7TH AVENUE
PROTECTED BICYCLE LANE & SAFETY IMPROVEMENTS

Manhattan Community Board 4
April 2017
Project Background

7th Avenue Protected Bicycle Lane & Safety Improvements
Community Requests

Community and Elected Officials have requested a complete street redesign of 7th Avenue:

- Community Board 2 and Public School 41 (2014)
- NYS Senator Hoylman (2015)
- Joint Letter from Federal, State and Local Elected Officials (2016)
  - US Rep. Nadler
  - NYS Senator Hoylman
  - NYS Assemblymember Glick
  - Borough President Brewer
  - NYC Councilmember Johnson
Safety

- 7th Ave is a Vision Zero Priority Corridor
- Vision Zero Priority Intersections at W 14th St and at Bleecker St
- Excess roadway width and complicated intersections create long, challenging crossings

7th Ave/7th Ave S (W 30th St to Clarkson St), MN
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>175</td>
<td>19</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>Bicyclists</td>
<td>96</td>
<td>9</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Motor Vehicle Occupant</td>
<td>239</td>
<td>10</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>510</td>
<td>38</td>
<td>1</td>
<td>39</td>
</tr>
</tbody>
</table>

Fatalities, 01/01/2011 – 1/9/2017: 1

Source: Fatalities: NYCDOT, Injuries: NYSDOT. KSI: Persons Killed or Severely Injured
Existing protected bicycle lanes:
- 9th Ave (southbound)
- 8th Ave (northbound)
- 6th Ave (northbound)

High bicycle volumes on 7th Ave:
(14-hour counts, July 2016)
- 1,700 bikes at W 30th St
- 2,350 bikes at W 20th St
- 1,300 bikes at Charles St

Citi Bike launched in 2013, now regularly serves 60,000 trips/day
Previously installed 7th Ave pedestrian safety projects:
• W 23rd St (2011)
• Bleecker St/Barrow St (2012)
• W 4th St (2015)
• W Houston St (2016)

On-going traffic studies:
• 7th Ave, W 34th St to W 30th St: Traffic impacts of closing W 33rd St from 7th Ave to 8th Ave
• Hudson Square/West Village: Traffic impacts of proposed development at 550 Washington St
CB 4 Project Proposal: 
7th Ave, W 26th St to W 14th St

Overall Project Area: 
7th Ave, W 30th St to Clarkson St

Potential future extensions to the north and south
Existing Conditions

7th Avenue Protected Bicycle Lane & Safety Improvements
The **volume-to-capacity** ratio is a measure of how “full” a roadway feels and is calculated as a ratio between the measured traffic volume and calculated capacity of the roadway. The result is expressed as a number between 0 and 1. A value of “1” would indicate that the roadway is “full.”

**Delay** is a measure of the average time a vehicle will spend processing through an intersection.
Proposed Improvements

- Remove one travel lane
- Install a parking-protected bike lane with planted concrete pedestrian islands
- Install split phase signals at W 14th St and maintain existing split-phase at W 23rd St
- Install mixing zones at all other intersections
- Maintain existing rush hour bus lane on west curb (north of W 23rd St)
- Requires removal of 1 pedestrian island at W 23rd St and approximately 37 parking spaces (roughly 22% of corridor parking capacity)
Example of Proposed Corridor Design

4 Ave, Manhattan

7th Avenue Protected Bicycle Lane & Safety Improvements
## Proposed Vehicular Capacity

<table>
<thead>
<tr>
<th>Cross Street</th>
<th>Average delay/vehicle (sec)</th>
<th>Volume-to-Capacity Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Existing</td>
<td>Proposed</td>
</tr>
<tr>
<td></td>
<td>Delay</td>
<td>LOS</td>
</tr>
<tr>
<td>W 30th St</td>
<td>9.1</td>
<td>A</td>
</tr>
<tr>
<td>W 23rd St</td>
<td>7.9</td>
<td>A</td>
</tr>
<tr>
<td>W 14th St</td>
<td>14.3</td>
<td>B</td>
</tr>
<tr>
<td>W 4th St</td>
<td>3.1</td>
<td>A</td>
</tr>
</tbody>
</table>

- **W 23rd St** existing split-phase signal operation and number of lanes to remain the same
- **W 14th St** and **W 4th St** benefit from dedicated left-turn phase

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**W 23rd St**: v/c – 0.60

**W 23rd St**: v/c – 0.60

**W 14th St**: v/c – 0.80

**W 4th St**: v/c – 0.49

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**LEGEND**

- **Proposed Bicycle Route**
- **Proposed Condition v/c Ratios**

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**7th Avenue Protected Bicycle Lane & Safety Improvements**
Summary
Project Summary

- Install a parking protected bicycle lane with planted concrete pedestrian islands on 7th Ave between W 26th St and W 14th St
- Implement split phase signal operation at W 14th St and maintain existing split phase at W 23rd St
- Install mixing zones at all other conflicting bicycle/vehicle conflicts
- Requires the removal of 1 travel lane, 1 pedestrian refuge island (at W 23rd St), and roughly 22% of on-street parking spaces along the corridor within Community Board 4

Project Benefits

- Reduced pedestrian crossing distance
- Split-phase signal operation at intersections with heavy left turns reduces conflicts between pedestrians/bicyclists and turning vehicles
- Parking-protected bicycle lane reduces bicyclists exposure to vehicular traffic
  - Potential future expansion to the north and south
- Narrowed road discourages speeding
- Existing vehicle volumes can fit in 3 lanes
THANK YOU!

Questions?