6th Avenue: W 14th – W 33rd Streets
Parking Protected Bike Lane and Traffic Calming

2016

VISION ZERO
NEW YORK CITY
DOT

Project Map

6th Ave

W 33rd St

W 14th St

Legend

Project Route

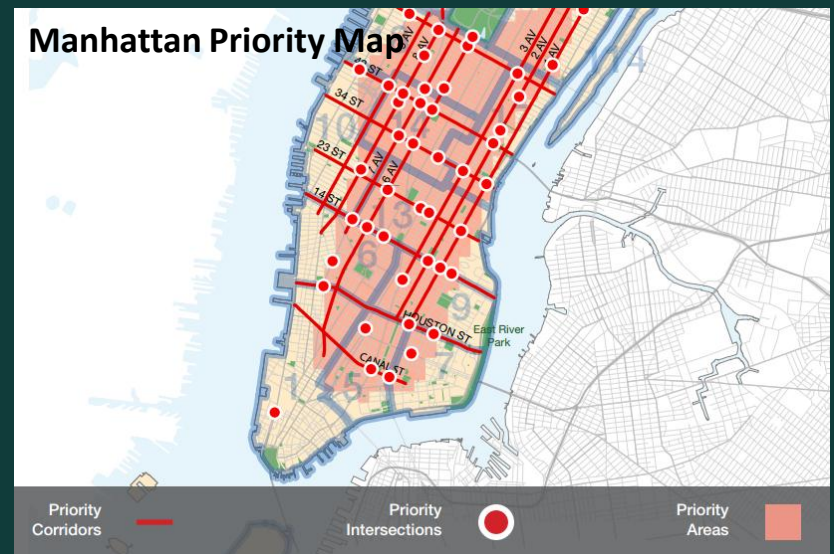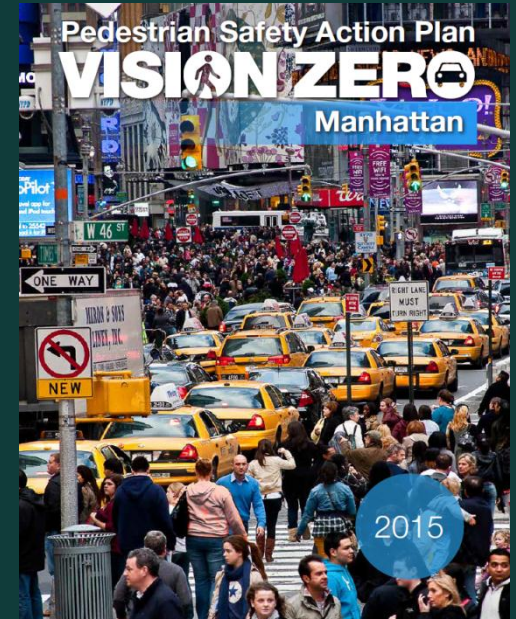Existing On-Street Bicycle Facility

Protected Bicycle Path

2

Project Background

- **In 2014, CBs 2, 4 and 5 requested that DOT study the corridor for a protected bike lane**

- **Vision Zero calls for an expanded bicycle network in Manhattan that improves safety for all road users**

- **Existing bicycle lane between W 8th St to W 42nd St**

- **Over 2,000 cyclists travel the corridor during a typical weekday (12-hour period)**

