Meeting Overview

- Summary of Existing Conditions
- Future without Improvements
- Key Issues
- Preliminary Improvement Ideas
Study Process

- Start: January 4, 2008
- Public Meeting #1: April 10, 2008
- Data Collection Plan
- 1st PAC Meeting: February 25, 2008
- Community Walk-through: May 8, 2008
- 2nd PAC Meeting: July 17, 2008
- Existing Condition Analysis
- 3rd PAC Meeting: June 4, 2009
- Public Meeting #2: June 18, 2009
- Draft Recommendations
- 4th PAC Meeting: Fall 2009
- Draft Final Report
- 5th PAC Meeting: Early 2010
- Community Board Meeting
- Final Report
- We are here!
- Fall 2009
- We are here!
- Early 2010
Locations of Heavy Turn Movements
Corridor Traffic Patterns

Higher volumes on east end of 181st Street at all times

Eastbound: Volumes increase from west to east

Westbound: Volumes decrease from east to west

EB 181st Street Traffic Volumes

WB 181st Street Traffic Volumes

Legend:
- Amsterdam Avenue
- Cabrini Boulevard
Corridor Traffic Patterns

Eastbound 178th St:
Volumes decrease from west to east

Westbound 179th St:
Volumes increase from east to west

EB 178th Street Traffic Volumes

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Volumes</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM</td>
<td>1100</td>
</tr>
<tr>
<td>MD</td>
<td>900</td>
</tr>
<tr>
<td>PM</td>
<td>1200</td>
</tr>
<tr>
<td>SAT</td>
<td>800</td>
</tr>
</tbody>
</table>

WB 179th Street Traffic Volumes

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Volumes</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM</td>
<td>400</td>
</tr>
<tr>
<td>MD</td>
<td>300</td>
</tr>
<tr>
<td>PM</td>
<td>500</td>
</tr>
<tr>
<td>SAT</td>
<td>200</td>
</tr>
</tbody>
</table>

Blue: Amsterdam Avenue
Orange: Ft. Washington Avenue
Travel Speed Profile
West 178th and 179th Streets

LEGEND
- Red: <5 mph
- Orange: 5-10 mph
- Yellow: 10-15 mph
- Green: >15 mph
Level of Service by Approach (Existing AM)

- Mid-LOS D and worse (Delay 45-55 seconds/vehicle)
- LOS E or F (Delay >55 seconds/vehicle)
Level of Service by Approach (Future w/o Improvements AM)

- Mid-LOS D and worse (Delay 45-55 seconds/vehicle)
- LOS E or F (Delay >55 seconds/vehicle)
Level of Service by Approach (Existing MD)

- **Mid-LOS D and worse (Delay 45-55 seconds/vehicle)**
- **LOS E or F (Delay >55 seconds/vehicle)**
Level of Service by Approach (Future w/o Improvements MD)

- Mid-LOS D and worse (Delay 45-55 seconds/vehicle)
- LOS E or F (Delay >55 seconds/vehicle)
Level of Service by Approach (Existing PM)

- Mid-LOS D and worse (Delay 45-55 seconds/vehicle)
- LOS E or F (Delay >55 seconds/vehicle)
Level of Service by Approach (Future w/o Improvements PM)

- Mid-LOS D and worse (Delay 45-55 seconds/vehicle)
- LOS E or F (Delay >55 seconds/vehicle)
Level of Service by Approach (Existing SAT MD)

- Mid-LOS D and worse (Delay 45-55 seconds/vehicle)
- LOS E or F (Delay >55 seconds/vehicle)
Level of Service by Approach (Future w/o Improvements SAT)

- Mid-LOS D and worse (Delay 45-55 seconds/vehicle)
- LOS E or F (Delay >55 seconds/vehicle)
Safety

<table>
<thead>
<tr>
<th>Year</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>3-Year Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Reportable Accidents</td>
<td>49</td>
<td>61</td>
<td>60</td>
<td>170</td>
</tr>
</tbody>
</table>

- 181st Street
- Intersection Crashes: 33
- Mid-block Crashes: 1
Reportable Accidents by Severity

No. of Accidents

Intersections

Fatal
Injury
PDO*

Pinehurst Ave
Fort Washington Ave
Bennett Ave
Broadway
Wadsworth Ave
St. Nicholas Ave
Audubon Ave
Amsterdam Ave

No. of Accidents
Accident Types

(Top 3 Intersections)

