

# Bus Priority at WMATA

April 26, 2022

**Transportation Planning Board  
Regional Public Transportation Subcommittee**

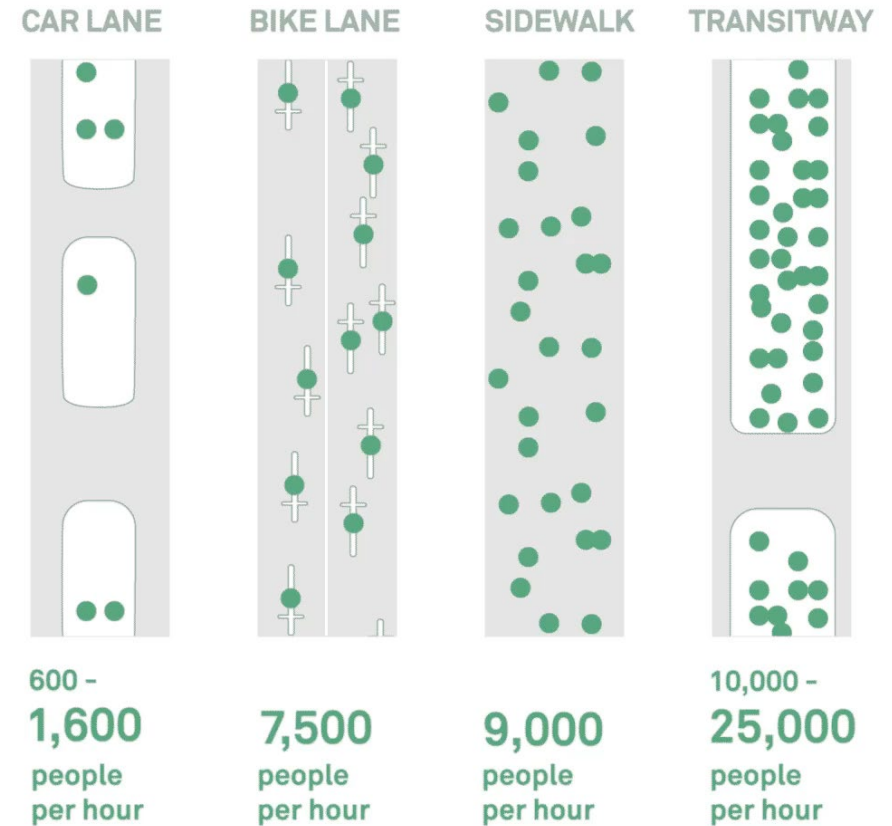


## Background

The Bus Priority Program, created in May 2020, is a dedicated team focused on strategies and initiatives that improve bus operating speeds and reliability for an improved rider experience, environmental stewardship, and financial stewardship

## Program Needs

- Traffic congestion delays buses and reduces reliability
  - Metrobus speeds have decreased by 9% between 2009 and 2018
  - Since 2014, average daily Metrobus ridership has declined every year although per capita VMT has increased
- After frequent service, more reliable and faster service was the highest priority for bus riders



## Team Vision

The vision of the Bus Priority Team is to make the bus the mode of choice and increase bus ridership by improving its ease of use, accessibility, and reliability of service for everyone in the region.

