



# SOUTHERN BOULEVARD

TRANSPORTATION STUDY (DRAFT)



# EXISTING CONDITIONS



# Background

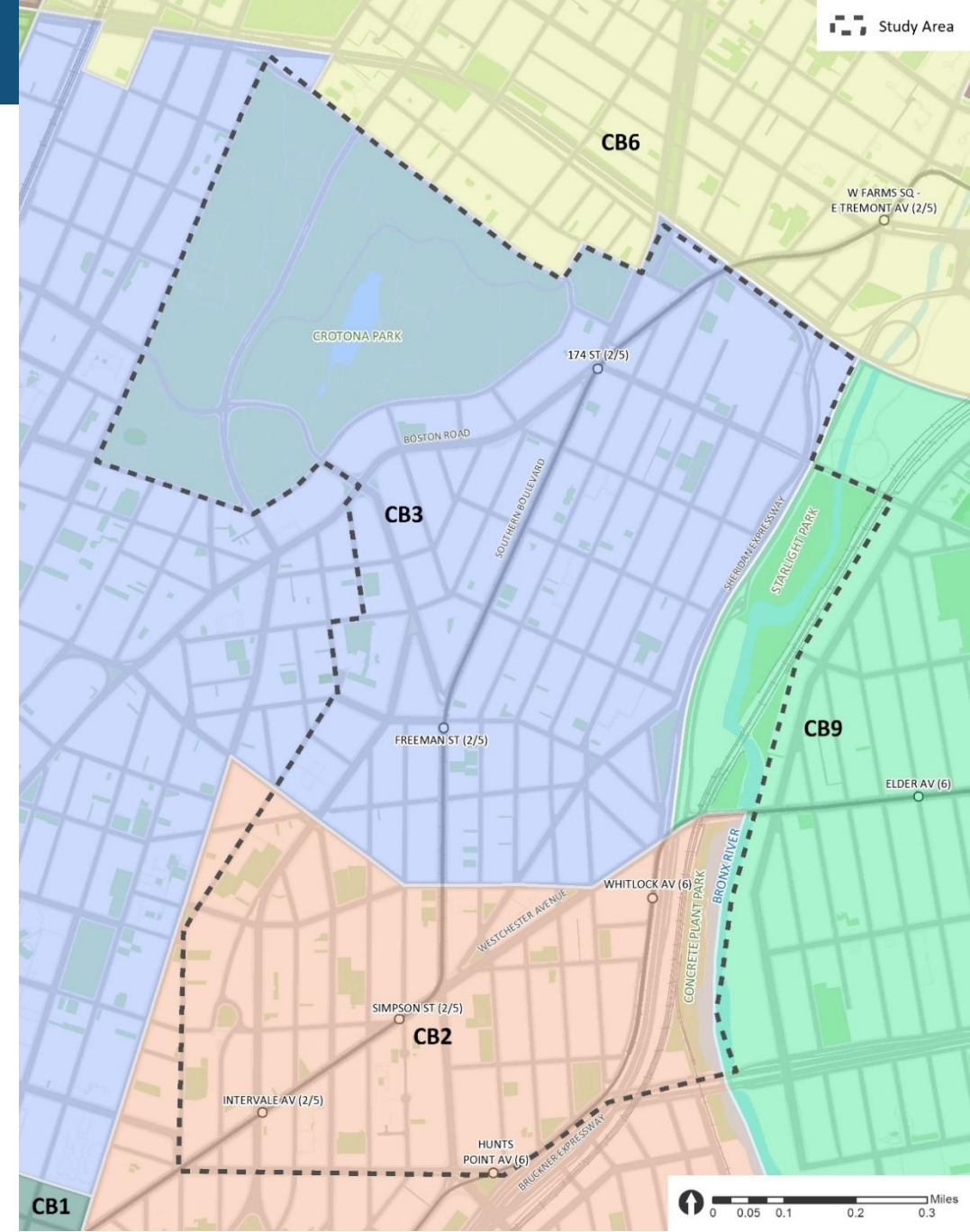
- 3 Community Districts (CB3, CB2, and CB9)
- 44,312 Residents
- 1.07 sq. mi.
- 41,413 people per sq. mi. (Bronx: 34,168; NYC: 28,173)
- Predominantly Hispanic (70%) or Black/African American Non-Hispanic (26%)
- Median Household Income: \$25,213\* (Bronx: \$35,302; NYC: \$55,191)



NYC



Bronx

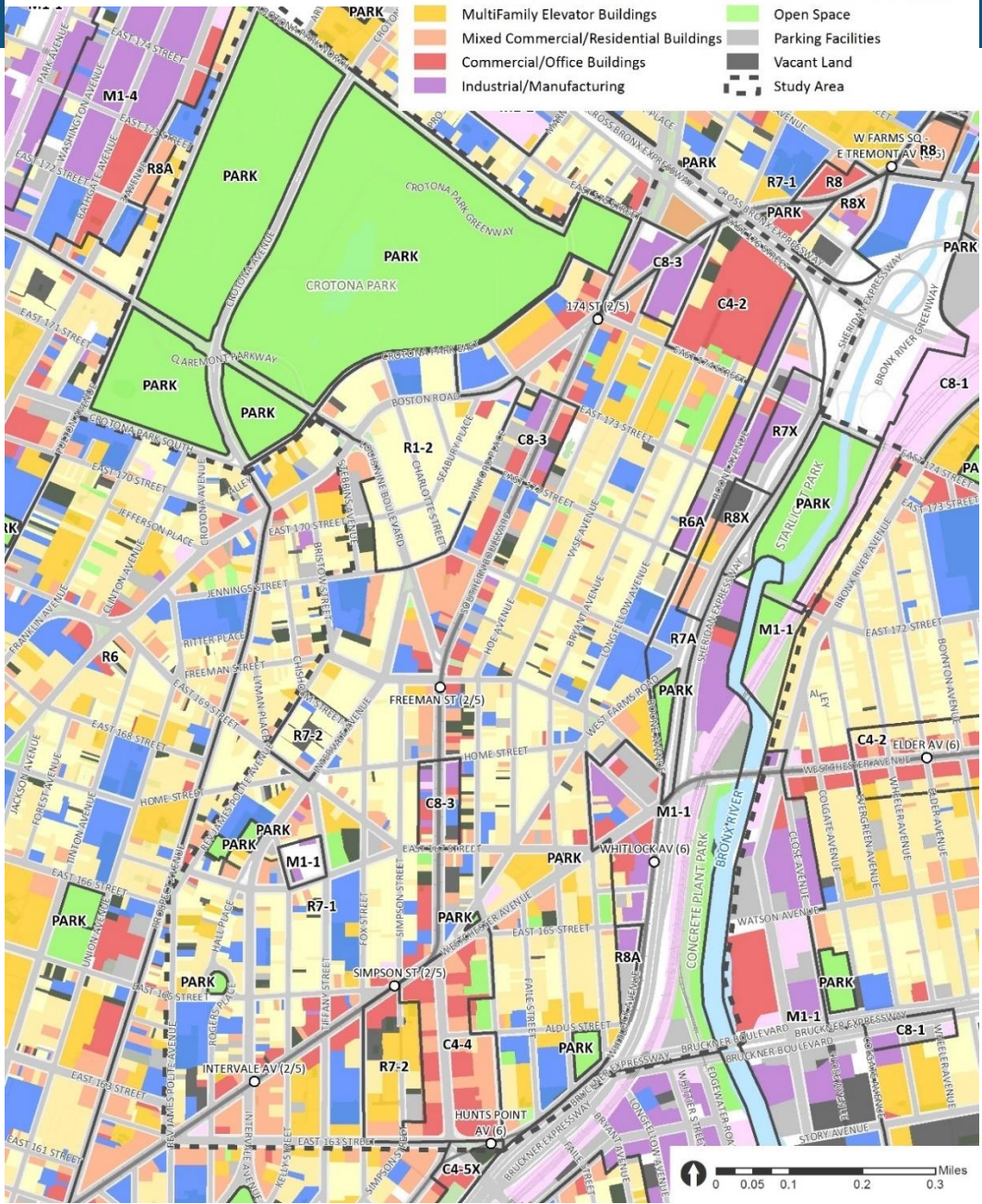


Source: 2012-2016 ACS; \*weighted average of median household income based on the number of households in each block group (in 2016 dollars)



# Land Use

## Land Use & Zoning



- One & Two Family Buildings
- MultiFamily Walkup Buildings
- MultiFamily Elevator Buildings
- Mixed Commercial/Residential Buildings
- Commercial/Office Buildings
- Industrial/Manufacturing
- Transportation/Utility
- Public Facilities & Institutions
- Open Space
- Parking Facilities
- Vacant Land
- Study Area

## Building Height



- <20
- 20-30
- 30-40
- 40-50
- >50
- Study Area



# Major Transportation & Open Space Resources

## • Transit Access

- 3 elevated subway lines and 6 subway stations (2 with elevators and 2 with escalators)
- 10 bus routes including a new BX6 Select Service Bus and 95 bus stops
- 3 major transit hubs: Simpson St, Hunts Point Ave, and West Farms Sq (just outside study area)
- 21 bus stops under the els

## • Open Space and Bicycle Network

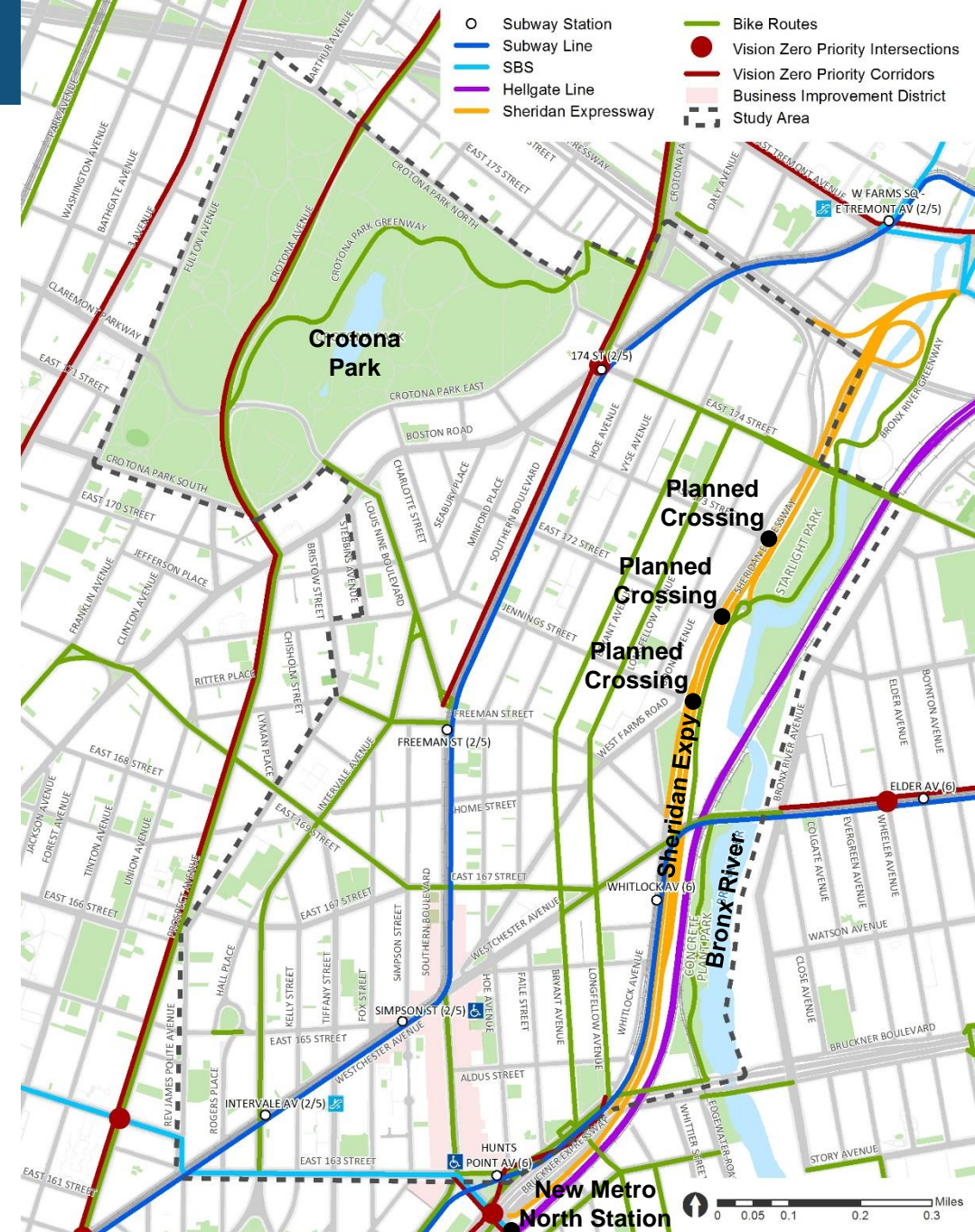
- Crotona Park (127.5 acres; “Central Park” of the South Bronx; 3.3-acre lake; largest pool in the Bronx; 20 tennis courts)
- Bronx River parks (Starlight Park + Concrete Plant Park)
- 1.7 miles greenways; 4 miles standard bicycle lanes; 0.6 mile shared lane; 1.7 miles signed routes

## • Vision Zero

- 1 Vision Zero Priority Intersection (Southern Blvd @ Boston Rd @ 174 St)
- 2 Vision Zero Priority Corridors (Crotona Ave + Southern Blvd)

## • Major Future Improvement

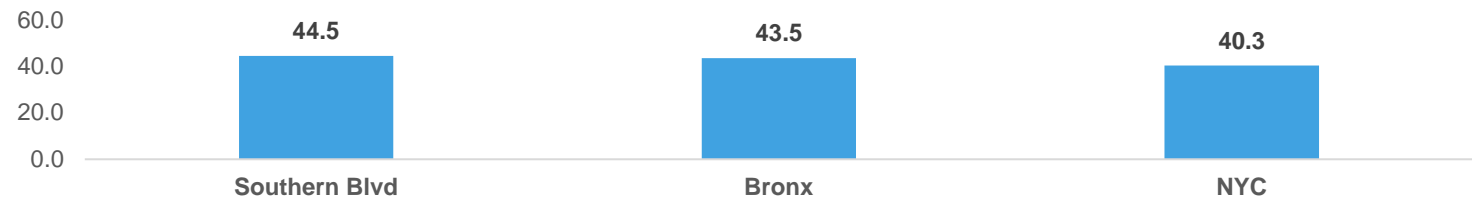
- Sheridan Expressway “Boulevardization”: Sheridan Expressway is planned to be transformed into a neighborhood boulevard to better connect the neighborhood and the Bronx River waterfront with three planned crossings
- Penn Station Access: using existing Amtrak Hellgate Line to open a new Metro-North Railroad link between Penn Station and New Haven Line with 4 new stations in the Bronx including Hunts Point station



