Flatbush Ave Bus Priority

Community Board 8 Environment, Sanitation, & Transportation Committee

June 25, 2024

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Project Background

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Why Flatbush Ave?

Critical Transportation Corridor:

- Major corridor in Brooklyn with connections to major job centers, housing, entertainment, culture, shopping, and recreation
- Atlantic Terminal provides connections to LIRR trains and 9 subway lines
- Intersects with 2/5 trains at Nostrand Junction, B/Q/S trains at Prospect Park

Bus Performance:

- Over 132,000 average daily bus riders along 12 MTA bus routes use Flatbush Ave
- B41 alone serves over 28,000 average daily riders
- Slow bus speeds (below 4 mph in Downtown Brooklyn)

Safety:

- Flatbush Ave is a Vision Zero (VZ) Priority Corridor with 11 VZ Priority Intersections, is located within a VZ Priority Zone and intersects with 18 other VZ Priority Corridors
- Downtown section ranks within the top 10% of high crash corridors in Brooklyn, with 55 people killed or severely injured since 2019
- Flatbush Ave is located within a Priority Youth Injury Area

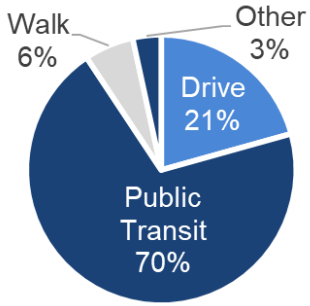
Flatbush Ave and Atlantic Ave

Corridor Demographics

CBs 2, 6, 8, 9, 14, 17,18

- 985,000 residents
- 59% of households have no access to a private vehicle
- 76% commute to work via public transit, walking, or biking
    - Citywide, bus rider median annual income is lower than drivers ($30,000 vs. $47,000)
- 69% of residents are non-White
    - 44% Black, 12% Hispanic, 7% Asian, 7% Other
- Multiple Senior and Youth Injury Areas

Mode of Transportation to Work



BETTERBUSES

Public Outreach to Date

- Mayoral Bus Ride with Rider's Alliance
- Presentations to elected officials, Community Boards, stakeholders
- Public Town Hall
- On-street Merchant Survey
- Community Advisory Boards 1 and 2
- Community Board 2

Flatbush Ave Bus Rally

BETTERBUSES

Project Segments

- **Downtown Brooklyn/Northern Flatbush Av**
  - Slowest bus speeds
  - Connections to LIRR, subway lines, major destinations
  - Manhattan Bridge, Brooklyn Bridge, BQE traffic
- **Prospect Lefferts Gardens/Flatbush**
  - Congestion/Double Parking
  - Small businesses with intense loading needs
  - Highest ridership/slow bus speeds
  - Narrow road width
  - Connections to 2/5 and B/Q/S
- **Southern Brooklyn**
  - Lower density
  - Wide roadway south of Utica Ave
  - Fewer connections to subway lines

Transit Signal Improvements on Flatbush Ave

Bus Only Signals

- Queue Jump Signals enable buses to get a head start to bypass traffic, often paired with a Leading Pedestrian Interval
- 3 Bus Only Signals are planned for Summer 2024 installation along Flatbush Ave:
  - Ocean Ave/Empire Blvd for B41 (northbound and southbound)
  - Parkside Ave for B41 and B12 (northbound, southbound and eastbound)
  - Church Ave for B41 (northbound and southbound)

Transit Signal Priority

- In 2022, NYC DOT installed Transit Signal Priority (TSP) at 37 intersections on Flatbush Ave.
- TSP modifies the traffic signal timing by providing additional green time for buses when they are near an intersection.

Project Phasing

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Project Phasing

- Current round of design options will focus on Downtown Brooklyn/ Northern Flatbush section of the corridor
  - Slowest bus speeds on the corridor
  - 69,000 average daily bus riders on 6 MTA bus routes use this section of Flatbush Ave
- Bus Priority improvements on this section would benefit riders throughout the corridor
- DOT plans to study bus priority treatments in other sections of the corridor in future phases

