Union Square Bike Network Improvements

Background

Protected Bike Lanes
- Broadway (2010)
- 1st Ave (2010)
- 2nd Ave (2013)
- 4th Ave (2014)
- 6th Ave (to be installed 2016)

Bike Routes
- W 16th St (2013)
- W 15th St (2013)

Citi Bike
- 2 of the 10 most used stations

Vision Zero Priority Area
4th Ave Northbound Bike Lane Ends
Protected lane stops short of Union Square Park
Cyclists have no way to continue north of 14th St

Broadway Southbound Bike Lane Ends
No connection to protected lane on 2nd Ave

No Direct East to West Connection between Union Sq and 1st Ave/2nd Ave

Union Square Park
• Major destination
• Heart of the neighborhood
• Gap in the bike network
Union Square Bike Network Improvements
Proposal

1. 4th Ave
   - Extend protected bike lane to 14th St
   - Curbside lane one block from 14th St

2. Union Square East and 17th St
   - Install protected two-way bike lane
   - Shorten pedestrian crossings

3. E 15th St, E 16th St, 17th St
   - Install bike lanes connecting to protected lanes on 1st Ave, 2nd Ave, and 6th Ave

Close gaps in bike network to improve access to and around Union Square Park.
4th Avenue
Existing Conditions

PHOTO of 4th Avenue Bike lane meeting

Existing Conditions

[Map of 4th Avenue and surrounding streets with labels such as W 17 St, E 16 St, and Union Sq.]
4th Avenue
Existing Conditions

4th Avenue

East Sidewalk
8’ Parking Lane
5’

11’ Travel Lane

11’ Travel Lane

5’

8’ Parking Lane

West Sidewalk
**4th Avenue Proposed Design**

**Existing**

- **East Sidewalk**
  - 8’ Parking Lane
  - 5’
  - 11’ Travel Lane
  - 11’ Travel Lane
  - 8’ Parking Lane

**West Sidewalk**

**Proposed Design**

- **Extend parking protected bike lane to**

<table>
<thead>
<tr>
<th>Existing</th>
<th>Proposed</th>
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<tbody>
<tr>
<td>7’ Parking Lane</td>
<td>8’ Parking Lane</td>
</tr>
<tr>
<td>11’ Travel Lane</td>
<td>11’ Travel Lane</td>
</tr>
<tr>
<td>5’ Buffer</td>
<td>6’</td>
</tr>
</tbody>
</table>

*Double click on the image to open the PDF.*
Union Square East

Existing Conditions

Union Square East

East Sidewalk

8' Parking Lane

12' Travel Lane

12' Travel Lane

36'

West Sidewalk

4' Buffer
Union Square East
Proposed Design

Existing

- East Sidewalk
- 8’ Parking Lane
- 12’ Travel Lane
- 12’ Travel Lane
- West Sidewalk

Proposed

- East Sidewalk
- 8’ Parking Lane
- 11’ Travel Lane
- 11’ Travel Lane
- 6’ West Sidewalk

Extend protected bike lane to Union Square

Dedicated protected space for cyclists
Minimizes parking loss

Extend protected bike lane to Union Square
Union Square East

Existing Conditions

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Union Square East

West Sidewalk

6’

5’ Buffer

11’ Travel Lane

11’ Travel Lane

8’ Median

11’ Travel Lane

11’ Travel Lane

9’ Parking Lane

East Sidewalk

72’
Proposed Design

Existing

- West Sidewalk: 6'
- East Sidewalk: 72'
- 11' Travel Lane
- 11' Travel Lane
- 9' Parking Lane

Proposed

- West Sidewalk: 4'
- 5' Buffer
- 10' Travel Lane
- 10' Travel Lane
- 11' Travel Lane
- 11' Travel Lane
- 9' Parking Lane

Allows two-way bicycle connections
Provides physical barrier for cyclists
**Union Square East**

**Existing Condition**

- **Wide roadway**
  *Creates long pedestrian crossings at park entrance*

- **Unprotected bike path**
  *Enables vehicles to park in bike path*

- **Gap in bike network**
  *No way to connect north*
Improved pedestrian safety
Increases visibility
Shortens crosswalks

Two-way protected bike path
Prevents parking in bike facility

Curbside bike lane
Connects 4th Av to Union Sq East
E 17th St
Existing Conditions

2
E 17th St
Existing Conditions

South Sidewalk

11’ Buffer
Parking for Farmers Market

10’ Ped Space

5’ Buffer

11’ Travel Lane

3’ Buffer

9’ Parking / Citi Bike

North Sidewalk

54’
E 17th St
Proposed Design

Existing

South Sidewalk
10' Ped Space
5'
54'

11' Buffer
Parking for Farmers Market

5'
5'

11' Travel Lane
9' Parking / Citi Bike

North Sidewalk

Proposed

South Sidewalk
11' Buffer
Parking for Farmers Market

8' Ped Space
4' 4'

4'

4' Buffer

11' Travel Lane

North Sidewalk
9' Parking / Citi Bike

3'

3'

54'

Allows two-way bicycle connections
East-West Connections – 17th/16th/15th Streets

Existing Conditions
East-West Connections – 17th/16th/15th Streets

Existing Conditions (Typical)

Typical

- North Sidewalk
- 9’ Parking Lane
- 14’ Travel Lane
- 9’ Parking Lane
- South Sidewalk

32’
Proposed Design (Typical)

Existing

North Sidewalk
9' Parking Lane
14' Travel Lane
9' Parking Lane
South Sidewalk
32'

- Provides dedicated space for cyclists
- Creates standard width travel lane to discourage speeding

North Sidewalk
8' Parking Lane
11' Travel Lane
5'
8' Parking Lane
South Sidewalk
32'
Union Square
Summary of Improvements

1. Extend 4th Ave Protected Bike Lane
2. Create two-way protected path on Union Sq E and E 17th St
3. Install New East-West Bike Lanes on 15th St, 16th St, 17th St

LEGEND
- Proposed Bicycle Route
- Existing Bicycle Facilities
- Protected Bicycle Path
- Bicycle Lane
- Shared Lane
- Signed Route
Union Square
Summary of Bike Safety Benefits

Protected Bicycle Lanes with 3 years of After Data:
Before vs After

<table>
<thead>
<tr>
<th>Category</th>
<th>Before</th>
<th>After</th>
<th>Change</th>
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</thead>
<tbody>
<tr>
<td>Crashes with Injuries</td>
<td>514</td>
<td>426</td>
<td>-17%</td>
</tr>
<tr>
<td>MV Occupant Injuries</td>
<td>221</td>
<td>166</td>
<td>-25%</td>
</tr>
<tr>
<td>Pedestrian Injuries</td>
<td>280</td>
<td>220</td>
<td>-22%</td>
</tr>
<tr>
<td>Cyclist Injuries</td>
<td>100</td>
<td>98</td>
<td>-2%</td>
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<tr>
<td>Total Injuries</td>
<td>601</td>
<td>484</td>
<td>-20%</td>
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</tbody>
</table>

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
Thank You

www.nyc.gov/dot