



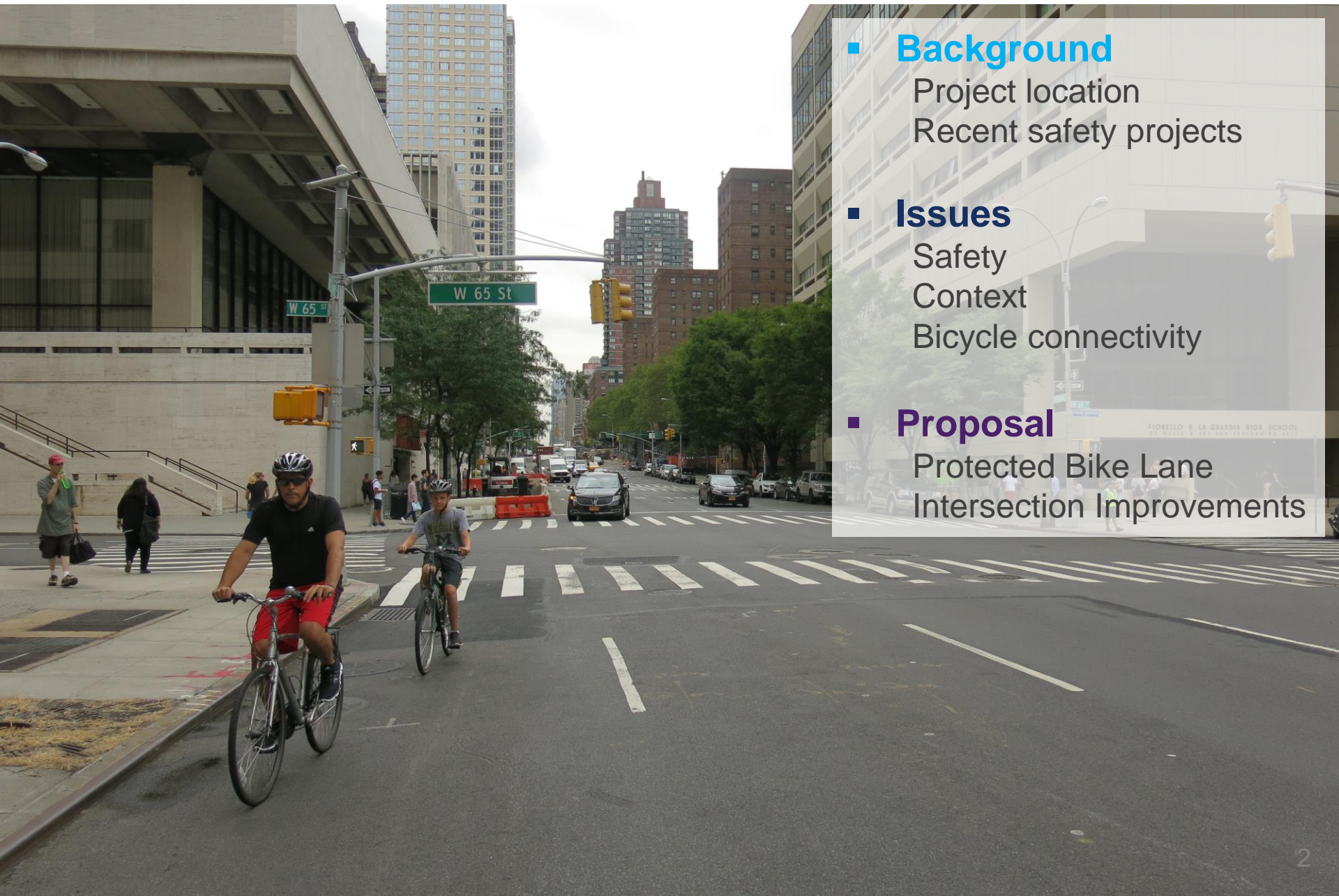
10TH AVE & AMSTERDAM AVE

W 52ND ST TO W 72ND ST

Protected Bike Lane

Presented on June 20 and July 10, 2018

PRESENTATION OVERVIEW



- **Background**
 - Project location
 - Recent safety projects
- **Issues**
 - Safety
 - Context
 - Bicycle connectivity
- **Proposal**
 - Protected Bike Lane
 - Intersection Improvements

