

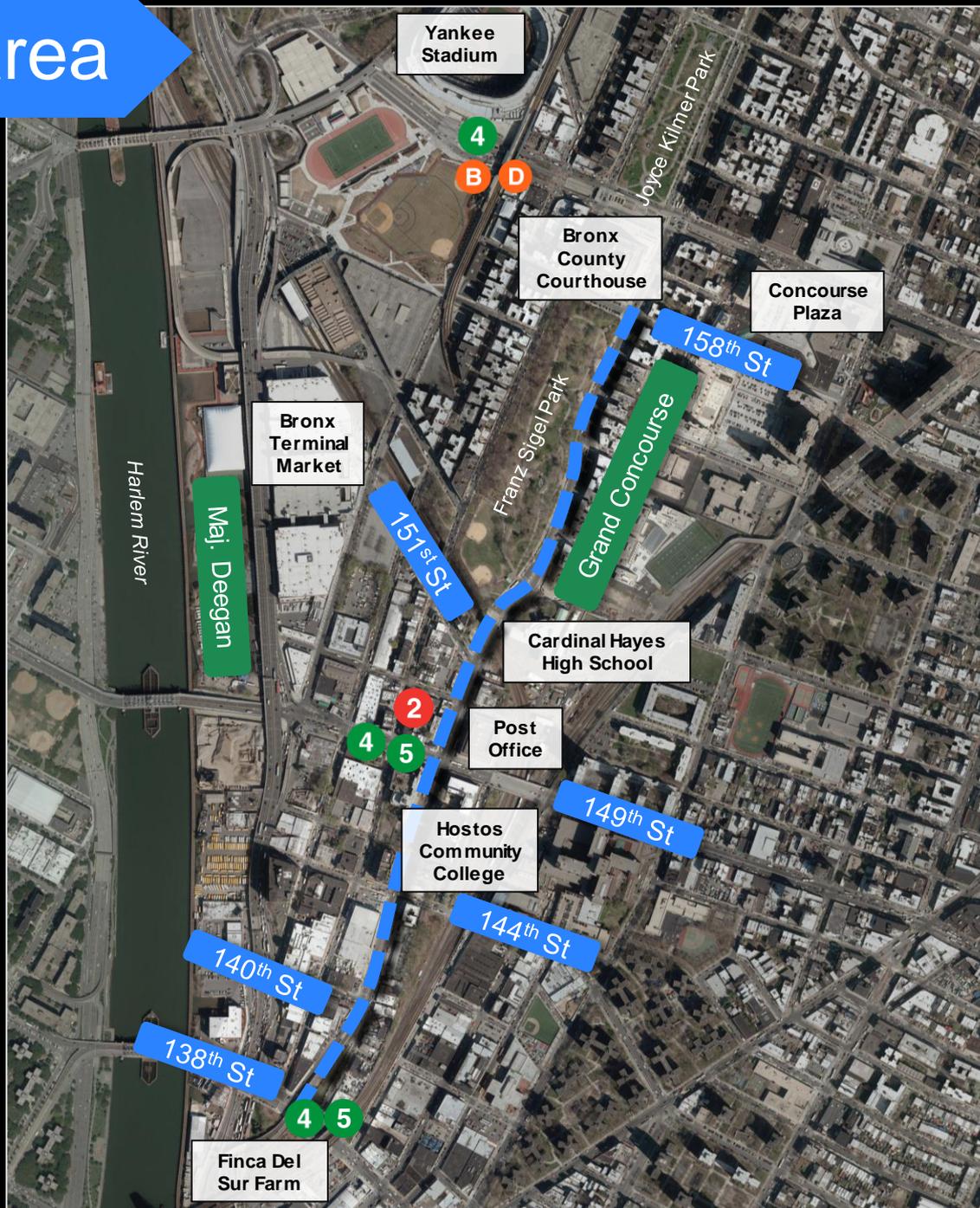
Grand Concourse, 138th St to 158th St

Corridor Safety Improvements

2016



Project Area



Timeline: Grand Concourse Redesign

- Capital Projects
 - 161st St to 166th St completed
 - 166th St to 171st St under construction
 - 171st St to 175th St in planning
- Safety Projects
 - 2009 – Safe routes to school pedestrian improvements
 - 2009 - Service Road Bike Lanes b/n 166th St and Mosholu Parkway
 - 2013 – 204th St to Mosholu Pkwy
 - 2014 – Grand Concourse Arterial Slow Zone (25 mph)
 - 2015 – Intersection improvements at 165th St
- Section south of 158th St is the only area that has not yet been redesigned

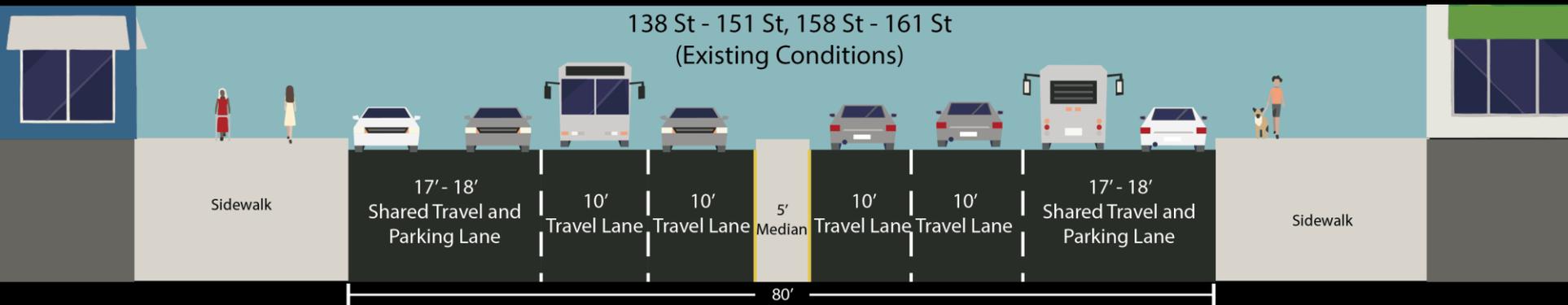
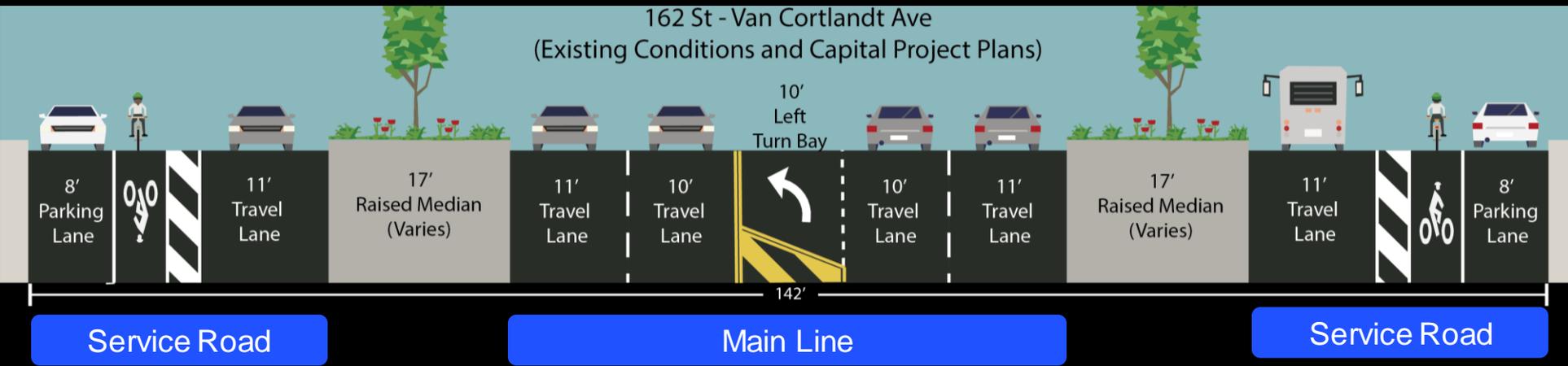


