AMSTERDAM AVENUE 110TH ST TO 162ND ST

Safety Improvements

Presented to Manhattan Community Board 12
March 6, 2017
PRESENTATION OVERVIEW

- **Background**
  - Project Location
  - Safety
  - Key Issues

- **Proposal**
  - Corridor Redesign
  - Intersection Improvements
  - Making It Work

- **Summary**
Background
PROJECT LOCATION AND COMMUNITY REQUESTS

1. Amsterdam Ave W 110th – W 162nd St

2. Corridor Characteristics
   - Mix of high density residential and commercial
   - Columbia University
   - City College

3. Senior Safety Area
   - Hamilton Heights Senior Safety Area
     W 145th St – W 162nd St

4. Community Requests
   - Request from CM Levine to address safety concerns between 110th St and 125th St

5. Citi Bike
   - Phase II expansion scheduled for summer 2017 up to 130th St
SAFETY – Vision Zero

Multi-agency effort to reduce traffic deaths and injuries through improved

- Engineering
- Education
- Enforcement

Priority Intersections on Amsterdam Ave at

- W 125th St
- W 133rd St
## SAFETY – Project Area

### Injury Summary, 2011-2015 (5 years)

<table>
<thead>
<tr>
<th></th>
<th>Total Injuries</th>
<th>Severe Injuries</th>
<th>Fatalities</th>
<th>KSI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pedestrian</td>
<td>235</td>
<td>27</td>
<td>4</td>
<td>31</td>
</tr>
<tr>
<td>Bicyclists</td>
<td>65</td>
<td>7</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Motor Vehicle Occupant</td>
<td>413</td>
<td>27</td>
<td>0</td>
<td>27</td>
</tr>
<tr>
<td>Total</td>
<td>713</td>
<td>61</td>
<td>4</td>
<td>65</td>
</tr>
</tbody>
</table>

**Fatality Summary, 01/01/2010 – 01/09/2016: 4**

*Source: Fatalities: NYCDOT, Injuries: NYSDOT. KSI: Persons Killed or Severely Injured*
Background

KEY ISSUES– Corridor Safety

*Speeding (136th -138th St mid-day)
- 71% Above 25mph (NB)
- 70% Above 25mph (SB)

Off-peak Speeding
70% of vehicles travel above the speed limit during off peak time*

Undefined Lane Assignments
lead to unpredictable vehicular movements

No Dedicated Space for Bikes
cyclists ride with traffic, less predictable locations
Background

KEY ISSUES – Intersection Safety

Wide Roadway creates long pedestrian crossings

Wide Turn Radii enable drivers to take turns at high speeds, cut corners
KEY ISSUES – Bike Network Connectivity

1. Gap in Network

2. Broadway
   - North/South route requested in 2015
   - Amsterdam Ave preferred alternative

3. No Connection to Existing Bike Lanes
   - Amsterdam Ave north of 162nd St
   - Amsterdam Ave (NB ends at 110th)
   - Columbus Ave (SB begins at 110th)
   - Hudson River Greenway

4. Potential Connections
   - 110th St to Central Park
   - 133rd St to Hudson River Greenway
Amsterdam Ave Proposal
PROJECT OVERVIEW

1. Corridor Redesign
   4–to-3 lane conversion with left turn lanes and bike lanes

2. Intersection Improvements
   • Pedestrian Refuge Islands

3. Making it Work
   • Rush Hour Regulations
   • Southern Transition
   • Northern Transition
   • Loading Zones
   • Traffic Analysis
1. CORRIDOR REDESIGN – Existing Conditions (Typical)

- 60 ft wide
- 2 moving lanes in each direction
- Parking on both curbs

- Off-peak Speeding: 70% of vehicles travel above the speed limit during off peak time*
- Undefined Lane Assignments lead to unpredictable vehicular movements
- No Dedicated Space for Bikes: cyclists ride with traffic, less predictable locations
1. CORRIDOR REDESIGN – Proposed Design (Typical)

- Remove one travel lane in each direction
- Install left turn bays
- Install bike lanes in both directions
- Maintain parking on both curbs

**Narrower Roadway**
Discourages speeding

**Turn Bays**
Create simpler, safer left turns, reduce back pressure

**Bike Lanes**
Provide dedicated space for cyclists, increase predictability
1. CORRIDOR REDESIGN – Example of Proposed Design

Maintain Consistent Moving Lane reduces speeding, reduce conflict

Left Turn Bays organize traffic and create safer left turns
1. CORRIDOR REDESIGN – Safety Benefits of Left Turn Bays

Left turn bays **improve traffic organization** by allowing left turning vehicles their own space before turning left, which helps **reduce back pressure** from other vehicles.

