



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
Total	228	11	2	13

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
Total	480	32	3	35

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



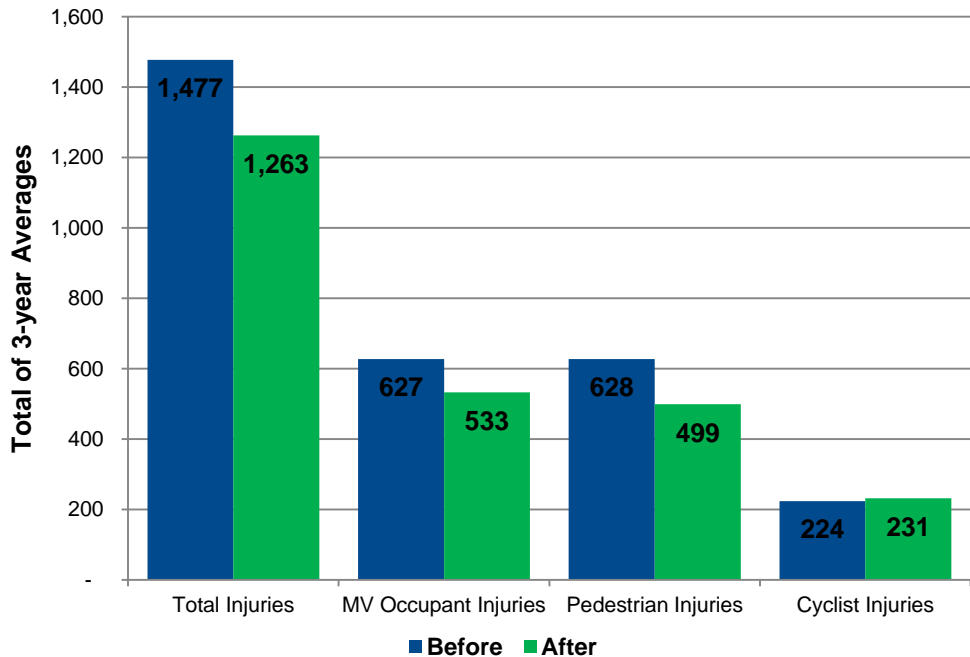
SAFETY – COMPLETE STREET REDESIGN

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**

Protected Bike Lanes
Before and After Crash Data, 2007 - 2017



111th 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

EAST SIDE COASTAL RESILIENCY PROJECT, PHASE 1: BEGINS 2021

- The Department of Design and Construction's ESCR project will **close the East River Esplanade**, a major cycling route on the east side for a few years
- ESCR project background:
 - **Reduce low-level, high recurrence coastal flood risks** while NYC continues to advance longer term coastal needs
 - **Protect critical facilities and low-lying neighborhoods**
 - **Improve neighborhood open amenities** such as parks, playgrounds, and piers as part of this upgrade
 - **Timeline:** 2025 completion projected*

**Project delayed to 2021 due to COVID-19 and the long-term impacts to the construction schedule are still unknown*



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 **1st and 2nd Avenues**. These routes are already **heavily-used** and **a mile** from the greenway

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



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

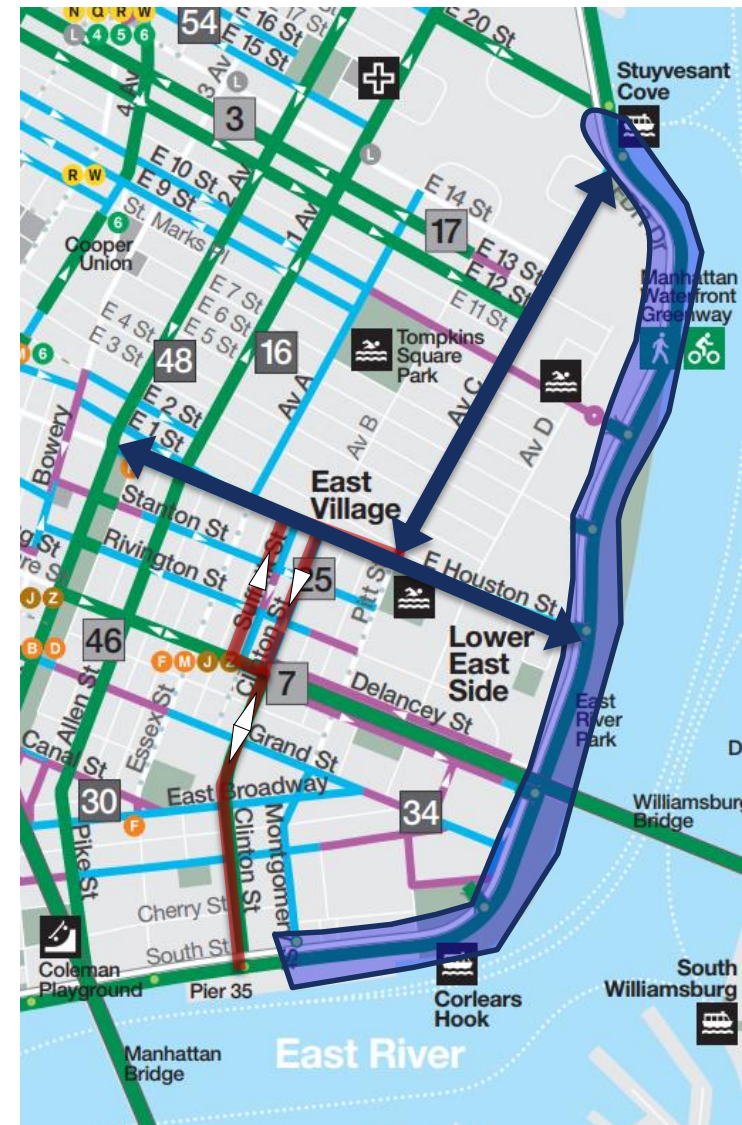
- Create **essential protected bike lane connections** to fill in gaps in the protected bike network in the East Village
- Routes **establish a direct connection to the greenway** at 20th Street and extend the greenway experience to increase cyclist safety and comfort
- Recent requests for a **north-south 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)

