



# Expanding the Protected Bike Network: Avenue C and E Houston Street

*Protected bicycle lane projects to support dense network coverage in the East Village*

Manhattan Community Board 3 Presentation  
November 10, 2020



## PRESENTATION OVERVIEW

1. Background
2. Proposal
3. Making It Work
4. Summary



---

## Background

*Expanding the Protected Bike Network*

1

## GREEN WAVE: A PLAN FOR CYCLING IN NYC

### Cycling in Numbers

**+35% growth** in daily cycling in New York City between 2013 and 2018

On a typical day, there are about **510,000 cycling trips** made in New York City

### Plan Goals

#### Citywide Protected Bike Lane Network:

- Build **30 miles of protected bicycle lane** annually

#### Better Design:

- Implement **new design standards** based on national & international best practices **to enhance safety**
- Continue **piloting new designs** with rigorous safety analysis

#### Education and Outreach:

- Launch next phase of **Vision Zero public awareness campaign**, educating drivers, focusing on cyclist safety
- **Educate all street users** about safety on city streets
- **Increase helmet giveaways** and helmet use encouragement



## SAFETY ANALYSIS

**Avenue C, E Houston to E 20 St**  
 Injury Summary, 2013-2017 (5 Years)

|                        | Total Injuries | Severe Injuries | Fatalities | KSI       |
|------------------------|----------------|-----------------|------------|-----------|
| Pedestrian             | 61             | 7               | 1          | 8         |
| Bicyclists             | 34             | 2               | 1          | 3         |
| Motor Vehicle Occupant | 133            | 2               | 0          | 2         |
| <b>Total</b>           | <b>228</b>     | <b>11</b>       | <b>2</b>   | <b>13</b> |

**Fatalities, 01/01/2013 – 9/2/2019: 2**

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

**2 cyclist and pedestrian fatalities**

**11 people have been severely injured**



**Multi-agency effort to reduce traffic fatalities and injuries**



# SAFETY ANALYSIS

**E Houston, East River to 2 Ave**  
 Injury Summary, 2013-2017 (5 Years)

|                        | Total Injuries | Severe Injuries | Fatalities | KSI       |
|------------------------|----------------|-----------------|------------|-----------|
| Pedestrian             | 98             | 11              | 2          | 13        |
| Bicyclists             | 66             | 5               | 1          | 6         |
| Motor Vehicle Occupant | 316            | 16              | 0          | 16        |
| <b>Total</b>           | <b>480</b>     | <b>32</b>       | <b>3</b>   | <b>35</b> |

**Fatalities, 01/01/2013 – 3/30/2020: 3**

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

**3 cyclist and pedestrian fatalities**

**32 people have been severely injured**



**Multi-agency effort to reduce traffic fatalities and injuries**



## SAFETY – COMPLETE STREET REDESIGN

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

**-15%** drop in all crashes with injuries and

**-21%** drop in pedestrian injuries on streets with protected bike lanes installed 2007-2017

Injuries to cyclists increased only 3%, despite a **61% bike volume increase**



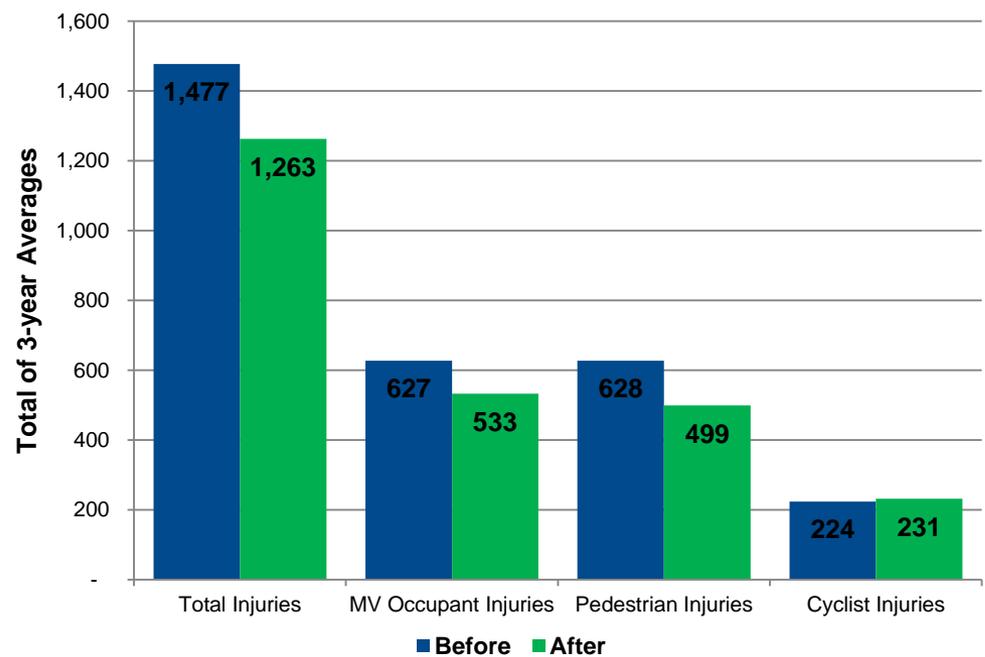
111<sup>th</sup> St, Queens

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

### Protected Bike Lanes

Before and After Crash Data, 2007 - 2017





## EXISTING CYCLIST VOLUMES

- In 2019, the East River Esplanade, had an average daily count of almost **1,600 weekday cyclists** and **over 2,100 weekend cyclists**
- The ESCR project will **divert these cyclists**, of varying comfort levels, to other streets
- The closest existing Protected Bike Lanes are on **1<sup>st</sup> and 2<sup>nd</sup> Avenues**. These routes are already **heavily-used and a mile from the greenway**

