



McDonald Ave Two-Way Protected Bike Lane

Presentation to Brooklyn Community Board 7

October 1, 2026



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Background



Cycling in Numbers

Daily and Annual Cycling:

- **28%** of adult New Yorkers, more than 1.8 million people, **ride a bike** (at least once in past year)
- **762,000 ride a bike regularly** (at least several times a month). Source: Community Health Survey

Bike Trips to Work:

- **620,000** daily cycling trips
- **64%** increase in daily cycling between 2013 and 2023
- **16%** increase in daily cycling between 2018 and 2023
- **Growth in daily cycling is higher than any other transportation mode.** (Source: US Census, American Community Survey)



Safe Streets for Cycling

Safety Benefits of Bike Facilities:

Protected Bike Lanes

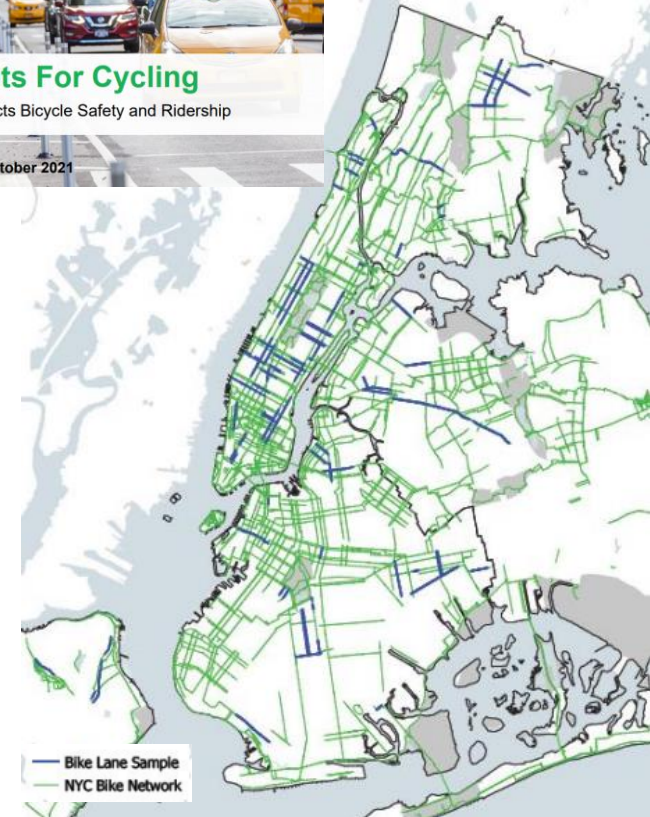
- **Risk reduction of 34% across all study projects**
- On the highest risk streets, cyclist risk is reduced by over 60%

Conventional Bike Lanes

- **Risk reduction of 32% across all study projects**
- Improved safety on all streets, particularly on low and mid- volume streets (42%, 26% reduction in risk respectively)

Cycling Volumes:

- Installation of PBL and conventional bike lane increased bicycle volumes by 50%
- On the highest risk streets, bicycling volumes nearly doubled after a bike lane was installed



Pedestrian Safety and Older NYers (2022)

Key Findings:

- Seniors make up less than 15% of New York City's population, but over 45% of pedestrian fatalities

Crash Analysis:

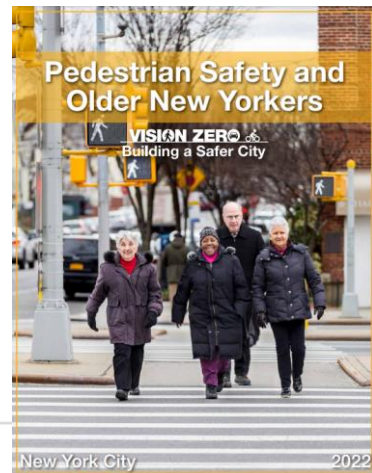
- About 90% of both senior and non-senior adult injuries occur at intersections; 72% of injury crashes occur at signalized intersections

Previous Work:

- Since 2010, the NYC DOT has completed over 900 street improvement projects
- 300 Street Improvement Projects in Senior Pedestrian Focus Areas since 2009

Protected Bike Lanes:

- On streets with protected bike lanes, seniors saw a **39% decrease in KSI** and a **22% drop in overall injuries**. Non-senior adults saw a **24% drop in KSI** and **9% drop in overall injuries**.
- Commonly-used road treatment benefits all adults, it especially improves conditions for seniors.**



Safety Treatment Effectiveness

Treatment Name & Safety Features	Senior Pedestrian Injuries	Senior Pedestrian KSI	Non-Senior Adult Pedestrian Injuries	Non-Senior Adult Pedestrian KSI
Protected Bike Lanes 	 22%	 39%	 9%	 24%

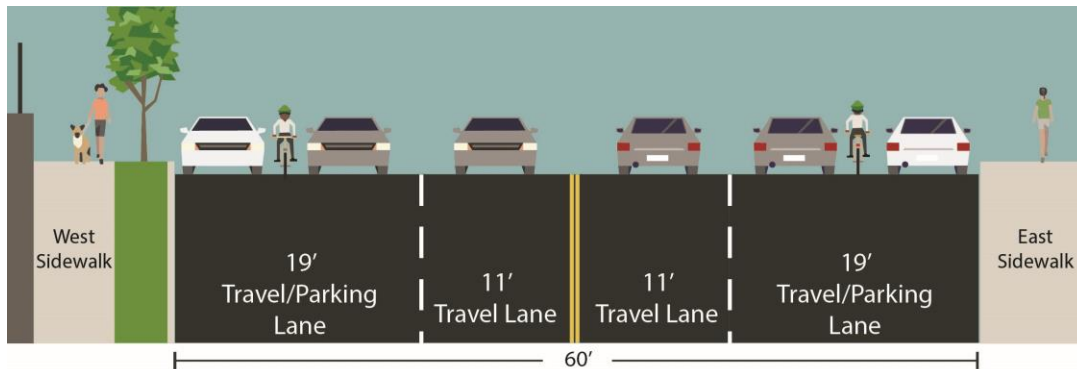
Existing Conditions

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Existing Conditions

McDonald Ave from 20th St to Ft Hamilton Pkwy

- Two-way street with two lanes and parking in each direction
- Connections to and from the Prospect Expressway
- Truck route and bus route
- Green-Wood Cemetery along the western side of the street