Grand Concourse and E 162 St

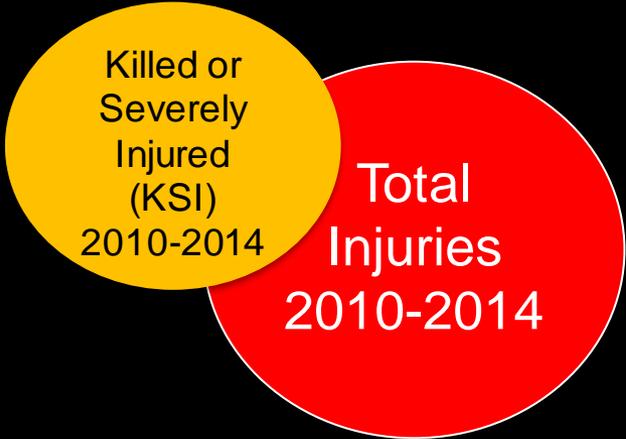


Grand Concourse and Mosholu Parkway

Grand Concourse Geometry

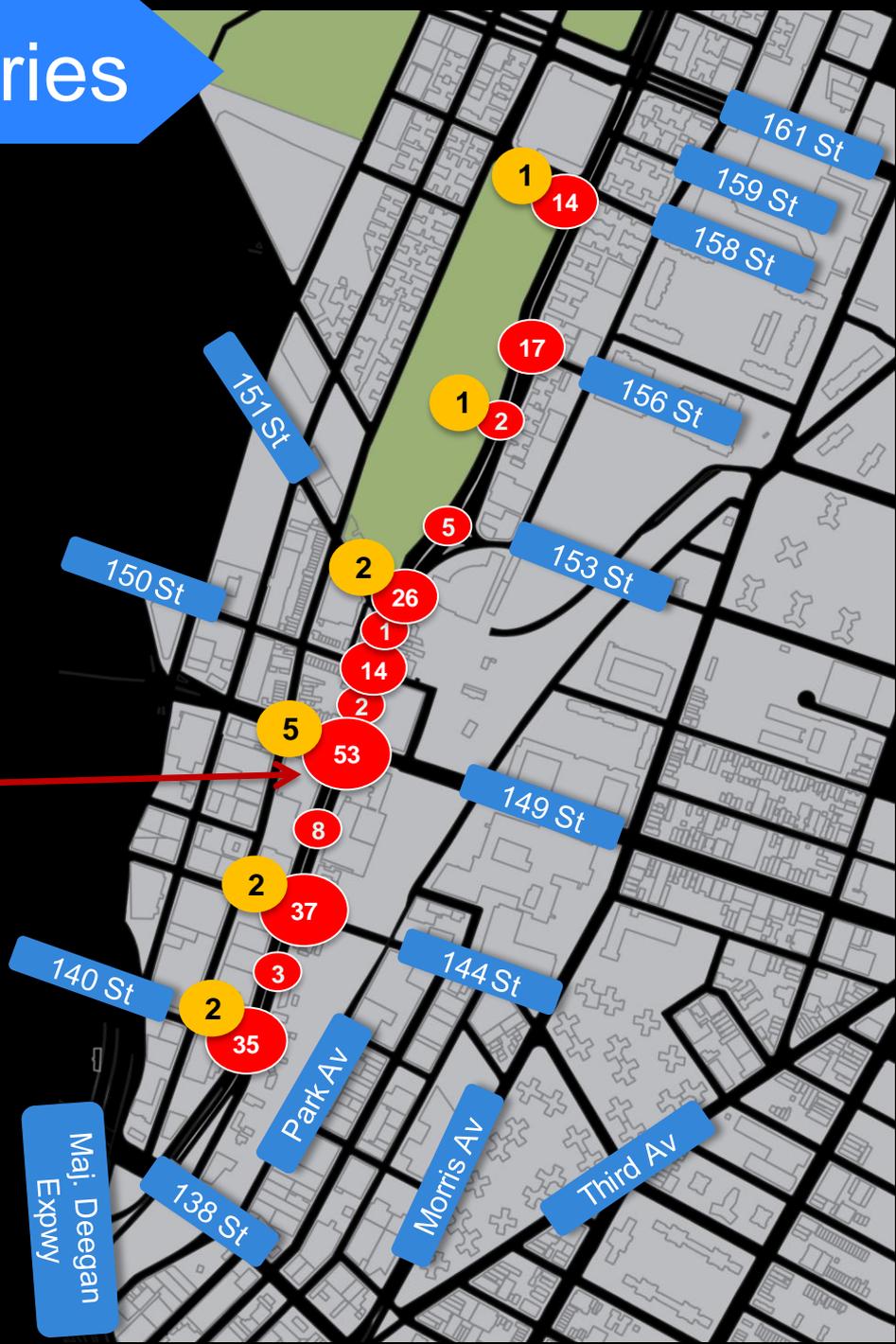


Existing Issues: Injuries



149th St is a Vision Zero priority intersection

13 Pedestrian Injuries (2 Fatalities) (2010-2014)



Grand Concourse - 138 St to 158 St, BX

Injury Summary, 2010-2014 (5 Years)