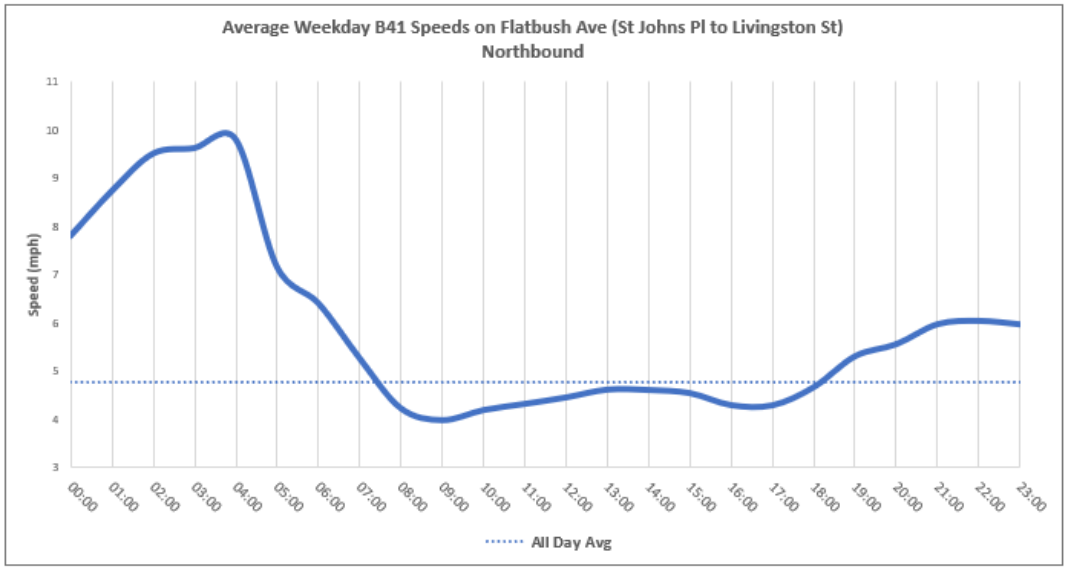
Transit

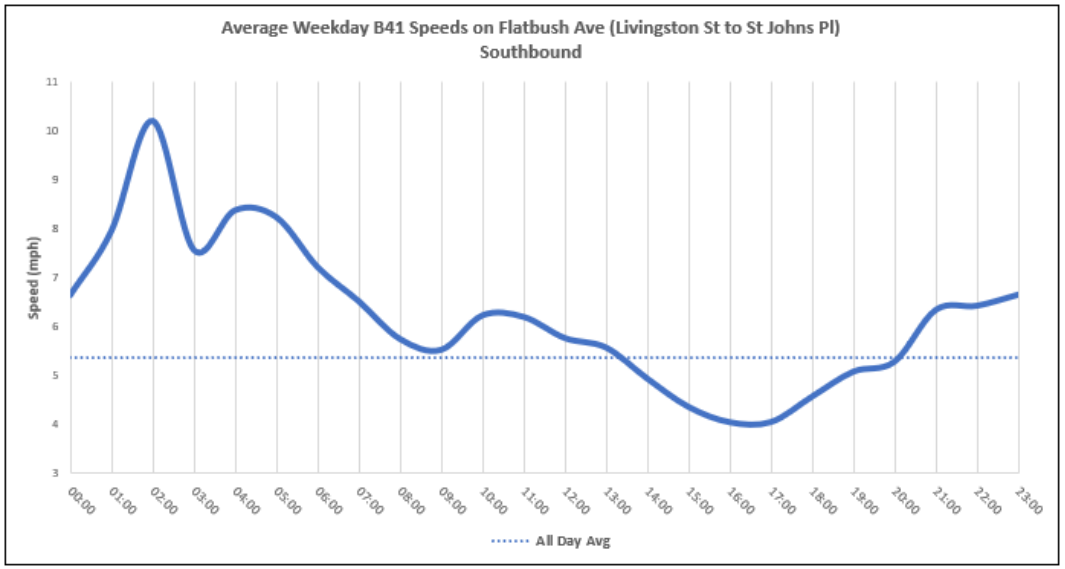
- B41 is the primary route on Flatbush Ave operating local and limited service from Downtown Brooklyn to Kings Plaza/Bergen Beach
- Several other routes also operate on Flatbush Ave for short parts of their routes
- Buses on Flatbush Ave provide critical connections to numerous destinations within Brooklyn, as well as to the Rockaways and midtown Manhattan
- Connections to 2/3, 4/5, B/D, N/Q/R, Franklin Ave Shuttle (S) subways; LIRR

Bus Routes that Travel on Flatbush Ave between Livingston St and Grand Army Plaza

