

WEBSTER AVENUE SBS

Study Corridor



- Based on the existing Bx41 bus route that carries 20,000 daily riders
- 5.3 miles from The Hub to Williamsbridge
- Within a 10-minute walk of the corridor:
 - 200,000 residents
 - 71% of households do not own a car
 - 61% of residents commute by public transit

Project Goals



1. Speed buses and improve reliability

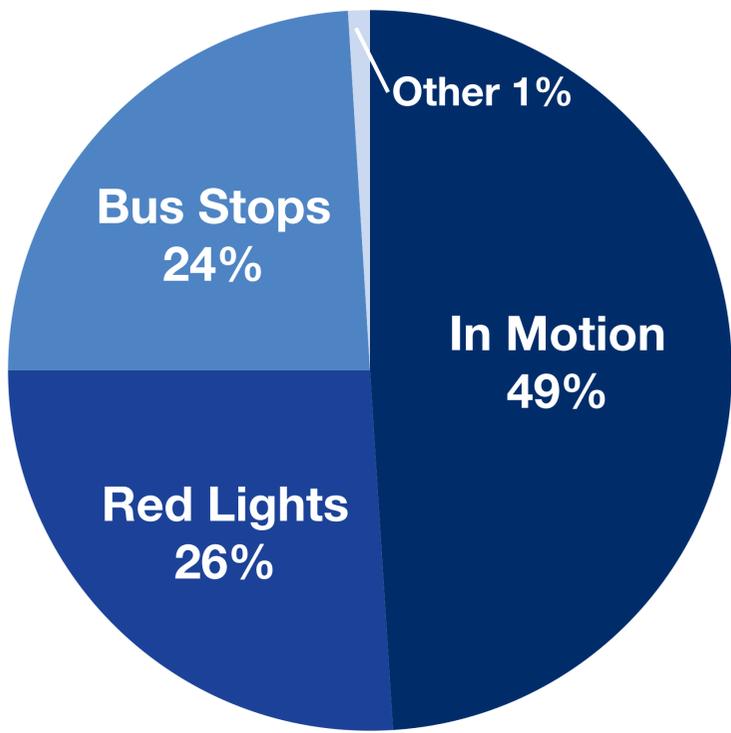


2. Improve safety for all corridor users



3. Support community needs

BUS DELAY



Average Bx41 LTD trip = 46 minutes

- Bx41 LTD buses are stopped more than 50% of the time
- One-way travel time can vary by up to 20 minutes (typical times are between 37 and 57 minutes)
- Travel times are worst in the PM peak

Bus stops



Red lights



Congestion



SELECT BUS SERVICE IN NYC

Bus Rapid Transit (BRT)

A cost-effective approach to transit service that cities around the world have used to make riding the bus more like a subway. BRT improves speed, reliability, and passenger comfort/convenience.

Select Bus Service (SBS)

New York City's version of BRT, first used on the Fordham Road-Pelham Parkway Bx12 bus route in the Bronx.

Bx12 SBS

Fordham Road / Pelham Parkway



Launched

- June 2008

Corridor

- 207th Street in Upper Manhattan to the Bay Plaza Shopping Center in Co-op City, Bronx via Fordham Road and Pelham Parkway

Features

- Red-colored curbside 7am-7pm bus lanes on Fordham Road
- "Delivery windows" in the retail core
- Fare Pre-Payment
- Transit Signal Priority
- Simplified service pattern

Results

- Speed: 20% reduction in travel time
- Ridership: 7% increase in first year
- Customer Satisfaction: 98% satisfied or very satisfied

M15 SBS

First Avenue / Second Avenue



Launched

- October 2010

Corridor

- South Ferry to 125th Street in Manhattan via First and Second Avenues

Features

- Red-colored curbside and offset bus lanes
- New low-floor, three-door buses
- Fare Pre-Payment
- Pedestrian and bicycle safety improvements
- 2012: Bus bulbs and transit signal priority

Results

- Speed: 15-18% reduction in travel time
- Ridership: 9% increase in first year
- Customer Satisfaction: 99% satisfied or very satisfied
- Safety: 21% reduction in traffic injuries in sections with full design treatments