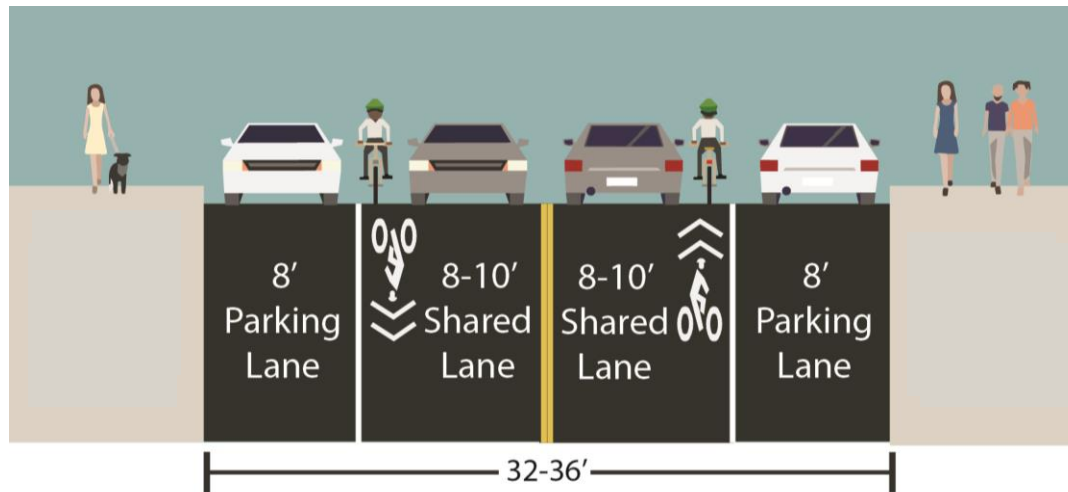
Project Proposal will include:

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



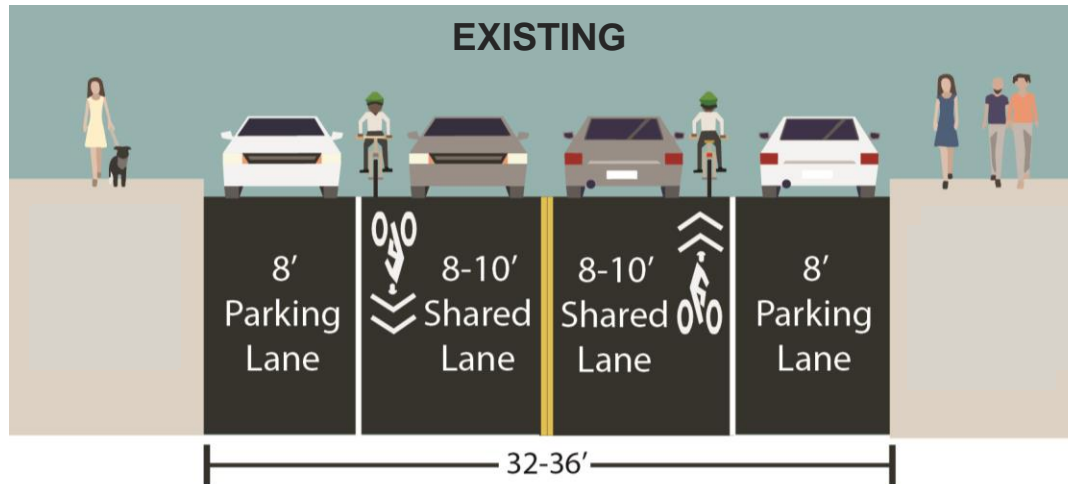
-  East River Park Phase One Closure
-  Project Limits
-  Proposed Detour