Bike Network

- ↔ Proposed
- Future Connections
- Protected Bike Lane
- Conventional Bike Lane
- Shared Lane
- Signed Route



Existing Conditions

Bike Lane Connections

- Two-way protected bike lanes on both 20th St and Ft. Hamilton Pkwy
- A pair of conventional one-way bike lanes on 10th and 11th Aves



Bike Network

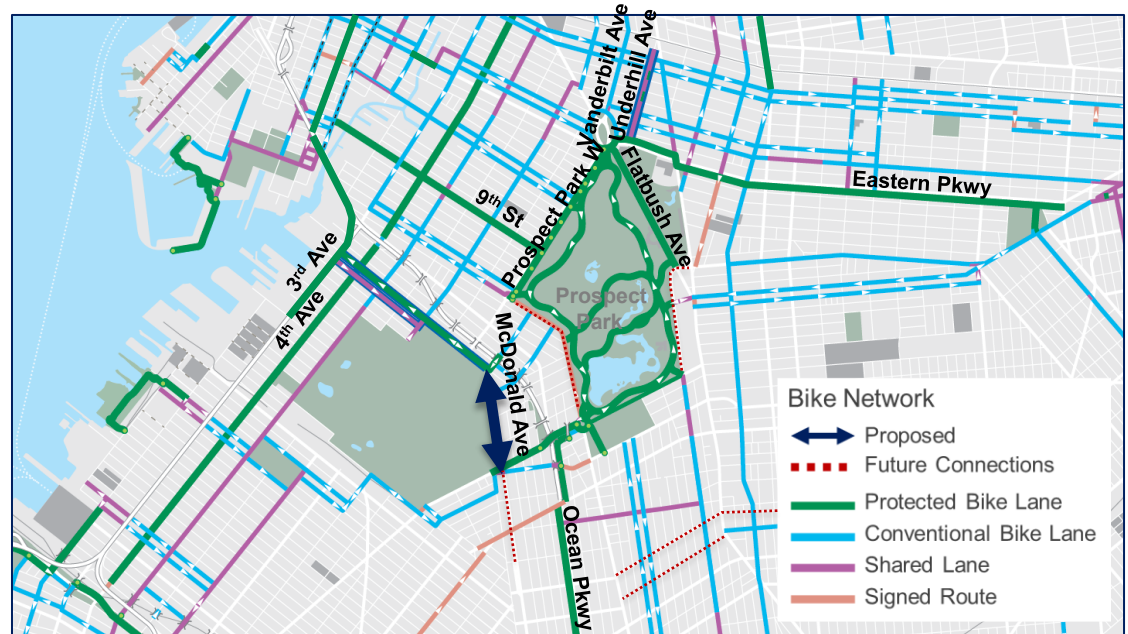
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Existing Conditions

Borough Connections

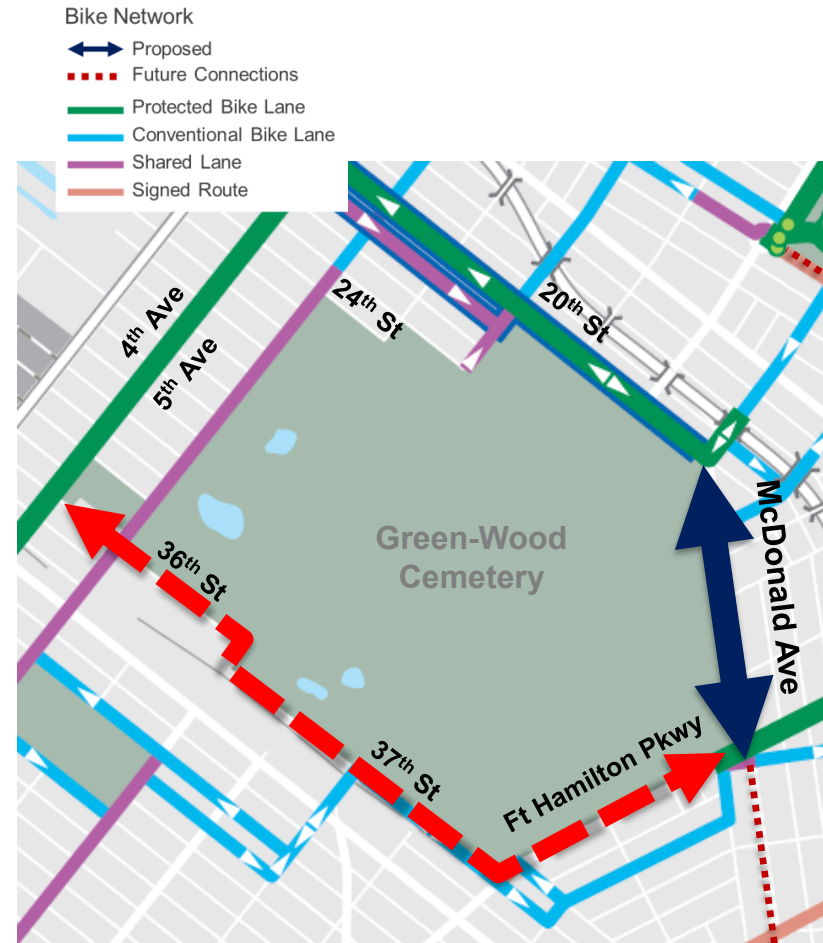
- Increasing the connectivity of the protected bike lane network in Brooklyn **improves access and usability** for cyclists of all ages and abilities



Existing Conditions

Green-Wood Cemetery

- The streets around cemetery are both a **destination** for active transportation and a **barrier** for those who must travel around it to continue to their destination
- Desire to improve the active transportation experience of McDonald Ave
- Opportunity to engage the community and plan pedestrian and cyclist improvements around southern side of the cemetery with Green-Wood Cemetery as a partner



Existing Conditions

McDonald Ave

- Available roadway capacity, even during peak times, **creates conditions conducive to speeding**
 - Two travel lanes have a capacity of **1,200-1,400 vehicles per hour**, currently there are approximately **650-750 vehicles per hour** at the busiest times
- Regular instances of speeding leads to cyclists often **using the sidewalk** instead of the roadway