Background

1

GROWTH IN CYCLING – Trends

+156%

**Growth in daily cycling in New York City
(2006-2016)**

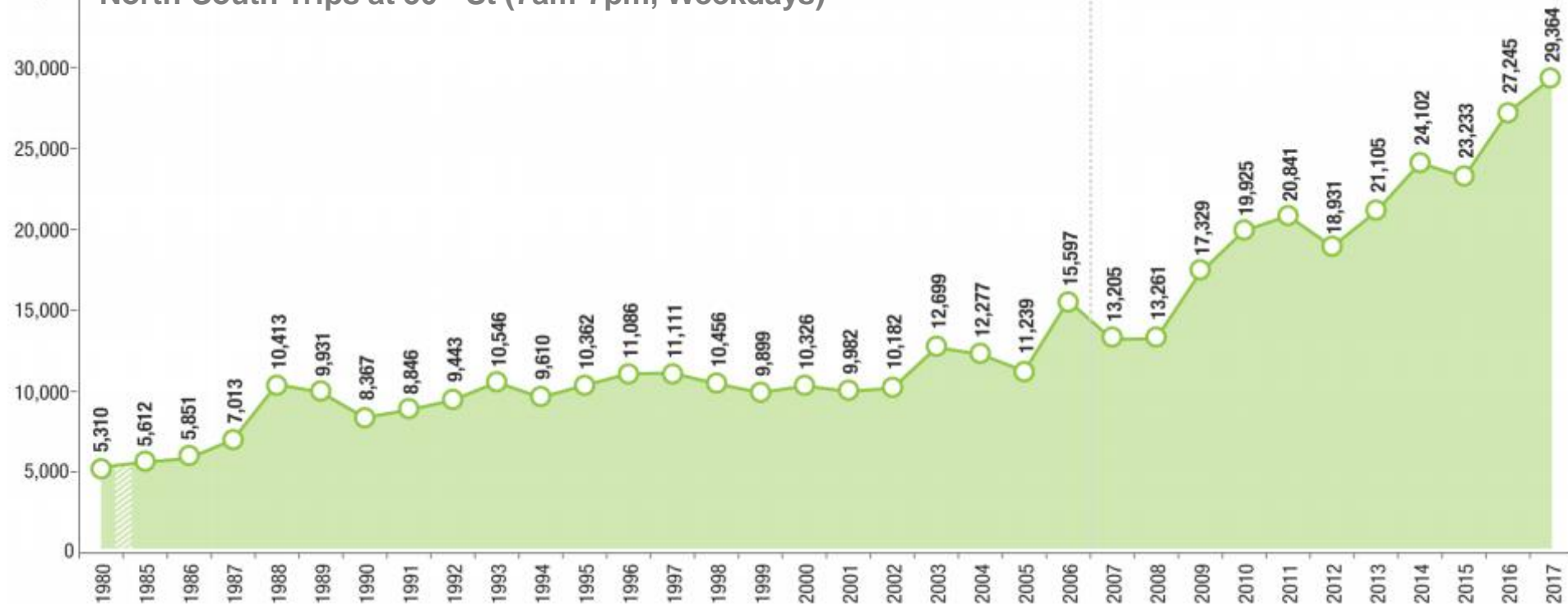
+107%

**Growth in biking to work in Manhattan
(2011-2016)**

+55%

**Growth in number bikes crossing 50th St in Midtown
(2012-2017)**

North-South Trips at 50th St (7am-7pm, Weekdays)



Background

BIKE NETWORK – Midtown West / Upper West Side

Previously Installed

- Hudson River Greenway
- 9th Avenue
- 8th Avenue
- Broadway
- Columbus Ave
- Amsterdam Ave