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

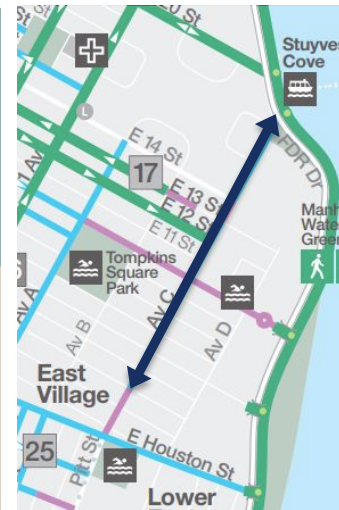
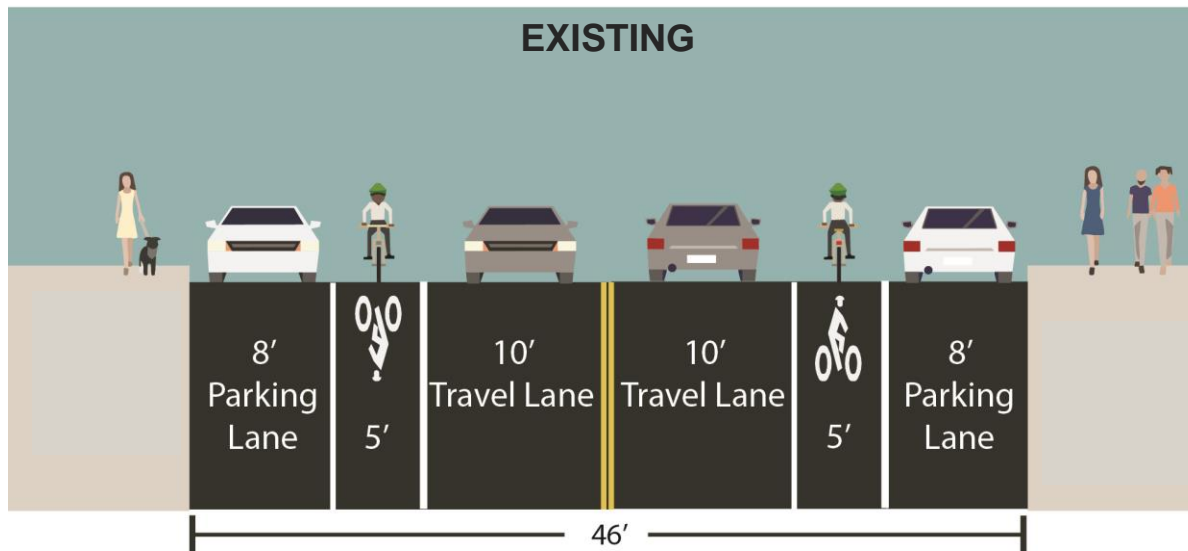
PROPOSED DESIGN: AVE C, E HOUSTON ST TO E 4 ST



