

# Lafayette Street and Fourth Avenue

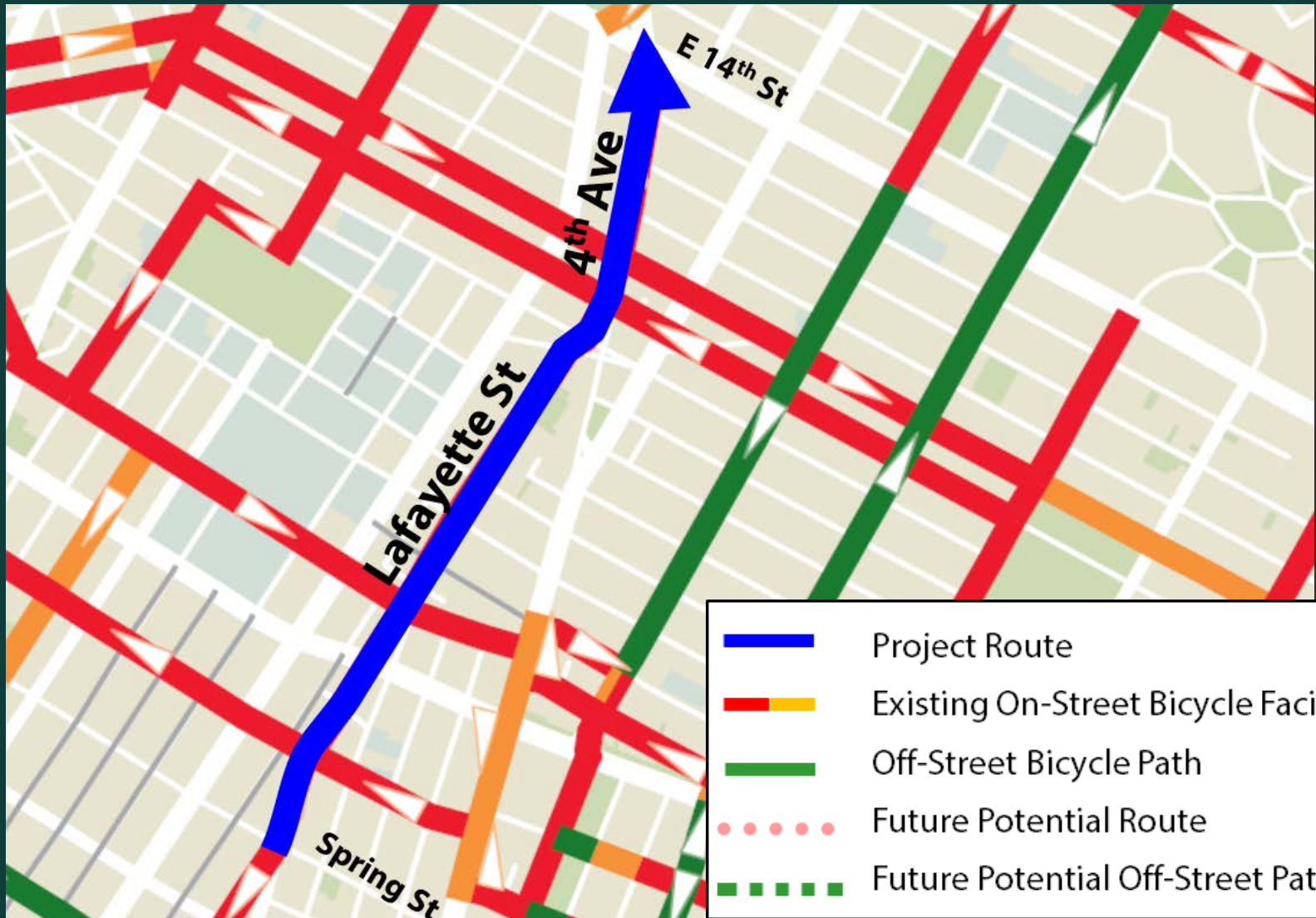
## Parking Protected Bicycle Path



Commissioner Polly Trottenberg, New York City Department of Transportation  
Presented by NYCDOT Bicycle Program to CB 2 Transportation Committee on March 6, 2014



