CENTRAL PARK WEST

Protected Bike Lanes and Traffic Calming

Presented to Manhattan Community Board 7

June, 2019

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NEW YORK CITY DOT

Presentation Overview

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- Safety Analysis
- Safety Benefits of Protected Bike Lane Design

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  - Turn Conflicts
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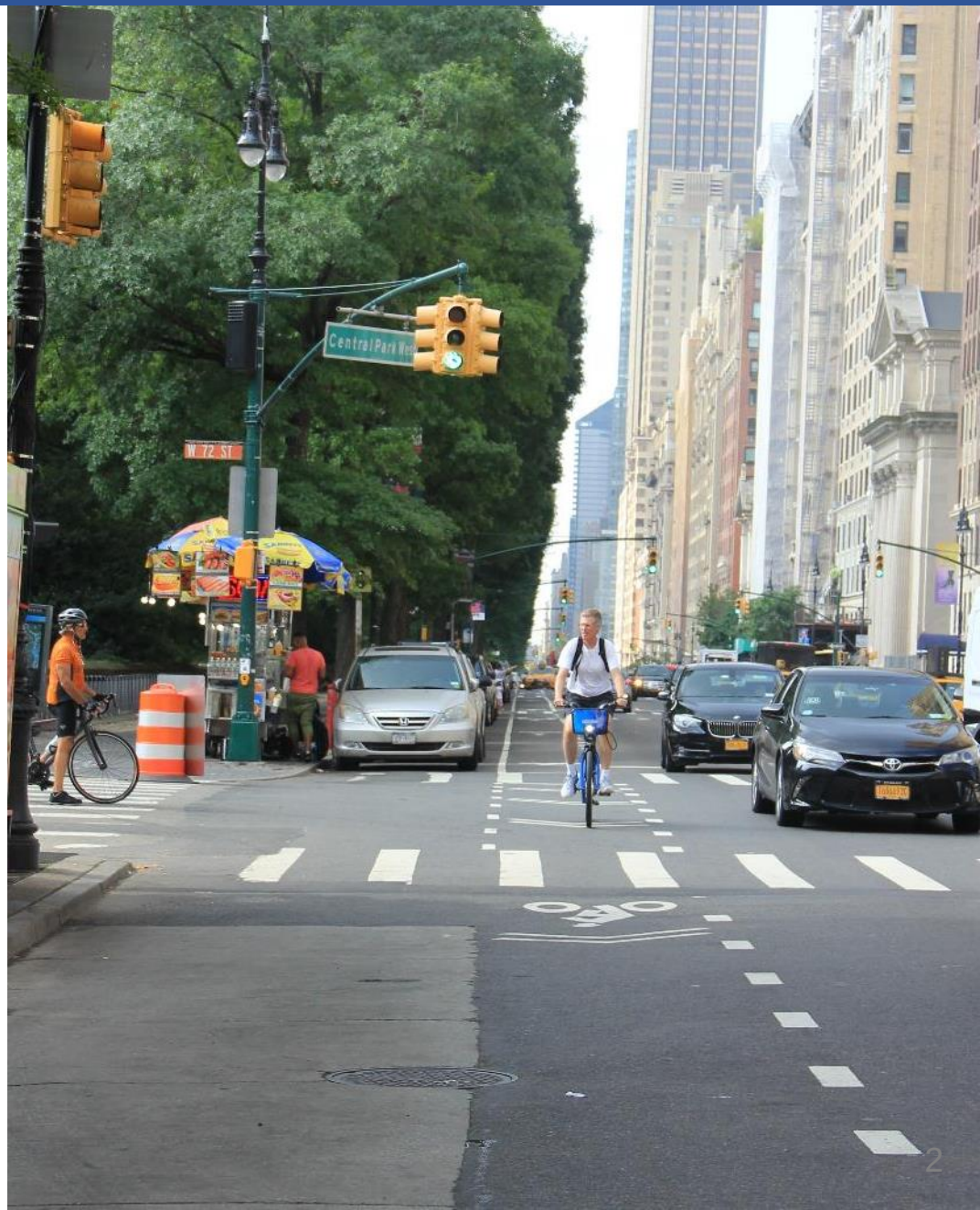
- Traffic Impact: Turn Restriction and Analysis
- Curb Management
- Bus/Bike Interaction
- Southbound Bike Network Expansion
  - Broadway, 65 St to Columbus Circle

Summary of Benefits



Background

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Existing Bicycle Network

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)

	Total Injuries	Severe Injuries	Fatalities	KSI
Pedestrian	95	7	0	7
Bicyclists	94	5	0	5
Motor Vehicle Occupant	245	10	0	10
Total	434	22	0	22

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

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

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

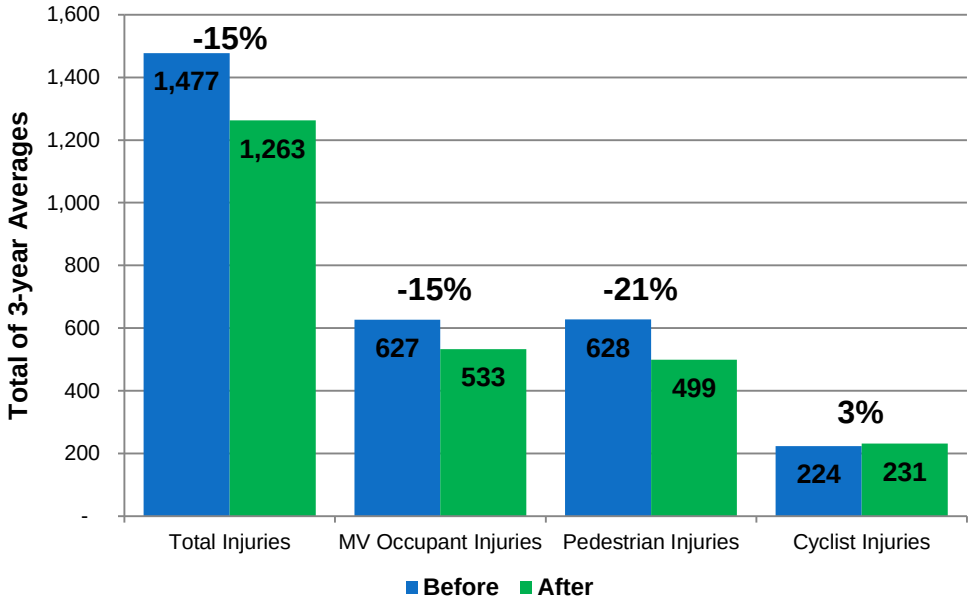
Safety Benefits of Protected Bike Lanes

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



Street designs that include protected bike lanes increase safety for all users

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

Community Request: Two-Way Path

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Two-Way Path

Community requests for two-way path along Central Park and other safety improvements following cyclist fatality in July, 2018:

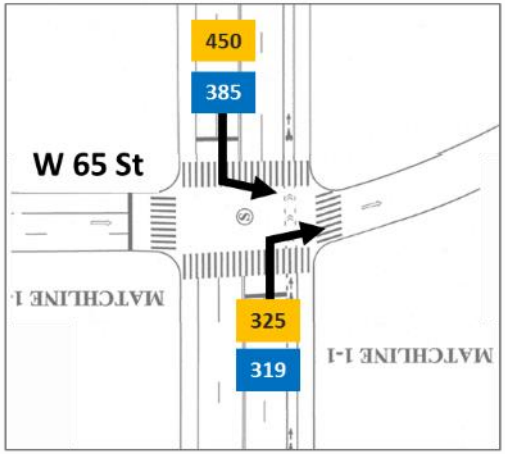
- AM Gottfried
- CM Rosenthal
- Community Board 7
- Members of the public
- 20th Precinct endorsed CM Rosenthal's plan

