour with State Senator Addabbo
- CAC Meeting #6
- Rockaways Open House
- Ozone Park Open House
- Woodhaven Open House
- Community Board Meetings

### *2017*

- Construction Schedule and Implementation Public Meetings
- 2017 SBS Service Launch

- Field Meeting with CB 5 Leadership
- CAC Meeting #4
- Rockaway Beach Civic Association meeting
- Howard Beach - Lindenwood Civic Association meeting
- Woodhaven BID meeting
- Bus Tour with State Senator Addabbo, State Assembly member Miller, Council Member Crowley
- CB 5 Transportation Committee
- CAC Meeting #5

# TRANSIT

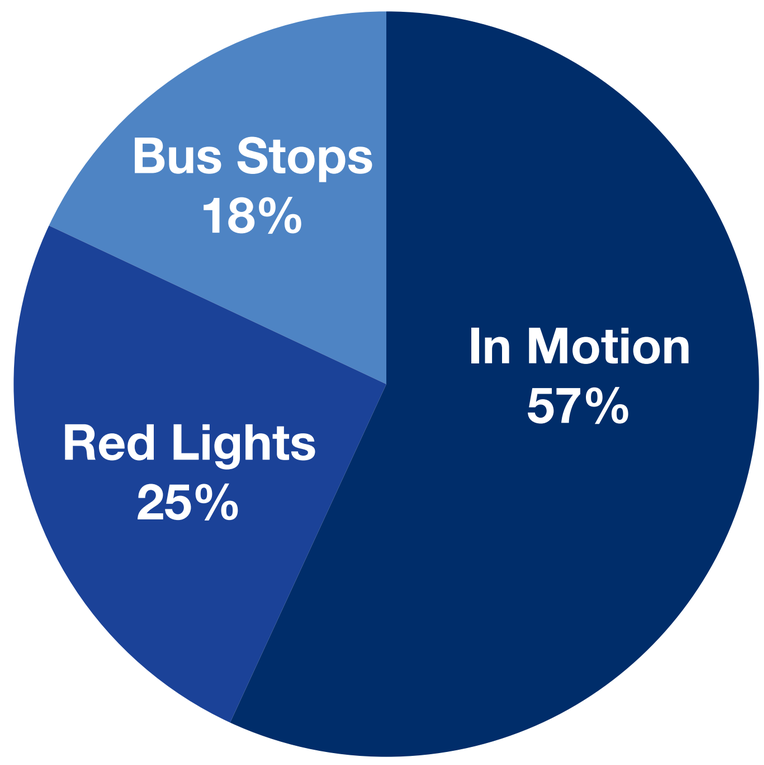

*Q53 customers boarding at Jamaica Av*

*Q53 in traffic during PM Peak*

*Lack of seating at Metropolitan Av bus stop*




## Bus Delay




*All Q53 Northbound Trips*

- 30,000+ daily bus riders on the corridor
- Q53 LTD buses are stopped almost half the time
- One-way travel time can vary by up to 30 minutes (between 55 and 85 minutes)
- Many passengers are riding the bus long distances; for example 35% of Rockaways Q52/Q53 customers ride the bus to Queens Center Mall or north

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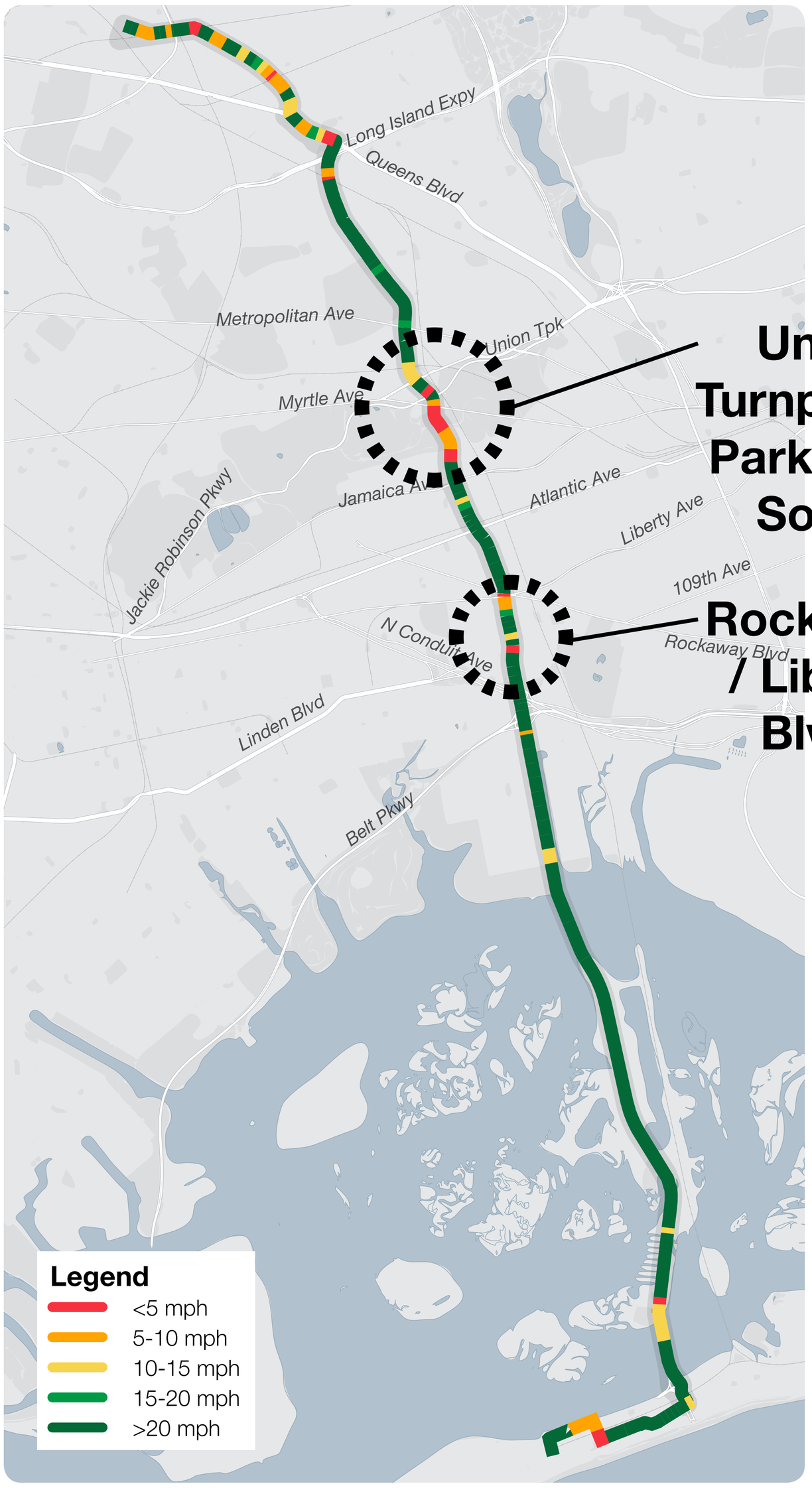
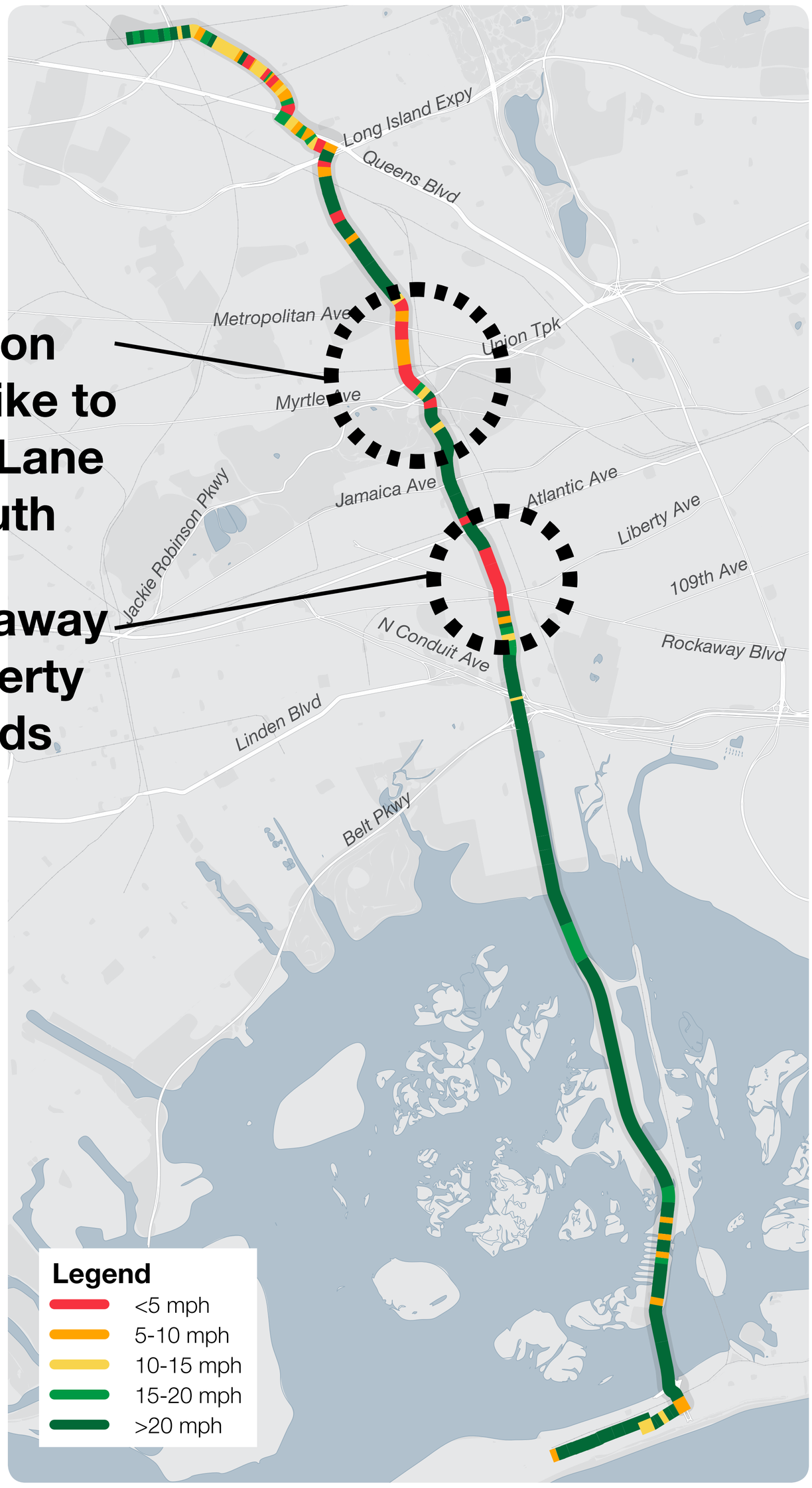
# TRAFFIC

