Bike Facility & Network Improvements

Lafayette St/4 Av, Astor Pl, E 8th St & W 13 St

Community Board 2, Transportation Committee Meeting - March 24, 2026

NEW YORK CITY DOT

Background

Conditions:

- No southbound protected bike lane south of Union Square
- East-west protected bike lanes are limited
- Existing conventional bike lanes do not extend along the entire corridor
- Bike share stations are not connected by a bike facility
- Illegal parking in bike lane creates hazardous conditions for cyclists
- Pedestrian volume in the area is high

Background (Con't)

Opportunities:

- Spring resurfacing creates an opportunity to rethink and redesign how streets move people, buses, vehicles, and bicycles

- Streets to be resurfaced in late April include:
  - Lafayette/4 Av
  - Astor Pl
  - E 8 St

- Other DOT projects in the vicinity include:
  - 13 St, protected bike lane hardening (resurfacing late 2026)
  - E 8 St, bike parking installation

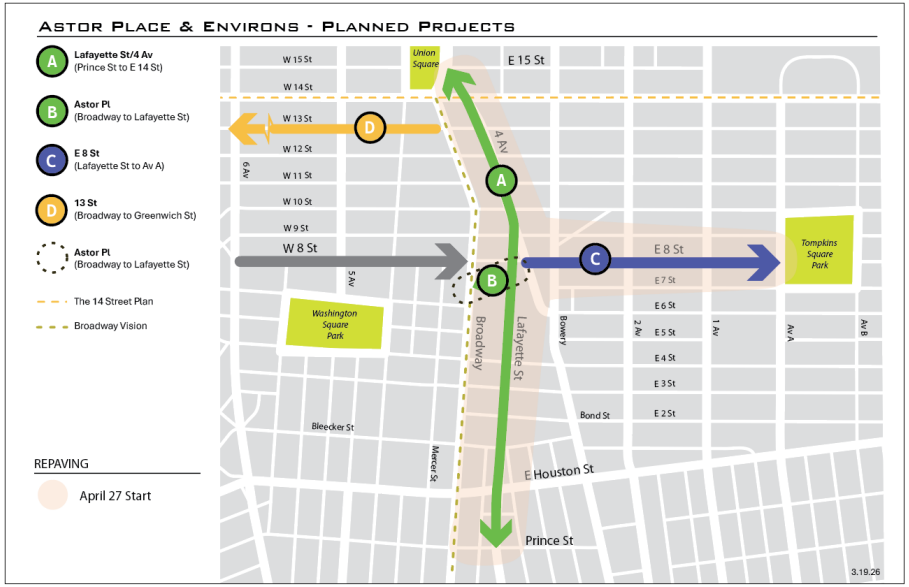
Project Goals:

Pedestrians

- Improve the quality of the walking environment
- Improve safety
- Create pedestrian space

Cycling

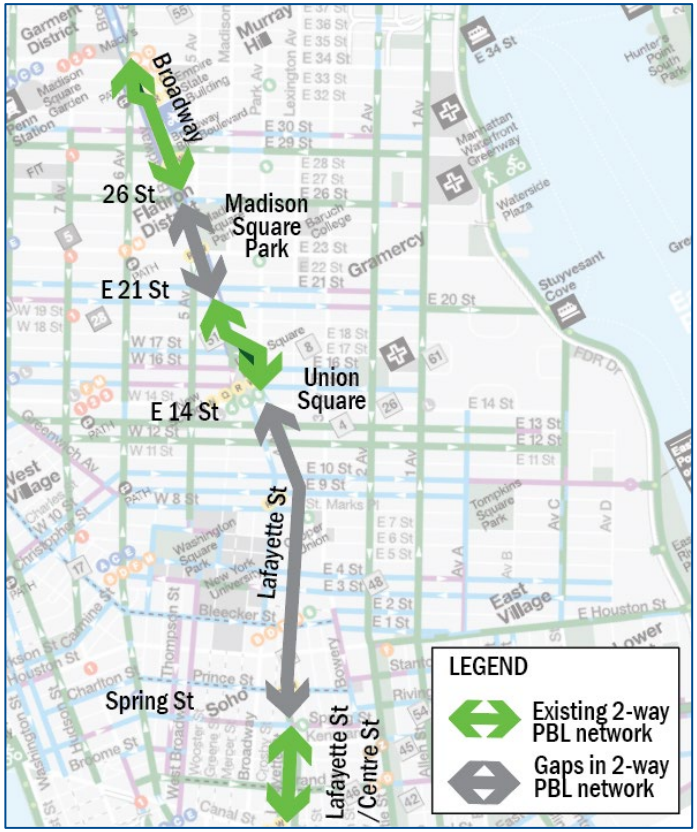
- Upgrade the quality and experience of existing bike facilities
- Create bike network and infrastructure connections locally and community wide
- Create cycling options based on ability, comfort level and interest