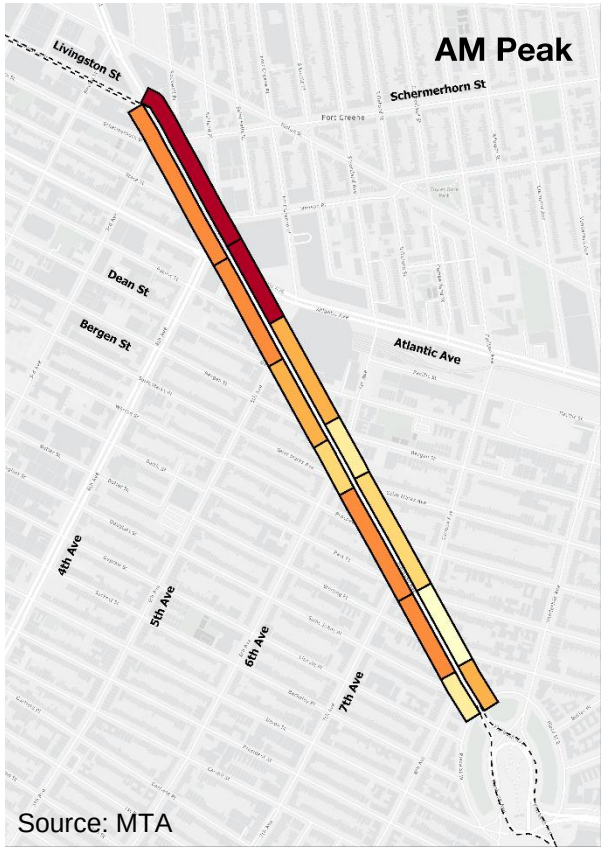
Bus Speeds by Hour

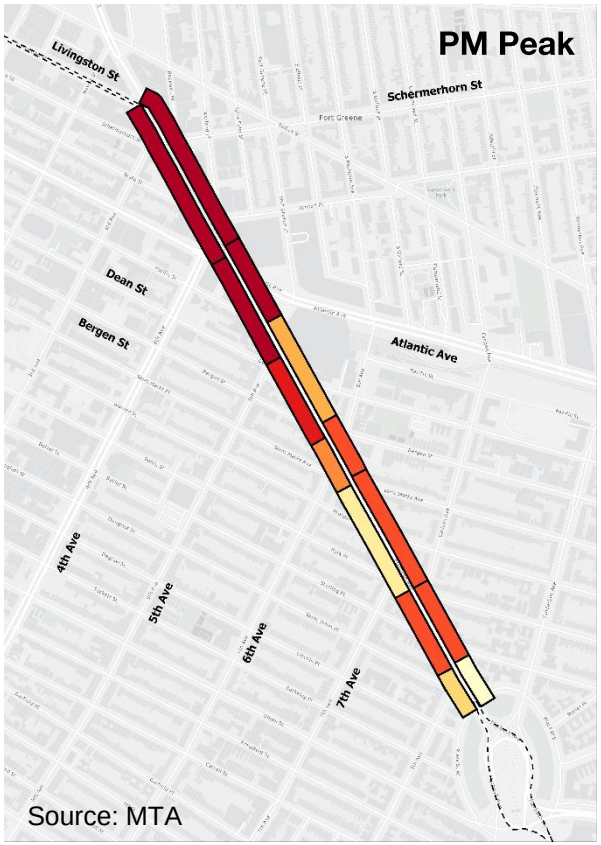
- Bus speeds between Atlantic Av and Grand Army Plaza are very slow throughout the entire day
- Below 5 mph most of the day northbound and during PM peak southbound
- Average non-express weekday peak bus speed in Brooklyn 6.3 mph
- Traffic congestion and double-parking cause slowdowns, especially in commercial areas

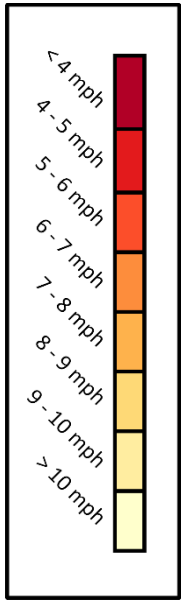




B41 Average Bus Speeds







- Slow buses throughout the corridor, slowest in Downtown Brooklyn with speeds less than 4 mph

Design Options for Northern Flatbush Ave

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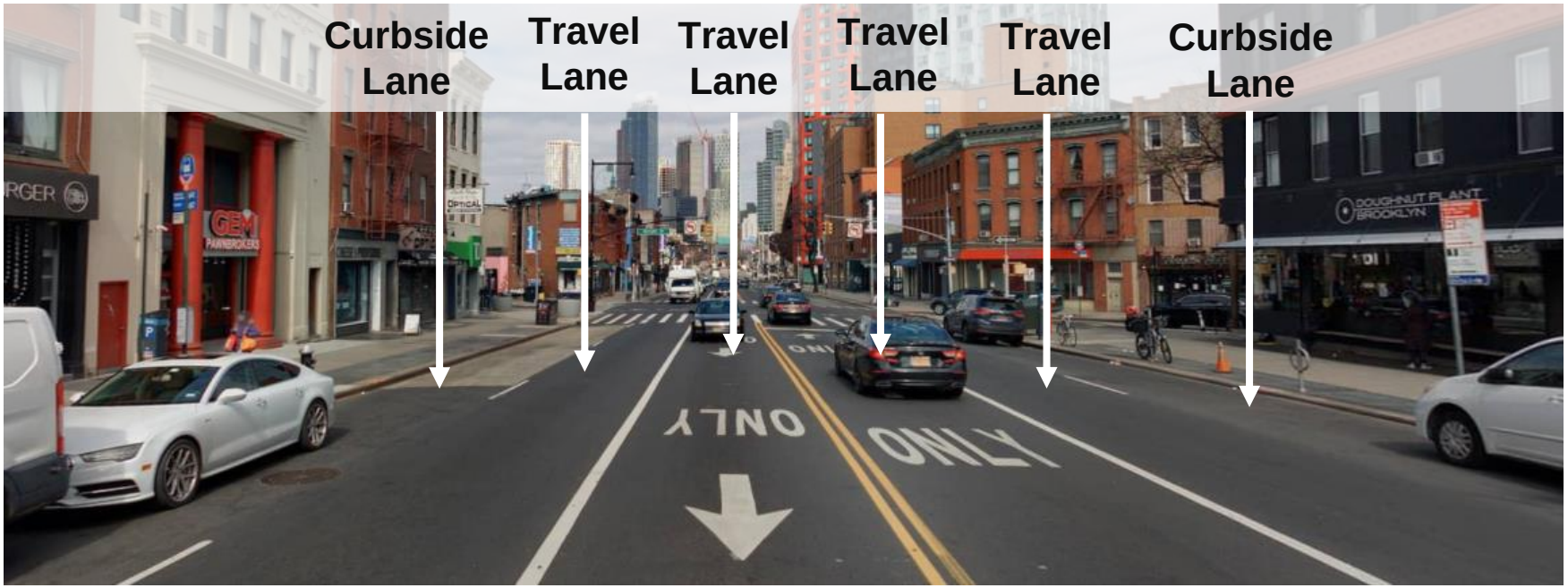
Existing Conditions