## Travel Speed
## Northbound AM Peak (7-10am)




## Travel Speed
## Southbound PM Peak (3-7pm)

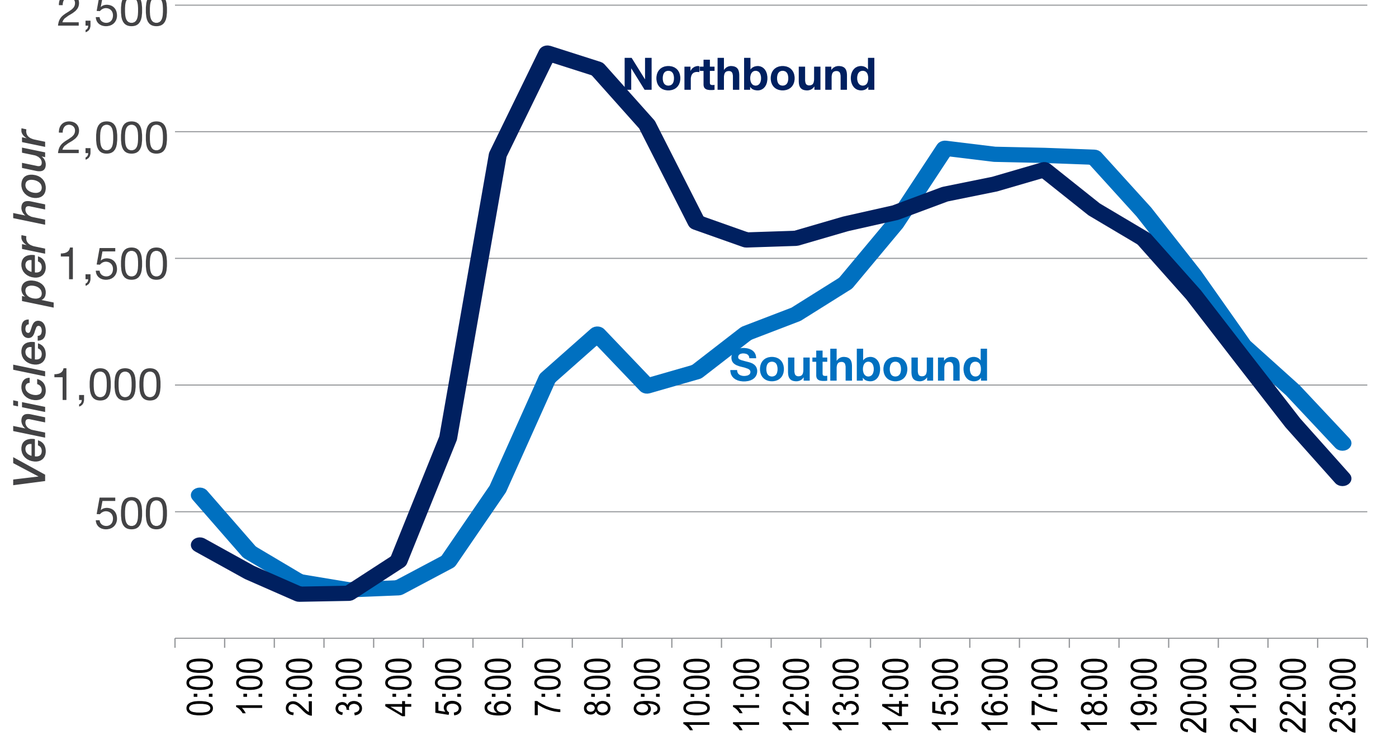



**Union Turnpike to Park Lane South**

**Rockaway / Liberty Blvds**

- Traffic moves at high speeds along some portions of the corridor
- Congestion is concentrated at key pinch points
- Traffic volumes are noticeably higher during rush hours; the AM rush hour is highly peaked