Curbside Conventional Bike Lanes

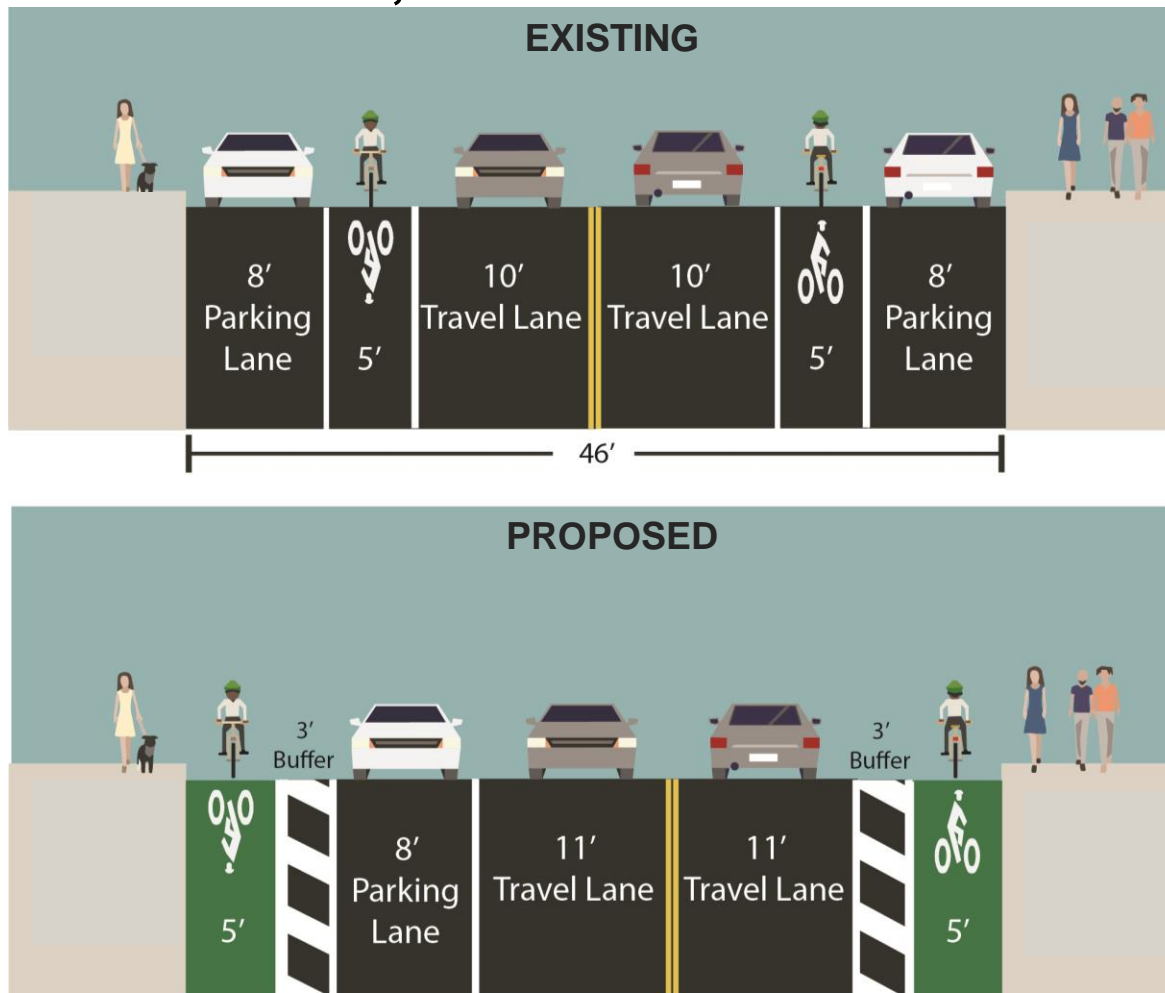
- **Creates dedicated space for cyclists**, reduces conflicts with vehicles
- Increase **predictability** of cyclist location for drivers and pedestrians
- Provides **key connection** for all cyclists of varying comfort levels