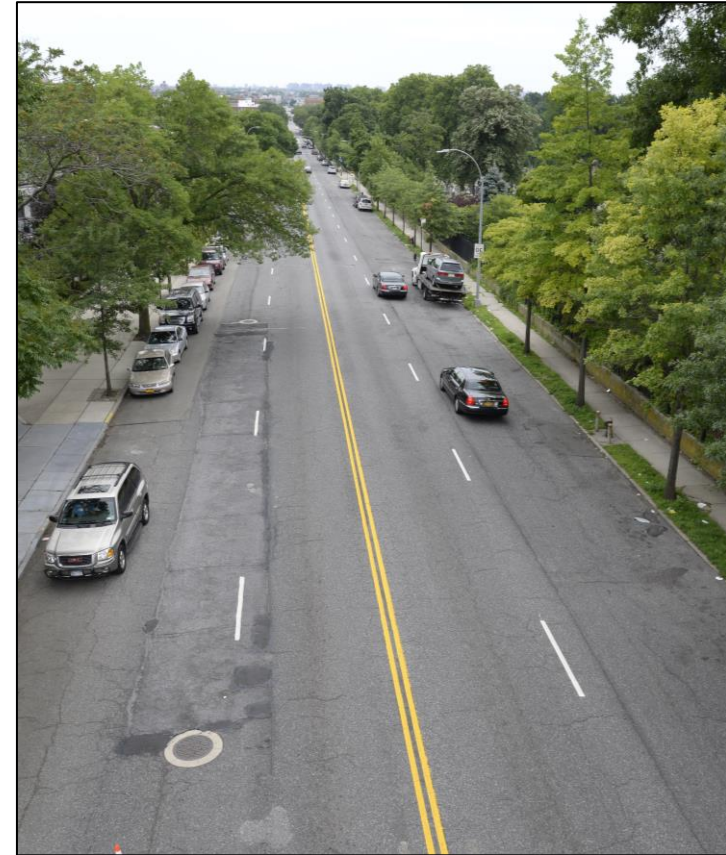


Existing Conditions

Vehicle Speeds

- In 2025, a study of 7,574 daytime vehicles and 2,800 nighttime vehicles traveling on McDonald Ave between 10th Ave and Ft Hamilton Pkwy found that:
 - **53%** of vehicles were exceeding the speed limit during daytime hours (7am-7pm)
 - **60%** of vehicles were exceeding the speed limit during nighttime hours (7pm-7am)
- An off-peak speed speeding observation recorded peak speeds of **48 mph** NB and **41 mph** SB

Source: Geotab analysis of fleet vehicle speeds on McDonald Ave between 10th Ave and Ft Hamilton Pkwy from January 1st to June 30th 2025. Fleet vehicles include trucks, buses, and passenger vehicles owned by both public and private entities. Spot speed analysis of 100 vehicles in each direction conducted 8/20/2025 beginning at approximately 8pm.

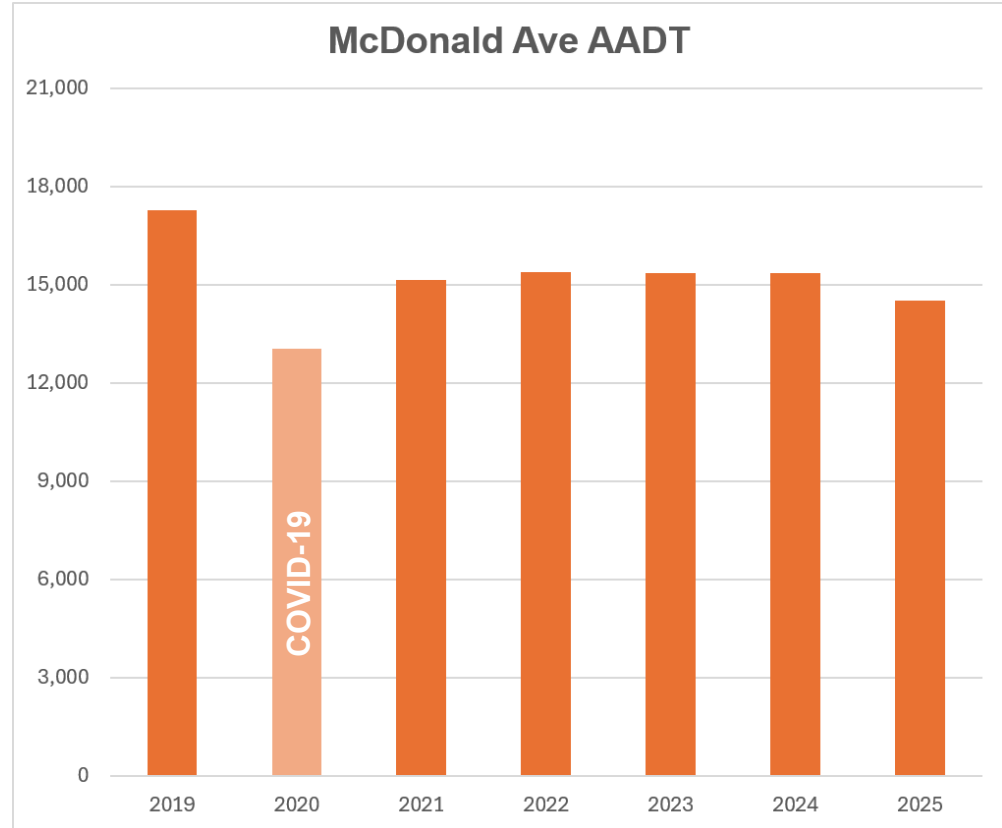


Existing Conditions

Average Annual Daily Traffic (AADT)

- AADT is the most widely-referenced benchmark for how busy a roadway or street is
- The AADT volume of vehicles on this part of McDonald Ave **declined** during the COVID-19 pandemic and never recovered to pre-pandemic levels
- The average daily volume of vehicles is **12% less** than the pre-COVID volume and has remained consistent since 2021

Estimated AADT via Street Light Insight data from location-based services (LBS) and GPS data from connected vehicles, includes all vehicle types, sample size is approximately 17,000,000 vehicles over seven years (or roughly 2,500,000 vehicles per year)