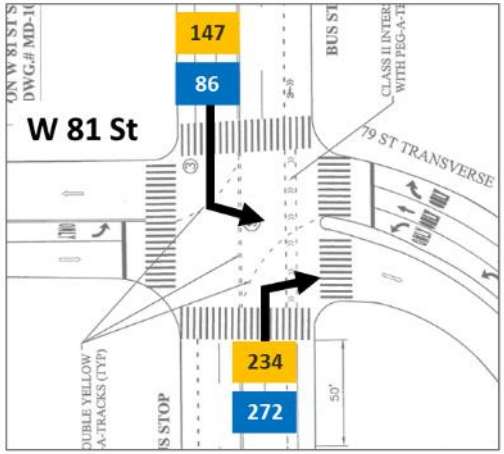
Two-Way Path Design Challenges: Turning Movement Counts

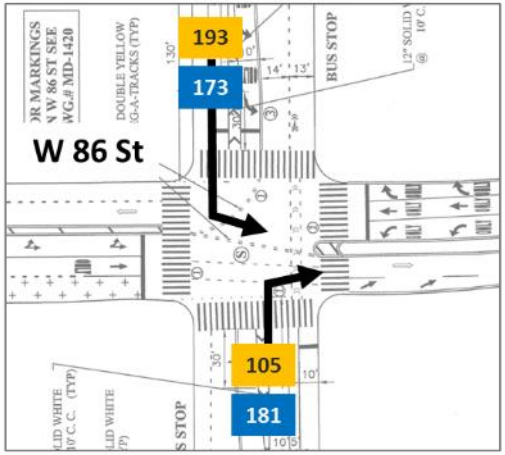
NOT a true edge condition

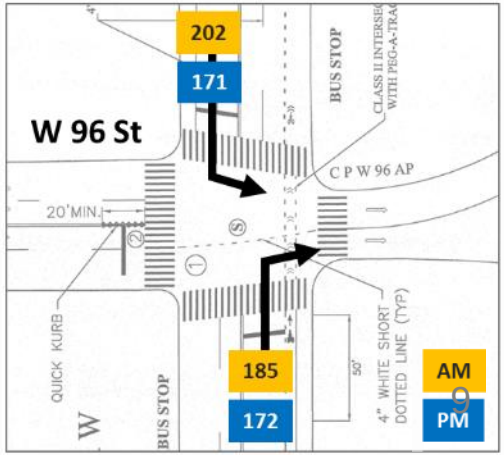
- Four **major intersections**
- **High vehicular volumes** in all approaches
- **Complex signal timing** to process heavy turning traffic

Vehicular Turning Volumes:









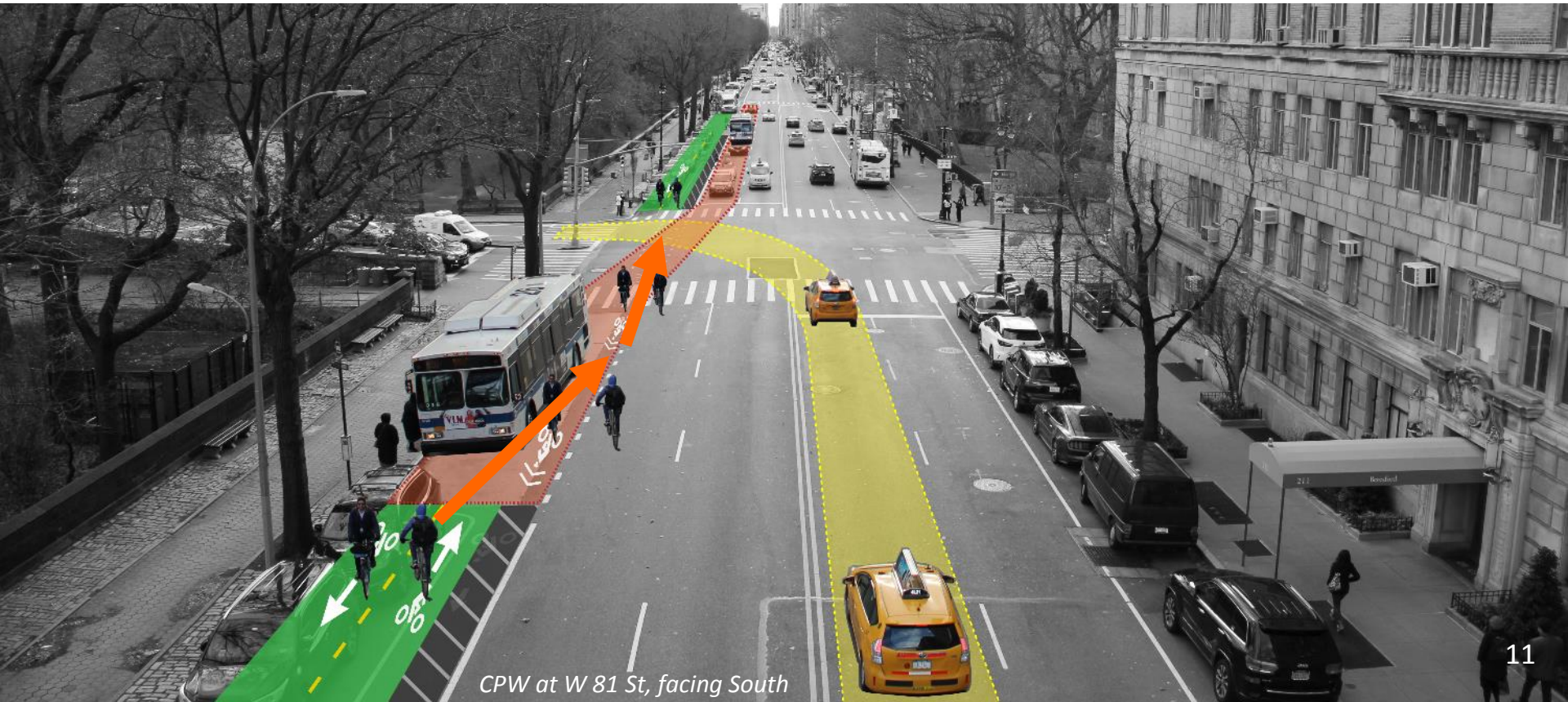
Two-Way Path Design Challenges

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



CPW at W 81 St, facing South

Proposal

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Project Area

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

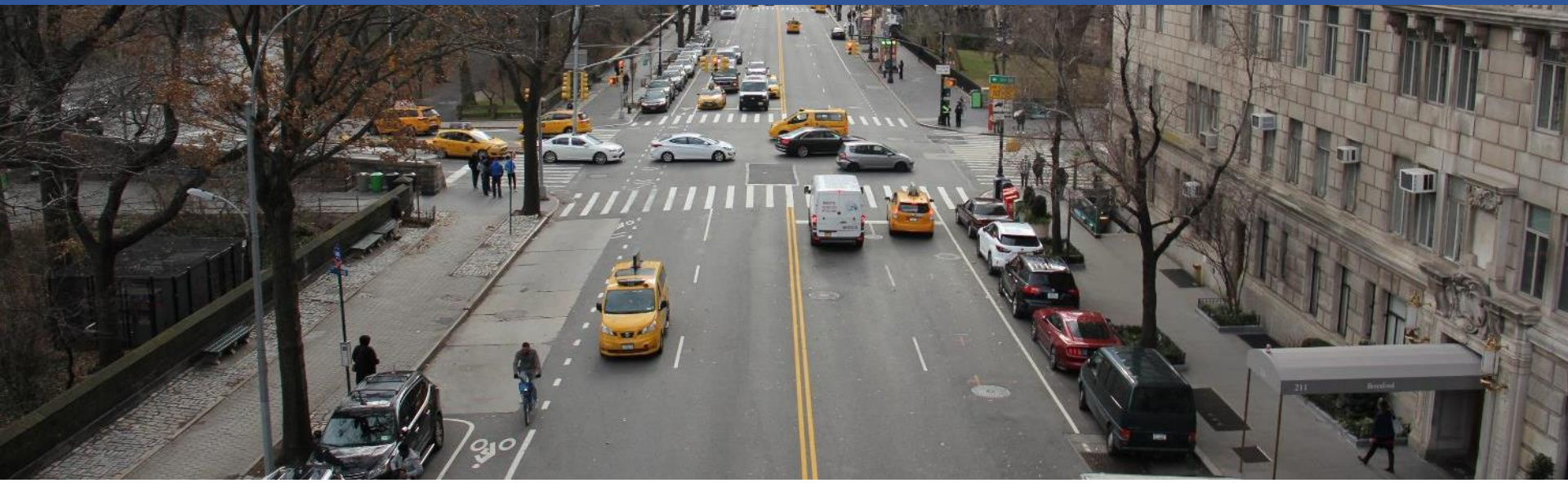
Two-Way Street

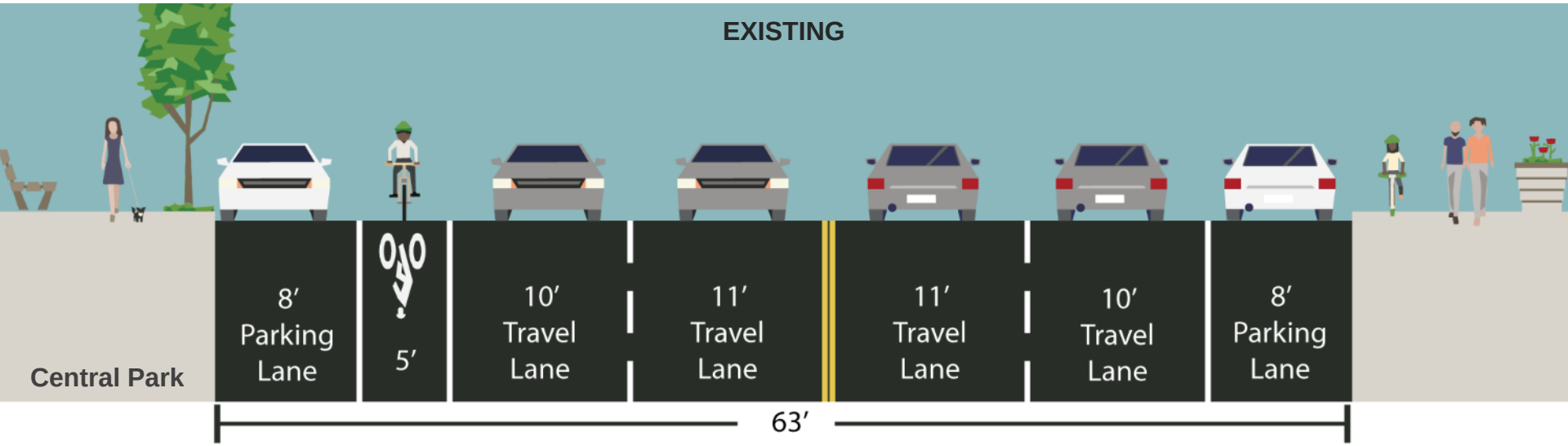
- Heavy vehicular volumes on all approaches
- Turning conflicts at transverses