## Average Hourly Weekday Traffic
### Woodhaven Blvd & Metropolitan Ave

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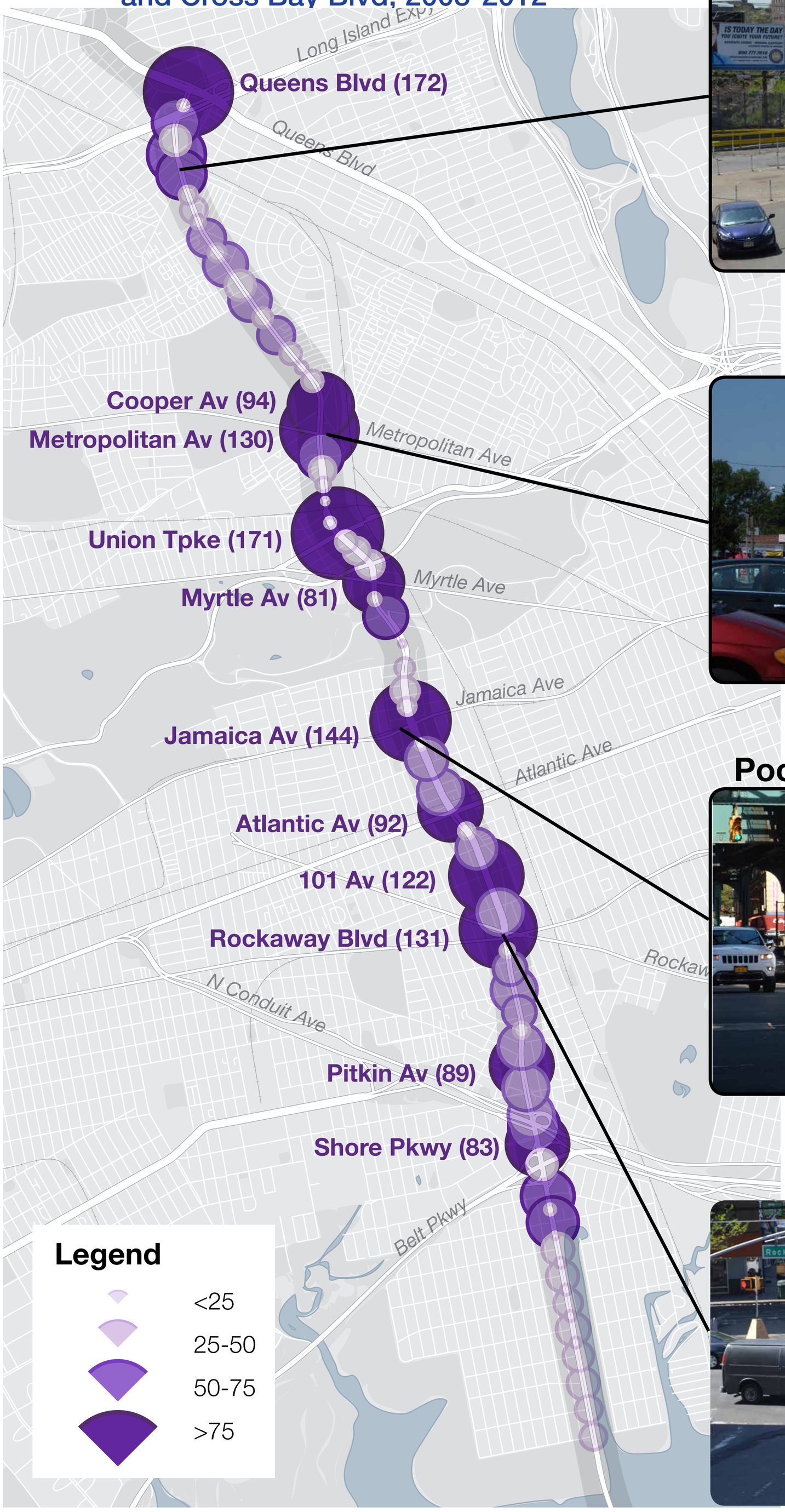
# SAFETY

Woodhaven and Cross Bay Boulevards are both designated **Vision Zero Priority Corridors**. Between 2009 and 2013, there were **over 3,000 injuries** and **22 fatalities** on this approximately 6 mile stretch of roadway. The primary safety issues identified at community meetings are listed below:

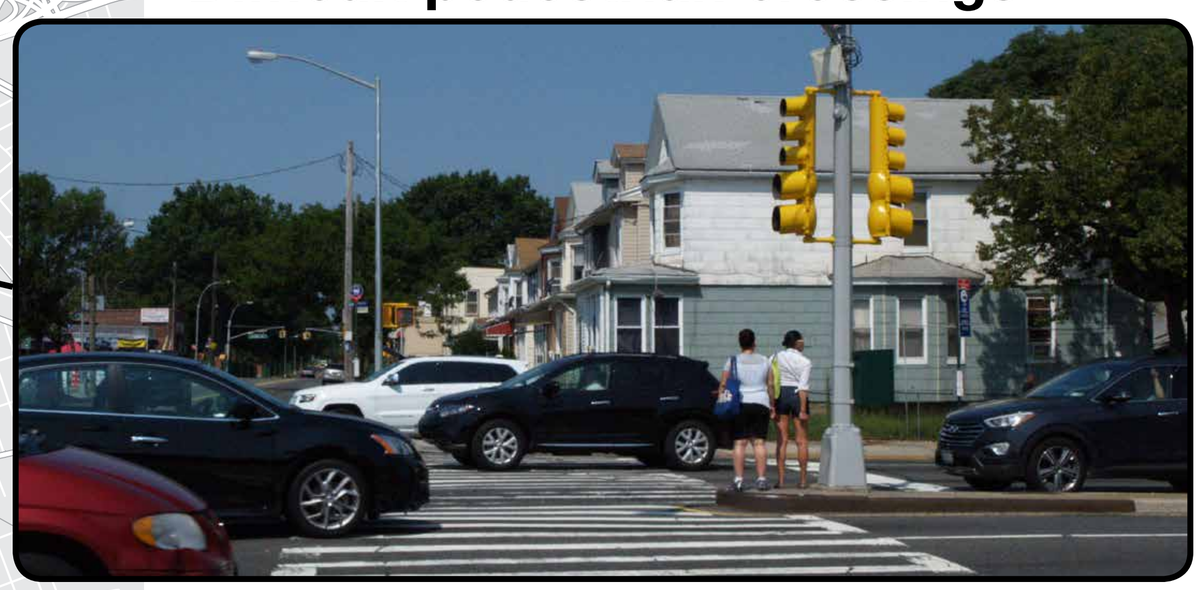
## Total Crashes by Intersection on Woodhaven and Cross Bay Blvd, 2008-2012