SELECT BUS SERVICE FEATURES

Faster Service



Bus lanes

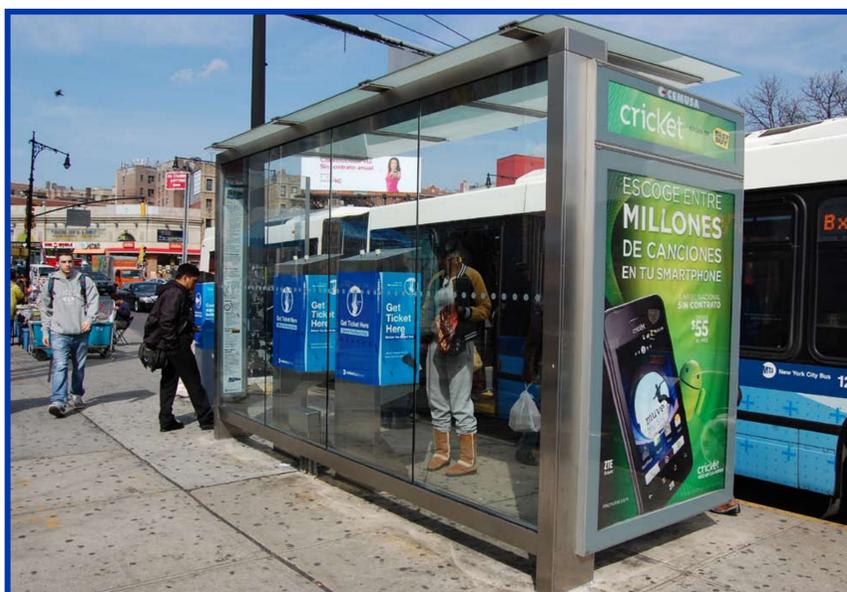
User-Friendly



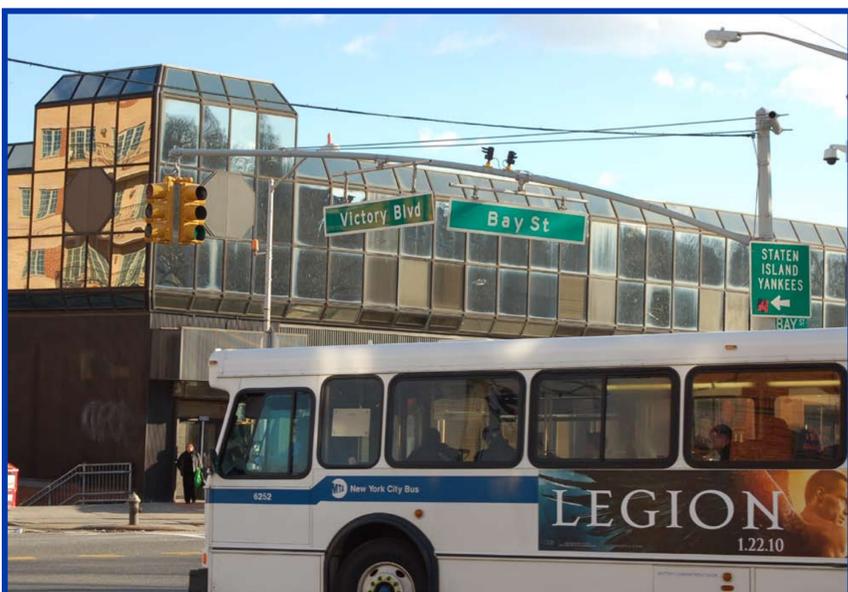
Branding



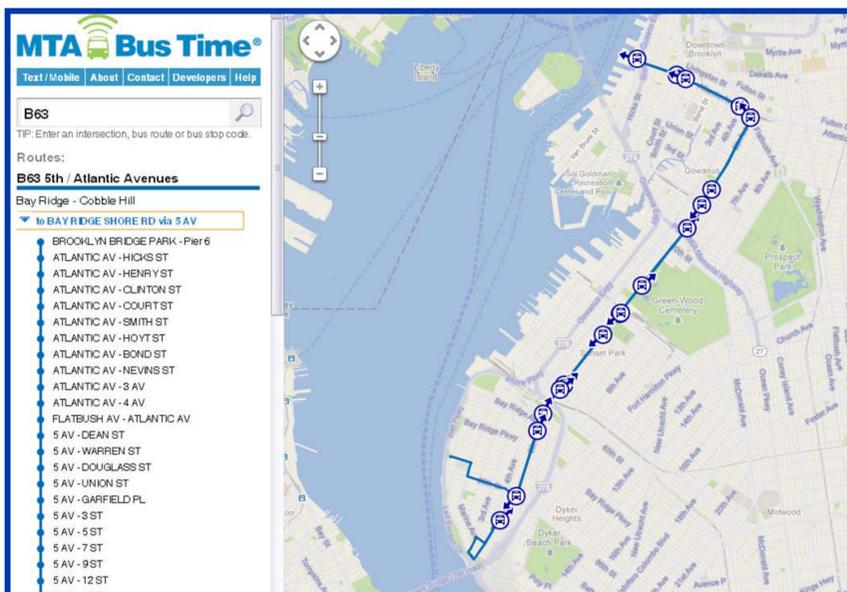
Faster fare collection



Stations



Transit signal priority



Passenger information

DESIGN SELECTION

STEP 1 - Develop three corridor design ideas

Curbside bus lanes



Offset bus lanes



Median bus lanes



STEP 2 - Screening analysis

Community Input



Meetings

- Community Advisory Committee Meeting #2 - May 2, 2012
- Public Open House #1 - May 16, 2012

