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#### **GLOSSERY OF TERMS**

**Bus bulbs** are locations where sidewalks have been widened to meet an offset bus lane or general travel lane. Bus bulbs provide more room for people to wait, provide more room for amenities like bus shelters, benches, and greenery, and they allow buses to travel straight into and out of the station without pulling over. These stations also have a high curb wherever possible that will be near-level with the floor of the Select Bus Service buses, making it easier and faster for all passengers to get on and off the bus.

**Curbside bus lanes** are travel lanes for buses located next to the curb. Parking and standing at the curb are not permitted during the hours the bus lane is in effect.

**Main road bus lanes** are travel lanes for buses located next to the median that separates the main roadway from the service road. This type of bus lane is only applicable for streets that have a main roadway and a service road, such as Pelham Parkway, Eastern Parkway, and Queens Boulevard.

**Off-board fare payment** means that bus riders pay with a MetroCard or coins at a sidewalk ticket vending machine at the Select Bus Service bus stop before they get on the bus. Riders may then board the bus through any door, without needing to show the ticket to the bus operator. This shortens the time the bus is stopped at the station substantially, compared to the traditional method of entering one at a time through the front door. NYCT employs fare inspectors who may randomly inspect tickets to ensure compliance; passengers without a ticket are subject to a \$100 fare evasion summons.

**Offset bus lanes** are travel lanes for buses located one lane away from the curb. These lanes serve buses as well as right-turning traffic and emergency vehicles. The lane next to the curb may be used for parking, loading and deliveries, or other uses.

**Select Bus Service (SBS)** is New York City's version of Bus Rapid Transit: an improved bus service that offers fast, frequent, and reliable service on high-ridership bus routes. Completed in much less time and at much lower cost than subways—which take years to construct and require expensive up-front infrastructure and equipment—Select Bus Service offers a more immediate improvement to New York City's transit network benefitting the entire city through improved mobility, cleaner air, reduced greenhouse gas emissions, and reduced congestion.

**Transit Signal Priority (TSP)** uses GPS to track when a bus nears an intersection, and turns traffic signals green sooner, or keeps them green longer, allowing the bus to keep moving through the intersection and shortening the overall time of the bus trip. Implementing transit signal priority also includes coordinating the traffic signals on the corridor for all vehicles, which improves travel times for both buses and other traffic on the street.

For more definitions, please visit the Select Bus Service Features website page: http://www.nyc.gov/html/brt/html/about/sbs-features.shtml





#### SELECT BUS SERVICE

#### **About Select Bus Service**

#### What is Select Bus Service (SBS)?

Select Bus Service (SBS) is New York City's brand name for a high quality bus service that provides faster and more reliable service on high-ridership routes through a combination of street design and bus operations changes. These improvements are based on the needs of each individual SBS route. More information on SBS can be found at www.nyc.gov/BRT.

#### What are the features and benefits of SBS?

The benefits of SBS include the following:

- Reduced time waiting at bus stops with off-board fare payment and the ability for customers to board the bus through any door;
- Faster, more reliable bus service with dedicated bus lanes to avoid congestion;
- Less time stopped at traffic lights with Transit Signal Priority;
- A more comfortable wait with improved bus shelters and benches;
- Know when the next bus is coming with real-time information displays;
- Get directions at bus stops with neighborhood map displays; and
- Safer streets and crossings with high-visibility crosswalks, improved medians, and reconfigured intersections.

For a more detailed description of SBS features, please visit the Select Bus Service website: http://www.nyc.gov/html/brt/html/about/sbs-features.shtml

#### How has SBS improved bus travel times?

Experience on implemented SBS routes has shown a 15 to 23 percent improvement in travel time. Detailed information about previous SBS routes can be found on the Select Bus Service website at <a href="https://www.nyc.gov/BRT">www.nyc.gov/BRT</a> or MTA's website at <a href="https://web.mta.info/mta/planning/sbs">https://web.mta.info/mta/planning/sbs</a>.

#### Paying your fare

#### Do SBS buses charge a higher fare?

No. SBS trips cost the same as a subway, local, or limited bus ride.

#### How does off-board fare payment work?

You must purchase a ticket from one of the off-board fare payment machines before boarding the bus. The fare box that was on the bus is now at the bus stop. You can purchase a ticket either with your MetroCard or with coins, the same way you would on any other bus route. By having passengers pay before boarding the bus, everyone is able to board the bus faster using any door. You no longer have to wait in line at the front of the bus to board or pay, since you will have already paid at an off-board fare machine.





#### Can I pay on the bus?

No, instead of paying on the bus, you must get a ticket at the off-board fare machine before boarding the bus. This allows everyone to board the bus immediately through any door once it arrives, which allows the bus to stop for shorter periods of time and makes your bus trip faster.

#### What if I can't obtain a ticket or have some other problem?

If all MetroCard fare machines at a SBS stop are out of service, or if the coin fare machine is out of service, please board the bus, ride to the next stop, and get a ticket at that location. If a fare machine does not issue a ticket or return a MetroCard or coins, please call 511 or use MetroCard eFIX to file a claim online at mta.info.

#### I have an unlimited ride MetroCard. Can I just get on the bus?

No. You must get a ticket from the off-board fare machine before boarding the bus to register your ride. If you have an unlimited ride card (such as a 7-day or 30-day card), you will not be charged for the trip.

### If I am transferring from another MTA bus or subway train to SBS, will my Pay-Per-Ride MetroCard be charged again?

No, not if it is your first transfer. Your transfer is saved on your MetroCard, so when you dip your card at the off-board fare machine to get a ticket, your transfer will go through and you will not be charged. The off-board fare machine will read "Transfer OK" when you dip your card. This is the same as with any other MetroCard transfer.

#### Do I give my ticket to the bus operator?

No. You don't give or show your ticket to the driver unless you paid with coins and need a transfer (request a paper magnetic stripe transfer card from the bus operator when you pay with coins). Hold onto your ticket, as fare inspectors will be making random ticket checks.

