



HARLEM BIKE NETWORK

Bike Lanes and Safety Improvements

Presented to Community Board 11
Spring 2017



PRESENTATION OVERVIEW

Background

- Mobility:
NYC in Numbers
Citi Bike

Community Engagement

- Vision Zero
- Citi Bike
- Harlem River Bridge Access Plan
- Street Ambassadors

Proposal

- Goals and Route Selection
 1. 110th /111th St
 2. 126th/128th St
 3. 5th Ave

Summary

- Benefits of Design Elements



Background

1

NYC MOBILITY

Recent Travel Trends (2010-2015)



+370,000

**New York City
residents**



+520,000

new jobs

As the city grows, there is higher demand on the transportation system and people are increasingly turning to mass transit, FHV carpooling, and cycling.



+20%

**growth
tourists**



+10%

**growth in
subway trips**



+80%

**growth in daily
cycling trips**

BIKE NETWORK – Citi Bike

Recent Trends

Total Number of Citi Bike Trips in NYC:

2016 - 14 million trips

2015 - 10 million trips



Citi Bike regularly serves over **70,000 trips per day**

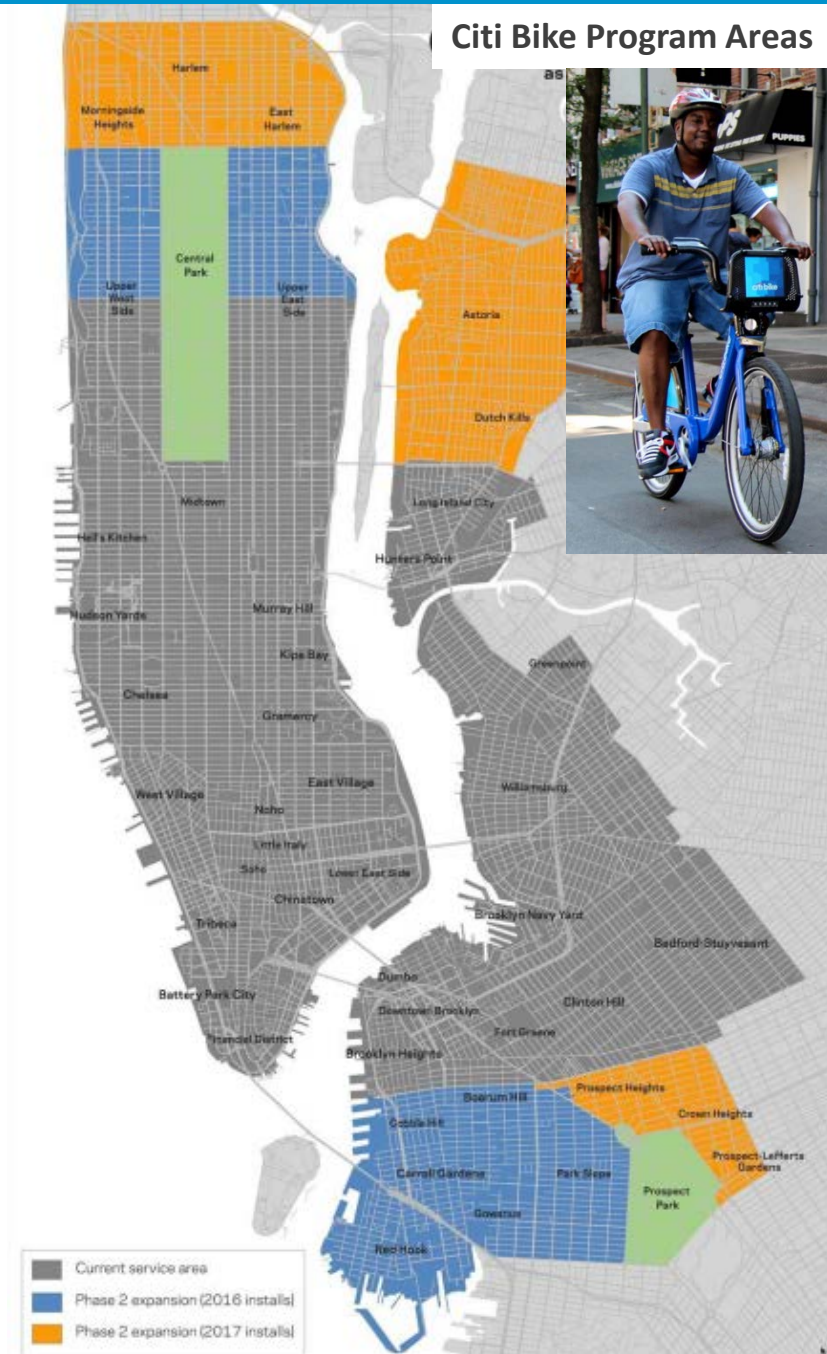
more than



Staten Island Ferry



Boro (green) Taxi





Counts

1

110th St

(Manhattan Ave to Central Park W)

1,401 weekend

637 weekday

2

110th St

(5th Ave to Lenox Ave)

1,110 weekend

725 weekday

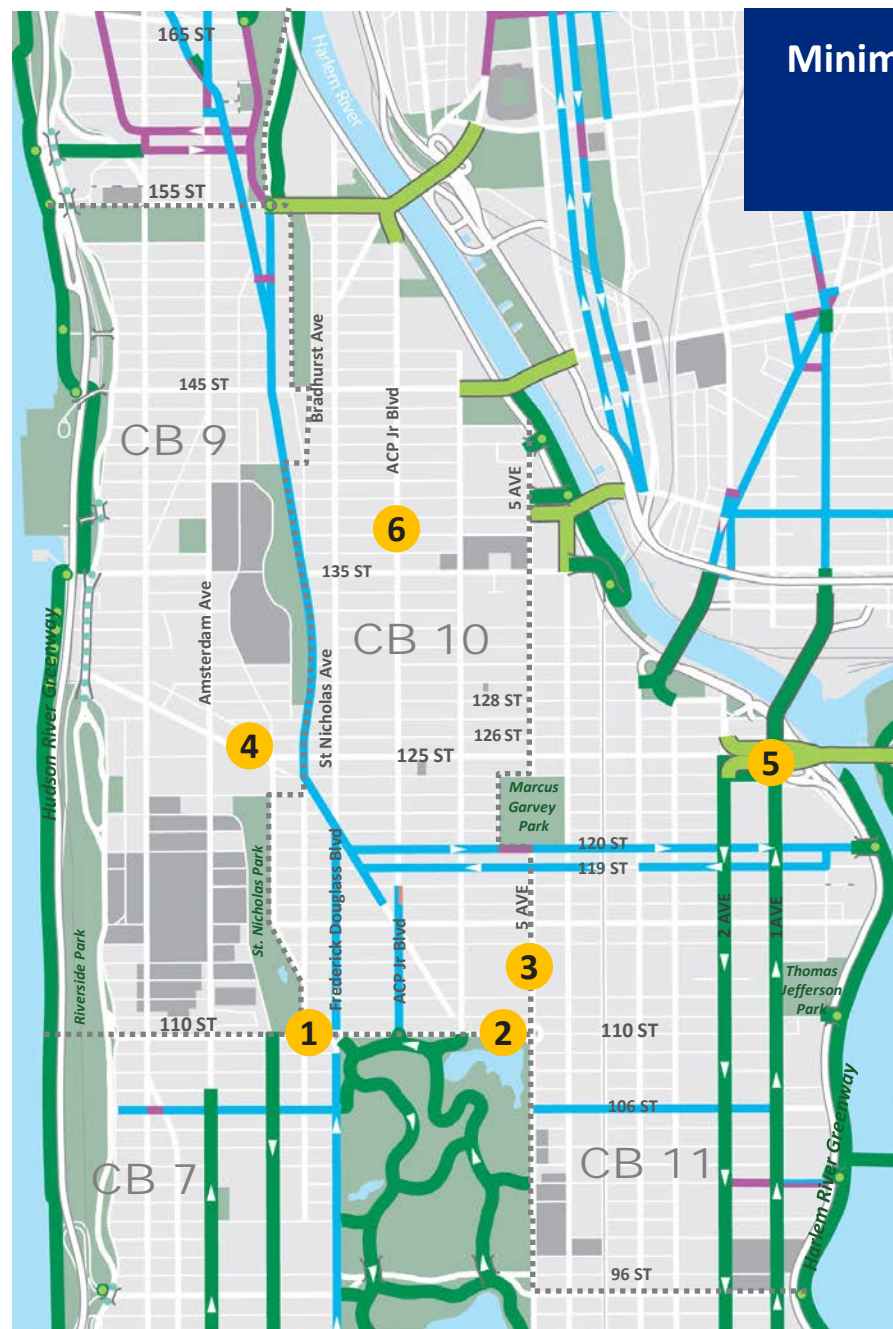
3

5th Ave

(112th to 115th St)

422 weekend

408 weekday



Minimal bicycle infrastructure in CB 9, 10, and 11 Heavily used routes

4

125th St

(Amsterdam Ave to Morningside Ave)

436 weekend

450 weekday

5

1st Ave

(124th St & RFK Bridge)