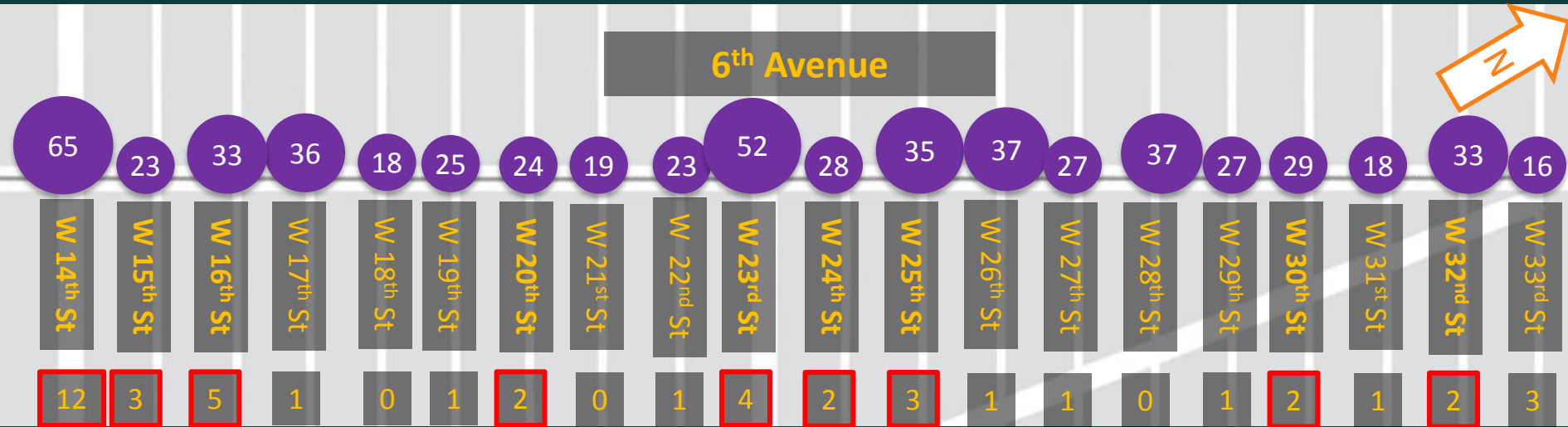- **Peak motor vehicle volume is 1,970 vehicles per hour @ W 27th St**

Vision Zero

- Multi-agency effort to reduce traffic fatalities in NYC

- Borough Action Plans released in 2015

- Priority Intersections, Corridors, and Areas identified for each borough
  - 6th Ave identified as a Priority Corridor for Manhattan
  - 6th Ave at W 14th St and W 23rd St identified as Priority Intersections

For the complete plan:
http://www.nyc.gov/html/dot/downloads/pdf/ped-safety-action-plan-manhattan.pdf

6 Av: Crash History (2009-2013)

- 6th Avenue is a Vision Zero Corridor

- 6th Avenue and W 14th Street is a Vision Zero Priority intersection

- 27 pedestrians, 10 cyclists and 15 motor vehicle occupants severely injured in crashes from 2009-2013

6th Avenue

Street	Total Injuries	KSI
W 14th St	65	12
W 15th St	23	3
W 16th St	33	5
W 17th St	36	1
W 18th St	18	0
W 19th St	25	1
W 20th St	24	2
W 21st St	19	0
W 22nd St	23	1
W 23rd St	52	4
W 24th St	28	2
W 25th St	35	3
W 26th St	37	1
W 27th St	27	1
W 28th St	37	0
W 29th St	27	1
W 30th St	29	2
W 31st St	18	1
W 32nd St	33	2
W 33rd St	16	3

X = # of people Killed or Severely Injured

Intersection in the top 10% KSI of Manhattan intersections

Total Injuries

6th Ave - 14th St to 33rd St, MN

Injury Summary, 2009-2013 (5 Years)