## Changing roadway configurations

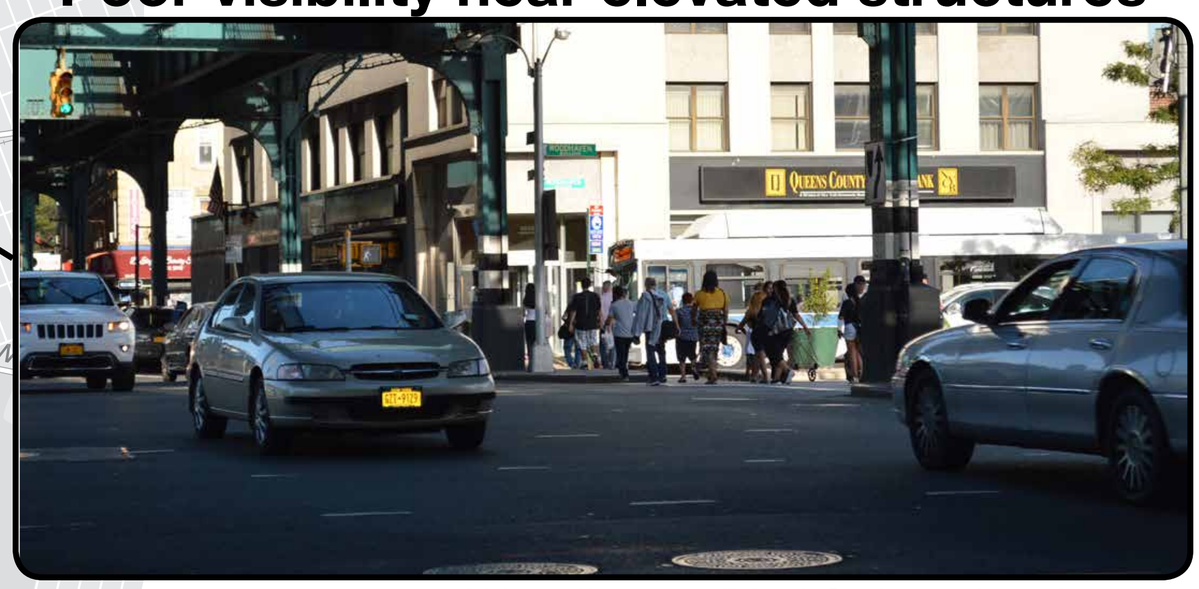

*Woodhaven Blvd & Eliot Ave*

## Difficult pedestrian crossings



*Woodhaven Blvd & Metropolitan Ave*

## Poor visibility near elevated structures




*Woodhaven Blvd & Jamaica Ave*

## Challenging roadway geometry


*Woodhaven Blvd & Rockaway Blvd*

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# PROJECT PHASING OVERVIEW

DOT and the MTA are committed to working with the community on this project to ensure the design takes into account the needs of street and sidewalk safety, bus riders, general traffic flow, and local businesses.

- Implement a short-term project in 2017 followed by a longer-term capital project
- Phased approach allows flexibility to evaluate the effects of 2017 project before finalizing designs for the capital project
- Builds on the success of the approach used for other DOT/MTA SBS projects (e.g. M15 SBS on 1st/2nd Avenues, Bx41 SBS on Webster Avenue)

## 2017 short-term project

In order to bring improvements to the corridor quickly, NYC DOT and the MTA will implement priority **transit** and **street** improvements in 2017, including:


**Off-board fare collection:** SBS customers pay their fare at machines located at SBS stops before boarding, reducing the time to pick up and drop off passengers.


**Bus lanes:** Bus lanes along Woodhaven and Cross Bay Boulevards bring faster and more reliable service to more than 30,000 daily bus riders.


**Transit Signal Priority (TSP):** Q52/Q53 SBS buses will have TSP technology, which improves bus and general travel times by holding a green light longer or shortening a red light faster when a bus is approaching.

**Pedestrian safety enhancements:** New medians, pedestrian waiting areas, and crosswalks improve the safety and comfort of pedestrians and bus riders along the corridor.


**Median bus stations:** Bus stops along 1.3 miles of Woodhaven Blvd where service roads now exist will be a better place to wait for the bus with added amenities such as real time passenger information, public art, and seating.

**Street resurfacing & markings:** Portions of Woodhaven and Cross Bay Blvd will be resurfaced to provide a smoother ride for bus riders and private vehicles alike.

## Longer-term capital project

In partnership with the NYC Department of Design and Construction (DDC), the second phase will be a longer-term capital project to build more complicated improvements along Woodhaven / Cross Bay Blvd to further improve transit operations and roadway safety.


**Transit Boulevard Design on Woodhaven Blvd:** Continue service road and median bus station design with main road bus lanes on Woodhaven Blvd north of Metropolitan Ave


**Bus Bulbs on Cross Bay Blvd:** Extend the sidewalk at curbside SBS stations to meet the bus, creating more room to wait and board safely

**Medians and plantings:** Add pedestrian refuges, plantings, and green infrastructure along the corridor



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# RELATED PROJECTS

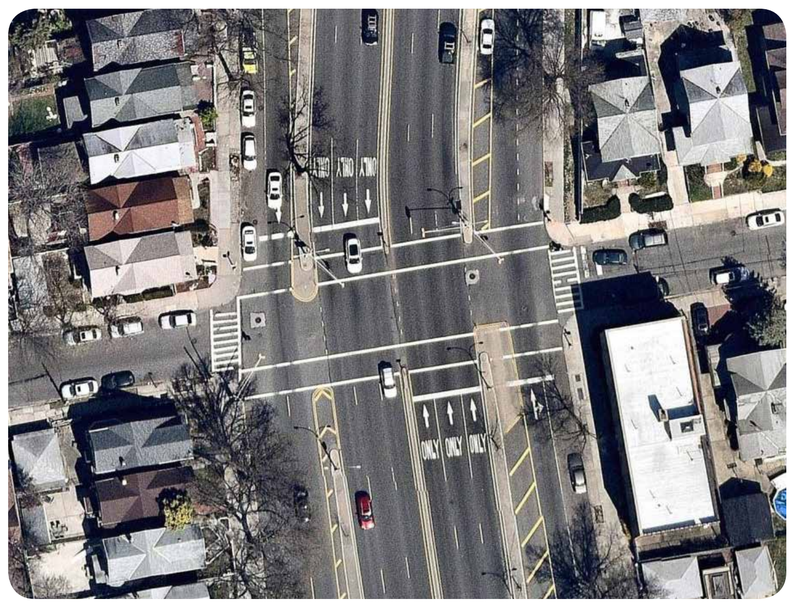
## NYC DOT Congested Corridors Project

The Citywide Congested Corridors Project (CCCP) is a study of selected roadways across the five boroughs with the goals of improving mobility and safety for all street users, air quality, and the quality of life. The study is consistent with the City's goal of building "Complete Streets" that accommodate all street users including pedestrians, bicyclists, transit users and motorists.

The **Woodhaven Boulevard Congested Corridors Project** implemented a series of safety and mobility improvements on Woodhaven Boulevard between Queens Boulevard and Liberty Avenue between 2011 and 2015, including new pedestrian refuge medians, curb extensions, signal timing improvements, bus lanes, service road striping, and intersection geometry updates. The Q52/Q53 Select Bus Service project was a long-term recommendation from the study.