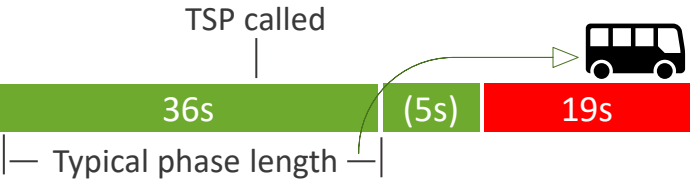


## Active projects include both managing and coordinating programs

**1** *Transit Signal Priority (TSP)*

**a. Extended green**

TSP called

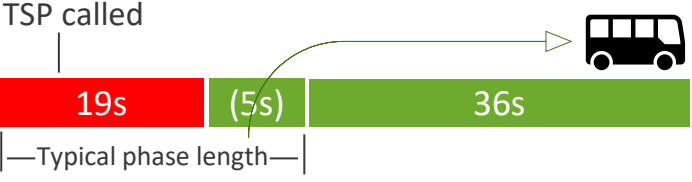


36s (5s) 19s

— Typical phase length —

**b. Truncated red**

TSP called

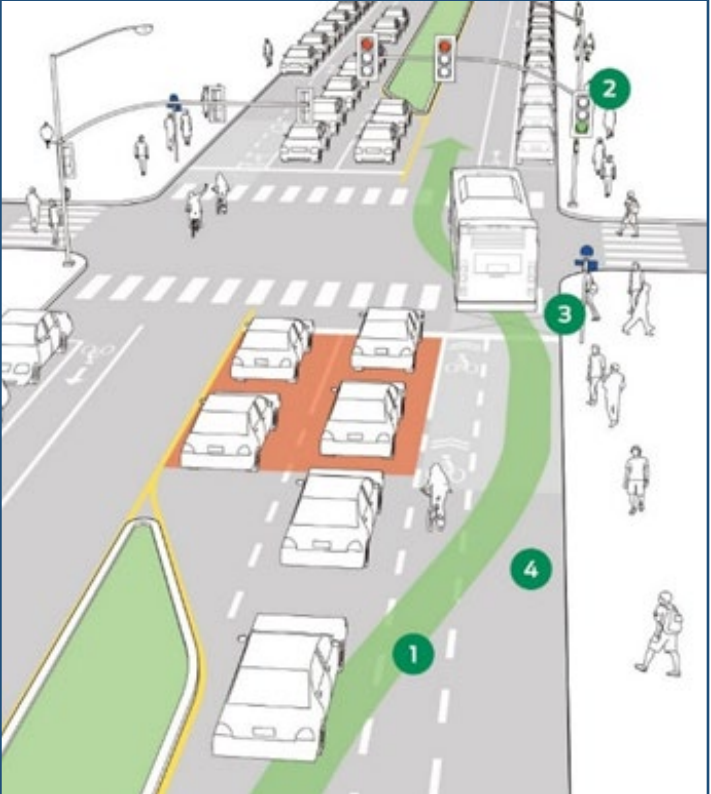


19s (5s) 36s

— Typical phase length —


Buses request an extended green or truncated red light to reduce wait times

**2** *Queue Jumps (QJs)*



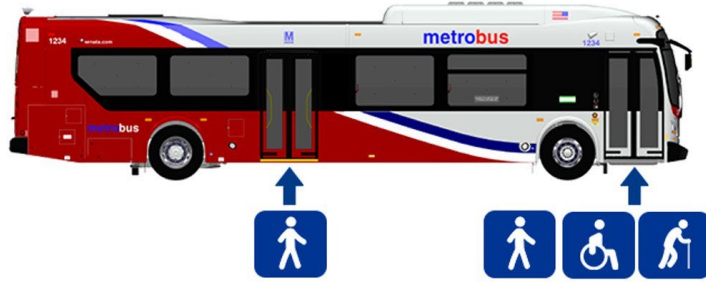
Give buses a head start with additional travel lane and special signal

**3** *Violation Detection System*



Sends video of violations to jurisdictions to issue citations and deter future misuse