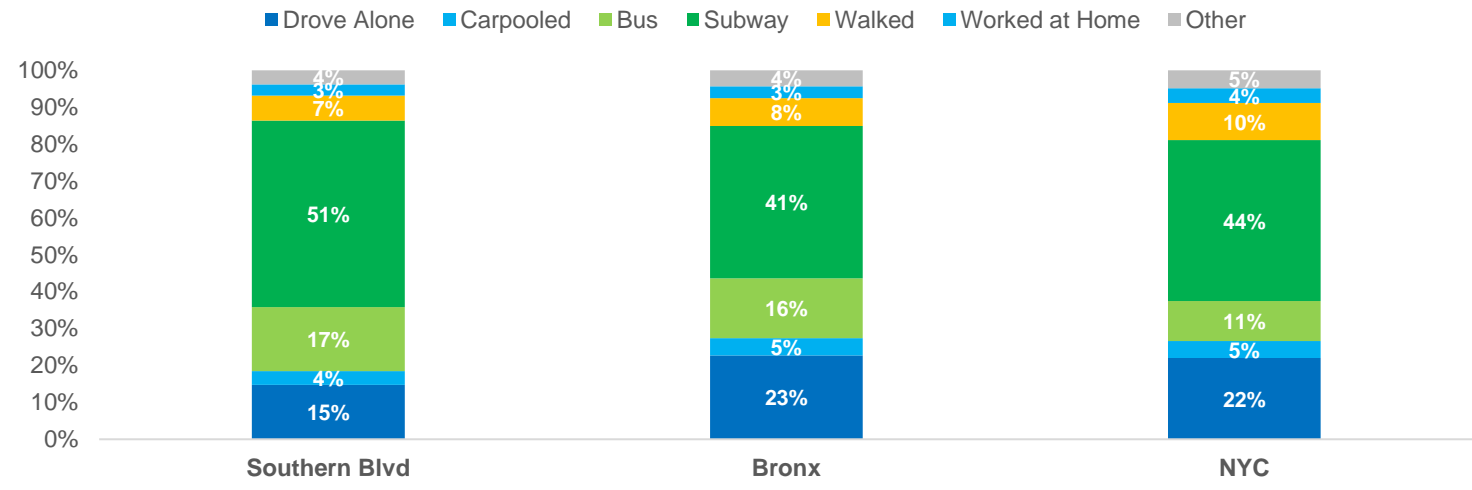


# Commuting Characteristics (Residents)

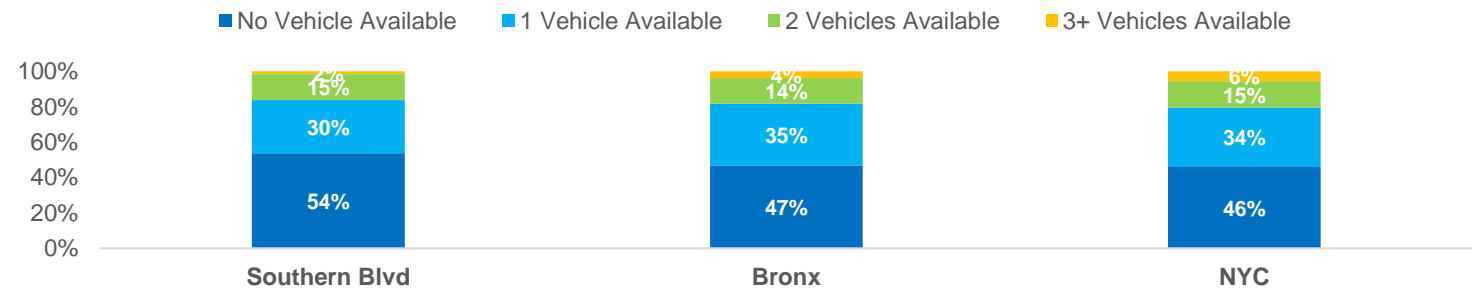
### Mean Travel Time to Work (minutes)



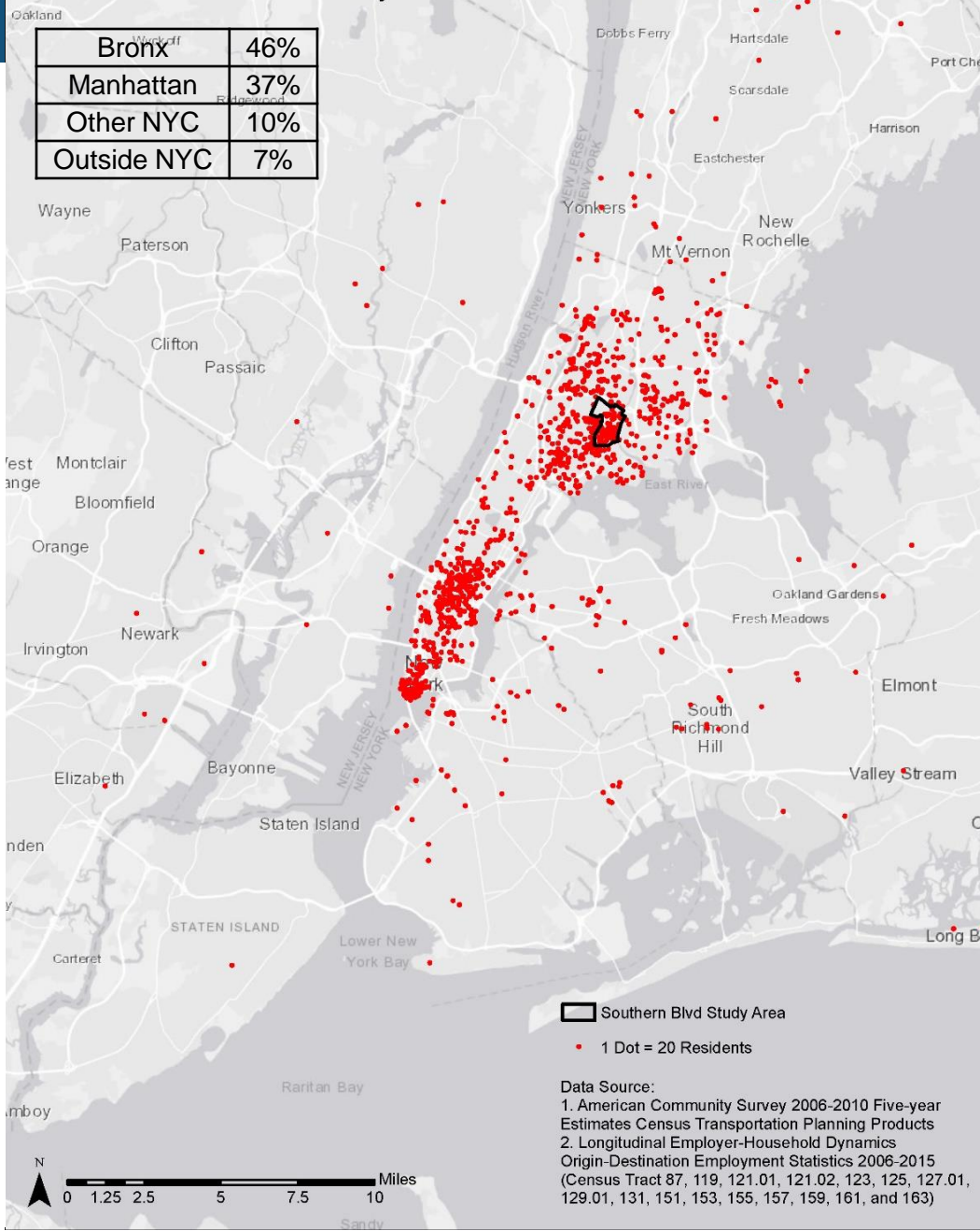
### Means of Transportation to Work



### Vehicles Available



### Southern Blvd Residents Journey to Work Destinations

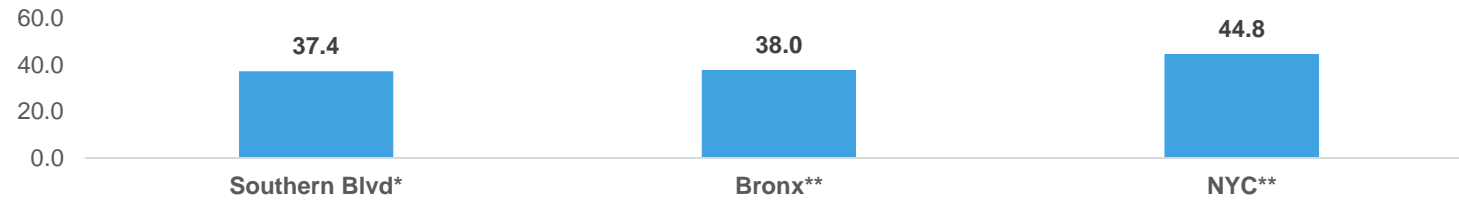


Source: 2012-2016 ACS

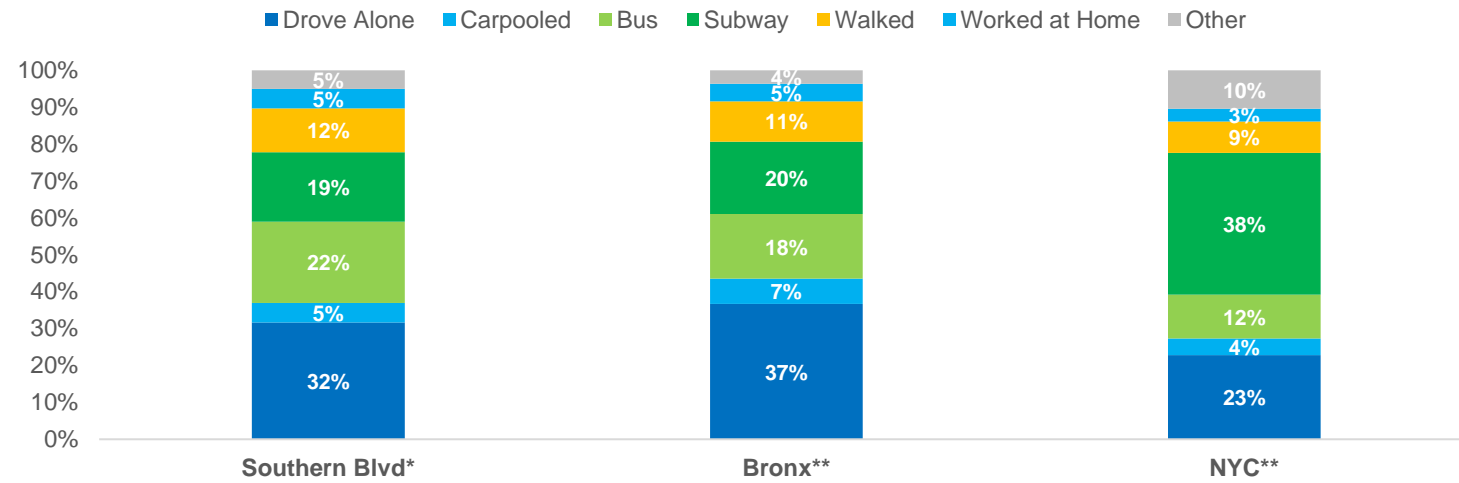


# Commuting Characteristics (Workers)

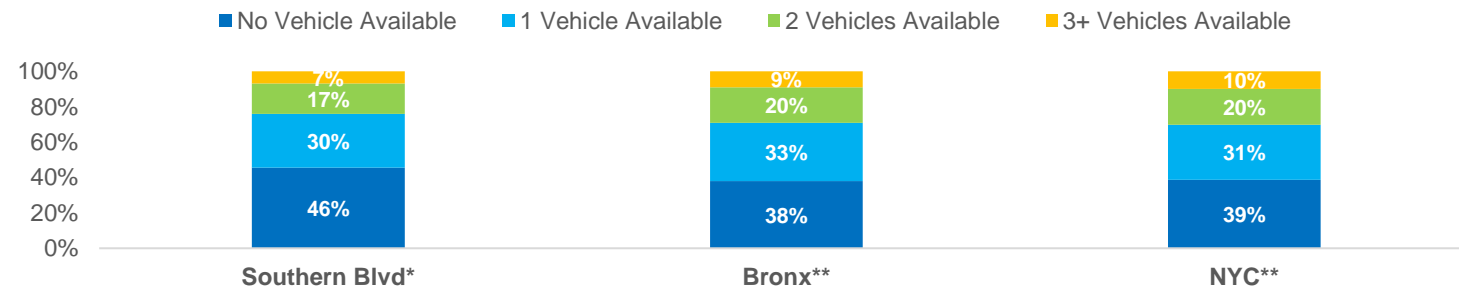
## Mean Travel Time to Work (minutes)