#### **Transfers**

#### I am transferring from a bus or subway. How do I transfer?

Transfers work the same as they did before - your transfer is electronically encoded on your MetroCard. When you use your MetroCard at an off-board fare machine after transferring from a subway or bus, the transfer is recorded. You must get a paper ticket from an off-board fare machine before boarding a Select Bus.

If you pay with coins and require a bus to bus transfer, board through the <u>front</u> door, show the bus operator your ticket, and ask the bus operator for a transfer. The bus operator will provide you with a paper magnetic stripe transfer card.

If you are transferring to another SBS route, you must obtain a new ticket at by inserting your MetroCard or paper magnetic stripe transfer card in the MetroCard fare machine at the second SBS stop.

#### What is the transfer policy for SBS routes?

SBS routes follow the same transfer rules as all New York City buses. If you pay your fare with Pay-Per-Ride MetroCard, you may transfer free from SBS bus-to-subway, subway-to-SBS bus, SBS bus-to-local bus, or local bus-to-SBS bus within two hours of the time you paid your fare. Unlimited Ride MetroCard includes all transfers free of charge. If you pay your fare with coins (exact change), you may transfer free between buses with intersecting routes.





#### **Fare inspection**

#### How do transit personnel know that I paid my fare?

Your SBS ticket serves as your proof of payment. Fare inspectors make random ticket checks to ensure that each passenger paid the fare. You must keep your ticket for the duration of your trip in case a fare inspector asks for it. Anyone who cannot produce a valid ticket could be subject to a summons of \$100.

#### How effective is the fare inspection in limiting fare evasion and free-riders?

Fare evasion on SBS routes is lower than fare evasion on regular bus service routes. The MTA's fare enforcement officers (the "Eagle Team") use education and enforcement for fare compliance. Bus fare evasion has declined significantly with the introduction of SBS and the Eagle Team. On SBS routes, there has been a 48-80 percent reduction in fare evasion compared to the prior condition. The Eagle Team's success in reducing fare evasion has largely been achieved through education rather than fines. The majority of the Eagle Team's random checks are warnings and "assists" (educating the public about off-board fare payment), as only 16 percent of stops result in a summons for fare-evasion.

What are the initial and ongoing costs for Select Bus Service, including enforcement? SBS costs vary by route as various factors such as street design and corridor length affect implementation and operational costs.

What happens if I receive a summons? Will I be fined if the fare machines are broken at my stop? Individuals are not permitted to enter New York City buses without payment of fare. On SBS routes, fare enforcement officers conduct random inspections to ensure all riders paid the fare. Any rider without a ticket is subject to a \$100 summons.

If you receive a summons (a Notice of Violation), a hearing date is listed on the summons. You may either pay the fine stated or deny the violation charged. If you wish to deny the violation, you may do so by mail or in person. The hearing date listed on the Notice of Violation is approximately 30 days from the date of the alleged violation. This is the last day you may appear in person at the Transit Adjudication Bureau to dispute your violation. You may appear in person between 8:30 am and 2:30 pm any business day on or before the hearing date. Please visit the Transit Adjudication Bureau at <a href="http://web.mta.info/nyct/TransitAdjudicationBureau.html">http://web.mta.info/nyct/TransitAdjudicationBureau.html</a> for more information.

If all MetroCard fare machines at a SBS stop are out of service, or if the coin fare machine is out of service, please board the bus, ride to the next stop, and get a ticket at that location. If a fare machine does not issue a ticket or return a MetroCard or coins, please call 511 or use MetroCard eFIX to file a claim online at mta.info.





#### Q52/Q53 SELECT BUS SERVICE

#### Riding the Q52/Q53 SBS

#### How often will the Q52 SBS and Q53 SBS operate?

It will be some time before the final schedules are prepared; however, it is anticipated that to start, the Q52 and Q53 SBS will operate with a similar schedule as the existing Q52 and Q53 Limited. The MTA schedules all bus service based on actual customer usage.

#### Will you be using the longer buses on the Q52 SBS and Q53 SBS?

Articulated buses, sometimes referred to as "double buses", are 60-feet long (compared to a standard 40-foot bus) and are currently planned for the Q52 SBS and Q53 SBS. Both routes may use articulated or standard buses when the Q52/Q53 SBS is launched, but it is ultimately planned that both services will use articulated buses.

#### How much faster will the SBS operate compared to existing Limited service?

We estimate that the SBS buses will travel 25-35% faster on the 6-mile portion of the corridor along Woodhaven and Cross Bay Boulevard, which will feature bus lanes and roadway improvements as part of the project. This estimate is based on initial travel time modeling results from the conceptual selection process, and will be further refined as the project continues through design.

On the other portions of the corridor without bus lanes, NYCDOT and the MTA expect the buses to operate approximately 10% faster due to off-board fare payment and signal priority. This is based on experience from previous SBS projects.

Will the Q52 be extended to Far Rockaway, either as part of SBS or before SBS is launched? The MTA is currently studying such an extension as part of the Q52/Q53 SBS project. The MTA is evaluating the benefit to riders, as well as the cost and operations of additional service.

#### How can Q52/53 SBS passengers get to JFK Airport?

Woodhaven/Cross Bay bus riders can access JFK Airport several ways:

- 1. Taking the A train at Rockaway Boulevard to the Howard Beach AirTrain station;
- 2. Taking the Q11 bus to the Howard Beach AirTrain station;
- 3. Taking another east-west bus route along the corridor and transferring to the Q10 (Q7, Q8, Q24, Q41, Q55, Q56, Q60, Q112), or
- 4. Taking the M or R train at Woodhaven Boulevard & Queens Boulevard or the J train at Woodhaven Blvd & Jamaica Avenue to Sutphin Blvd/Archer Av station for the AirTrain.

Woodhaven/Cross Bay bus riders destined for the JFK Airport Cargo Area can transfer to the Q7 at Rockaway Boulevard.