Lafayette St/4 Av

Existing Bike Network

- A two-way protected bike lane exists north of E 14 St
- Lafayette St's protected bike lane is only one-way northbound.
- Broadway has a bike lane south of E 14 St, but it is regularly experiencing illegal parking
- Gaps in the two-way PBL network exist
- Creating a continuous 2-way bike lane along one corridor is the goal of the Lafayette St/4 Av proposal

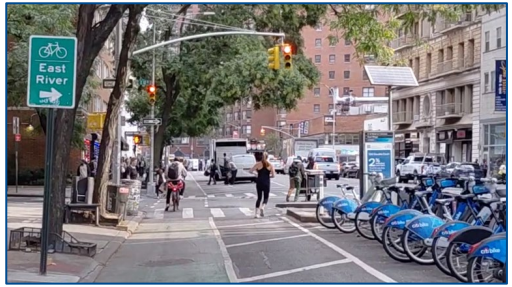


Lafayette St/4 Av, Prince St to E 15 St

Background

- Buffered bike lane converted to protected bike lane in 2014
- Cycling along the corridor continues to grow
- In 2025, Citi bike use reached a milestone of 45 million
- The bike share station on Lafayette St between E 8 St and E 9 St is one of the most highly used stations in the city.
  - 16,533 uses per month, 547 uses per day
  - At 4 Av & E 12 St – 10,000 uses per month, 330 uses per day
- Pedestrian activity is high along the corridor, especially near Astor Place.
- The existing street width exceeds the capacity requirements for current traffic volumes on the corridor

Original buffered bike lane pre-2014



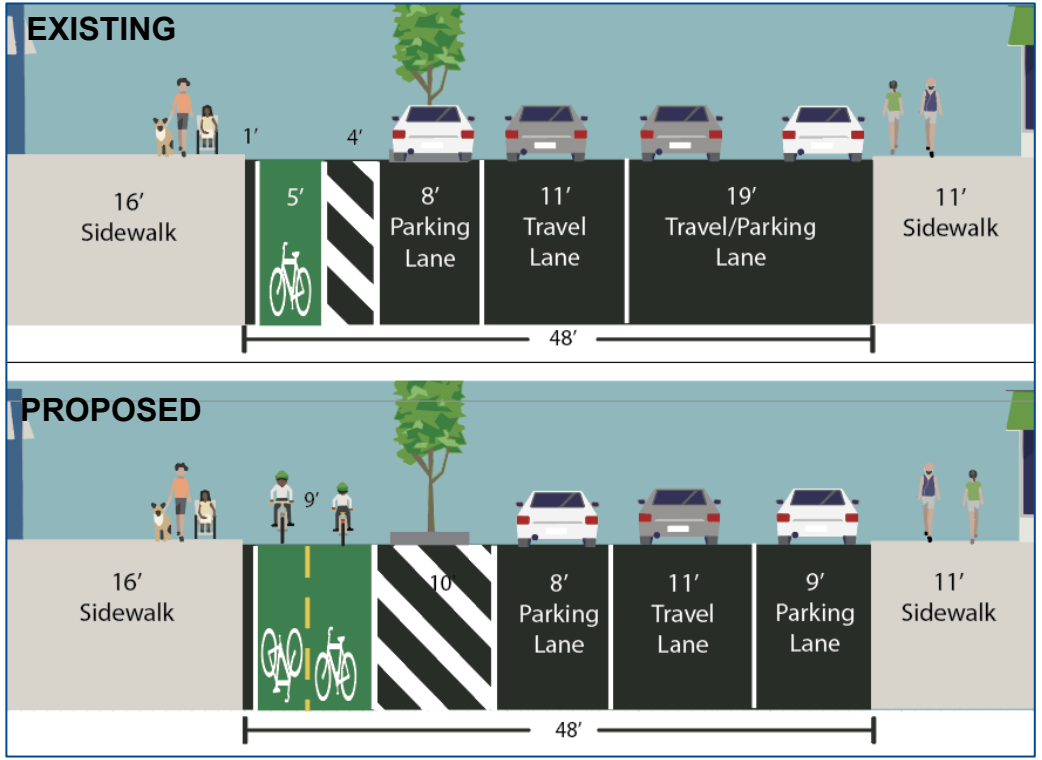
The one-way protected bike lane installed in 2014

Typical traffic conditions along corridor.