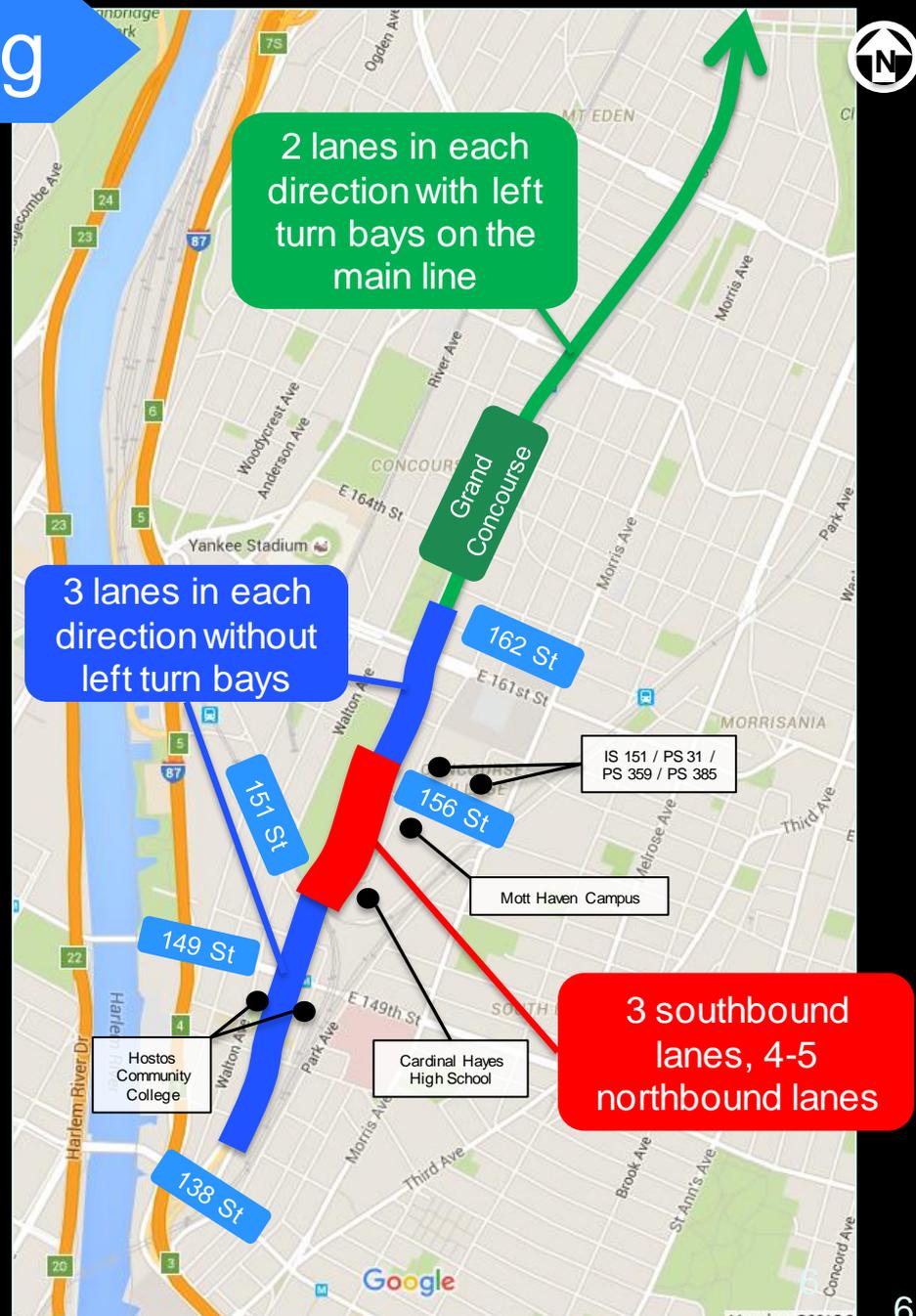
	Total Injuries	Severe Injuries	Fatalities	KSI
Pedestrian	24	3	2	5
Bicyclist	10	1	0	1
Motor Vehicle Occupant	182	7	0	7
Total	216	11	2	13

Existing Issues: Speeding

- Approximately 1,100-1,200 vehicles in the peak hour in the peak direction
- North of 161st St, this volume is accommodated by 2 lanes with left turn bays
- Excess lanes and roadway space south of 161st St encourages speeding

Street		Percent of Vehicles Speeding	85 th Percentile Speed
153 St – 156 St	Northbound	82%	40 mph
	Southbound	53%	32 mph
144 St – 149 St	Northbound	79%	34 mph
	Southbound	72%	37 mph