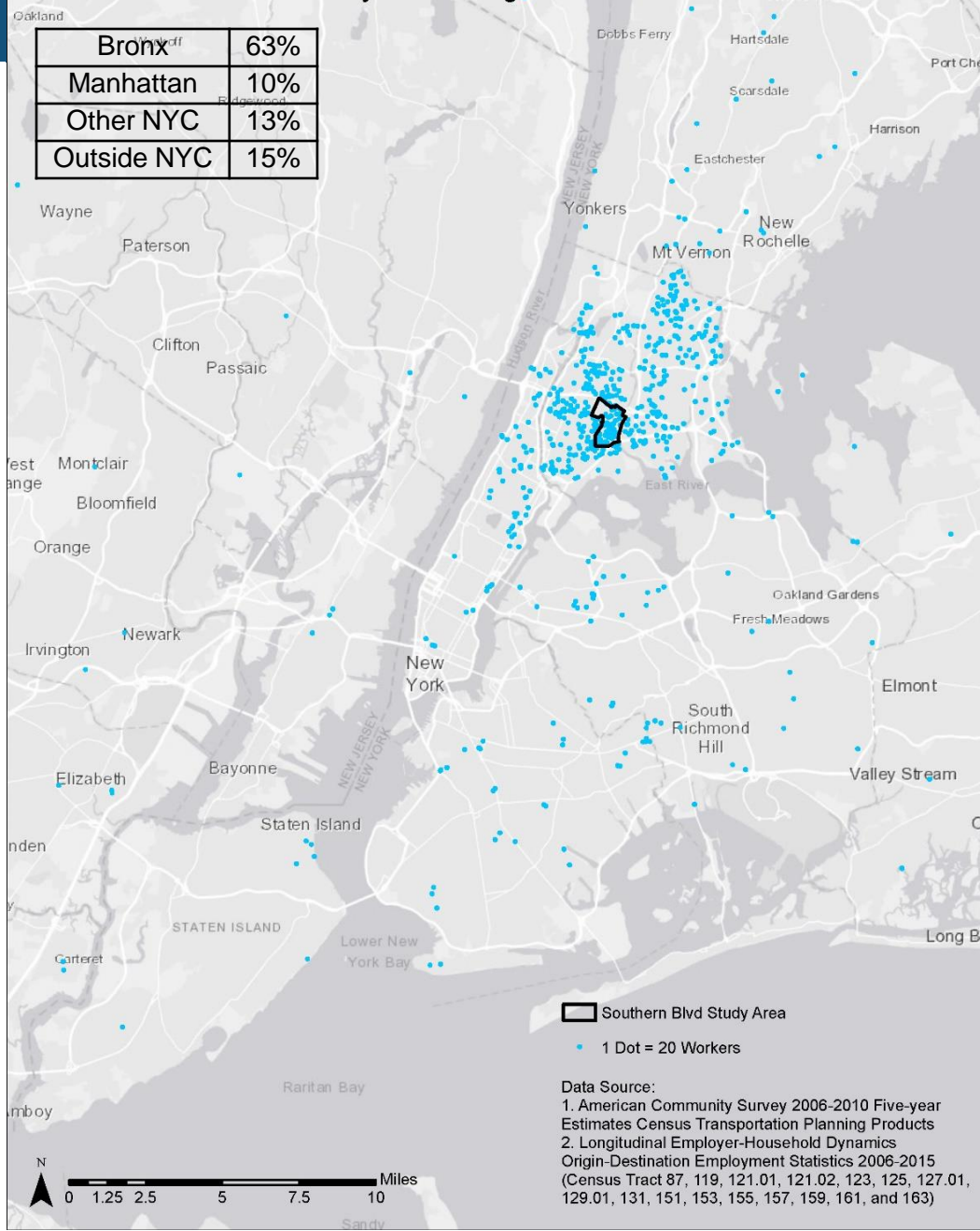
## Means of Transportation to Work



## Vehicles Available



## Southern Blvd Workers Journey to Work Origins



Source: \*CTPP 2006-2010; \*\* ACS 2012-2016



# Subway

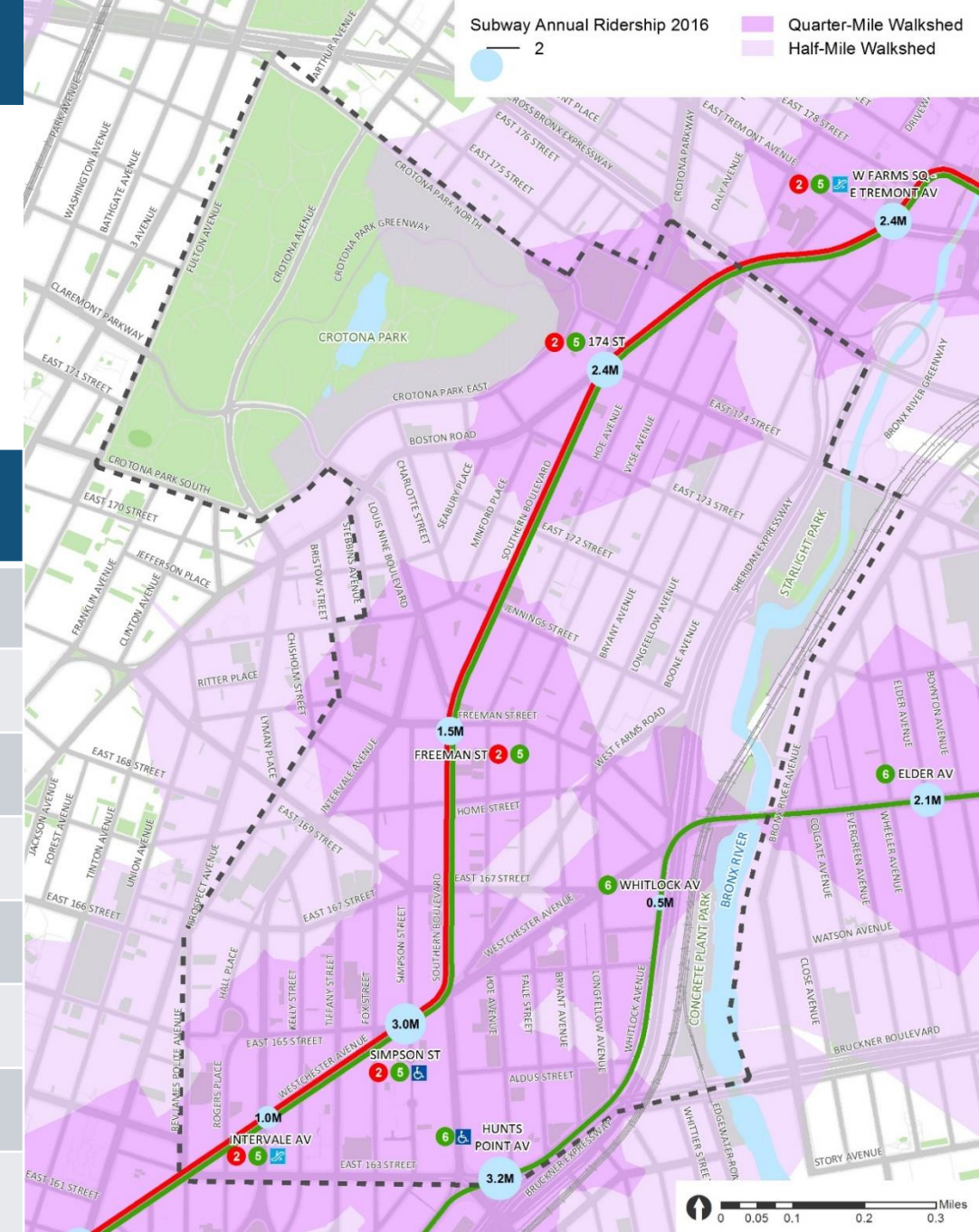
## • 2/5 Train

- Intervale Ave (Escalator)
- Simpson St (Elevator)
- Freeman St
- 174 St

## • 6 Train

- Hunts Point Ave (Elevator)
- Whitlock Ave

Subway Station	Annual Ridership (2012)	Annual Ridership (2016)	% Change (2011-2016)
Intervale Ave (2/5)	937,280	1,061,240	13.2%
Simpson St (2/5)	2,810,789	3,046,838	8.4%
Freeman St (2/5)	1,393,186	1,588,448	14.0%
174 St (2/5)	2,152,009	2,411,413	12.1%
Hunts Point Ave (6)	3,204,779	3,269,585	2.0%
Whitlock Ave (6)	524,988	571,352	8.8%
Bronx	145,029,400	153,079,012	5.6%
System Total	1,654,582,265	1,756,814,800	6.2%

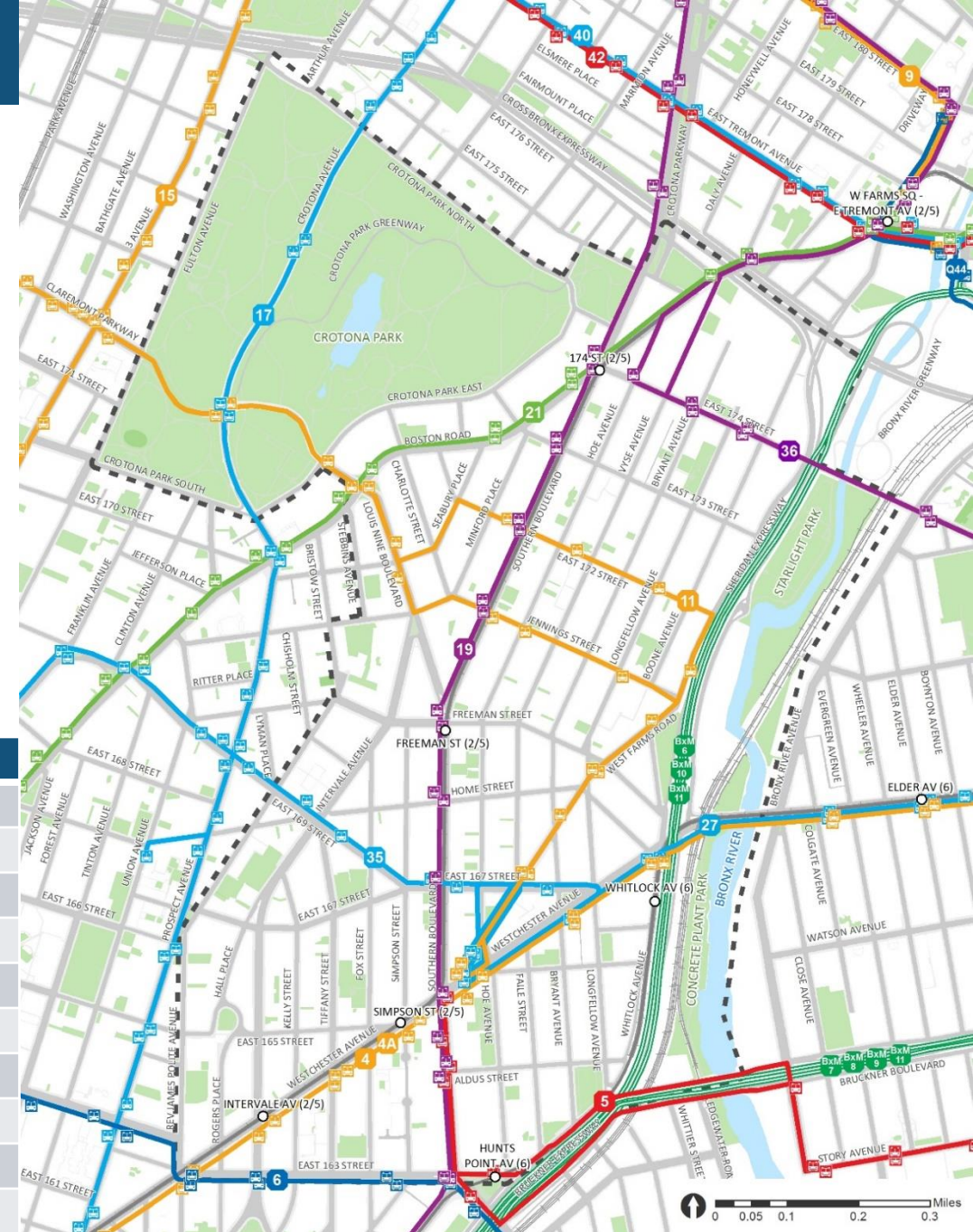


Source: [http://web.mta.info/nyct/facts/ridership/ridership\\_sub\\_annual.htm](http://web.mta.info/nyct/facts/ridership/ridership_sub_annual.htm)

# Bus

- Bx4/4A (The Hub ↔ Westchester Square)
- Bx5 (Pelham Bay Park ↔ Hunts Point)
- Bx6 Local/SBS (Hunts Point, Bronx ↔ Washington Heights, Manhattan)
- Bx11 (Longwood, Bronx ↔ GW Bridge Bus Station, Manhattan)
- Bx17 (Mott Haven ↔ Fordham Plaza)
- Bx19 (NY Botanical Garden, Bronx ↔ Riverbank State Park, Manhattan)
- Bx21 (Westchester Square ↔ Mott Haven)
- Bx27 (Clasons Point ↔ Soundview or Hunts Point)
- Bx35 (Hunts Point, Bronx ↔ Washington Heights, Manhattan)
- Bx36 Local/Limited (Soundview, Bronx ↔ Washington Heights, Manhattan)

Rank	Bus Stop	Daily Boarding + Alighting (2015)
1	HUNTS POINT AV/E 163 ST (BX6)	4,103
2	W FARMS RD/WESTCHESTER AV (BX35)	2,734
3	E 163 ST/HOE AV (BX5)	2,674
4	W FARMS RD/HOE AV (BX27)	2,672
5	SOUTHERN BL/E 174 ST (BX19)	1,982
6	HUNTS POINT AV/SOUTHERN BL (BX5)	1,976
7	E 174 ST/BRYANT AV (BX36)	1,974
8	SOUTHERN BL/HUNTS POINT AV (BX19)	1,787
9	SOUTHERN BL/E 163 ST (BX19)	1,685
10	W FARMS RD/WESTCHESTER AV (BX27)	1,667





# Transit Hub

- **Simpson St Transit Hub**

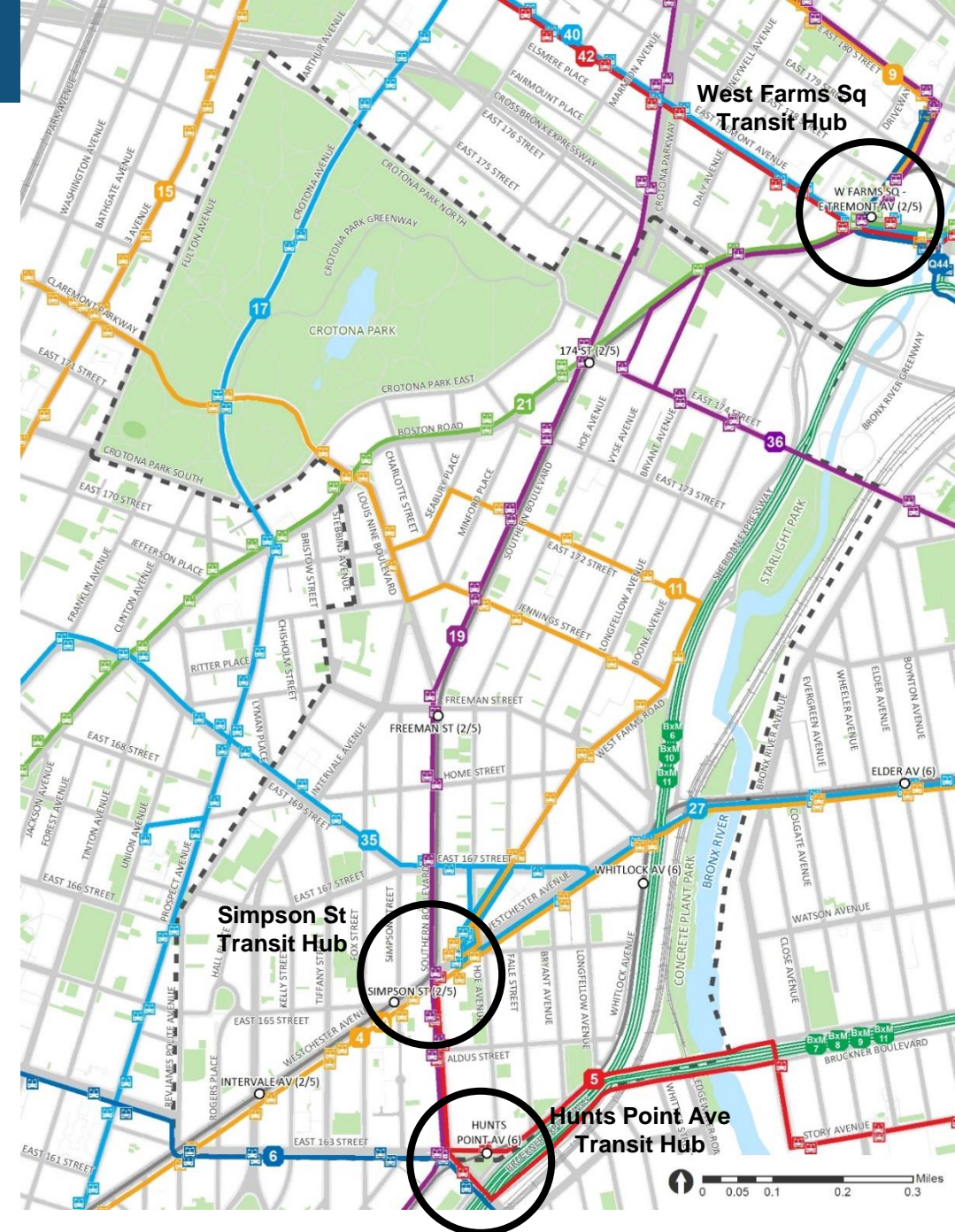
- Subway: 2/5 Train
- Bus Terminal: Bx5, Bx11, Bx27, Bx35
- Bus Stop: Bx4/4A, Bx19

- **Hunts Point Ave Transit Hub**

- Subway: 6 Train
- Bus Stop: Bx5, Bx6 (Local/SBS), Bx19
- Rail: future Metro North station

- **West Farms Sq Transit Hub (just outside of study area)**

- Subway: 2/5 Train
- Bus Terminal: Bx9
- Bus Stop: Bx21, Bx36 (Local/Limited), Bx40, Bx42, Q44 (SBS)