Lafayette St, Prince St to E 8th

Proposed Design

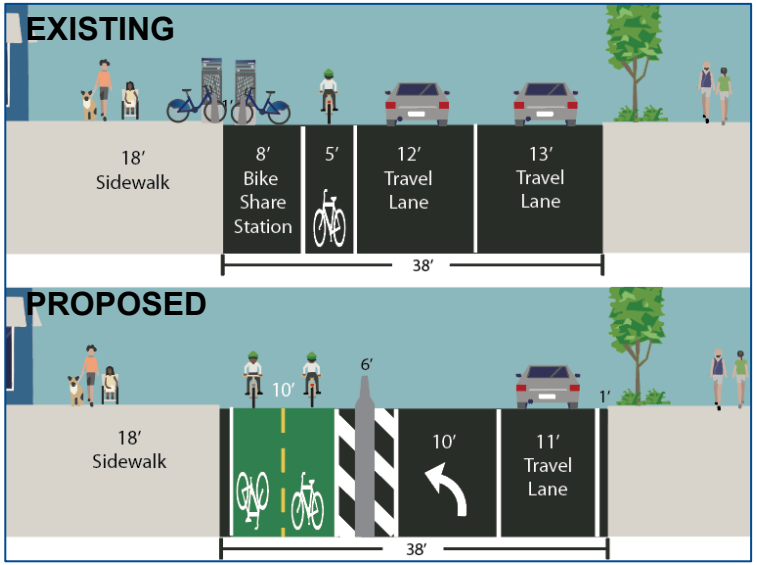
- Convert the existing 5’ one-way protected bike lane to 11’ two-way protected lanes
- Reduce the number of north bound travel lanes from two lanes to one
- Provide turn lanes to accommodate turning vehicles
- Install split LPI traffic signals
- Create an amenities zone between the bike lane and parking lane
  - Opportunities for cargo/bike parking
  - Keeps bike lane clear
  - Keeps cyclists off the sidewalk
  - Place for refuse containers
  - Above surface landscaping



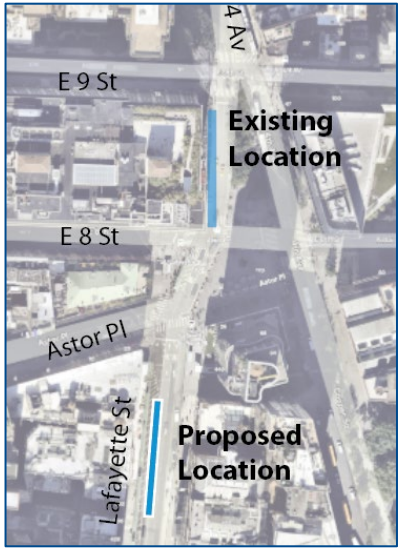
Lafayette St, E 8 St to E 9 St

Bike Station Share Relocation

- Reduce the number of north bound travel lanes from two lanes to one
- The redesign of Lafayette St requires the relocation of the bike share station to south of Astor Pl intersection and will be located within the roadway
- The new bike share location will be double sided similar to the existing design



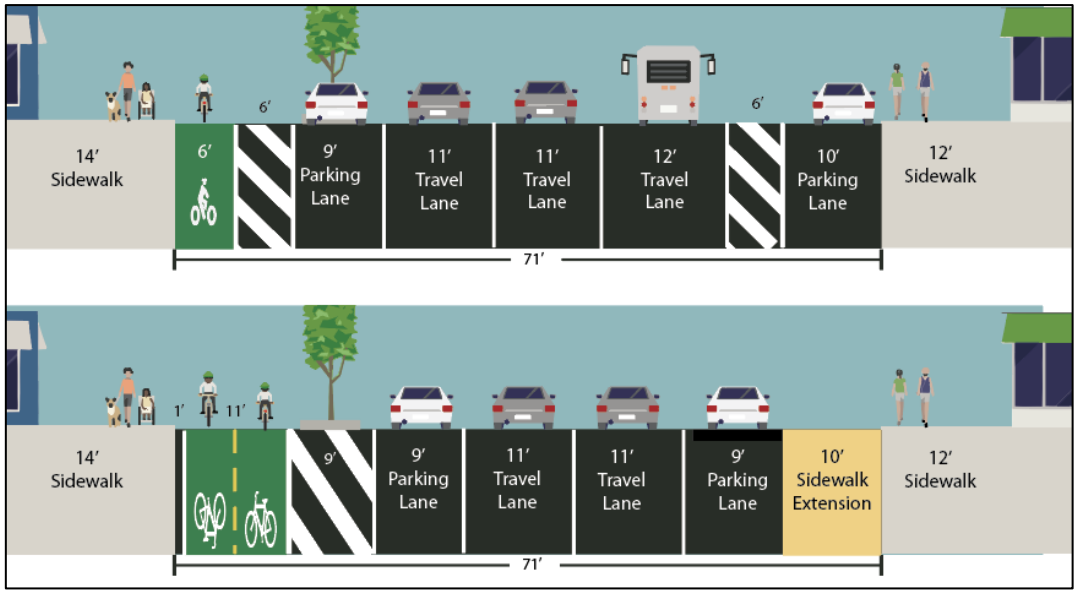
Existing location between E 8 St & E 9 St