# If I need a local bus to access the SBS, could I still transfer from the SBS to take another bus or train for the same fare? If not, why is it allowed between the S78, the S79, and the R train in Bay Ridge?

No. Each ride includes one transfer, which would be used by transferring from the local bus to the Q52/Q53 SBS (the same way it is used now by transferring from a local bus to the Q52/Q53 Limited). If you were to continue on to another bus or train, you would need to pay another fare unless you have an unlimited MetroCard. The S78/S79/R Train transfer was a special circumstance due to the specific set of bus stop removals on the S79 when it became SBS and the fact that the local S78 route does not connect to the R train. The Q52/Q53 SBS is expected to have very few bus stop consolidations compared to the current limited-stop service, and no connections that cannot be reasonably made with one transfer.

#### Q52/Q53 SBS stop changes

#### What bus stops are being added as part of Q52/Q53 SBS service?

Proposed new SBS stops include 91 Avenue, 101 Avenue on Woodhaven Boulevard and Pitkin Avenue on Cross Bay Boulevard.

#### What stops are being removed as part of Q52/Q53 SBS service?

Stops that are proposed to no longer be served by the Q52/Q53 include Atlantic Avenue (relocated to 91<sup>st</sup> Avenue), 5<sup>th</sup> Road, Beach 86 St, Beach 69 St (consolidation at Beach 67 St), Beach 98 St, Beach 101 St, and Beach 105 St. These stops will continue to be served by local bus routes and will be within 500 to 1,100 feet of a proposed Q52/53 SBS bus stop.

#### How are Q52/Q53 bus stops changing in the Rockaways?

One of the principal ways to improve bus speed and reliability is to provide longer bus stop spacing so the buses are not stopping so often. For local bus routes, the desired spacing interval is 750 feet between bus stops; for Select Bus Service, the desired spacing interval is approximately ½ a mile or 2,600 feet. Currently, the Q53 bus stops in the Rockaways are spaced very closely, many as close as every 1-2 blocks, and because of this the buses currently travel relatively slowly through this area.

In reviewing proposed bus stop locations, the MTA examines ridership levels, proximity to land uses, and logical transfer opportunities, in addition to distance between bus stops. The current proposal is for the Q53 SBS to serve Beach 96 Street, Beach 102 Street, Beach 108 Street, and Beach 116 St, which will result in bus stops approximately 1,760 feet apart, or a walk of less than 900 feet to a bus stop. All current Q52/Q53 bus stops in the Rockaways will remain local Q22 stops, and customers may transfer between the Q22 local and Q53 SBS. The MTA is also considering new Q52 bus stops east of the current terminal.

Input provided at the public workshops is being used to plan the final bus stop locations. Once the final decision is made, any stop changes will be publicized to notify bus riders and to provide information on the nearest SBS bus stop locations.

### As part of SBS, will a new stop be included at N and S Conduit Avenues to connect to the B15 to Brooklyn / JFK Airport?

No, due to the complicated roadway geometry and the lack of land uses nearby, there will not be an SBS stop added at N and S Conduit Avenues. The B15 also does not stop at Cross Bay Boulevard and would provide a slower and less direct bus route to the airport if it were to have a stop added at this location. The Q21 and Q41 local buses stop adjacent to North Conduit Avenue, and there is a planned added Q52/Q53 SBS bus stop nearby at Pitkin Avenue to enhance mobility for residents.





#### **Local bus service**

Will local buses be allowed to use the bus lanes along Woodhaven and Cross Bay Boulevard? Yes, all MTA buses will use the bus lanes.

#### How will the Q52/Q53 SBS affect local service?

The current plan is to initially not change the level of local service. After SBS is implemented, ridership will be monitored along each bus route and service adjusted as appropriate, as it is on all bus routes.

#### Are other (intersecting) bus routes changing as well?

No, service for east-west bus routes that intersect Woodhaven and Cross Bay Boulevard will remain the same. As with all bus routes, ridership will be monitored along each bus route and service adjusted as appropriate.





#### PLANNING AND CONSTRUCTION

#### **Planning**

Who is in charge of the Woodhaven/Cross Bay Boulevard Select Bus Service project? The project is a joint effort of the New York City Department of Transportation (NYCDOT) and the Metropolitan Transportation Authority (MTA).

#### What types of concepts were considered for this project?

The initial planning phase of the project included the development of three different project concepts that would help to improve transit operations, pedestrian safety and amenities, and general traffic mobility and safety. These three concepts were considered for Woodhaven Boulevard and Cross Bay Boulevard (north of the Addabbo Bridge) and presented at the second Community Advisory Committee meeting in October 2014 and at a Public Open House in November 2014:

- Concept 1: Offset Bus Lanes (to position buses in the service road, one lane to the left of parking)
- Concept 2: Main Road Bus Lanes (to position buses in the far right lane of the main roadway)\*\*
- Concept 3: Median Bus Lanes (to position buses in the middle of the roadway)

Information about the project concepts can be found on the Select Bus Service website:

- Public Workshop 3 Summary: <a href="http://www.nyc.gov/html/brt/downloads/pdf/2014-11-05-brt-woodhavenblvd-pw3-workshopsummary.pdf">http://www.nyc.gov/html/brt/downloads/pdf/2014-11-05-brt-woodhavenblvd-pw3-workshopsummary.pdf</a>
- Public Workshop 3 Materials: <a href="http://www.nyc.gov/html/brt/downloads/pdf/2014-11-06-brt-woodhaven-pw3-boards.pdf">http://www.nyc.gov/html/brt/downloads/pdf/2014-11-06-brt-woodhaven-pw3-boards.pdf</a>

#### How did you decide on the chosen concept for main road bus lanes (Concept 2)?

The three concepts were screened across three areas to determine how each option would affect travel on Woodhaven and Cross Bay Boulevard: 1) transit operations, 2) safety & pedestrian amenities, and 3) traffic mobility & accessibility. These focus areas were identified during conceptual design based on analysis of existing conditions and issues along the corridor and based on community feedback from the first Community Advisory Committee meeting held in February 2014 and the Public Workshops held in April and June 2014.