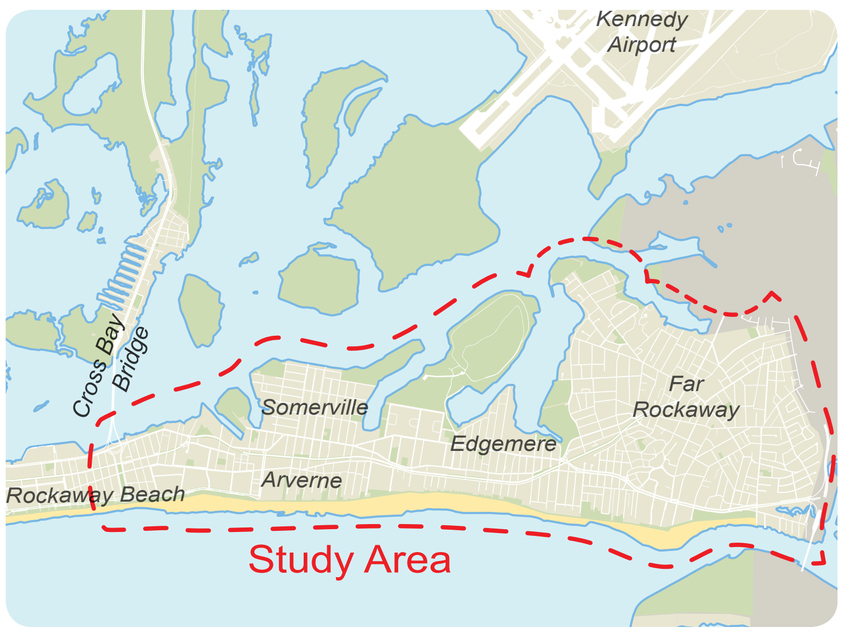

**Offset bus lanes** between Dry Harbor Rd and Metropolitan Ave improve transit mobility while maintaining curb access

**Pedestrian refuges** at key intersections improve pedestrian crossing safety




**Updated roadway markings** between Union Tpke and Rockaway Blvd organize traffic and improves safety through standard lane widths

## NYC DOT Eastern Rockaway Access Study




*Access to Opportunity* is a multiyear transportation study in the Eastern Rockaways to improve residents' access to goods, services, and jobs. This study is a collaboration with the Department of Housing, Preservation, and Development (HPD) to align transportation investments with land use and housing investments. Improvements stemming from this access-based approach can include not only roadway improvements, but also transit, walking, and cycling improvements, and even land use recommendations. For more information about this project, visit www.nycdotfeedbackportals.nyc/eastern-rockaway-access-study

## MTA Rockaway Beach Rail Corridor Evaluation

The Metropolitan Transportation Authority (MTA) recognizes that opportunities may exist along retired rail rights-of-way within the region, including the former Rockaway Beach Rail corridor which runs between Rego Park and Rockaway Park. MTA will conduct an evaluation of the former rail corridor in 2016-2017. The Woodhaven / Cross Bay Blvd SBS project, which operates entirely on City streets, is not in competition with the potential future use of the deactivated Rockaway Beach Line.


*Photo of the right-of-way as it passes through Forest Park*

# Q52/Q53 SBS

## Faster and more reliable bus service!

Based on preliminary transit modeling results and experience with other SBS projects, the MTA and NYC DOT estimate that the **Q52/Q53 SBS** will be

**15-25% faster**

than the Q52/Q53 LTD

## Off-board fare collection

SBS customers pay their fare with a metrocard or with coins at machines located at SBS stops **before boarding** and can board the bus through **any door** without needing to show their proof of payment to the bus operator.

Off-board fare payment substantially **shortens** the time the bus is stopped compared to entering and paying one at a time through the front door of the bus.



ROOSEVELT AV
BROADWAY
WOODHAVEN BLVD
CROSS BAY BLVD
AIRTRAIN JFK
ROCKAWAY BEACH BLVD

75 St 7 E F M R Q32 Q33 Q47 Q49 Q70
78 St
7 LIRR Q18 61 St
Q32 Q70
Whitney Av
Grand Av M R Q58 Q59 Q60
Queens Blvd M R Q11 Q21 Q29 Q38 Q59 Q60
Penelope Av Q38
Metropolitan Av Q54
Myrtle Av Q55
Jamaica Av J Z Q56
91 Av Q24
101 Av Q8
Rockaway Blvd A Q7 Q41 Q112
Pitkin Av Q11
157 Av
163 Av Q21 Q41
Q53 SBS
Q52 SBS
Wildlife Refuge
Noel Rd / E 9 Rd
W 15 St / E 16 Rd
B 116 St
B 108 St
B 102 St
B 96 St
B 91 St
B 81 St
B 73 St
B 67 St

**Legend**
- Proposed SBS Station
- Q52 SBS
- Q53 SBS
- Subway line

**Planned Q52 extension**
*launch date, stations, and routing under review*

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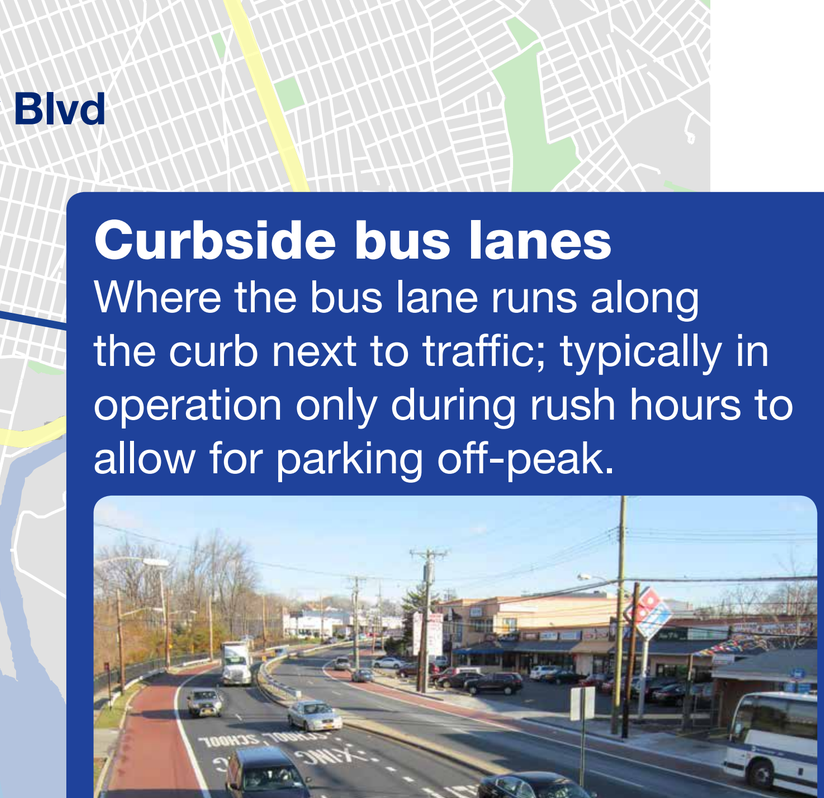
# BUS LANES AND STATION TYPES

## 2017 project bus lane proposal


### Offset bus lanes

Where the bus travels one lane away from the curb next to parking; vehicles can enter the bus lane to turn right or access the curb.