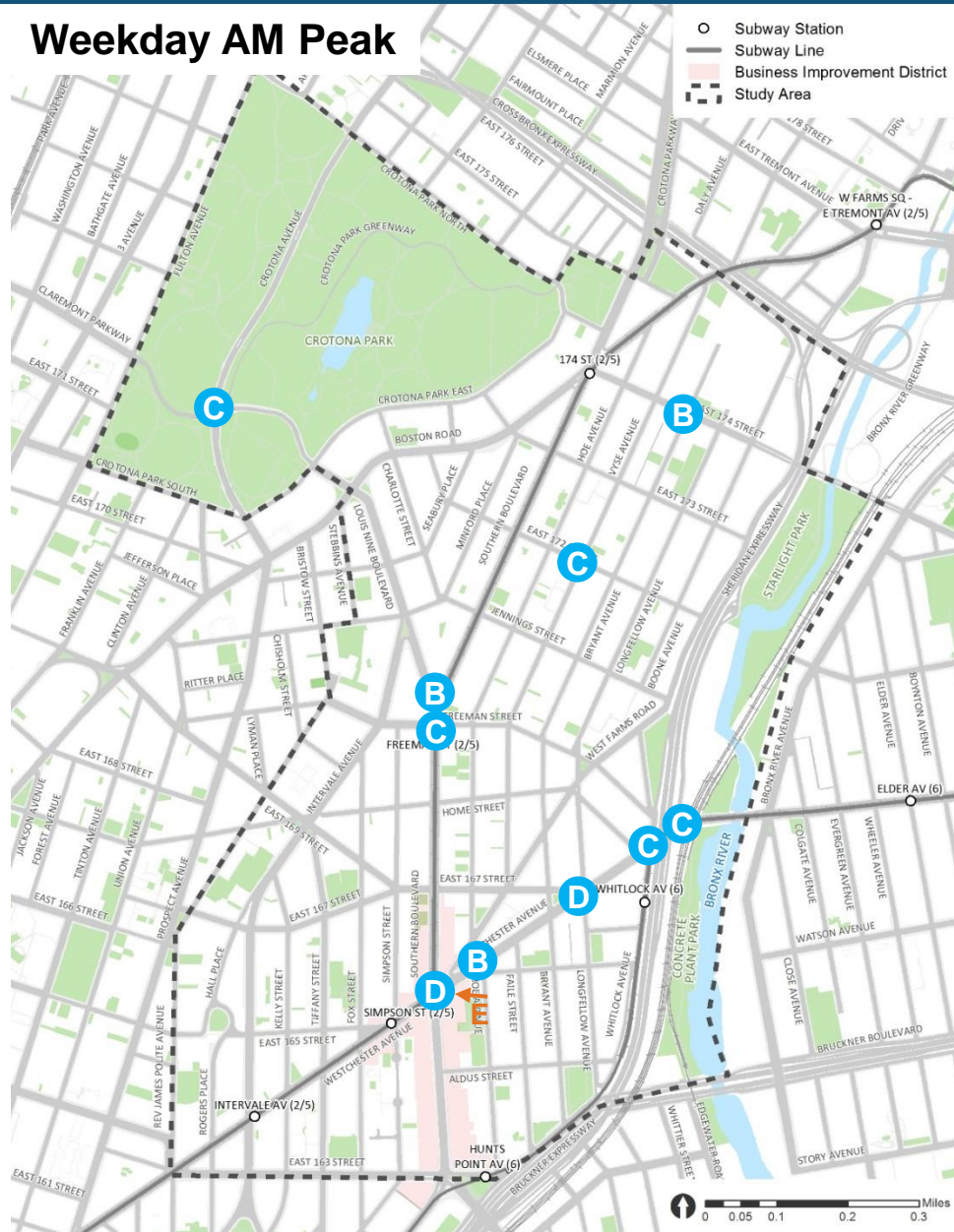




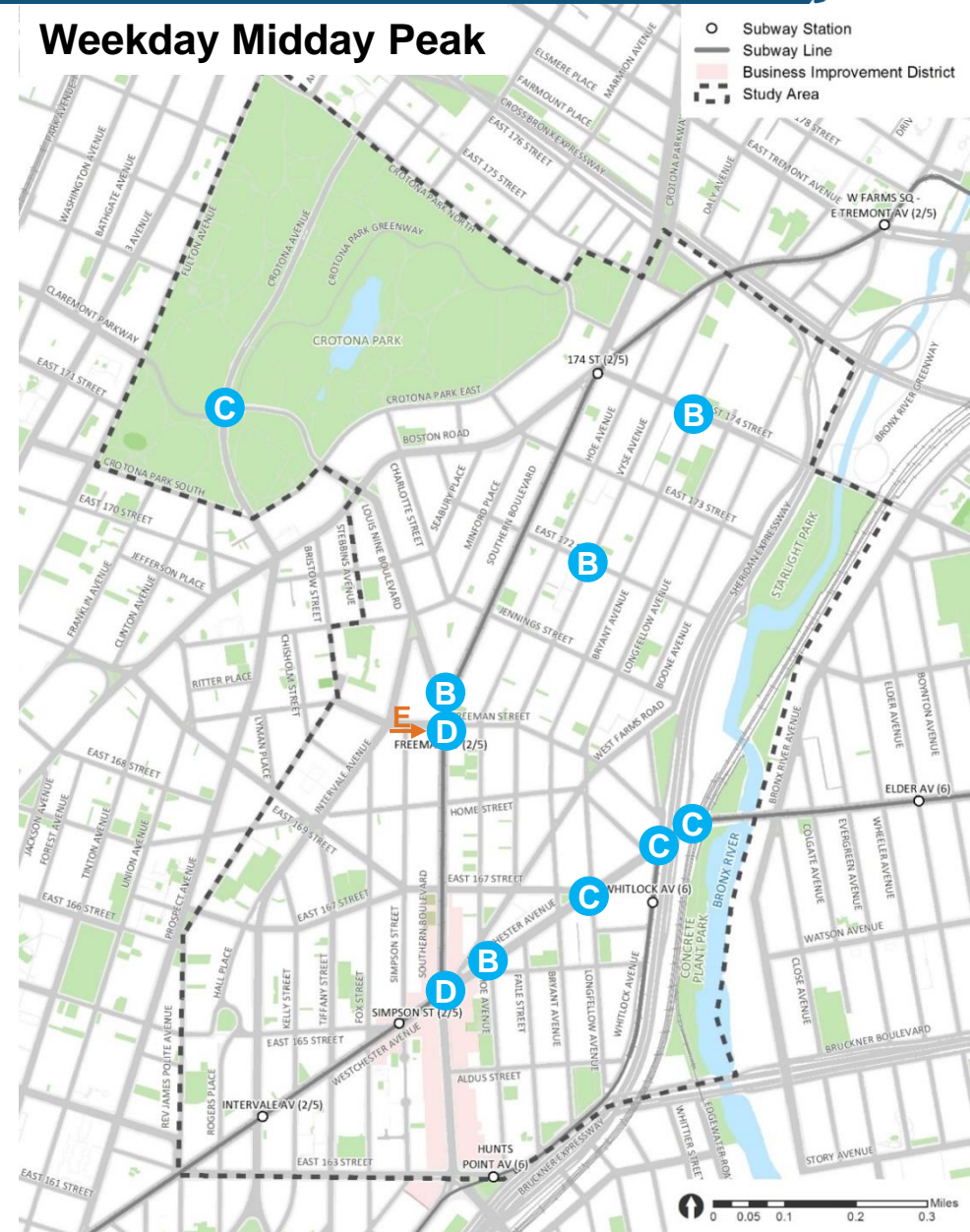


Level of Service	Average Control Delay (sec/veh)	General Description (Signalized Intersections)
A	≤10	Free Flow
B	>10 – 20	Stable Flow (slight delays)
C	>20 – 35	Stable flow (acceptable delays)
D	>35 – 55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	>55 – 80	Unstable flow (intolerable delay)
F	>80	Forced flow (jammed)

## Weekday AM Peak



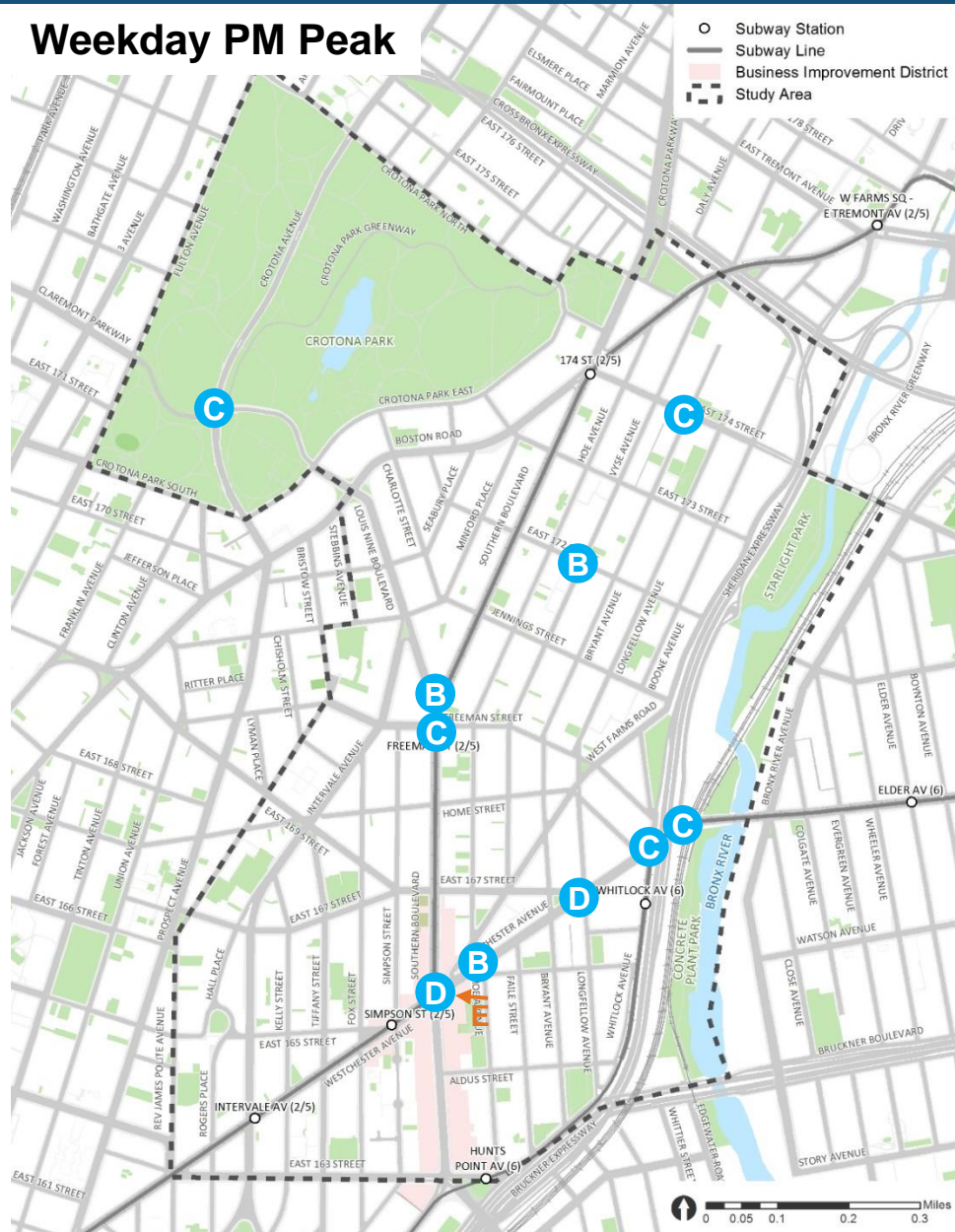
## Weekday Midday Peak



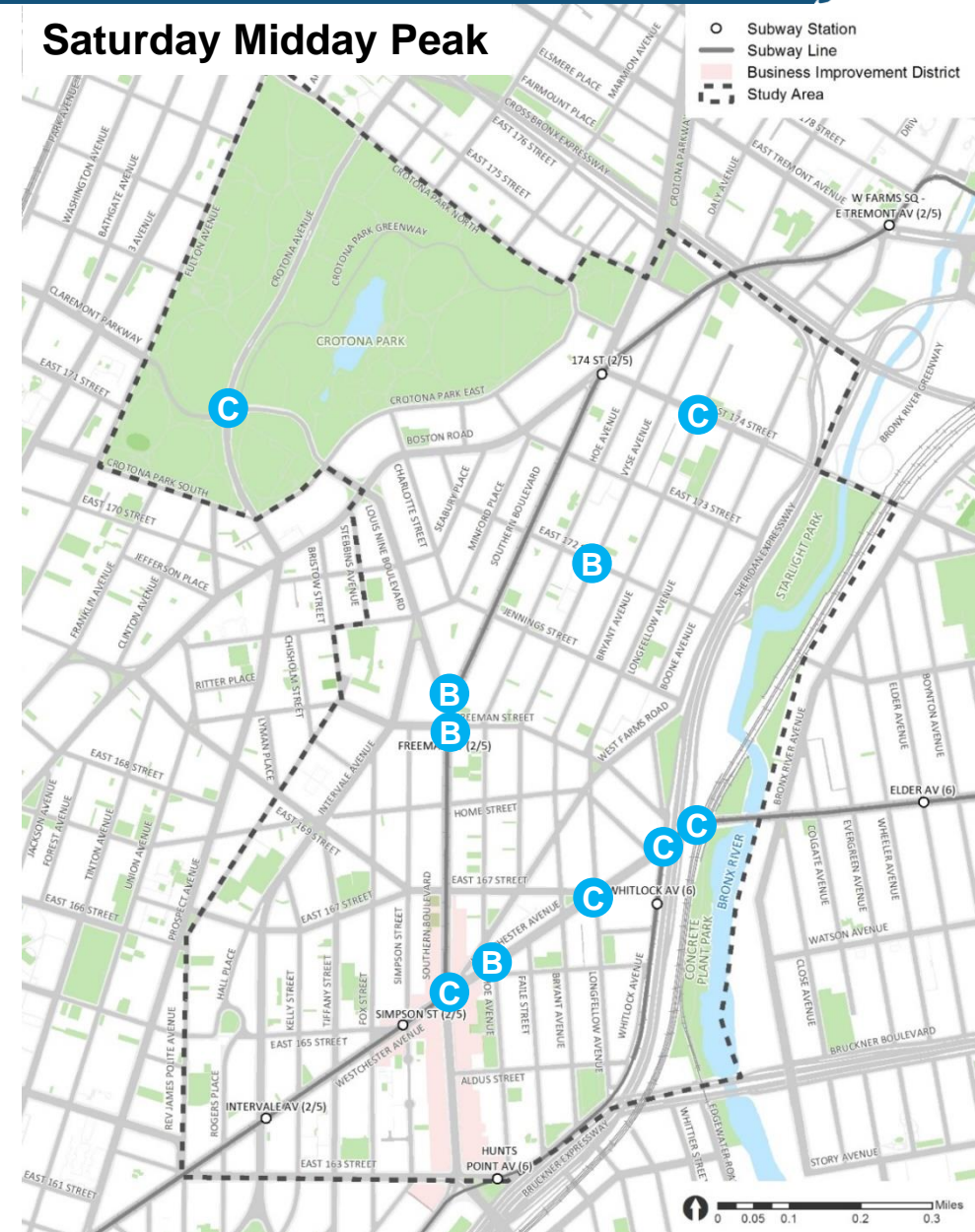




## Weekday PM Peak



## Saturday Midday Peak



Level of Service	Average Control Delay (sec/veh)	General Description (Signalized Intersections)
A	≤10	Free Flow
B	>10 – 20	Stable Flow (slight delays)
C	>20 – 35	Stable flow (acceptable delays)
D	>35 – 55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	>55 – 80	Unstable flow (intolerable delay)
F	>80	Forced flow (jammed)



# Crash & KSI

## Crash 2012-2016



## KSI 2012-2016



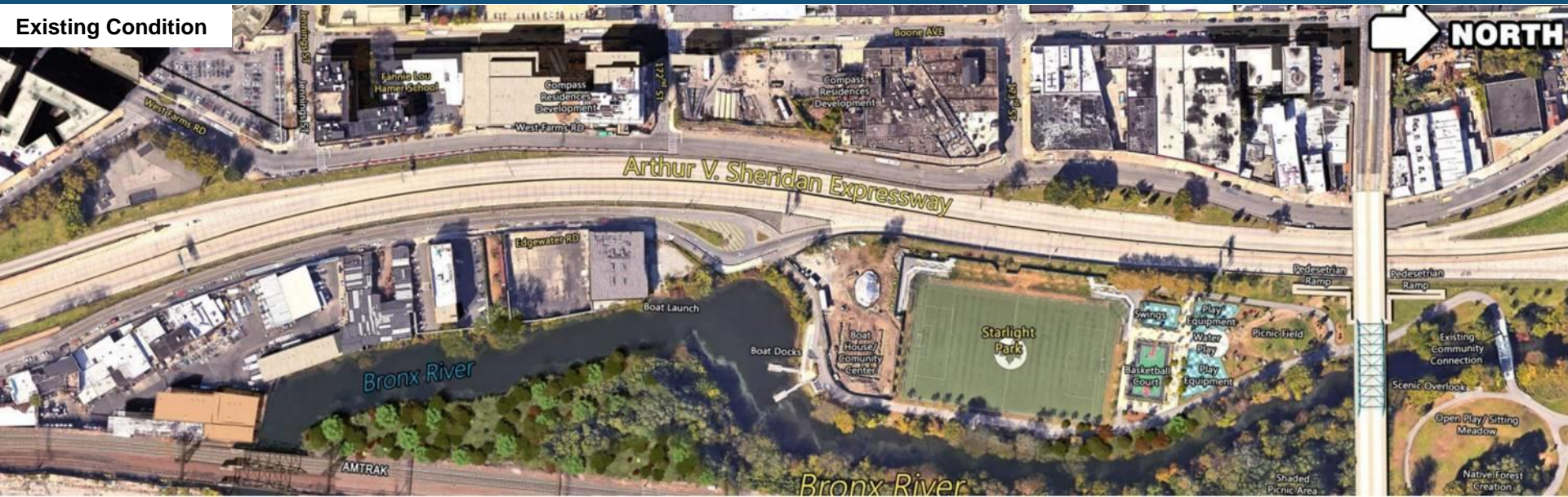
\*KSI = Number of Killed or Severely Injured persons in crashes

\*\*DOT uses pedestrian KSI to identify Vision Zero Priority Intersections, Corridors and Areas



# NYS DOT Arthur Sheridan Enhancement Project

Existing Condition



Proposed



- Introduce three signalized at-grade intersections for pedestrian and bicycle crossings
- Convert Edgewater Rd. to a one-way street, add a two-way protected bicycle lane, and provide access to Southbound Sheridan
- Convert West Farms Road to one-way southbound between 173rd St and Jennings St
- Construct a pedestrian bridge over the Bronx River within Starlight Park
- Provide two lane exit ramp at Westchester Ave from Southbound Sheridan
- Improve landscaping, drainage, traffic signals, pavement and lighting on the Sheridan
- Create a public space at the entrance to Starlight Park
- Provide parking along northbound Sheridan