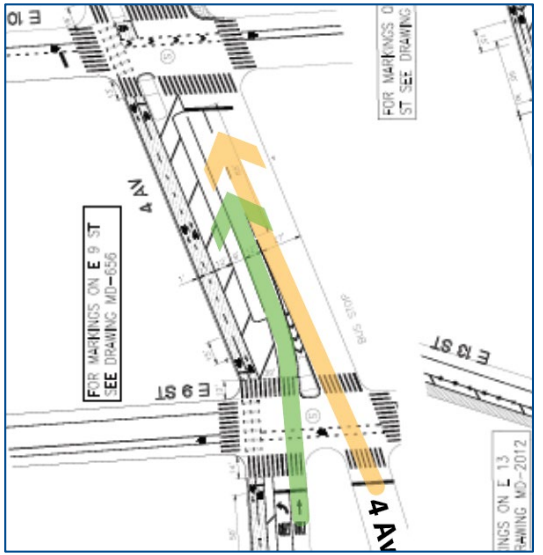


4 Av, E 9 St to E 13 St

Proposed Design

- The two travel lane configuration handles the merging of Lafayette St with 4 Av
- Convert the existing 5’ one-way protected bike lane to 11’ two-way protected lanes
- Reduce the number of north bound travel lanes from three to two
- Provide turn lanes to accommodate turning vehicles



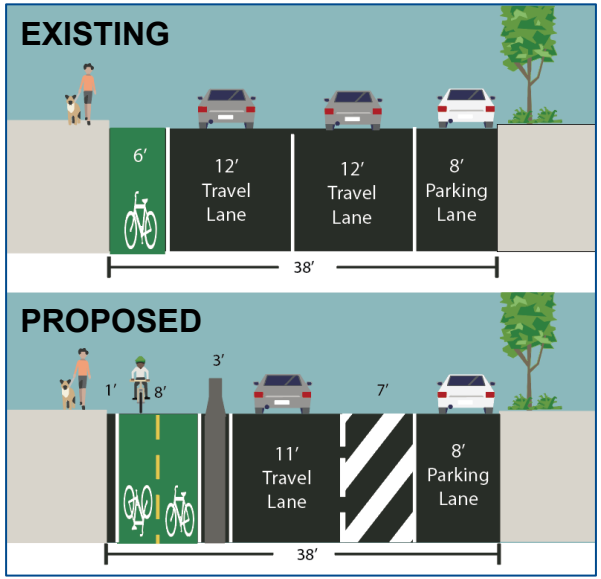


The merging of 4 Av and Lafayette St

Park Av South, E 14 to E 15 St

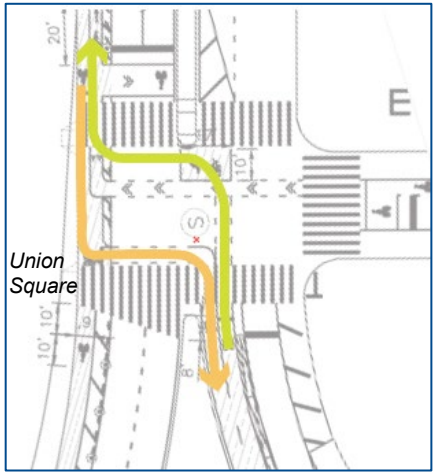
Proposed Design

- Convert the existing one-way bike to a 2-way concrete barrier protected bike lane
- Creates a connection to the existing 2-way protected bike lane along Union Square north of E 15 St
- Reduce the number of north bound travel lanes from two between E 14 St to E 16 St
- Extra space provided in roadway to facilitate pick-up and drop-off