593 weekend

704 weekday

6

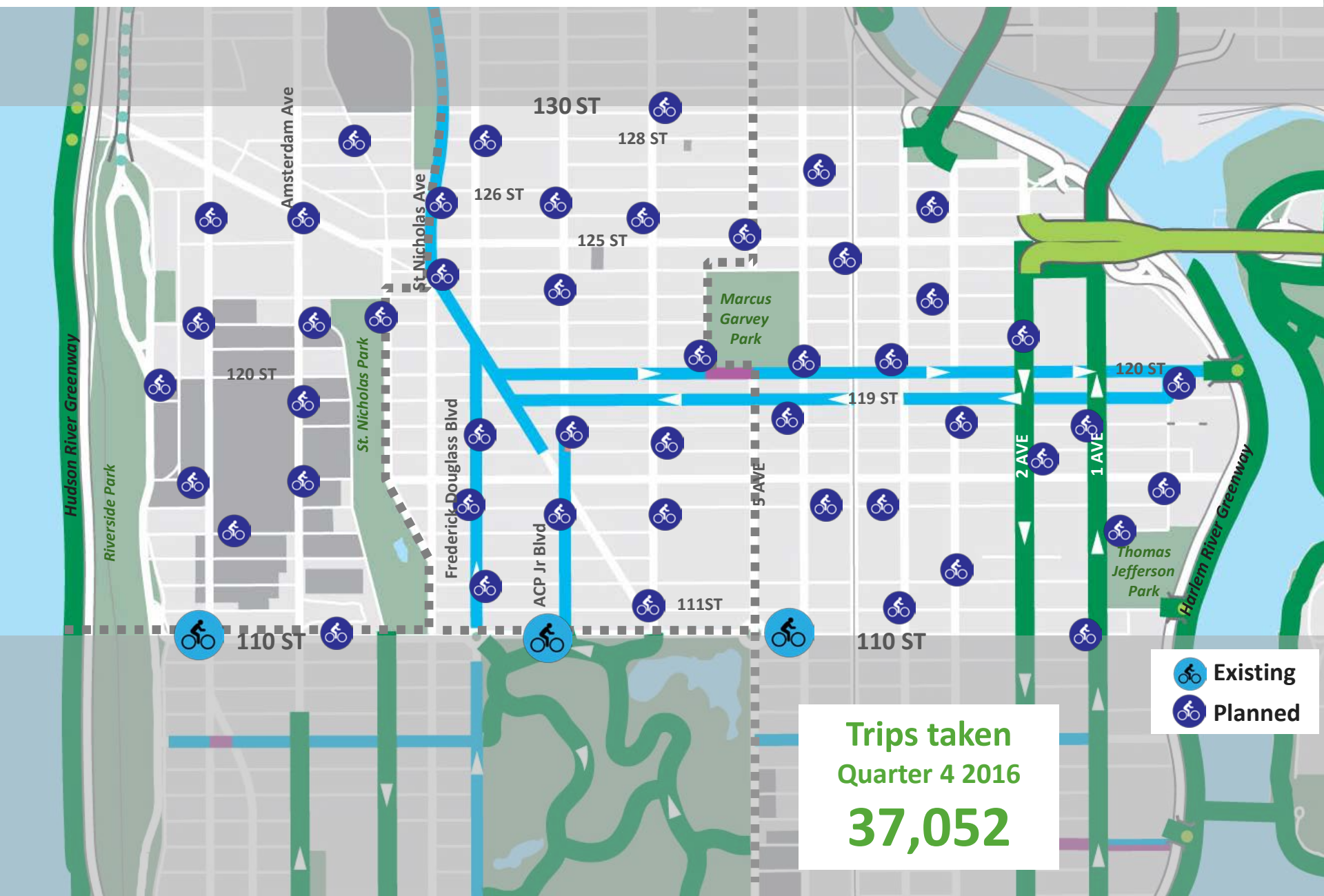
ACP Blvd

(136th St & 137th St)

340 weekend

217 weekday

PROJECT AREA – Citi Bike Expansion Area (110th St to 130th St)



PROJECT AREA – Citi Bike Expansion Area (110th St to 130th St)



Citi Bike provides a new transportation option and increases neighborhood biking that

- Is useful for short trips – most Citi Bike trips are between 6 and 9 min (average trip is under 14 minutes)
- Can be faster and more convenient than taking a bus
- Can be used to get to subway stations for efficient multi-modal trips
- Makes biking an easy option for those who don't own or have a place to store a bike
- Is an affordable option – unlimited 45 min trips for \$15/month (with an annual membership, discounted memberships are \$5/month)

Community Outreach

2

SAFETY – Vision Zero

Goal:

- Reduce preventable deaths and injuries through improved **engineering**, **education**, and **enforcement**

Outreach Process:

- Public workshops
- Interactive Web Portal
- Borough Action Plans
- Roll-out of safety initiatives

Outcome:

- Release of Borough Action Plans
- Continue roll out of **safety initiatives**
- **Three years of declining fatalities (2014-17)**

Redesigns of high-crash corridors that include bicycle facilities can improve safety for all road users



CITI BIKE

Goal:

- DOT and Motivate work with community to find **best locations** for stations in neighborhood, and expansion roll out

Outreach Process:

- 2015 – Present
- Community workshops
- Public web portal
- Meeting with community representatives, institutions, and BIDs

Outcome:

- 2016 - **draft plan** with location of Citi Bike stations **identified through community engagement**
- 2017 expansion of Citi Bike in CB 9, 10 and 11 (110th St to 130th St)



HARLEM RIVER BRIDGES ACCESS PLAN

Goal:

- Increase and improve **pedestrian** and **bicycle safety** and **mobility** between Manhattan and the Bronx across 13 Harlem River Bridges

Outreach Process:

- 12 workshops
- 200 surveys

Outcome:

- In Summer 2017 DOT will release report highlighting **37 priority projects**
- Roll out of projects



STREET AMBASSADOR DEPLOYMENT

Goal:

- Further evaluate pedestrian and bike potential connections based on community's feedback.

Outreach Process:

- Follow up to HRBAP, collection of **additional community feedback**, Street Ambassadors deployed to **12 deployments, 8 locations**

Outcome:

- **49%** of surveyed **ride bike in NYC**
- **78%** of surveyed **have friends or family who bike in NYC**
- **Almost three times as many people reported to riding a bike or walking to parks and green spaces in the neighborhood compared to driving, or taken public transit**



STREET AMBASSADORS DEPLOYMENT

Where Do You Ride?



Lines drawn in orange () are where people are biking in Uptown Harlem



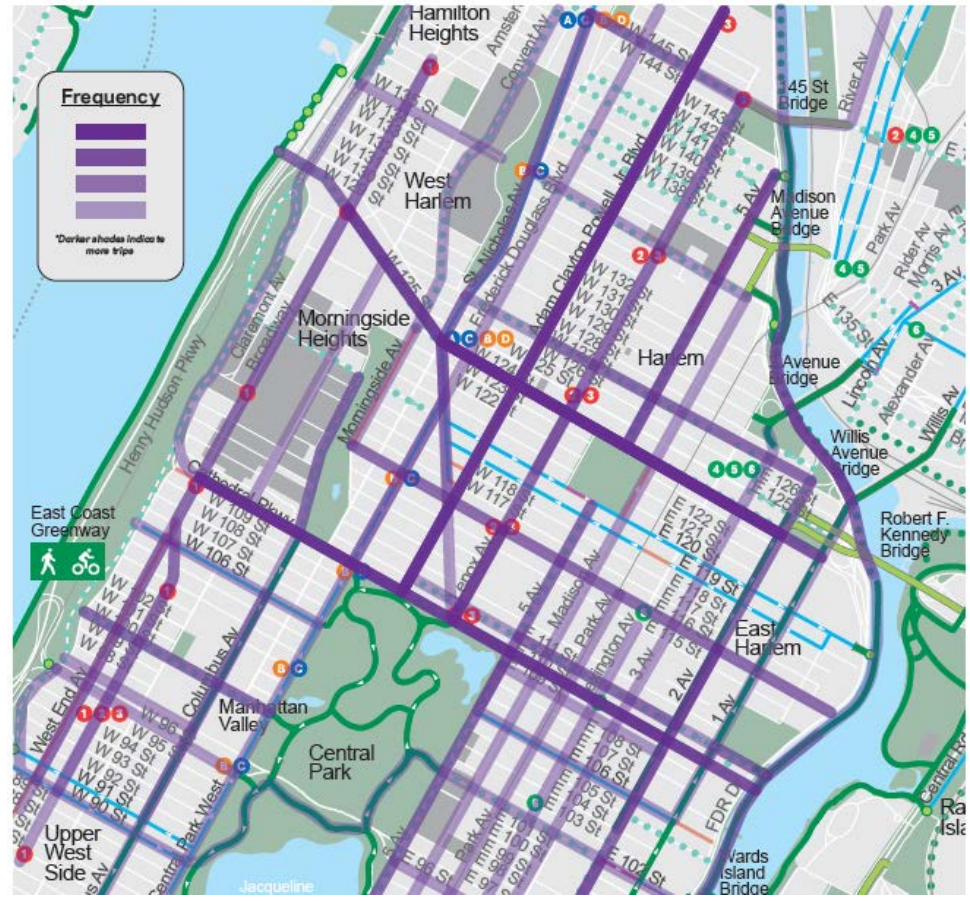
Survey Comments

"I want to start biking next summer and good infrastructure encourages me to do that more."

Where Would You Like to Ride?



Lines drawn in purple () are where people would like to bike in Uptown Harlem



"[We need] more bike lanes, better enforcement, and better signage."

"Times have changed and we need to share the road."

