CENTRAL PARK WEST
Protected Bike Lanes and Traffic Calming
Presented to Manhattan Community Board 7
June, 2019
Central Park West, Broadway

Presentation Overview

Background
- Existing Bicycle Network
- Safety Analysis
- Safety Benefits of Protected Bike Lane Design

Community Request
- Two-way Path Design Challenges
  - Turn Movement Counts
  - Turn Conflicts
  - Head-on Condition at Bus Stops

Proposal
- Project area
- Issues
- Existing Conditions
- Proposed Design
- Design Elements: Bikes and Pedestrians

Making It Work
- Lane Assignment Changes
- Signal Timing: Lagging Right Turn
- Traffic Impact: Turn Restriction and Analysis
- Curb Management
- Bus/Bike Interaction
- Southbound Bike Network Expansion
  - Broadway, 65 St to Columbus Circle

Summary of Benefits
Background
Existing Bicycle Network:

**Protected Bike Lanes:**
- Hudson River Greenway
- West Dr (Park Loop)
- Columbus Ave, W 59 St to W 110 St
- Amsterdam Ave, W 72 St to W 110 St

**Standard Bike Lane:**
- Central Park West, W 62nd St to W 110th St
## Safety Analysis

### Central Park West, W 59th St to W 110th St

Injury Summary, 2013-2017 (5 Years)

<table>
<thead>
<tr>
<th></th>
<th>Total Injuries</th>
<th>Severe Injuries</th>
<th>Fatalities</th>
<th>KSI</th>
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<td>Pedestrian</td>
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<td>Bicyclists</td>
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<td>5</td>
<td>0</td>
<td>5</td>
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<td>Motor Vehicle Occupant</td>
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<td>10</td>
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<td>Total</td>
<td>434</td>
<td>22</td>
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</table>

**Fatalities, 01/01/2013 – 12/31/2018:** 1

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

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**Intersections with highest number of injuries and fatalities reported:**

- Central Park West, W 59th St to W 110th St

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**22 people have been severely injured on Central Park West, W 59th St to W 110th St**

**1 cyclist fatality in 2018**

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**Multi-agency effort to reduce traffic fatalities and injuries**
Safety Benefits of Protected Bike Lanes

Streets where protected bike lanes were installed 2007-2017 resulted in:
- **15%** drop in all crashes with injuries
- **21%** drop in pedestrian injuries

Protected Bike Lanes
*Before and After Crash Data, 2007 - 2017*

Data from 25 separate protected bicycle lane projects installed from 2007-2014 with 3 years of after data. Includes portions of 1 Ave, 2 Ave, 8 Ave, 9 Ave, Broadway, Columbus Ave, Hudson St, Lafayette St / 4 Ave, Sands St, Allen/Pike St, Kent Ave, Prospect Park West, Flushing Ave, Bruckner Blvd & Longfellow Ave, Imlay St / Conover St, Paerdegat Ave. Only sections of projects that included protected bike lanes were analyzed.

Source: NYPD AIS/TAMS Crash Database

*Street designs that include protected bike lanes increase safety for all users*
Community Request:
Two-Way Path
Community requests for two-way path along Central Park and other safety improvements following cyclist fatality in July, 2018:

- AM Gottfried
- CM Rosenthal
- Community Board 7
- Members of the public
- 20th Precinct endorsed CM Rosenthal’s plan
Community Request

Two-Way Path Design Challenges: Turning Movement Counts

**NOT a true edge condition**

- Four **major intersections**
- **High vehicular volumes** in all approaches
- **Complex signal timing** to process heavy turning traffic

**Vehicular Turning Volumes:**

- **W 65 St**
  - >> 450
  - >> 385

- **W 81 St**
  - >> 147
  - >> 86

- **W 86 St**
  - >> 193
  - >> 173
  - >> 105
  - >> 181

- **W 96 St**
  - >> 202
  - >> 171
  - >> 185
  - >> 172
Community Request

Two-Way Path Design Challenges

Left Turn Conflicts: Bike movements are irregular at intersections
- Southbound drivers turning left must find a gap in northbound vehicular and bike traffic, and a gap in pedestrians
- Southbound contraflow bicycle location is counterintuitive; difficult for drivers to see
- Separate signal phase for southbound left turn would mitigate the issue, but would result in multiple block queuing and severe back ups

Bus Stops: Two-way creates head-on condition for SB bikes
- Bus movements are heavy
- 22 bus stops along CPW; M10 runs every 10-12 minutes during peak hour
- Need to route bikes around bus stop
Proposal
Existing
Protected southbound routes within less than ¼ mile
- Columbus Ave
- West Dr (Park Loop)