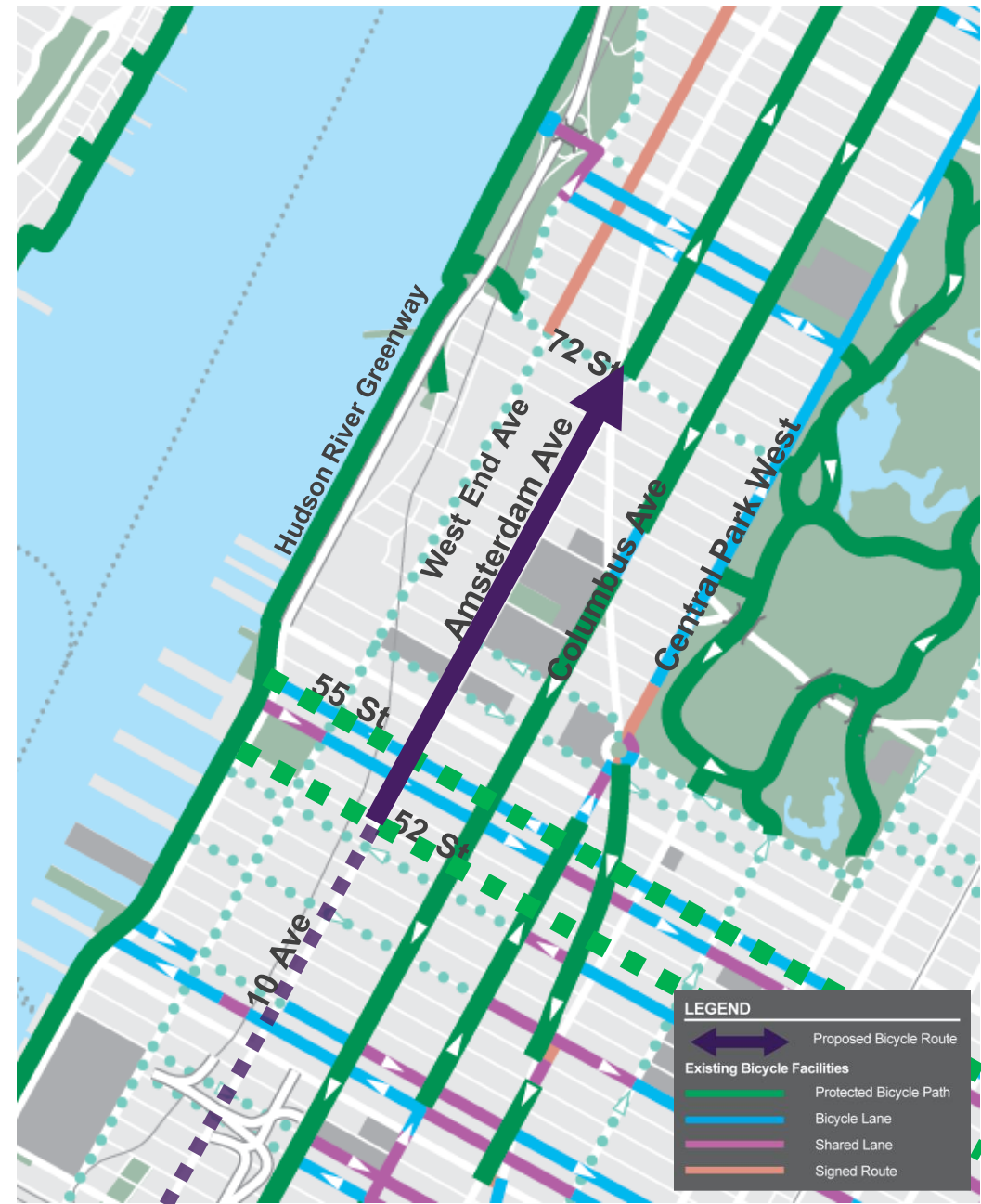
Proposed Future

- 52nd St, 55th St

Gap in Protected Bike Lane Network

- Amsterdam Ave protected bike lane begins at 72nd St
- No northbound connection from Hudson River Greenway and future crosstown protected bike lanes on 52nd St and 55th St

CM Rosenthal requested improvements on Amsterdam Ave (2015)



SAFETY – Amsterdam Ave

Injury Summary, 2012-2016 (5 years)

	Total Injuries	Severe Injuries	Fatalities	KSI
Pedestrian	109	8	0	8
Bicyclists	32	4	0	4
Motor Vehicle Occupant	136	4	0	4
Total	277	16	0	16
Fatalities, 01/01/2012 – 04/23/2018: 2				

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

- 2 Cyclist Fatalities** 2012-2018
at W 55 St and W 72 St
- 8 Pedestrians Severely Injured** 2012-2016
- 4 Cyclists Severely Injured** 2012-2016