DEPARTMENT OF HEALTH - East Harlem Action Centers, Partnership for Healthier Manhattan

Goal:

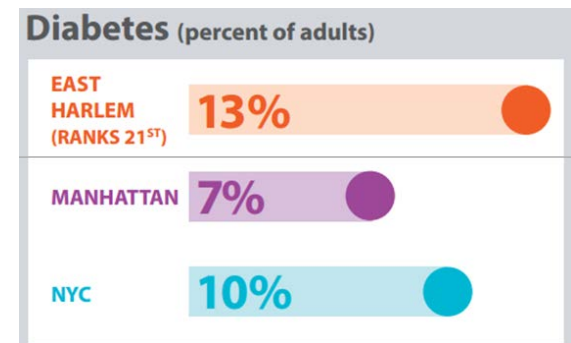
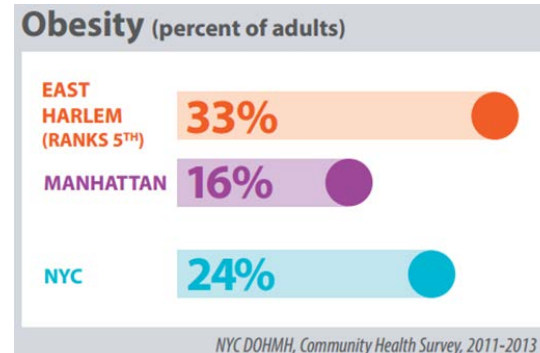
- Work with community and DOT to increase bike education, improve bike infrastructure, enhance safety to address health inequities

Outreach Process (on-going):

- Convened East Harlem Biking Coalition (Nov 2016)
- Conducted 1:1 conversations about biking with community partners (Jan-Feb 2017)
- Convened organizations to report on trends (March 2017)
- Co-hosted El Barrio Bike Bash with community partners (March 2017, 186 participants)

Outcome:

- Biking is a great way to get around, improve health and socialize
- Younger generation is excited about biking
- Biking is engrained in Latino culture and has a rich history in East Harlem
- Lack of bike infrastructure
- Safety concerns



Proposals

3

PROJECT GOALS / ROUTE SELECTION

PUBLIC INPUT

- Vision Zero
- Citi Bike
- Harlem River Bridge Access Plan
- Street Ambassadors
- Department of Health

SAFETY

- Redesign roadway to reduce on-street injuries and fatalities for all road users
- Address community’s safety concerns
- Use wayfinding to direct cyclists to safest routes

**10 cyclists killed , 92 cyclists were severely injured
in CB 9, 10, 11, between 2010 and 2014**



MOBILITY

- Prioritize routes that provide safe and direct connection to existing network
- Create all-ages-friendly routes with connection to green and recreational spaces
- Accommodate Citi Bike expansion



Identify and develop projects that:

- Incorporate public input
- Increase safety for all road users
- Create direct, connected bike network that improves mobility and enhances access to key destinations

PROJECT AREA



Citi Bike Expansion Area in Upper Manhattan

110th/111th St

- Limited east-west through streets (first opportunity after 72nd St)
- Identified as a priority route during HRBAP workshops and S.A. deployment
- Re-design of W 110th St, and FD Circle (community safety concerns)

126th St/128th St
(alternative to 125th St)

- Identified as a priority route during HRBAP workshops and S.A. deployment
- Limited possibilities for direct routes
- Connects to Willis Ave and RFK

5th Ave

- Strong desire for protected bike lane identified through S.A. outreach
- Excess width encourages speeding and other unsafe behavior
- Serve people traveling south as well as those traveling north on other streets

PROJECT AREA



1

110th /111th St
5th Ave to FDR

- Access to Greenway and Parks
- Cross-town Connection

2

126th /128th St
2th to 5th Ave

- Access to bridges
- Extension of east-west routes proposed in CB9 and 10

3

5th Ave
110th to 120th St

- Protected bike route to/from Marcus Garvey Park and Central Park

SAFETY

Injury Summary, 2010-2014 (5 years)

110th St/111th St (5th Ave to FDR)

	Total Injuries	Severe Injuries	Fatalities	KSI
Pedestrian	43	5	0	5
Bicyclists	15	2	0	2
Motor Vehicle Occupant	114	6	0	6
Total	172	13	0	13

5th Ave (110th St to 120th St)

	Total Injuries	Severe Injuries	Fatalities	KSI
Pedestrian	17	1	0	1
Bicyclists	11	2	0	2
Motor Vehicle Occupant	65	5	0	5
Total	93	8	0	8

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

126th St/128th St (5th Ave to 2nd Ave)

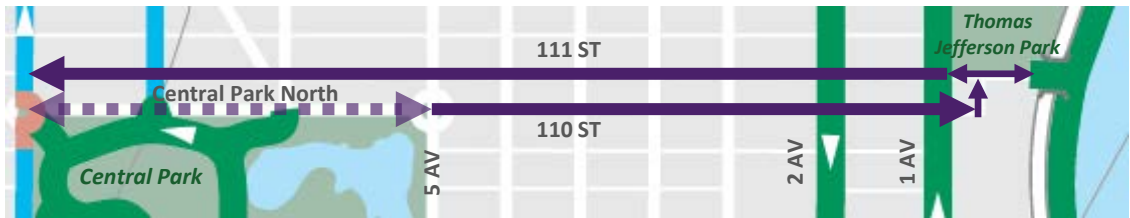
	Total Injuries	Severe Injuries	Fatalities	KSI
Pedestrian	28	2	0	2
Bicyclists	11	2	0	2
Motor Vehicle Occupant	125	1	0	1
Total	164	5	0	5

Opportunity to re-design corridors to be safer for all road users

EXISTING/ISSUES – E 110th, 111th St

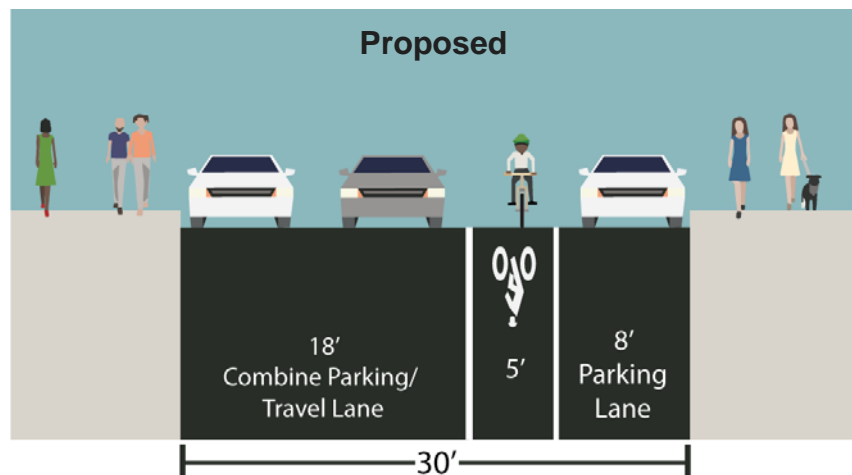
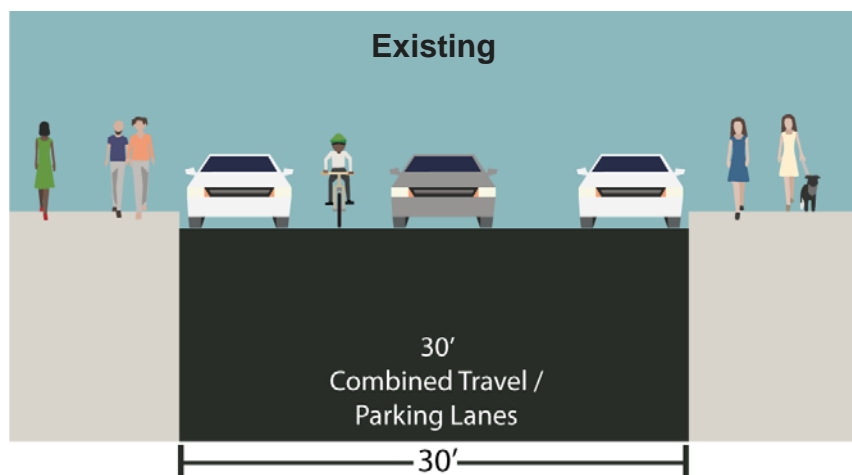
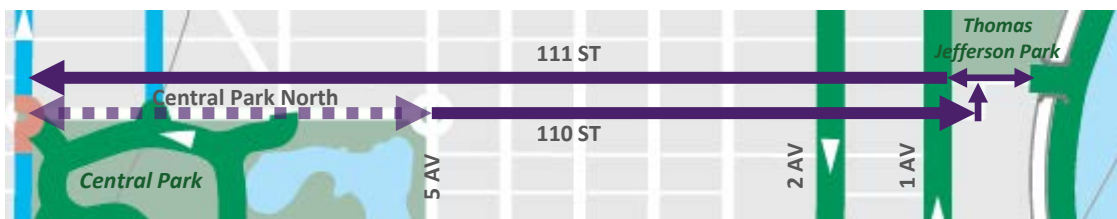
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110th /111th St
5th Ave to FDR



- **One-way; typically 30' – 34'**
- **No dedicated space for cyclists**
- **Cyclist position in roadway unpredictable** for drivers and pedestrians

PROPOSED IMPROVEMENTS – E 110th, 111th St Typical Cross Section



5th Ave to A New St

- **Standard width travel lane** accommodates all vehicles, improves predictability, easier for pedestrians to cross
 - **Bike lane** creates dedicated, predictable space for cyclists, separate from moving vehicles, discourages sidewalk riding to reduce pedestrian conflicts
 - **Re-design of roadway** has no impact on vehicle capacity or parking loss
- Creates access to Central Park, East River Greenway, 1st and 2nd Ave protected lanes

