2ND AVENUE  E  59TH ST TO E 43RD ST
PROTECTED BICYCLE LANE

New York City Department of Transportation

Presented by the Bicycle and Greenway Program on July 11th, 2016 to Manhattan Community Board 6
(1) Background
- Mobility in Midtown and the Bicycle Network
- Vision Zero

(2) Proposal
- Existing Conditions
- Proposal
  - Standard Protected Bike Lane
  - Off-Hour Protected Bike Lane
  - Pedestrian Enhancements

(3) Summary
PROJECT BACKGROUND
(1) Background

GROWTH IN CYCLING

Recent Travel Trends

2010-2015:
- 500,000 new jobs
- 20% more tourists
- 10% more subway trips
- 6.5% fewer bus trips

2010-2014 83% more cycling trips
(1) Background

BIKE NETWORK / RECENT IMPROVEMENTS

Enhanced Shared Lane
E 59th St to E 34th St

Protected Bike Lane
E 34th St to Manhattan Bridge
(following implementation of Chrysie St protected lane)

On Average, 4,865 cyclists use the Queensboro Bridge bike lane daily
(between April and October)
(1) Background

BIKE VOLUMES

26% Increase in ridership since 2013

2nd Ave Bicycle Volume:

<table>
<thead>
<tr>
<th>Year</th>
<th>12-hour Bike Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>1,646</td>
</tr>
<tr>
<td>2014</td>
<td>1,954</td>
</tr>
<tr>
<td>2015</td>
<td>2,070</td>
</tr>
</tbody>
</table>

Growing number of cyclists despite lack of dedicated facility

Source: ATI Data, Bicycles btw. E 51 St and E 50 St, in May, August, and September in 2013, 2014, and 2015
(1) Background

SAFETY – Vision Zero

2nd Ave is a Vision Zero Priority Corridor
Top 10% of borough corridors in KSI/mile

1 cyclist fatality in 2010, and 4 pedestrian fatalities since 2010

2nd Ave (E 43rd St to E 59th St), MN
Injury Summary, 2010-2014 (5 years)

<table>
<thead>
<tr>
<th></th>
<th>Total Injuries</th>
<th>Severe Injuries</th>
<th>Fatalities*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pedestrian</td>
<td>195</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>Bicyclist</td>
<td>85</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>Motor Vehicle Occupant</td>
<td>357</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>637</td>
<td>34</td>
<td>5</td>
</tr>
</tbody>
</table>

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

* Includes fatalities from 2010-2016
Protected bicycle lane projects with 3 years of after data include the following: 9th Ave (16th-31st), 8th Ave (Bank-23rd, 23rd-34th), Broadway (59th-47th, 33rd-26th, 23rd-18th), 1st Avenue (Houston to 34th), 2nd Ave (Houston-34th), Columbus Ave (96th-77th) Note: Only sections of projects that included protected bicycle lanes were analyzed

Source: NYPD AIS/TAMS Crash Database
1. Queensboro Bridge exit at 59th Street
2. Queens-Midtown Tunnel entrance at 36th St

Approximately 2,000 - 2,200 vehicles per hour on 2nd Avenue during midday (9 locations)
(2) Proposal – Existing Conditions

CORRIDOR – Overview

2\textsuperscript{nd} Ave is a gap in the protected network

Enhanced shared lane breaks down during peak travel time

Enhanced shared lane perceived as unsafe by novice cyclists

Existing Conditions

West Sidewalk

11’ Bus Lane/ Turn Lane

10’ Travel Lane

10’ Travel Lane

10’ Travel Lane

10’ Travel Lane

10’ Enhanced Shared Lane

9’ Parking Lane

East Sidewalk

70’
(2) Proposal – Existing Conditions

TRAFFIC NETWORK – Average Vehicle Speed

12.3 mph (AM peak)
11.3 mph (Midday peak)
15.6 mph (PM peak)

12.9 mph (AM peak)
7.9 mph (Midday peak)
9.6 mph (PM peak)

8.9 mph (AM peak)
6.7 mph (Midday peak)
9.9 mph (PM peak)

Source: Midtown in Motion data on all Tuesdays, Wednesdays and Thursdays in 2015: From E 57th to E 49 St: February 24th - March 12th. From E 49 to E 42nd St: February 3rd - 12th, February 24th - 26th, March 1st - 12th. From E 42nd to E 34th St: February 3rd - 12th, February 24th - 26th, March 1st - 12th. Midtown in Motion sample includes all vehicles equipped with EZPASS.
(2) Proposal – Project Areas

PROJECT AREA

2nd Ave (59th St to 52nd St)
- Standard Protected Bike Lane

2nd Ave (52nd St to 48th St)
- Curbside Bike Lane
  - Protected at Off-Peak Times
- PM Rush Hour Lane

2nd Ave (48th St to 43rd St)
- Curbside Bike Lane
  - Protected at Off-Peak Times
- AM / PM Rush Hour Lane
(2) Proposal

**E 59th St to E 52nd St – Proposed Improvements**

**Existing**
- West Sidewalk
  - 11’ Bus Lane/Turn Lane
  - 10’ Travel Lane
  - 10’ Travel Lane
  - 10’ Travel Lane
  - 10’ Travel Lane
  - 10’ Shared Lane
  - Parking Lane
  - 9’ Parking Lane

**Proposed**
- West Sidewalk
  - 11’ Bus Lane/Turn Lane
  - 10’ Travel Lane
  - 10’ Travel Lane
  - 10’ Travel Lane
  - 10’ Travel Lane
  - 10’ Parking Lane
  - 6’ Parking Lane