Injuries, 2012 - 2016



Notes: Unlabeled intersections had less than 10 injuries

SAFETY – Amsterdam Ave

Speeding

79% of vehicles travel above the speed limited during off-peak times

Undefined Lane Assignments

Lead to unpredictable vehicular movements

Long Pedestrian Crossings

Challenging, especially for less able pedestrians

No Dedicated Space for Bikes

Cyclists ride with traffic, less predictable locations



Speed study conducted on September 13, 2017,
10 - 11 pm, between 59 St and 60 St

SAFETY – Protected Bike Lanes

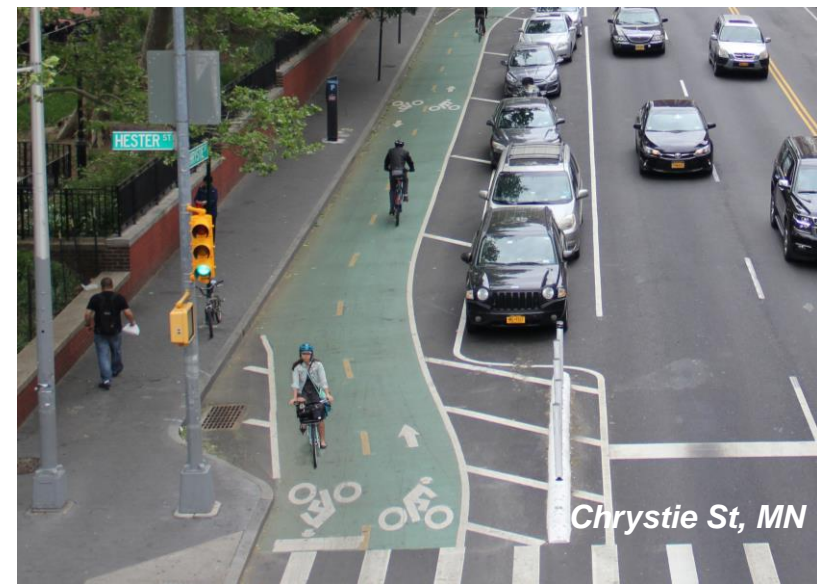
Protected bike lanes improve safety for all road users

On streets with protected bike lanes:

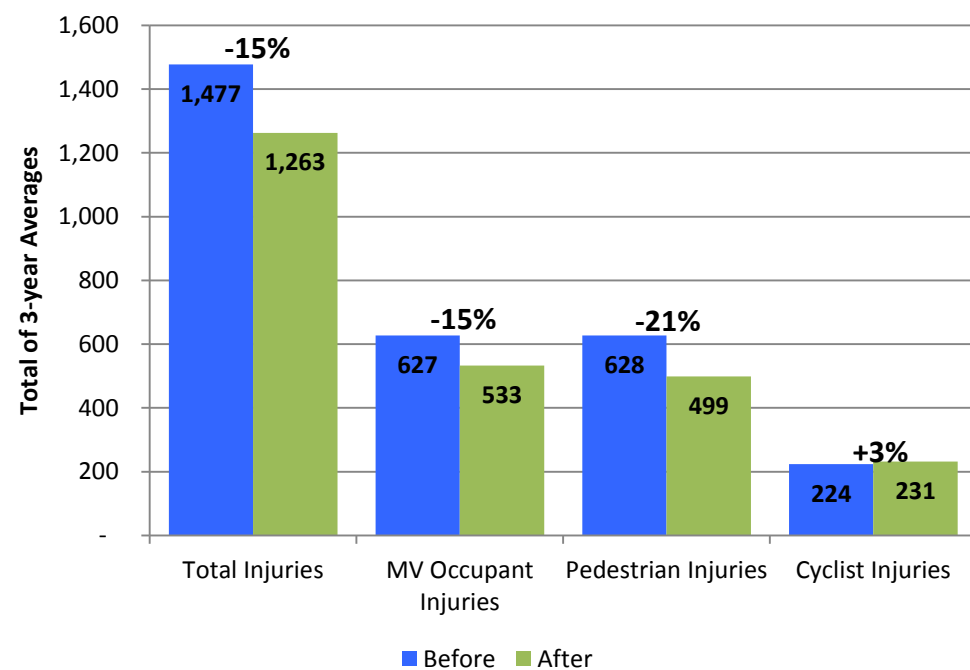
- Pedestrian injuries **decrease 21%**
- Motorist injuries **decrease 15%**
- Injuries to cyclists increase only 3%, despite a **61% bike volume increase**