PROPOSED DESIGN ELEMENTS

Organized Roadway

Increases safety,
predictability, comfort

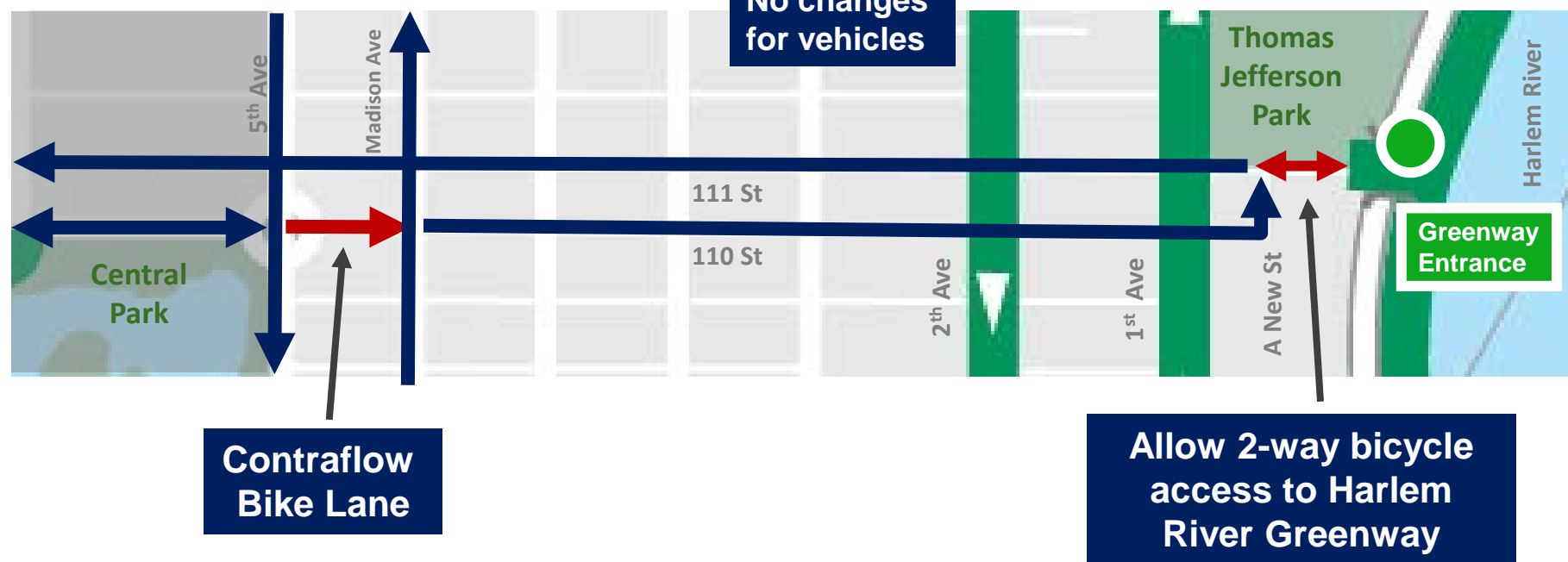


PROJECT AREA – STREET NETWORK

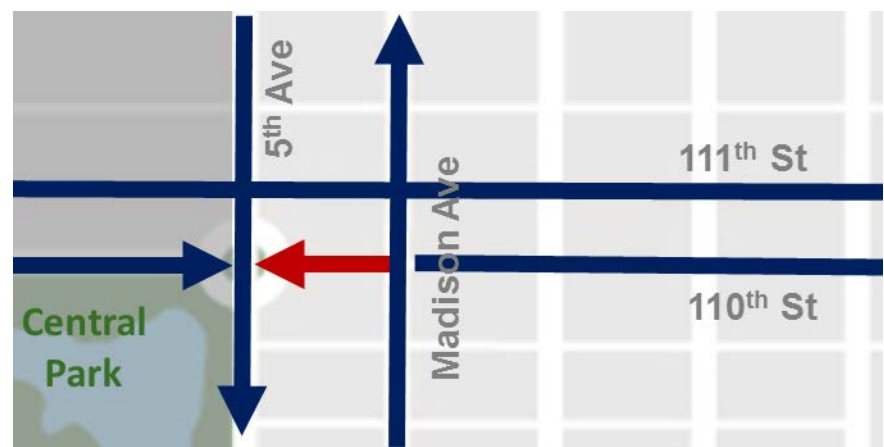
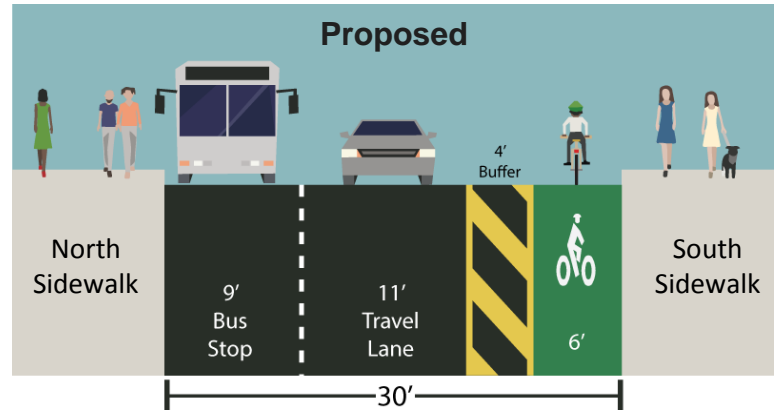
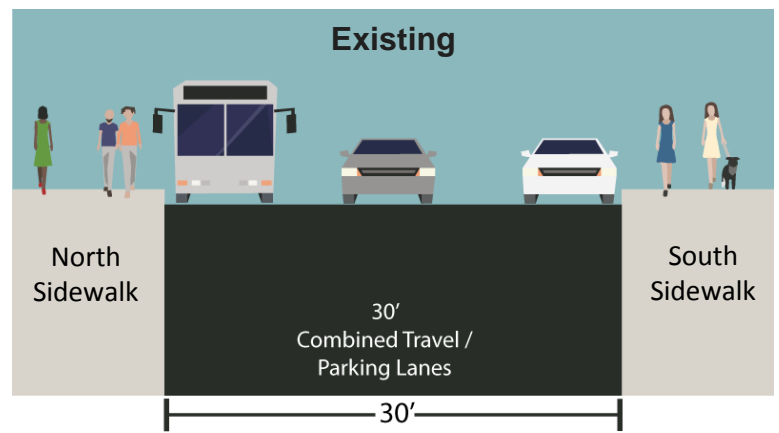
Street Network



Proposed Bicycle Access



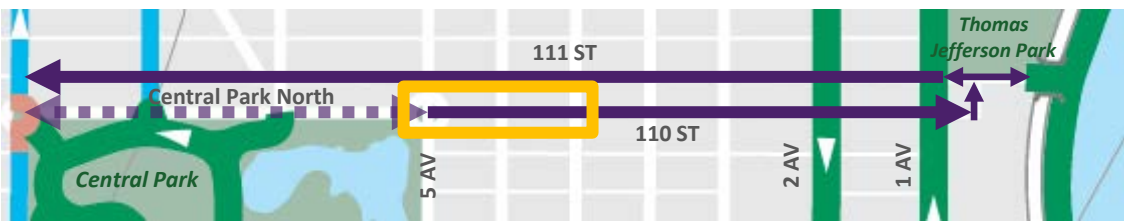
PROPOSED IMPROVEMENTS – 110th St (5th Ave to Madison Ave)



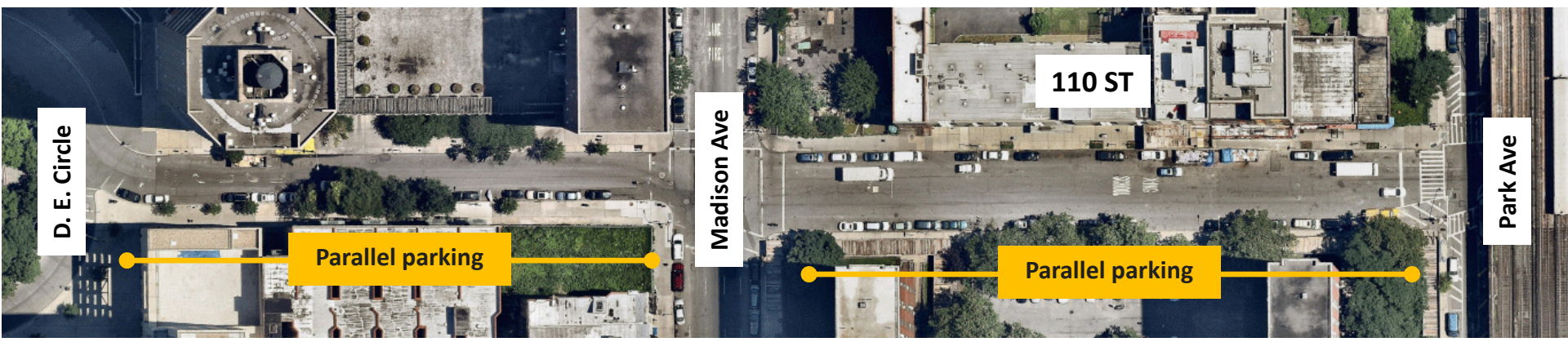
Connection from Central Park

- Contra-flow bike lane creates **continuous eastbound route**
- Design requires **parking on** to be **relocated** to the next block

PROPOSED IMPROVEMENTS – Parking Relocation



Existing Parking Configuration



Proposed Parking Configuration



Net gain of 2 parking spaces

PROPOSED IMPROVEMENTS – E 111th St (A New St to FDR Drive)



111th St (A New St to FDR)



Connection to Harlem River

- **Signs and markings** permit bike access in both directions on lightly trafficked block to/from greenway
- Connection to Thomas Jefferson Park and the **Manhattan Waterfront Greenway**