**4** *All-door Boarding Pilot*



Reduces dwell time by allowing passengers to board from all doors

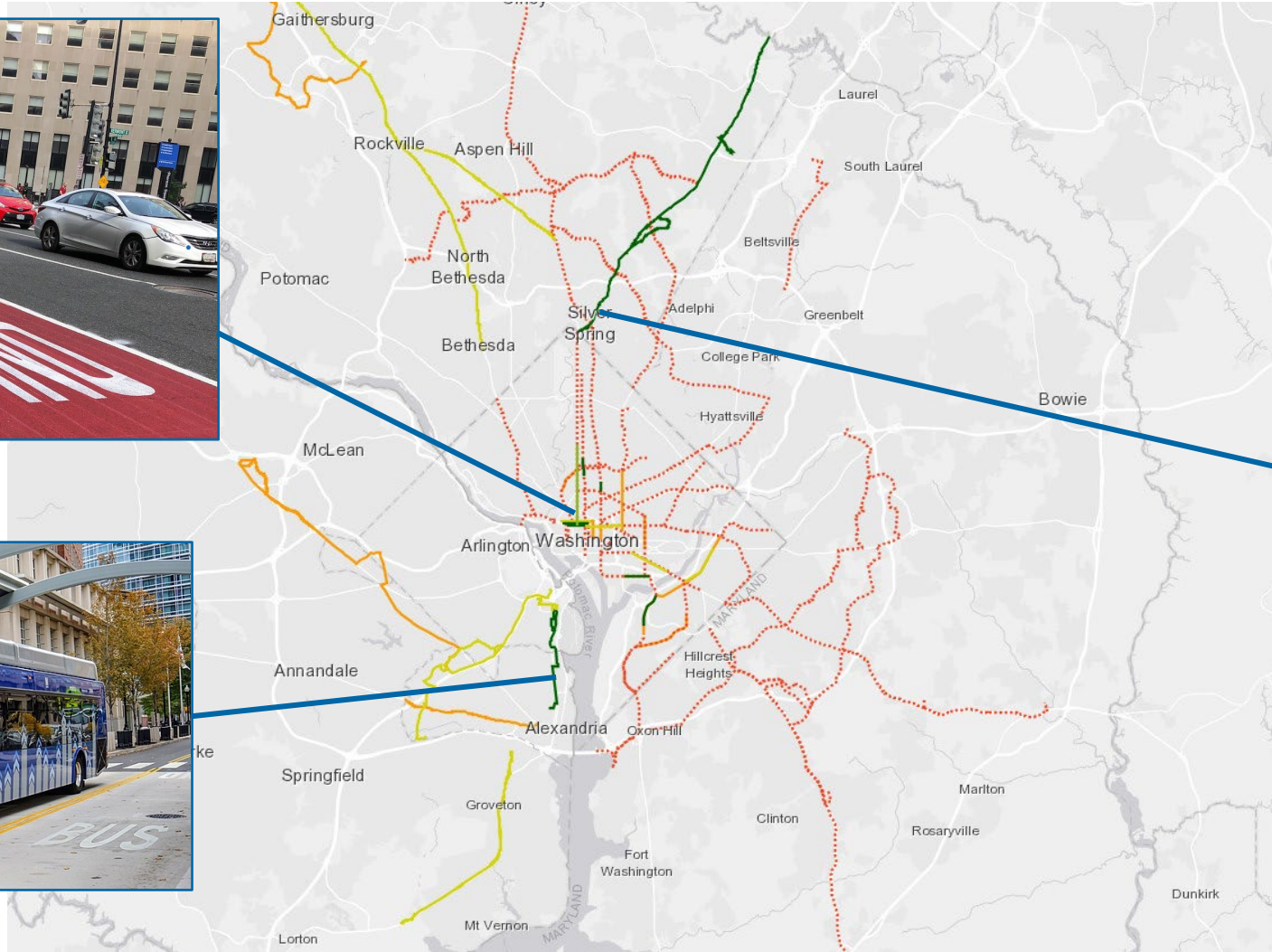
## Facilitating expansion of bus lanes with Tactical Bus Lanes in Prince George's and Montgomery Counties