*Example: Existing bus lanes Woodhaven Blvd*

### Main road bus lanes

The bus travels in the curbside lane of the main roadway to avoid turning and merging conflicts with other vehicles.

*Example: Pelham Pkwy, the Bronx*

### Curbside bus lanes

Where the bus lane runs along the curb next to traffic; typically in operation only during rush hours to allow for parking off-peak.

*Example: Hylan Blvd, Staten Island*

### Targeted bus improvements

Small sections of bus lane, signal priority "queue jumps" and other targeted improvements help buses avoid conflicts approaching key intersections.

*Example: Bus lane queue jump on 86 St, Manhattan*

### Planned Q52 extension

*launch date, stations, and routing under review*

## Legend

- curbside SBS station
- median SBS station
- main road bus lanes
- offset bus lanes
- curbside bus lanes
- targeted bus improvements

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# SBS STATION TYPES

## Median SBS Stations

Median SBS stations with shelters, seating, public art, and real-time information make bus stops a better place to wait. Passengers only have to cross the service roads (one lane of calm traffic) to access the bus stop.

**Typical median station rendering (91 Av)**


**Real-time bus arrival screen** tell you when your next bus is coming and provides local neighborhood maps

**Main road bus lanes** allow buses to pull straight into stations with no conflicts from parked cars

**Higher curb with detectable warning tiles** provide an almost-level boarding experience, like the subway

**Shelters & benches** provide a comfortable waiting environment

**Taller fencing** with specialized art design to improve perception of safety for bus riders standing on median stations

**Extended medians** with concrete bollards shorten pedestrian crossings and provide refuge space for waiting

For the 2017 project, median stations will only be constructed on the 1.3 mile stretch of Woodhaven Blvd where service roads already exist, between Park Lane South and Rockaway/Liberty Ave

## Curbside SBS Stations

Curbside SBS stations feature bus shelters, seating, and real-time information with wayfinding maps for bus riders and pedestrians in the area.

**Example of a curbside SBS station on 86th St in Manhattan**


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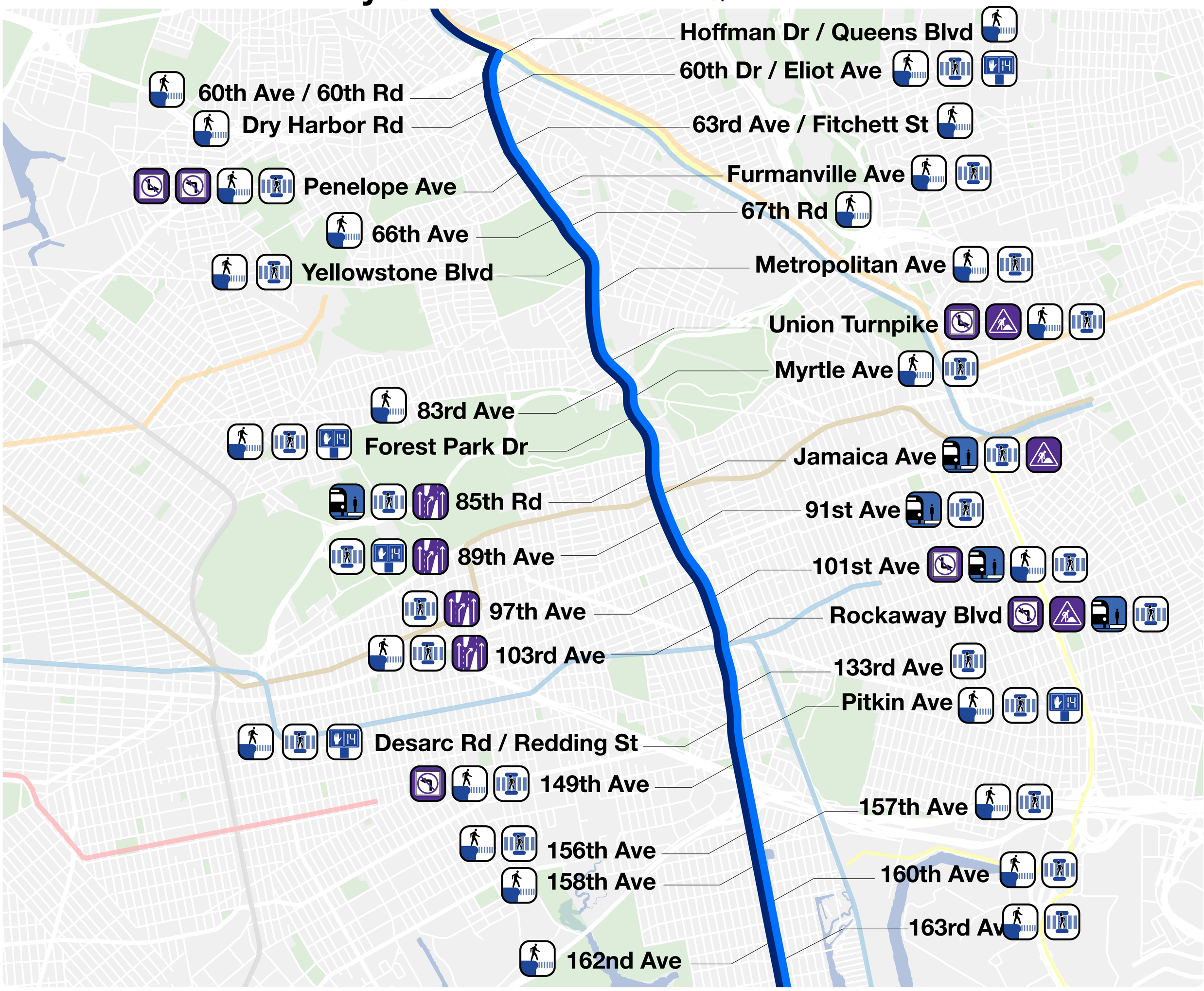
# STREET DESIGN & SAFETY

The safety treatments and street design changes proposed as part of Woodhaven and Cross Bay Blvd SBS project are concentrated along the **Vision Zero Priority Corridors** between Queens Blvd and 165th Ave.




## Design proposals

**Three travel lanes**
for general traffic will remain in each direction along the entire corridor

**Curb extensions**
extend the sidewalk to shorten pedestrian crossing distances

**Street reconfigurations**
at Union Tpke, Jamaica Ave, & Rockaway Blvd reduce vehicle conflicts

**New slip lanes**
allow vehicles to safety switch between the main road and the service road

**Refuge islands**
shorten pedestrian crossing distances and create a safe place to wait

**Bus lanes**
help organize traffic and reducing conflicts with turning/thru vehicles

**Left-turn restrictions**
at key intersections to reduce turning conflicts & improve thru traffic flow

**New ped crossings**
at key mid-block locations improve pedestrian accessibility

**Median bus stations**
shorten pedestrian crossing distances while providing a safe place to wait for the bus

*See block-by-block street designs for details of the design proposals for each intersection along the corridor*