*Study conducted December 30, 2015



Existing Conditions



144TH St

Inadequate refuge and not ADA accessible

No left turn bay

Signal pole in middle of pedestrian crossing

Existing Conditions

144TH ST



Few turning lanes:
Left turning cars
obstruct traffic flow

Existing Conditions

149th St



No pedestrian refuge

Existing Conditions

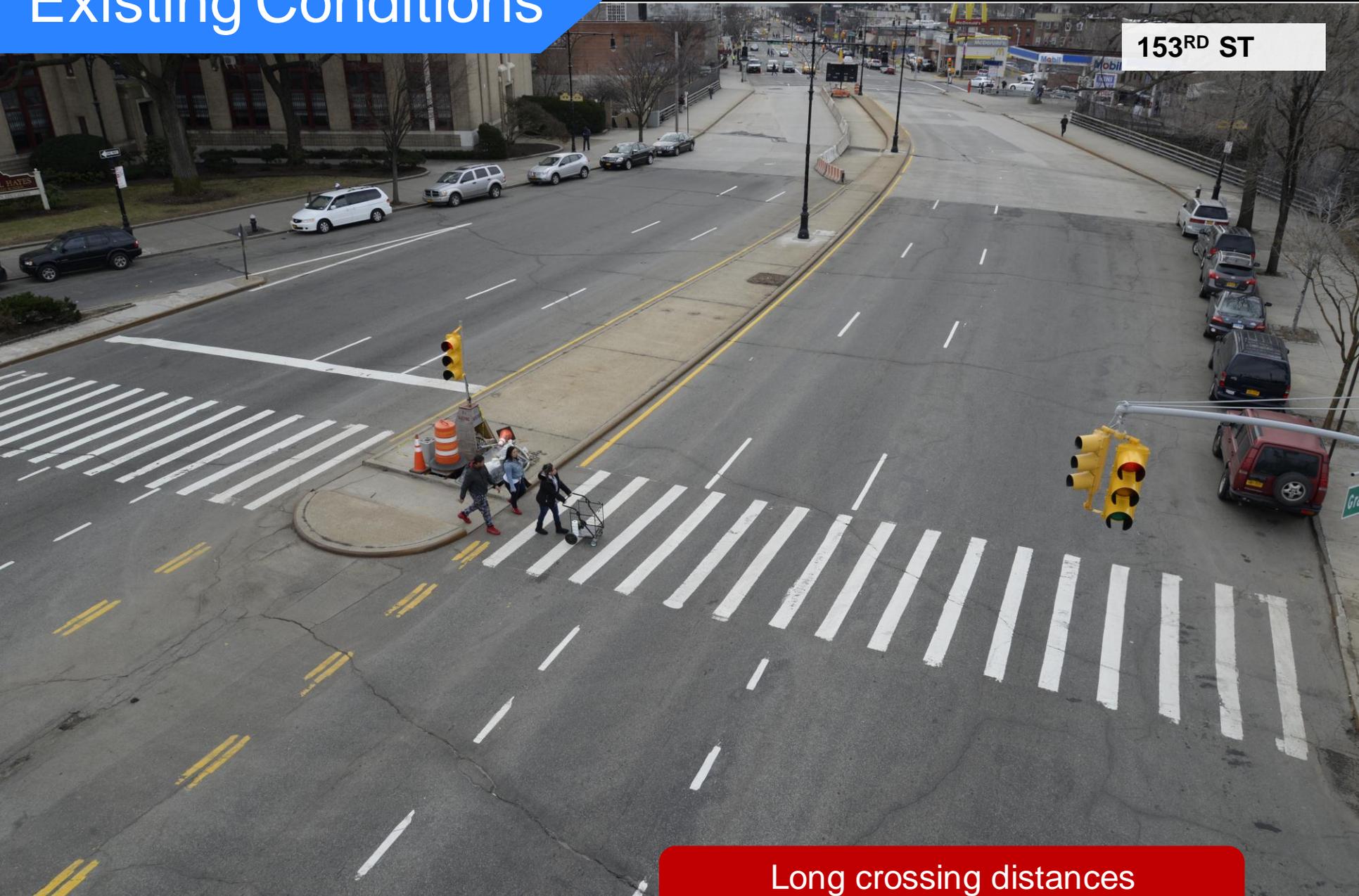
151ST ST



Cut-back median allows for fast, uncontrolled turns that conflict with pedestrians