The screening process included quantitative analysis (conceptual traffic analysis, estimates of transit travel time savings, and evaluation of pedestrian benefits) as well as qualitative analysis based on community feedback received at the second Community Advisory Committee meeting held in October 2014 and the Public Open House held in November 2014.

NYCDOT and the MTA jointly chose Concept 2 for Woodhaven Boulevard based on its ability to provide important transit and pedestrian safety benefits while also balancing traffic mobility & accessibility needs. Concept 1 was chosen for Cross Bay Boulevard where the right-of-way is not wide enough to accommodate Concept 2.

<sup>\*\*</sup>Concept 2 is only applicable to Woodhaven Boulevard. Cross Bay Boulevard is too narrow for this treatment.





#### What are the benefits of Concept 2 compared to the current design of Woodhaven Blvd?

- <u>Faster and more reliable bus service</u>: Main road bus lanes mean buses are able to travel free from turning and parking conflicts. There is also opportunity to include physically separated lanes. Expected travel time savings of 25 to 35 percent in the bus lane sections of the corridor.
- <u>High Quality Waiting Areas</u>: Median bus stops with shelters, seating, and real-time information make bus stops more like the subways. Passengers only have to cross the service roads (one lane of traffic) to access the bus stop.
- <u>Safer Streets for Pedestrians</u>: New medians, shorter road crossings, high-visibility crosswalks, pedestrian neckdowns (larger street corners that make pedestrians more visible to drivers, allow pedestrians to see oncoming traffic better, and provide a shorter crossing), and calm service roads all improve pedestrian safety.
- <u>Safer Streets for Drivers</u>: The boulevard design separates local and through traffic and improves the experience for both. Through traffic travels in the main road, free from parking and other conflicts. Local traffic travels in the service roads with calm access to parking and driveways.
- <u>Better Local Access</u>: Parking in front of businesses or within private driveways will be easier and safer with calm service roads.
- <u>Greener Streetscape</u>: Medians allow for trees and other plantings where appropriate, along with opportunity for public art.
- <u>Neighborhood Sensitivity</u>: Different designs between Woodhaven and Cross Bay Boulevard reflect different land uses and traffic patterns.

### Was the deactivated Rockaway Beach Line considered as a possible alternative to the Woodhaven/Cross Bay Boulevard Select Bus Service project?

The Woodhaven / Cross Bay Blvd SBS project is not in competition with the potential future use of the deactivated Rockaway Beach Line. This is a "complete street" project, meaning it is designed to improve the corridor for all users, including pedestrians, drivers, and bus riders. The project is designed to improve bus service as well as safety and traffic operations along this important corridor.

Woodhaven and Cross Bay Boulevard have both been identified as Vision Zero priority corridors where traffic safety improvements are needed; there have been 22 fatalities and over 3,000 injuries from Queens Boulevard to the Addabbo Bridge from 2009-2013. Corridor concepts were evaluated based on their ability to address not only transit operational needs, but also their ability to improve pedestrian and general traffic safety along Woodhaven and Cross Bay Boulevard.

# If buses are regularly significantly delayed during the rush hours due to traffic, why isn't that delay reflected in the bus's running time which should reflect actual road conditions and wouldn't having realistic running times improve service?

Bus schedules are designed to account for typical traffic conditions; however, it is difficult to account for variability in traffic conditions. One of the main issues along Woodhaven Boulevard and Cross Bay Boulevard is that traffic congestion can vary significantly on different days and at various locations along the several miles of the corridor due to incidents and other unpredictable factors.

Implementation of SBS features along the corridor such as bus lanes, roadway improvements, transit signal priority, and off-board fare payment all help improve the reliability of bus service by providing regular and predictable travel times for buses across all times of day. Additionally, current schedules are being reviewed and bottleneck areas will be addressed during SBS implementation.





#### **Corridor demographics**

### How many people live within walking distance of Woodhaven and Cross Bay Boulevards? How did you arrive at this number?

Approximately 400,000 people live within a 15 minute walk of the Woodhaven and Cross Bay Boulevard SBS corridor. To estimate a 15-minute walk, the project team used a half-mile radius around the Q52 and Q53 corridor, which extends from Woodside to the Rockaways. The typical person walks a half-mile in 10 minutes (3 miles per hour) so this is a conservative geographic estimate to account for the street grid. The number of people living in those areas is then determined using data from the US Census, as described below.

### What percentage of people within a 15-minute walk of the corridor do not own a car? What percentage commute by transit?

Of households within a 15-minute walk (1/2 mile) of the corridor, 43 percent do not own a car and 60 percent of residents commute to work by transit. This data is from the US Census, as described below.

#### What data source did you use for these demographic data?

The project team used the 2008-2012 American Community Survey (ACS) 5-year estimates produced by the U.S. Census Bureau to do an overview demographic analysis of the Woodhaven / Cross Bay SBS corridor. The analysis was performed at the Census Tract level because that was the most precise available geographic analysis unit available for the commute to work data. The 5-year estimates were chosen because they are recommended for analysis at the tract-level and the 2008-2012 data set was the most recent data set available at the time of the analysis (Fall 2014).

#### Construction

#### How long will construction take and when will construction take place?

In order to bring improvements to the corridor as quickly as possible, DOT and the MTA plan to implement the project in two separate phases. In 2017, DOT and the MTA will implement a first phase of short-term improvements which will utilize in-house DOT and MTA resources such as paint, bollards, and concrete islands to construct key transit and safety improvements along the corridor, and implement improved fare payment, new bus service plans, and transit signal priority. This will be followed by long-term improvements, which will construct robust transit and Vision Zero improvements such as new/extended medians and streetscaping, bus bulbs (curb extensions at bus stops) on Cross Bay Boulevard, and additional median bus stops on Woodhaven Boulevard.