Curb Access

- Bus route, school and tour buses
- FHV Pick-Up/Drop-Offs, deliveries

Existing Conditions

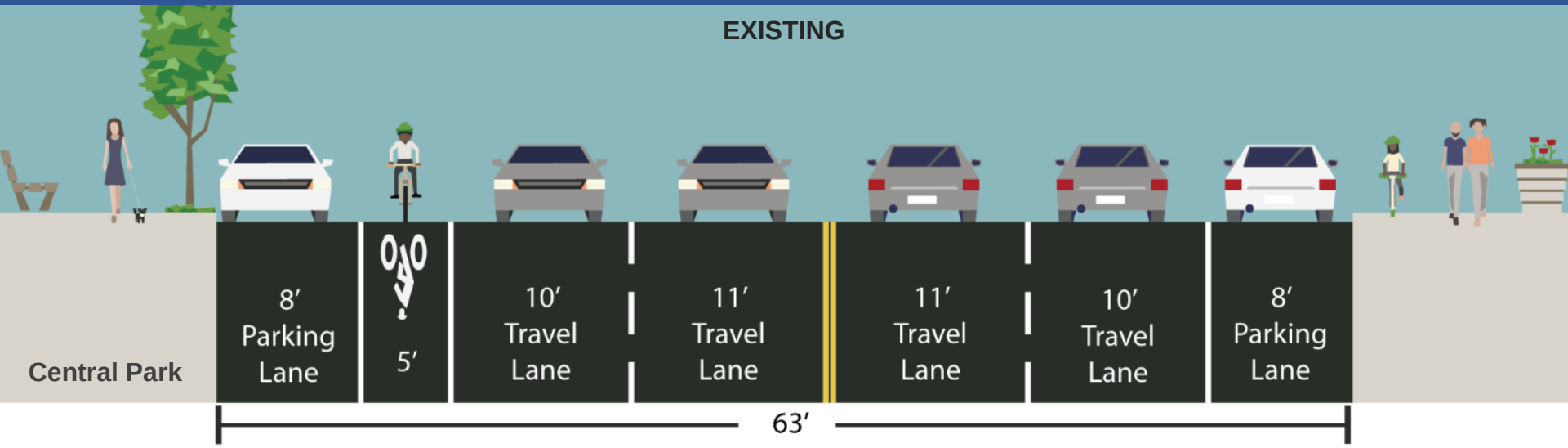




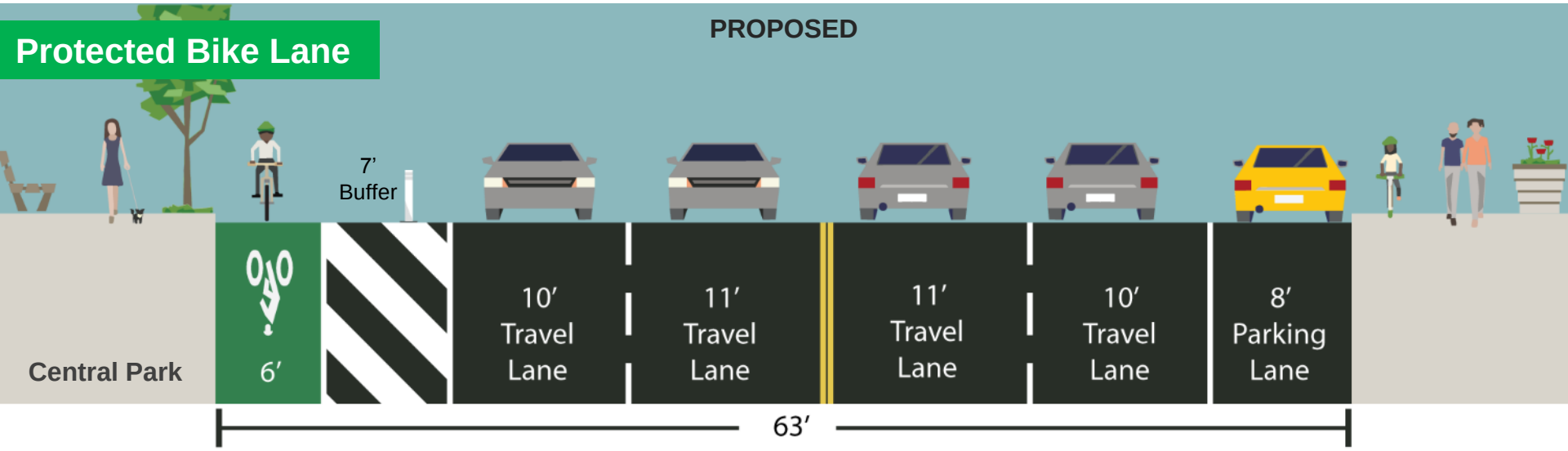
Standard Northbound Bike Lane

- Cyclists not separated from traffic
- Double parked vehicles frequently block bike lane

