

# 6<sup>th</sup> Avenue: W 8<sup>th</sup> – W 33<sup>rd</sup> Streets

## Parking Protected Bike Lane and Traffic Calming

2016





# Project Map





# Project Background

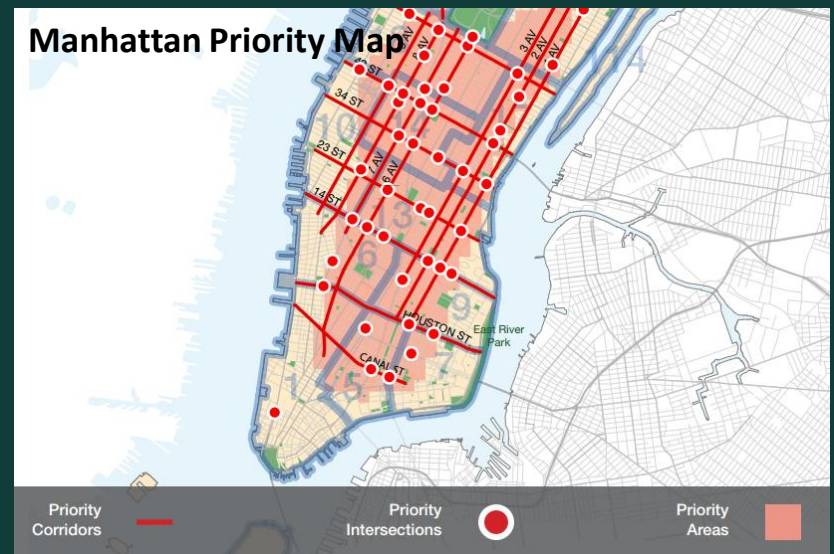
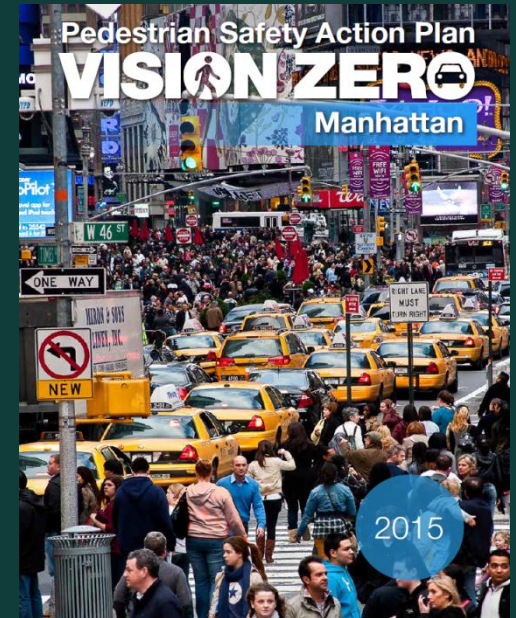
- In 2014, CBs 2, 4 and 5 requested that DOT study the corridor for a protected bike lane
- Vision Zero calls for an expanded bicycle network in Manhattan that improves safety for all road users
- Existing bicycle lane between W 8<sup>th</sup> St to W 42<sup>nd</sup> St
- Over 2,000 cyclists travel the corridor during a typical weekday (12-hour period)
- Peak motor vehicle volume is 1,970 vehicles per hour @ W 27<sup>th</sup> St