# Penn Station Access

- Penn Station Access will create a new Metro-North Railroad link directly into Penn Station, providing critical system resiliency to protect service for more than 275,000 daily customers. The project will build four new Metro-North stations in the Bronx. This additional service will:
  - Substantially reduce travel times to and from Manhattan's West Side
  - Introduce convenient, direct rail service to communities underserved by mass transit
  - Support economic development in the East Bronx
  - Improve mobility and regional connectivity



# ISSUES AND OPPORTUNITIES





# Issues & Opportunities

## Under the Els

## Southern Blvd BID

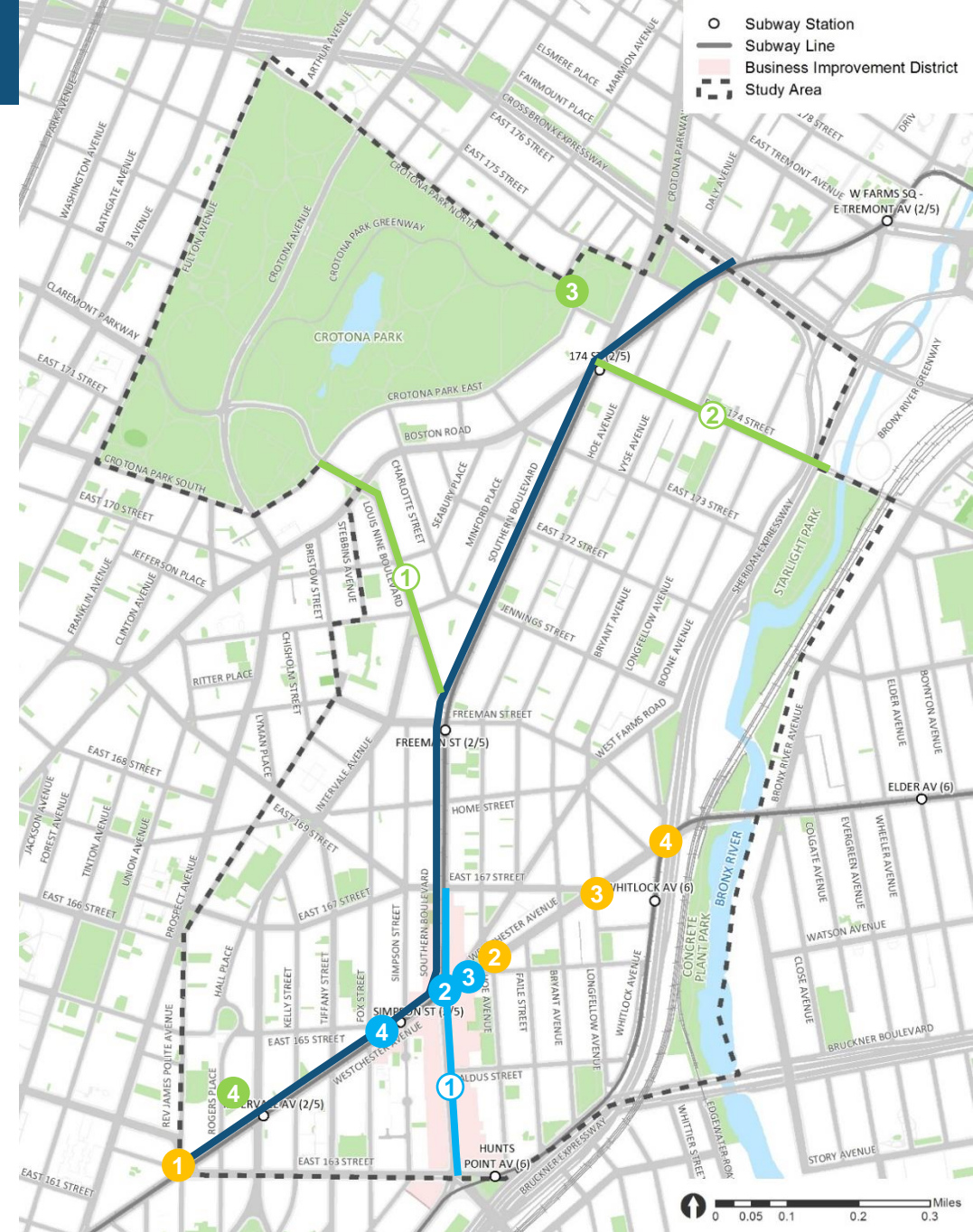
- 1) Pedestrian Retail Corridor Improvement
- 2) Major Intersection Safety Improvement
- 3) Reimagine Bus Terminal
- 4) Simpson St Triangle Pedestrian Plaza

## Parks & Open Space

- 1) Louis Nine Blvd Connection
- 2) 174 St Connection
- 3) Crotona Park East
- 4) Horseshoe Park Triangle

## Westchester Ave Corridor

- 1) 163 St / Rev James A Polite Ave
- 2) Hoe Ave
- 3) Longfellow Ave / 167 St
- 4) Whitlock Ave



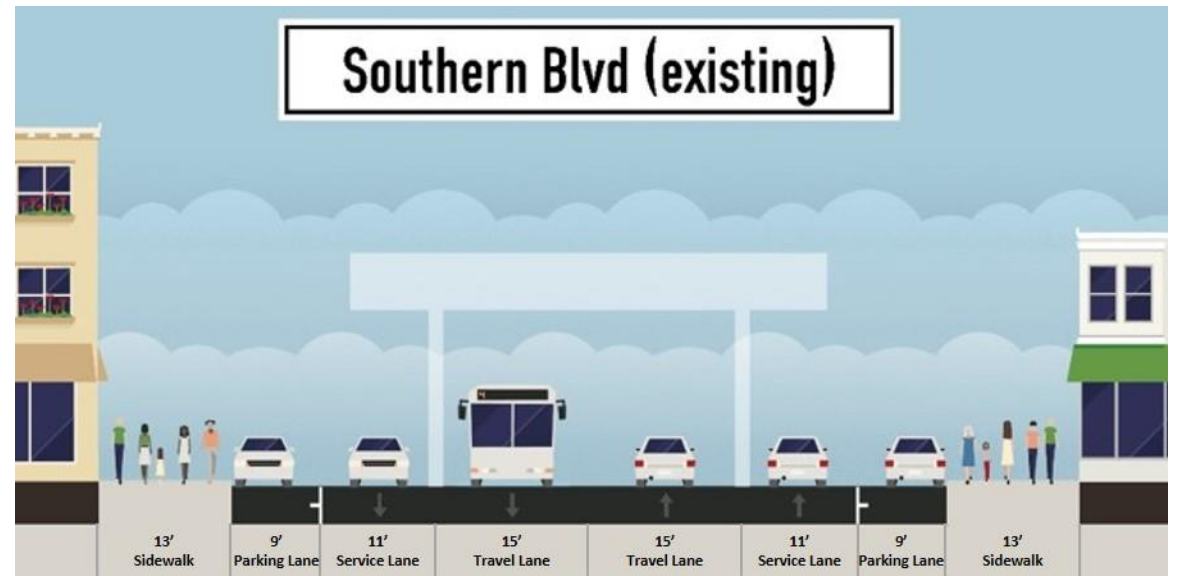


# Under the Els



## • Background

- Height varies dramatically
- 1 travel lane + 1 service lane + 1 parking lane
- Fewer than 500 vehicles/hour/direction during the peak period along Southern Blvd and Westchester Ave in 2017
- Yellow columns ~ bus stops

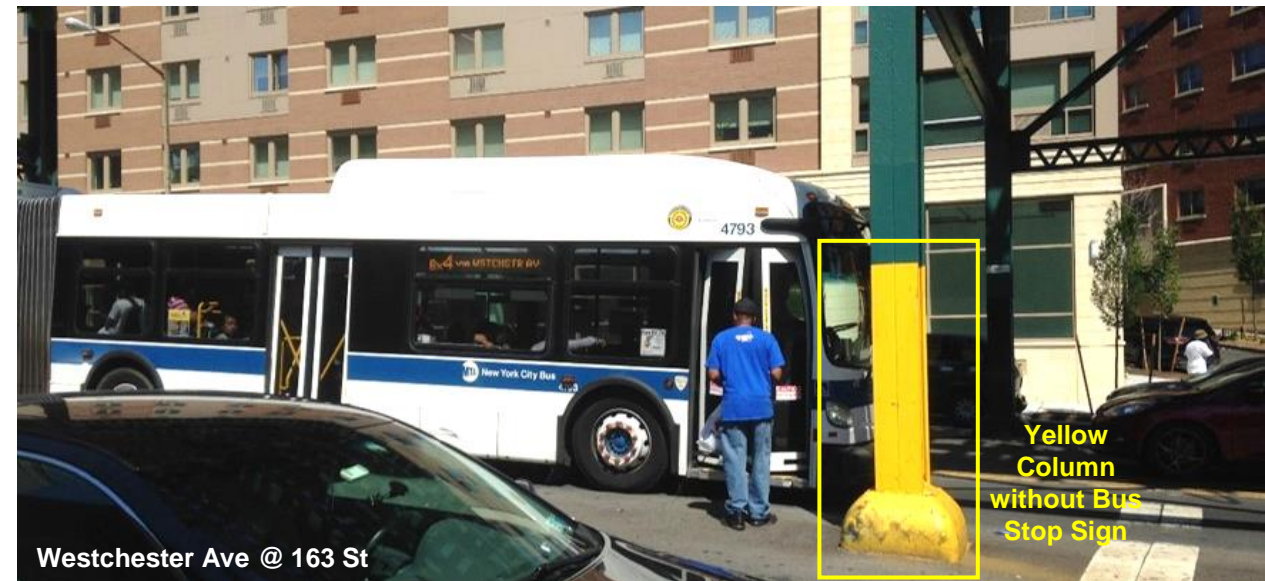






## • Issues

- Pedestrians are forced to wait, enter and leave the bus in the middle of the street
- Turning vehicles weave through the bus stop to make turns or get around a bus
- Columns block cars' visibility of pedestrians
- Yellow columns serve as bus stops but no bus stop signs at some locations







Southern Blvd @ Freeman St (2011)

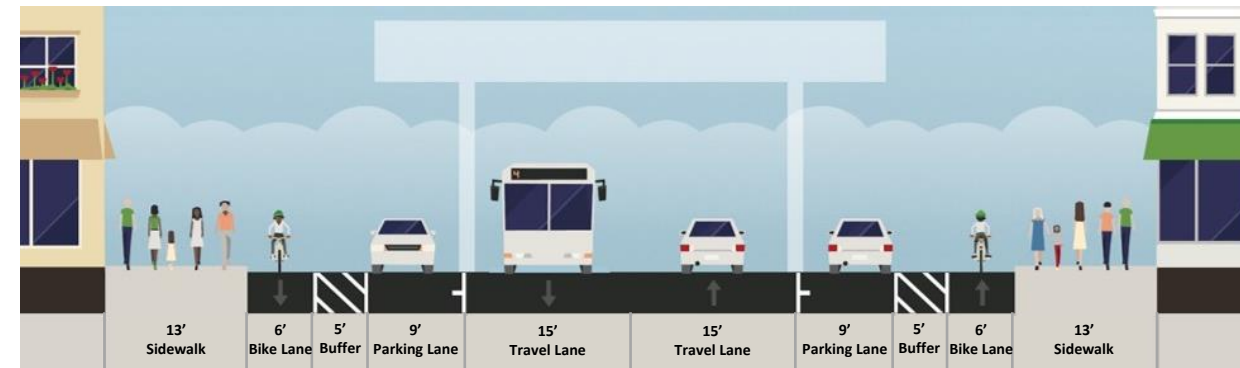


Southern Blvd @ Freeman St (2014)

## • Opportunities

- Close outer lanes or add pedestrian island at the bus stops (DOT Bus Stops under the Els projects)
- Pedestrian safety improvement throughout the corridor
- Install street furniture at the bus stops under the els
- Potential bike lanes (close the current service lanes)