On Columbus Ave (W 96th to W 69th St):

- Cyclist volumes **increased 30%***
- Total injuries **decreased 30%***



Protected Bike Lanes – Before and After Installation



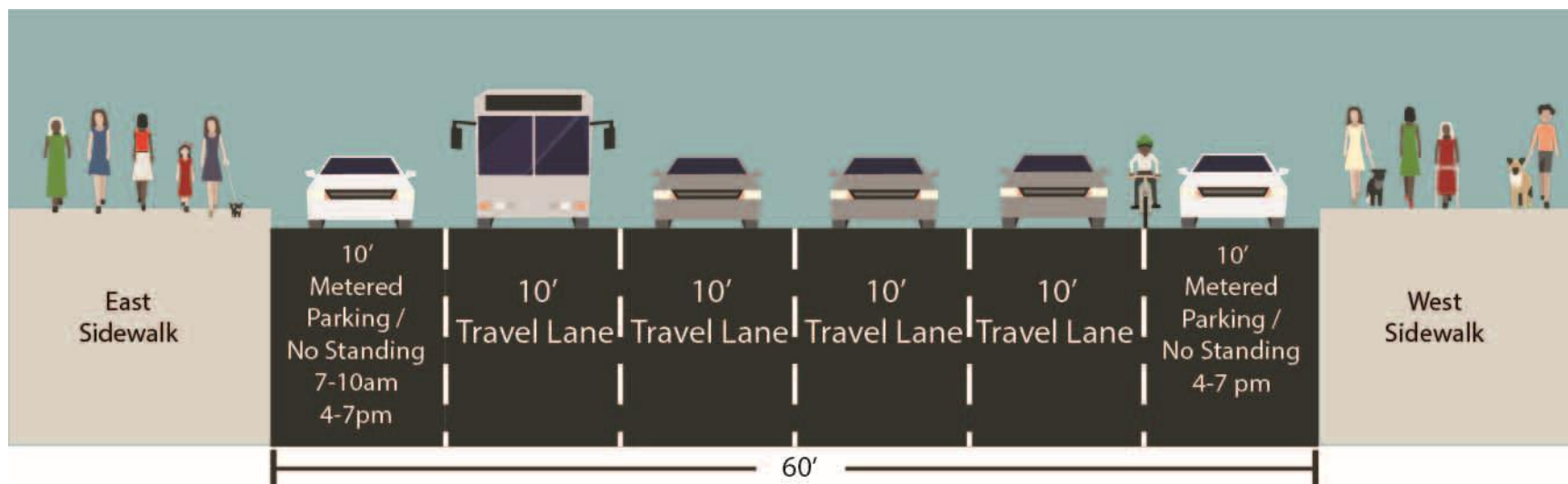
Data from 25 separate protected bicycle lane projects installed from 2007-2014 with 3 years of after data. Includes portions of 1 Ave, 2 Ave, 8 Ave, 9 Ave, Broadway, Columbus Ave, Hudson St, Lafayette St / 4 Ave, Sands St, Allen/Pike St, Kent Ave, Prospect Park West, Flushing Ave, Bruckner Blvd & East 163 St, Imlay St / Conover St, Paerdegat Ave. Only sections of projects that included protected bike lanes were analyzed. Source: NYPD AIS/TAMS Crash Database

* Columbus 76-69: total injuries decreased 33% while bike volumes increased 15%. Columbus 96-77: total injuries decreased 20% and bike volumes increased 50%.