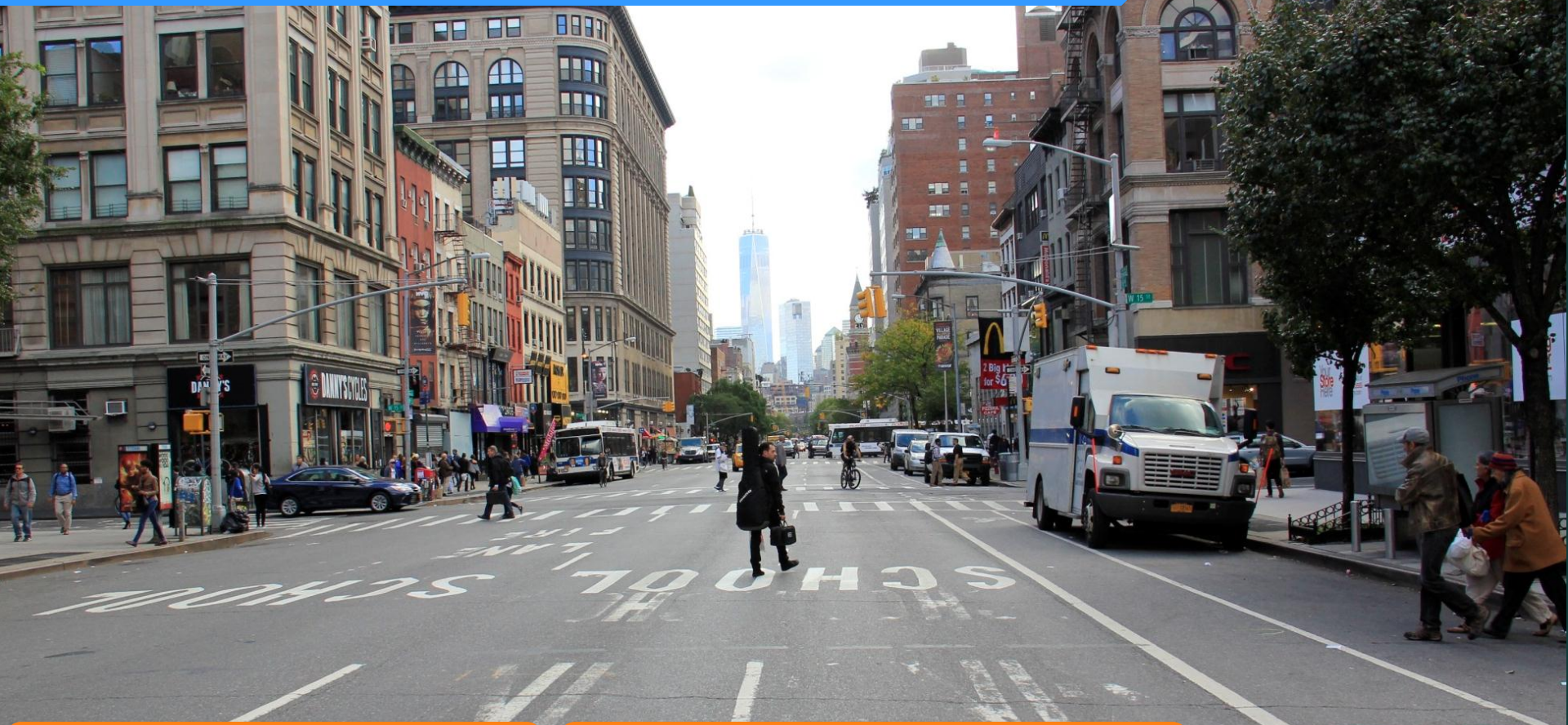|	Total Injuries	Severe Injuries	Fatalities	KSI
Pedestrian	217	27	0	27
Bicyclist	105	10	0	10
Motor Vehicle Occupant	301	15	0	15
Total	623	52	0	52

KSI = Killed/ Severely Injured

Citi Bike

- 6th Ave is in the heart of the Citi Bike service area
- 7 stations are located near project corridor

Existing Conditions – 6ᵗʰ Avenue

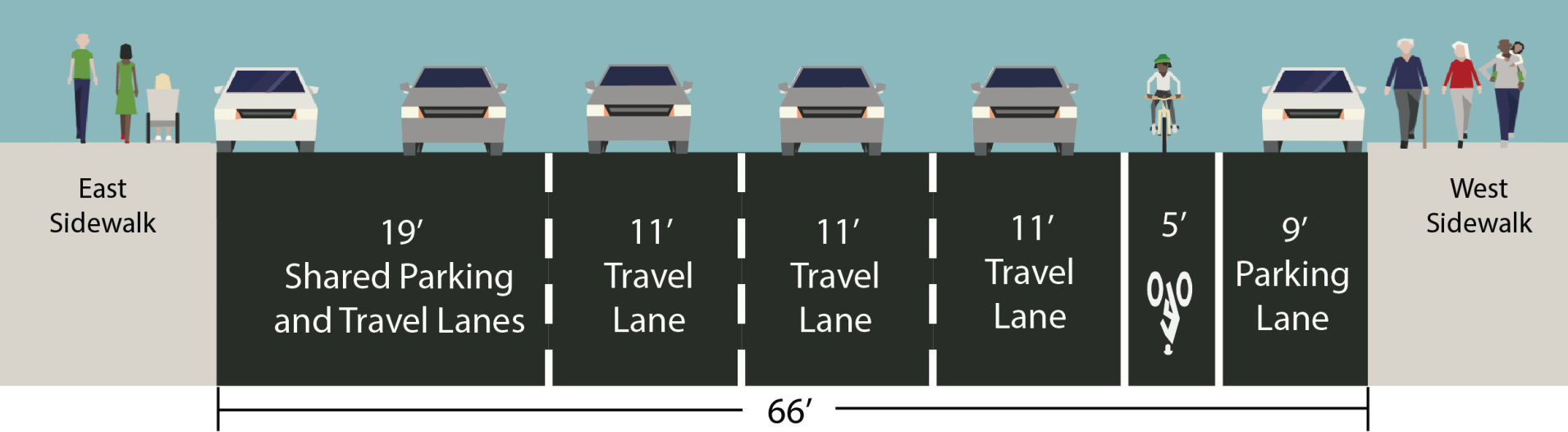66' wide street with long pedestrian crossings