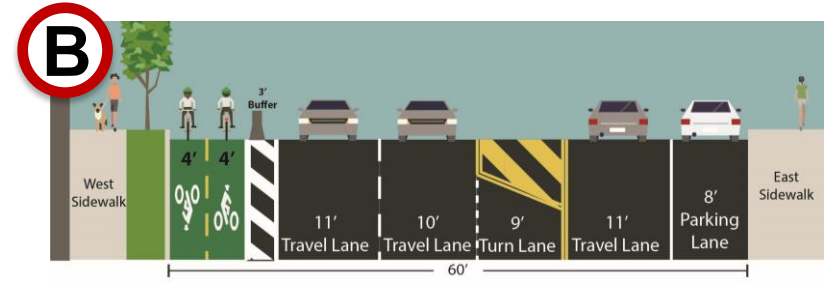
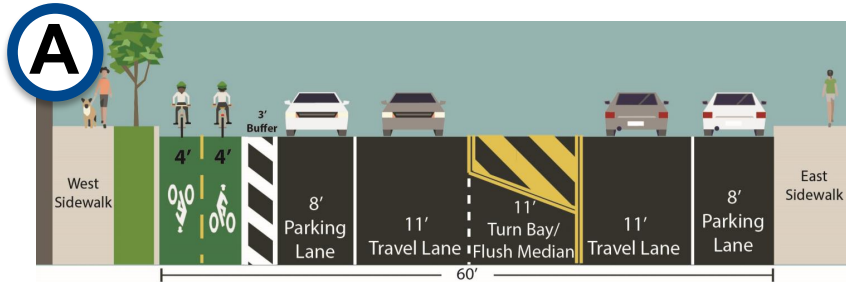
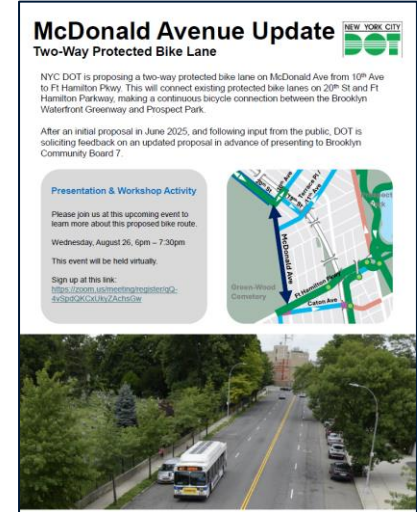
Community Workshop

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McDonald Ave Update

Public Workshop

- Community Board 7 requested that DOT conduct a public workshop, which took place on August 26th
- DOT presented two options for a protected bike lane, one that **prioritized vehicle lane capacity**, and one that **prioritized retaining on-street parking**
- Via breakout rooms, workshop participants were able to provide feedback on the overall design, the most effective placement of neighborhood loading zones, and other possible safety treatments



Workshop Feedback

Take Aways from Public Workshop

- Overall, the majority of workshop participants **avored removing travel lanes** over removing parking to accomplish the goal of a protected bike lane
 - Participants did not want to lose a large amount of parking and cited **speeding and pedestrian safety** as reasons why they preferred a reduction of travel lanes
- Participants were in favor of **adding loading zones in specific areas**, like near large building entrances
 - Specifics of hours varied, but participants largely **preferred load zones to double parking**
- Participants identified additional safety treatments for the corridor for DOT to study:
 - **Traffic signals** at Terrace Place and Seeley St
 - Safety improvements south of Ft Hamilton Pkwy, particularly **Caton Ave**
 - **Daylighting opportunities** along the corridor
- Consistent **illegal parking** of large commercial vehicles, **idling** of commercial vehicles