## Bike Lanes under the Els



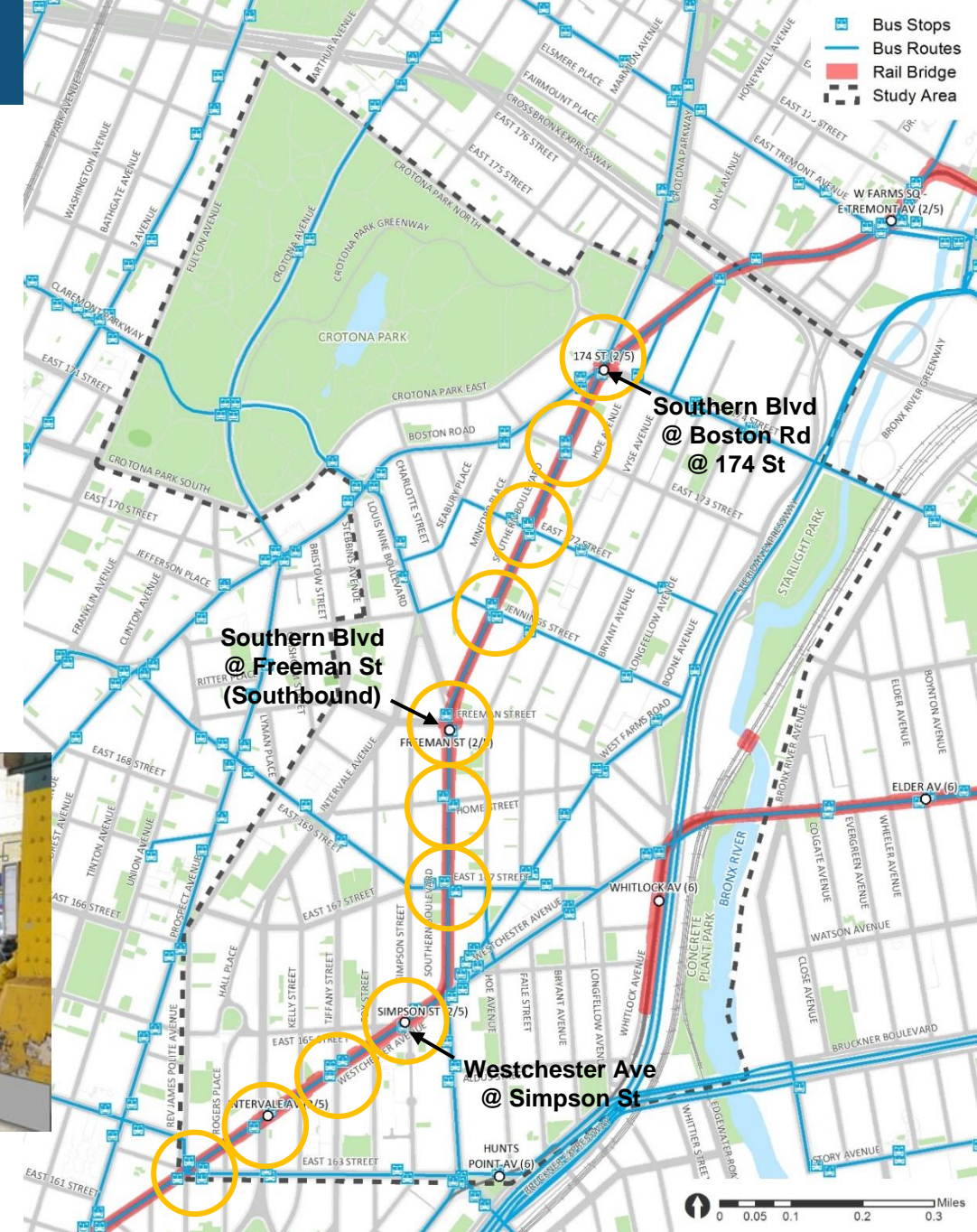


# Under the Els

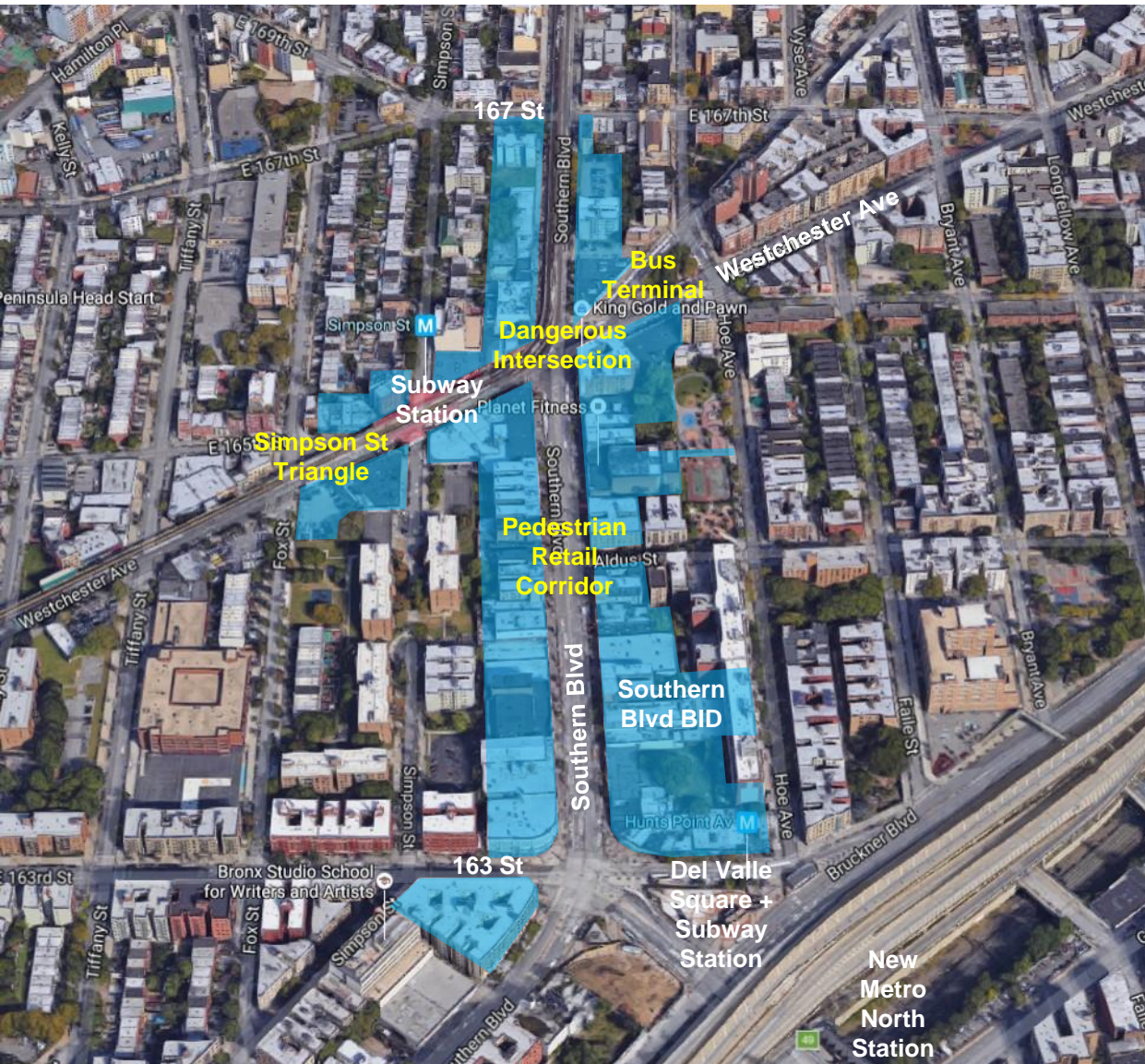
## • DOT Bus Stops Under the Els Projects

- 3 completed
  - Southern Blvd @ Freeman St (Southbound only)
  - Westchester Ave @ Simpson St (both directions)
- 1 underway
  - Southern Blvd @ Boston Rd @ 174 St (construction will begin after DDC sewer and water main capital reconstruction)
- 17 potential
  - 17 more similar bus stops within the study area (possibly be funded by NDF)

Example of Bus Islands with Painted Pedestrian Space for Bus Stops under the Els at White Plains Rd @ Burke Ave







## • Business Improvement District (BID)

- Community partners, such as BIDs or civic organizations, can help maintain and program the public open spaces that the City plans and creates with input from the local communities

## • Opportunities in Southern Blvd BID

- Pedestrian Retail Corridor Improvement
- Major Intersection Safety Improvement
- Reimagine Bus Terminal
- Simpson St Triangle Pedestrian Plaza



Willoughby Plaza in Fulton Mall BID, Brooklyn\*

\*Source: <http://www.nyc.gov/html/dot/downloads/pdf/nycdot-streetdesignmanual-interior-02-geometry.pdf>



# Southern Blvd BID – Pedestrian Retail Corridor Improvement



## • Background

- Northern portion of Southern Blvd BID
- Under the el from 167 St to Westchester Ave
- Large vacant lot and parking lot

## • Issues

- Inactive pedestrian retail space

## • Opportunities

- More attractive pedestrian retail space under the el (wider sidewalks, potential bike lanes, etc.)
- Potential to redesign the entire bus terminal with surrounding buildings and parks



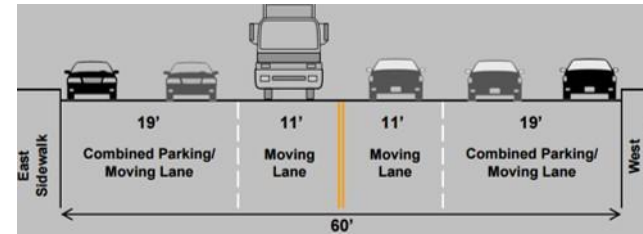
# Southern Blvd BID – Pedestrian Retail Corridor Improvement



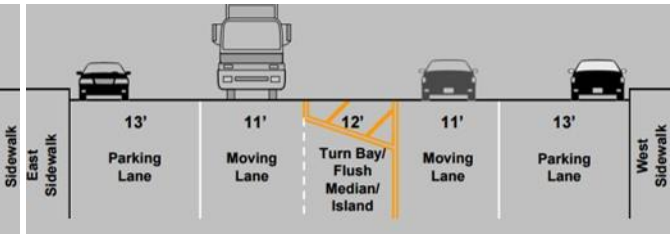
## • Background

- Southern portion of Southern Blvd BID
- No el between Westchester Ave and 163 St
- Signed bike route
- DOT completed project in 2010

Before



After



## • Issues

- Wide street with lots of double parking, overtaking through striped median, jaywalking, etc.

## • Opportunities

- Add standard bike lane by taking 5' of the 13' parking lane
- Landscaped median
- Pedestrian island on south side of the intersection at Aldus St
- Street furniture



# Southern Blvd BID – Major Intersection Safety Improvement



## • Background

- Transit Hub
  - Simpson St subway station (2/5 train)
  - Bus Terminal (Bx11/Bx27/Bx35)
  - Bus Stops (Bx4/Bx4A/Bx5/Bx19)
- Southern Blvd BID
  - 45 crashes between 2012 and 2016
  - 51% were pedestrian and bike crashes (21 pedestrian crashes and 2 bike crashes)
  - Total KSI was 7; pedestrian KSI was 2

## • Issues

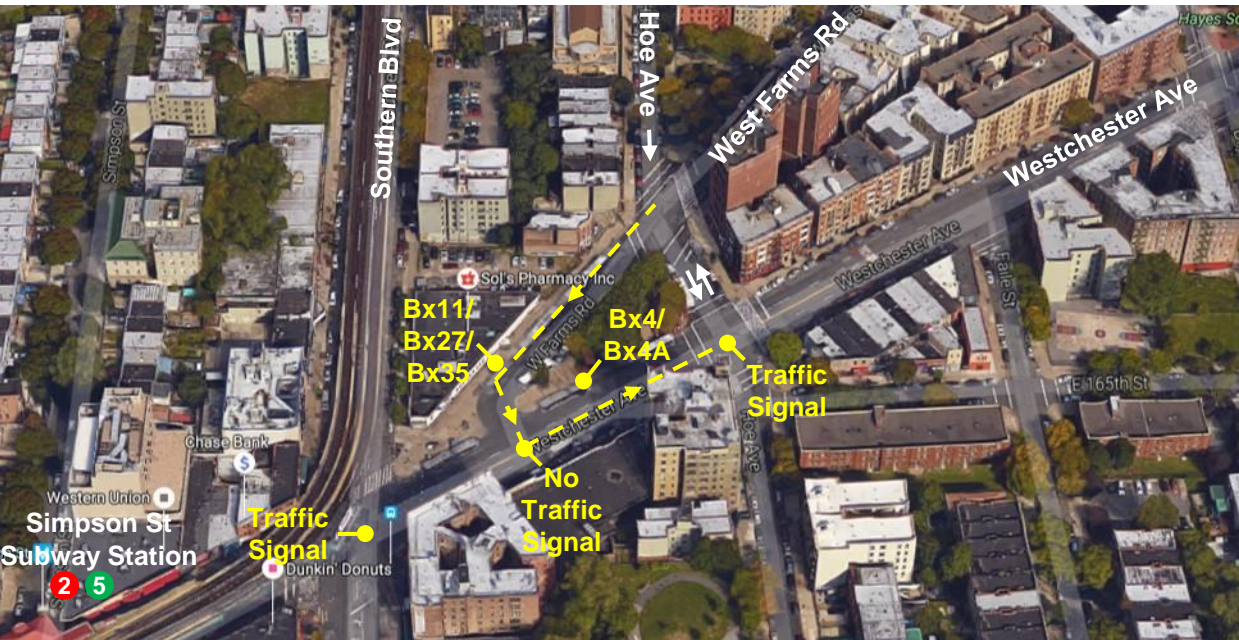
- Columns in the middle of the intersection
- 85 feet long pedestrian crossing
- Westbound merging from two lanes to one lane

## • Opportunities

- Curb extensions to shorten the long pedestrian crossings
- Markings and signs to guide the vehicles



# Southern Blvd BID – Reimagine Bus Terminal



## • Background

- Bus Terminal (Bx11/Bx27/Bx35)
- Bus Stop (Bx4/Bx4A)

## • Issues

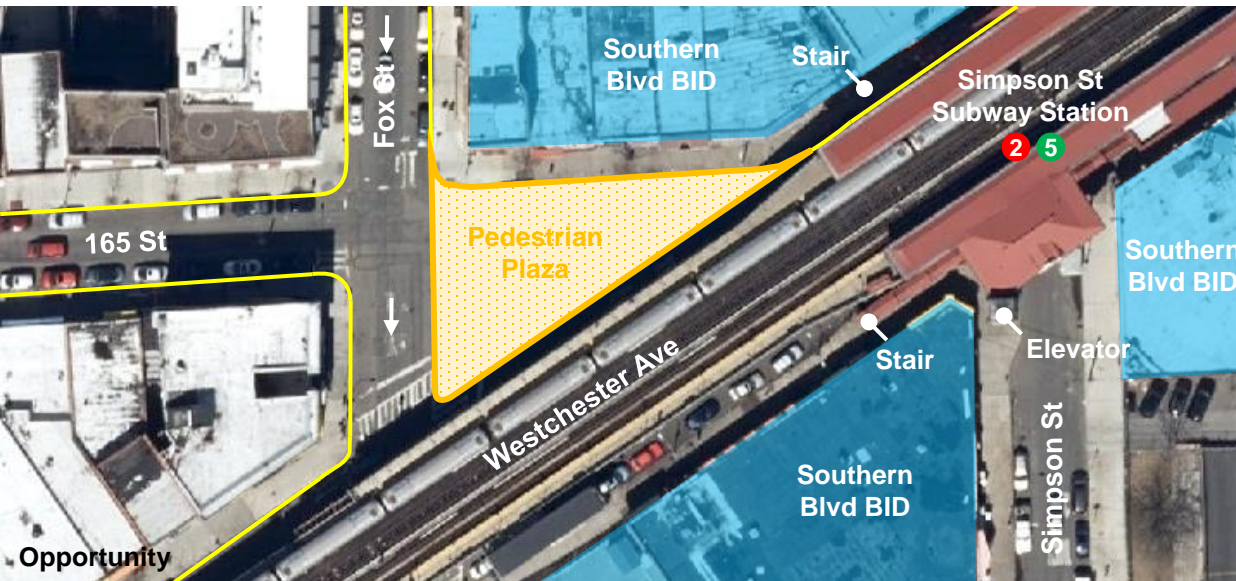
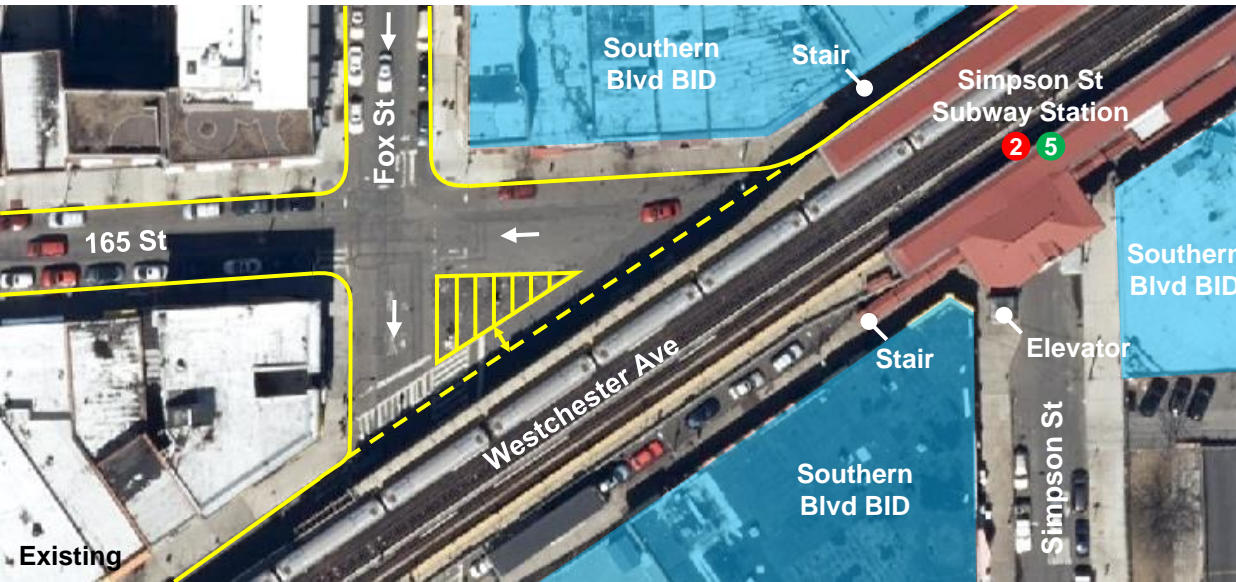
- Buses inch out and turn left at the unsignalized intersection

## • Opportunities

- Option 1: Add a traffic signal coordinated with the signal timing of Westchester Ave @ Southern Blvd
- Option 2: Reverse the loop direction
- Option 3: Signal timing modifications for the signals at Westchester Ave @ Southern Blvd and Westchester Ave @ Hoe Ave to create gaps for buses turning left
- Option 4: Redesign the entire bus terminal with the surrounding buildings and parks



# Southern Blvd BID – Simpson St Triangle Pedestrian Plaza



## • Background

- Southern Blvd BID
- Close to Simpson St subway station
- Traffic volume of 165 St between Westchester Ave and Fox St is low (max 169 vehicles/hour in 2017)