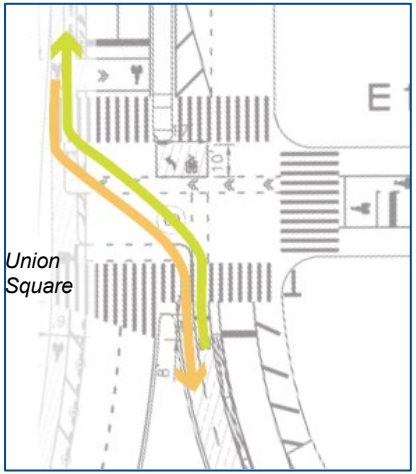


Cross over to existing 2-way protected bike lane

Option 1



Option 2



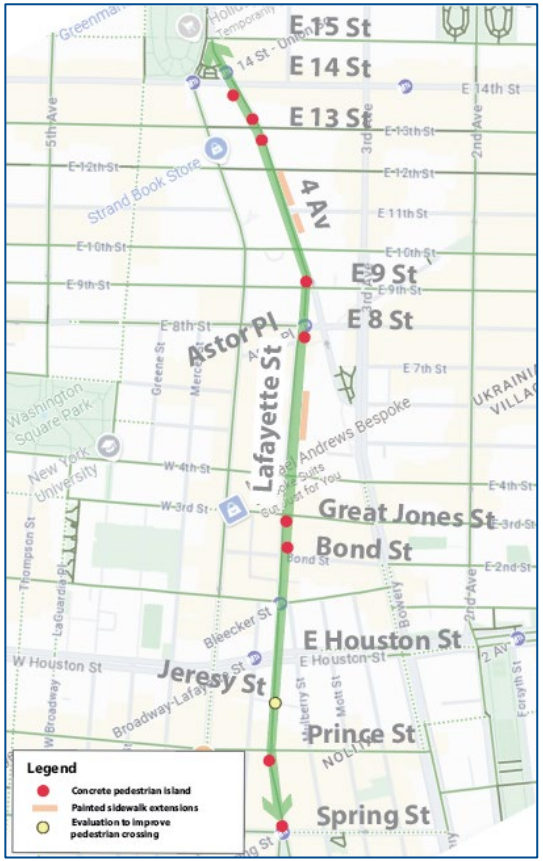
Pedestrian Improvements

Proposed Design

- 9 new concrete islands
- 3 sidewalk extensions
- 1 signal study at Jersey St

Construction of concrete islands anticipated in late 2026 and 2027

Locations of proposed pedestrian treatments

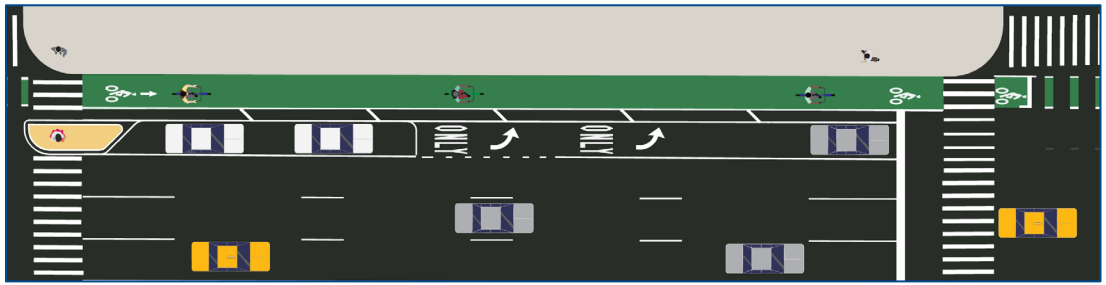


Proposed – Intersection Treatments – Split LPI & Split Phase

Proposed:

- Install Left Turn Lanes with split Leading Pedestrian Interval and Split Phase Signal Timing:
  - Split LPI Intersections: Prince St, E Houston St, Great Jones
  - Split Phase Intersections: E 9 St, E 13 St
- Balances safety with mobility
- 4-5 spaces repurposed per block

Left Turn Lane



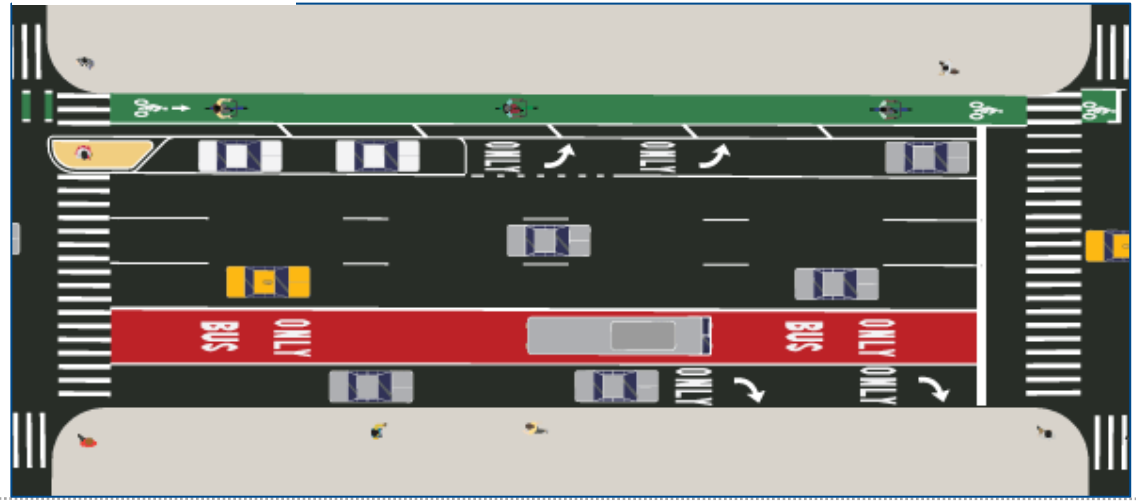
Typical Design

Proposed – Intersection Treatments – Right Turn

Proposed:

- Install right turning lanes at intersections with higher volumes to reduce backpressure, and maintain bus lane.
  - Right turn lane locations: Bond St, E 4 St
- Repurposes ~6 parking spaces per block

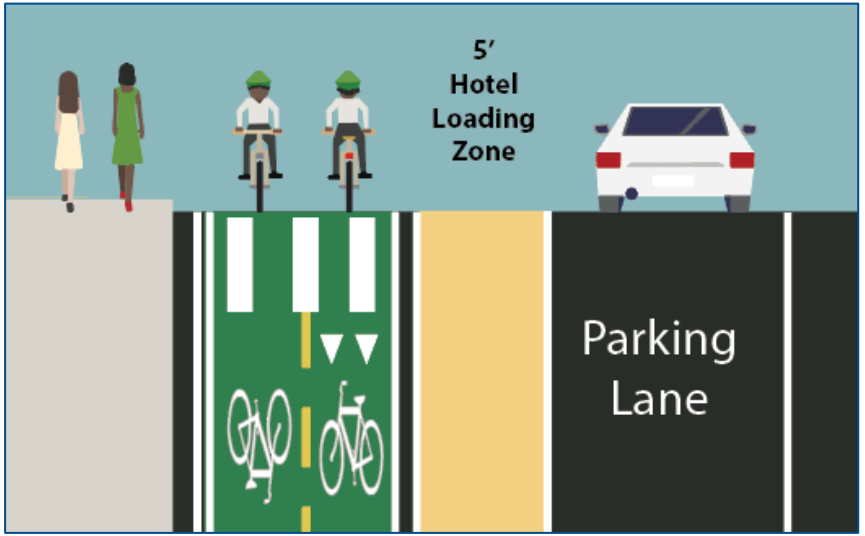
Right Turn Lane



Right turn lanes at: Bond St, E 4 St,

Hotel Loading Zone Design - Hyatt Union Square New York

- Create a 5-foot painted loading zone for guests located between the parking lane and bike lane.
- Improves pedestrian pick-up and drop-off
- Provides daylighting to reduce double parking and lane blockages at pick-up and drop-off zones



Traffic Analysis

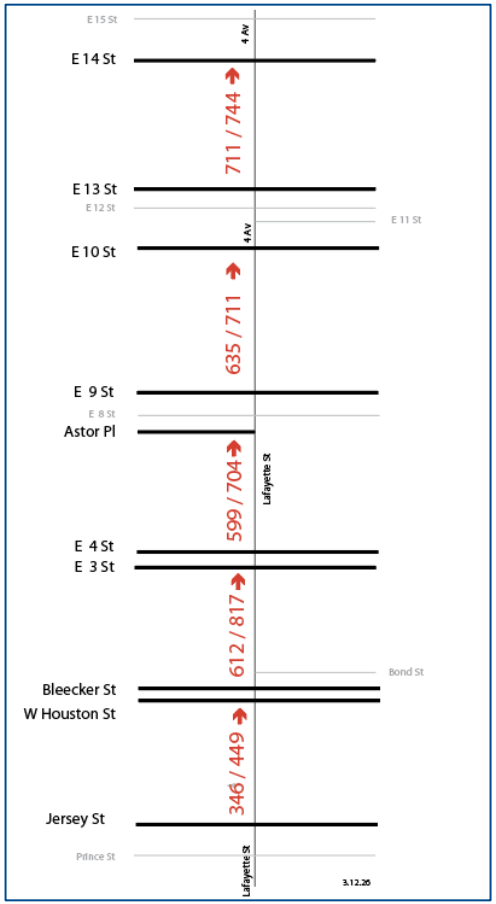
Existing Conditions

- Average Traffic Volume on corridor during the Peak Hour
  - AM = 580 vehicles
  - PM = 685 vehicles

- Percentage of total users of the corridor at Astor Pl
  - Pedestrians = 60% (west side of the street only)
  - Vehicles = 28%
  - Cyclists = 12% (two-way)

- 14 Street Approach
  - Traffic volume reduction required

AM/PM Peak Hour Traffic Volumes



Astor Place (Broadway - Lafayette St)

Astor Place, Broadway to Lafayette St

Background

- 41 feet wide, two-way street for vehicles
- Low traffic volume, **less than 120 vehicles** in the peak hour
- Underutilized street
- Opportunity to improve bike connections between the existing bike lanes on Lafayette St and Broadway
- Implement one-way conversion to facilitate bike connections while DOT explores public realm improvements on the street