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

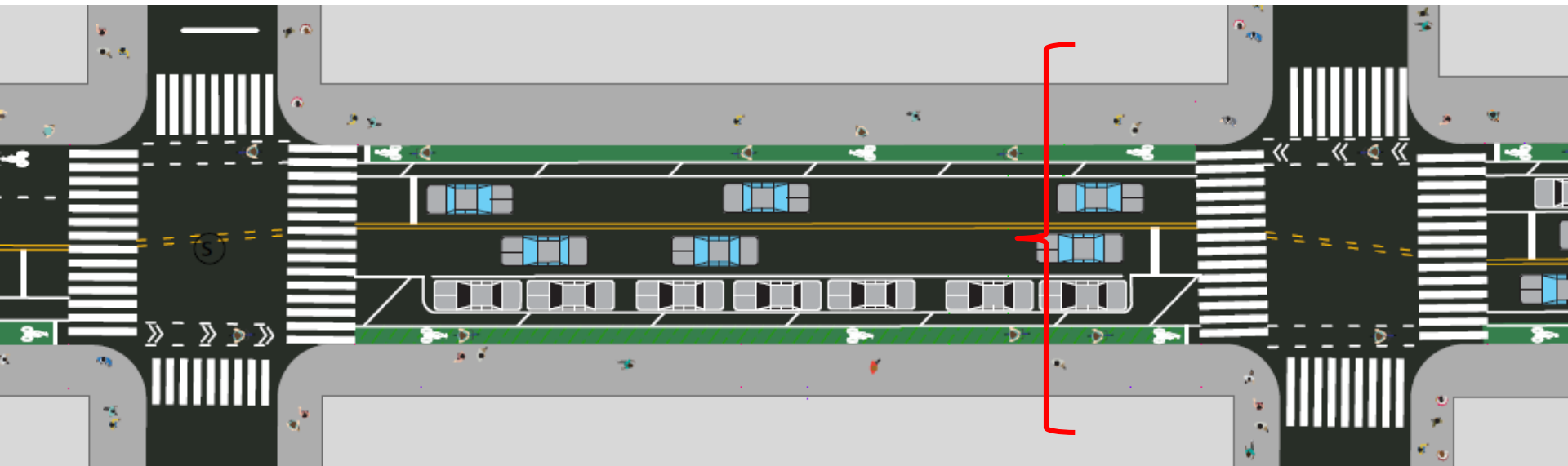
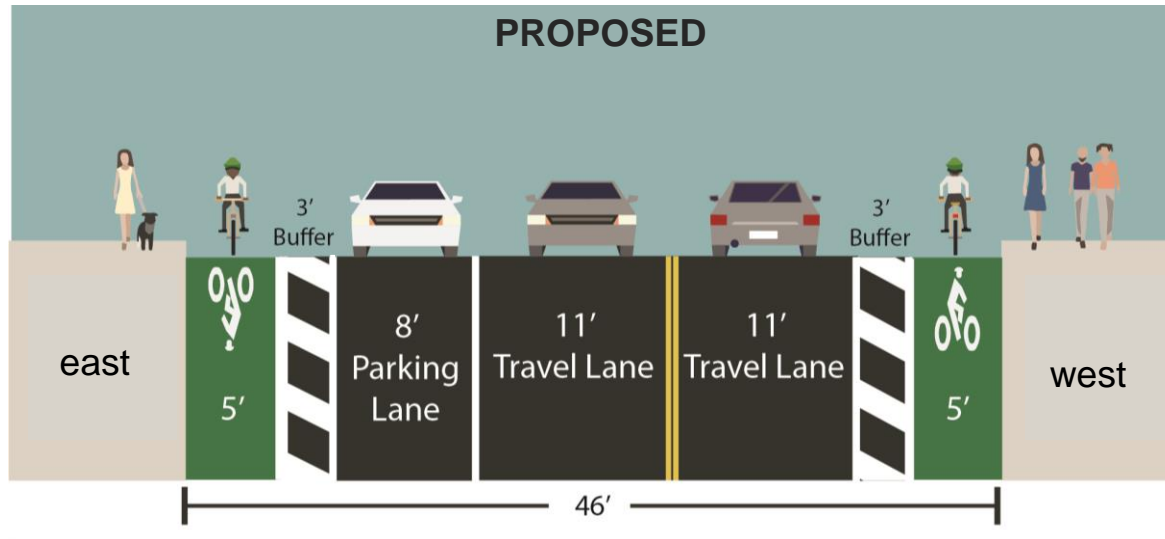
PROPOSED DESIGN: AVE C, E 4 ST TO E 18 ST - SHIFTED CENTER LINE



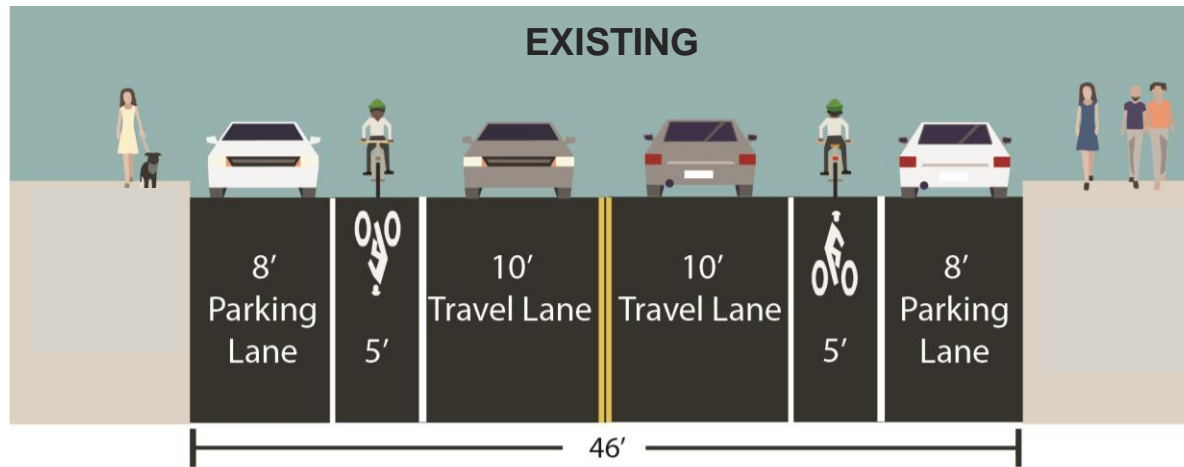
Shifted Center-line/Parking Protected Bike Lanes