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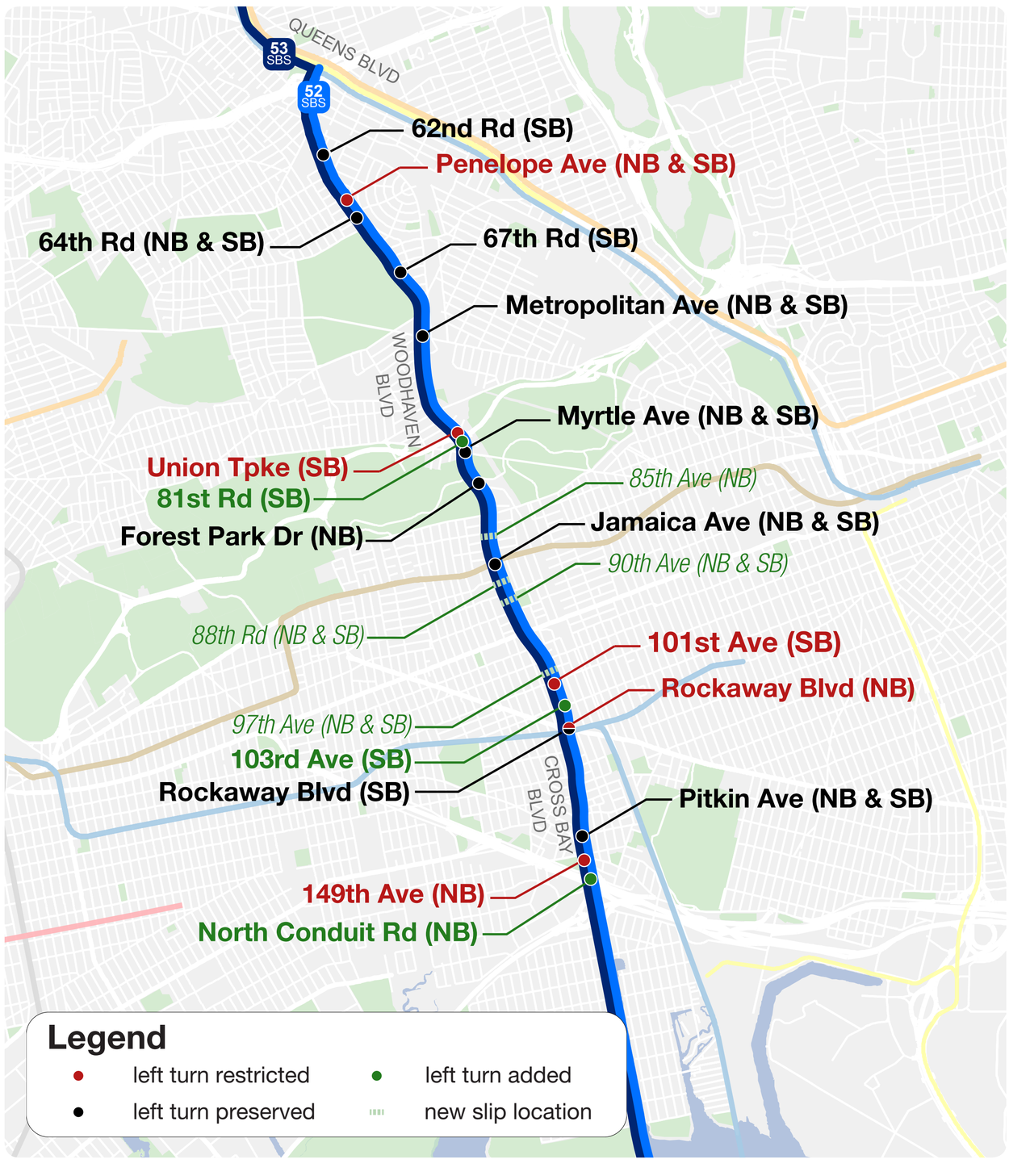
# TRAFFIC CIRCULATION

## Key left-turns and new slip locations along corridor




### Left turns

Left-turn bays have been maintained at locations with high turning volumes and are prohibited at intersections where safety and traffic flow benefit from the restriction.

### Left turn alternatives

Left-turn restrictions have alternate options for maintaining local access:

- 81st Rd (SB) for Union Turnpike (SB)
- 103rd Ave (SB) for 101st Ave (SB)
- 107th Ave (NB) for Rockaway Blvd (NB)
- North Conduit Rd (NB) for 149th Ave (NB)

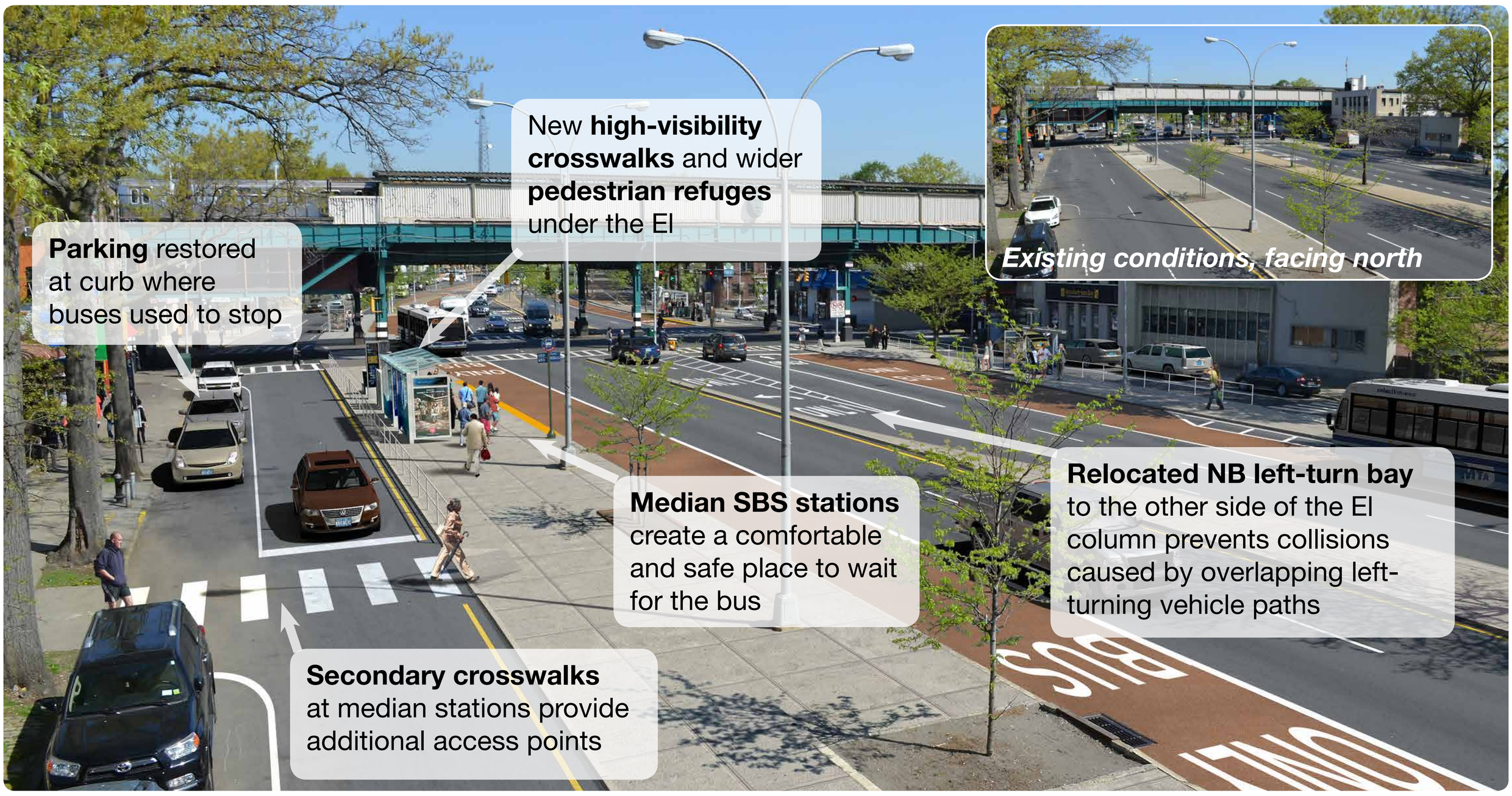
### New slip lane locations

Improved access points between the main road and service road near key intersections including Park Lane S, Jamaica Ave, Atlantic Ave, and Rockaway Blvd. Slip locations have been adjusted based on community feedback.