This phased approach is designed to both deliver corridor improvements quickly, and to allow the opportunity for continued community feedback in the design process. Lessons learned from the first phase will be incorporated into the capital project, allowing an opportunity to make adjustments as needed.

Specific construction duration and timing for the short- and long-term improvements will depend on the amount of roadway and utility work required for each phase. More information will be available once the project is further into design and engineering.





#### How much will this project cost? Is it cost effective?

As of Decmeber 2015, NYCDOT and the MTA are in the process of developing a cost estimate for the proposed project based on engineering conditions. This section will be updated when more information is available.

Woodhaven Boulevard and Cross Bay Boulevard are both Vision Zero priority corridors. There have been 22 fatalities and over 3,000 injuries along W from 2009-2013. Traffic crashes themselves carry high economic costs, from property damage to medical costs to the loss of future income to individuals and families when someone is severely injured or killed in a crash. NYCDOT estimates that traffic crashes cost New York City \$4.29 billion annually, and the annual cost for pedestrian crashes alone is estimated at \$1.38 billion. Designing streets to improve roadway safety can help to save lives and limit this economic burden by reducing the number and severity of crashes.

Additionally, Select Bus Service projects around the City to date have been successful in making buses faster and more reliable. These times savings result in a faster trip for transit riders, which allow riders to spend less time on the bus and more time with their families.

#### **Monitoring**

Will there be any follow-up after the first year assessment? If not, why not? Don't circumstances change over time?

Yes. NYCDOT and the MTA will continue to monitor conditions after the project has been implemented and make adjustments as needed. The 2017 short-term improvements described above will allow DOT/MTA to make adjustments to the design as needed before and after implementation. A variety of data sources will be used for this analysis, including but not limited to, bus ridership, traffic volumes, MTA Bus Time data, and real-time travel speeds from the NYCDOT Traffic Management Center.

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<sup>&</sup>lt;sup>1</sup> NYCDOT. 2010. *The New York City Pedestrian Safety Study & Action Plan.* http://www.nyc.gov/html/dot/downloads/pdf/nyc\_ped\_safety\_study\_action\_plan.pdf





#### STREET DESIGN

#### **Bus lanes**

#### What are the rules for bus lanes?

For through travel, bus lanes are for buses only. However, other road users are allowed to cross into bus lanes in order to turn right at the next intersection or driveway within 200 feet, park at the curb, or expeditiously pick-up or drop off a passenger. In locations where there are main road bus lanes, other road users can also cross the bus lane to move from the main road to the service road (and vice versa) at designated locations. Non-bus vehicles may not idle or park in the bus lane. For more information, please see the NYC Bus Lane Rules brochure, found on the nyc.gov website:

http://www.nyc.gov/html/brt/downloads/pdf/buslane\_enforcement\_brochure.pdf.

#### How are bus lanes enforced?

The New York Police Department regularly patrols bus lanes, and issues both moving violations and parking violations to bus lane violators. New York City Transit workers can also enforce bus lanes. Additionally, New York State has authorized the City of New York to place cameras along bus lanes to catch violators on selected corridors. Signs are posted along corridors where bus lane cameras are in use to warn drivers to keep out of bus lanes, except for allowed right turns and passenger pick-ups or drop offs.

#### How does bus lane camera enforcement work?

DOT uses a fixed location camera system for bus lane enforcement, which uses two cameras that are mounted above the bus lane. One camera provides a high quality view of the rear of a vehicle, clearly showing the vehicle's license plate, but not showing the driver of the vehicle. The second camera provides a wider angle view of the street, clearly showing both actions in the bus lane and other activity on the street that might have forced a vehicle to use the bus lane.

All potential violations are reviewed by DOT employees to confirm that a violation has occurred. If you have received a bus lane camera violation, you can view the video footage used to issue the violation and challenge the notice of violation if you think it has been issued in error.

### Will cars waiting in a bus lane for a car to pull out so they can park be subject to receiving a summons of \$115?

Vehicles are allowed to cross into bus lanes in order to park at the curb; however, vehicles are not allowed to wait in a bus lane. Bus lanes are intended to enhance mobility of the bus; parking, standing or stopping within a bus lane negatively impacts bus operations.

### Will cars waiting in the bus lane to use the slip lane be ticketed if the slip lane is blocked with cars waiting to get into the service road?

No, vehicles are allowed to cross the bus lane at designated slip locations and will not be ticketed for doing so. The slip lane locations will be designed to prevent a queue of cars blocking the bus lane.





#### During what hours will the bus lanes be in effect?

The proposed bus lanes will be in effect 24 hours per day, 7 days per week. Having the bus lanes operational all of the time makes the roadway clearer to navigate since lane regulations remain consistent at all times. The existing bus lanes on Woodhaven Boulevard between Dry Harbor Road and Metropolitan Avenue are in effect Monday through Friday from 7am-10am and from 4pm-7pm.

#### How will bus lanes affect emergency responders?

Emergency vehicles can use the bus lanes. At congested locations, the bus lanes will allow emergency vehicles to bypass general traffic, rather than requiring emergency responders to navigate through general traffic as they have to today.

#### How will the bus lanes be maintained?

Bus lane markings, like all roadway markings, are susceptible to wear and tear over time, especially over harsh winter seasons. The bus lane markings will be refurbished regularly as they wear and following roadway resurfacing.

# Are bus lanes proposed where there are only three lanes in each direction today on Woodhaven Boulevard, such as the underpass near Eliot Avenue (south of the Long Island Expressway) and the overpass north of Union Turnpike?

No, the proposed plan maintains three lanes of traffic in each direction along the entirely of Woodhaven Boulevard. Bus lanes are not proposed at the Eliot Avenue underpass or the Union Turnpike overpass.