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Overtaking</th>
<th>Rear End</th>
<th>Right Angle</th>
<th>Left Turn</th>
<th>Right Turn</th>
<th>Pedestrian</th>
<th>Fixed Object</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amsterdam Avenue</td>
<td>1</td>
<td>7</td>
<td>3</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Fort Washington Avenue</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Audubon Avenue</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
# On-Street Parking Inventory

**181\textsuperscript{st} Street (Riverside Dr – Amsterdam Ave)**

<table>
<thead>
<tr>
<th>Parking Space</th>
<th>Metered</th>
<th>Non-Metered</th>
<th>Taxi Stand</th>
<th>Authorized</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td># Legal Spaces (North side)</td>
<td>56</td>
<td>36</td>
<td>0</td>
<td>6</td>
<td>98</td>
</tr>
<tr>
<td># Legal Spaces (South side)</td>
<td>44</td>
<td>37</td>
<td>6</td>
<td>0</td>
<td>87</td>
</tr>
<tr>
<td># Legal Spaces (TOTAL)</td>
<td>100</td>
<td>73</td>
<td>6</td>
<td>6</td>
<td>185</td>
</tr>
</tbody>
</table>
On-Street Parking Utilization
181st Street

Legend:
- Weekday
- Weekend
- Illegal Parking

*Capacity at time of parking survey
Parking Duration – 181st Street

Parking Duration
Vehicles observed beginning at 7-8 AM

Observed Parked Vehicles

- Non-Metered
- Metered Only

Peak Hour
- 7-8 AM
- 8-9 AM
- 12-1 PM
- 1-2 PM
- 4-5 PM
- 5-6 PM

71 144
76
9
22
20
15
18
70%
60%
50%
40%
30%
20%
10%
0%
Parking Duration – 181st Street

Parking Duration
Vehicles observed beginning at 12-1 PM

Observed Parked Vehicles

Peak Hour

Non-Metered
Metered

12-1 PM 1-2 PM 4-5 PM 5-6 PM

137 93 59 43 19 14 6 6
Truck Routes in Study Area
## Truck Observations

### 181st Street & Selected Cross-Streets

<table>
<thead>
<tr>
<th>Time Period</th>
<th># Trucks Parked</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM</td>
<td>7</td>
</tr>
<tr>
<td>MD</td>
<td>36</td>
</tr>
<tr>
<td>PM</td>
<td>16</td>
</tr>
<tr>
<td>SAT (MD)</td>
<td>15</td>
</tr>
</tbody>
</table>
Goods Movement (MD)
Heaviest Pedestrian Volumes
181st Street (Peak Hour)

- **Crosswalks:**
  - St. Nicholas Ave (SAT): 5,600 total pedestrians
  - Broadway (SAT): 3,375 total pedestrians

- **Sidewalks:**
  - South sidewalk between Wadsworth & St. Nicholas Aves (SAT): 1,925 total pedestrians
Heaviest Bicycle Volumes
181\textsuperscript{st} Street (Peak Hour)

- **Bicycles:**
  - Ft. Washington Ave Southbound at 181\textsuperscript{st} St (PM):
    - 21 total bicycles
Transit

Legend
- Blue: Routes BX 3, 3S
- Red: Routes BX 11, 13, 39
- Black: Layover Location
- Red: Layover Location
- M: Subway Stations
- Critical Intersection
- Yellow: Heavy Transit Activity (Observed)
Bus Frequency on 181st Street

Eastbound (Wadsworth Ave to Amsterdam Ave)

Bus Frequency (Eastbound)

<table>
<thead>
<tr>
<th>Time Period</th>
<th>No. of Buses per Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM</td>
<td>52</td>
</tr>
<tr>
<td>MD</td>
<td>33</td>
</tr>
<tr>
<td>PM</td>
<td>46</td>
</tr>
<tr>
<td>Weekend MD</td>
<td>40</td>
</tr>
</tbody>
</table>
Bus Frequency on 181st Street

Westbound (Amsterdam Ave to Wadsworth Ave)

Bus Frequency (Westbound)

<table>
<thead>
<tr>
<th>Time Period</th>
<th>No. of Buses per Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM</td>
<td>59</td>
</tr>
<tr>
<td>MD</td>
<td>34</td>
</tr>
<tr>
<td>PM</td>
<td>45</td>
</tr>
<tr>
<td>Weekend MD</td>
<td>40</td>
</tr>
</tbody>
</table>
# Average Daily Ridership for Bus Routes Serving 181st Street