South of Atlantic Ave



Roadway profile

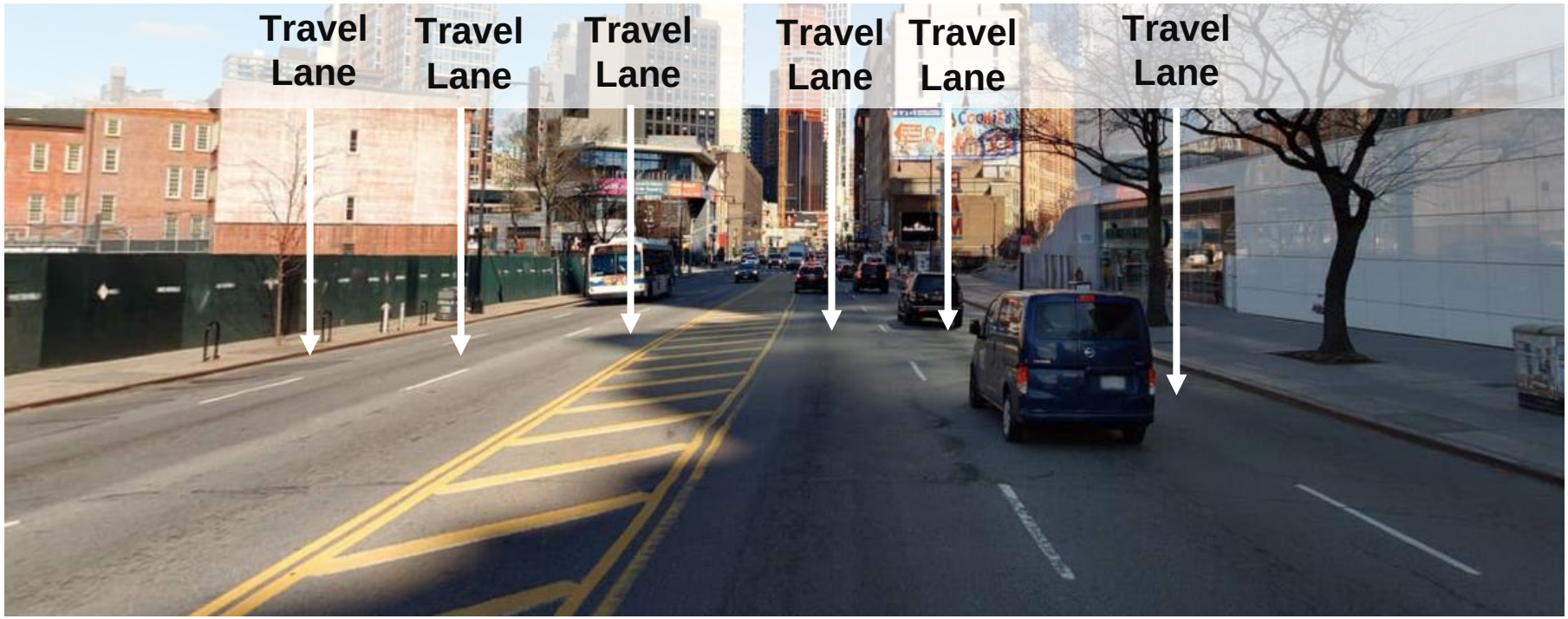
- 60 ft roadway
- 2 travel lanes and parking lane / peak hour moving lane in each direction

Existing curb regulations

- Dean St to Grand Army Plaza:
  - No Standing 7am – 10am northbound, Monday - Friday
  - No Standing 4pm – 7pm southbound, Monday - Friday

Existing Conditions

North of Atlantic Ave



Roadway profile

- 70-80 ft roadway
- 3 travel lanes in each direction

Existing curb regulations

- No Parking Anytime or No Standing

Design Options

1. Curbside Bus Lanes

Features:

- Provides dedicated space for buses along the curb
- Allows for additional traffic capacity
- Does not allow parking and only permits quick pick up and drop offs during bus lane hours
- Can be blocked frequently due to parking/loading demand

Weekday peak bus speeds increased up to 8%

Story Ave, Bronx

Design Options

2. Offset Bus Lanes

Features:

- Provides dedicated space for buses in the lane next to parking
- Allows for parking / loading during all hours
- Buses still pull up to the curb at bus stops
- Allows buses to pass one another at stops
- Less likely than curbside lanes to be blocked due to parking/loading demand

Weekday peak bus speeds increased up to 19%

Injuries decreased by 24%

Lexington Ave, Manhattan

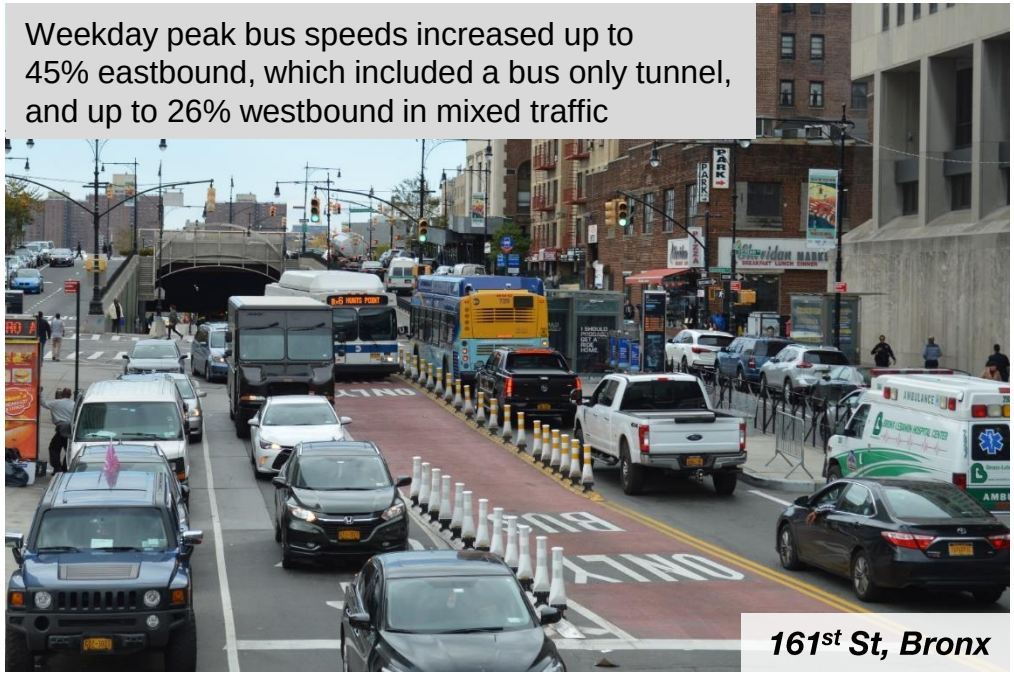
Design Options

3. Center-Running Bus Lanes

Features:

- Provides dedicated space for buses in the middle of the roadway
- Includes bus boarding islands, which physically separate bus lanes while also enhancing bus service
- Median bus stops increase safety by shortening crossing distances and provide pedestrian refuge
- Minimizes bus-vehicle conflicts as well as bus lane blockages
- Near level boarding platforms and minimal bus-vehicle conflicts help create high quality transit experience for riders that can resemble train service

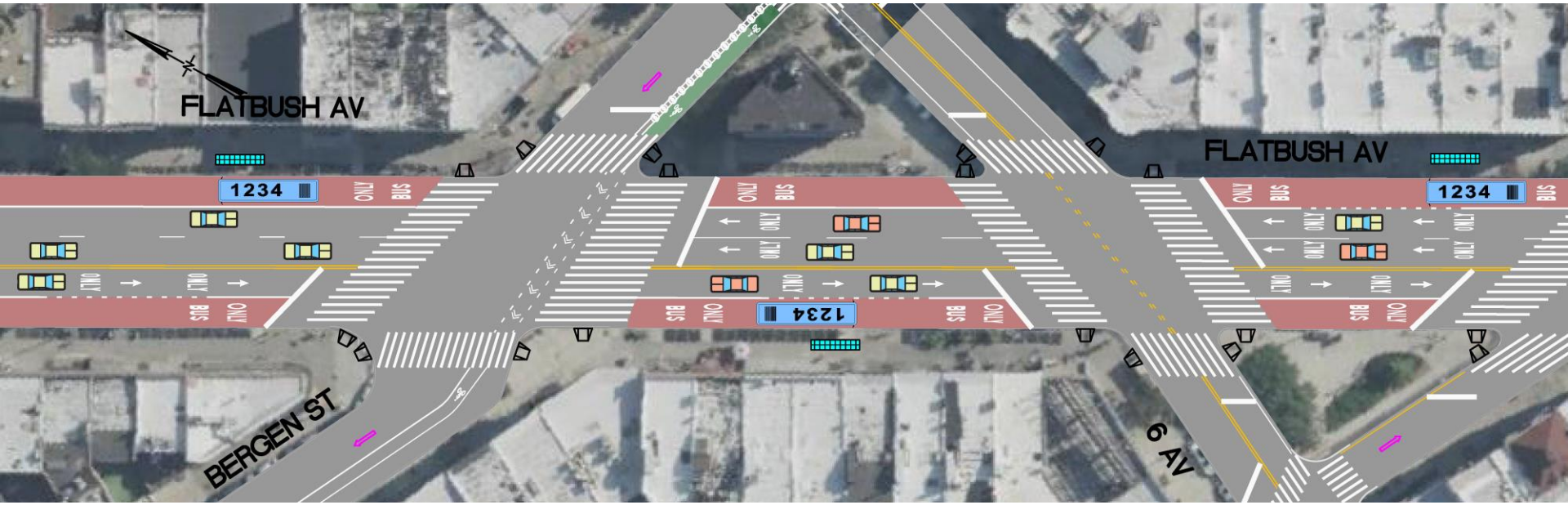
Weekday peak bus speeds increased up to 45% eastbound, which included a bus only tunnel, and up to 26% westbound in mixed traffic



161st St, Bronx

Design Options

Curbside Bus Lanes



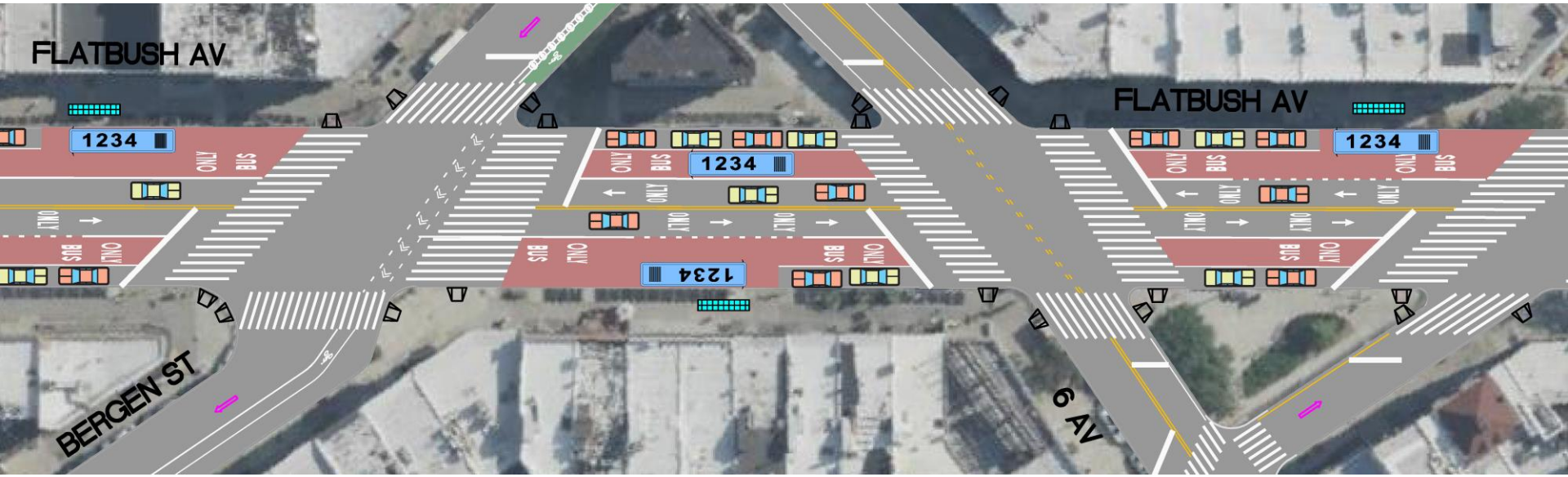
*Conceptual design only. Details may change.