- **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 blocks¹⁸

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



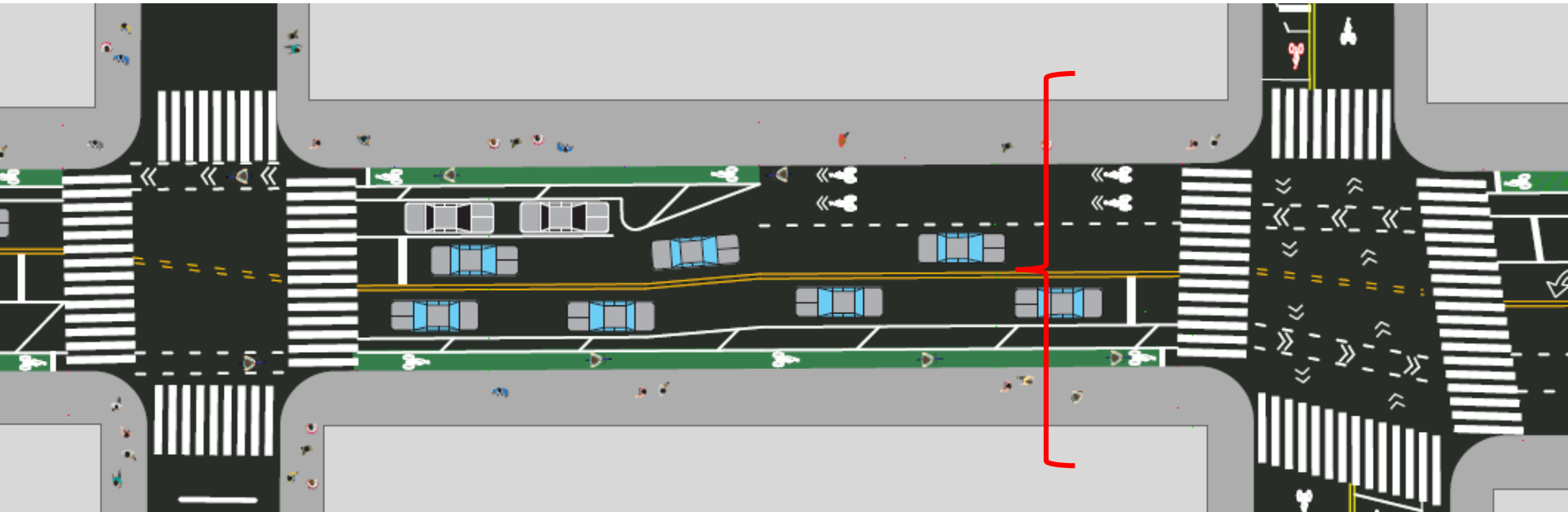
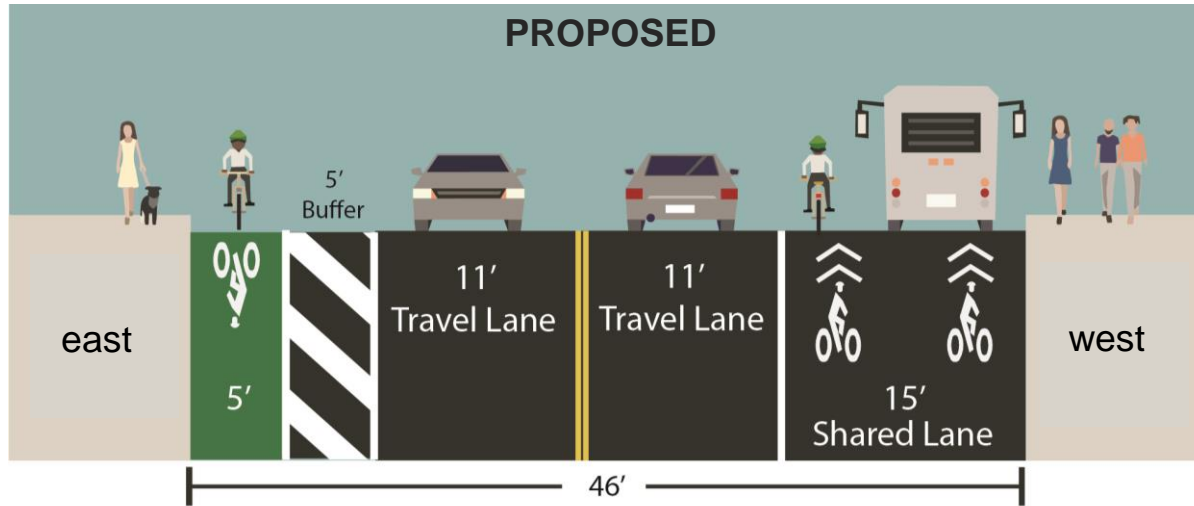
PROPOSED DESIGN: AVE C, E 4 ST TO E 18 ST - BUS STOPS