# Project Map



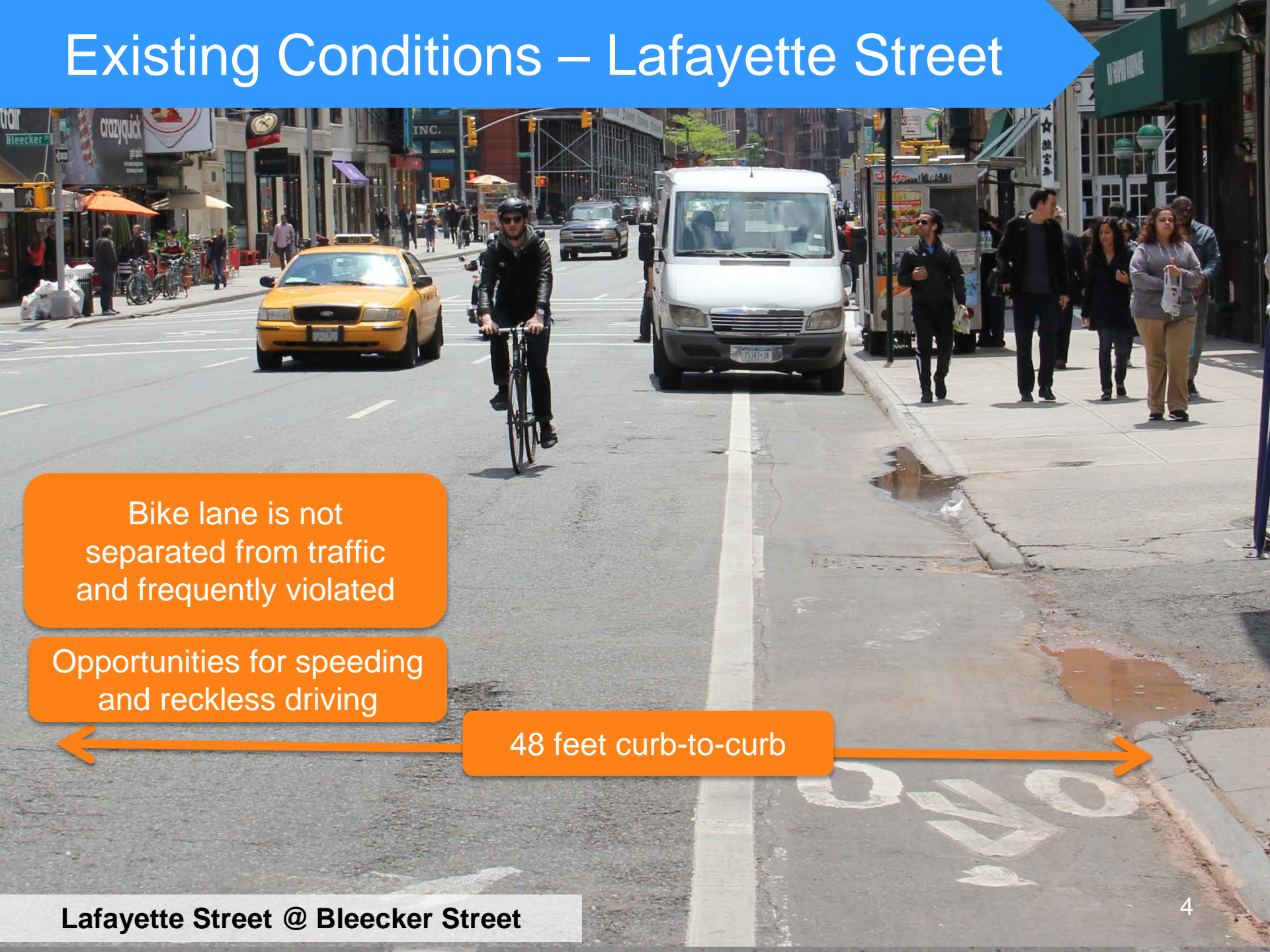


# Background

- Existing northbound buffered bicycle lane from Spring St to E 14th St
- 1,295 bicyclists counted on a weekday; 784 on a weekend in 2010
- Important Citi Bike corridor
- Heavy pedestrian volume throughout corridor
- 890 vehicles per hour @ am peak; 983 @ pm peak; 1194 @ weekend peak in 2012
- Six pedestrians, one cyclist and five motor vehicle occupants severely injured in crashes from 2007-2011; 12.7 severe injuries per mile
- Lafayette St slated for repaving in 2014