# Why 6<sup>th</sup> Avenue? Vision Zero Priority Corridor

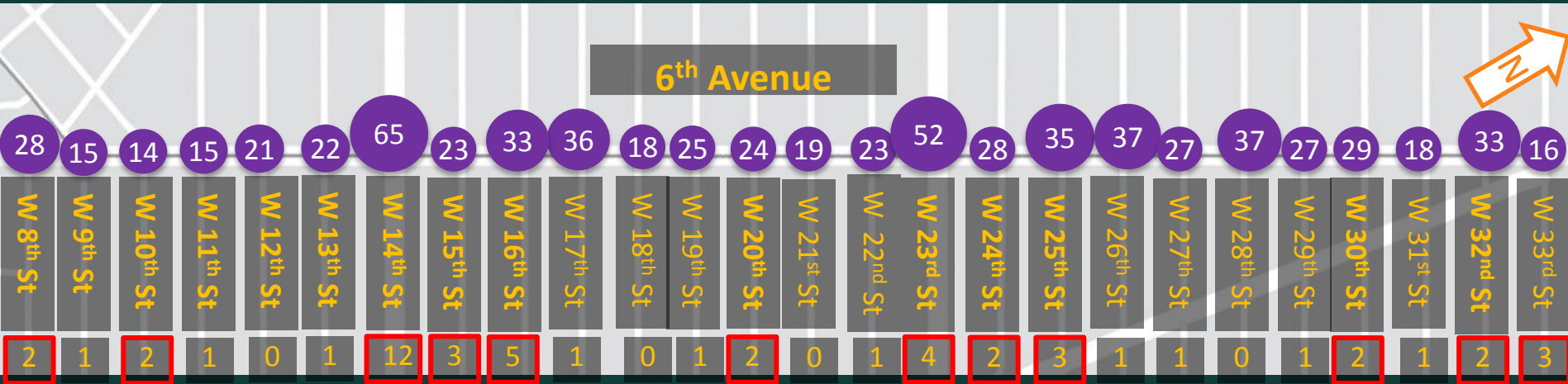
## Vision Zero

- 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 14<sup>th</sup> St and W 23<sup>rd</sup> St identified as Priority Intersections



# 6 Av: Crash History (2009-2013)

- 6<sup>th</sup> Avenue is a Vision Zero Corridor
- 6<sup>th</sup> Avenue and W 14<sup>th</sup> Street is a Vision Zero Priority intersection
- 32 pedestrians, 11 cyclists and 15 motor vehicle occupants severely injured in crashes from 2010-2014



**X** # of people Killed or Severely Injured

Intersection in the top 10% KSI of Manhattan intersections

Total Injuries

## 6th Ave - 8th St to 33rd St, MN

### Injury Summary, 2010-2014 (5 Years)

|                        | Total Injuries | Severe Injuries | Fatalities | KSI |
|------------------------|----------------|-----------------|------------|-----|
| Pedestrian             | 250            | 32              | 0          | 32  |
| Bicyclist              | 137            | 11              | 0          | 11  |
| Motor Vehicle Occupant | 332            | 15              | 0          | 15  |
| Total                  | 719            | 58              | 0          | 58  |