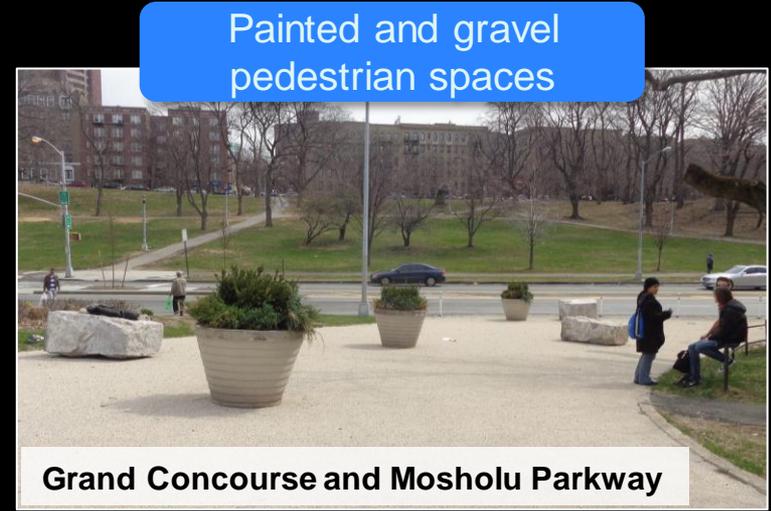
Existing Conditions

153RD ST



Long crossing distances
Street width varies from 80' to 115'

In-House Toolkit



Proposed Plans: Typical

Reduce to 5 lanes
(2 moving lanes in each direction
+ 1 left turning lane)

Stripe parking lanes
and bus stops

Install concrete or painted
median tip extensions at
intersections

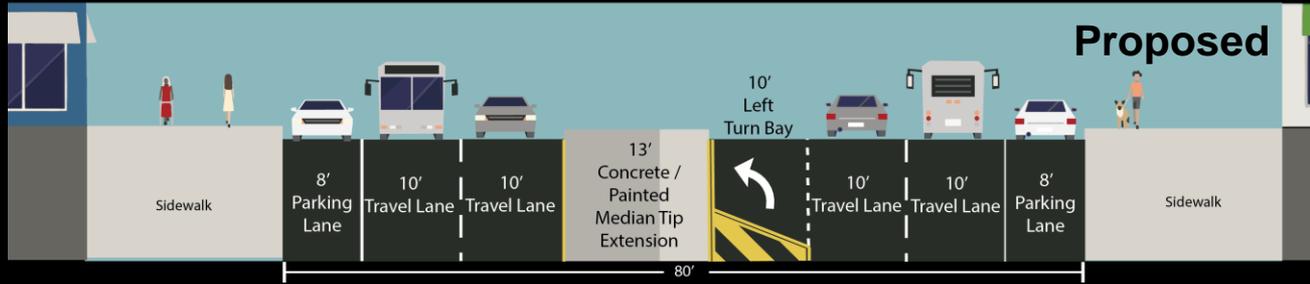
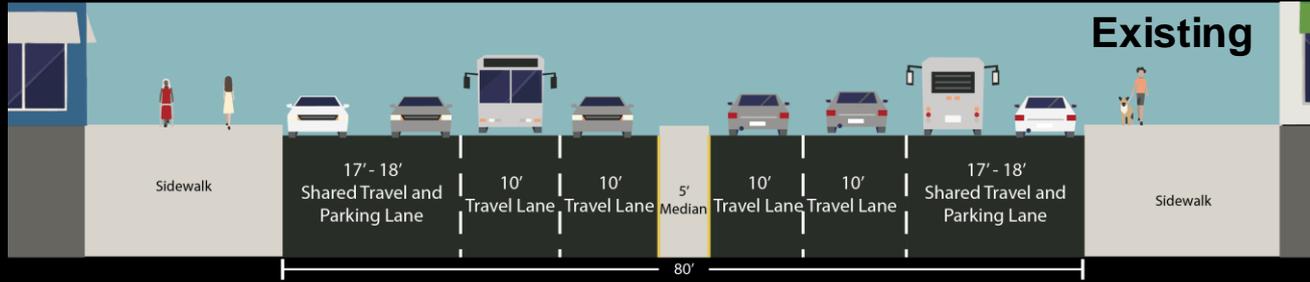
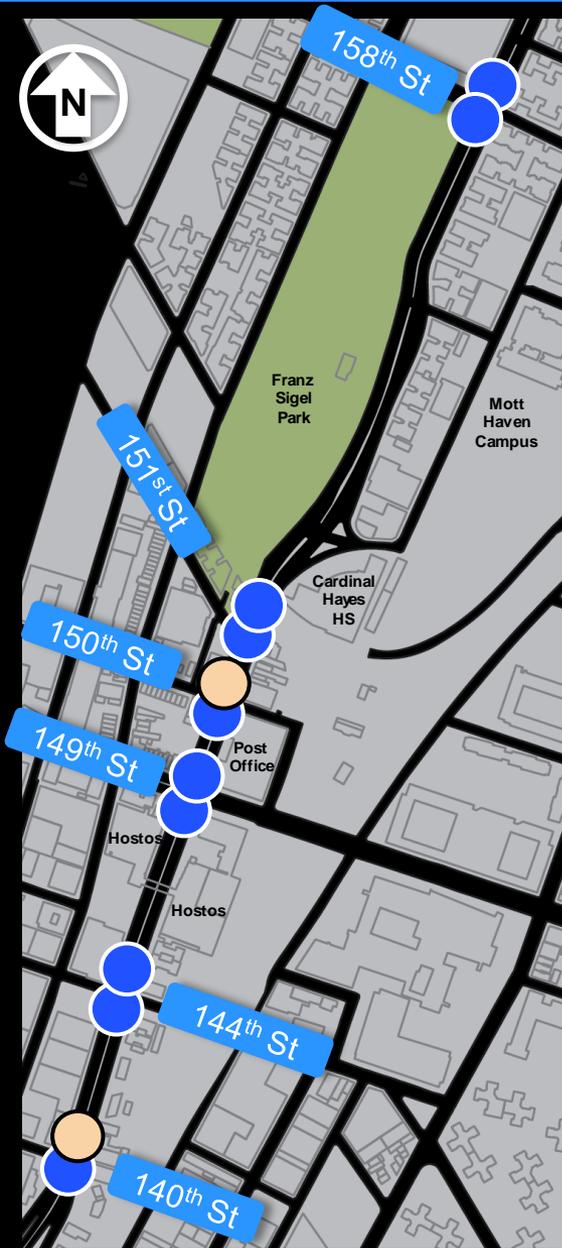
Upgrade crosswalks to
high visibility

