Grand Concourse, 138th St to 158th St
Corridor Safety Improvements
2016

New York City Department of Transportation
Presented by the Pedestrian Projects Group on March 2, 2016 to Bronx Community Board 4
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 Geometry

162 St - Van Cortlandt Ave
(Existing Conditions and Capital Project Plans)

Service Road

Main Line

Service Road

138 St - 151 St, 158 St - 161 St
(Existing Conditions)

Sidewalk

17' - 18' Shared Travel and Parking Lane

10' Travel Lane

10' Travel Lane

5' Median

10' Travel Lane

10' Travel Lane

17' - 18' Shared Travel and Parking Lane

Sidewalk
Existing Issues: Injuries

**Killed or Severely Injured (KSI) 2010-2014**

**Total Injuries 2010-2014**

149th St is a Vision Zero priority intersection

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

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**Grand Concourse - 138 St to 158 St, BX**

**Injury Summary, 2010-2014 (5 Years)**

<table>
<thead>
<tr>
<th>Injury Type</th>
<th>Total Injuries</th>
<th>Severe Injuries</th>
<th>Fatalities</th>
<th>KSI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pedestrian</td>
<td>24</td>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Bicyclist</td>
<td>10</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Motor Vehicle Occupant</td>
<td>182</td>
<td>7</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>216</td>
<td>11</td>
<td>2</td>
<td>13</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Street</th>
<th>Percent of Vehicles Speeding</th>
<th>85th Percentile Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>153 St – 156 St</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northbound</td>
<td>82%</td>
<td>40 mph</td>
</tr>
<tr>
<td>Southbound</td>
<td>53%</td>
<td>32 mph</td>
</tr>
<tr>
<td>144 St – 149 St</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northbound</td>
<td>79%</td>
<td>34 mph</td>
</tr>
<tr>
<td>Southbound</td>
<td>72%</td>
<td>37 mph</td>
</tr>
</tbody>
</table>

*Study conducted December 30, 2015*
Existing Issues: Community Concerns

- Issues identified by community members on Vision Zero map:
  - Speeding
  - Long crossing distances
  - Not enough time to cross
  - Long wait to cross
  - Failure to yield

Existing Conditions

- Inadequate refuge and not ADA accessible
- Signal pole in middle of pedestrian crossing
- No left turn bay
Existing Conditions

Few turning lanes: Left turning cars obstruct traffic flow
Existing Conditions

No pedestrian refuge

149th St
Cut-back median allows for fast, uncontrolled turns that conflict with pedestrians
Existing Conditions

Long crossing distances
Street width varies from 80’ to 115’
In-House Toolkit

- New signage
- Flexible delineators
- Painted and gravel pedestrian spaces
- Concrete median tip extensions and pedestrian islands
- Pavement markings
- Grand Concourse and Mosholu Parkway
- Forsyth St
- Tremont Ave and Silver Ave
Proposed Plans: Typical

- Reduce to 5 lanes (2 moving lanes in each direction + 1 left turning lane)
- Install left turn bays at intersections
- Upgrade crosswalks to high visibility
- Stripe parking lanes and bus stops
- Install concrete or painted median tip extensions at intersections

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

**Existing**

- Sidewalk
- 17' - 18' Shared Travel and Parking Lane
- 10' Travel Lane
- 10' Travel Lane
- 5' Median
- 10' Travel Lane
- 10' Travel Lane
- 17' - 18' Shared Travel and Parking Lane
- Sidewalk

**Proposed**

- Sidewalk
- 8' Parking Lane
- 10' Travel Lane
- 10' Travel Lane
- 10' Left Turn Bay
- 13' Concrete / Painted Median Tip Extension
- 10' Travel Lane
- 10' Travel Lane
- 8' Parking Lane
- Sidewalk

**Actions**

- Construct 10 concrete median tip extensions
- Install 2 painted median tip extensions
153<sup>rd</sup> St – 156<sup>th</sup> 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

Franz Sigel Park

Cardinal Hayes HS
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

Bus stops in crosswalks (Bx1, Bx2)
153rd St: Proposed Plans

- Shift southbound bus stop out of the crosswalk area
- Install concrete median tip extensions with trees
- Expand sidewalk with paint
- Install wide parking lanes
- Expand concrete triangle and lengthen bus stop (Bx1, Bx2)
- Expand concrete triangle with paint and add parking
- Upgrade slip lane to Stop control
- Add parking along south triangle
- Close slip lane outside Cardinal Hayes High School and create pedestrian space
- No loss to parking
Existing Issues: 156th St

- Excess road capacity
- 4 northbound thru lanes + 1 northbound turn bay

Long crossing distances

- 65’
- 43’
Existing Issues: 156th St

Bx1/2 buses have difficulty pulling all the way into stop
Existing Conditions: 156th St

- Excessively wide roadway (3-5 lanes in each direction)
- Long crossing distances with insufficient refuge
- Shared thru and left turn lane blocks thru traffic
- Bus cannot pull all the way to sidewalk

Franz Sigel Park
Proposed Plans: 156th St

- Install pedestrian island with trees
- Install concrete curb extension
- Install concrete median tip extensions with trees
- Install wide parking lanes
- Install exclusive left turn lane

Franz Sigel Park
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