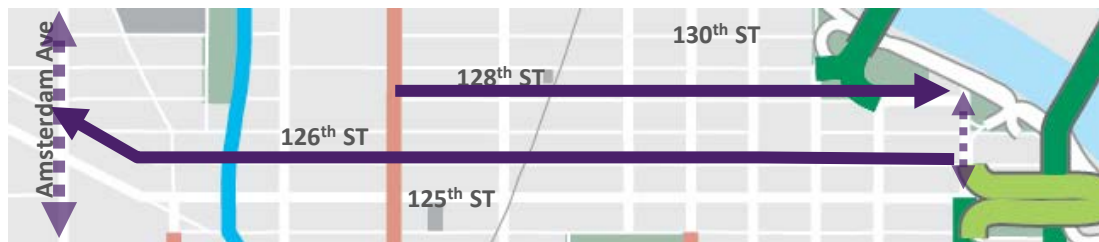
East River Greenway – 114th St Looking South

EXISTING/ISSUES – 126th, 128th St

2

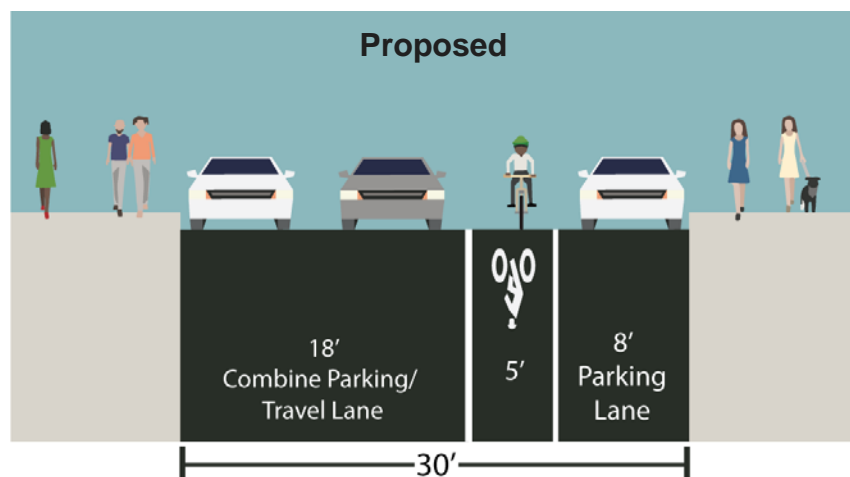
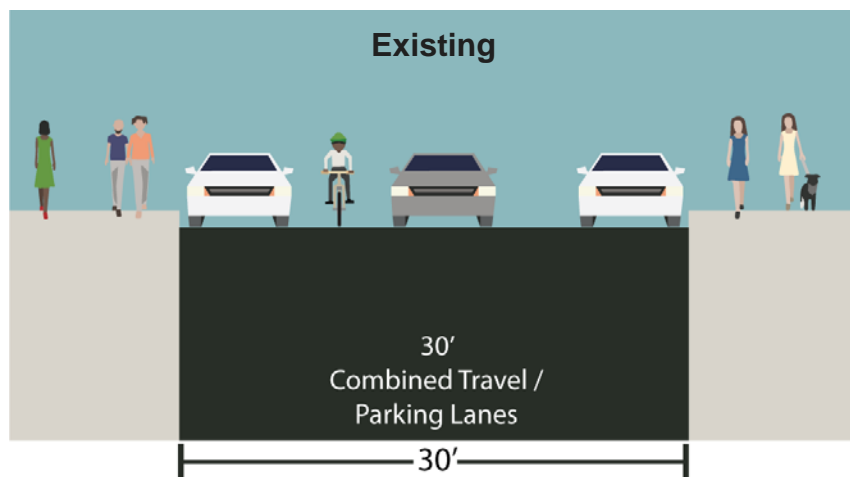
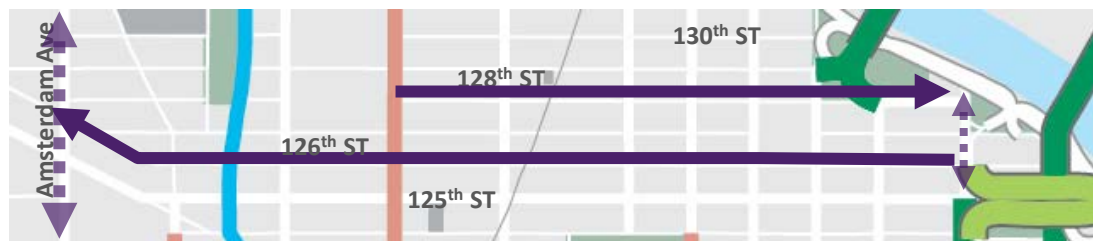
126th/128th St

2nd Ave to Amsterdam Ave



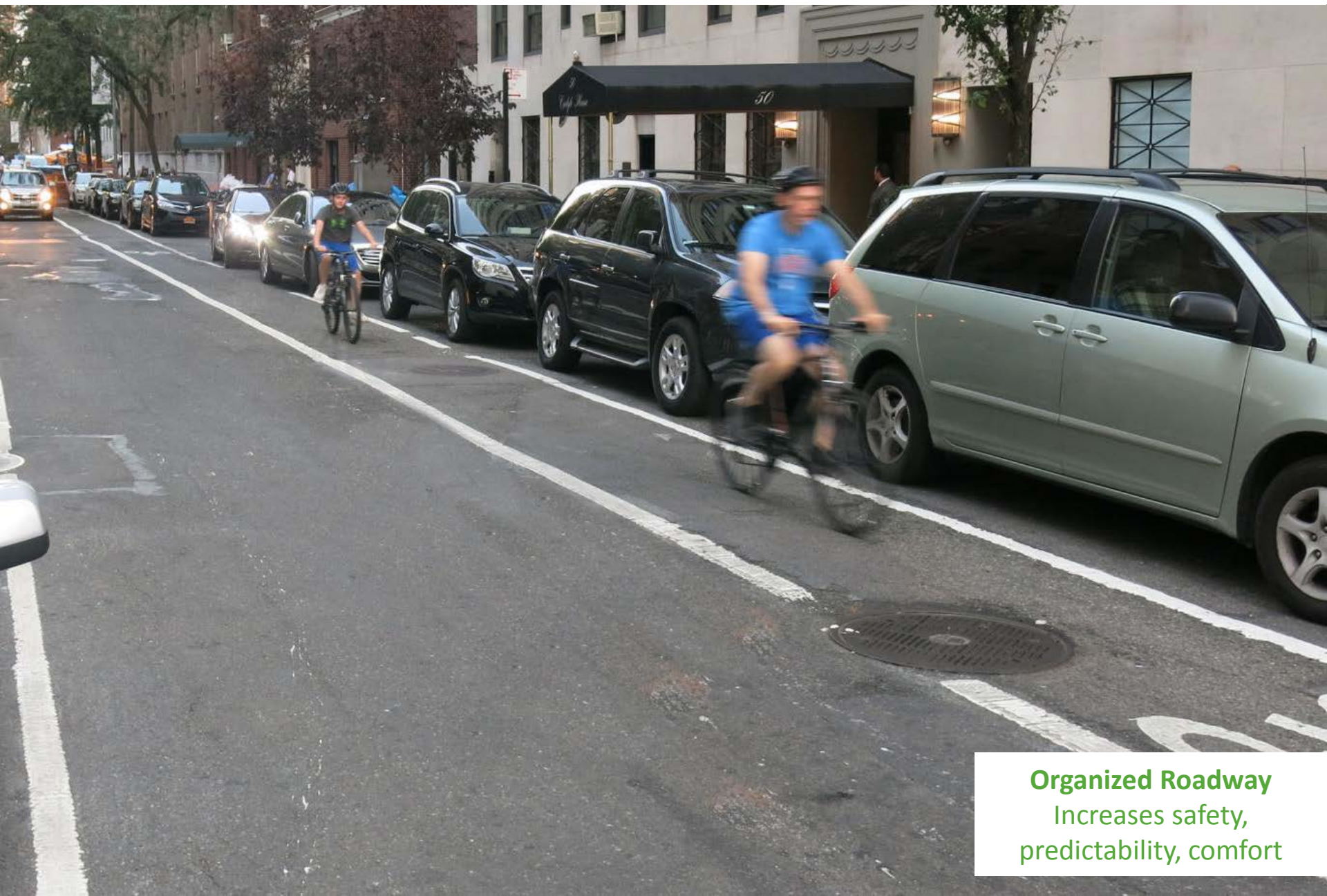
- **One-way**
- **No dedicated space** for cyclists
- **Cyclist position in roadway unpredictable** for drivers and pedestrians

PROPOSED IMPROVEMENTS – 126th, 128th St Typical Cross Section



- **Standard width travel lane** accommodates all vehicles, improves predictability, easier for pedestrians to cross
 - **Bike lane** creates dedicated, predictable space for cyclists, separate from moving vehicles, discourages sidewalk riding to reduce pedestrian conflicts
 - East-west connection north of 125th St
 - Challenging street grid; limited east-west opportunities for direct routes
- Creates access East River Greenway, 1st and 2nd Ave protected lanes, Willis Ave and RFK Bridges