KSI = Killed/ Severely Injured



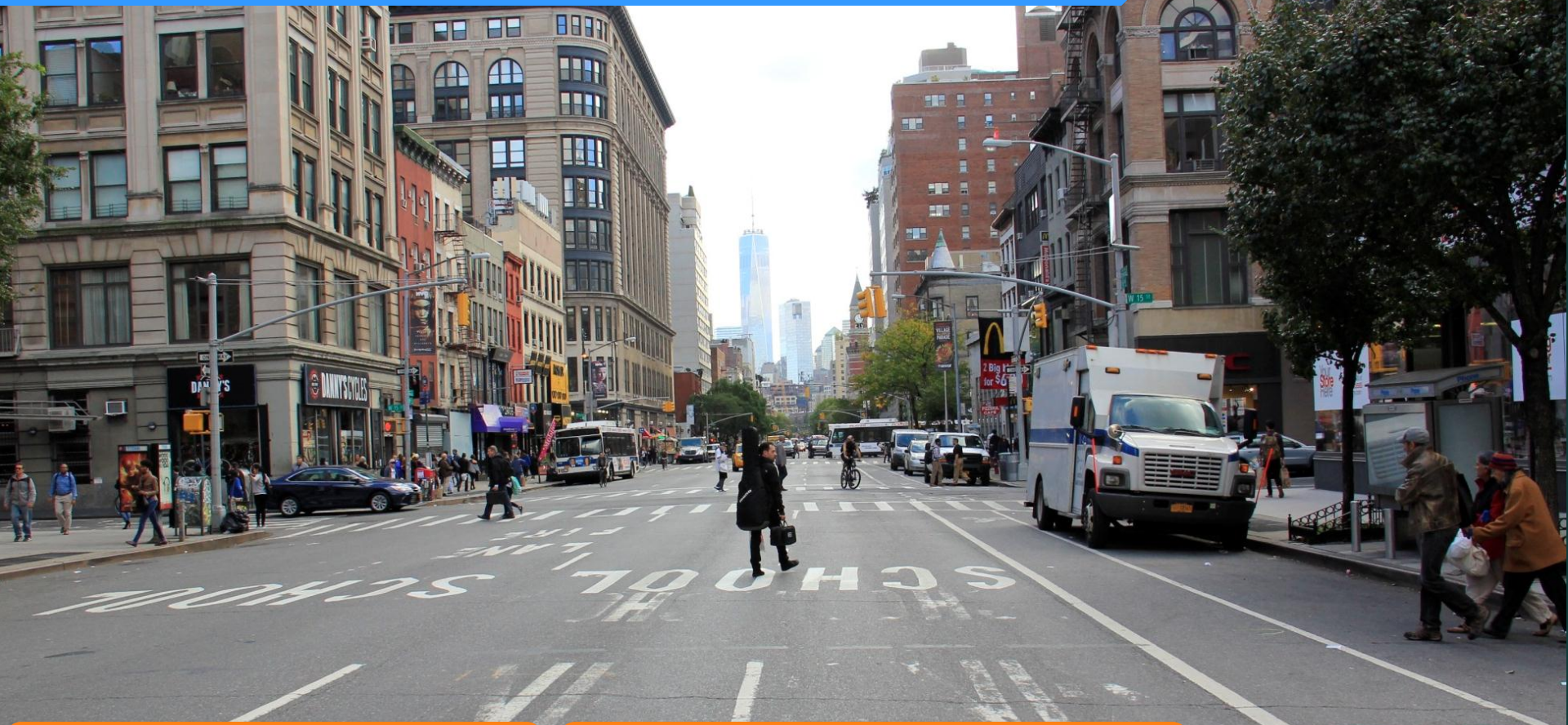
# Citi Bike



- 6<sup>th</sup> Ave is in the heart of the Citi Bike service area
- 11 stations are located near project corridor



# Existing Conditions – 6<sup>th</sup> Avenue



66' wide street with long pedestrian crossings

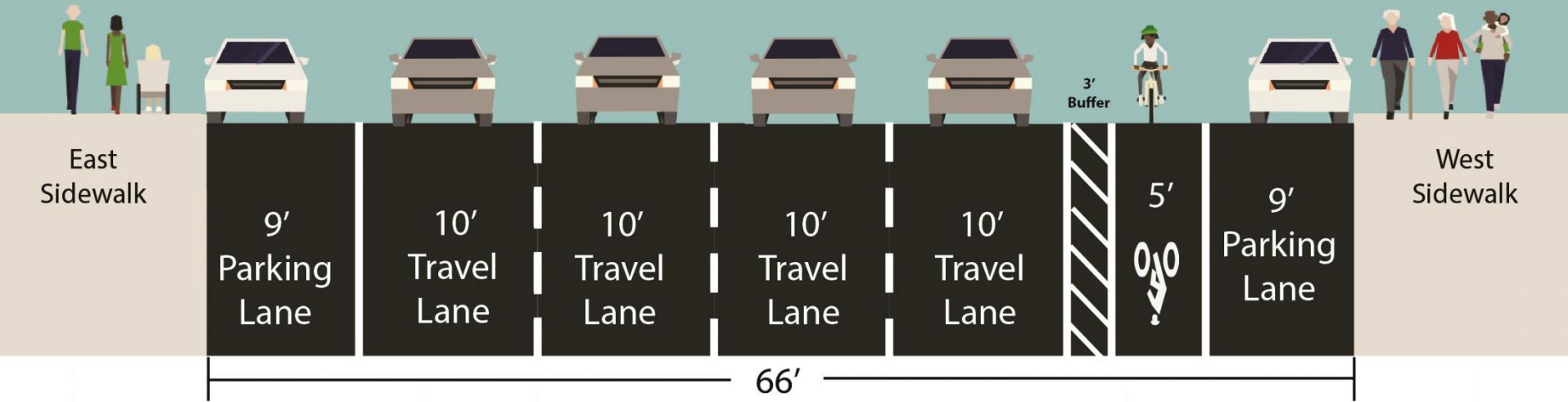
Bike lanes often blocked by double parked vehicles