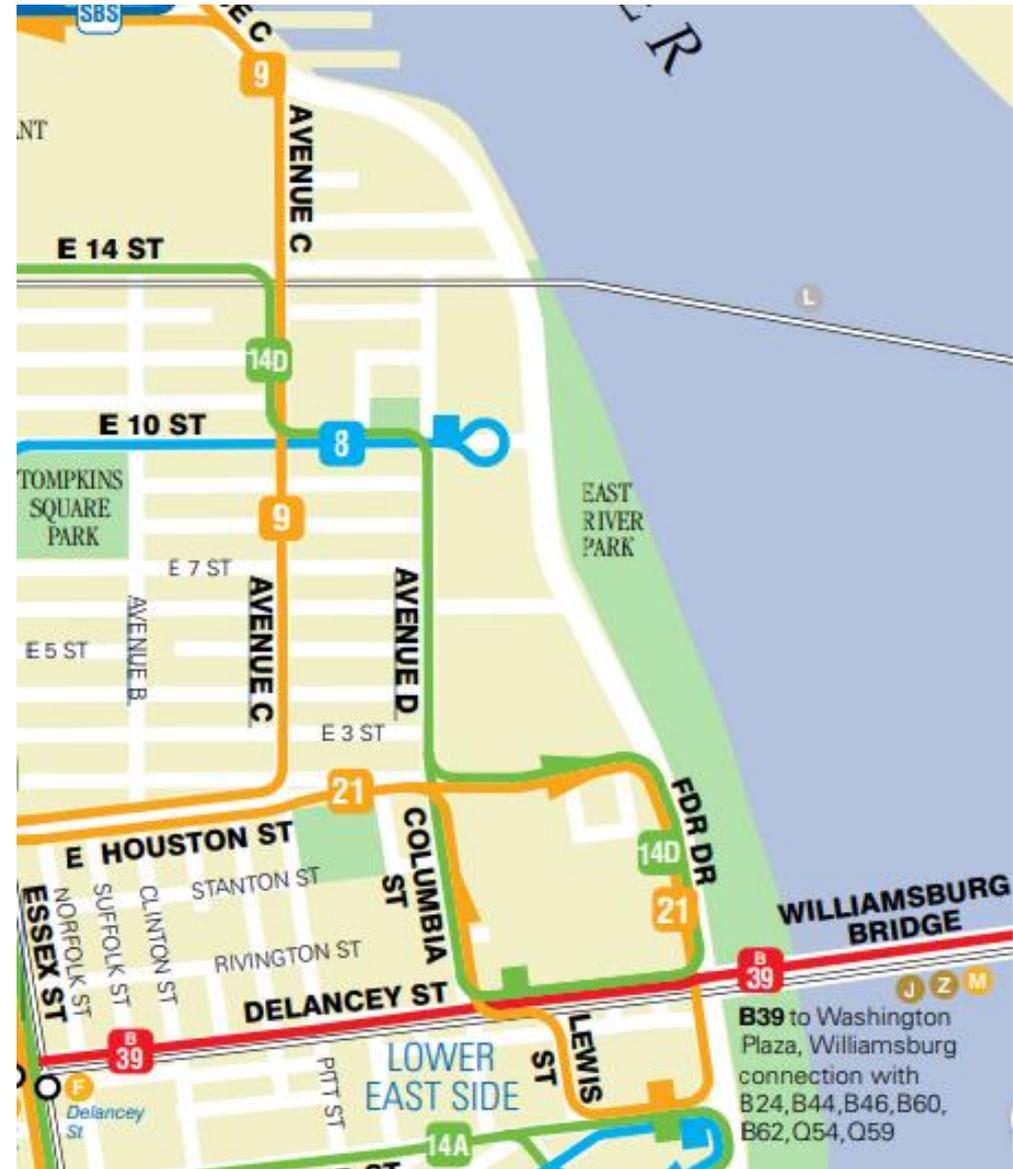
| East River Esplanade<br>b/w Delancey St and Houston St | 2019 | 2018 | 2017 |
|--|------|------|------|
| <b>Weekday Total (cyclists)</b>                        | 1593 | 2077 | 1639 |
| <b>Weekend Total (cyclists)</b>                        | 2134 | 1974 | 2132 |



 East River Park Phase One Closure

## EXISTING BUS ROUTES

- **Ave C is an important North-South bus route** and the local bus service is heavily-utilized by local residents
- **New bike facilities will be designed to accommodate existing bus stops** and access to the curb will be informed by bus stop locations