Features:

- Curbside bus lanes with 1-2 general travel lanes in each direction
- Potential for additional through traffic capacity and pedestrian improvements
- Other than expeditious pickups and drops offs, does not allow for parking/loading during bus lane hours

Design Options

Offset Bus Lanes



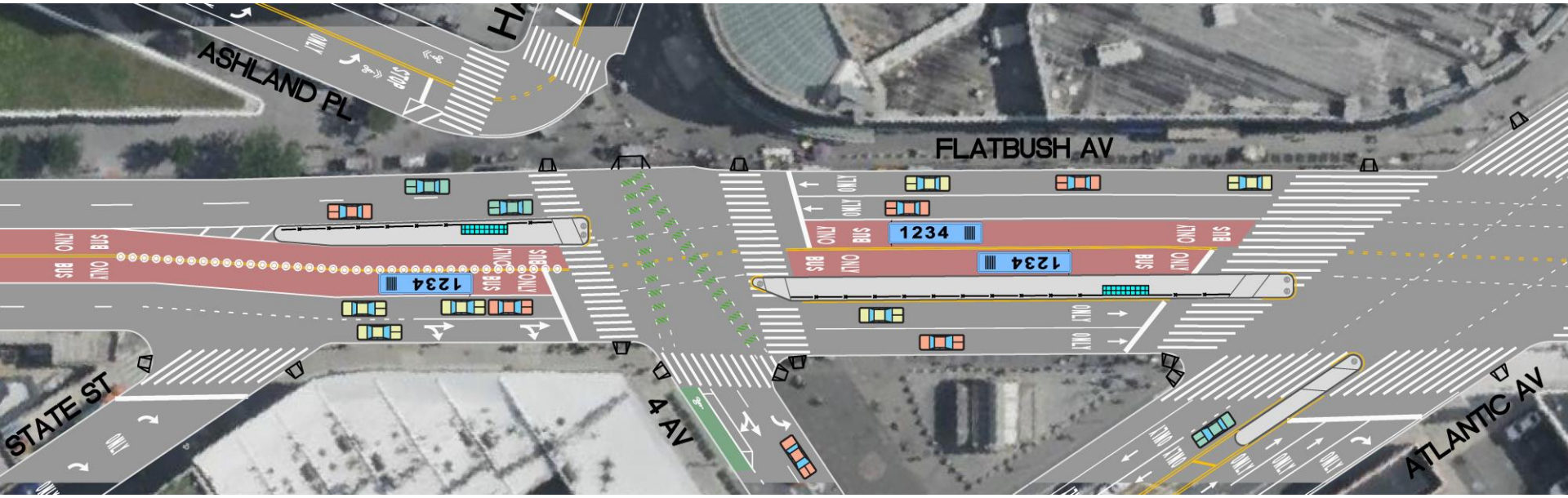
*Conceptual design only. Details may change.

Features:

- Offset bus lanes with 1 general lane in each direction
- Parking/loading is permitted along the curb
- Buses pull up to the curb at bus stops
- Buses can pass one another at bus stops

Design Options

Center-Running Bus Lanes



*Conceptual design only. Details may change.

Features:

- Bus lanes in the middle of the roadway reduce conflicts with other vehicles
- Accessible bus stop islands with raised curbs for near-level boarding that shorten crossing distances and provide pedestrian refuge
- Creates better alignment for left turning buses movements and reduces merging conflicts
- North of Atlantic Ave, wider roadway width potentially allows for 2 general travel lanes in each direction

Proposals Being Studied

Center-Running Bus Lanes

*Conceptual design only. Details may change.