Top Community Priorities

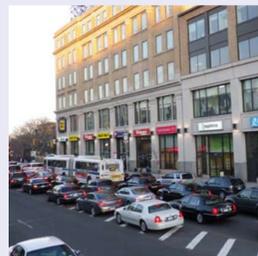
- Bx41 bus service
- Pedestrian safety
- Curb access and parking
- Accommodate future development

Technical Analysis



Transit operations

- Improves bus speed and reliability
- Benefits SBS and local buses



Traffic Operations

- Maintains appropriate traffic flows/speeds
- Accommodates local circulation



Pedestrian Amenities

- Increases total pedestrian space
- Improves pedestrian safety at intersections



Curb access

- Minimizes loss of on-street parking and delivery space

STEP 3 - Choose a preferred design



*Based on the screening analysis, the **Offset Bus Lane** design option most effectively balances the transit and traffic needs along the Webster Avenue Corridor while maintaining on-street parking and supporting pedestrian activity.*

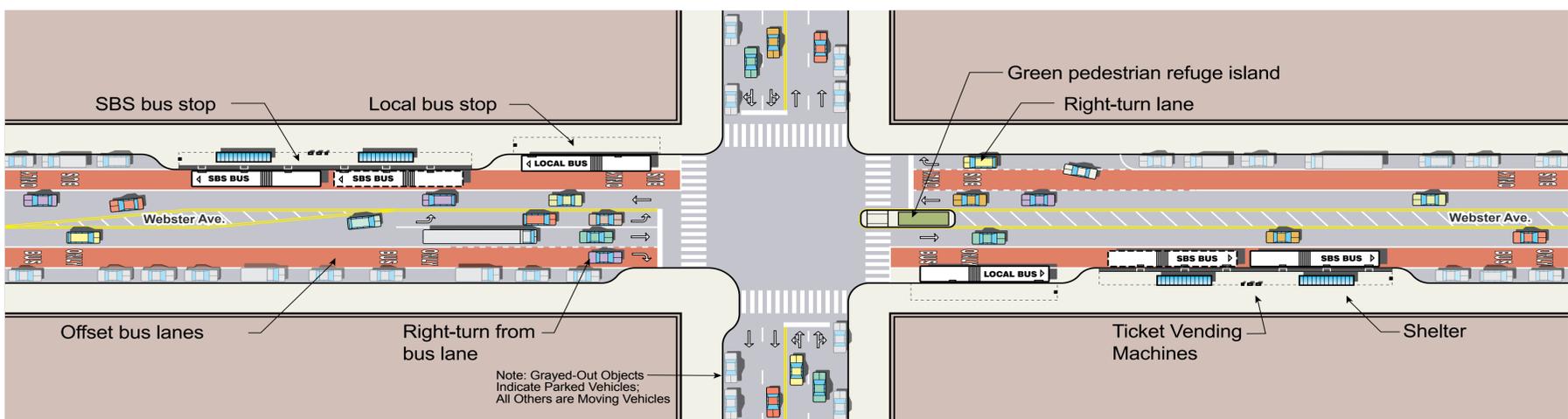
CORRIDOR DESIGN



Benefits of proposed design

- 1** Faster bus speeds due to new offset bus lanes
- 2** High-quality SBS stations constructed at bus bulbs
- 3** Preservation of parking and delivery space
- 4** Improved pedestrian safety with curb extensions and medians
- 5** Reduced speeding and crashes with single travel lane
- 6** Maintenance of traffic flow and circulation in street design

Typical plan

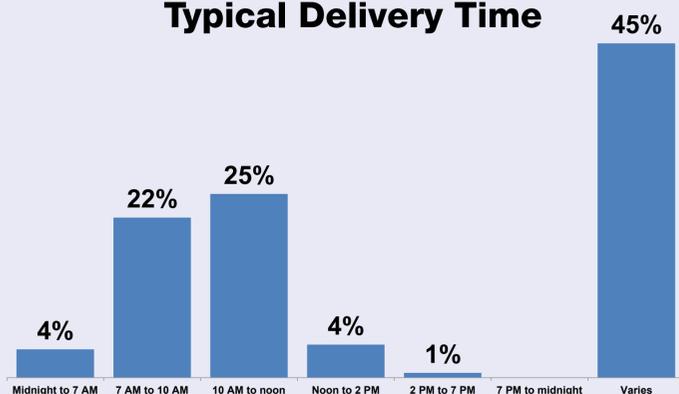


CURB REGULATIONS

Business Survey

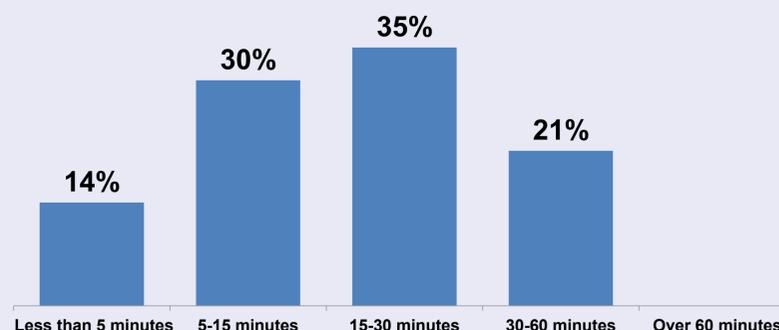
Over 150 businesses along the Webster Avenue SBS corridor were surveyed using a standard set of questions focusing on delivery needs and curb access. Example results:

Typical Delivery Time



Most businesses receive deliveries daily and the most common delivery time is between 7am and noon.