Install left turn
bays at
intersections

Pennsylvania Avenue, Brooklyn

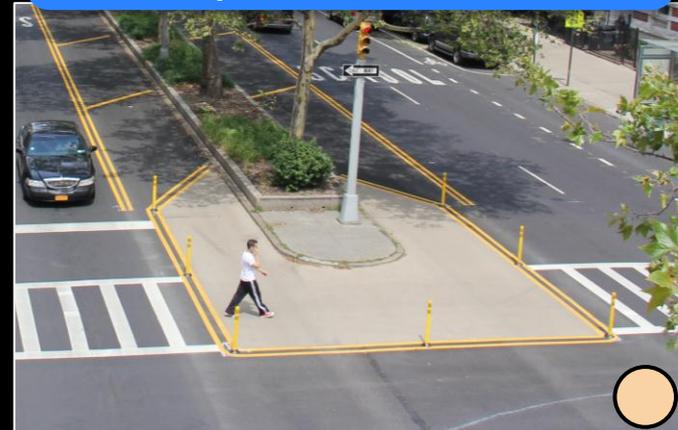


140th St – 151st St, 156th St - 158th St: Typical



Construct 10 concrete median tip extensions

Install 2 painted median tip extensions



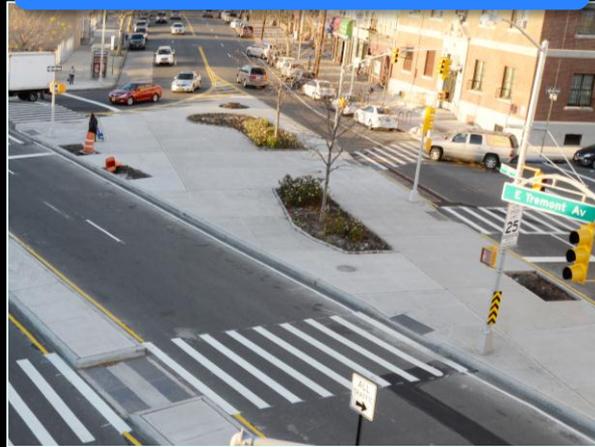
153rd St – 156th St: Operational Changes

Implement safety improvements at intersections with complicated geometry

Concrete median tip extensions and pedestrian islands



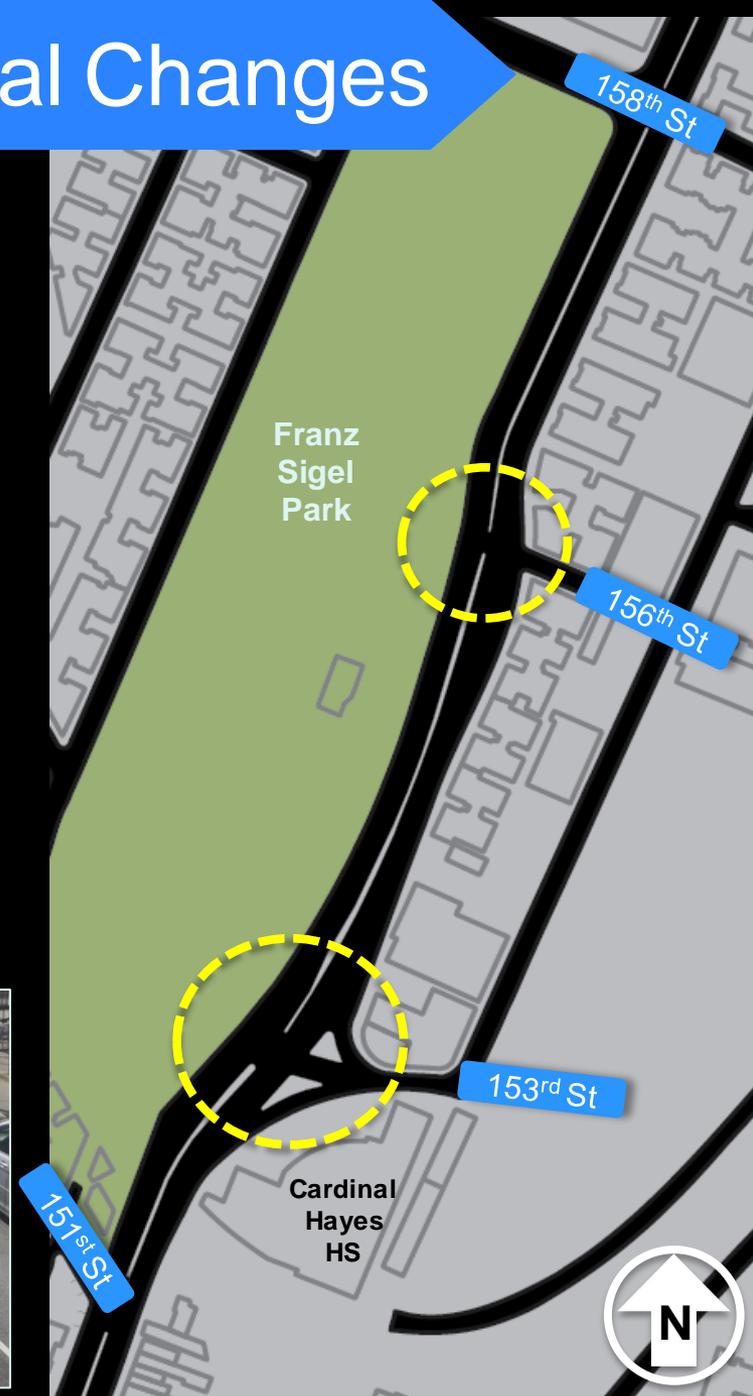
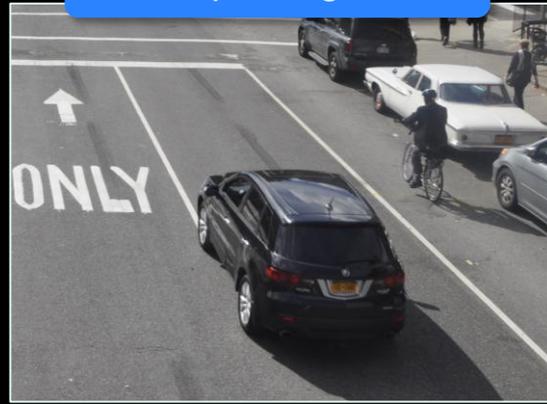
Concrete island extensions