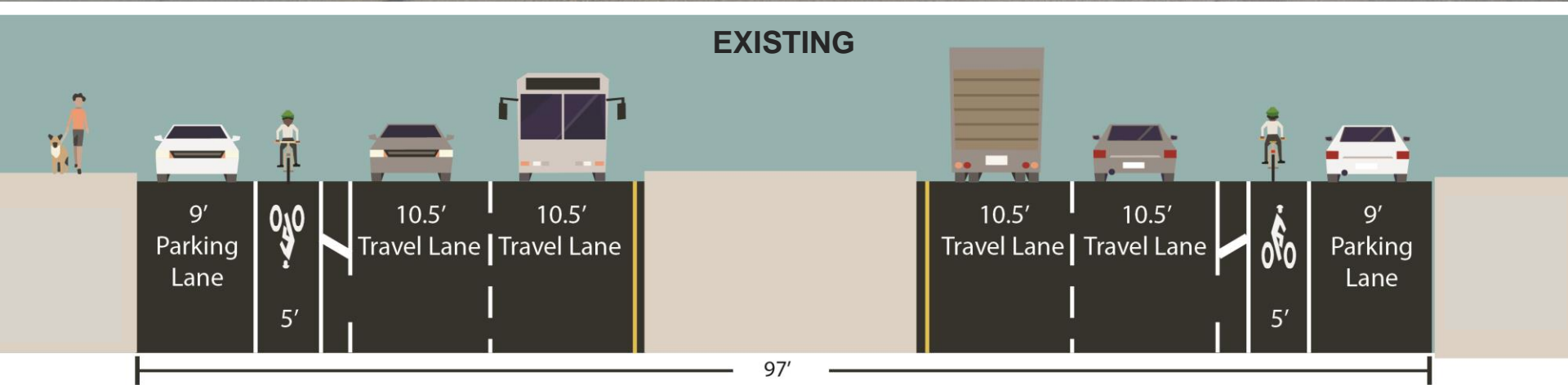
Shifted Center-line/Shared Bus and Bike Lane