Typical Delivery Duration



79% of business deliveries take 30 minutes or less.

Parking utilization

10 sample blocks were analyzed between 7am and 7pm to further understand curb usage along the corridor. Example results:



47% of the time there was at least one double-parked vehicle on the east side of Webster Av between E 170 St and E 171 St



58% of vehicles parked for less than 15 minutes on the west side of Webster Av between E 189 St and Fordham Rd

Improvement options

Curb regulation changes will be developed with the help of local Community Boards. Possible improvements include:



Delivery window on 181st Street in Manhattan

Delivery Windows

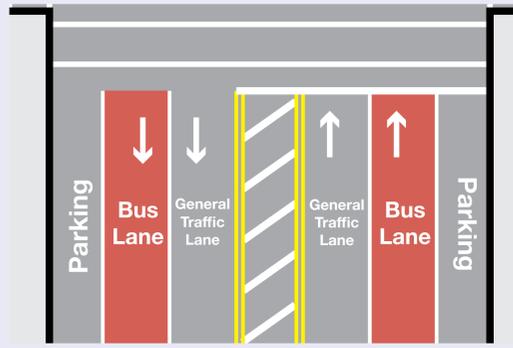
- Truck loading zones can help keep the curb clear for store deliveries
- Reduces double parking
- Time-of-day and location determined with help of local businesses

Metered Parking

- Encourages more parking turnover in retail areas
- Reduces double parking
- Time-of-day, duration, and location designed to meet needs of the area

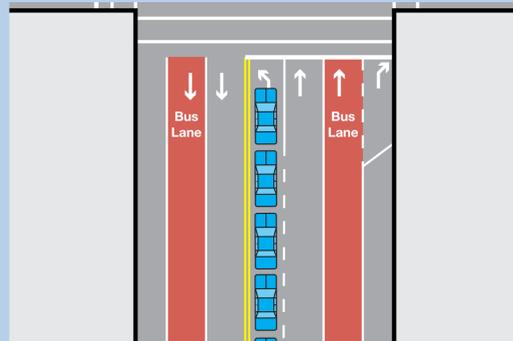
TRAFFIC OPERATIONS

Capacity Reductions

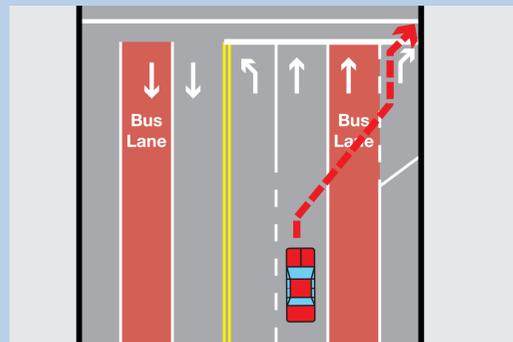


Offset bus lanes replace one general travel lane in each direction

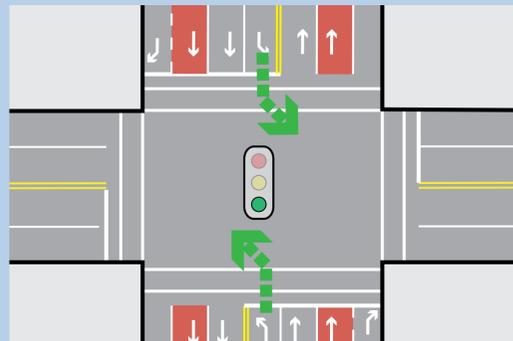
Capacity Improvements



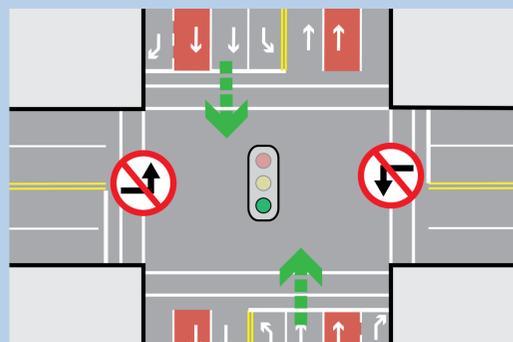
Lengthening left-turn bays creates more storage space



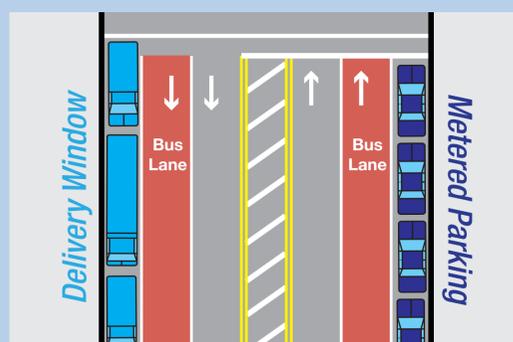
Right-turn bays reduce blockages at busy intersections



More signal time for key left-turn and through movements



Banning left turns reduces turning conflicts and keeps through traffic moving better



Updated curb regulations and offset bus lanes reduce double parking

TRAFFIC CONDITIONS

Traffic Analysis Process

The project team studied 10 intersections along the portion of Webster Avenue with proposed bus lanes, focusing on the busiest intersections during the busiest times of days (AM and PM rush hour).