**Amsterdam Ave
Proposal**

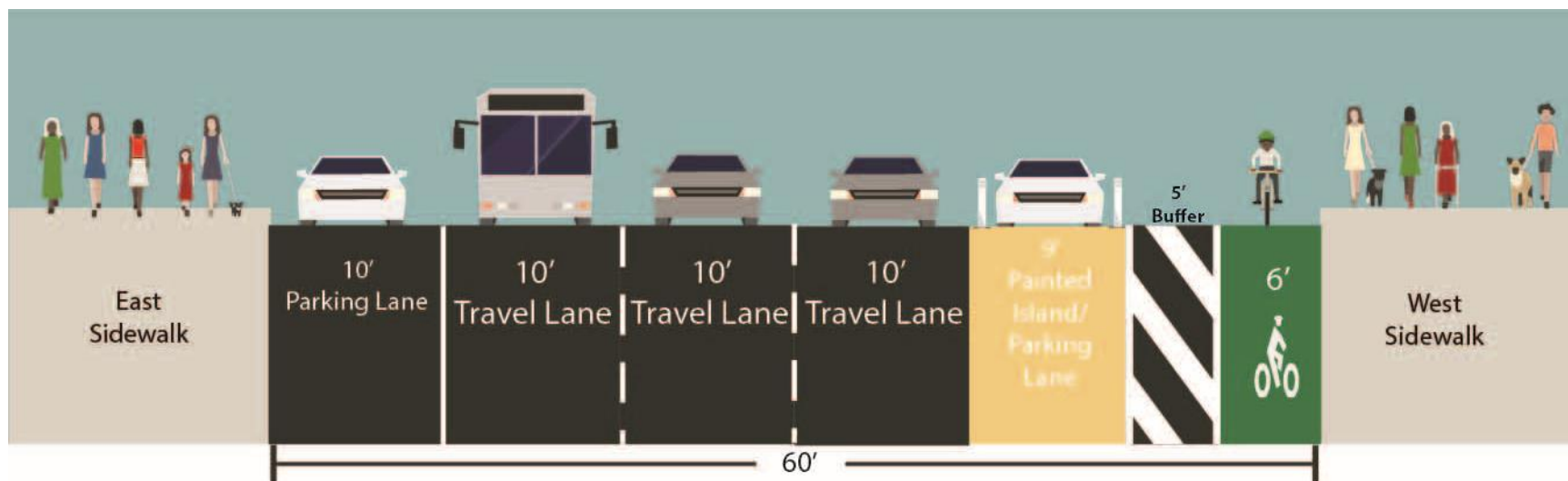
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EXISTING CONDITIONS- Typical



- Ranges from 60 – 70 ft wide
- 4 full-time travel lanes
- Peak period travel lanes on both curbs
- Parking on both curbs during non-peak hours
- Peak hour volume range from 1,200 to 1,600 vehicles

PROPOSED DESIGN - Typical



- Remove one full-time travel lane
- Remove PM rush hour regulation from the west curb and modify parking regulations to create full-time parking/loading lanes
- Install protected bike lane on west curb
- Install painted pedestrian islands to shorten crossing distances and calm turns to and from side streets

PROPOSED DESIGN - Precedent

- Lane reduction at all times calms traffic
- Bicycle lane protected from traffic
- Reduced crossing distances
- Neighborhood scale design



PROPOSED DESIGN – Turn Treatments



Mixing Zones

- Improve visibility of pedestrians and cyclists
- Reduce cyclist delay (cyclists stop and wait longer at split phase signals)
- Remove left turns from thru lanes to help process thru traffic and reduce back pressure

Split Phase Signals

- Turning vehicles queue in turn lane for dedicated turn phase
- Pedestrians and cyclists have a protected signal phase
- **Used on streets with two-way traffic and long crossings: 57th St and 66th St**

Roadway redesign converts 44 parking spaces into pedestrian islands and left turn treatments