Traffic Analysis

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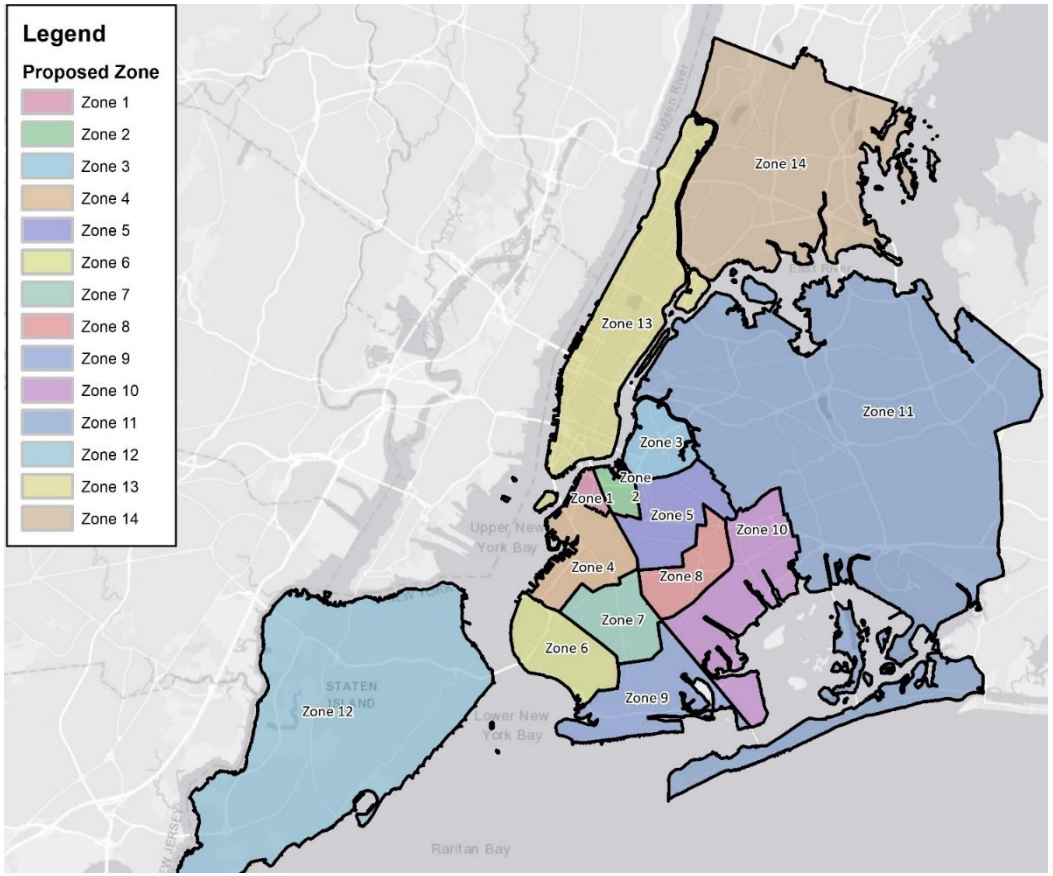
Traffic Analysis

- Traffic analysis will include:
  - Data collection: existing traffic volumes at all intersections on Flatbush Ave, between Fulton St and Empire Blvd
  - Model of existing traffic conditions in the area
  - Analysis of how the proposal would affect traffic patterns, both on Flatbush and intersecting streets
  - Any changes to signal timing to improve traffic flow
- Traffic analysis report will explain how the proposed bus lanes would affect traffic patterns
- DOT will provide results of the traffic analysis after completion

Origin-Destination Analysis

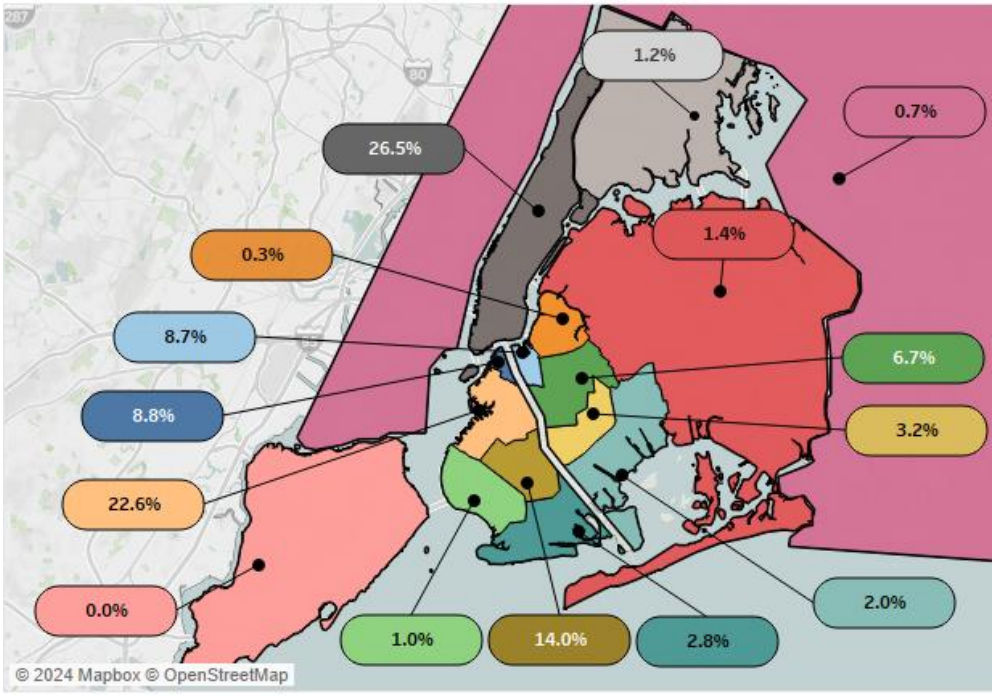
- Conducting high level origin-destination analyses to understand existing traffic patterns and understand alternative routes to Flatbush Ave if drivers choose to divert
- Brooklyn split up into 10 Zones based on geography and neighborhood profiles
- Manhattan, Queens, Bronx, Staten Island classified as their own zone
- Analysis calculates share of Zones cars end their trips in if they pass through a specified location on Flatbush Ave, as well as the top routes to reach those destinations