---

Proposal

2

# PROJECT LOCATION AND GOALS

## Create N-S and E-W Protected Bike Lane Connections

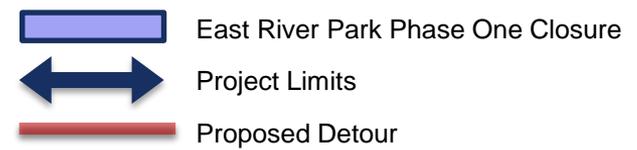
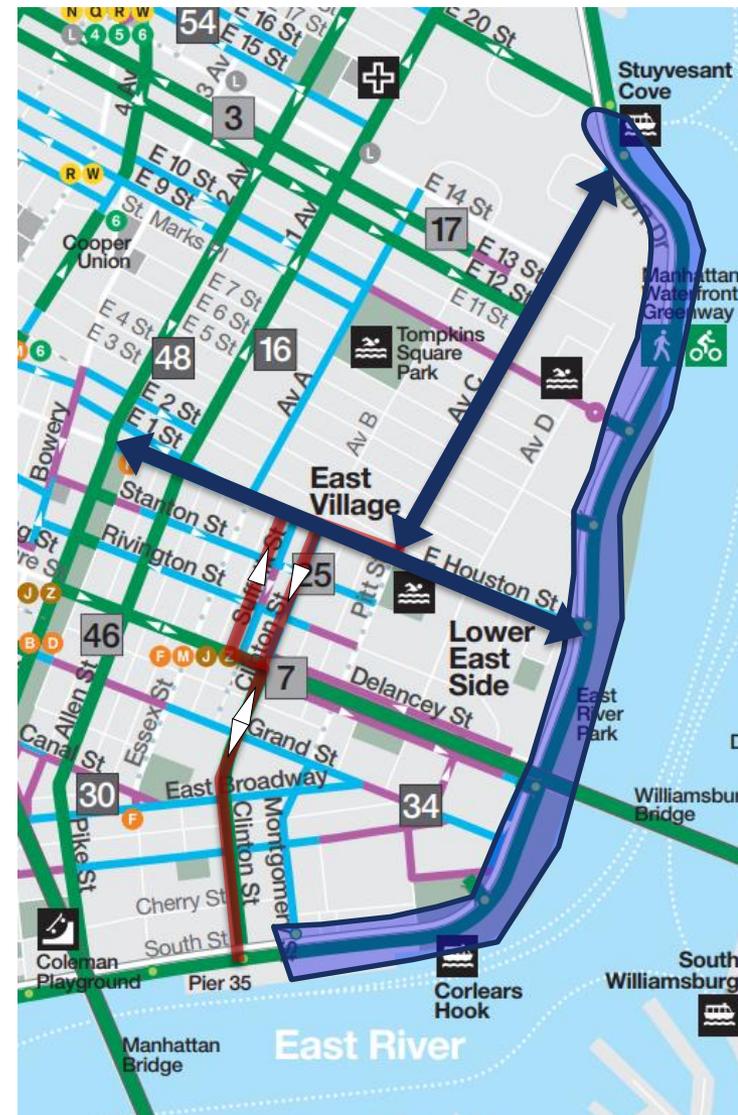
- Create **essential protected bike lane connections** to fill in gaps in the protected bike network in the East Village
- Routes **establish a direct connection to the greenway** at 20<sup>th</sup> Street and extend the greenway experience to increase cyclist safety and comfort
- Recent requests for a **north-south protected bike lane detour** in the East Village from elected officials and community members during ESCR project

## Improve safety for all road users

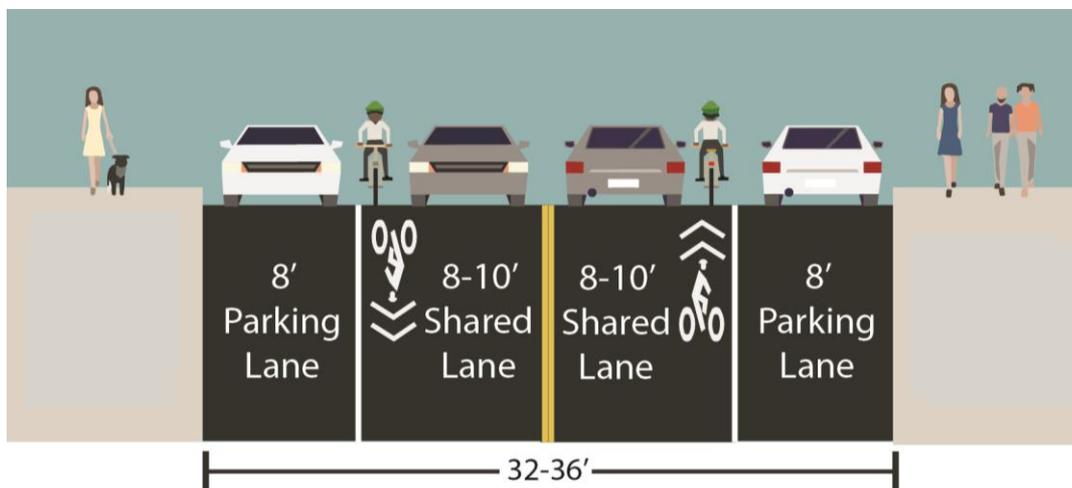
**Existing Conditions:** 43 people severely injured, 3 pedestrian and 2 cyclists have been killed (2013-2017)

Project Proposal will include:

- **Traffic calming** and enhanced pedestrian crossings
- **Dedicated space for cyclists**, reducing conflicts with vehicles
- **Parking protected or buffered lanes** for cyclists

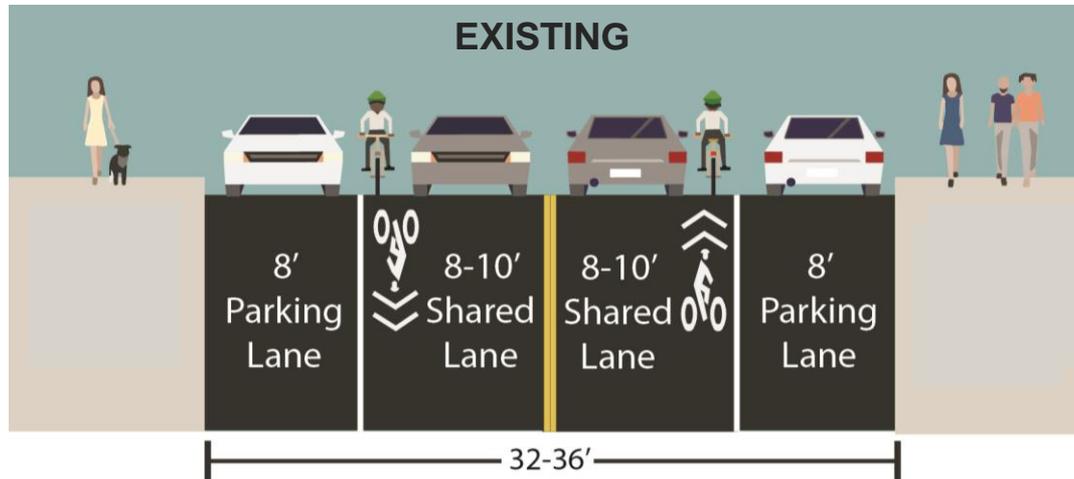


# EXISTING CONDITIONS/ISSUES: AVE C, E HOUSTON ST TO E 4 ST



- Narrow two-way **without designated space for cyclists**
- **Key connection** for all cyclists of varying comfort levels in the East Village