Intersection design and signal timing determine the capacity of the street. **Level of Service (LOS)** is a grade based on the average delay per vehicle; it is used to describe the traffic conditions at each intersection.



Webster Av / E 204 St



Webster Av / Claremont Pkwy



Webster Av / E Fordham Rd

LOS A-B

- Light traffic
- Car clear intersection quickly

LOS C-D

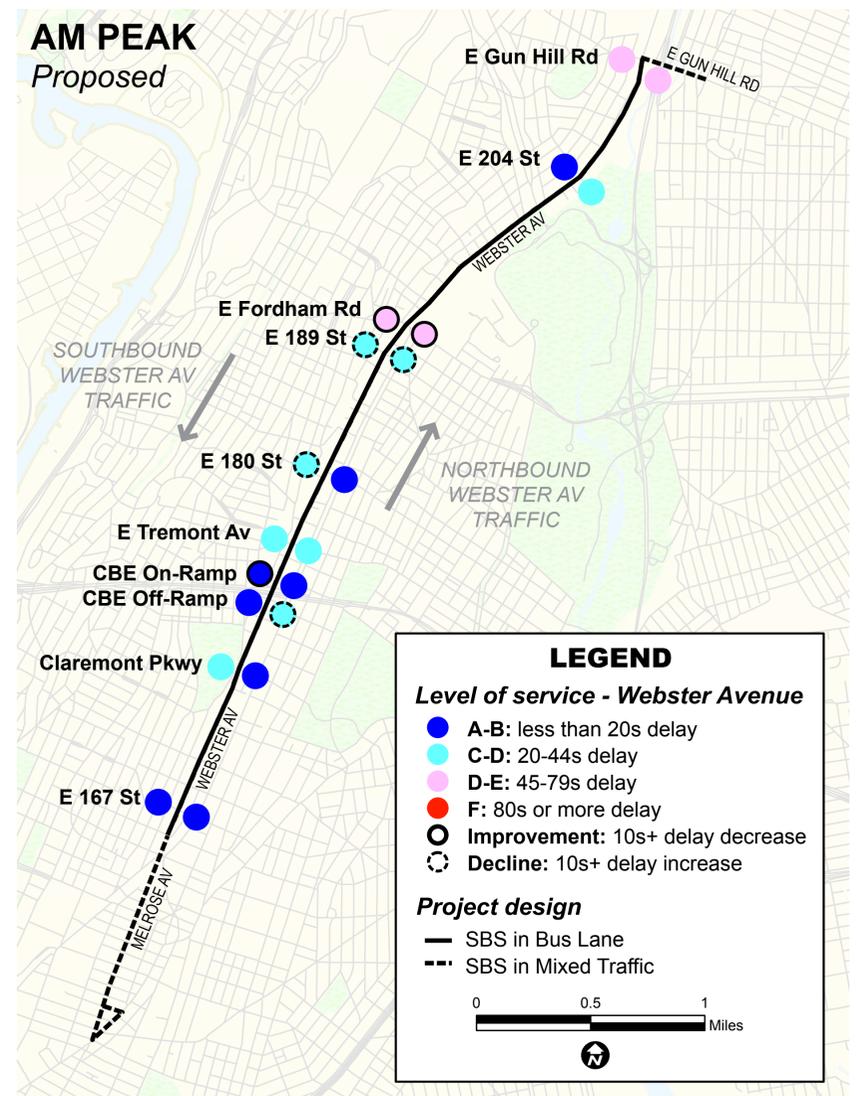
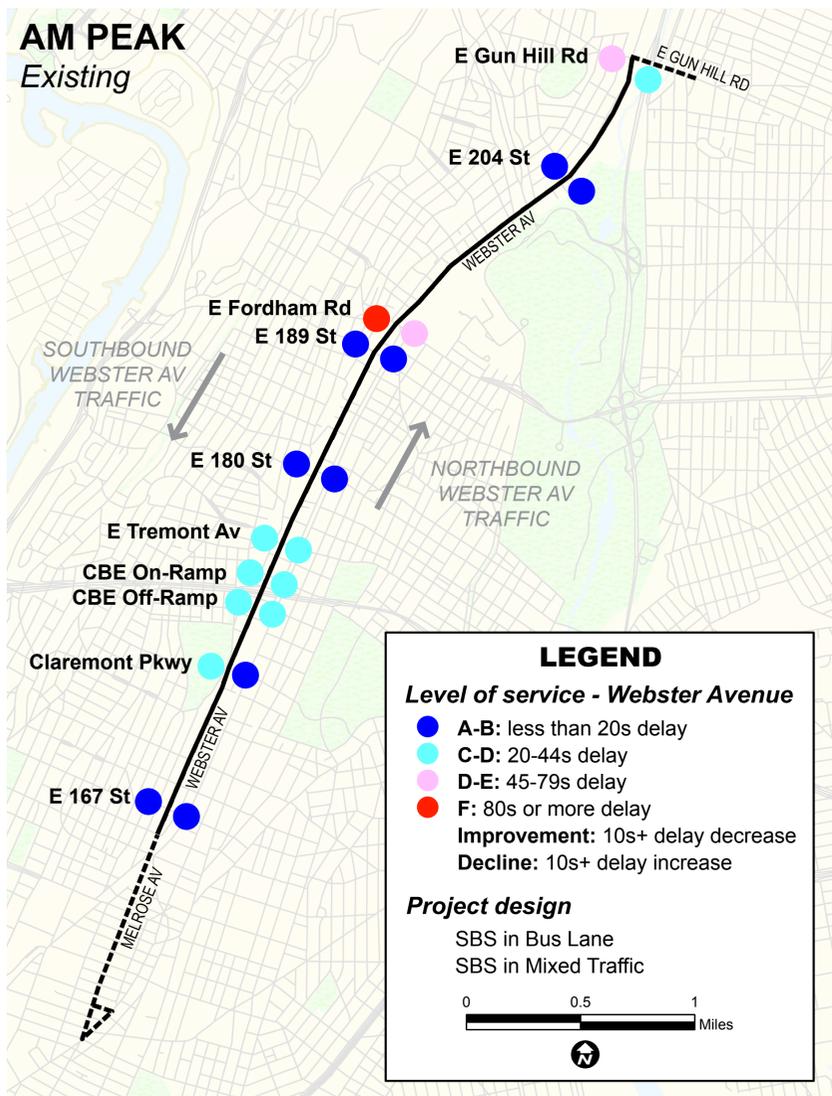
- Moderate traffic
- Typical amount of delay for New York City