DC Bus Lanes  
K Street Transitway  
Downtown Network



Metroway



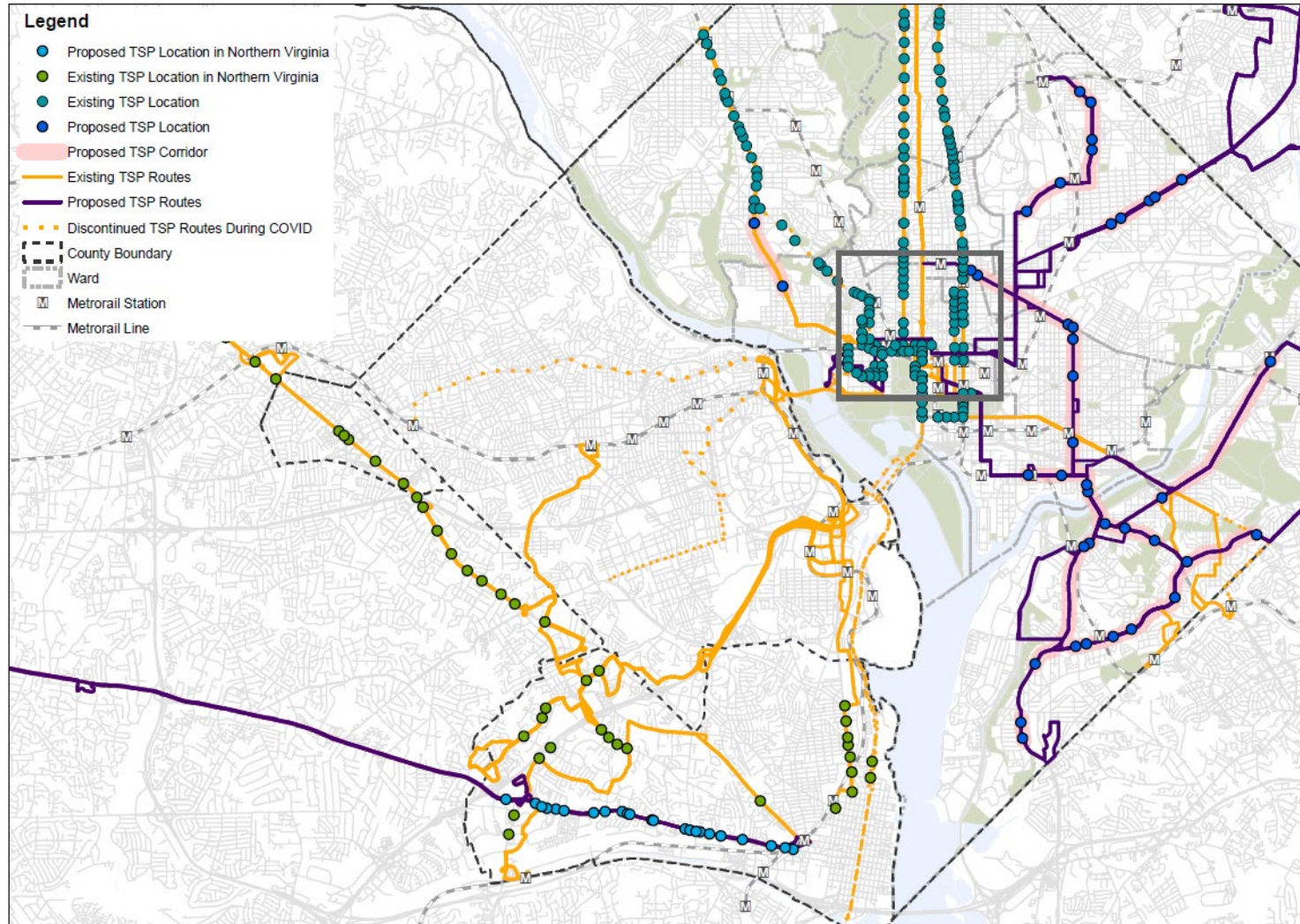
- Legend**
- Open
  - Design/Engr
  - Planning
  - Concept



MD Bus Lane

## TSP Project Scope, Completed Activities, Next Steps

*TSP work includes expanding our footprint across the region and equipment and software upgrades*



- 250 TSP intersections in the region
- 4G Communications Transition in 2022
- Ongoing System Maintenance
- New Corridors in CY2022
  - NE and SE DC
  - Duke Street in Alexandria