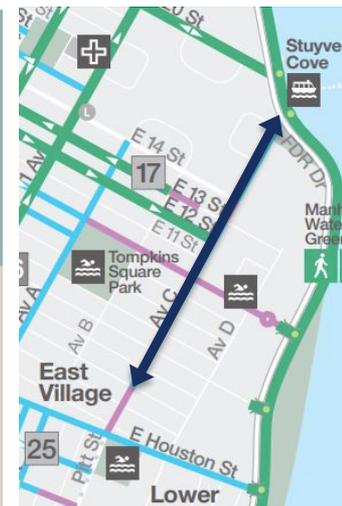
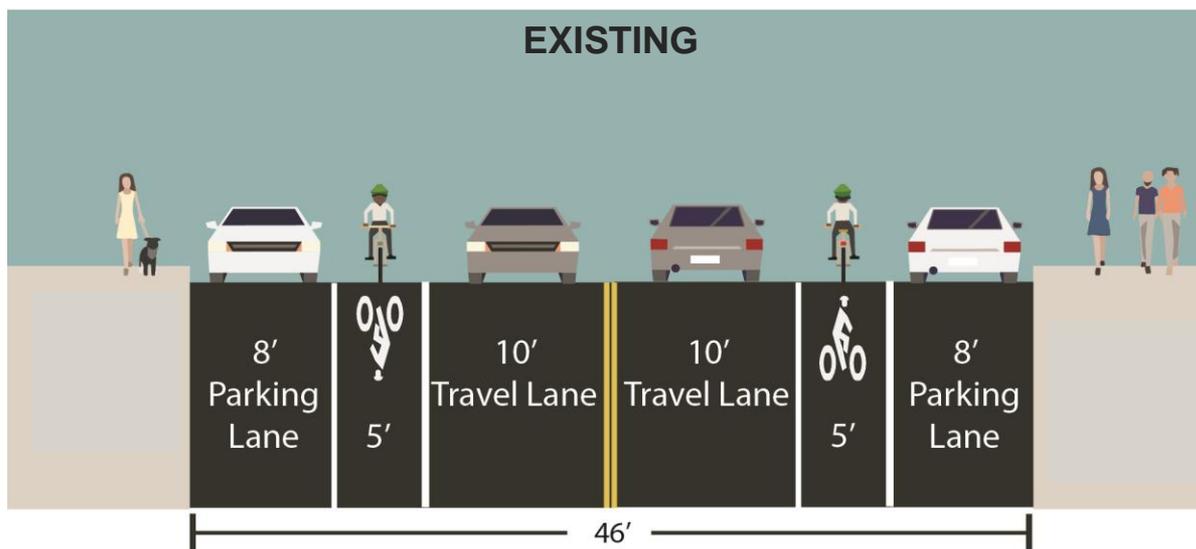
# PROPOSED DESIGN: AVE C, E HOUSTON ST TO E 4 ST



## Curbside Conventional Bike Lanes

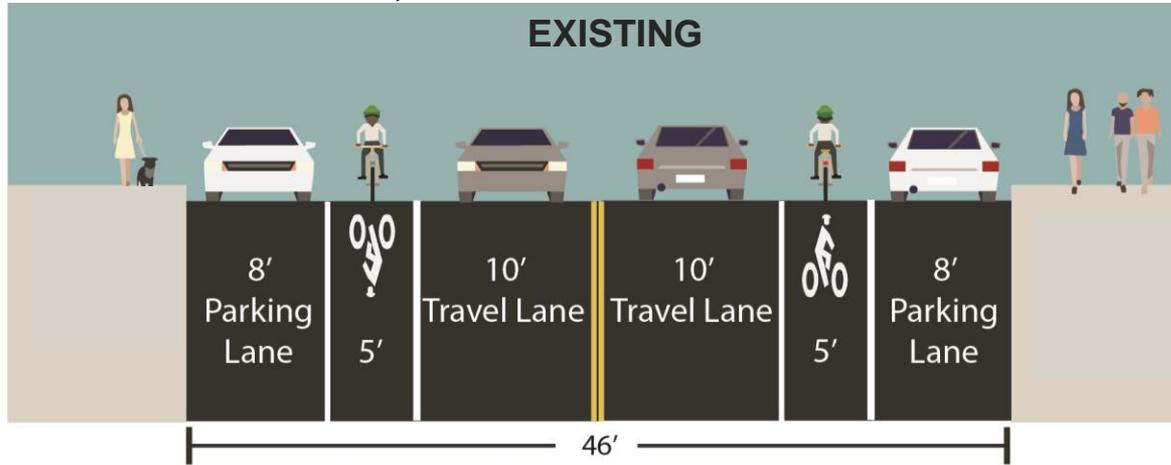
- **Creates dedicated space for cyclists**, reduces conflicts with vehicles
- Increase **predictability** of cyclist location for drivers and pedestrians
- Provides **key connection** for all cyclists of varying comfort levels

# EXISTING CONDITIONS/ISSUES: AVE C, E 4 ST TO E 18 ST



- Bike lane frequently **blocked by double-parked cars**, forcing cyclists to maneuver into the travel lane
- **Key connection** for all cyclists of varying comfort levels in the East Village