<table>
<thead>
<tr>
<th>Route</th>
<th>Weekday</th>
<th>Saturday</th>
<th>Sunday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bx3</td>
<td>16,439</td>
<td>11,030</td>
<td>8,504</td>
</tr>
<tr>
<td>Bx11</td>
<td>13,709</td>
<td>9,457</td>
<td>7,303</td>
</tr>
<tr>
<td>Bx13</td>
<td>10,086</td>
<td>5,947</td>
<td>4,473</td>
</tr>
<tr>
<td>Bx35</td>
<td>14,591</td>
<td>10,026</td>
<td>7,748</td>
</tr>
<tr>
<td>Bx36</td>
<td>31,489</td>
<td>21,360</td>
<td>16,803</td>
</tr>
<tr>
<td>Total</td>
<td>86,314</td>
<td>57,820</td>
<td>44,831</td>
</tr>
</tbody>
</table>

Source: MTA-NYCT 2008
Locations of Heavy Transit Activity

- **Heaviest Daily Total Boardings**
  - St. Nicholas Ave EB = 5,980
  - Amsterdam Ave EB = 3,950
  - 178 St @ Broadway EB = 680

- **Heaviest Daily Total Alightings**
  - St. Nicholas Ave WB = 5,760
  - Amsterdam Ave WB = 3,300
  - 179 St @ Broadway WB = 2,935
Existing Conditions & Issues

- **Traffic Operations**
  - Heavy volumes & conflicting movements
  - Large number of buses
  - High volume of pedestrians
  - Signage to GWB & HHP
  - Lack of left-turn lanes or left-turn signals
  - Closely spaced driveways
Existing Conditions & Issues

Safety Concerns
- Vehicle-vehicle conflicts
- Vehicle-pedestrian conflicts
- Recurring traffic congestion
Existing Conditions & Issues

- **Parking**
  - Double parking by cars & trucks
  - Other illegal parking
  - “Feeding the meters”
Existing Conditions & Issues

- **Pedestrians & Bicycles**
  - Congested sidewalks
  - Lack of pedestrian amenities (e.g. bus shelters)
  - Discontinuous bicycle network
  - Faded pavement markings
Existing Conditions & Issues

- **Goods movement**
  - Multiple truck routes (including 181st Street)
  - No truck loading/unloading zones
  - Double parking by trucks
  - Tight turning radii for trucks
Existing Conditions & Issues

- Transit
  - Location of bus stops
  - Length of bus stops
  - Turning buses conflicting with pedestrians
Other Projects in the Area

- School Safety Engineering Project – PS 132 – Juan Pablo Duarte School, NYCDOT, 2006
- School Safety Engineering Project – St. Spyridon Parochial School, NYCDOT, 2006
- Truck Route Management Study, NYCDOT
- Upper Manhattan Pedestrian Project, NYCDCP, 2008
- Improving Pedestrian Safety & Mobility Study, Konheim and Ketcham, 2003
Preliminary Improvement Ideas
(Early Action)

- Traffic Operations
  - Restrict left turns
  - Set back stop bars
  - Modify signal timings
  - Add Left turn lanes/phasing
  - Implement channelization
  - Revise pavement markings
  - High-visibility crosswalks
Preliminary Improvement Ideas
(Early Action)

- **Signage along the Corridor**
  - Redirect GWB-bound traffic from 181 St to 179 St
  - Install “Don’t Block the Box” signage and pavement markings

- **Modify Parking Regulations to:**
  - Provide additional through/turning lanes, or
  - Provide Truck Loading/unloading zones, or
  - Lengthen existing bus stops, or
  - Install muni-meters for cars and trucks

- **Enforcement**
  - Enforce parking regulations
  - Reduce red light running
  - Regulate street vendors
Preliminary Improvement Ideas

(Bold Ideas)

- Consider one way operation on 181 St WB
- Eliminate parking on 181 Street and provide curb lane for buses
- Explore ways to discourage truck travel on 181st Street
Preliminary Improvement Ideas
(Bold Ideas)

- Provide wider sidewalks
- Provide curb extension
- Coordinate with NYCT on bus routes and schedules
- Enhance gateway to 181st Street corridor
Study Process: Next Steps

Data Collection Plan

Start
January 4, 2008

1st PAC Meeting
February 25, 2008

Community Walk-through
May 8, 2008

Public Meeting #1
April 10, 2008

2nd PAC Meeting
July 17, 2008

Existing Condition Analysis

We are here!

Public Meeting #2
June 18, 2009

Draft Recommendations

Public Meeting #3
Fall 2009

Draft Final Report

Fall 2009

Final Report

Community Board Meeting
Early 2010

3rd PAC Meeting
June 4, 2009

4th PAC Meeting
Fall 2009

We are here!

5th PAC Meeting
Early 2010