Wide roadway encourages speeding and erratic driving

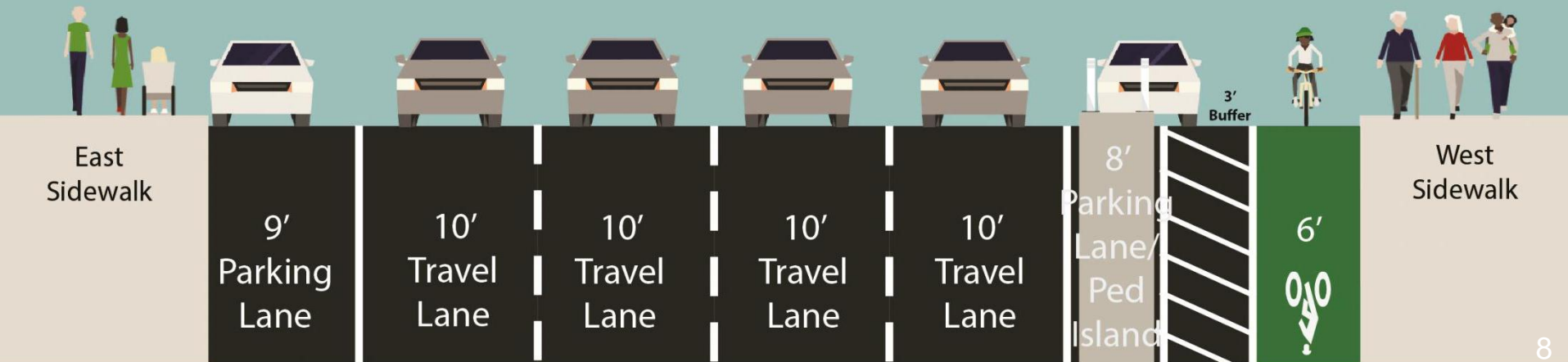
Unpredictable maneuvers by cabs or left-turning vehicles