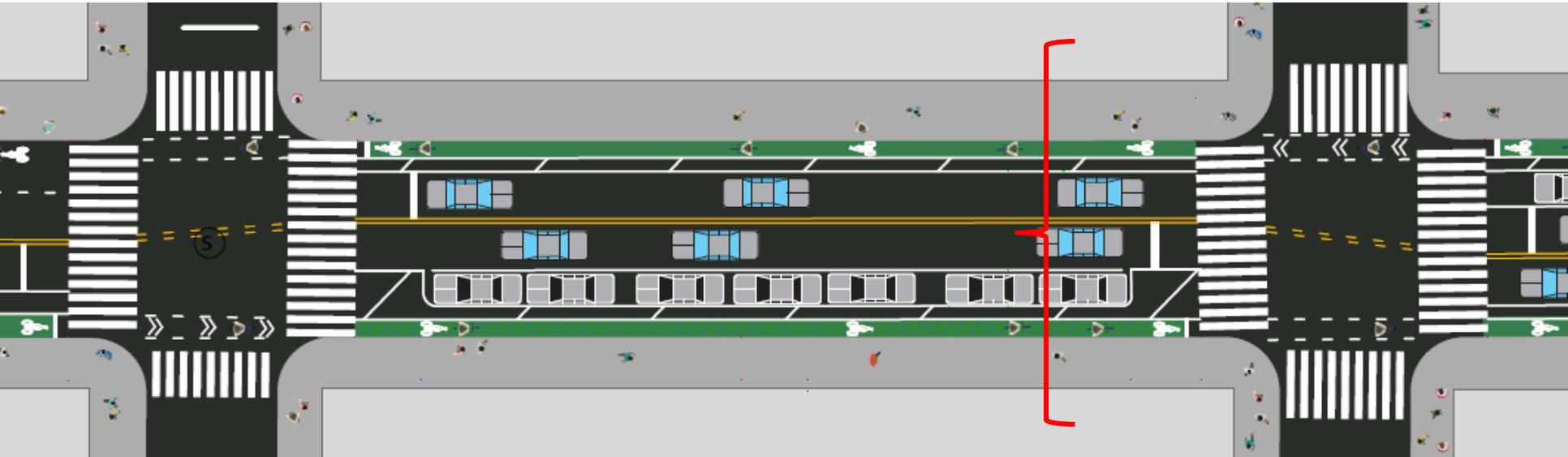
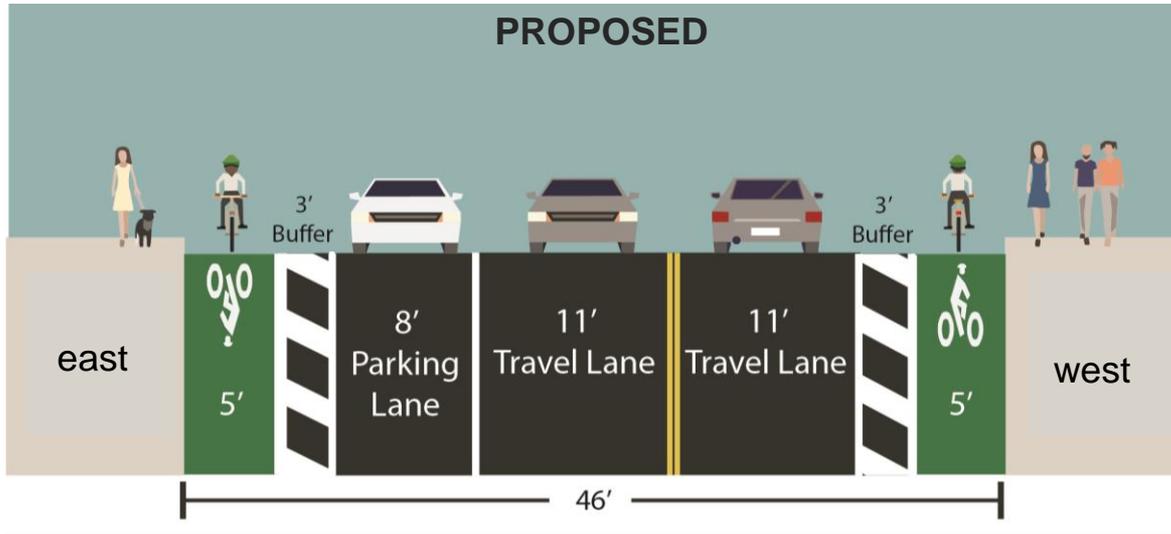
# PROPOSED DESIGN: AVE C, E 4 ST TO E 18 ST - SHIFTED CENTER LINE



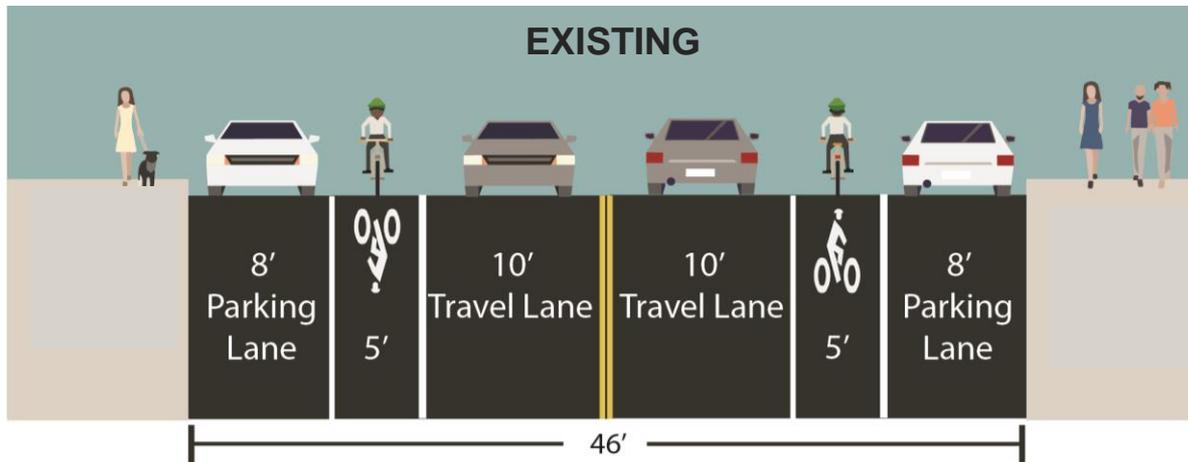
## Shifted Center-line/Parking Protected Bike Lanes