70’
(2) Proposal

E 59th St to to E 52nd St – Proposed Improvements

1. Four Travel Lanes and Left Turn Treatments
2. Protected Bike Lane
3. Pedestrian islands to shorten crossing distance across 2nd Avenue

Proposed
E 58th St and E 57th St – Proposed Improvements

1. Left turn lanes at E 58th St and E 57th St

2. Pedestrian islands to shorten crossing distance across 2nd Avenue
PROJECT AREA

2nd Ave (52nd St to 48th St)
- Curbside Bike Lane
  - Protected at Off-Peak Times
- PM Rush Hour Lane

2nd Ave (48th St to 43rd St)
- Curbside Bike Lane
  - Protected at Off-Peak Times
- AM / PM Rush Hour Lane

Background (2) Proposal – Project Areas
**Background**

**Rush Hours**

- **Curbside Buffered Bike Lane**
- **Maintained Vehicular Capacity (5 lanes)**

**Proposal**

E 52nd St to E 43rd St – Rush Hour Proposed Improvements

1. Maintained Vehicular Capacity (5 lanes)
2. Curbside Buffered Bike Lane

**Proposed Rush Hour**

- 11’ Bus Lane/ Turn Lane
- 10’ Travel Lane
- 10’ Travel Lane
- 10’ Travel Lane
- 10’ Travel Lane
- 10’ Rush Hour/ Loading Lane

**Dimensions:**
- 70’
- 18’
- 6’
- 3’ Buffer
(2) Proposal

PROPOSED – Rush Hour Design

Low Profile Tuff Curb

1. Rush Hour Design:
   - Maintained roadway capacity during peaks
   - Loading zone during off-peak hours

2. Curb extensions on side streets:
   - Shortens crossing distance
   - Shifts vehicle turning radius

(2) Proposal
(2) Proposal

CORRIDOR – Off-Peak Proposed Improvements

1. Traffic Calming (one travel lane removed)
2. Loading permitted
3. Protected bike lane

Proposed Non-Rush Hour

- West Sidewalk: 11' Bus Lane/Turn Lane
- 10' Travel Lane
- 10' Travel Lane
- 10' Travel Lane
- 10' Travel Lane
- 10' Rush Hour/Loading Lane
- East Sidewalk: 6'
1. Curb extension shifts the turning radius further into the intersection to slow turning vehicles

   Turning Radius
   - Existing
   - Proposed

2. Parked vehicles at non-peak times reinforce curb extensions
(2) Proposal

PROPOSED COMMERCIAL LOADING & PARKING

1. Commercial Loading & Parking Restricted to Off-Peak Hours to maintain traffic flow/capacity:
   - 10am – 3pm
   - 7pm – 7am
(2) Proposal

DESIGN: SIGNAGE

1. Overhead signage to identify the hours and position of the rush hour lane

2. Curbside signage for commercial parking regulations
(2) Proposal

DESIGN: COMMERCIAL LOADING & PARKING

Commercial Loading & Parking Restricted to Off-Peak Hours to maintain traffic flow/capacity:
• 10am – 3pm South of 48th St
• 3pm – 7pm South of 52nd St

Loss of approximately 20 parking spaces on the corridor

- Overnight parking will remain
- Saturday will be removed from commercial regulations
**TRAFFIC NETWORK – Midday Impacts**

11.3 mph (Existing Midday peak)

10.8 mph (Proposed Midday peak)

-4%

7.9 mph (Existing Midday peak)

6.8 mph (Proposed Midday peak)

-14%

6.7 mph (Existing Midday peak)

Source: Midtown in Motion data on all Tuesdays, Wednesdays and Thursdays in 2015: From E 57th to E 49 St: February 24th - March 12th. From E 49 to E 42nd St: February 3rd - 12th, February 24th - 26th, March 1st - 12th. From E 42nd to E 34th St: February 3rd - 12th, February 24th - 26th, March 1st - 12th. Midtown in Motion sample includes all vehicles equipped with EZPASS.
Recent Travel Trends

43% of vehicles on 2nd Avenue in Midtown are taxis (700-900 per hour)

For all trips that begin and end in the Midtown Core, Citi Bikes are at least 2 mph faster and $6 cheaper than taxis.

In the most recent quarter of 2016, 640,000 Citi Bike trips either started or ended in CB 6

Large potential for 2nd Avenue subway completion to shift trips from taxi to transit

Source: ATI Data, Vehicle Classification Count on 2nd Ave at E 47th St, October 2014
Pedestrian Improvements – 58th and 57th

1. Left turn treatment organizes heavy movement at E 58th St and E 57th St

2. Pedestrians and cyclists get a head start

3. Pedestrian islands shorten crossing distances
(2) Proposal

Pedestrian Improvements – 53rd to 43rd

1. Curb Extensions on side streets slow turning vehicles

2. Curb Extensions shorten north-south crossing distances
(3) Summary

SUMMARY OF BENEFITS

• Bike Lane Extension
  • Provides southbound route for cyclists
  • Parking protected north of 52nd St
  • Parking protected during non-rush hours south of 52nd St
  • Fills a gap in the network

• Pedestrian Improvements
  • Install islands from 59th to 52nd St
  • Install side street curb extensions
  • Shorten crossing distances
  • Shift turning radii, slowing vehicles

• Rush Hour Design
  • Maintain all five lanes of traffic during rush hour
  • Provides loading zones during off-peak hours
THANK YOU!

Questions?