Bike Counts:
High bike volumes on Central Park West:
(12-hour counts, October 2018)
- 1,310 at 66th St (2/3 traveling NB)
- 1,540 at 86th St (2/3 traveling NB)

Citi Bike:
- 377,258 in CB 7 (Q3 2018)
- Citi Bike regularly serves 80,000 trips per day

Proposed
Northbound Protected Bike Lane:
CPW (Columbus Cir to Frederick Douglass Cir)
- Curbside, delineator protected bike lane
Issues

Traffic Pattern and Volumes:
- Additional vehicular volume post-park closure
- Heavy north and southbound vehicular volumes
- Heavy turn volumes on all approaches at transverses

Bicycle Facilities
- Cyclists travel alongside vehicles
- Double parking in bike lane

Two-Way Street
- Heavy vehicular volumes on all approaches
- Turning conflicts at transverses

Curb Access
- Bus route, school and tour buses
- FHV Pick-Up/Drop-Offs, deliveries
Standard Northbound Bike Lane

- Cyclists not separated from traffic
- Double parked vehicles frequently block bike lane
Provide **dedicated space for cyclists** that is physically separated from moving vehicles

Creates **comfortable space for cyclists** of varied ages and experience levels

Maintains all travel lanes; **accommodates existing traffic capacity** during peak hours

Remove northbound parking lane
**Proposed Design Elements: Bikes**

- **Protected Bike Lane**
  - Protected bike lane along Central Park
  - Shortens crossing distance
  - Calms traffic
  - Maintains vehicular capacity and curb access
Proposed Design Elements: Pedestrians

Painted Pedestrian Islands

- Shortens crossing distances by 20%

Design Elements: 13th St, MN
Making it work
### Existing

**Left Turn Challenges:**

- Back pressure from vehicles wanting to go thru
- Motorists **weave** or **merge** into adjacent lane
- Motorists must **identify a gap in two lanes**

### Proposed

**Dedicated turn lanes:**

- NB right turn lane
- SB left turn lane

- Relieves back pressure
- Less weaving and merging; improves safety and traffic flow
- Motorists only have to **look for gap in one lane** of motor vehicle traffic
Signal Timing: Lagging Right Turn

PROPOSED

- Signal timing change: Delayed NB right turn gives cyclists a head start
Traffic Impacts: Turn Restriction

Existing Issues & Challenges

- 40 people have been killed or severely injured (KSI) at 96 St

- Planned intersection treatments at 96 St would result in severe congestion in northbound direction as well as "left turn trap" for northbound drivers turning left

Left Turn Restriction at 96 St

- Removes conflict of northbound left turning vehicles

- Improves vehicular flow for intersection

- Simplifies complex intersection
### Traffic Impacts: Analysis

#### Traffic Analysis:

**Delayed NB Right Turn and New Turn Lanes**
- Provides cyclists and pedestrians a head start
- Most intersections maintain level of service (LOS) or improve; there will be an impact to LOS to 96th St (PM) and 65th St

#### Existing vs. Proposed

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<th>LOS</th>
<th>Delay (s)</th>
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</tbody>
</table>
Bus/Bike Interactions at Bus Stops

- Markings alert buses and cyclists of shared space
- 13’ wide bus stops provide space for cyclists to pass buses
- Curb access maintained for buses
Typical Parking Regulations:

- Mon & Thu 8:30-10AM
- East Curb
  - Approximately 400 parking spaces removed
- West Curb
  - Parking regulation changes under review per CB 7 request
    - Looking for opportunities to reduce double parking and provide pick/up/drop off activity

Proposed

East Curb

- Approximately 400 parking spaces removed

West Curb

- Parking regulation changes under review per CB 7 request
  - Looking for opportunities to reduce double parking and provide pick/up/drop off activity
Summary
Protected Bike Lanes and Traffic Calming

Summary of Benefits

Protected bike lanes benefit all street users:

- Creates NB protected bike lane pair to SB Columbus Ave, and West Dr (Park Loop)
- Provides dedicated space for cyclists of varied ages and experience levels
- Creates shorter, safer pedestrian crossings
- Intersection design provides safer crossing for cyclists and pedestrians
- Maintains traffic capacity during peak hours
- Provides dedicated turn lanes; reduces back pressure and weaving

## Summary of Benefits

**Crashes with Injuries**
- Down 15%

**Motor Vehicle Occupant Injuries**
- Down 15%

**Pedestrian Injuries**
- Down 21%
THANK YOU!

Questions?