#### How will bus lanes affect traffic operations?

During peak hours, there are more than 30 buses per hour per direction on Woodhaven and Cross Bay Boulevards. These buses will be able to use the designated bus lanes, which will help organize traffic flow and reduce conflicts between buses and general vehicles. Three additional travel lanes will be available for general traffic (see the "Roadway Configuration" section below). Preliminary analysis indicates that the bus lanes should be helpful to overall corridor travel times, but a more extensive analysis of all intersections along the corridor is currently underway.

### Do exclusive bus lanes really make sense when buses are operating every 30 minutes late at night or every 15 minutes during the evening hours?

During off-peak hours, such as late at night, traffic volumes are also significantly lower so bus lanes do not negatively impact traffic. Additionally, having the bus lanes operational all of the time makes the roadway clearer to navigate since lane regulations remain consistent at all times.

#### **Safety**

#### What are the safety statistics for Woodhaven Boulevard and Cross Bay Boulevard?

Woodhaven Boulevard and Cross Bay Boulevard are both Vision Zero priority corridors, meaning that they have been identified as having some of the highest rates of traffic injuries and fatalities in Queens. There are 47 Vision Zero priority corridors in Queens which account for 51 percent of all pedestrians killed or severely injured but are only 6 percent of Queens' total street network.

There have been 22 fatalities and over 3,000 injuries from Queens Boulevard to the Addabbo Bridge from 2009-2013. Of the 22 people killed in crashes along the corridor, 17 were pedestrians and 5 were motorists. A total of 195 people were killed or severely injured on the 6.3-mile corridor from 2009-2013, or 31 people killed or severely injured (KSI) per mile, ranking in the top 10 percent of per-mile KSI for all roadways in Queens. This is based on information reported by NYPD and the New York State Department of Motor Vehicles.





If Woodhaven Blvd were called Rego Park Boulevard north of Metropolitan Avenue, wouldn't that make the street appear to be less dangerous just because it has two names? Also if Woodhaven and Cross Bay shared the same name, wouldn't that make the corridor seem to appear to be even more dangerous?

NYCDOT identified Vision Zero priority corridors based on *per mile* crash data, which takes into account the fact that roadways are different lengths. The Queens Pedestrian Safety Action Plan<sup>2</sup> ranked every street in Queens based on the number of pedestrians killed or significantly injured (KSI) per mile of road over five years (2009-2013); both Woodhaven Boulevard (6.6 pedestrian KSI per mile) and Cross Bay Boulevard (4.0 pedestrian KSI per mile) were identified as priority corridors as part of that analysis.

#### What is the speed limit on Woodhaven Boulevard and Cross Bay Boulevard?

The speed limit is 30 mph on Woodhaven Boulevard and Cross Bay Boulevard north of the Addabbo Bridge. The speed limit on Woodhaven Boulevard was changed to 30mph from 35mph and on Cross Bay Boulevard from 40mph to 30mph in June 2015. There are no current plans to change this regulation.

#### How will this design make the corridor safer for pedestrians?

Many pedestrian improvements are included as part of this project that will provide a more comfortable pedestrian environment and increase the safety of walking along and crossing Woodhaven and Cross Bay Boulevards. Pedestrian amenities and the safety benefits planned as part of this project include the following:

- Median bus islands are platforms built next to the bus lane that will be outfitted with bus shelters, benches, landscaping, and other amenities to provide comfortable, wheelchair accessible waiting areas at bus stops.
- <u>Pedestrian crossing refuges</u> are concrete islands built as part of a median or as a stand-alone feature to break up the long crossings across Woodhaven and Cross Bay Boulevard. They provide pedestrians with a safe waiting or resting place while crossing the street.
- <u>High-visibility crosswalks</u> use reflective paint to make pedestrian more visible when crossing the street, especially at night.
- <u>Neckdowns</u> are larger street corners that are built out to make pedestrians more visible to drivers, allow pedestrians to see oncoming traffic better, and provide a shorter road crossing.

#### How will this design make the corridor safer for general traffic?

- A consistent roadway configuration will provide three lanes of general traffic in each direction along the length of the corridor, eliminating forced merges from other lanes and making the corridor more predictable for all road users.
- <u>Service roads</u> will be separated from the main road through lanes by a median and will provide a calmer traffic environment for local traffic, parking, and driveway use. Separating these local activities from faster moving through traffic will help to reduce the risk of high-speed crashes.
- <u>Left-turn restrictions</u> will eliminate left-turn movements across through traffic at key intersections, which reduces the complexity of intersections and associated crash risk.

http://www.nyc.gov/html/dot/downloads/pdf/ped-safety-action-plan-queens.pdf





#### **Bus stops**

#### How will one bus pass another at a bus stop?

At larger median bus stops on Woodhaven Boulevard, a bus bay may be provided for local buses so that SBS buses may use the bus lane to pass stopped local buses. At smaller median bus stops where a bus bay is not provided, the overtaking bus will use the adjacent travel lane to pass the slower bus and then re-enter the bus lane after passing is complete. The passing of one bus by another typically only takes a few seconds based on observations from other corridors where buses operate and stop in the main roadway (Pelham Parkway in the Bronx and Kings Highway in Brooklyn).

On Cross Bay Boulevard, the proposed design is for local buses to stop at the curb and for SBS buses to stop at a bus bulb, which will allow passing at all SBS bus stops.

#### What type of fencing will be used on the median bus stops?

NYCDOT and the MTA will evaluate fencing options for the median bus stops during the design process in 2016. Once information is available, the project team will present it to the community.

#### **Roadway configuration**

#### Is Woodhaven Boulevard going to be widened?

No. The entire SBS project is being planned within the existing right-of-way on both Woodhaven Boulevard and Cross Bay Boulevard.