# 6<sup>th</sup> Av, 8<sup>th</sup> – 14<sup>th</sup> St: Proposed Configuration

Existing Condition



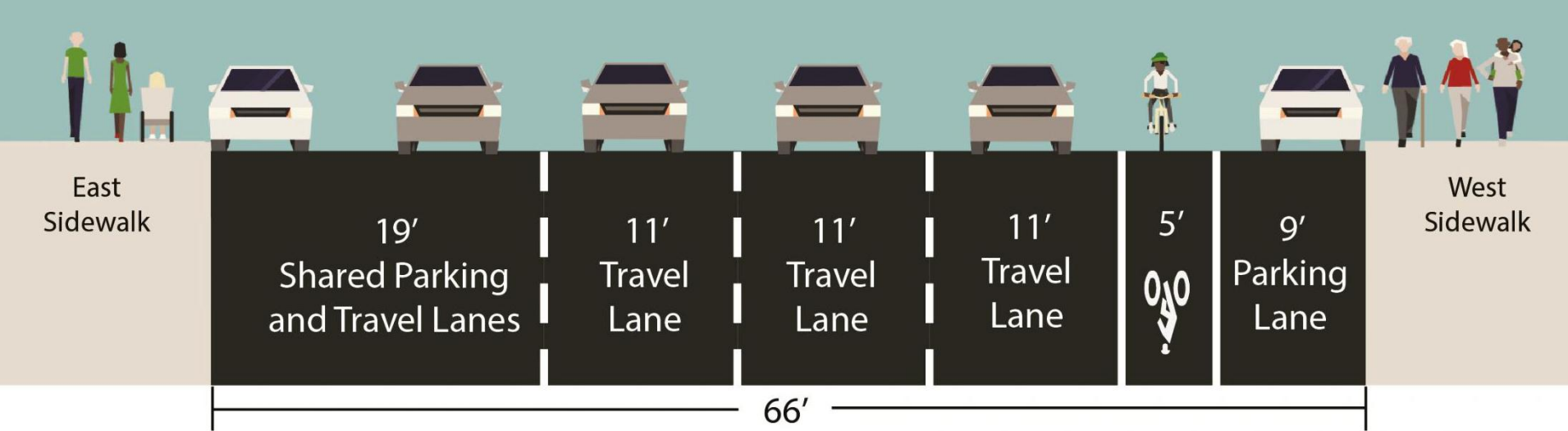
Proposed Condition



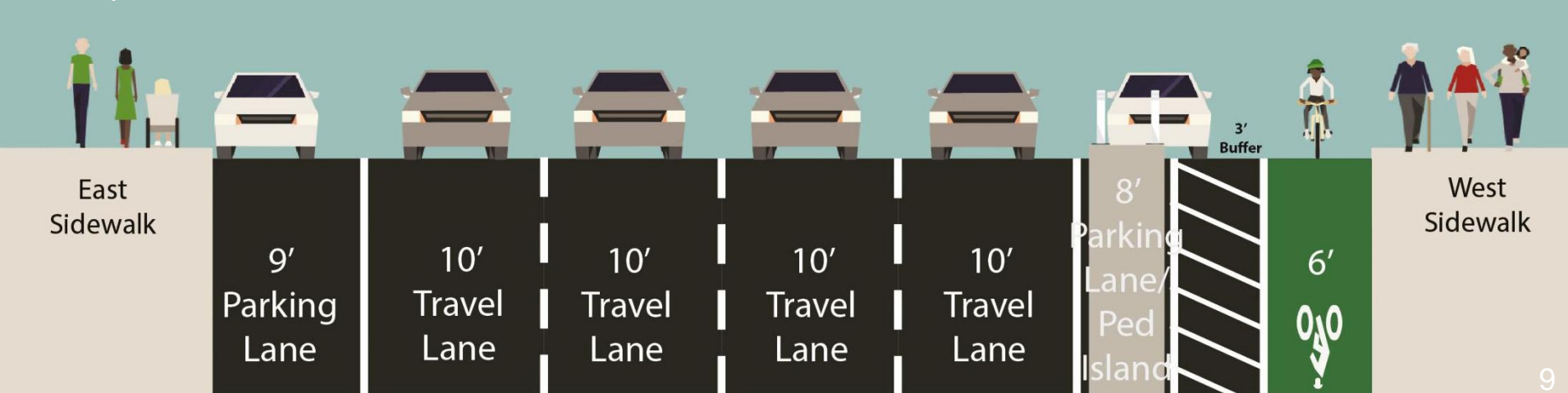


# 6<sup>th</sup> Av, 14<sup>th</sup> – 32<sup>nd</sup> St: Proposed Configuration

Existing Condition



Proposed Condition



# Design Treatments



Pedestrian Island/"Floating" Parking Lane



Concrete Pedestrian Island

- **Concrete 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



- **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

# 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



# 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 14<sup>th</sup> St & W 23<sup>rd</sup> St



# Parking/Loading Changes – 8<sup>th</sup> St to 14<sup>th</sup> St

| West Side Converted Parking Spaces<br>(East side not affected by islands & turn lanes) | Parking Space<br>Equivalents<br>(Approx.)<br>Total |
|--|--|
| Turn Lanes/ Mixing Zones   | -8   |
| Pedestrian Islands   | -2   |
| <b>Total Spaces Converted</b>  | <b>-10</b>   |

- Taxi stand between W 13<sup>th</sup> and W 14<sup>th</sup> Streets to be relocated
- Curbside access retained for ~86% of 6<sup>th</sup> Avenue within CB 2



# Safety Benefits: Existing Protected Bike Lanes

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

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

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

**Columbus Avenue at W 90<sup>th</sup> St**



# 6<sup>th</sup> Avenue Project Summary

THE HUMMU  
& PITA CO.  
SO MANY WAYS TO LOVE



- 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 ~33 concrete pedestrian safety islands
- Reduces pedestrian crossing distances



Questions?

Thank  
You

[nyc.gov/dot](https://nyc.gov/dot)