# Existing Conditions – Lafayette Street



Bike lane is not separated from traffic and frequently violated

Opportunities for speeding and reckless driving

48 feet curb-to-curb



# Existing Conditions – 4<sup>th</sup> Avenue

A photograph of a city street intersection, likely in New York City. In the foreground, a man with a red backpack is walking across a crosswalk. To the left, a white USPS delivery truck is stopped. In the background, there are tall brick buildings, trees, and other vehicles. A yellow pedestrian crossing sign is visible on the right side of the street. The scene is captured during the day with clear lighting.

Long pedestrian wait times to cross

Long pedestrian crossing distances

71 feet curb-to-curb



# Citi Bike



- Lafayette St and 4<sup>th</sup> Ave form an important Citi Bike corridor
- Stations located near:
  - Spring Street
  - E Houston Street
  - Great Jones Street
  - Astor Place
- Commuter cycling increases of 20% in Citi Bike area
- Additional safety measures warranted for increased volumes

# Proposed Bicycle Facilities



Lafayette Street

Bicycle Lane



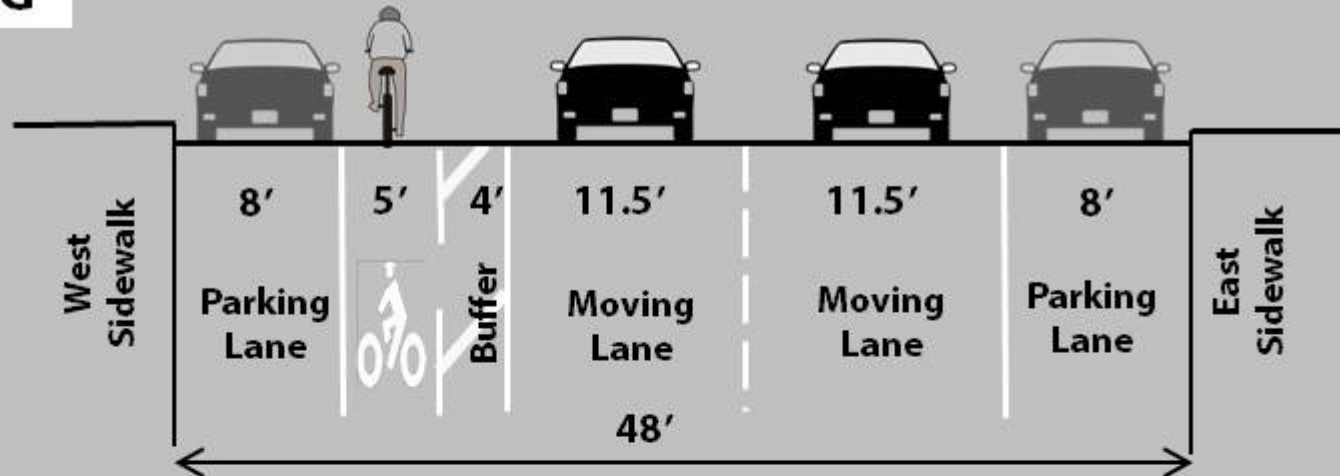
1st Avenue

Parking Protected Bicycle Path

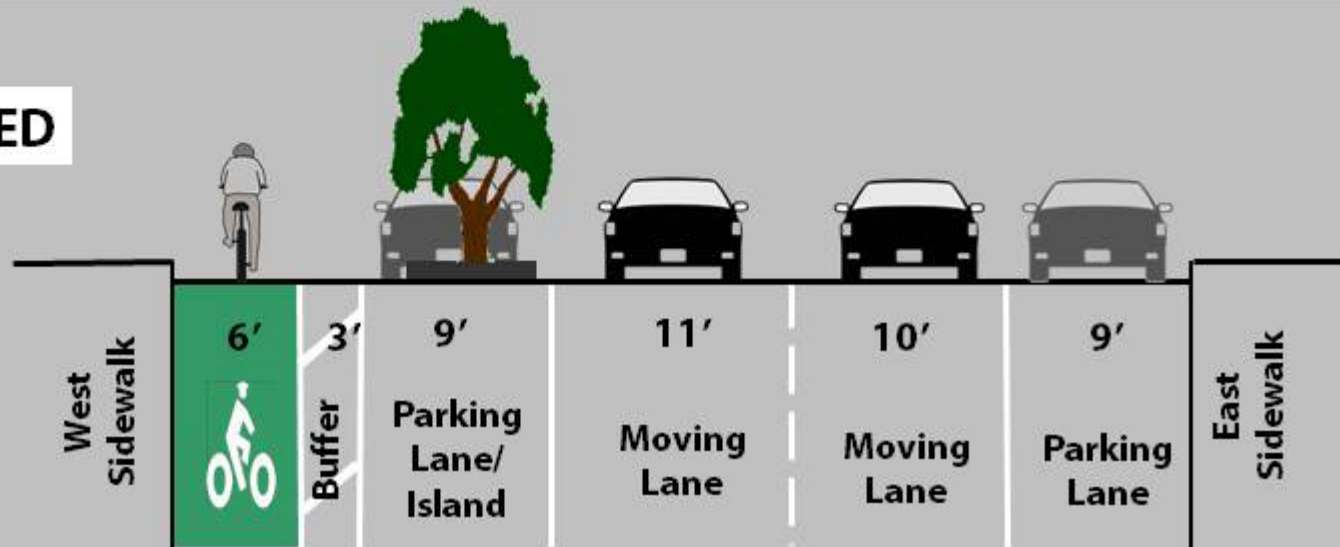


# Proposed Configuration- Lafayette St

## EXISTING



## PROPOSED

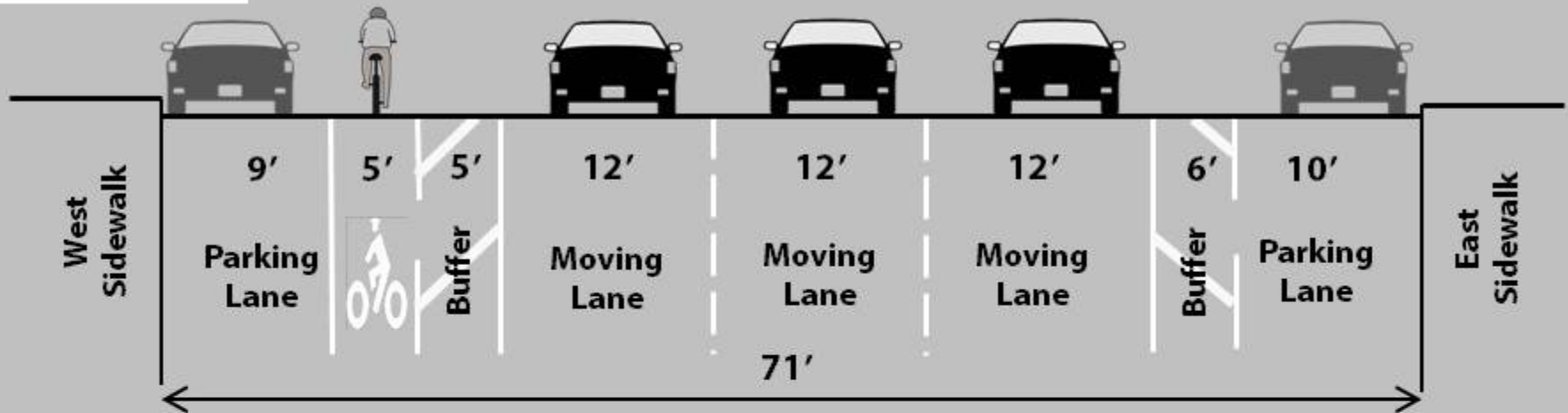




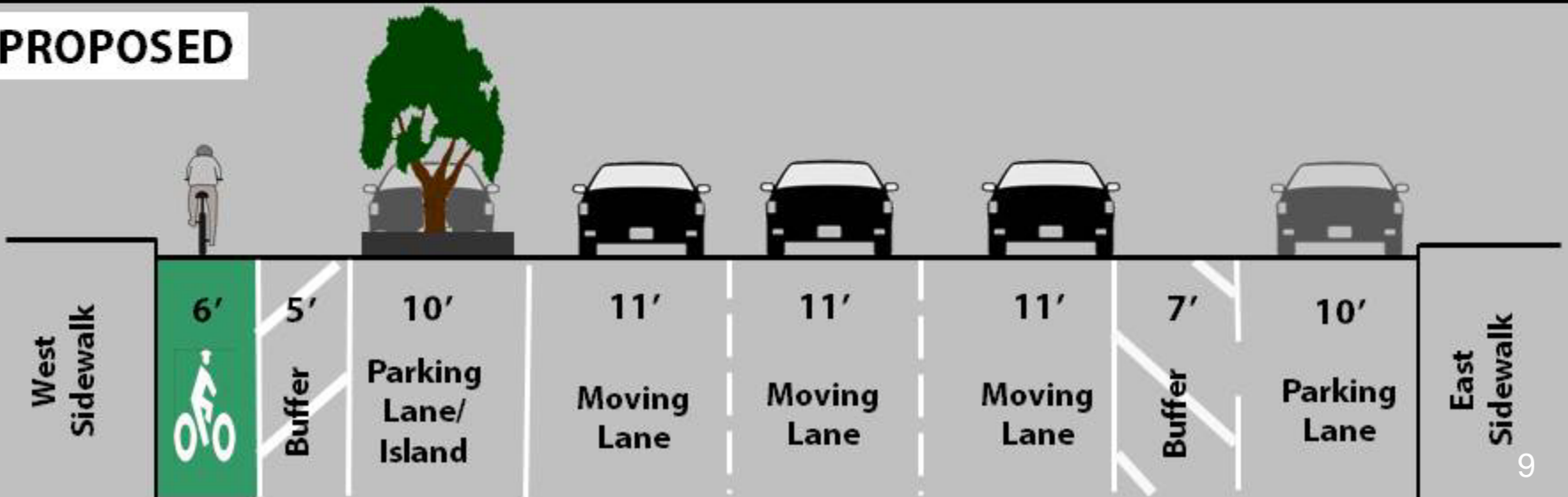
# Proposed Configuration- Fourth Ave

E 9<sup>th</sup> St – E 12<sup>th</sup> St

## EXISTING



## PROPOSED

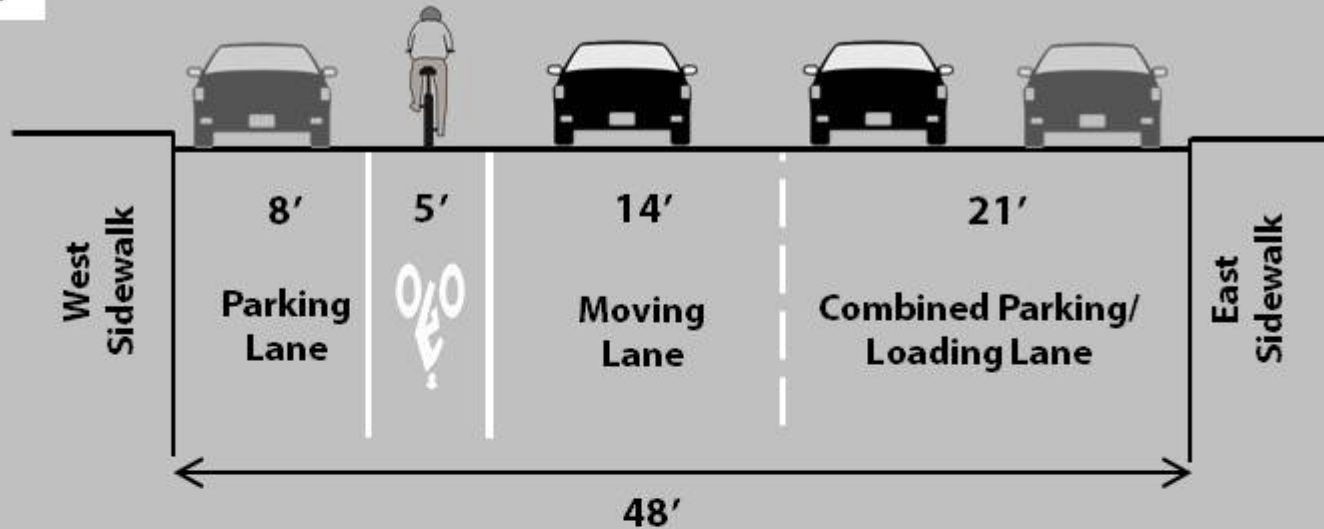