#### How many travel lanes will there be for general traffic under the proposed plan?

The proposed plan includes three (3) continuous travel lanes in each direction for general/non-bus traffic and one (1) travel lane in each direction for bus traffic. Emergency vehicles will also be able to use the bus lanes which will allow for faster response times when traffic is congested. General/non-bus traffic will be allowed to cross the bus lane to access on-street parking and to move between the service and main road. Vehicles can also use the bus lane at intersections and driveways when making a legal right turn.

### At points along Woodhaven Boulevard where the roadway narrows, how will the traffic bottlenecks be managed?

There are currently multiple bottlenecks along Woodhaven Boulevard that are caused by inconsistent lane configurations, where the road narrows from a larger number of lanes to a smaller number of lanes and back to a larger number of lanes. These inconsistencies cause congestion as vehicles in the dropped lane have to merge into one of the continuous through lanes. In the proposed design, these bottlenecks have been eliminated by providing a consistent three lanes of general traffic in each direction throughout the length of the corridor.

#### How will this plan effect on-street parking?

During the public workshops, on-street parking was identified as a community concern, particularly in front of businesses that do not have off-street parking available. The chosen roadway design concept minimizes parking changes along the corridor. More detail on proposed changes block by block will be available in 2016.

#### Where will bicycles go in the proposed design?

Cyclists should use the service roads to travel along Woodhaven Boulevard, and the existing bike lanes along parallel streets along Cross Bay Boulevard. The service roads will be designed to provide calm traffic conditions for local vehicle traffic, parking, and local and through bicycle traffic.



#### **TRAFFIC**

#### Roadway use

How many bus trips are made along Woodhaven and Cross Bay Boulevard each day? Woodhaven Boulevard/Cross Bay Boulevard is an important transit corridor, carrying over 30,000 bus trips each day. Below is a table of the existing transit service along this corridor.

Route	Destination	Service Type	Scheduled buses per hour (both directions)		2013 Weekday
			AM Peak	PM Peak	Ridership <sup>1</sup>
Q11	Hamilton Beach – Queens Center Mall	Local	14	12	4,900
Q21	Howard Beach – Queens Center Mall	Local	4	4	2,785
Q52	Arverne – Queens Center Mall	Limited	9	10	5,768
Q53	Rockaway Park – Woodside	Limited	20	15	15,377
BM5	Spring Creek (Bklyn) – Midtown Manhattan	Express	3	2	604
QM15	Lindenwood – Midtown Manhattan	Express	9	5	1,335
QM16	Neponsit – Midtown Manhattan	Express	4	3	376
QM17	Far Rockaway – Midtown Manhattan	Express	3	3	443
Totals			66	54	31,588

<sup>1</sup> http://web.mta.info/nyct/facts/ridership/ridership\_busMTA.htm#five

#### How many vehicles currently use Woodhaven and Cross Bay Boulevard?

Below is a table of the total number of daily vehicles that pass through some of the major intersections along the corridor. This data was collected in June 2013 using Automatic Traffic Recorders (ATRs). These numbers include *all vehicles* using the roadway, including personal vehicles, buses, taxis, and commercial trucks.

Average number of daily vehicles on Woodhaven and Cross Bay Boulevard							
Location	Northbound (average vehicles/day)	Southbound (average vehicles/day)					
Woodhaven Blvd @ Union Turnpike	35,453	28,549					
Woodhaven Blvd @ Jamaica Avenue	34,077	30,648					
Woodhaven Blvd @ Rockaway Blvd	30,589	27,258					
Cross Bay Blvd @ Conduit/Belt Parkway	27,065	30,900					
Cross Bay Blvd @ 157 <sup>th</sup> Avenue	25,203	24,321					





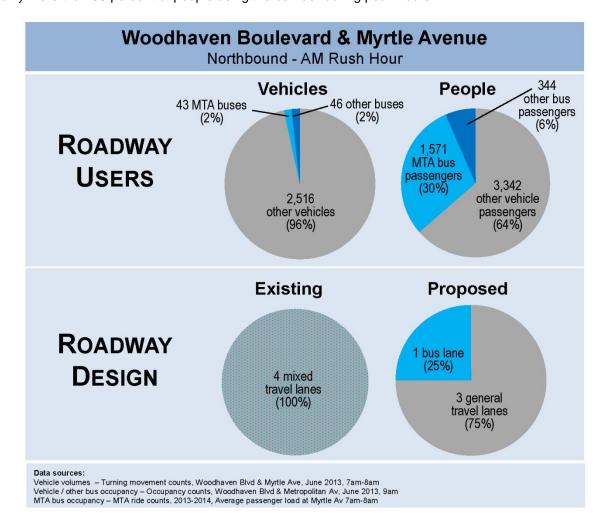
### How many pedestrians are crossing the street at intersections where you will be constructing pedestrian islands?

Below are some example pedestrian volumes for key interactions with proposed pedestrian improvements.

	Pedestrian crossings per hour (PM peak 4:45-5:45pm)				
Location	North Crosswalk	South Crosswalk	East Crosswalk	West Crosswalk	Total
Woodhaven Blvd & Metropolitan Av	73	54	62	17	206
Woodhaven Blvd & Jamaica Av	255	414	83	166	918
Woodhaven Blvd & Rockaway Blvd	106	84	128	36	354
Cross Bay Blvd & Liberty Av	193	375	369	160	1,097

#### Why do buses get their own lane if there are fewer buses on the road than cars?

While buses account for a low percentage of *vehicles* using Woodhaven and Cross Bay Boulevards, buses carry a significant percentage of *people* on the corridor. For example, during the morning rush hour, over one-third of people traveling northbound on Woodhaven Boulevard at Myrtle Avenue, one of the business locations along Woodhaven Boulevard, are bus passengers (see figure below). Under the proposed plan, one of four travel lanes (25 percent of the roadway) will become a bus lane which will carry more than 30 percent of people using the corridor during peak hours.