Bike lanes often blocked by double parked vehicles

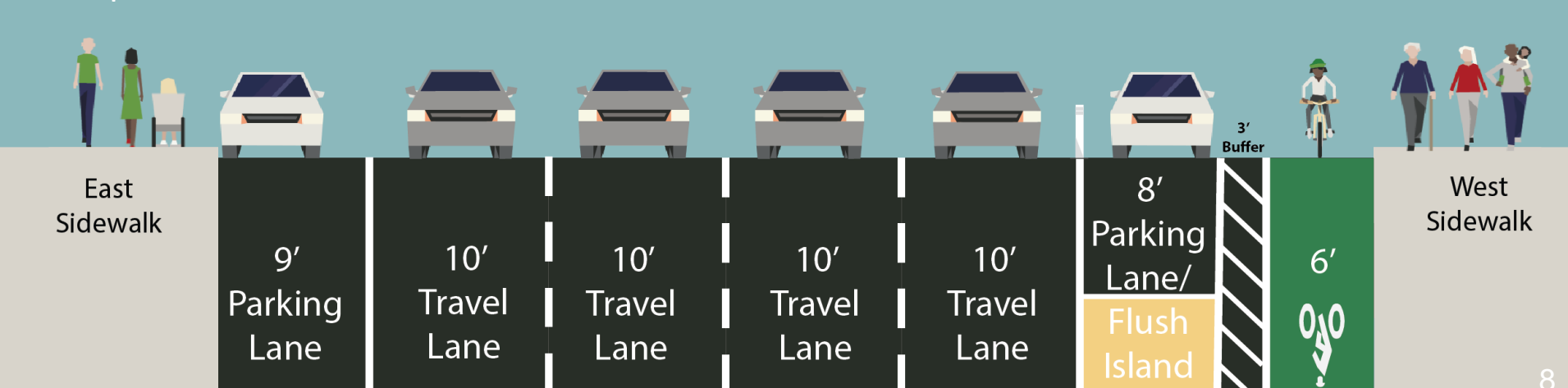Wide roadway encourages speeding and erratic driving

Unpredictable maneuvers by cabs or left-turning vehicles

6ᵗʰ Avenue @ W 15ᵗʰ Street

6th Av: Typical Proposed Configuration

Existing Condition

East Sidewalk	19' Shared Parking and Travel Lanes	11' Travel Lane	11' Travel Lane	11' Travel Lane	5'	9' Parking Lane	West Sidewalk

← 66' →

Proposed Condition

East Sidewalk	9' Parking Lane	10' Travel Lane	10' Travel Lane	10' Travel Lane	10' Travel Lane	8' Parking Lane / Flush Island	3' Buffer	6'	West Sidewalk