LOS E-F

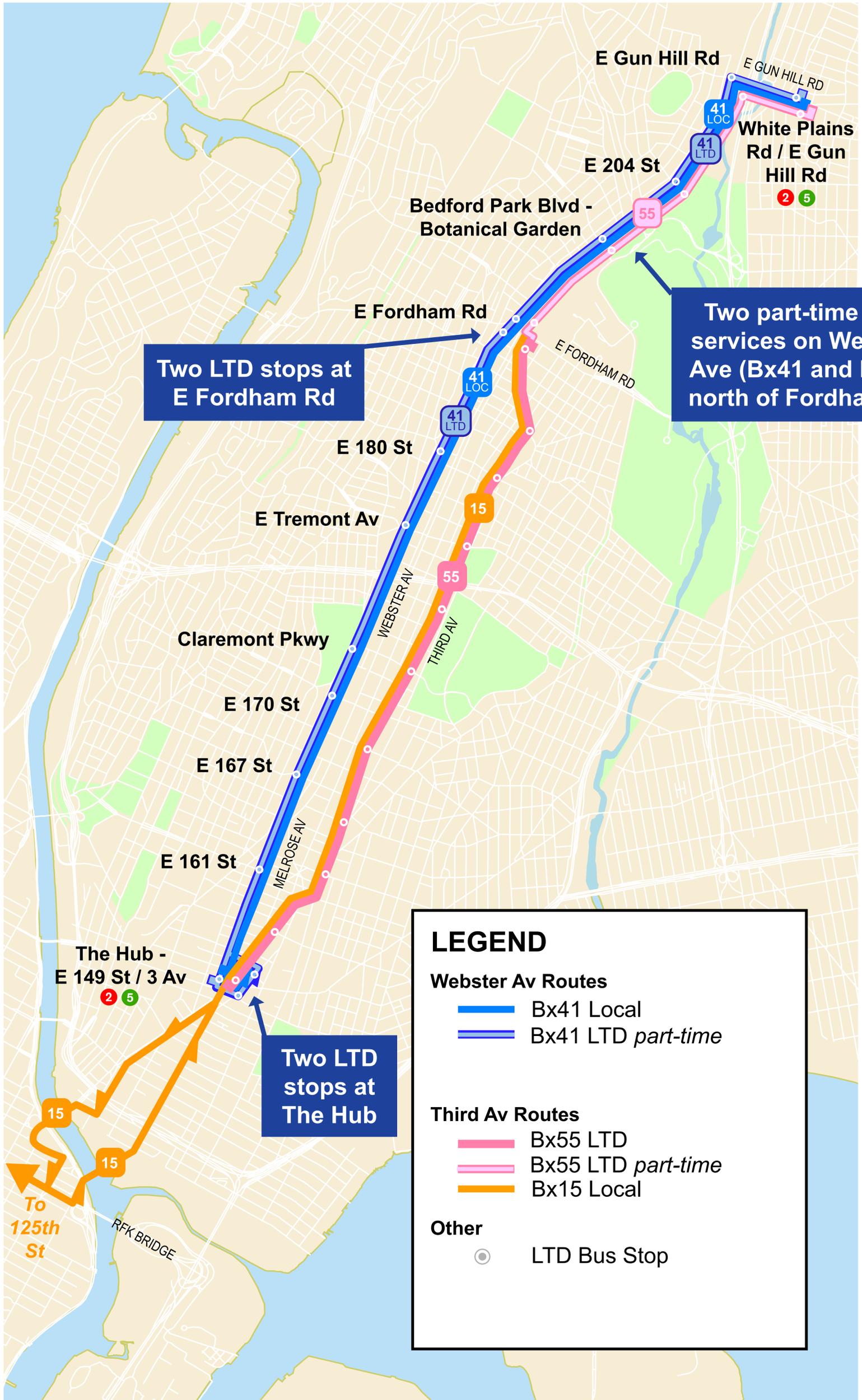
- Heavy traffic
- Cars may wait more than one green light to clear intersection