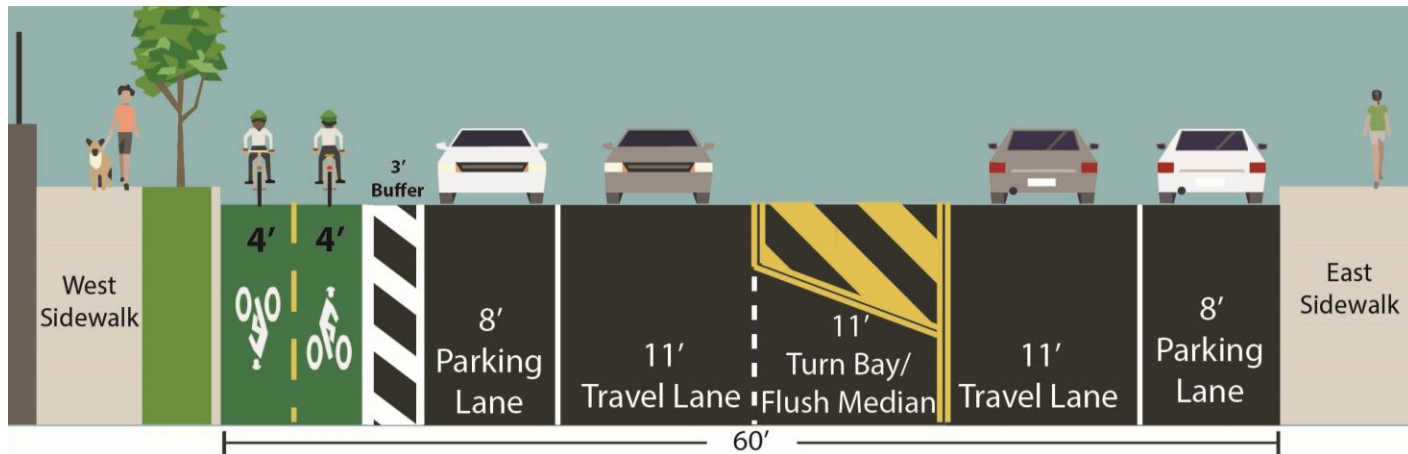
Proposal

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Proposed Condition

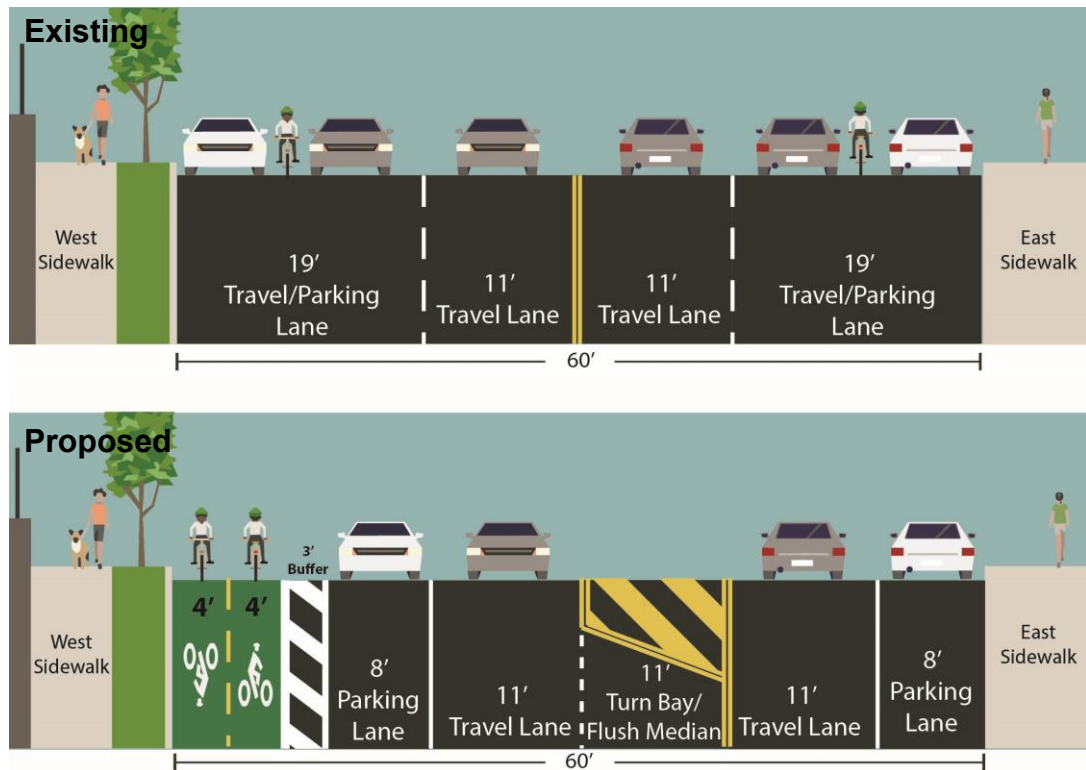
McDonald Ave

- Install a **two-way parking protected bike lane** on the west side of the street
- Existing vehicles will use one lane in each direction with the center lane becoming a turn lane with a painted median that can (as per FDNY) **be used by emergency vehicles if needed**
- Install **neighborhood loading zones** where appropriate to reduce instances of double parking
- This proposal repurposes approximately **eight parking spaces** over the length of the corridor



Proposed Condition

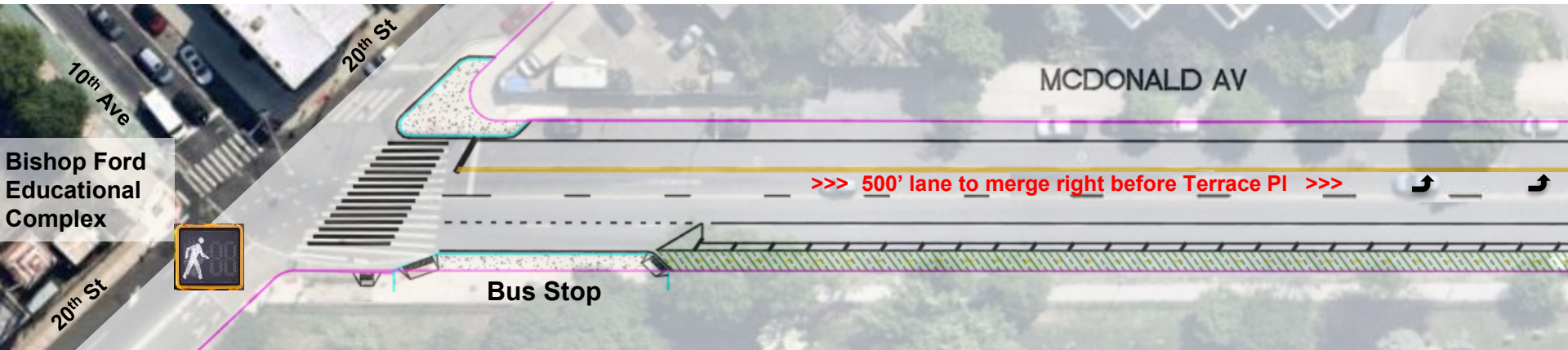
McDonald Ave between Terrace Pl and Greenwood Ave – Existing and Proposed Conditions



10th Ave / 20th St / Intersection Ped and Transit Improvements

Design Overview

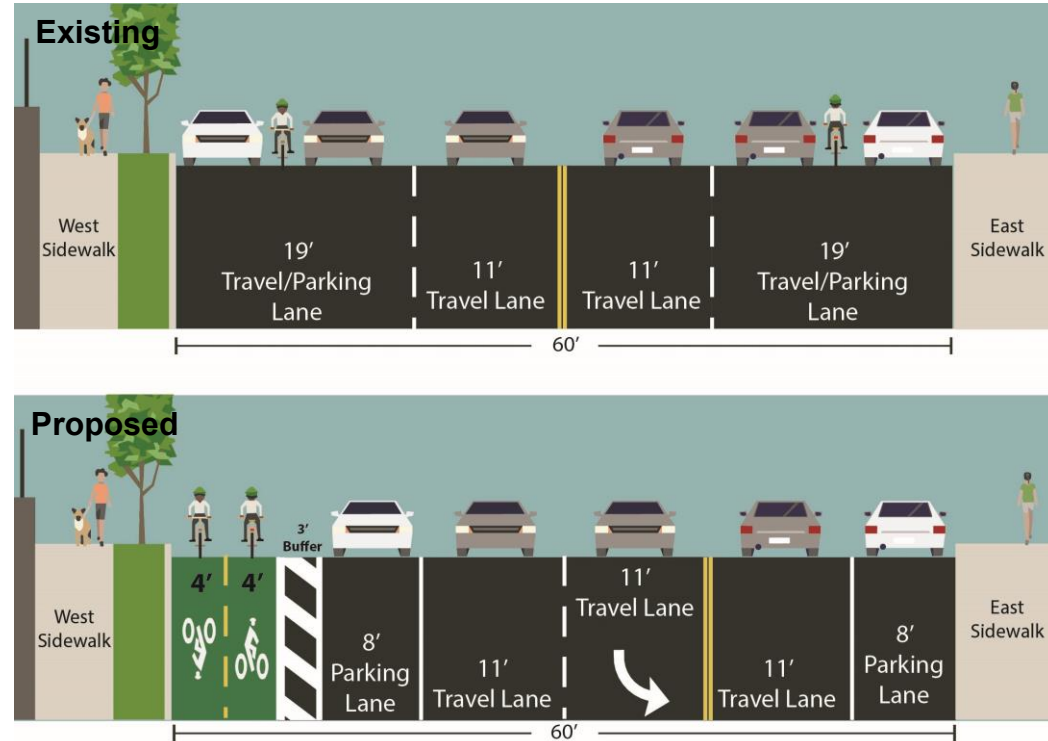
- At the intersection, keep the same amount of southbound lanes McDonald Ave, which will **maintain the existing capacity of the intersection**
- Add a **leading pedestrian interval** (LPI) to the 20th St crossing to give people a head-start
- Install a **red light camera** at the intersection of the Prospect Expressway/19th St/10th Ave to prevent motorists from encroaching on the all-pedestrian phase (*Installed in early July 2026*)