Proposed Design

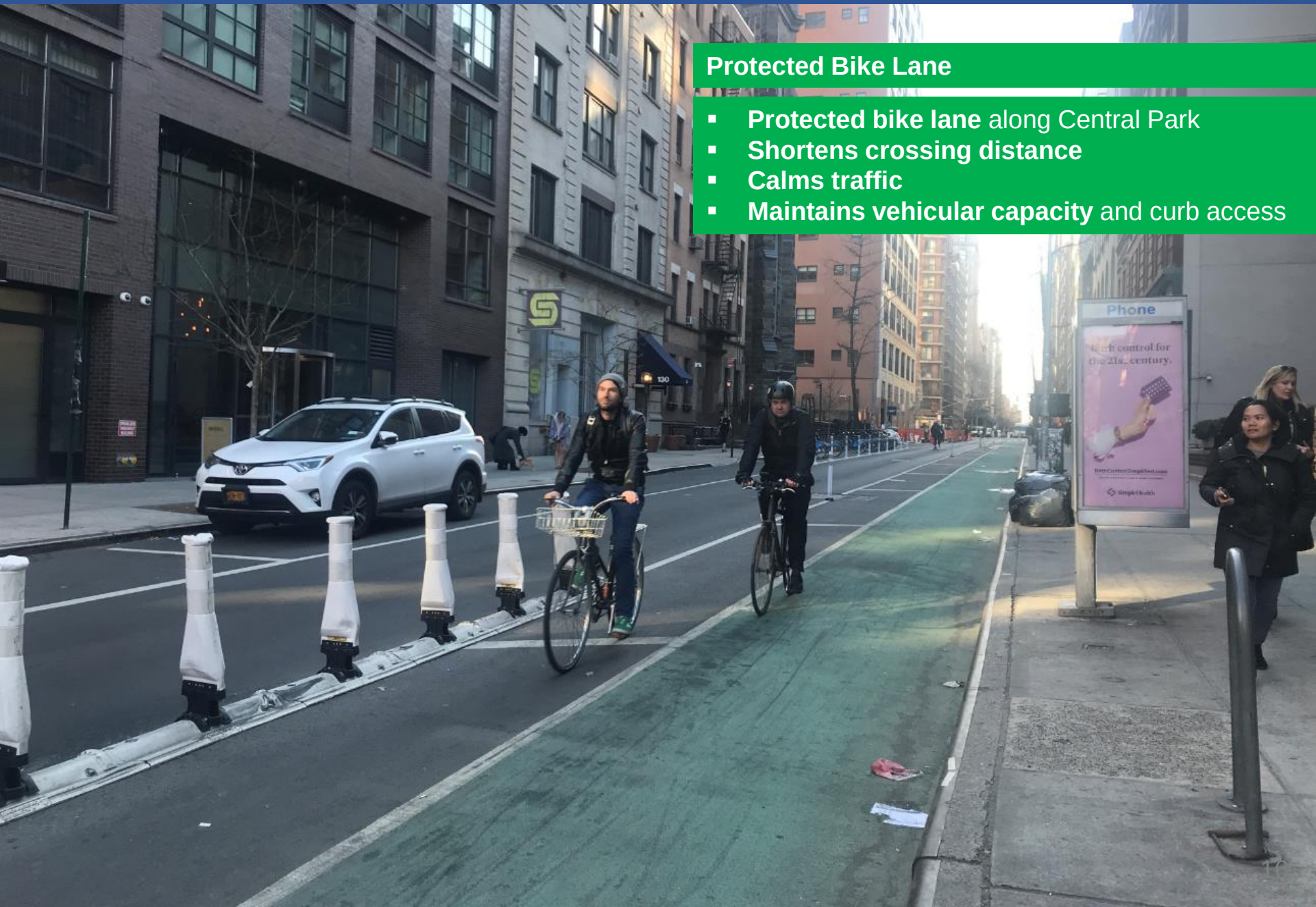


Protected Bike Lane



- 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

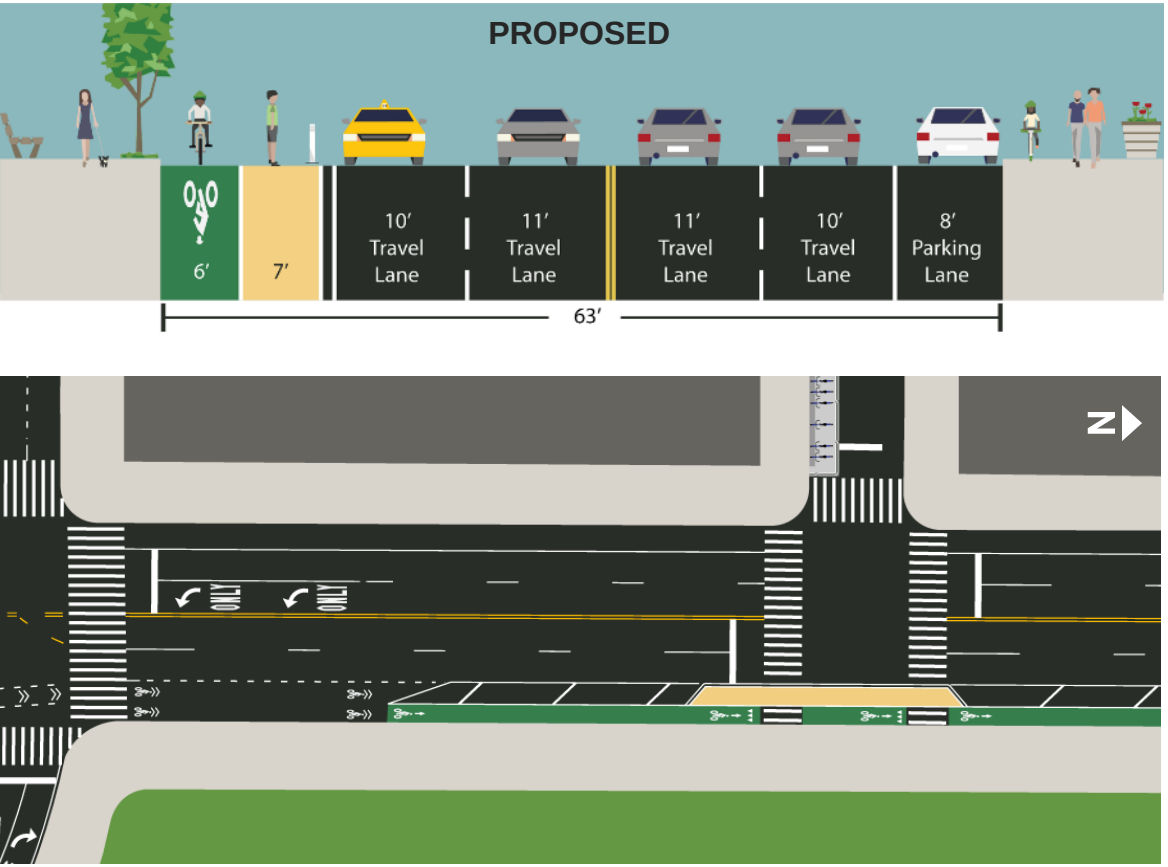


Protected Bike Lane

- **Protected bike lane** along Central Park
- **Shortens crossing distance**
- **Calms traffic**
- **Maintains vehicular capacity** and curb access

Proposed Design Elements: Pedestrians

Painted Pedestrian Islands



Design Elements: 13th St, MN

- Shortens crossing distances by 20%

Making it work

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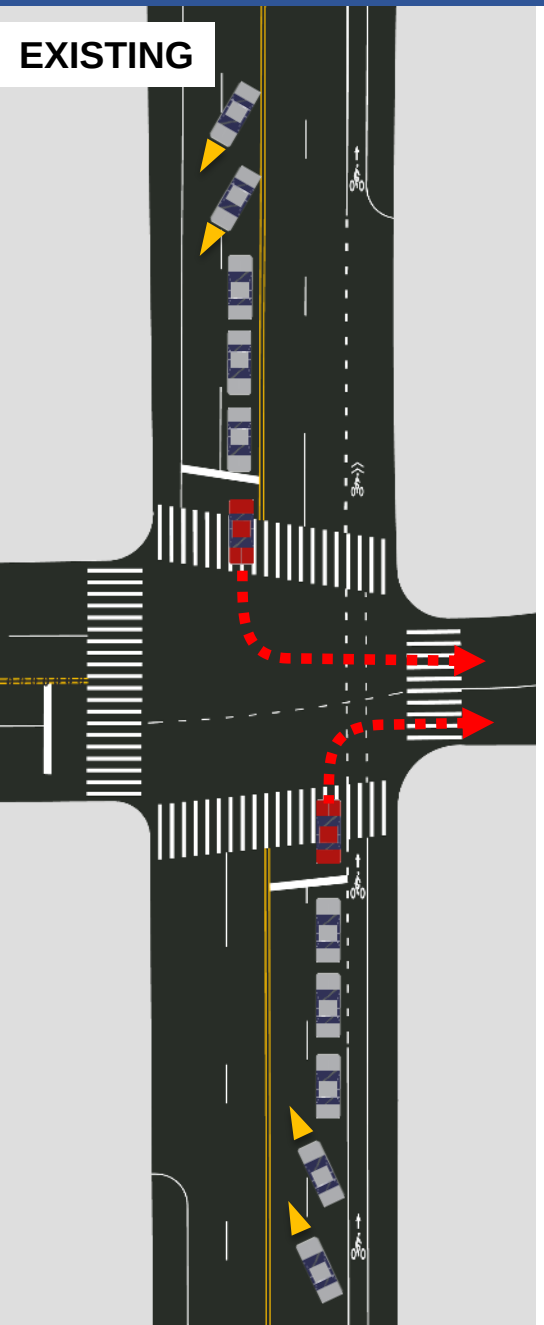
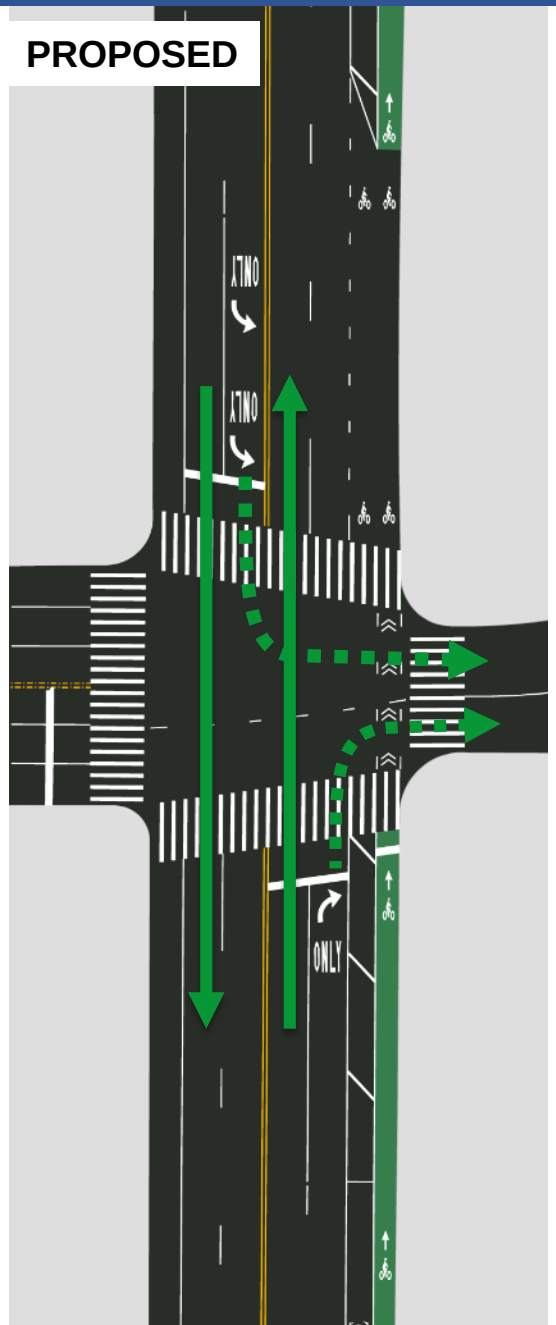
Lane Assignment Changes