- **Creates dedicated space for cyclists**, reduces conflicts with vehicles
- **Cyclists protected by buffer**, establishing a key connection for all cyclists of varying comfort levels
- **Parking/loading zones can be accommodated** by shifting the center line on some blocks

# PROPOSED DESIGN: AVE C, E 4 ST TO E 18 ST - SHIFTED CENTER LINE



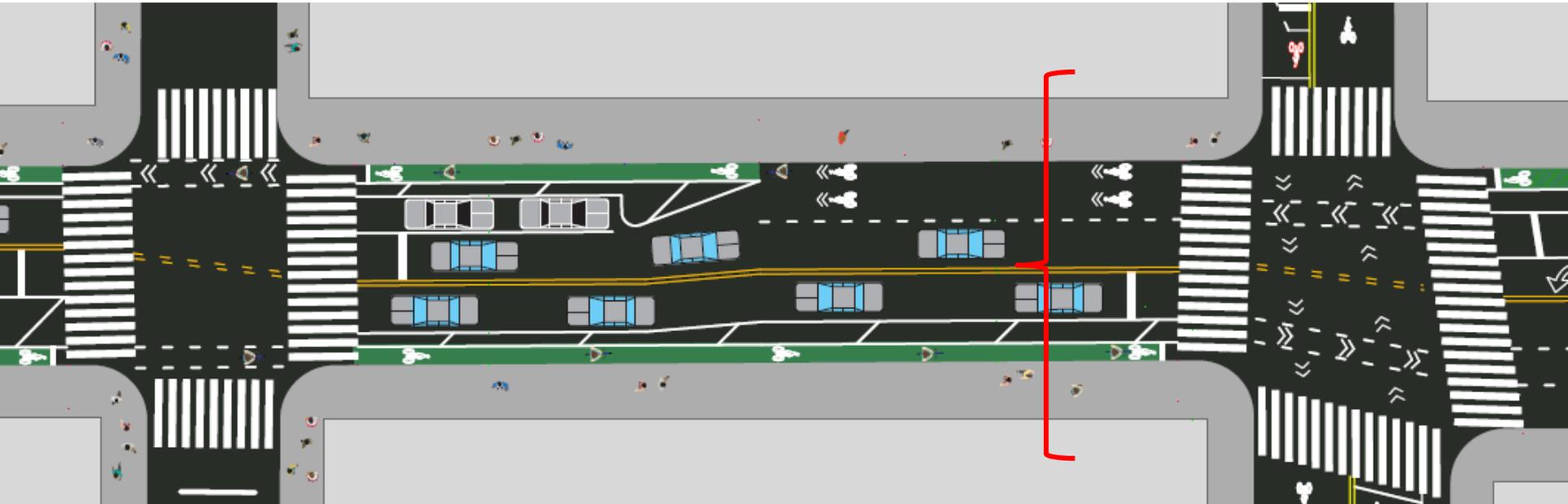
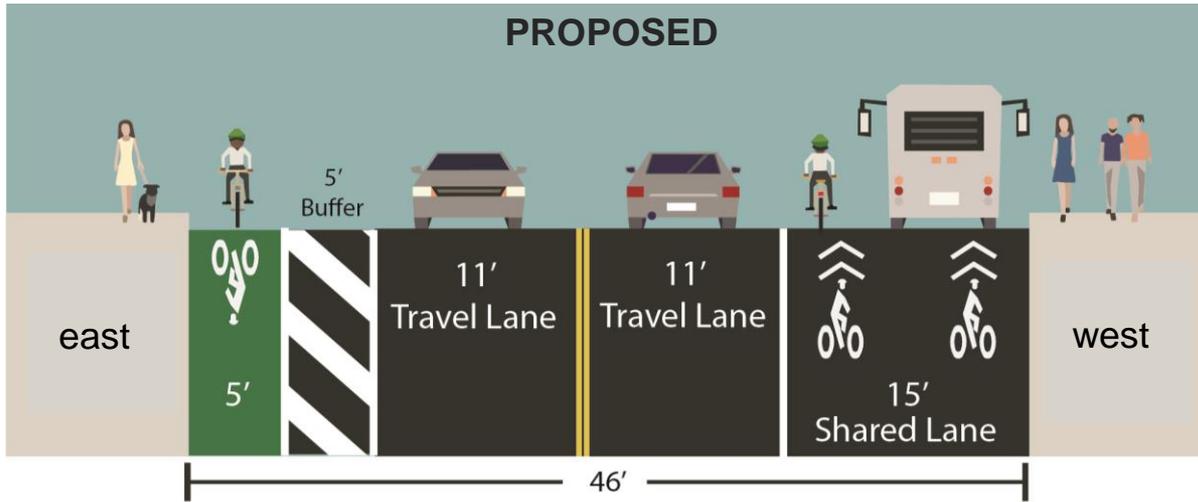
# PROPOSED DESIGN: AVE C, E 4 ST TO E 18 ST - BUS STOPS