Proposed Condition

From 10th Ave/20th St to Terrace Pl

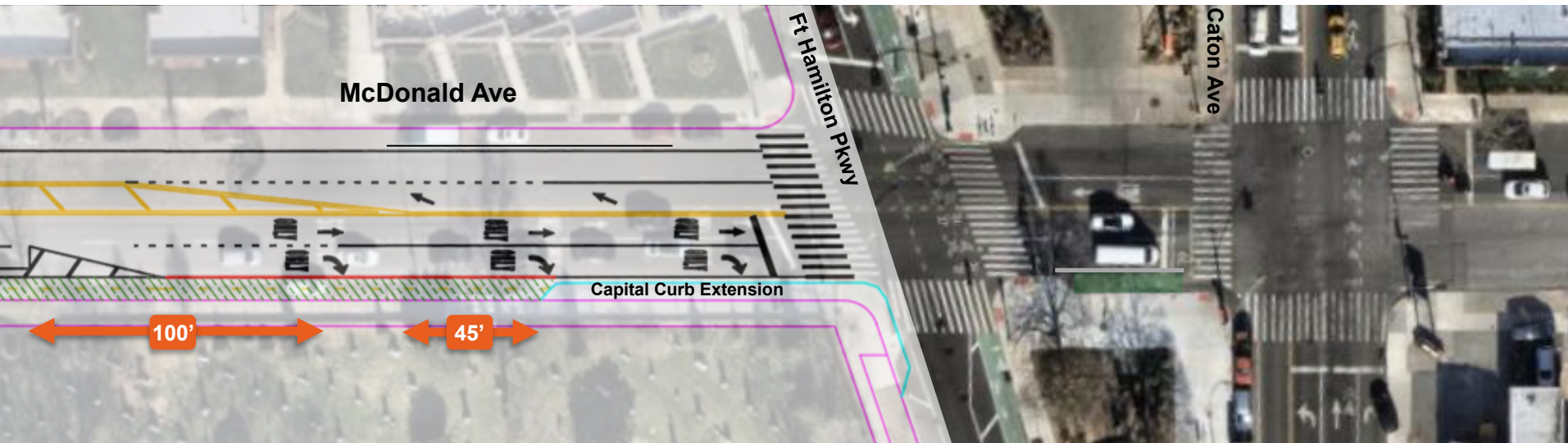
- Retain **two southbound lanes** for the block between the 10th Ave/20th St intersection and the Terrace Pl intersection
- Southbound vehicles will have **the length of the block** (approx. 500') to merge right and continue traveling on McDonald Ave



Ft Hamilton Pkwy / McDonald Ave Intersection

Design Overview

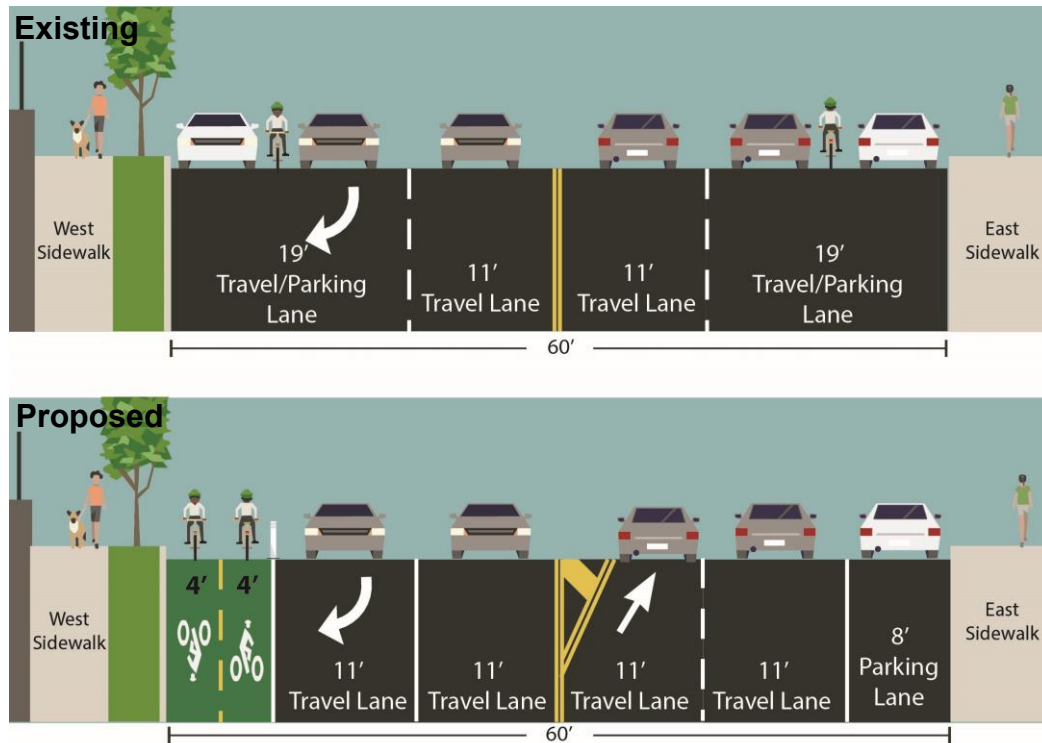
- McDonald Ave will have **same amount of lanes** at Ft Hamilton Pkwy as it currently does now, the signal timing and phasing will also remain the same
- The existing southbound right turn lane **will be lengthened** to keep the southbound thru lane clear, this where the six parking spaces will be removed