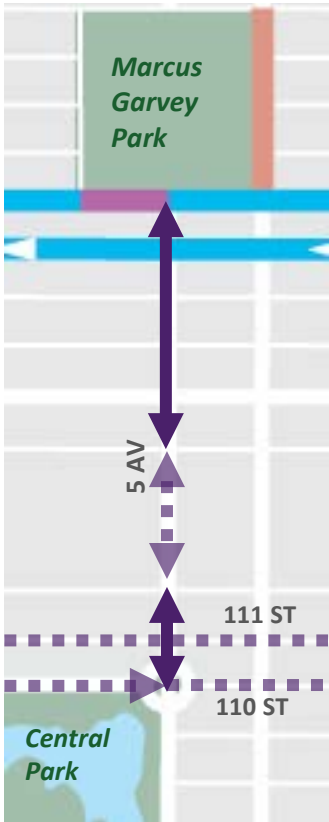
PROPOSED DESIGN ELEMENTS



Organized Roadway
Increases safety,
predictability, comfort

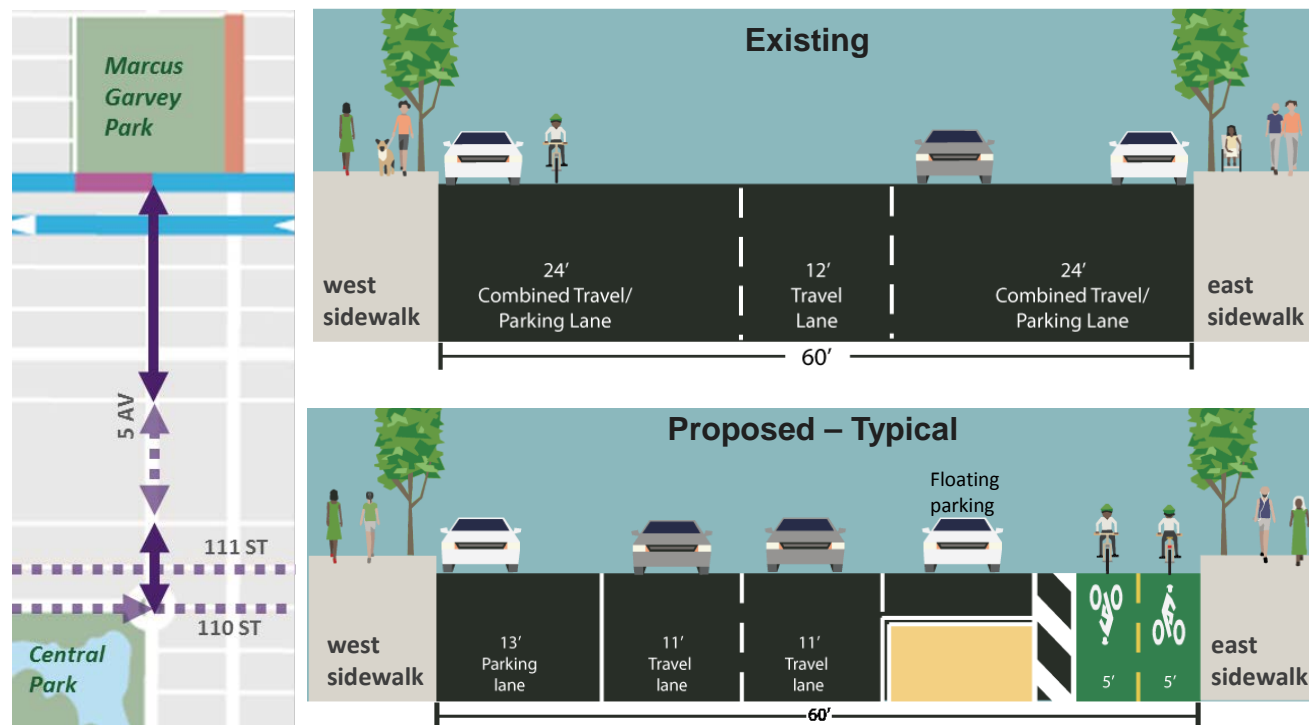
EXISTING/ISSUES – 5th Ave (Central Park to Marcus Garvey Park)

3 5th Ave
110th St to 120th St



- Excess vehicular capacity
- Wide travel lanes **encourages speeding and other unsafe behavior**
- **Long pedestrian crossings**
- **Vulnerable users**; schools, senior care facilities and churches along corridor
- **Cyclist position in roadway unpredictable** for drivers and pedestrians

PROPOSED IMPROVEMENTS – 5th Ave (Typical Design)



- Protected bike route connecting to/from Marcus Garvey Park and Central Park

Pedestrian crossing distance reduced from 60' to 35'

- Complete streets re-design
- Narrower roadway with standard width lanes discourages speeding, shortens pedestrian crossings
- 2-way protected bike lane creates dedicated, predictable space for cyclists, discourages wrong-way and sidewalk riding, and reduce pedestrian conflicts
- Painted pedestrian islands create shorter and safer pedestrian crossings

Traffic Study

Goal: Improve safety for all road users while maintaining traffic flow

Data collection: Automated Traffic Recorders, Manual Turn Counts

Analysis: Study existing conditions including vehicle volumes, geometry, signal timing, turning movements

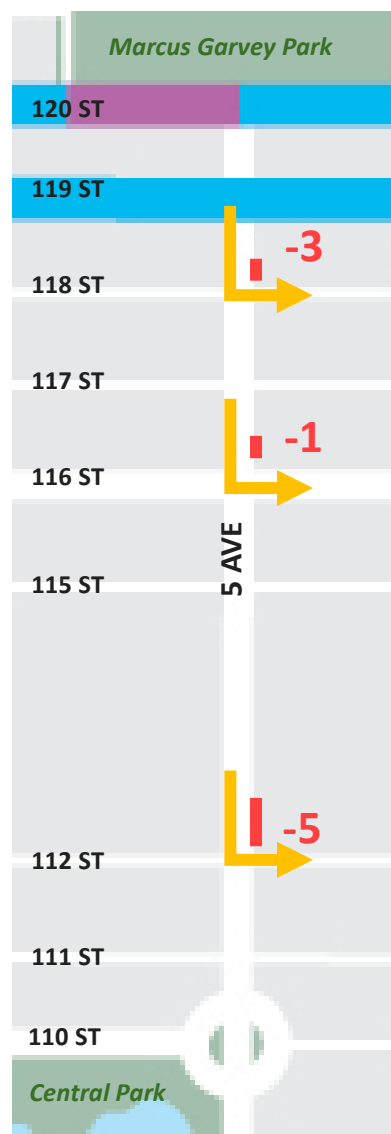
Result: Two lanes provide sufficient capacity for vehicle volumes

Peak Hour Volume: 996

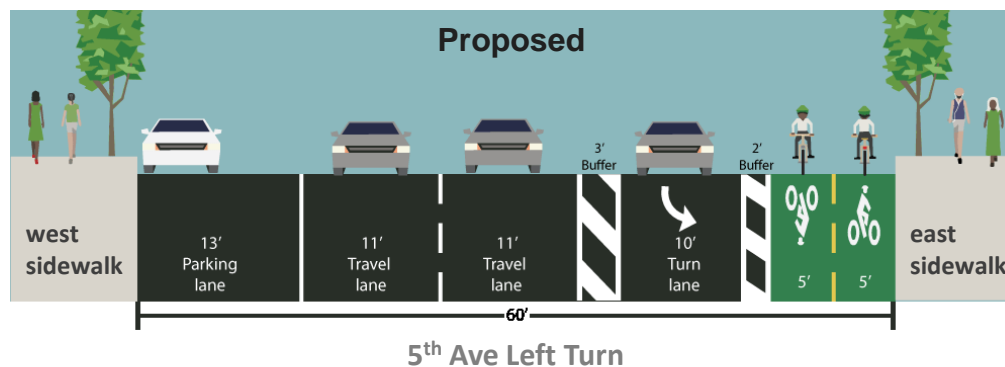
8-9am at 110th St

PROPOSED IMPROVEMENTS – Left Turn Locations

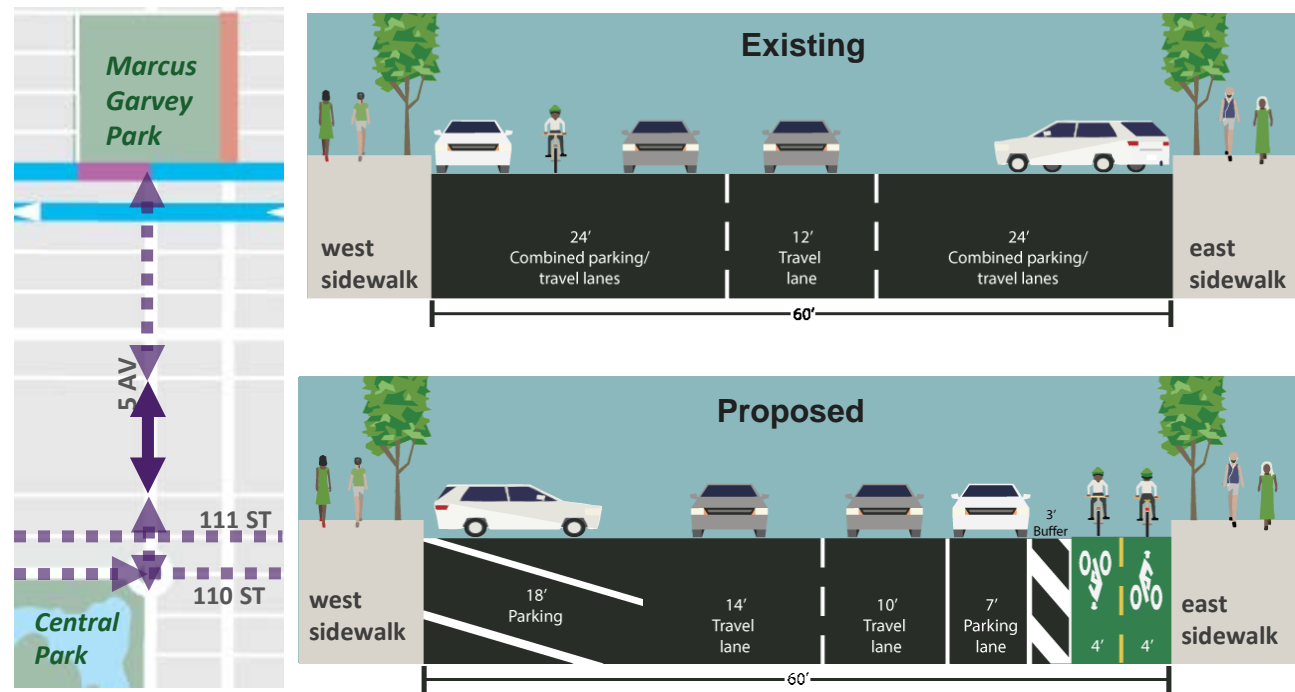
LEFT TURN LOCATIONS



- **Left-turning vehicles kill or severely injure (KSI) pedestrians and cyclists at over three times the rate (19%) of right turn vehicle (6%)**
- **Seniors are more at risk:** median age for pedestrian and bicycle KSI by a left-turning vehicle is 67; all other fatal crash types have median age of 50
- **Spilt phase signals** increase safety by providing protected time for pedestrians and cyclists to cross, require left turn lanes
- **Minimal impact on parking** – limited parking removal required for left turn bays (9 spaces for entire project), will be offset by addition of new legal parking spaces