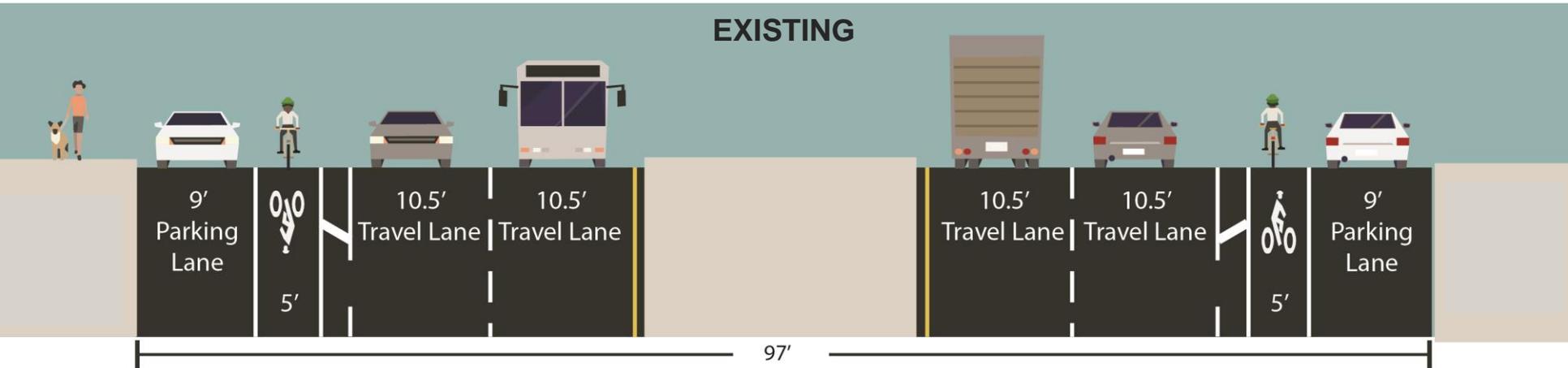
## Shifted Center-line/Shared Bus and Bike Lane

- **Creates dedicated space for cyclists**, reduces conflicts with vehicles
- **Cyclists protected by buffer**, establishing a key connection for all cyclists of varying comfort levels
- **Bus stops are preserved and loading zones can be accommodated** on some blocks

# PROPOSED DESIGN: AVE C, E 4 ST TO E 18 ST - BUS STOPS

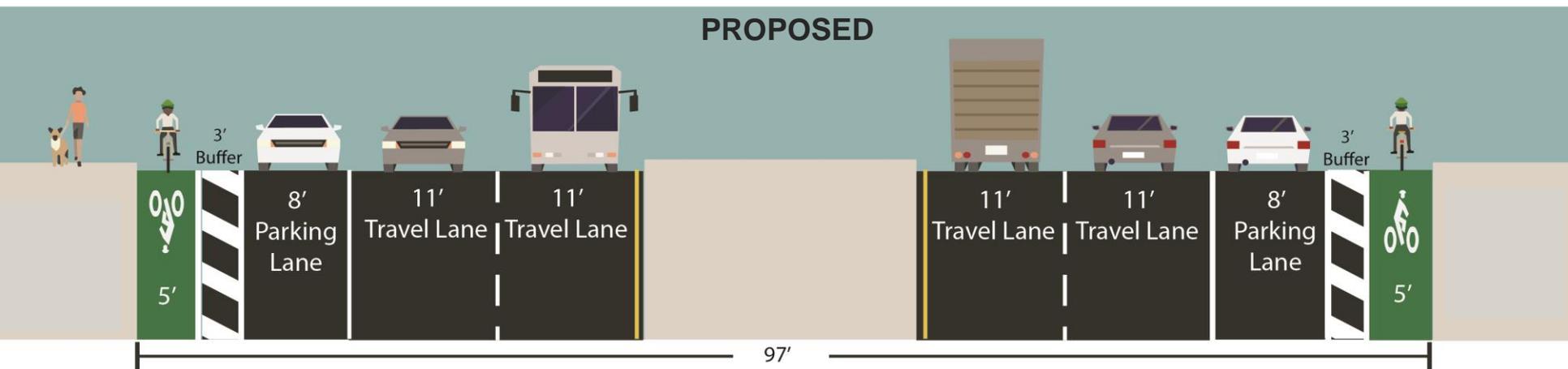
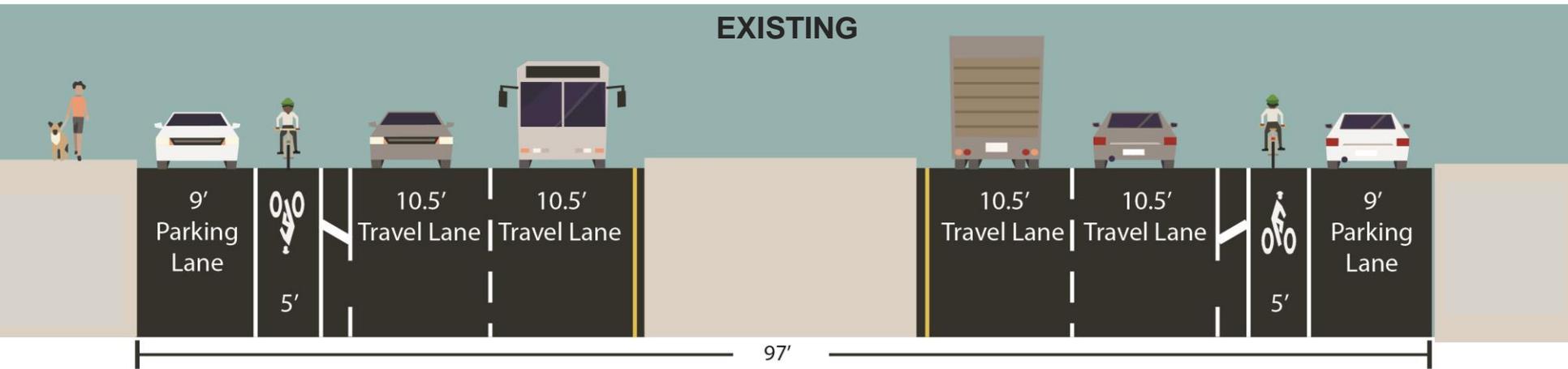