Design Treatments

Pedestrian Island/"Floating" Parking Lane
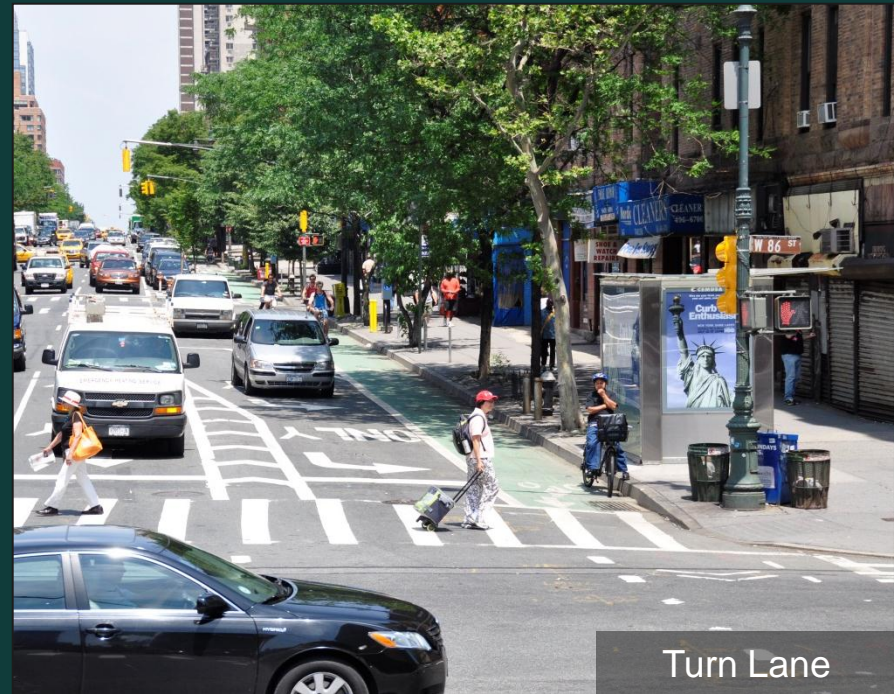

Painted Pedestrian Island

- **Painted Pedestrian Islands** – Shorten pedestrian crossings from 66' to 49'
- **"Floating" Parking Lane** – Maintains on-street parking and protects cyclists
- **Narrowed Travel Lanes –** Calm traffic while maintaining existing number of travel lanes

Design Treatments – Intersections

Mixing Zone

Turn Lane

- **Maintain all travel lanes** – Mixing zones and split phase turn lanes add roadway capacity and improve traffic flow
  - **Mixing Zones** – manages vehicle/bike turning conflict while reducing delay
  - **Split Phase Turn Lanes** –protects cyclists from turning vehicles with dedicated bicycle signal

Safe Intersections – Mixing Zones

1. Improves visibility of pedestrians and cyclists
2. Provides space to negotiate the merge
3. Removes left turns from through lanes helping to process through traffic

Typical left turn design

Safe Intersections – Split Phase

1. Turning vehicles queue for dedicated turn phase
2. Bike lane continues the length of the block
3. Pedestrians and cyclists protected from turning vehicles
4. Used at high conflict locations: W 14th St & W 23rd St

Parking/Loading Changes

West Side Converted Parking Spaces (East side not affected by islands & turn lanes)	Parking Space Equivalents (Approx.) Total
Turn Lanes/ Mixing Zones	-34
Pedestrian Islands	-8
Total Spaces Converted	**-42**