Proposed Condition

North of Ft Hamilton Pkwy Intersection

- McDonald Ave will have **four travel lanes** immediately north of the Ft Hamilton Pkwy intersection
- Northbound vehicles will merge into one lane in the middle of the block
- Southbound vehicles will continue to have a dedicated right turn lane
- No additional signal timing changes** needed at this intersection to accommodate the bike lane



Making it Work

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Making It Work

Traffic Analysis Methodology

1. Count vehicles and pedestrians at intersections on McDonald Ave and nearby streets (counts conducted in Feb/March of 2022, repeated in Feb/March of 2025)
2. Model each intersection and analyze
 - Signal timing
 - Number of lanes and turning movements (left, right, straight)
 - Pedestrian volumes
 - Existing conditions and multiple potential future scenarios
3. Validate model with in-person observations of traffic flow, parking movements, double parking, truck loading, etc.
4. Analyze worst case scenarios
 - Busiest hours of the day, longest traffic queues
 - Realistically, some drivers divert to other routes, other modes of transportation, or choose to travel at different times of day
 - Prepare traffic analysis with a range of scenarios

The result is a prediction of the future according to engineering standards.



Example of a Synchro
Traffic Model network

Vehicle Travel Patterns

Where **Southbound** Vehicles Come From

- Southbound vehicles are almost entirely coming from the Prospect Expressway and 19th St via the 10th Ave intersection
- Very few vehicles turn south from Terrace Pl, Seeley St, or Greenwood Ave

Where **Northbound** Vehicles Come From

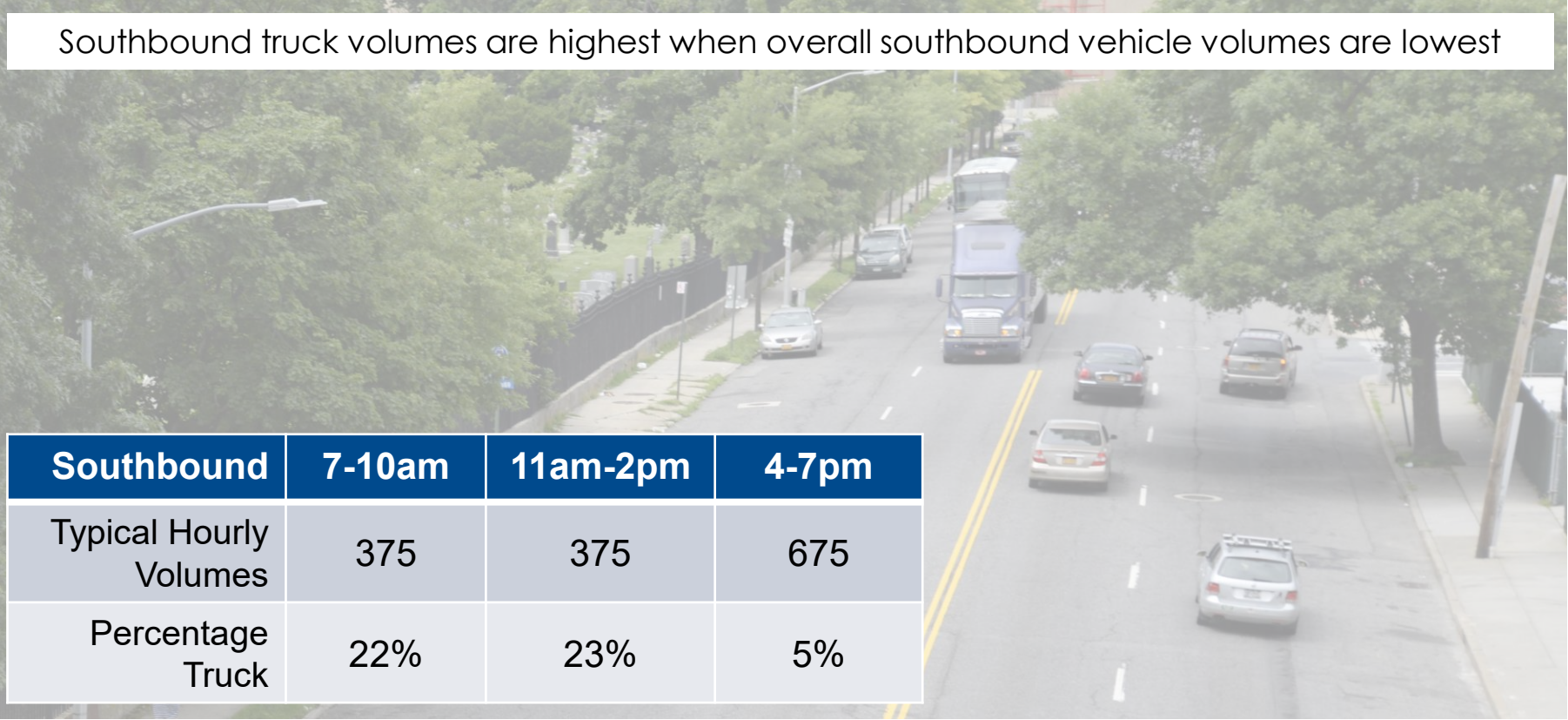
- Northbound vehicles are almost entirely coming from the intersection of Ft Hamilton Pkwy and Caton Ave
- Very few vehicles turn north from Greenwood Ave, Seeley St, or Terrace Pl

The number of vehicles on this section of McDonald Ave is largely dictated **by what can pass through these two intersections, not by the number of lanes on the roadway between them.**



Making It Work

Southbound truck volumes are highest when overall southbound vehicle volumes are lowest