# EXISTING CONDITIONS/ISSUES: E HOUSTON ST, GREENWAY TO 2 AVE



- Bike lane frequently **blocked by double-parked cars**, forcing cyclists to maneuver into the travel lane
- Excess street width **encourages speeding and reckless driving**
- **Key connection** to protected lanes on 1<sup>st</sup> Ave, 2<sup>nd</sup> Ave and future lanes on Ave C for cyclists of varied ages and experience levels

# PROPOSED DESIGN: E HOUSTON ST, GREENWAY TO 2 AVE



## Curbside Parking/Delineator Protected Bike Lanes

- **Creates dedicated space for cyclists**, reduces conflicts with vehicles
- **Maintains all travel lanes** and most parking
- **Cyclists protected by parking and vertical delineators**
- Visually narrows the road, **discouraging speeding**

---

**Making it Work**

**3**

# LOADING AND CURB ACCESS FOR AVENUE C

## Driveways

- Driveway access is maintained and indicated with markings

## Curb Access

- Design preserves access to the curb whenever possible by shifting centerline
- Existing bus stops will be preserved and bike facility design will accommodate these stops and inform curb access

## Curb Management Tools

- Potential for new loading zones and parking regulation changes on wider blocks to enable curb access
- Regulation changes may include day-time truck loading zones or other regulations that provide for parking at night

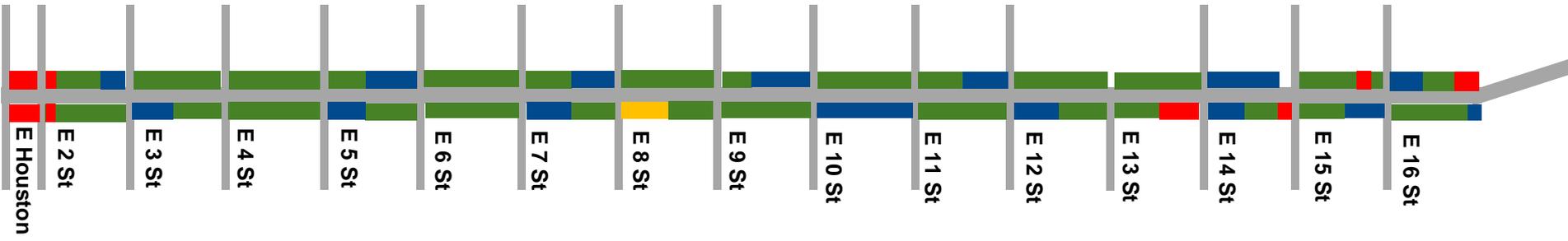


# CURB MANAGEMENT, PARKING UPDATES

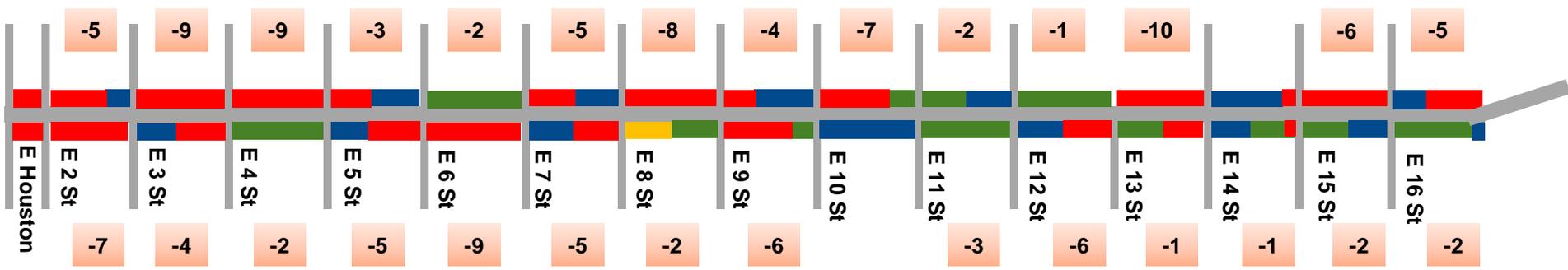
- No Stopping Anytime
- Alternate Side Parking (T F 11a-12:30p or M TH 11a-12:30p)
- Bus Stop, No Standing
- No Standing, Anytime, exc Authorized Vehicles

- Project results in the loss of +/-128 parking spaces on Ave C\*
- New regulations, including daytime truck loading, will be considered as part of the planning process
- Parking is expected to be preserved on E Houston St

## Existing Curb Regulations



## Proposed Curb Regulations and Parking Loss



\*Parking totals are approximate and subject to final engineering review

---

# Summary

# 3

## Expanding the Protected Bike Lane Network to Provide Dense Coverage

### Project Benefits

#### Reduce conflicts, increases safety

- **Separate bikes** from moving vehicles - reduce conflicts between bicycles, pedestrians, vehicles, and trucks
- Increase **predictability** of cyclist location for drivers and pedestrians

#### Create new neighborhood amenity

- **Establish direct connections** that expand the existing protected bike lane network
- Create **comfortable** space for cyclists of varied ages and experience levels
- Provide **key routes** in lower Manhattan that serve the East Village



# THANK YOU!

## Questions?



NYCDOT



nyc\_dot



nyc\_dot



NYCDOT