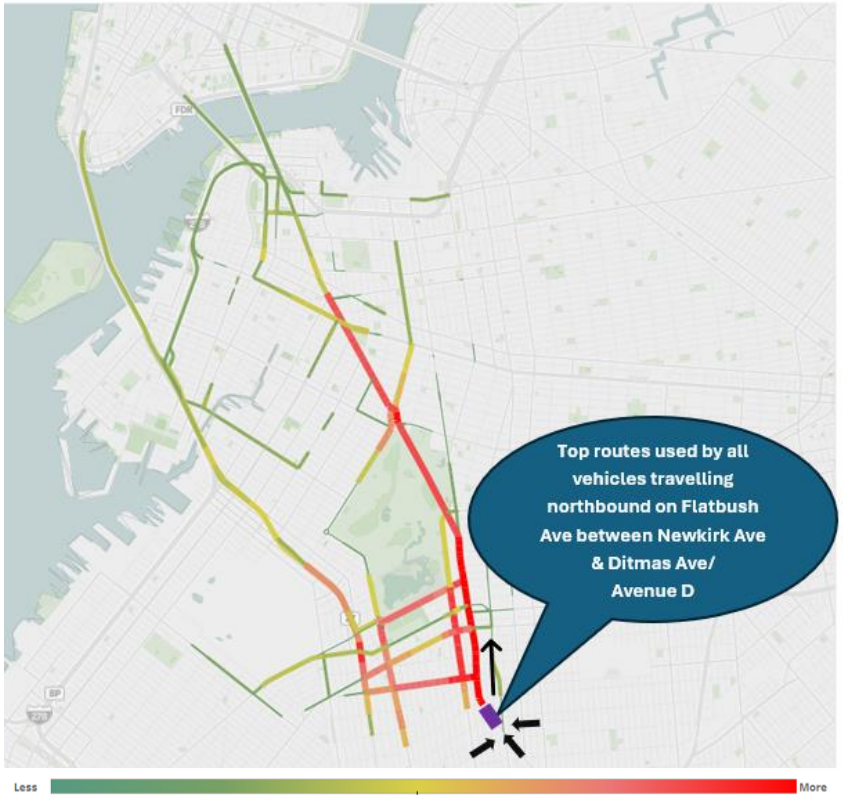
Origin-Destination Analysis:

Northbound AM Peak (6am-9am)

Destination Zones



Top Routes

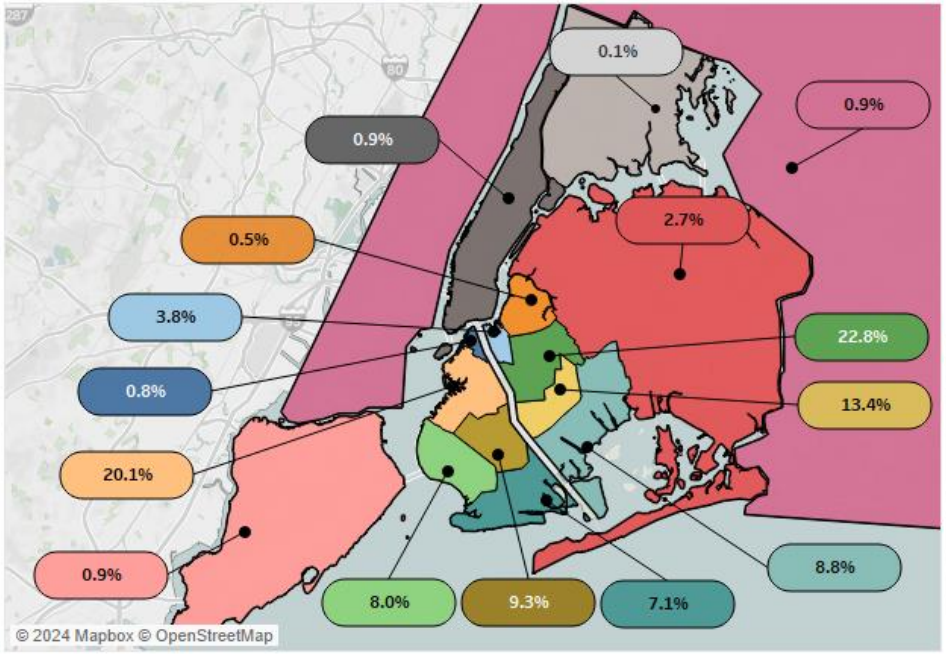


- For vehicles travelling northbound from Flatbush Ave and Ditmas Ave:
  - High share of intra-borough trips within Brooklyn
    - Highest proportion of intra-brough trips end up in Zone encompassing Downtown Brooklyn, Park Slope, Carroll Gardens, Sunset Park (22.6%)
  - 26.5% of trips end up in Manhattan
    - Drivers are already using alternatives to Flatbush Ave

Origin-Destination Analysis:

Southbound PM Peak (4pm-7pm)

Destination Zones



Top Routes

- For vehicles travelling southbound from Flatbush Ave and Lafayette Ave:
  - Destinations are spread all throughout Brooklyn. Highest shares are Zones encompassing:
    - Prospect Heights, Crown Heights, Bedford-Stuyvesant (22.8%)
    - Park Slope, Carroll Gardens, Sunset Park (20%)
    - Brownsville, East Flatbush (13.4%)
  - Routes used to reach these destinations are spread through various corridors in the borough

Summary and Next Steps

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Summary

Goals for Flatbush Ave:

- Create high quality transit infrastructure that improves bus speeds and reliability along this critical transportation corridor
- Improve pedestrian safety through treatments such as shorter crossing distances, curb extensions, and overall traffic calming

- Three design options:
  - Curbside bus lanes
  - Offset bus lanes
  - Center-running bus lanes

- Ongoing traffic analysis to study effects of treatments

Flatbush Ave and 4th Ave

Next Steps

Spring 2024:

- Community Advisory Board meeting #2
- Community Boards 2, 6, 8

Summer 2024:

- On-street surveys for merchants and bus riders
- Continue traffic analysis and project design

Fall 2024:

- Present results of traffic analysis and preferred design to Community Advisory Board, Community Boards, and additional stakeholders

Winter 2024-2025:

- Continue to refine design based on traffic analysis and public feedback

Spring/Summer 2025:

- Proposed implementation

Thank You!

Questions?

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