Proposal

PROPOSED DESIGN – W 70th St to W 72nd St



Maintains existing
turn lane capacity

Creates dedicated cycling
space through the majority
of the bow tie

Design is compatible
with current and future
curb lines

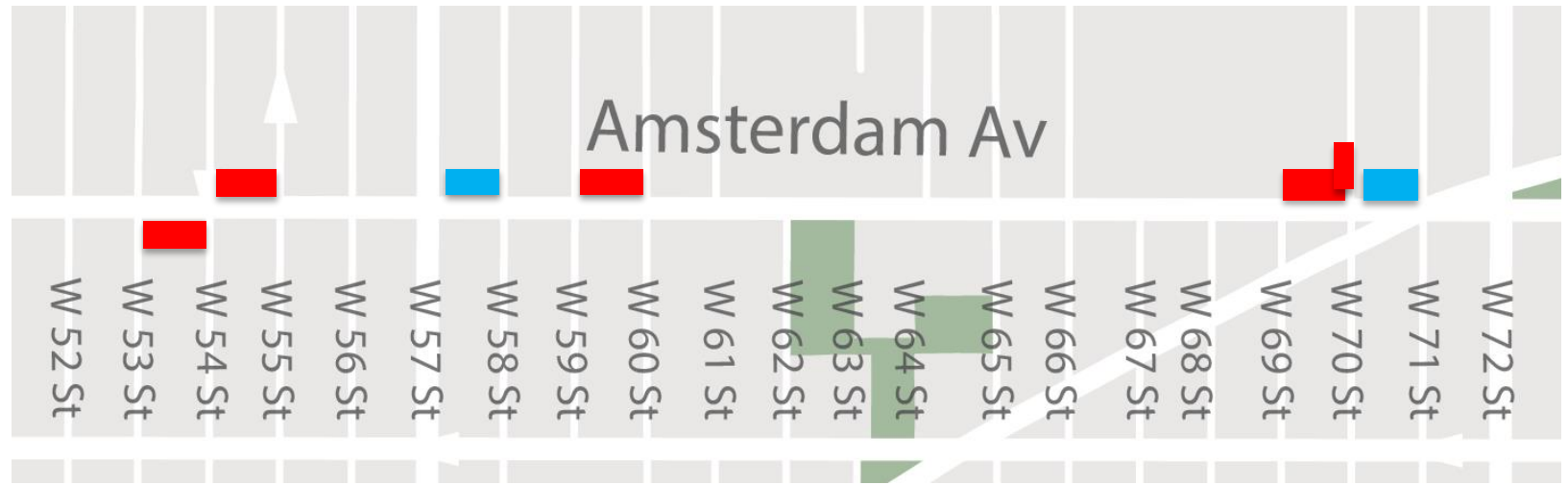
PROPOSED DESIGN – Commercial Loading



- Improve access to the curb for commercial deliveries
- Reduce double parking
- Targeted loading zones address varied needs block by block

PROPOSED DESIGN – Commercial Loading

Reduce the likelihood of trucks double-parking during peak travel times



Blue Indicates a combination of open metered parking and metered commercial

Red Indicates metered commercial 7am-7pm Monday to Friday

Note 1: Metered parking change from 1 hr metered to 2 hr metered for the length of corridor

Note 2: Proposal includes approx. 120 feet of metered parking on the south side of 70th st.

Proposal

TRAFFIC ANALYSIS

	Cross Street	Overall Intersection Delay (sec) /LOS				Max Volume-to-Capacity Ratio	
		Existing		Proposed		Existing	Proposed
		Delay	LOS	Delay	LOS		
W 57 St	PM	5.9	A	10.6	B	0.71	0.81
W 66 St	PM	5.5	A	9.7	A	0.66	0.67
W 70 St	PM	11.9	B	14.6	B	0.55	0.70

Cross Street (approaching)	10 / Amsterdam Av 6-7 PM Peak Volumes (veh/hr)
W 55	1,661
W 57	1,577
W 59	1,155
W 65	1,643
W 67	1,227
W 71*	782

* Broadway contributes additional 730 vehicles at bow tie



Minimal impact on traffic

- Delay at intersections increases by an average of less than 5 seconds (PM)
- Sufficient or same capacity maintained at all intersections
- Maintains three full time travel lanes with left turn lanes/mixing zones

PROPOSED DESIGN



Pedestrians

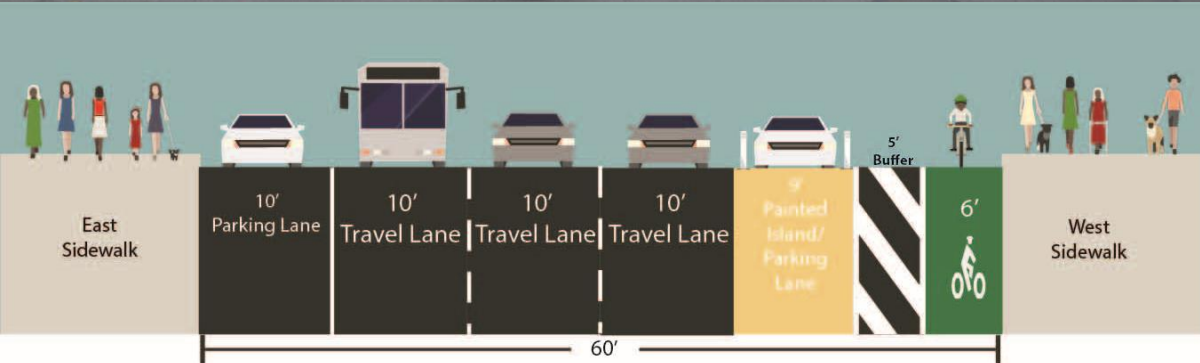
- Shorten crossing distances
- Calm traffic