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

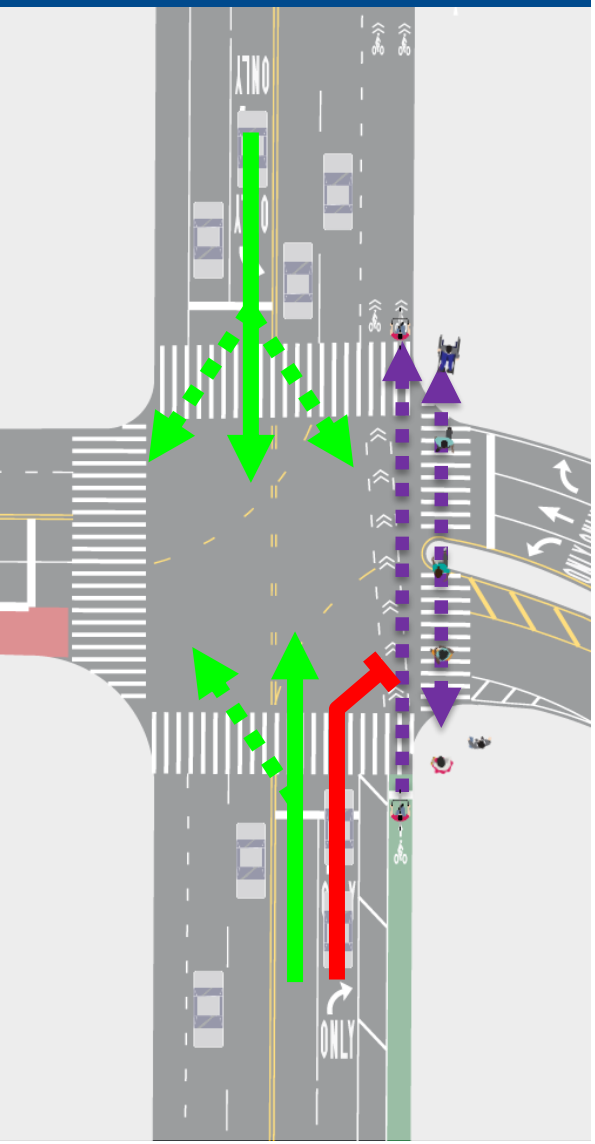
Dedicated turn lanes:

NB right turn lane
SB left turn lane

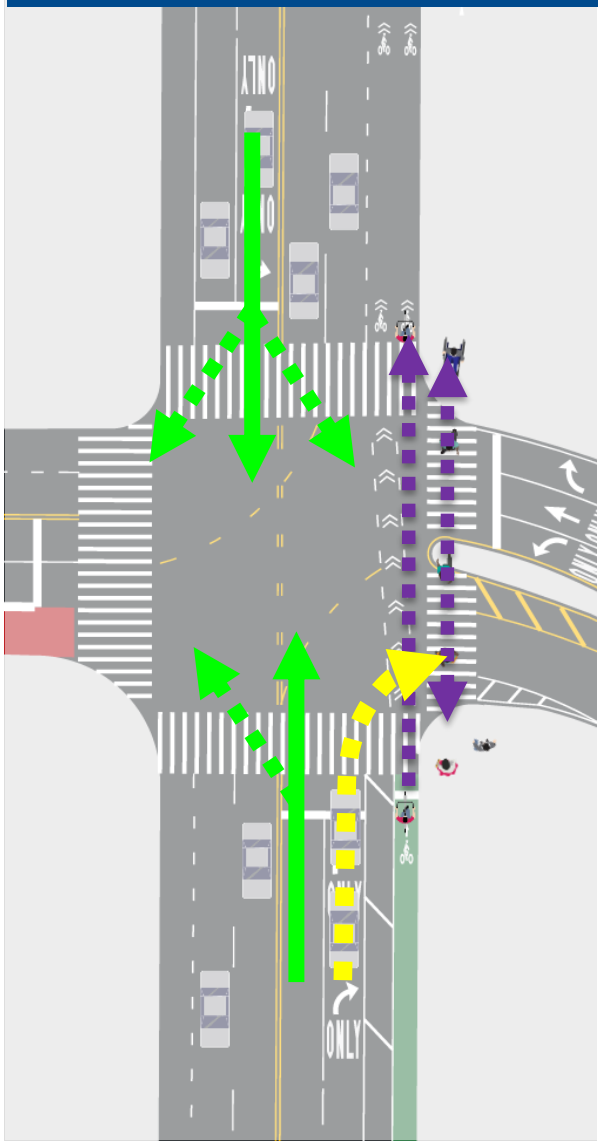
- **Relieves back pressure**
- **Less weaving and merging**; improves safety and traffic flow
- Motorists only have to **look for gap in one lane** of motor vehicle traffic