### Injuries on Two-Way Approaches with Left Turn Bays

<table>
<thead>
<tr>
<th></th>
<th>Motor Vehicle</th>
<th>Pedestrian</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Left</td>
<td>Total Injury</td>
</tr>
<tr>
<td>Before (3 Years)</td>
<td>350</td>
<td>1,137</td>
</tr>
<tr>
<td>After (3 Years)</td>
<td>191</td>
<td>850</td>
</tr>
<tr>
<td>Change</td>
<td>-45%</td>
<td>-25%</td>
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</table>

* On two-way approaches only, installed as part of DOT Street Improvement Projects

**Source:** NYSDOT (2006 – 2014)

Before and after analysis of left turn bays installed at 140 intersections (2009-2011):

- **-45%** Left turn motor vehicle occupant injuries
- **-25%** Total motor vehicle occupant injuries
- **-24%** Left turn pedestrian injuries
- **-9%** Total pedestrian injuries
2. INTERSECTION IMPROVEMENTS – Pedestrian Refuge Islands

Proposal

Wide Roadway creates long pedestrian crossings

Wide Turn Radii enable drivers to take turns at high speeds, cut corners
Proposal

2. INTERSECTION IMPROVEMENTS – Pedestrian Refuge Islands

Pedestrian Refuge Islands create safer crossings forces slower left-turns

14 Prioritized Intersections
2. INTERSECTION IMPROVEMENTS – Example of Pedestrian Refuge Islands

Vanderbilt Ave, BK

Vanderbilt Ave, Brooklyn looking north
5. MAKING IT WORK – Southern Transition (110th St - 113th St)

- Maintains capacity at high volume location to ensure traffic flow
- One lane SB from 113th St - 111th St, Two lanes NB from 110th St – 113th St
5. MAKING IT WORK – Rush Hour Regulations at 145<sup>th</sup> St, 155<sup>th</sup> St

- **Existing**
  - West Sidewalk
  - 10’ Parking Lane
  - 10’ Travel Lane
  - 10’ Travel Lane
  - 10’ Travel Lane
  - 10’ Parking Lane
  - East Sidewalk

- **Proposed**
  - West Sidewalk
  - 8’ Parking Lane
  - 11’ Travel Lane
  - 10’ Turn Lane
  - 11’ Travel Lane
  - 10’ AM/PM Rush Hour
  - East Sidewalk

- Increases capacity at high volume locations to maintain traffic flow
- Eastern parking lane will turn into travel lane during AM/PM peak hours
  - Standard parking at all other times
5. MAKING IT WORK – Northern Transition (161ST St – 162nd St)

Proposal

- Maintains capacity at high volume intersection to ensure traffic flow
5. MAKING IT WORK – Loading Zones

Loading Zones allows curbside access, reduces double parking, ensures traffic flow

- Improve access to the curb for commercial deliveries
- Targeted loading zones address varied needs block by block
- Identified locations, looking for feedback

Note 1: Metered parking to remain unless otherwise indicated.
Note 2: Specifics of regulations north of W 106th St pending further consultation with the Columbus Amsterdam BID
5. MAKING IT WORK – Traffic Analysis

<table>
<thead>
<tr>
<th>Cross Street</th>
<th>Overall Intersection Delay (sec) /LOS</th>
<th>Max Volume-to-Capacity Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Existing</td>
<td>Proposed</td>
</tr>
<tr>
<td>W 110th St</td>
<td>25.5</td>
<td>C</td>
</tr>
<tr>
<td>W 125th St</td>
<td>35.3</td>
<td>D</td>
</tr>
<tr>
<td>W 135th St</td>
<td>9.2</td>
<td>A</td>
</tr>
<tr>
<td>W 145th St</td>
<td>10.3</td>
<td>B</td>
</tr>
<tr>
<td>W 155th St</td>
<td>22.2</td>
<td>C</td>
</tr>
<tr>
<td>W 162nd St</td>
<td>22.4</td>
<td>C</td>
</tr>
</tbody>
</table>

- Left turn bays organize traffic
- Minimal impact on traffic
- Maintains capacity at high volume locations to ensure traffic flow

* Peak hours vary per intersection*
The proposed project will **increase safety for all road users** along a corridor that had **4 pedestrian fatalities, 28 pedestrians and 8 cyclists severely injured** between 2010 and 2014.

- **Remove one lane in each direction**
  - Discourages speeding
- **Install left turn bays**
  - Creates safer left turns, improves traffic flow
- **Add bike lanes**
  - Addresses gap in bike network, makes cyclist movements more predictable
- **Build pedestrian refuge islands**
  - Creates shorter crossings
- **Add left turn treatments**
  - Slows left-turning vehicles
- **Install painted curb extensions**
  - Improves alignment, shortens crossings
- **Add right turn lane at 145th, 155th St**
  - Increases capacity at high volume intersections
- **Create southern transition**
  - Maintains vehicle capacity
- **Create northern transition**
  - Creates smooth transition to the north
- **Add loading zones**
  - Improves curb access, discourages double parking
Questions?
THANK YOU!
Appendix

Intersections with more than 10 Injuries 2010-2014

Identified Need for Loading Zones

- Full Block
- Half Block