Existing

Proposed



EXISTING SERVICE



Two LTD stops at E Fordham Rd

Two part-time LTD services on Webster Ave (Bx41 and Bx55) north of Fordham Rd

Two LTD stops at The Hub

LEGEND

Webster Av Routes

- Bx41 Local
- Bx41 LTD *part-time*

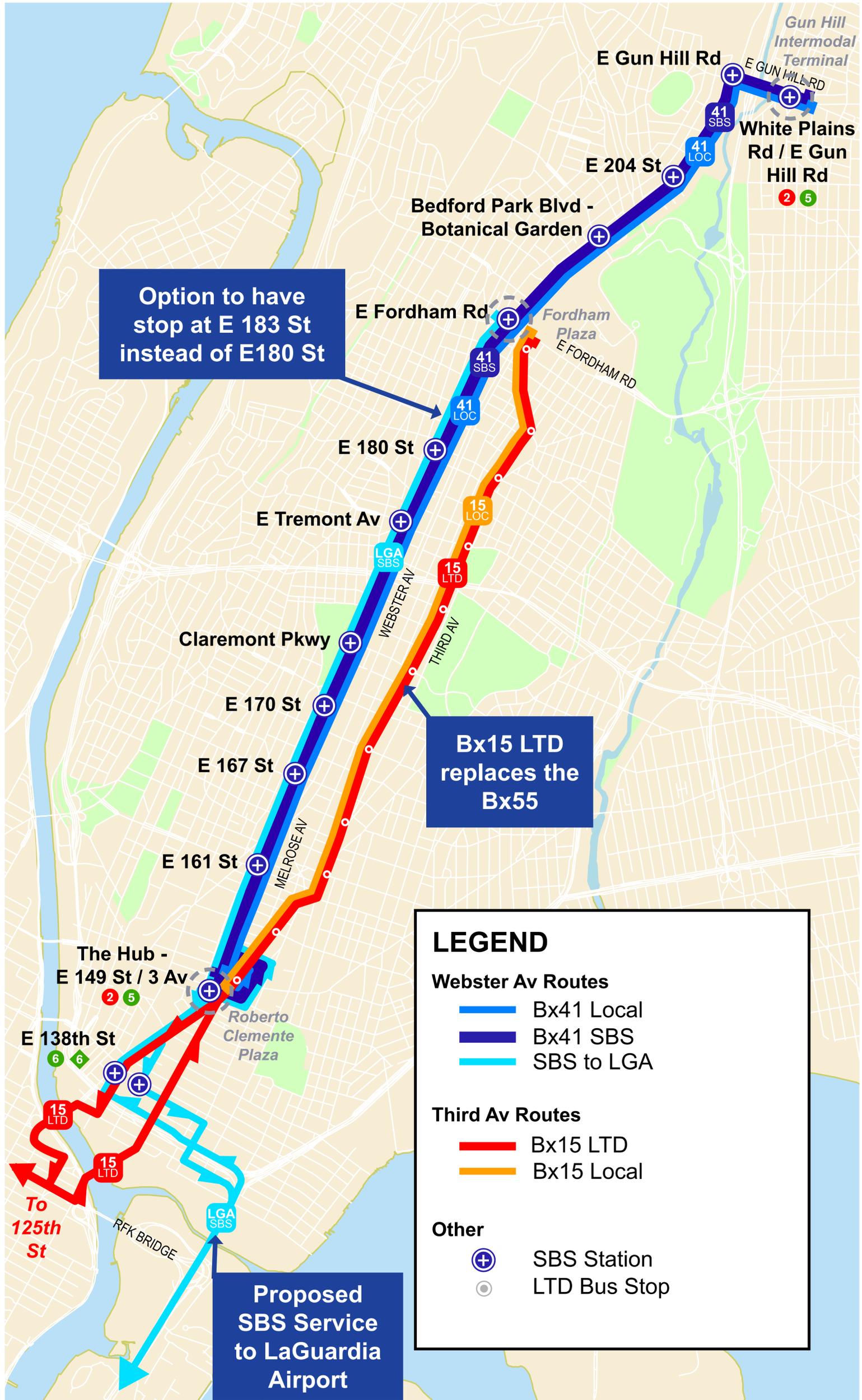
Third Av Routes

- Bx55 LTD
- Bx55 LTD *part-time*
- Bx15 Local

Other

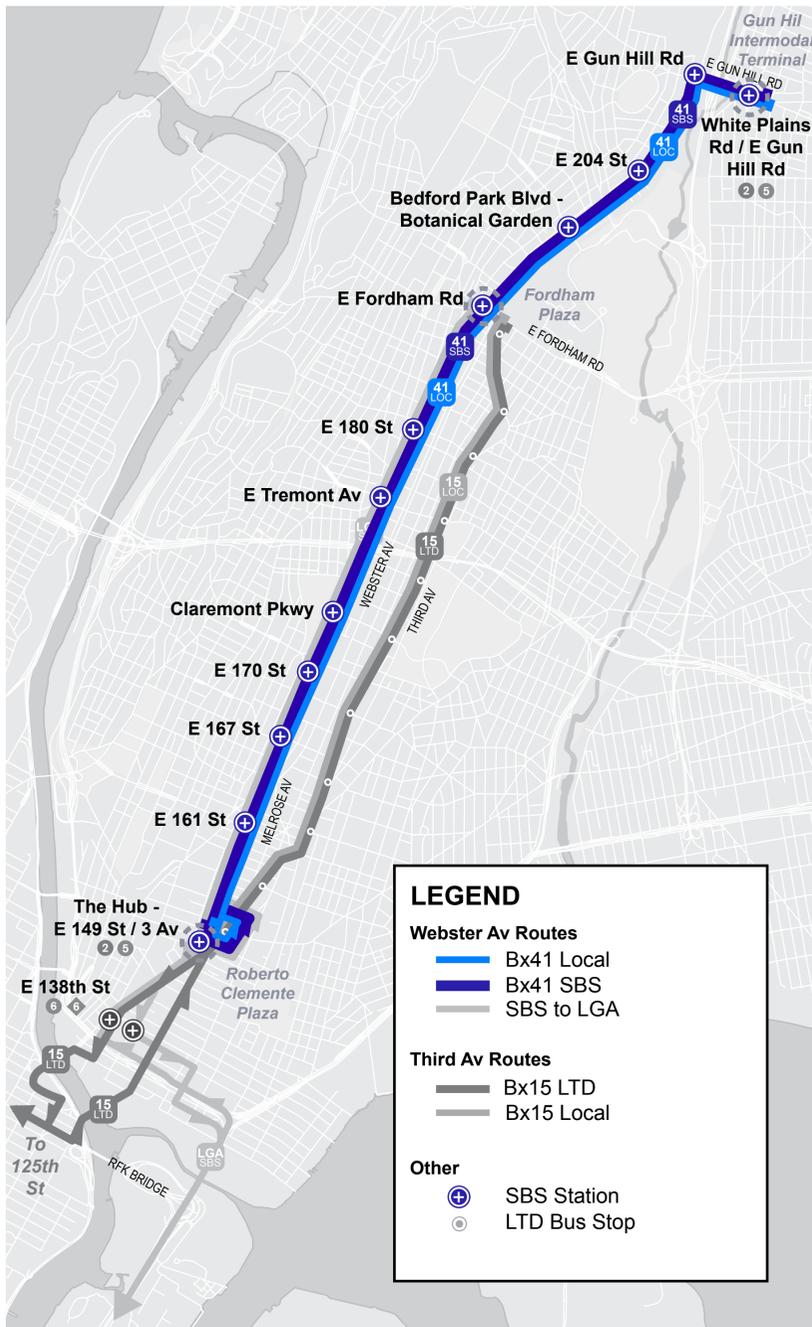
- LTD Bus Stop

PROPOSED SERVICE



SERVICE CHANGES

Webster Avenue



Third Avenue



Bx41 SBS

- Replaces the Bx41 LTD
- 1/2-mile stop spacing
- Frequent service all day
- Off-board fare collection (like the Bx12 SBS on Fordham Road)
- Standard bus fare

Bx41 Local

- No change to stop spacing
- Service every ~10 minutes

Bx15 Local

- Local stops between The Hub and Fordham Plaza

Bx15 LTD

- Local stops between Harlem 125th Street and The Hub
- Limited stops between The Hub and Fordham Plaza
- All Third Avenue service ends at Fordham Plaza

PROJECT TIMELINE



Next Steps

- Present corridor designs and discuss curb regulations with Community Boards
- Finalize roadway markings plan
- Install bus lanes, place fare machinery, and prepare buses in Spring 2013
- Start of service in Summer 2013