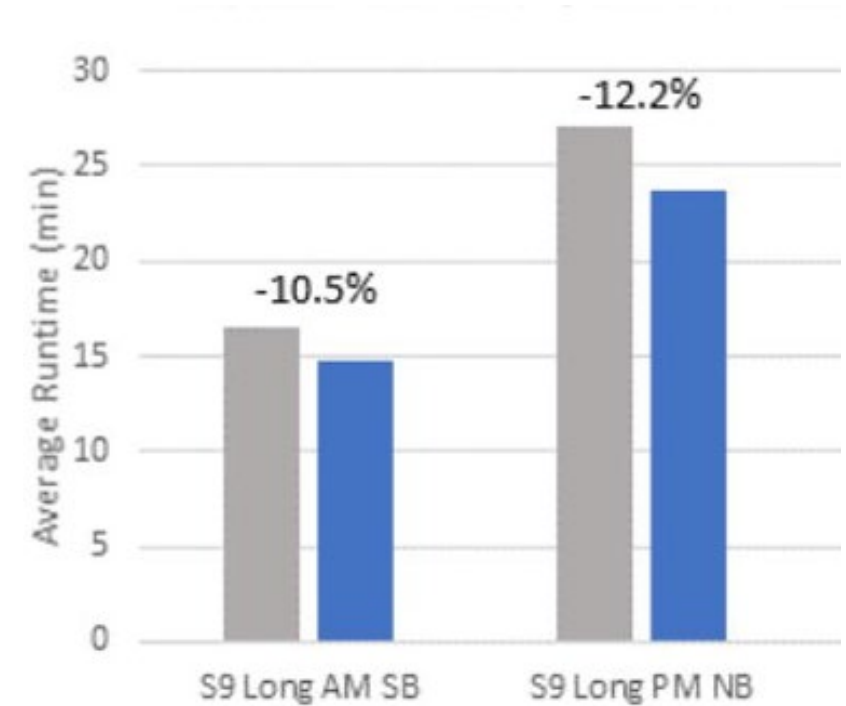
## Effectiveness of TSP

*TSP improves bus run times and reliability of the affected routes*

### Analysis of 16<sup>th</sup> Street NW

- Runtimes for buses were reduced between **10.5% and 12.2%** on the S9 for a segment from the DC border to 16th St & Irving St
- This significant improvement to travel time reliability is typically experienced on arterial routes.

**S9 Runtime Comparison**  
Peak Period



## What are Queue Jumps?

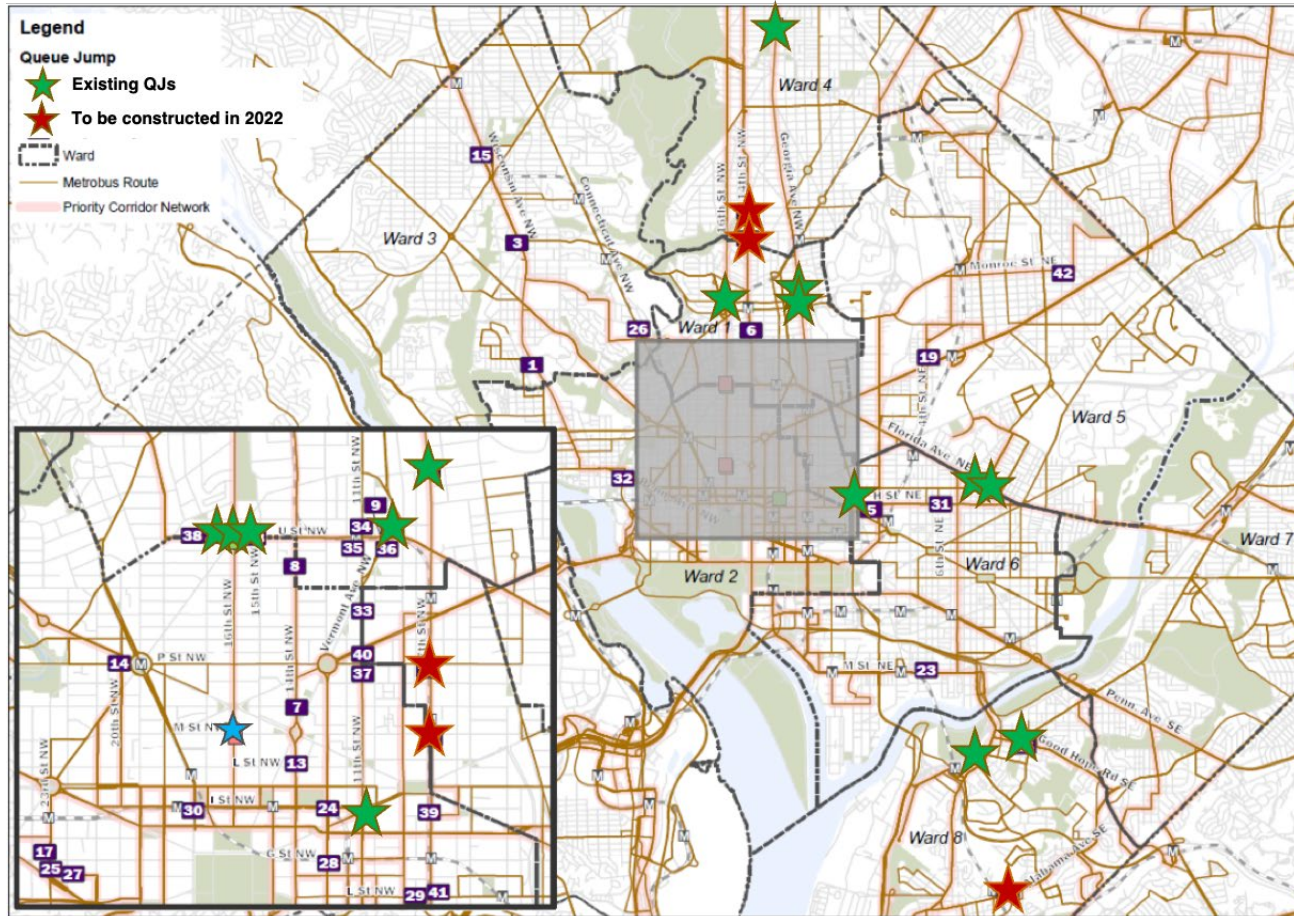


METROBUSES AND CIRCULATORS NOW GET THE GREEN LIGHT AHEAD OF OTHER TRAFFIC AT SIX KEY INTERSECTIONS IN THE DISTRICT OF COLUMBIA.