## • Issues

- Large empty space

## • Opportunities

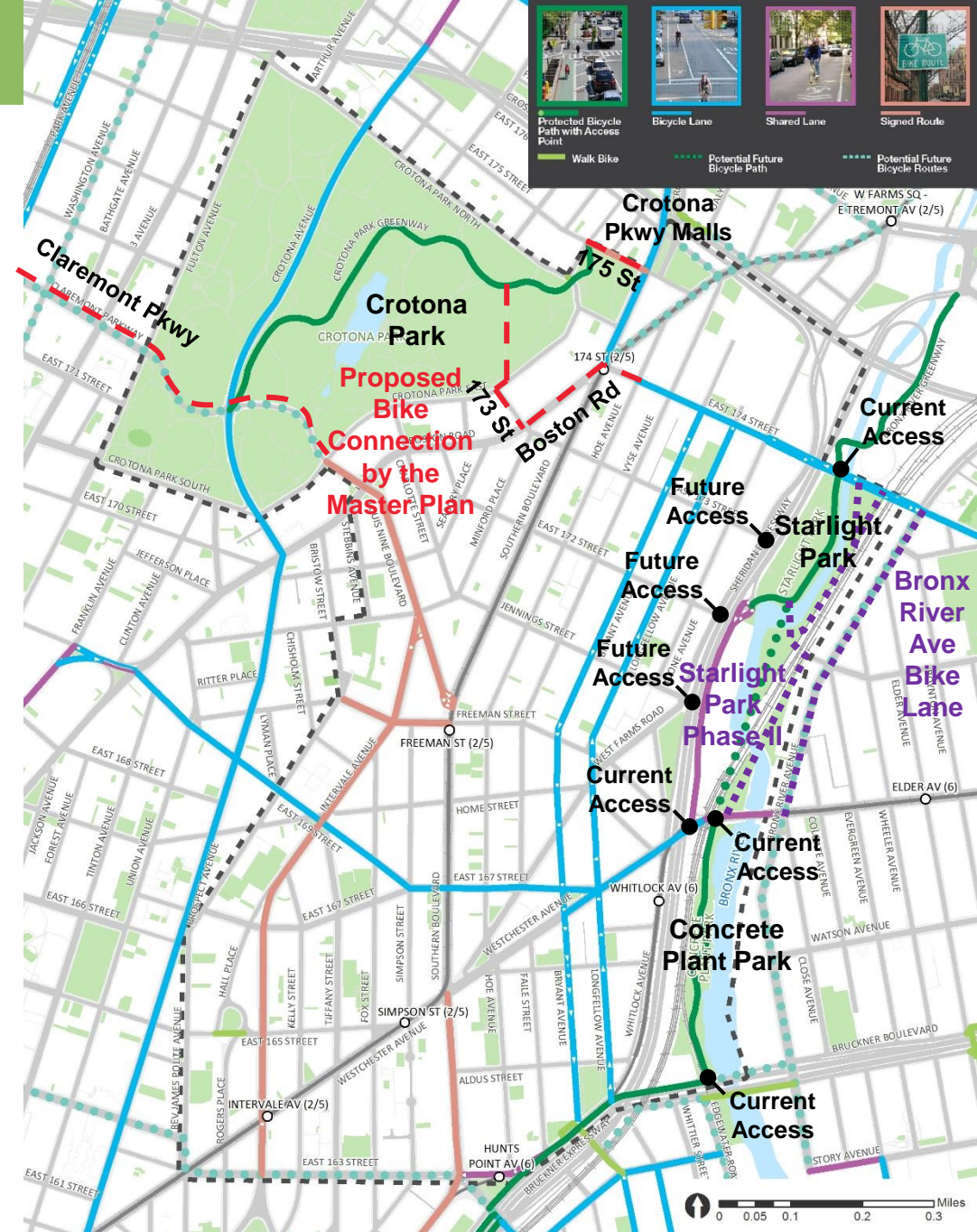
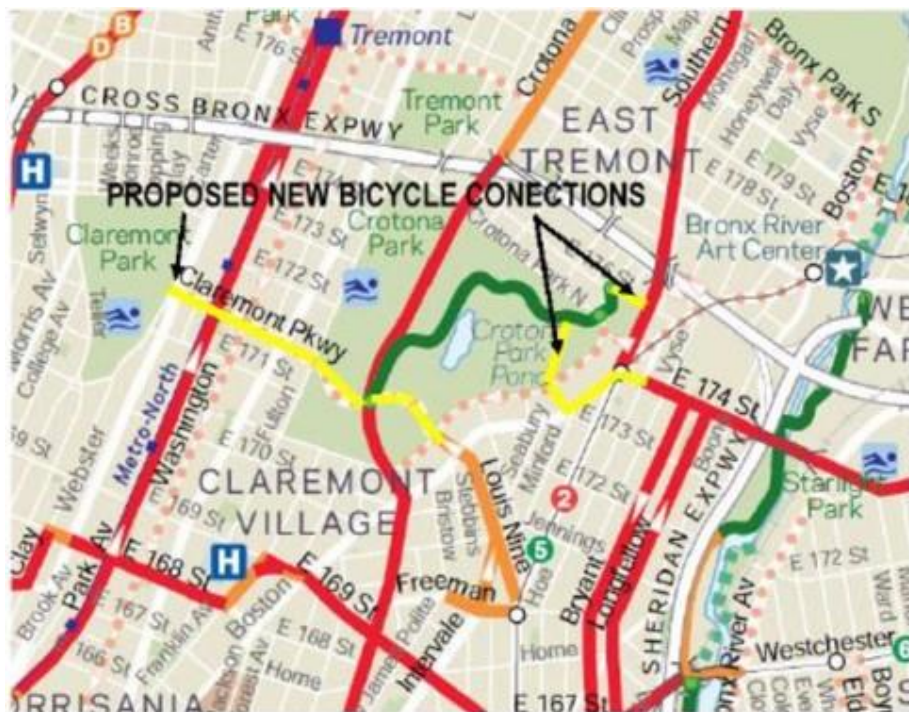
- Close 165 St between Westchester Ave and Fox St to create a pedestrian plaza





# Parks & Open Space

- Major parks and open space resources are Crotona Park and Bronx River parks (Starlight Park and Concrete Plant Park)
- Future additional three access points to Bronx River parks through Sheridan Enhancement Project
- Future better connection between Starlight Park and Concrete Plant Park through Starlight Park Phase II
- Crotona & Tremont Park Master Plan 2015 proposed new bike connections





# Parks & Open Space – Louis Nine Blvd Connection



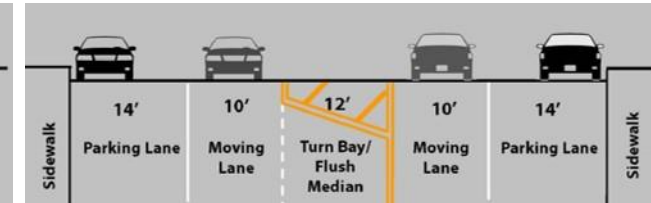
## • Background

- Better sense of entrance to Crotona Park compared to 174 St subway station despite longer distance
- Signed bike route
- Fewer than 400 vehicles/hour/direction during the peak period in 2017
- DOT completed project in 2012

Before



After



- New DOT project: Louis Nine Blvd Safety Improvements (NNLOUISNIN)

- Project Scope (In-Progress); Construction Registration 2025

## • Issues

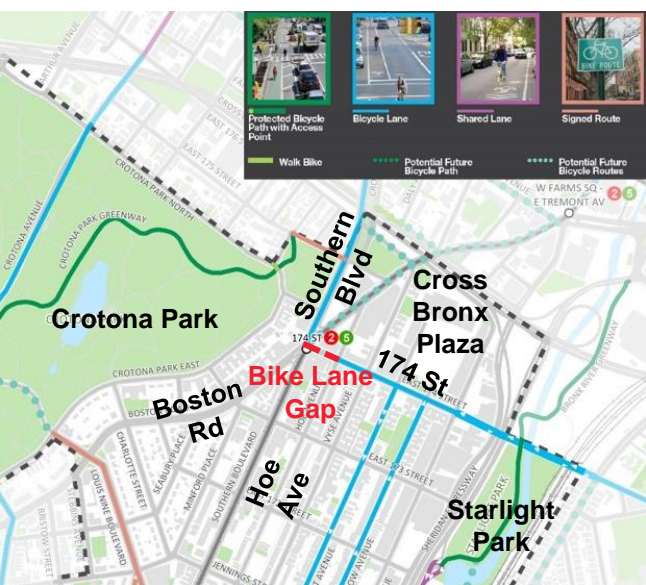
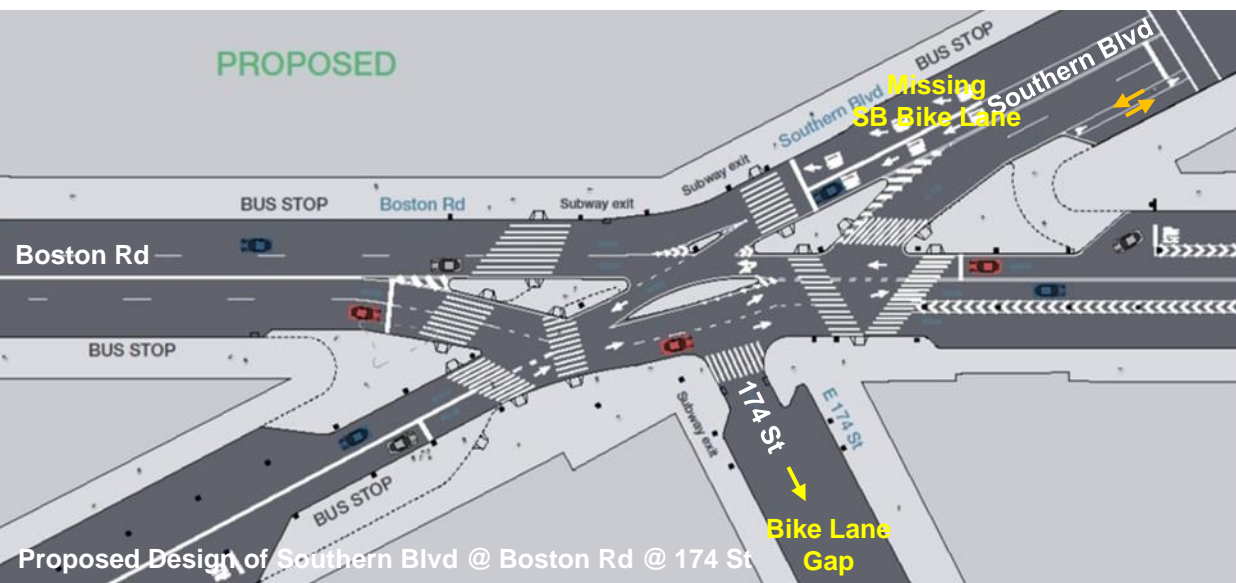
- 60 feet wide underutilized street

## • Opportunities

- Add standard bike lane by taking 5' of the 14' parking lane
- Raised median



# Parks & Open Space – 174 St Connection



## • Background

- Important connection between Crotona Park and Starlight Park
- Southern Blvd @ Boston Rd @ 174 St is a Vision Zero Priority Intersection and had a DOT project in 2015 (construction will begin after DDC sewer and water main capital reconstruction)

## • Issues

- No wayfinding for parks
- Bike lane gap on 174 St
- Missing southbound bike lane on Southern Blvd possibly due to the bus stop
- High pedestrian crashes and KSI

## • Opportunities

- Wayfinding signage for parks
- Add bike lane on 174 St between Southern Blvd and Hoe Ave
- Have two-way bike lanes on the east side of Southern Blvd and better guide the cyclists to connect to the bike network
- Pedestrian safety improvements along the 174 St between Southern Blvd and Starlight Park



# Parks & Open Space – Crotona Park East



## • Background

- Crotona Park E between Crotona Park N and Crotona Park E is not a mapped Street
- Traffic volume varies a lot (max 615 vehicles/hour in 2017)
- Friends of Crotona Park\* has suggested closing the segment to better connect Hylan Park and Crotona Park

## • Issues

- Hylan Park is separated from Crotona Park by the unmapped segment
- No crosswalk for greenway
- No stop sign for Crotona Park E @ Crotona Park N eastbound
- Stop sign for Greenway on Hylan Park side but not Crotona Park

## • Opportunities

- Option 1: Close the street (further traffic study needed to see how it would affect traffic flow around the park)
- Option 2: Not to close the street but better connect the greenways (stop sign, raised crosswalk, different pavement, etc.)
- Option 3: Close the street only on weekends

\*Friends of Crotona Park Contact: Shawn Cargil ([Shawn.Cargil@parks.nyc.gov](mailto:Shawn.Cargil@parks.nyc.gov))



# Parks & Open Space – Horseshoe Park Triangle



- **Background**
  - Horseshoe Park with step street
  - Schools around the park
- **Issues**
  - Large empty striped space
- **Opportunities**
  - School maintained public art or murals



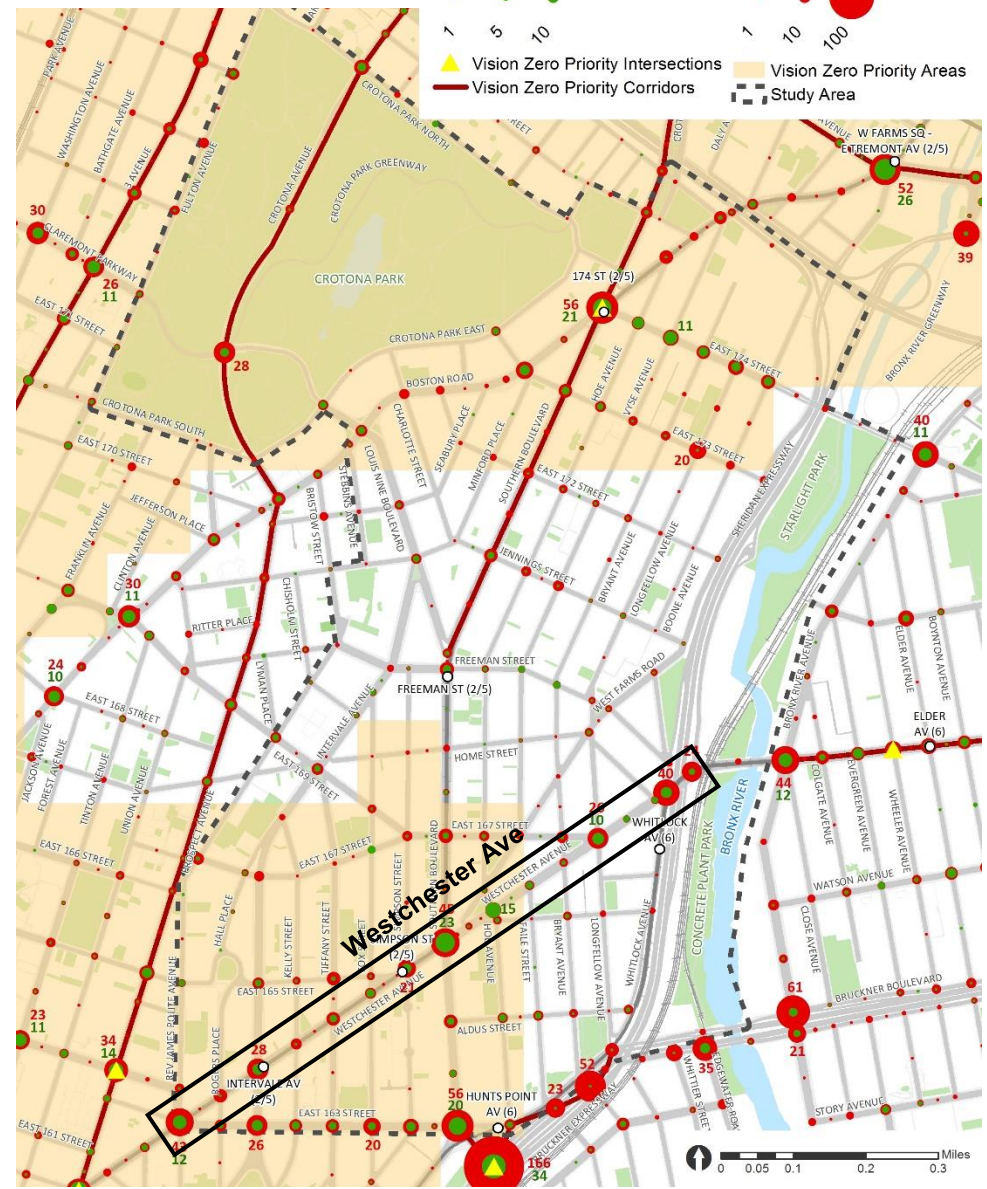
\*Source: <http://www.pbs.org/newshour/updates/urban-designers-transformed-these-five-plazas-into-pedestrian-paradise/>



# Westchester Ave Corridor

- Under the el from 163 St to Southern Blvd
- 70 ft wide street without el from Southern Blvd to Whitlock Ave
- High crashes along Westchester Ave
- High pedestrian crashes at the intersection of Westchester Ave and Southern Blvd