Additionally, as our city continues to grow, one major challenge is to find ways to use our limited roadway space more efficiently. A roadway can only hold so many vehicles, and when it becomes congested, the question must turn from how to move more vehicles to *how we can move more people* within the roadway space we have available. This requires looking at ways to prioritize efficient modes of transportation that can carry many more people than the average car. The photo below left shows the number of vehicles needed to transport 69 people by personal vehicle and the roadway space that 60 vehicles require. The photo below right shows those same 69 people and the single bus that would be needed to transport them. One bus takes up a fraction of the roadway to transport the same number of people, freeing up more roadway space for other road users.





Photo source: Cycling Promotion Fund, http://www.bikeoz.com.au/index.php/cpf-resources/20-cpf-general/142-canberra-transport-photo

Prioritizing transit is not just a space issue, but also an equity issue. People with lower incomes often cannot afford the costs of a personal vehicle, and many other people are unable to drive (particularly the young, the elderly, and the disabled). These people rely on transit to get to the places they need to go. Yet traveling by transit along or from Woodhaven and Cross Bay Boulevard can be unreliable, putting some transit riders at a disadvantage for accessing jobs, schools, medical care, and social activities. Giving buses priority through Select Bus Service not only helps us to move more people more quickly throughout the city, but also helps to make bus transit a more viable transportation option for everyone.





#### **Traffic analysis**

How did you model traffic conditions to show how the project might affect road use?

Existing traffic conditions are modeled to test that the proposed design can accommodate all traffic that currently uses Woodhaven and Cross Bay Boulevards. On other SBS corridors, we have seen small decreases in traffic volumes; however, to ensure that our analysis is conservative, the traffic model assumes that all vehicles using Woodhaven and Cross Bay Boulevards will continue to do so in the future.

For the Woodhaven Boulevard SBS project, NYCDOT is following a robust traffic modeling process that meets national industry standards for traffic modeling and uses the latest modeling software. The first step in the process is to build an "Existing Conditions" model that accurately reflects current conditions along the corridor. In order to do this, NYCDOT collected traffic data and observed traffic patterns at all major intersections. The Existing Conditions model is then calibrated using real-time traffic speed data collected by the NYCDOT Traffic Management Center in order ensure it accurately represents the corridor. The next step is to build the "No Build" model, which models the corridor without the proposed project, taking into account future traffic growth and other changes along the corridor unrelated to the project. Finally, a "Build" model is created that shows the proposed changes to the roadway and includes all factors identified in the "No Build" model.

If the traffic is so severe during rush hours as to significantly delay buses, won't the reduction of a travel lane for general traffic make those delays for cars even worse?

No – while it might seem counter-intuitive, introducing bus lanes does not necessarily make traffic worse. Bus lanes and other street improvements can help organize the street and remove bottlenecks so that traffic flows more consistently.

There are many factors that affect the capacity of a street in addition to the number of lanes – double parking, number of on-street parking maneuvers, frequency of vehicles making lane changes, traffic signal timing and coordination, and the presence of separate right-turn or left-turn lanes. On Woodhaven Boulevard, substantial congestion is created where the roadways merge from four or five lanes down to three lanes at a bridge, or when a through lane becomes a left turn lane. Vehicles merging suddenly at these locations make all of the lanes on the street work less efficiently. By creating consistent through travel lanes with separate turn bays, and separating buses from other traffic, the new street design is planned to continue to handle the existing traffic volume on Woodhaven Boulevard.

Whenever NYCDOT implements a bus lane, the project team both conducts a thorough analysis of existing conditions to determine causes of delay for both buses and general vehicles, and also measures the effect on the changes after implementation. In the past ten years, new bus lanes have been introduced on many streets with high traffic volumes in all five boroughs, and the results have consistently shown that there have been no major decreases in traffic speeds as a result.

How will the Woodhaven Boulevard SBS project encourage drivers to leave their cars at home and switch to the bus when some of the drivers using Woodhaven Boulevard are making trips from places like South Brooklyn and would require many transfers?

Other vehicles, including private cars, are an important part of the transportation mix in New York City, and the project takes this into account. The proposed design dedicates approximately 25 percent (1 travel lane) to buses – the remaining 75% of roadway space (3 travel lanes) are available for use by other vehicles, including private cars, so people who need to make trips not well served by transit can continue to do so. Over time, people for whom the improved bus service is a good option may choose to take the bus, but the assumption for traffic analysis purposes is that the traffic volumes will not decrease.





#### **Left-turn restrictions**

#### At what intersections will left turns be restricted as part of this project?

As of December 2015, NYCDOT has identified specific locations along Woodhaven and Cross Bay Boulevards where left turn restrictions, as well as other changes to traffic operations, are beneficial for safety reasons and to assist with traffic flow NYCDOT is currently studying the proposed restrictions and taking community feedback into account, and may adjust these locations as appropriate during the design process.

As part of this project, left turn restrictions are proposed for 62 Rd (SB), Penelope Avenue (SB and NB), 64 Rd (NB and SB), 67 Rd (SB) Metropolitan Avenue (SB and NB), Union Turnpike (SB), Myrtle Avenue (SB), Forest Park Drive (NB), Jamaica Avenue (NB and SB), 101 Avenue (SB), Rockaway Boulevard (SB), Pitkin Avenue (NB and SB), and 157 Avenue (NB and SB). New (added) left turns are proposed for 85 Road (NB), 86 Road (SB), and 103 Avenue (NB and SB).

#### How will road users know that a left turn is banned?

Advance warning signage will be posted in order to notify road users where left turns are not allowed and to direct road users to alternative left turn locations. In locations where a preceding left turn should be used, advance signage will be in place to notify road users.

#### How will trucks navigate the intersections with left turn restrictions?

DOT publishes a full color, double-sided map featuring the City's comprehensive Truck Route network overlaid on top of the entire arterial street network, making it easier for drivers to locate specific streets and intersections. For locations where a left turn restriction is proposed at an intersecting truck route, alternative truck routes will be identified.

For information about truck routing, please see the NYCDOT website: http://www.nyc.gov/html/dot/html/motorist/trucks.shtml