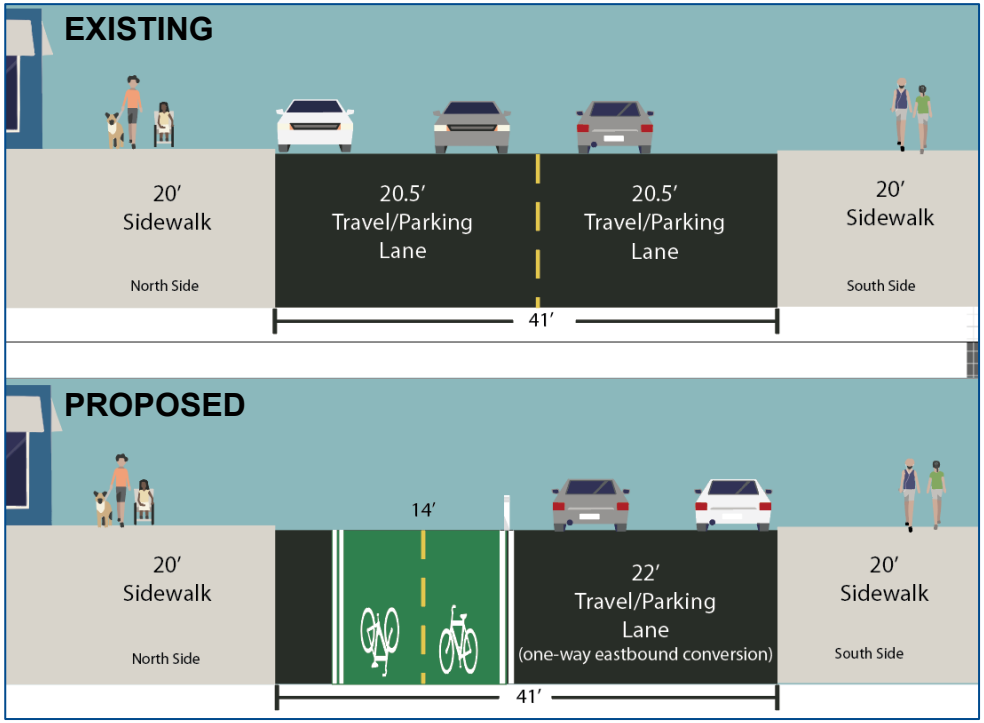
Astor Pl at Bway, looking east

Astor Place (Broadway – Lafayette St)

Proposed Design

- Convert the street direction to one-way eastbound
- Install a two-way bike lane on the north side of the street

Existing Bike Network

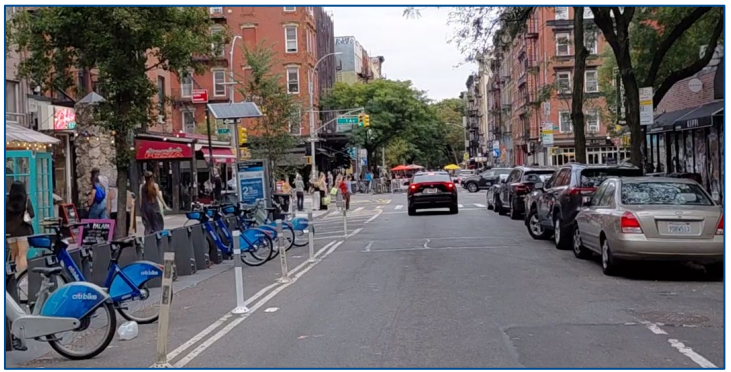


E 8 Street (Lafayette St to Av A)

E 8 St, Lafayette St to Av A

Background

- Existing bike lane on 8 St west of Lafayette St
- Two bike share stations located between 2 Av and 1 Av
- Spring repaving provides an opportunity to extend the existing bike lane east and connect to the existing bike share stations.