- Curbside access retained for ~83% of 6th Avenue

Safety Benefits: Existing Protected Bike Lanes

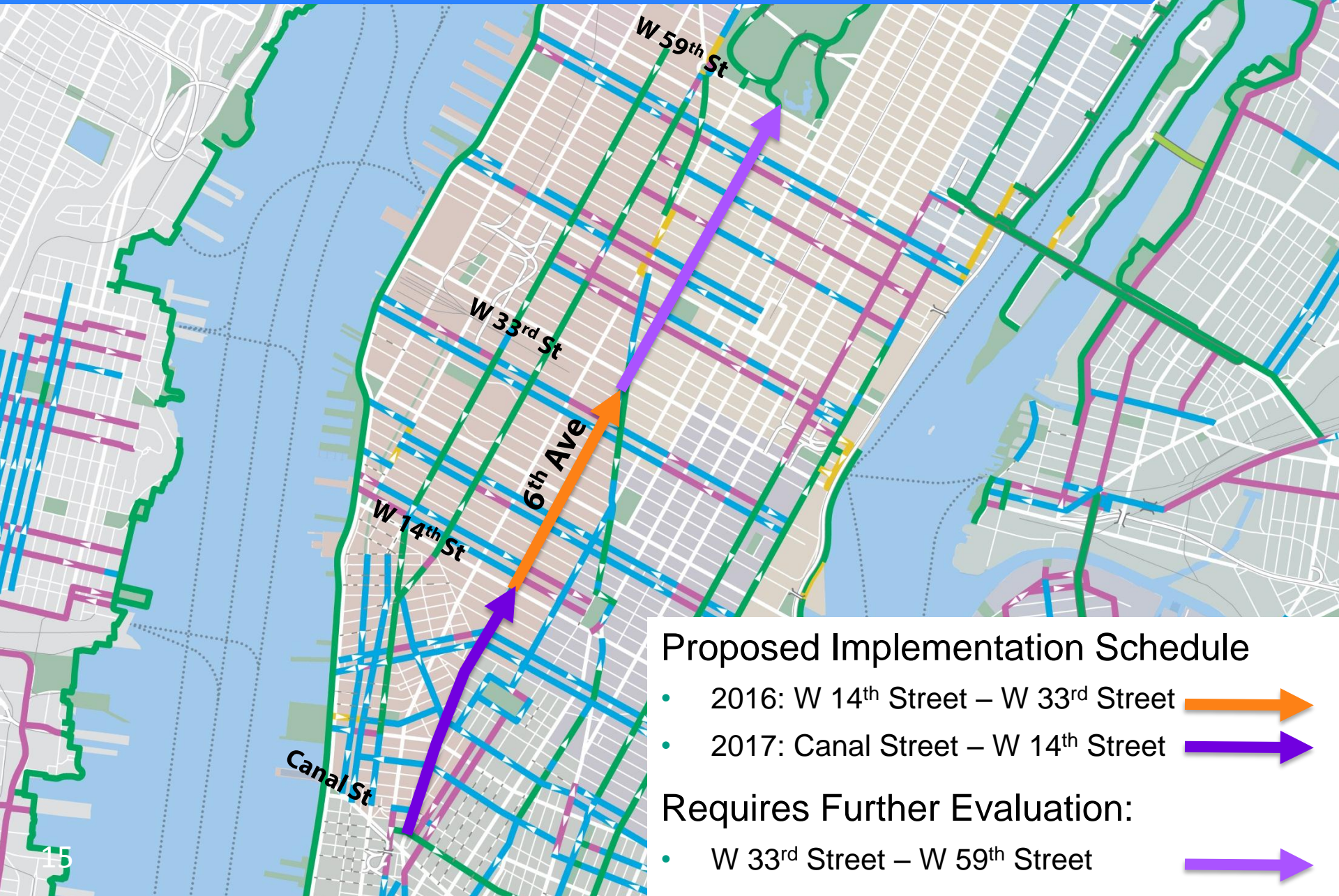## Three Year Before and After Crash Analysis on Parking-Protected Bicycle Lanes

	Change in Crashes w/ Injuries	Change in Total Injuries
1st Avenue E 1st St- E 33rd St	-6%	-11%
2nd Avenue E 33rd St- E 24th St, E 13th St – E 2nd St	-11%	-7%
8th Avenue Bank St – W 23rd St	-20%	-25%
9th Avenue W 33rd St – W 16th St	-43%	-46%

1st Ave Before data: 7/1/07-6/30/10 After data: 12/1/10-11/30/13
2nd Ave Before data: 7/1/07-6/30/10 After data: 12/1/10-11/30/13
8th Ave Before data: 8/1/05-7/31/08 After data: 7/1/09-6/30/12
9th Ave Before data: 7/1/04-6/30/07 After data: 11/1/08-10/31/11

Columbus Avenue at W 90th St

6th Avenue Corridor Phasing

Proposed Implementation Schedule
- 2016: W 14th Street – W 33rd Street
- 2017: Canal Street – W 14th Street

Requires Further Evaluation:
- W 33rd Street – W 59th Street

- Important Vision Zero Corridor/Area/Intersections
- Enhances safety for all street users
- Installation of a parking protected bike lane with mixing zones and turn lanes
- Installation of ~27 painted pedestrian safety islands
- Reduces pedestrian crossing distances

16

Questions?

Thank You

nyc.gov/dot