Cyclists

- Provide protected bike lane
- Create northbound protected connection from Midtown

Motorists

- Maintain adequate vehicle capacity
- Organize left turns



THANK YOU!

Questions?



NYCDOT



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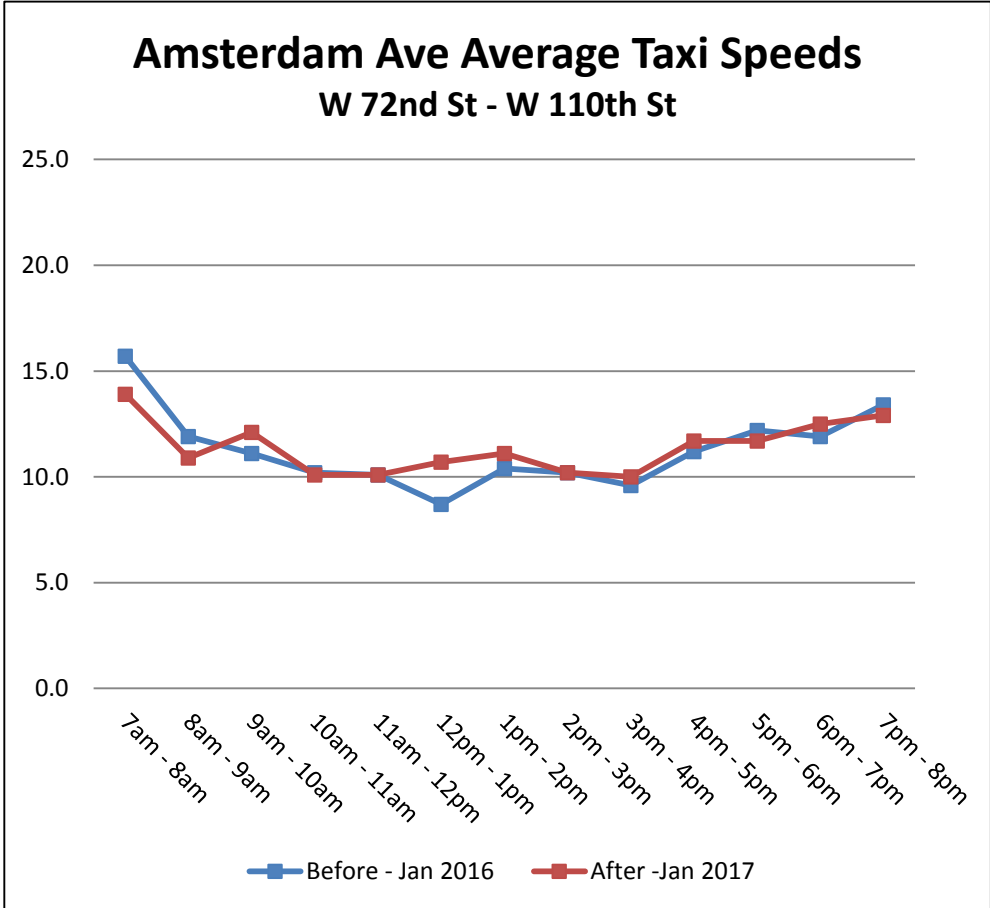
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NYCDOT

TRAFFIC ANALYSIS

After implementation of the protected bike lane on Amsterdam Ave from 72 St to 110 St, average taxi speeds remained the same.



AM peak: Average speeds decreased by 1 mph

Midday: Average speeds increased by 1 mph

PM peak: Average speeds stayed the same

Before sample size: 1,984 After sample size: 2,079