## Crash 2012-2016



## KSI\* 2012-2016



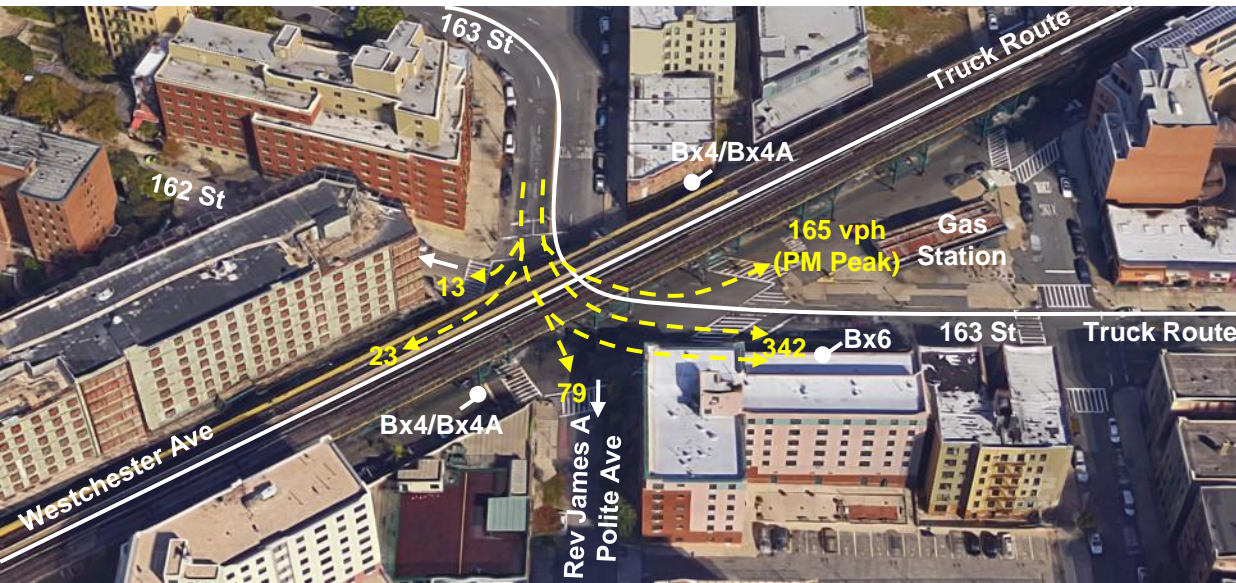
Westchester Ave (163 St to Whitlock Ave)	
<b>Crashes</b>	<b>2012-2016</b>
Total	323
Pedestrian	89
Bicycle	24
<b>KSI*</b>	<b>2012-2016</b>
Total	19
Pedestrian	6
Bicycle	3

\*KSI = Number of Killed or Severely Injured persons in crashes

\*\*DOT uses pedestrian KSI to identify Vision Zero Priority Intersections, Corridors and Areas



# Westchester Ave Corridor – 163 St / Rev James A Polite Ave



## • Background

- Westchester Ave and 163 St are truck routes
- 43 crashes between 2012 and 2016
- 6 collisions with fixed object, structure or barriers

## • Issues

- Columns in the middle of the intersection (unclear which side of columns to drive on)
- Downhill from north may cause speeding

## • Opportunities

- Lane assignments for southbound (exclusive left turn)
- Markings to guide the vehicles to avoid columns
- Under the EIs treatment around the Bx4/Bx4A bus stops
- Curb extension of the gas station corner (ban the sharp right turn from 163 St to Westchester Ave which had only ~10 vehicles/hour in 2016)





## • Background

- 17 crashes between 2012 and 2016
- 83% were pedestrian crashes
- 50% happened when the motor vehicles were making left turns
- Recently installed left turn treatments
- Bx5 (articulated) uses the slip to turn around

## • Issues

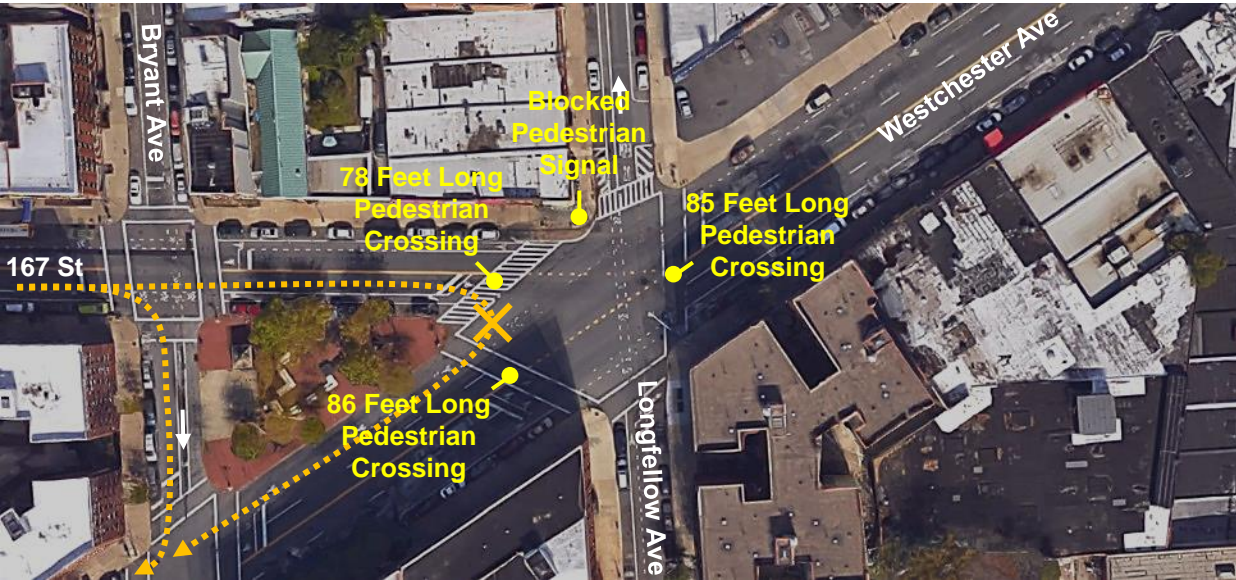
- 70-75 feet long pedestrian crossing

## • Opportunities

- Curb extensions on Westchester Ave to shorten the long pedestrian crossings



# Westchester Ave Corridor – Longfellow Ave / 167 St



## • Background

- 26 crashes between 2012 and 2016
- 31% were pedestrian crashes
- 54% of all crashes were motor vehicle crashes, within which 43% were rear end collisions

## • Issues

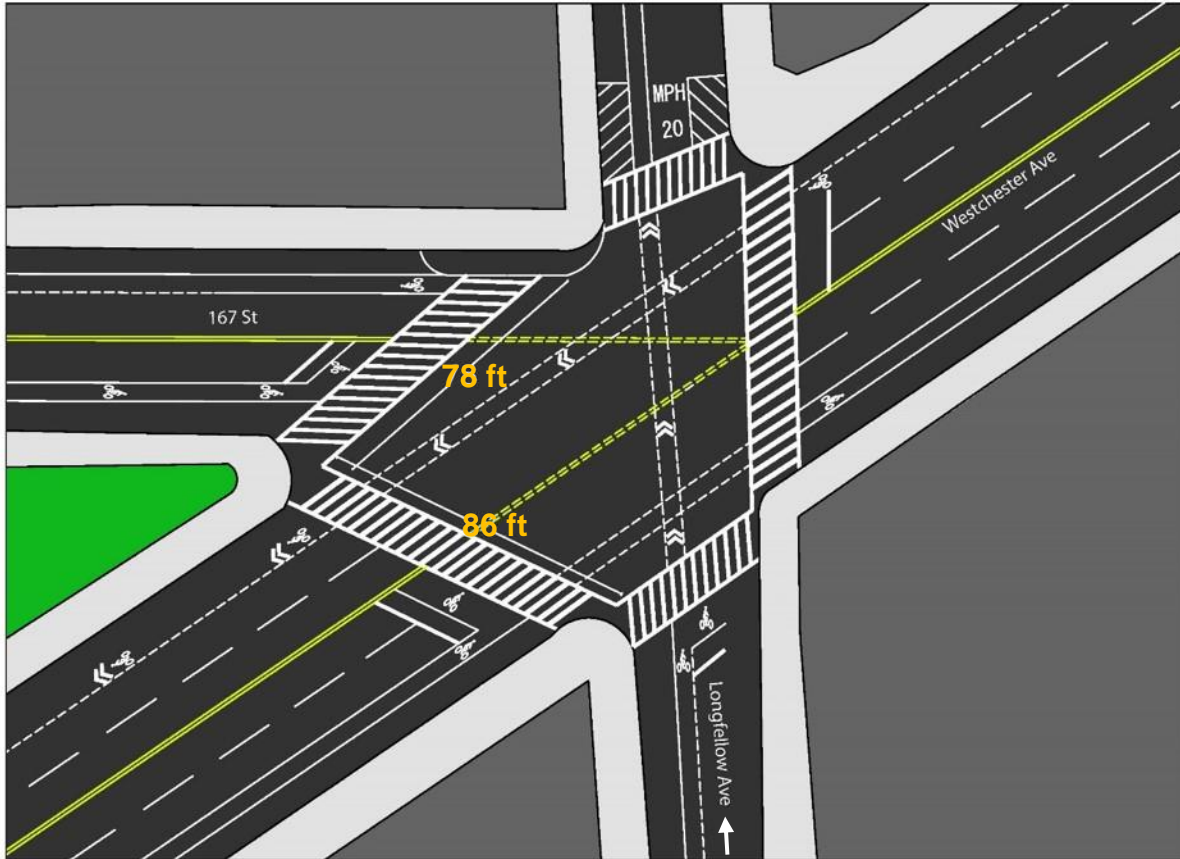
- 78-86 feet long pedestrian crossing
- Pedestrian signal blocked by streetlight pole

## • Opportunities

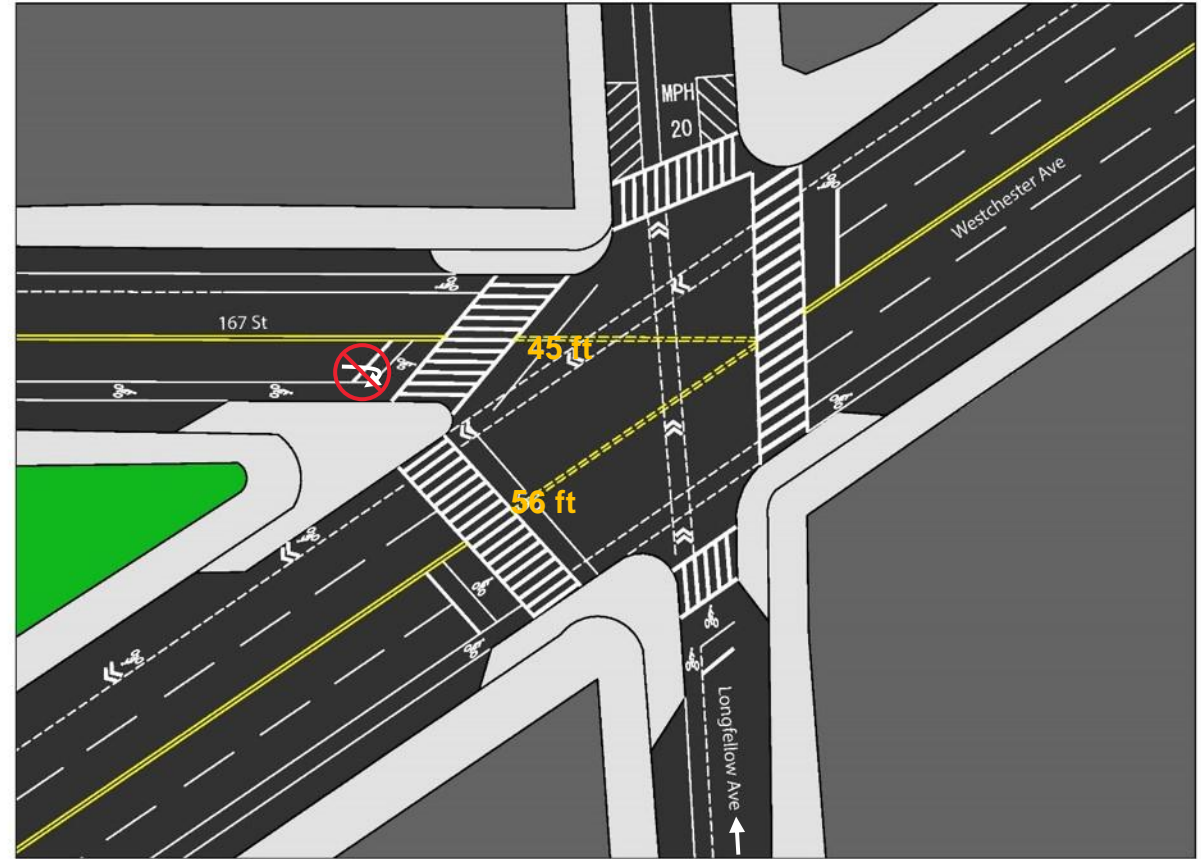
- Ban the right turn from 167 St to Westchester Ave (max 4 vehicles/hour in 2017)
- Curb extensions to shorten the long pedestrian crossings
- Adjust the position of pedestrian signal



## Existing



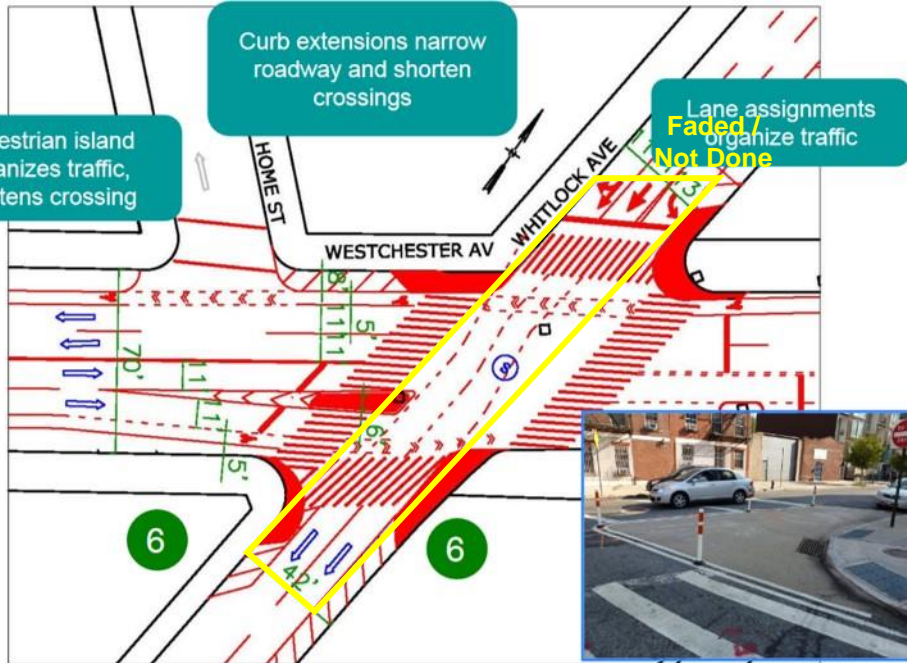
## Opportunity





# Westchester Ave Corridor – Whitlock Ave

## Proposed Improvements in 2013 Project



## • Background

- 40 crashes between 2012 and 2016
- 5 bicycle crashes and 4 pedestrian crashes
- 12 crashes were either overtaking or rear end
- DOT completed project in 2013
- New DOT project: Westchester Avenue and Whitlock Avenue Pedestrian Safety Improvements (NN-XWHIT)
  - Project Scope (In-Progress); construction registration 2020

## • Issues

- Potential speeding issue
- Zigzagging to avoid the column in the middle of intersection

## • Opportunities

- Markings to guide vehicles on Whitlock Ave
- Speed limit signs
- Enforcement



Whitlock Ave @ Westchester Ave (Facing North)



# Westchester Ave Corridor – Whitlock Ave (Freeman St / Boone Ave)



## • Background

- Sheridan exit ramp, Boone Ave, and Freeman St merge into Whitlock Ave
- No stop sign on exit ramp
- Stop signs on both Boone Ave and Freeman St

## • Issues

- Large intersection without crosswalks
- Confusing traffic flows for the merging

## • Opportunities

- Add crosswalks
- Curb extension to narrow down the intersection and regulate the traffic flows