Painted pedestrian spaces



Wide parking lanes



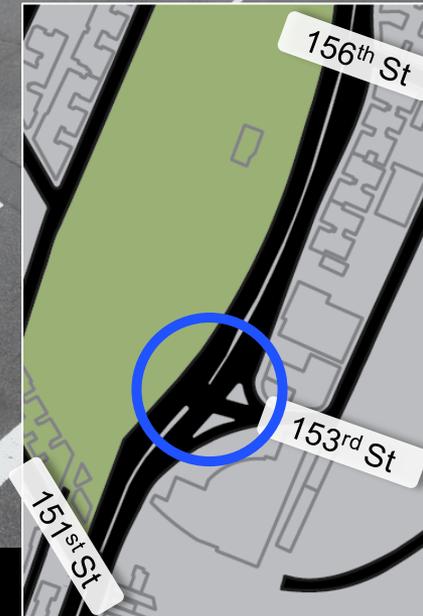
153rd St: Existing Issues

Long crossing distances



Excess road capacity

4 northbound moving lanes, 3-4 southbound lanes + left turn bay



153rd St: Existing Issues



Significant pedestrian activity, particularly before and after school

Yield-controlled westbound right slip lane



153rd St: Existing Conditions



Narrow median on north side does not provide sufficient refuge for pedestrians

Slip lane with yield control

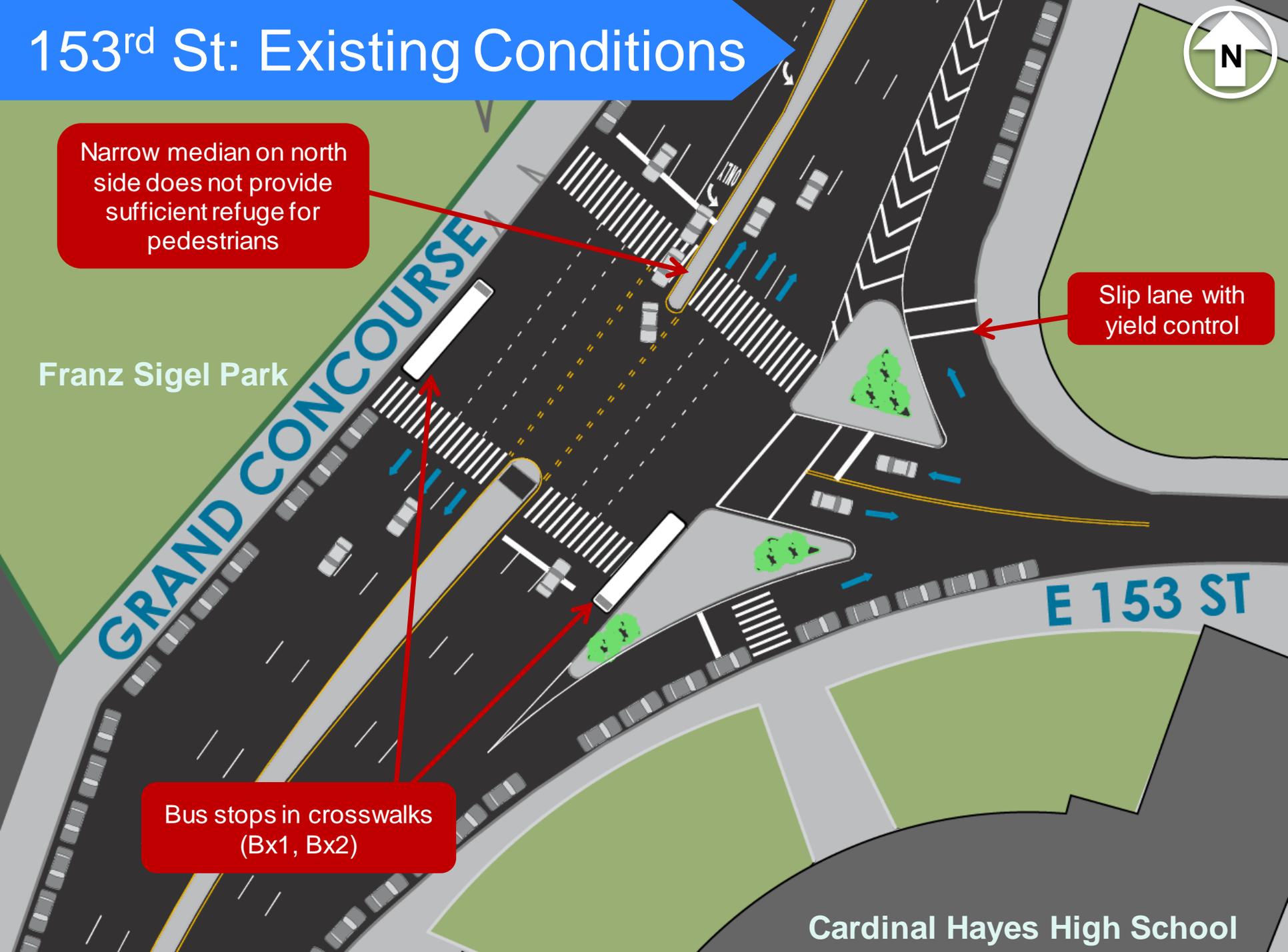
Franz Sigel Park

GRAND CONCOURSE

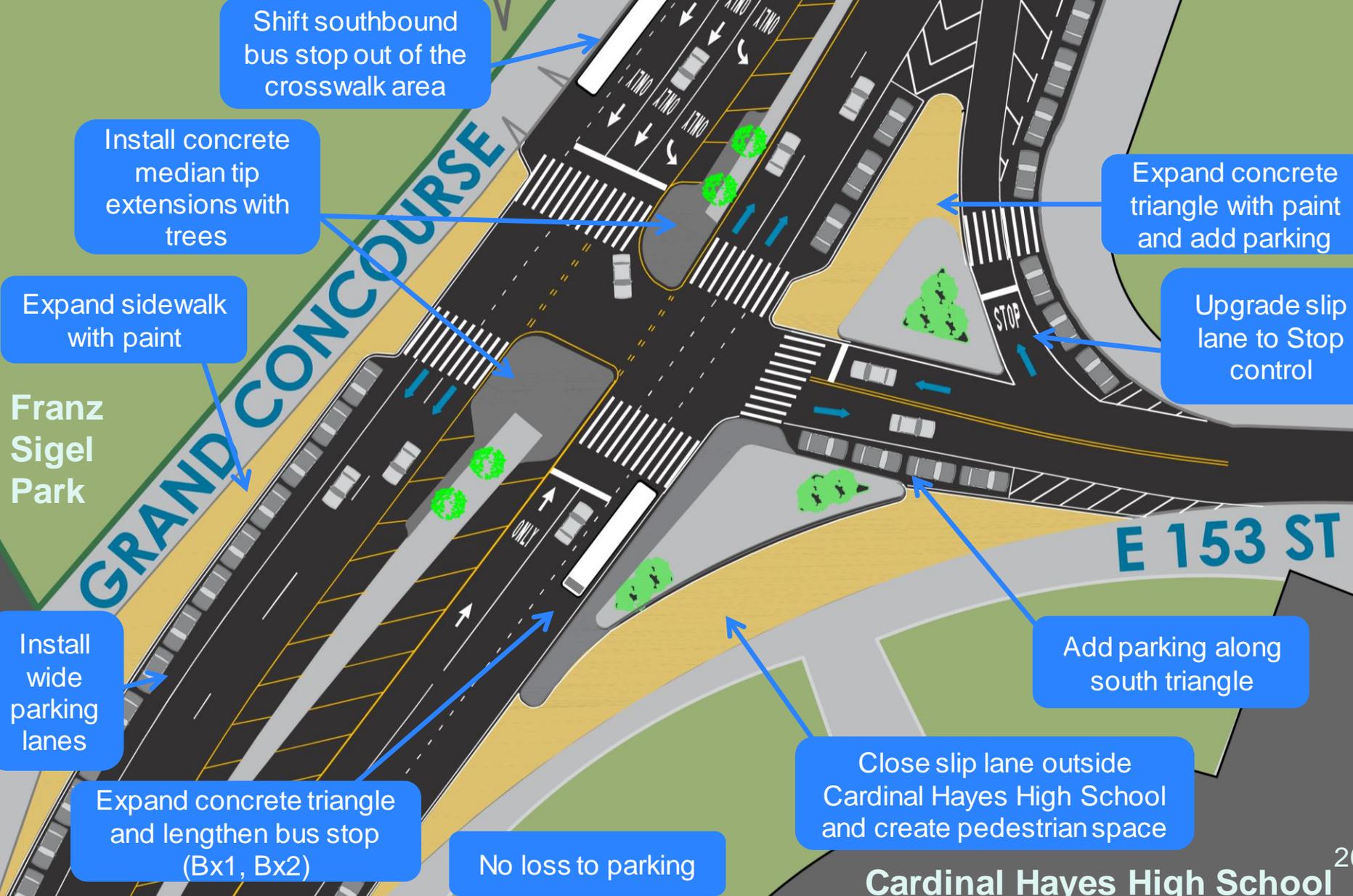
E 153 ST

Bus stops in crosswalks (Bx1, Bx2)

Cardinal Hayes High School



153rd St: Proposed Plans



Existing Issues: 156th St

Excess road capacity

4 northbound thru lanes + 1
northbound turn bay



Long crossing distances

Existing Issues: 156th St



Bx1/2 buses have difficulty pulling all the way into stop

Existing Conditions: 156th St



Shared thru and left turn lane blocks thru traffic

Franz Sigel Park

Long crossing distances with insufficient refuge

Excessively wide roadway (3-5 lanes in each direction)