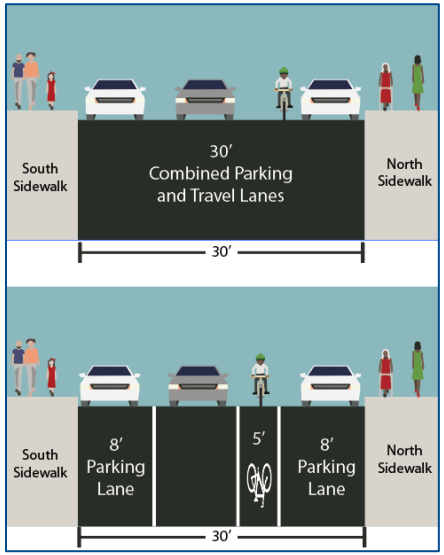


E 8 St, Lafayette St to Av A

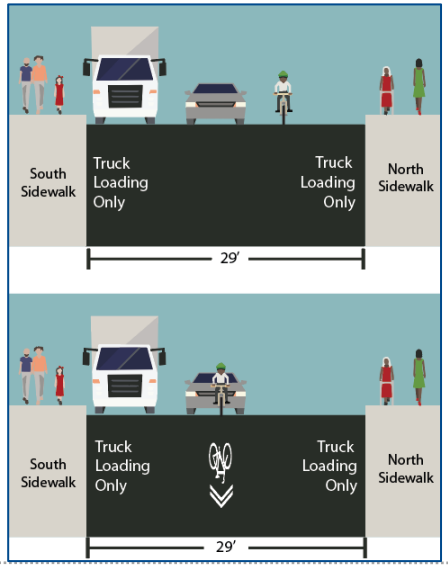
Proposed Design

- Continue the existing 5-foot wide bike lane east of Lafayette St to Av A
- The block between 3 Av and 2 Av will be shared due to the 29-foot roadway
- Commercial and passenger parking regulation evaluations

Typical Design



Design (3 Av & 2 Av)



13 St, Broadway to Greenwich Ave

13 St, Broadway to Greenwich Ave

Background

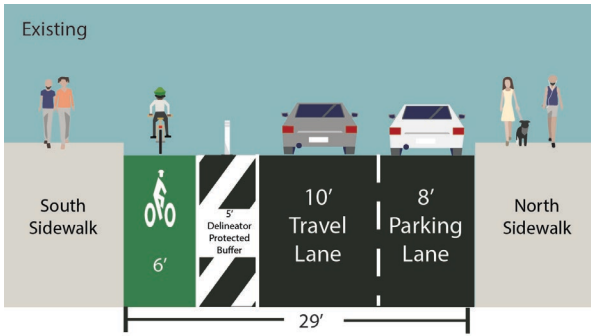
- The delineator protected bike lane was installed in 2018
- Since implementation illegal parking in the bike lane and/or buffer has been a chronic issue
- Over the years the community has requested bike lane hardening
- The streets resurfacing provides the opportunity to make improvements

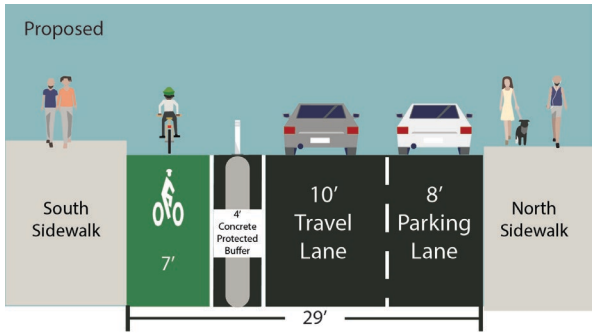
W 13 St looking west.

13 St, Broadway to Greenwich Ae

Proposed Design - Upgrade

- Upgrades current plastic delineators to a 2-foot concrete barrier
- Project will follow the streets repaving in 2026
- Responds to community request for bike lane hardening
- Improves maintenance issues due to regular damage to the delineators





11 St, Queens

Summary

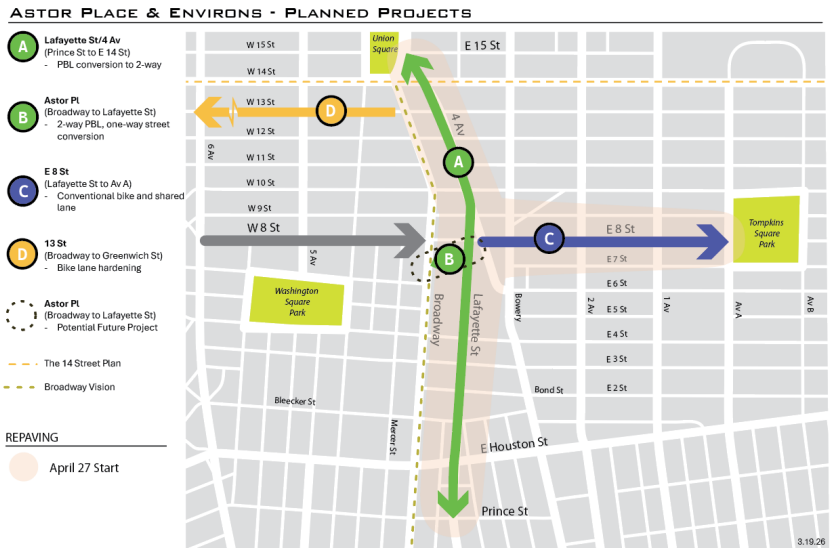
Summary of Benefits

Cycling

- Upgrades the quality and experience of existing bike facilities
- Improves bike network connections locally and community wide
- Improves access, circulation and safety for cyclists
- Provides cycling options based on ability, comfort level and interest
- Provides bike/cargo parking
- Creates connections to existing bike share stations

Pedestrians

- Shortens crossing distance of roadway
- Improves the quality of the walking environment
- Creates opportunities for pedestrian amenities
- Improves safety



Thank You!

Questions?

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