Southbound	7-10am	11am-2pm	4-7pm
Typical Hourly Volumes	375	375	675
Percentage Truck	22%	23%	5%

Making It Work

McDonald Ave

- Issues Identified:
 - During the busiest times, the volume of vehicles using McDonald Ave is roughly **half of what the existing travel lanes have capacity for**
 - The two major intersections at 10th Ave and Ft Hamilton Pkwy operate with **different signal cycle lengths than the Greenwood and Vanderbilt intersections**, this results in a lot of unused green time at these locations when the roadway is the busiest
- Solution:
 - Coordination of the intersections takes the same peak traffic volume and **better distributes it** among all the available green time
 - This allows existing vehicle volumes **to travel in half the space with minimal disruptions to travel times**



Making It Work

Additional Travel Time

Northbound Vehicles from Ft Hamilton Parkway to the Prospect Expressway

- Average of **15 seconds per intersection** in the AM peak
- Average of **1-2 seconds per intersection** in the PM peak

Southbound Vehicles from the Prospect Expressway to Ft Hamilton Parkway

- Average of **15 seconds per intersection** in the AM peak
- Average of **6 seconds per intersection** in the PM peak

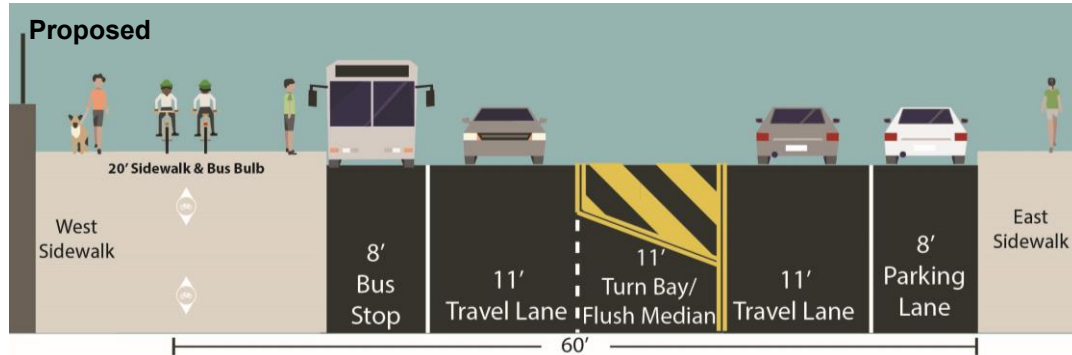
The extra time comes from longer queues at the **same red lights** that motorists would have stopped at if there were two lanes

With observed traffic volumes well below the general benchmark for a single lane, **we do not expect that the removal of a traffic lane will create congestion.** Instead, it will provide shorter crossings and encourage reduced vehicle speeds.



Making It Work

- Bus stops will be redesigned to accommodate both passengers getting on and off the bus as well as the protected bike lane
- The existing bus stop at Terrace PI does not have a crossing at the intersection
 - The nearest crossing is at 20th St or Vanderbilt St, both have bus stops, for this reason the Terrace PI southbound stop will be consolidated



Making It Work

Neighborhood Loading Zones

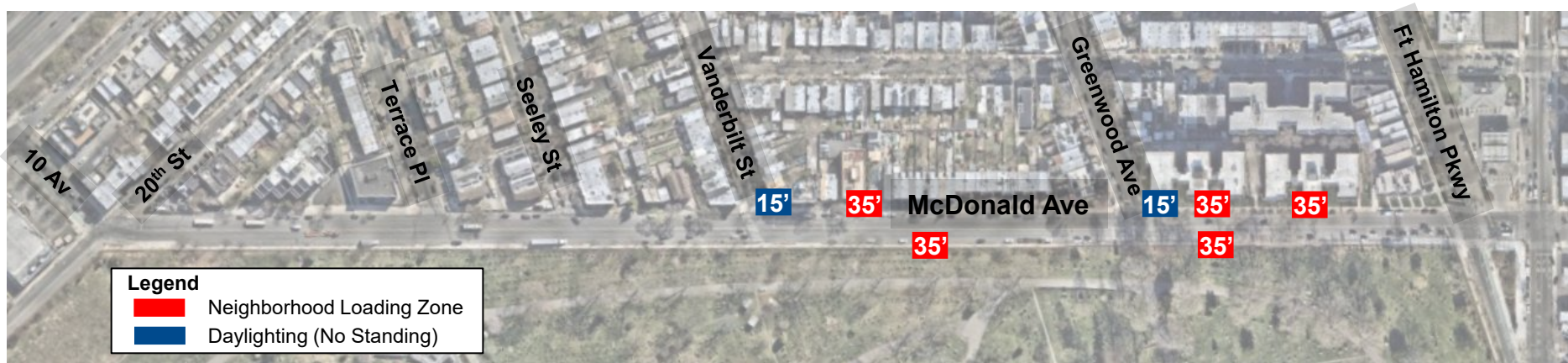
- Neighborhood Loading Zones provide curb space during daytime and early evening hours to allow package deliveries by commercial vehicles, taxis and car service pick-up and drop off, active loading and unloading of personal vehicles.
- Zones are typically between 25-40 feet long and are installed to reduce the frequency of double parking on a street



Making It Work

Neighborhood Loading Zones

- Neighborhood Loading Zones (NLZ) installed adjacent to fire hydrants will **maximize accessibility** while also aligning with large building entrances
- Weekday loading regulation still allows for overnight parking and **encourages turnover**
- Approximately **ten parking spots** would be converted to weekday daytime loading use and **two parking spots** would be removed to daylight intersections



Summary & Benefits

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Summary

Benefits

- A protected bike lane on McDonald Ave **links existing protected lanes** on 20 St and Ft Hamilton Pkwy, expands the protected network, and improves north/south connectivity
- **Adds an LPI** at a school-facing intersection
- Expands **recreational options** adjacent to Green-Wood cemetery
- Provides dedicated roadway space for cyclists while **maintaining vehicular throughput**, especially for trucks and emergency vehicles
- Redesigning the roadway **reduces opportunities for speeding**, especially during off-peak and overnight hours

Bike Network

- ↔ Proposed
- ... Future Connections
- Protected Bike Lane
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Thank You!

Questions?



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