GRAND CONCOURSE

Bus cannot pull all the way to sidewalk

E 156 ST

Proposed Plans: 156th St



Install exclusive left turn lane

Franz Sigel Park

Install concrete median tip extensions with trees

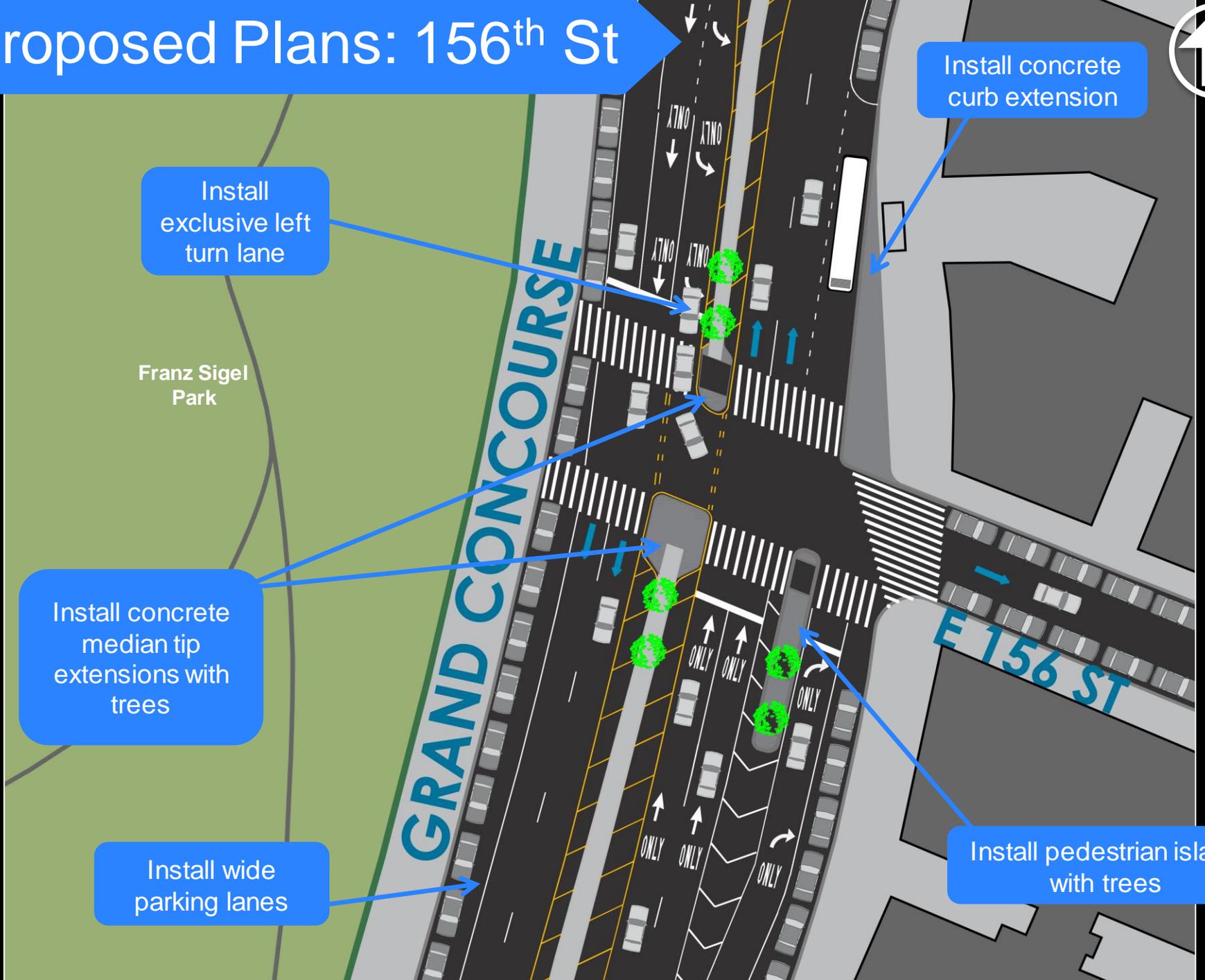
Install wide parking lanes

Install concrete curb extension

Install pedestrian island with trees

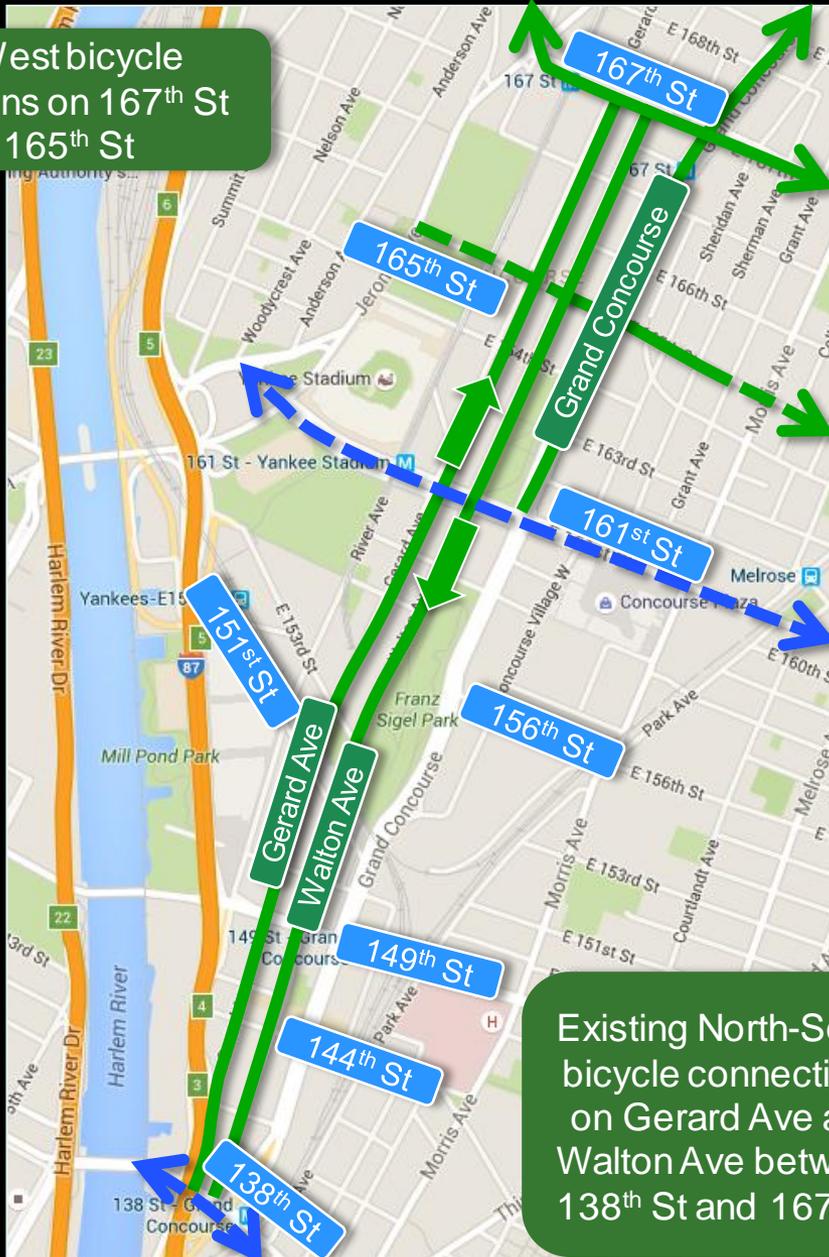
GRAND CONCOURSE

E 156 ST



Bike Enhancements

East-West bicycle connections on 167th St and 165th St



Existing North-South bicycle connections on Gerard Ave and Walton Ave between 138th St and 167th St

Legend

- Existing Bicycle Facility
- Proposed Bicycle Facility

Bike facilities are not feasible between 138th St and 158th St on the Grand Concourse due to constrained geometry, however wide sections between 153rd St and 156th St allow for 13' parking lanes that accommodate bicyclists

Future capital plans would incorporate bicycle facilities on this section of the Grand Concourse

Upgraded bicycle facilities are in planning for all sections of the Grand Concourse north of 162nd St

Project Benefits

Simpler, safer intersections

Reduced speeding and weaving

Safer, shorter pedestrian crossings

Better refuge for pedestrians

Improved pedestrian visibility

Clarified vehicular movements

Parking maintained

Traffic flow maintained

Similar treatments have improved safety

Adam Clayton Powell Jr Blvd,
133 St – 153 St, Manhattan

(3 year averages)

- 26% reduction in total injuries
- 37% reduction in pedestrian injuries

4th Avenue, 15 St – 65 St, Brooklyn

(2 year averages)

- 17% reduction in total injuries
- 34% reduction in pedestrian injuries

Pennsylvania Ave, Brooklyn

(2 year averages)

- 12% reduction in total injuries
- 29% reduction in pedestrian injuries

Proposal Summary

1. Reduce the number of moving lanes from 6 to 5, including a left turn lanes where needed
2. Install 14 concrete and 2 painted median tip extensions at intersections along the corridor
3. Expand concrete triangles in paint/gravel (north side) and concrete (south side) and close south slip lane with paint/gravel at 153rd St outside Cardinal Hayes High School. Extend west sidewalk by Franz Sigel Park in paint/gravel.
4. Install 1 concrete island and 1 concrete curb extension at 156th St
5. Install parking lanes and channelization to clarify traffic movements
6. Upgrade all crosswalks to high visibility crosswalks
7. Update markings on the corridor
8. Install pedestrian ramps along the corridor



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Thank
You