# Queue Jumps in the District and Maryland

*Queue Jumps can save a bus approximately 12 seconds at each intersection*



- Increased the total number of QJs in DC from **8** to 15 in **2021**
- 6 more QJs will be constructed in DC in 2022
- DC will design 5 additional QJs in 2022
- WMATA will design 12 QJs in Maryland in 2022
- By the end of **2023**, we hope to have **38** QJs in our region

## Violation Detection System *(Coming to DC in 2023)*

- **Project Goal:** Improve travel time and reliability for bus riders by keeping bus lanes and bus zones clear from unauthorized use.
- **Benefit to Buses:** Can increase bus speeds up to 20-30%
- **Current Status**
  - Developing technology requirements, scope of work, program implementation plan
  - Vendor RFP released this spring
  - Targeting early 2023 for initial rollout



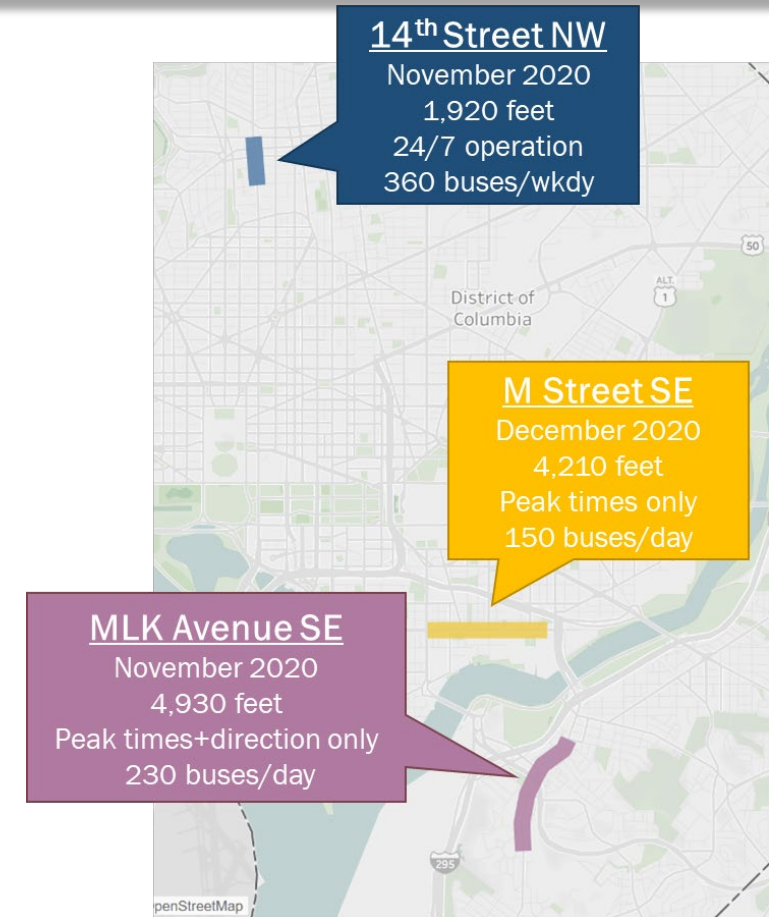
## **All-Door Boarding Pilot** *(Coming in 2023)*

Downtown Boston  
Weekday Morning Rush Hour

June 2017

## Key Takeaways

- Regular regional coordination is the cornerstone of a successful Bus Priority Program
- Incremental benefits can be realized as bus priority treatments are layered on along bus routes and corridors
- Strong analytics and performance monitoring make the case for continued regional investment in Bus Priority



DC's 2020 Bus Lanes improved median speeds by **3-16%**  
Slowest speeds improved up to **27%**

# Questions or Comments?

## **Contact:**

Raka Choudhury, AICP  
Director, Bus Priority

[RChoudhury@wmata.com](mailto:RChoudhury@wmata.com)