Signal Timing: Lagging Right Turn

Leading Bicycle/Pedestrian Phase



Flashing Amber Right Turn Signal

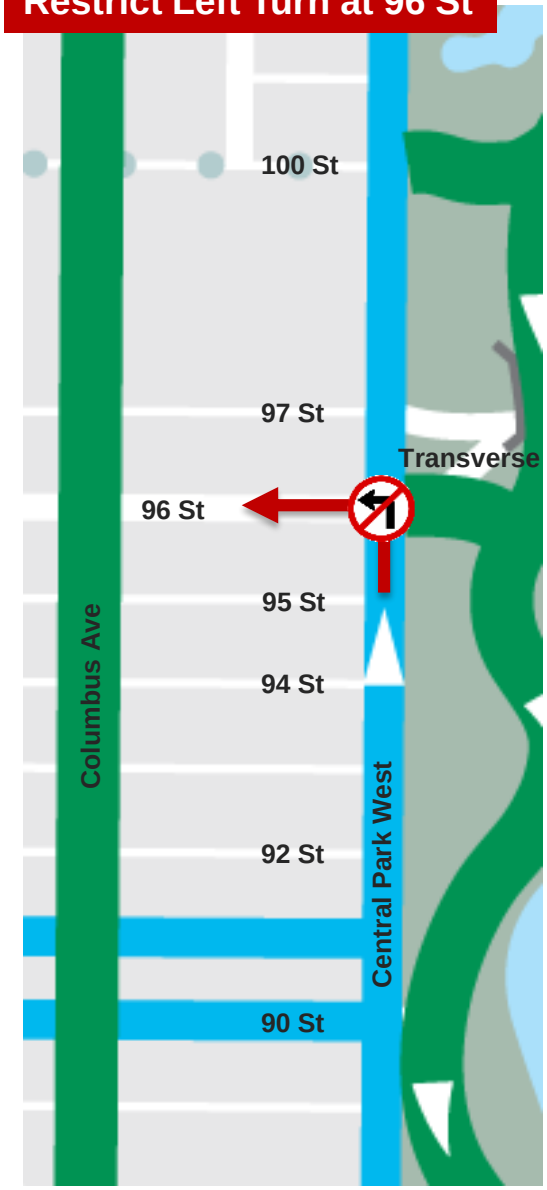


PROPOSED

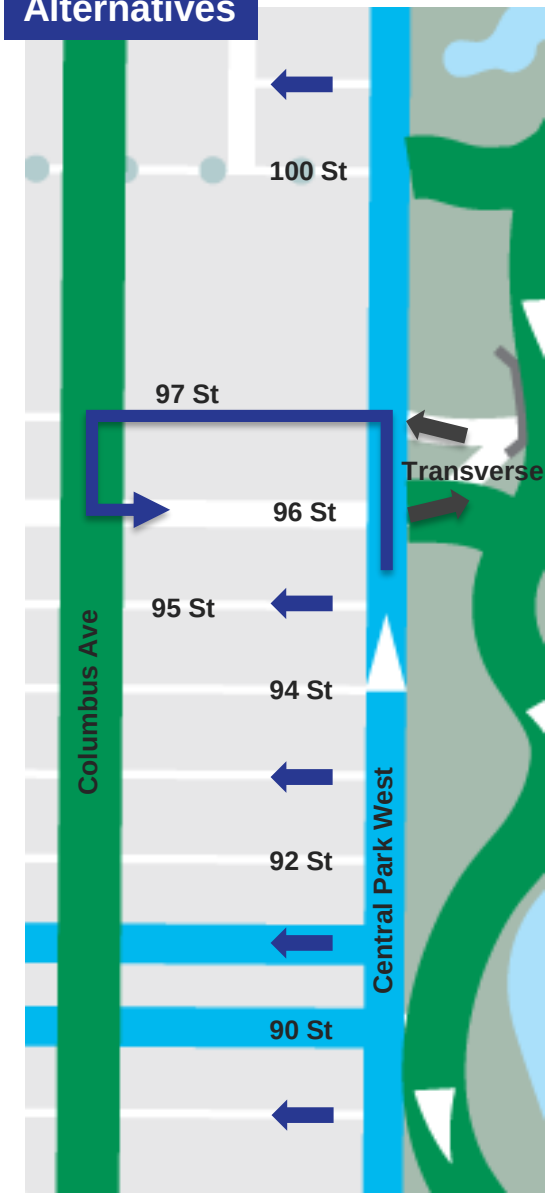
- Signal timing change: **Delayed NB right** turn gives cyclists a head start

Traffic Impacts: Turn Restriction

Restrict Left Turn at 96 St



Alternatives



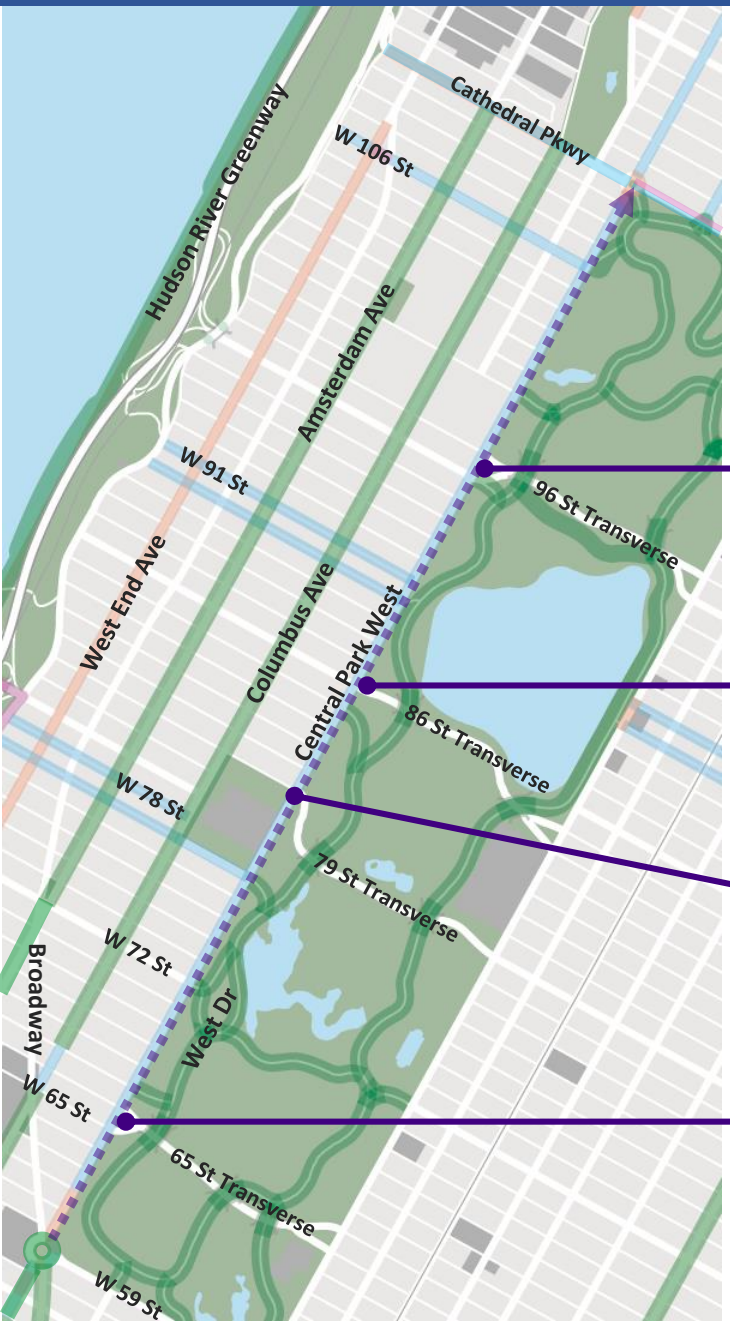
Existing Issues & Challenges

- 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



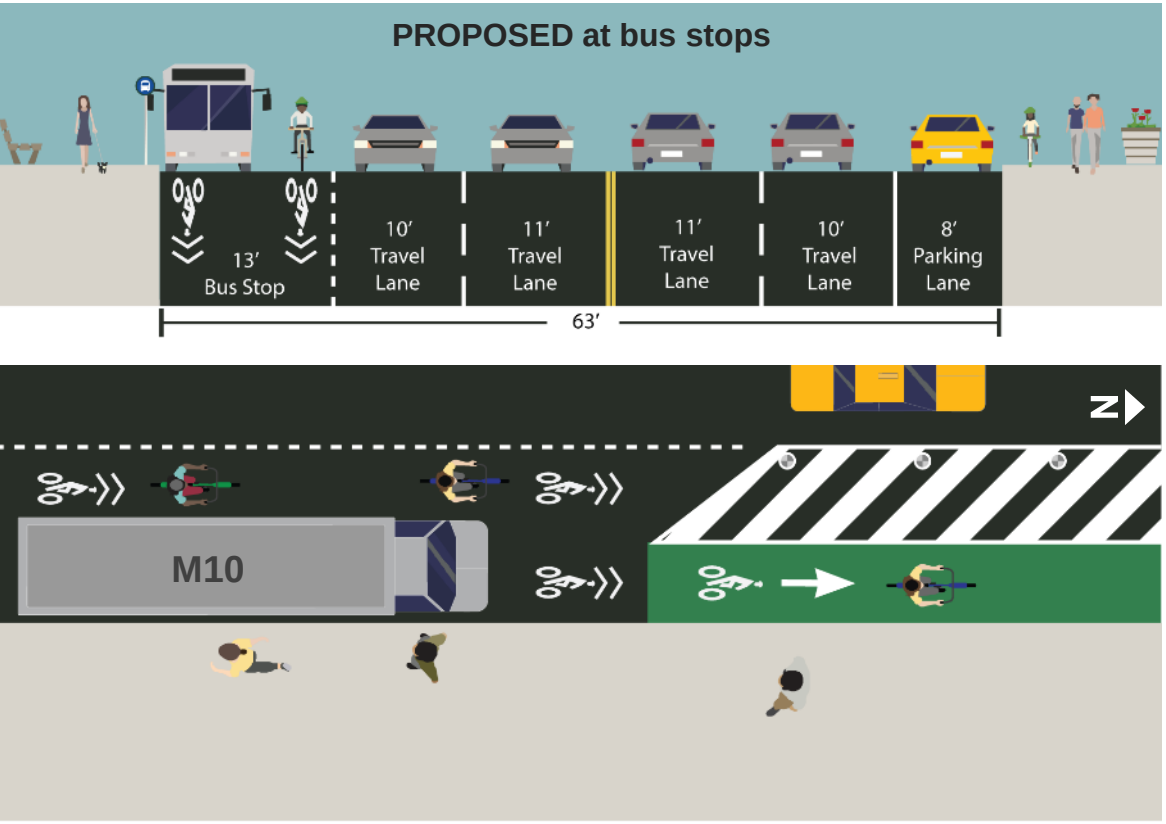
Traffic Analysis:
Delayed NB Right Turn and New Turn Lanes