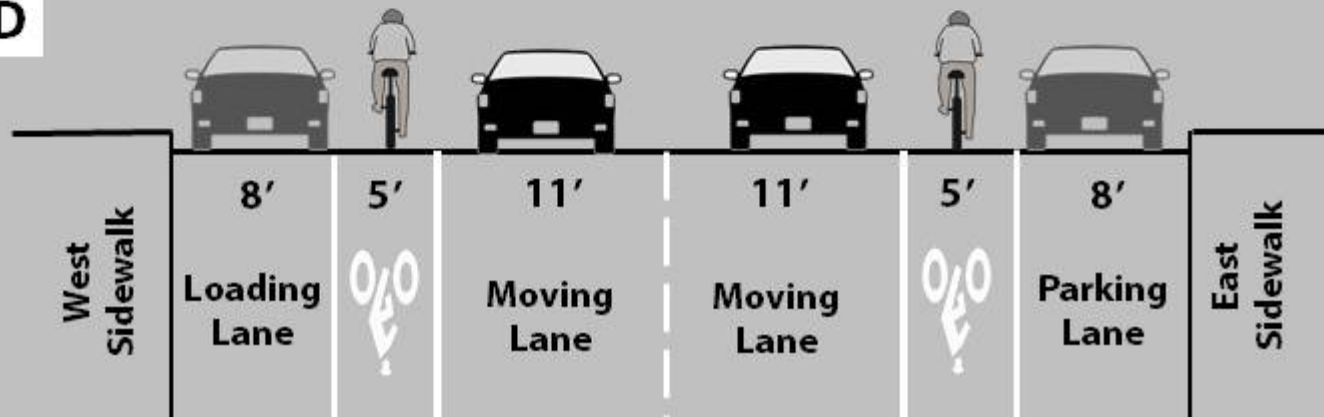
# Proposed Configuration- Fourth Ave

E 12<sup>th</sup> St – E14<sup>th</sup> St

## EXISTING



## PROPOSED





# Proposed Design

- Maintain existing buffered bicycle lane between Spring St and Prince St to maintain access to fire house
- “Double-barrel” bike lane design between E 12<sup>th</sup> St and E 14<sup>th</sup> St
- Adjust signal timing to reduce pedestrian crossing times
- Accommodate land uses with curbside access requirements