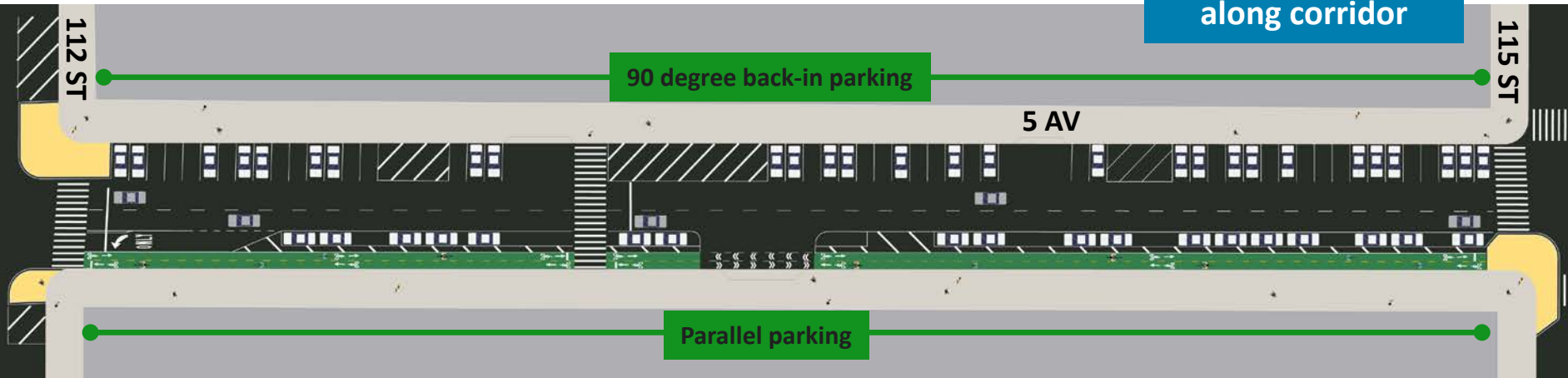
PROPOSED IMPROVEMENTS – 5th Ave (115th St to 112th St)



- Existing informal perpendicular parking on east curb
- Proposed formal perpendicular parking on west curb
- Creates new legal parking spaces, offsetting changes due to safety improvements

Proposal results in net gain of legal parking spaces along corridor

Proposed Parking Configuration



PROPOSED DESIGN ELEMENTS

Creates bike access between Central Park and Marcus Garvey Park that is comfortable for all ages and abilities



PROPOSED DESIGN ELEMENTS



High Visibility
Crosswalk

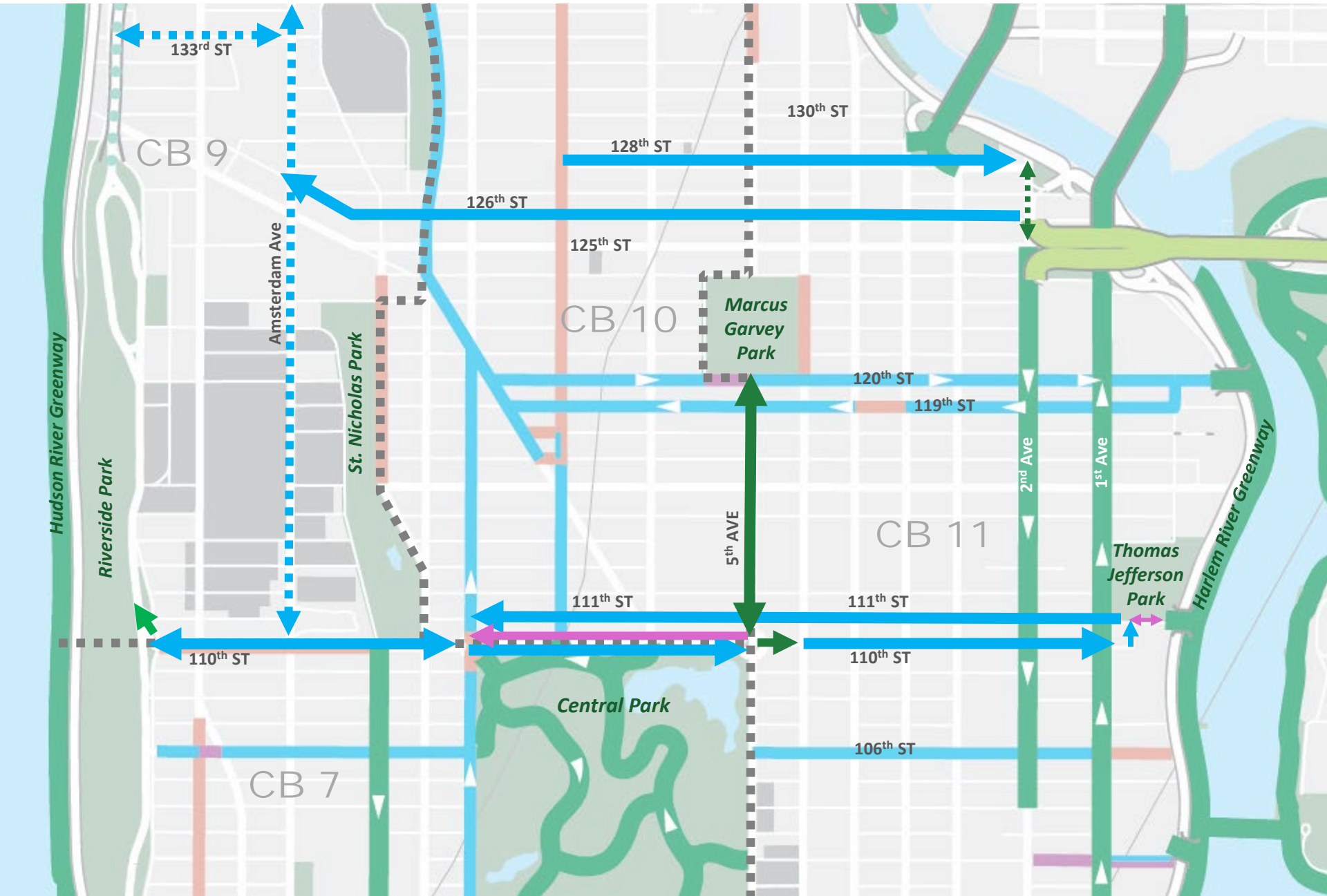
Painted Curb
Extension

- Shortens pedestrian crossing distances
- Guides motorists through turns
- Improves visibility

Summary

4

PROJECT AREA – Proposed Bike Network



BENEFITS OF DESIGN ELEMENTS

Vehicles

- Organize the roadway
- Improve safety
- Improve alignment, and visibility
- Establish standard width; discourage speeding