- 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

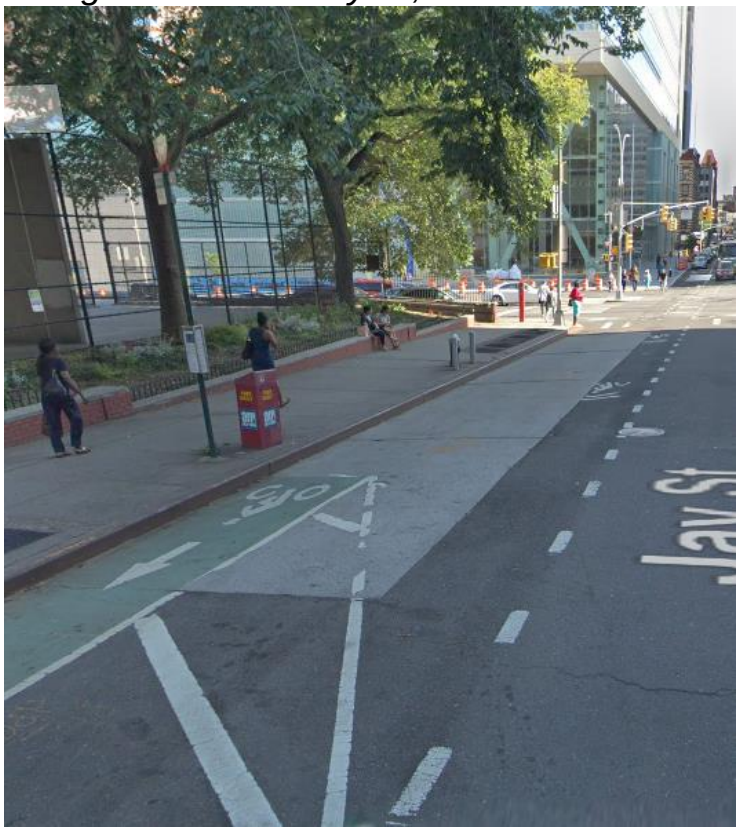
		Existing	Proposed
96 St	AM	LOS: E Delay: 60.8s	LOS: D Delay: 46.8s
	PM	LOS: D Delay: 46.6s	LOS: D Delay: 53.2s
86 St	AM	LOS: C Delay: 28.0s	LOS: C Delay: 24.7s
	PM	LOS: E Delay: 62.0s	LOS: D Delay: 46.8s
81 St	AM	LOS: E Delay: 66.7s	LOS: D Delay: 52.2s
	PM	LOS: E Delay: 57.0s	LOS: D Delay: 51.2s
65 St	AM	LOS: E Delay: 64.6s	LOS: E Delay: 75.7s
	PM	LOS: D Delay: 37.4s	LOS: F Delay: 94.4s

Bus/Bike Interaction

Design at Bus Stops



Design Elements: Jay St, BK



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

Curb Management

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

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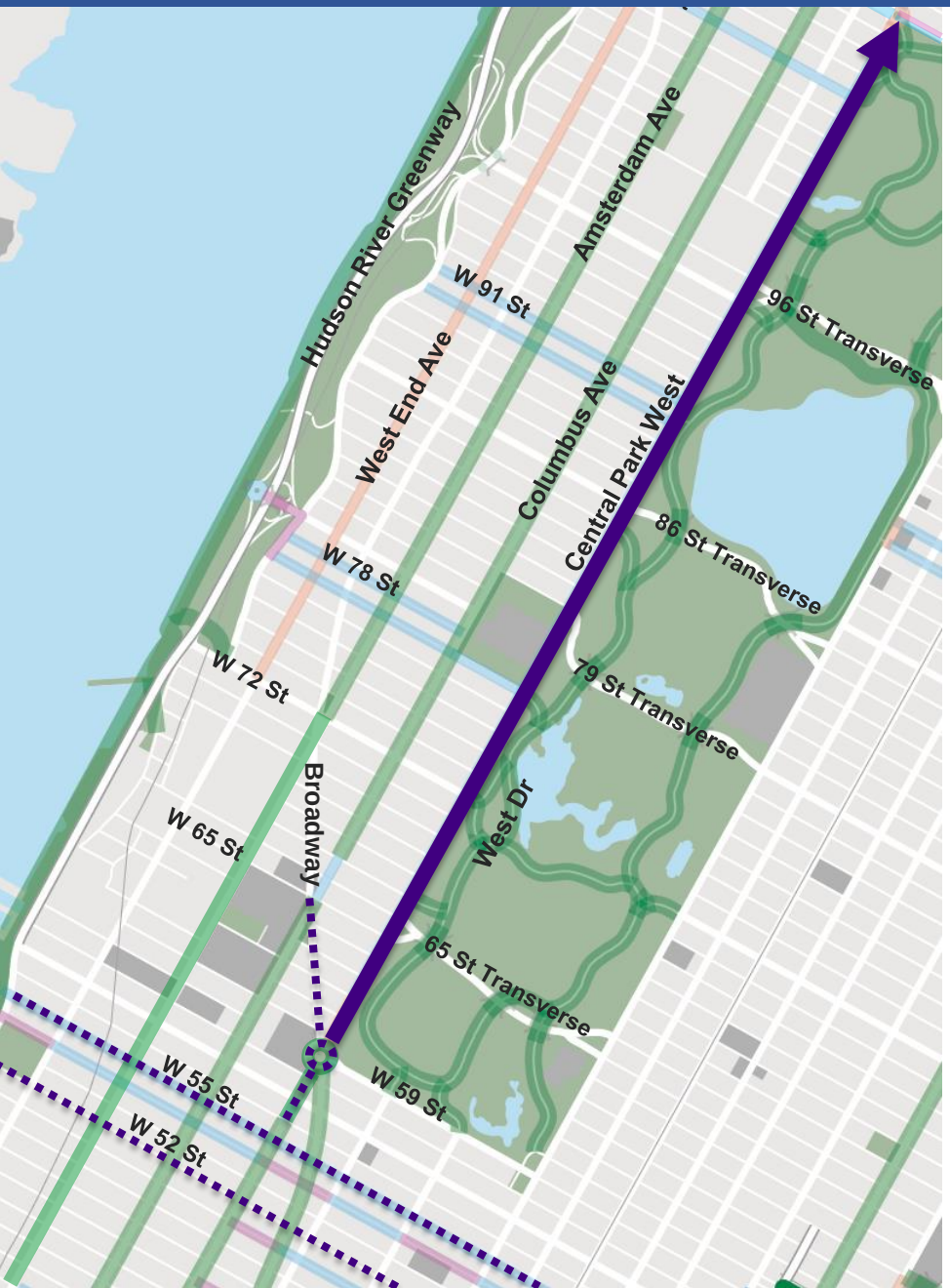
Summary of Benefits



Protected bike lanes benefit all street users:

Crashes with Injuries	Motor Vehicle Occupant Injuries	Pedestrian Injuries
Down 15%	Down 15%	Down 21%

- 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

THANK YOU!

Questions?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