2<sup>nd</sup> Avenue at E 2<sup>nd</sup> Street



# Proposed Design



Parking protected  
bike lane with buffer

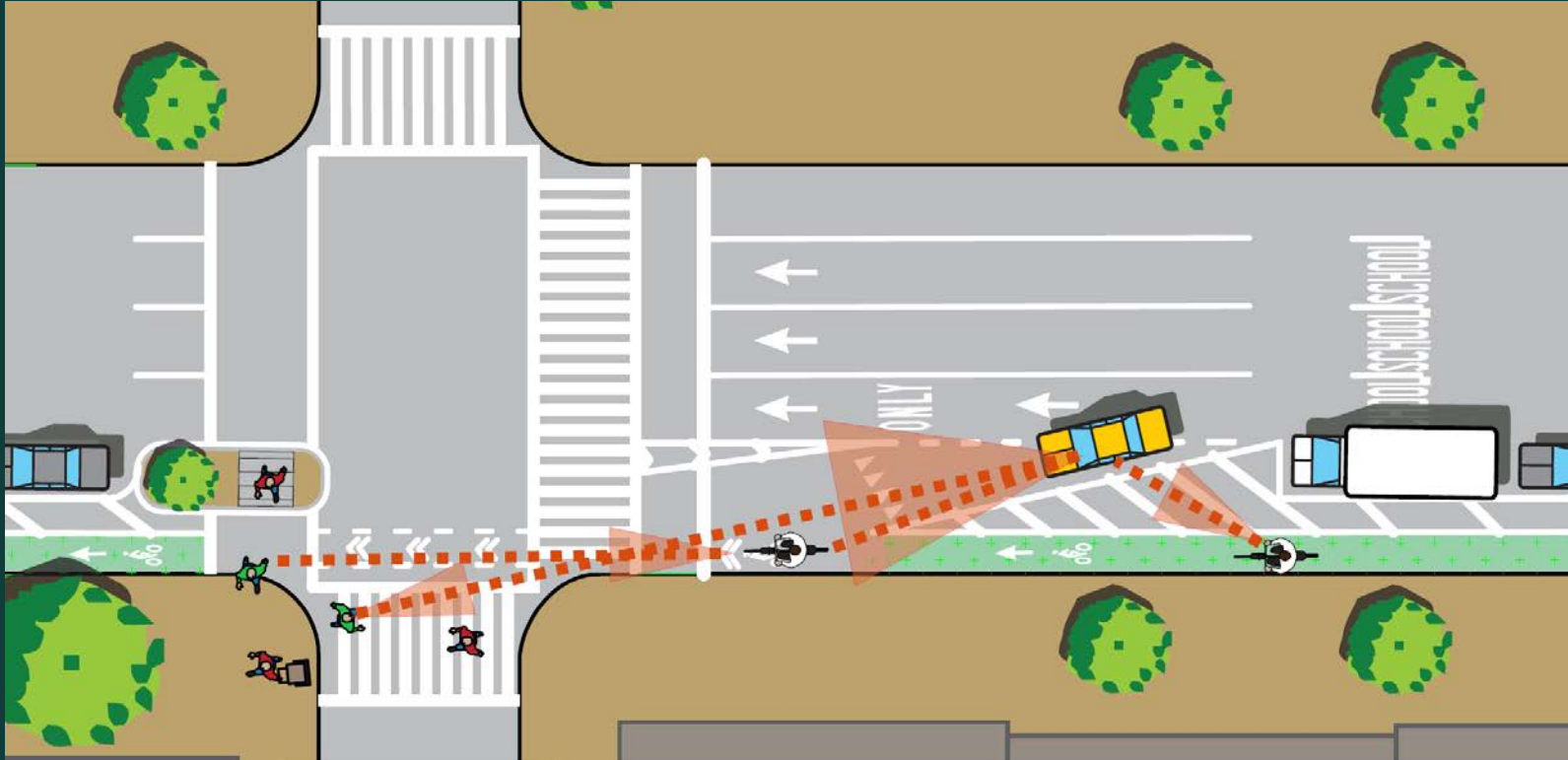
Shorter pedestrian  
crossing distances

New planting beds  
and tree pits

**1<sup>st</sup> Avenue at E 18<sup>th</sup> Street**



# Protected Bicycle Path Mixing Zone



- **Mixing Zone Provides Space to Negotiate Conflict**
  - Informs cyclist that vehicle is turning, no guesswork
  - Removes vehicle from traffic stream/eliminates “back pressure”
  - Gentle approach angle, vehicle gradually approaches cyclist, no abrupt “hook” turns
- **Mixing Zone Provides Visibility**
  - Eliminates visual obstruction of parked cars
  - Angle improves drivers’ peripheral vision
  - Cyclist & Motorist can see each other and avoid crash



# 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	-7
Pedestrian Islands	-12
Parking Buffers	-6
<b>Total Spaces Converted</b>	<b>-25</b>

- Curbside access retained for 89% of Lafayette St / 4<sup>th</sup> Ave corridor

# Safe Intersections – Mixing Zones



## At Narrow, One-way Cross Streets

1. Sight Line Visibility
2. Mixing Zone Markings
3. Drop Green Paint



# Safety Benefits

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

	Change in Crashes w/ Injuries	Change in Total Injuries
<b>1<sup>st</sup> Avenue</b> E 1 <sup>st</sup> St- E 33 <sup>rd</sup> St	-6%	-11%
<b>2<sup>nd</sup> Avenue</b> 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> Bank St – W 23 <sup>rd</sup> St	-20%	-25%
<b>9<sup>th</sup> Avenue</b> 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**

# Project Summary

- Enhances safety for all street users
- Provides safety treatments at left-turn intersections
- Decreases pedestrian intersection crossing distance
- Reduces pedestrian wait times
- Improves bicycle safety and mobility at E 14<sup>th</sup> St
- Maintains vehicle traffic capacity
- NYC DOT is working with businesses to ensure appropriate parking regulations



Questions?

Thank  
You