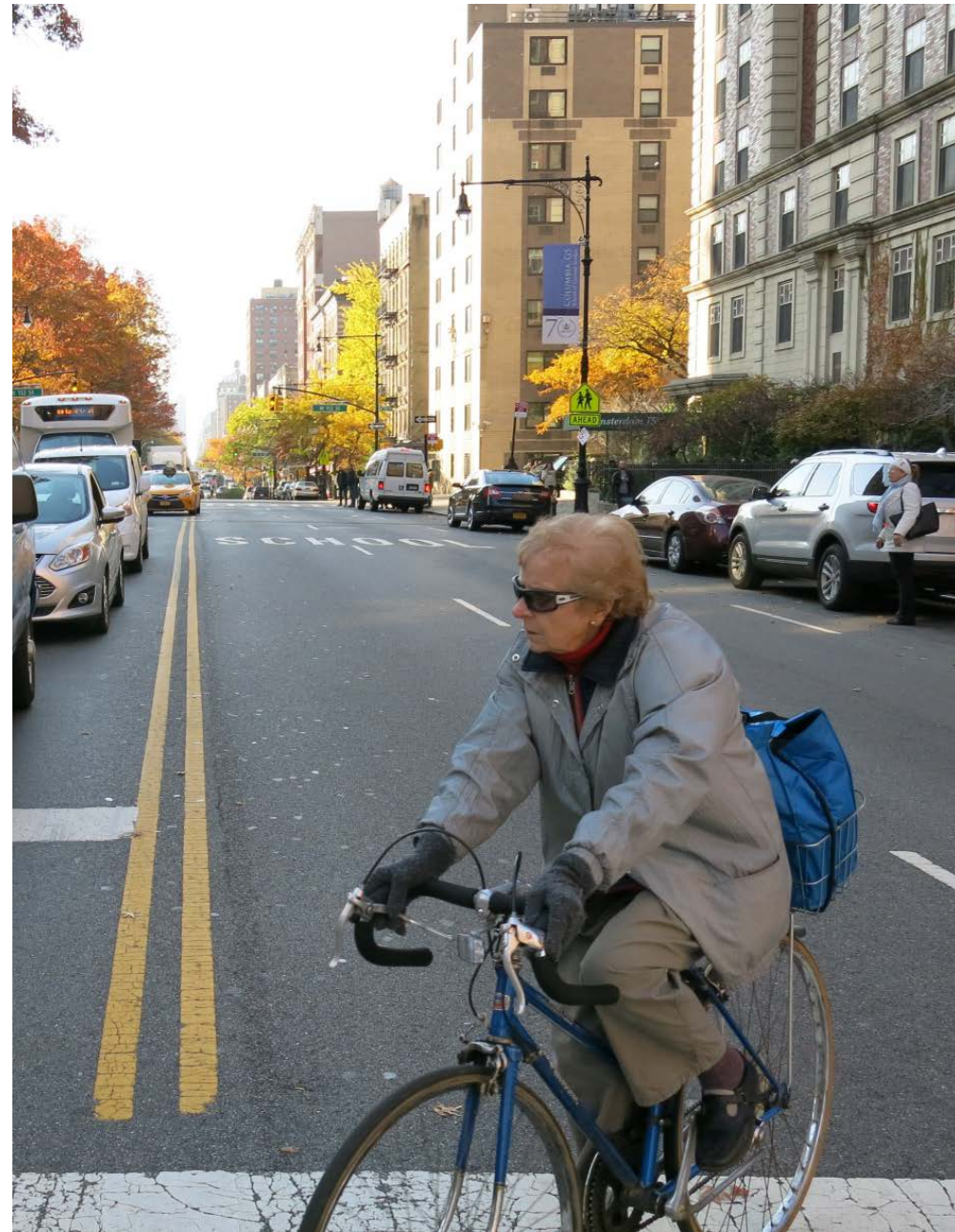
Cyclists

- Provide dedicated space for cyclists
- Increase predictability of cyclists location for motorists and pedestrians
- Connection to existing network
- Provide wayfinding

Refuge islands, painted neck downs, and high visibility crosswalks

- Create shorter, safer pedestrian crossings
- Improve alignment at intersections
- Discourage drivers from encroaching into crosswalk

Street re-designs improve safety for all road users



Questions?

THANK YOU!



NYCDOT



nyc_dot



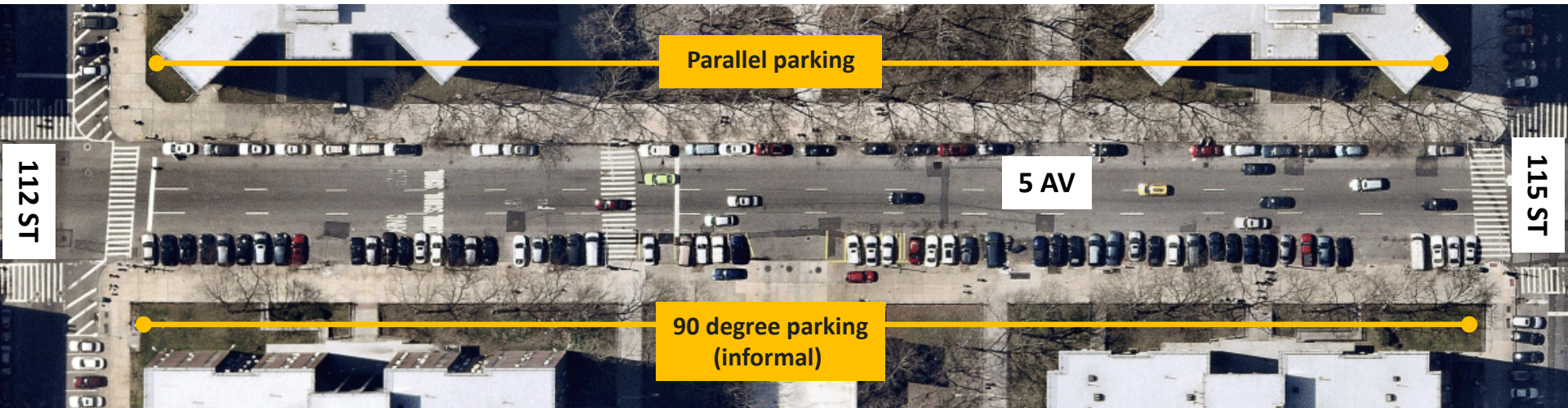
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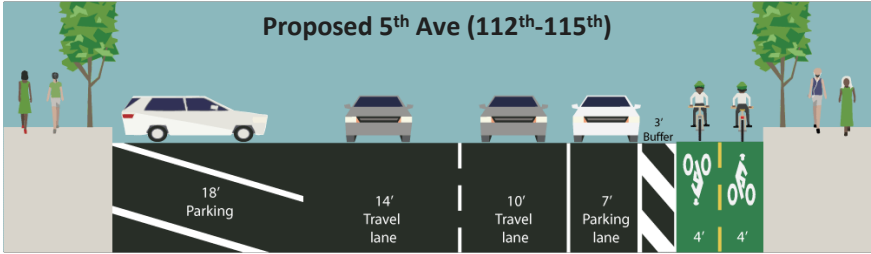
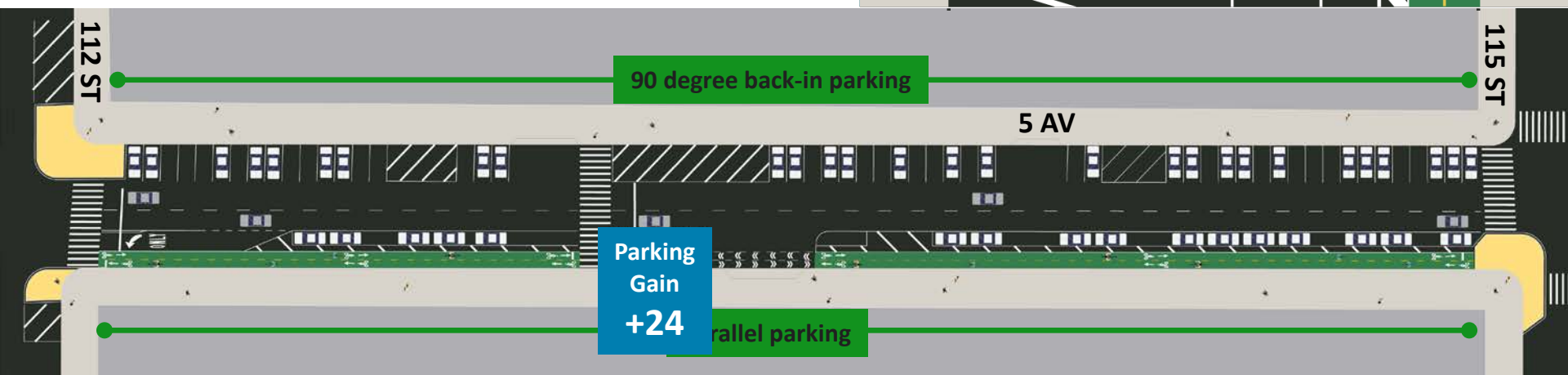
NYCDOT

PROPOSED DESIGN – 5th Ave (112th St and 115th St)

Existing Parking Configuration

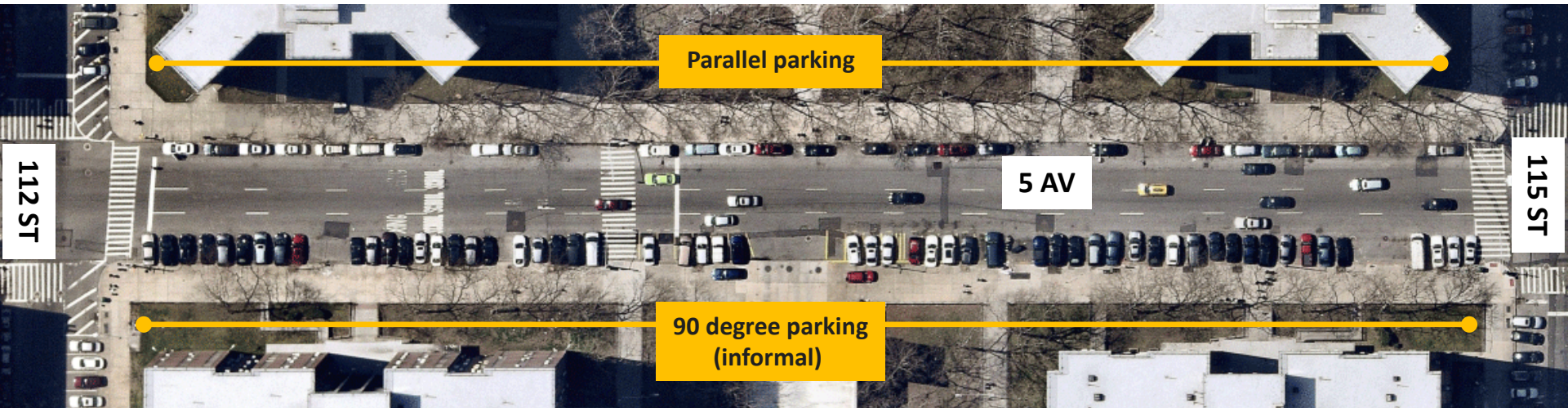


Proposed Parking Configuration



PROPOSED DESIGN – 5th Ave (112th St and 115th St)

Existing Parking Configuration



Proposed Parking Configuration