- **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

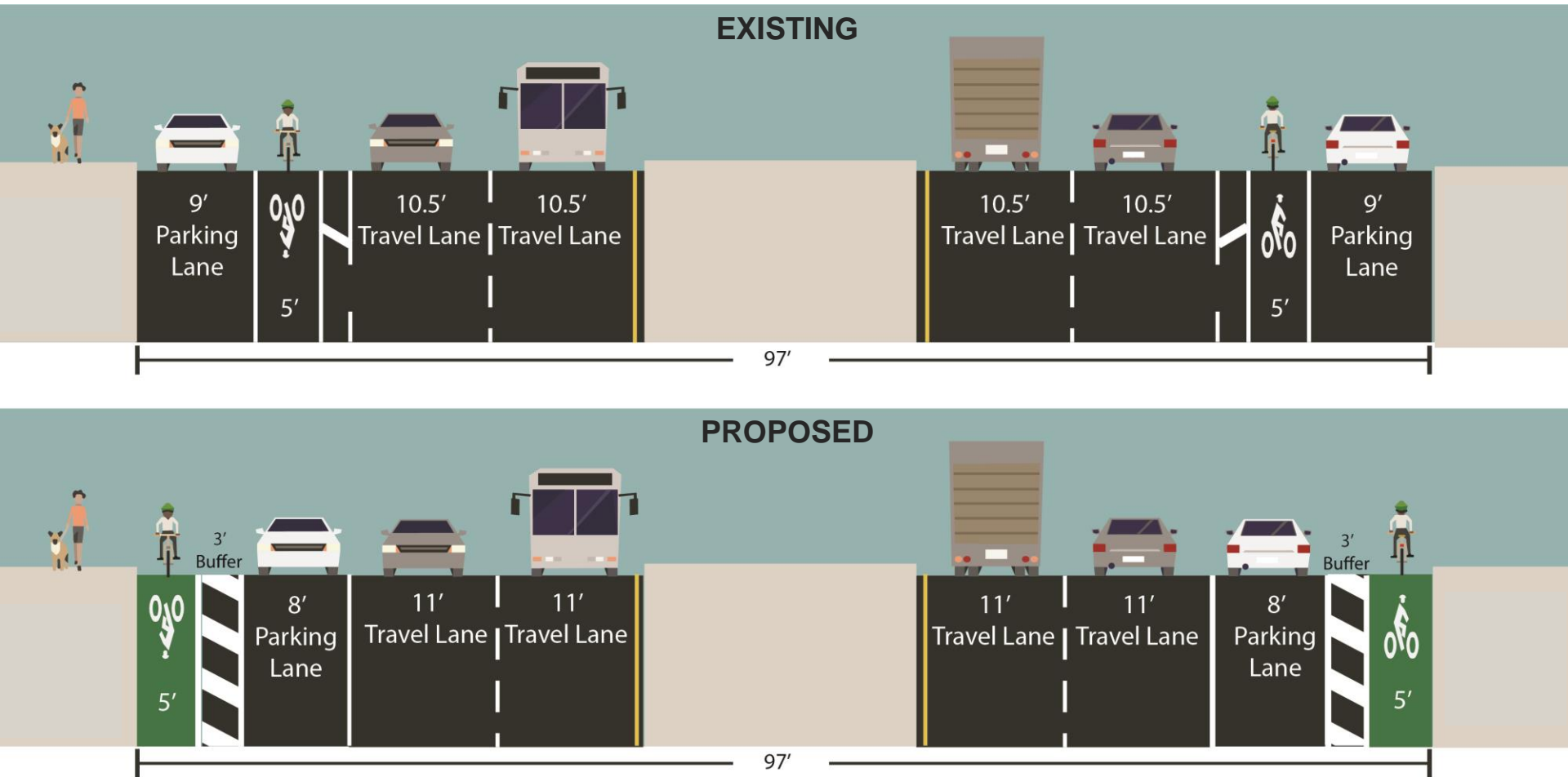


EXISTING CONDITIONS/ISSUES: E HOUSTON ST, GREENWAY TO 2 AVE



- 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 1st Ave, 2nd 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

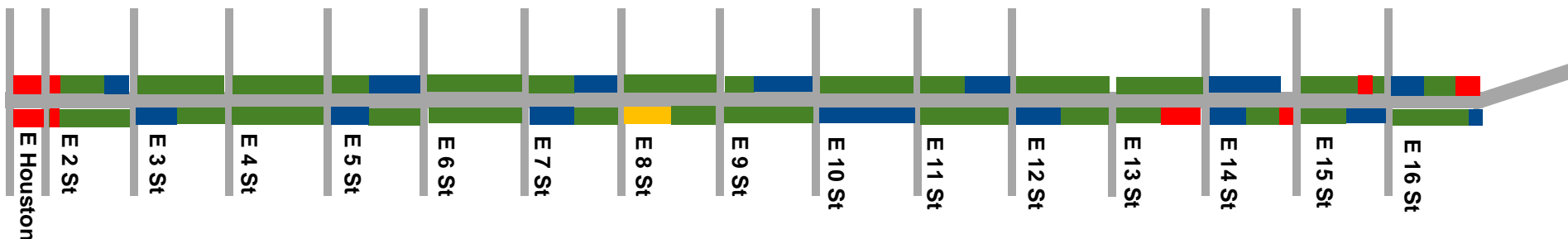


CURB MANAGEMENT, PARKING UPDATES

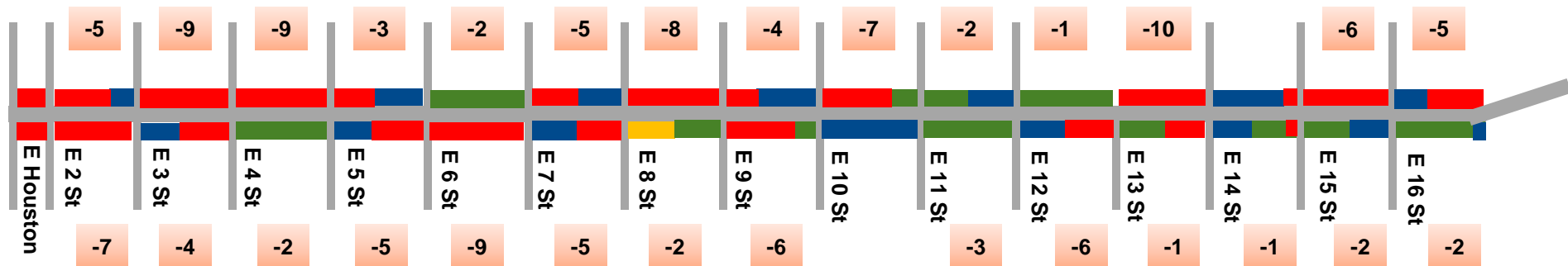
- Project results in the loss of +/-128 parking spaces on Ave C*
- New regulations, including daytime truck loading, will be considered as part of the planning process
- Parking is expected to be preserved on E Houston St

- 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

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