*In addition to the new slips above for drivers, one new bus-only slip has been added at 101st Ave to enable bus access to service road (SB)*

## **Example location:** relocated left-turn at Jamaica Ave

With continued community input, NYC DOT redesigned the plans for Woodhaven Blvd & Jamaica Ave to improve access to Jamaica Ave while addressing vehicle and pedestrian safety issues.

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# TRAFFIC ANALYSIS

## How does the proposed plan improve traffic?

Consistent **3 general travel lanes** throughout corridor reduces merging/ diverging behavior at physical pinch points (i.e. Union Tpke overpass)

**Restricting key left turns** improves thru traffic flow

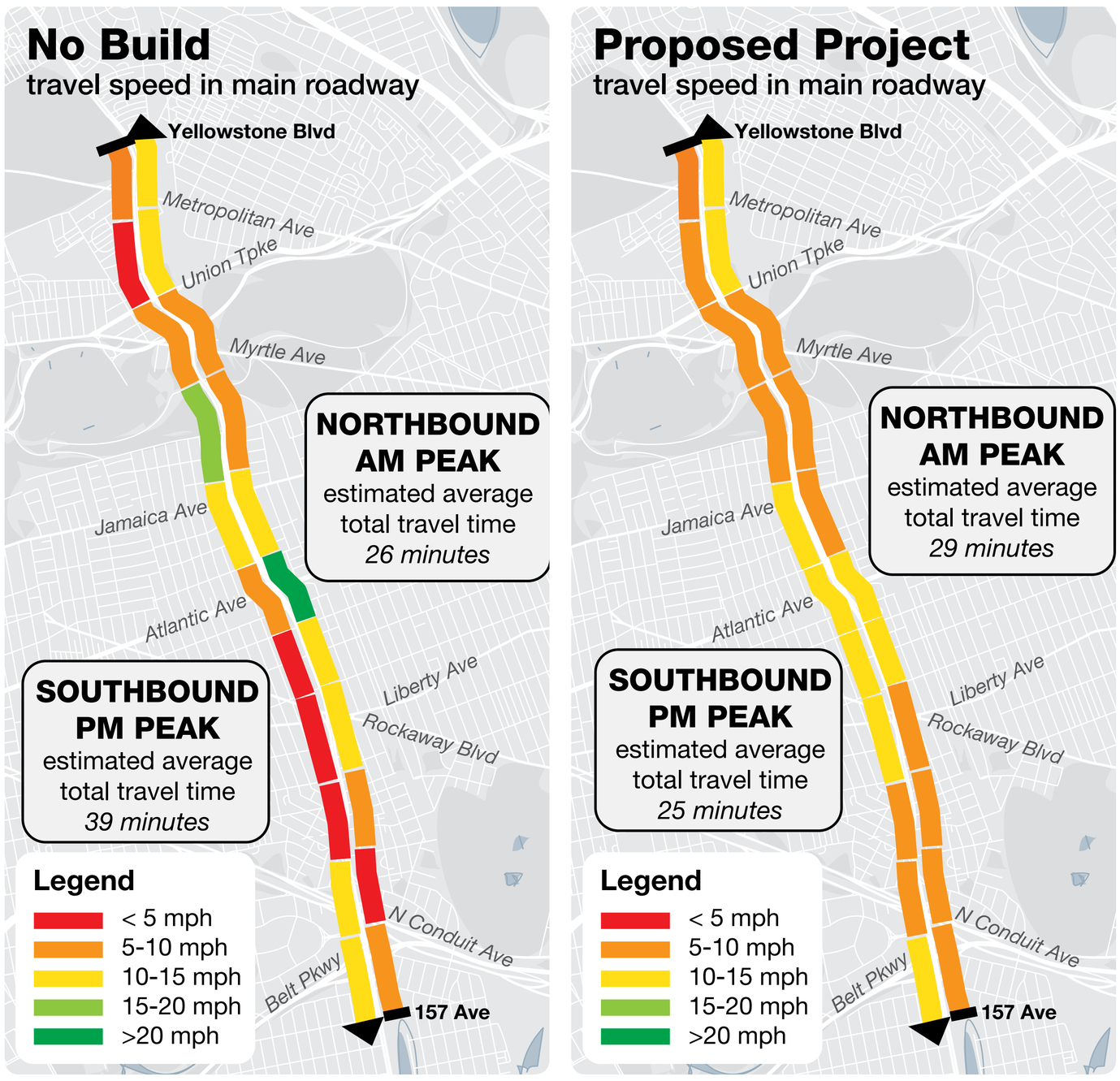
**Bus lanes** organize traffic and carry more people than a mixed travel lane

**New slip lanes** balance traffic between the main and service road

**Longer signal cycles** give more green time to Woodhaven / Cross Bay Blvds

**Longer left-turn bays** at key locations to keep turns out of thru travel lanes

## Preliminary traffic model results







Preliminary modeling results indicate that the Proposed Project will:

- create a more consistent travel speed across the corridor: driving will be steady instead of stop-and-go
- significantly improve southbound travel time in the PM peak

## How does the proposed plan improve transit?

*Bus lanes and transit signal priority improve bus travel times*

Based on dynamic microsimiulation modeling results and experience with other SBS projects, the MTA and NYC DOT estimate that the **Q52/Q53 SBS** will be

**15-25% faster**

than the Q52/Q53 LTD

## How can bus lanes help traffic?

As our city grows, one major challenge is to find ways to use our limited roadway space more efficiently. Bus lanes can carry significantly more ***people*** than mixed travel lanes, improving the capacity of the street.

| | | |
|---|---|---|
| Private motor vehicles | | **600 -1,600** people per lane per hour[1] |
| Dedicated transit lane | | **4,000 - 8,000** people per lane per hour[1] |

[1]NACTO Transit Street Design Guide, page 5

## How was the proposed plan analyzed?

NYC DOT modeled **three conditions** along the portion of the corridor with proposed traffic capacity changes using the latest traffic modeling software:

**Existing Conditions**
based on collected traffic data and observed traffic patterns

**No Build**
based on future traffic growth and other changes unrelated to the project

**Proposed Project**
based on the proposed design changes and all factors in No Build model

***The models will continue to be updated as designs and traffic signal timings are refined***

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