

# NVTC WMATA Committee Meeting

Bus Transformation Project  
and Bus Priority

April 21, 2022



## Purpose and Background

### Review Bus Transformation Project (BTP) Progress:

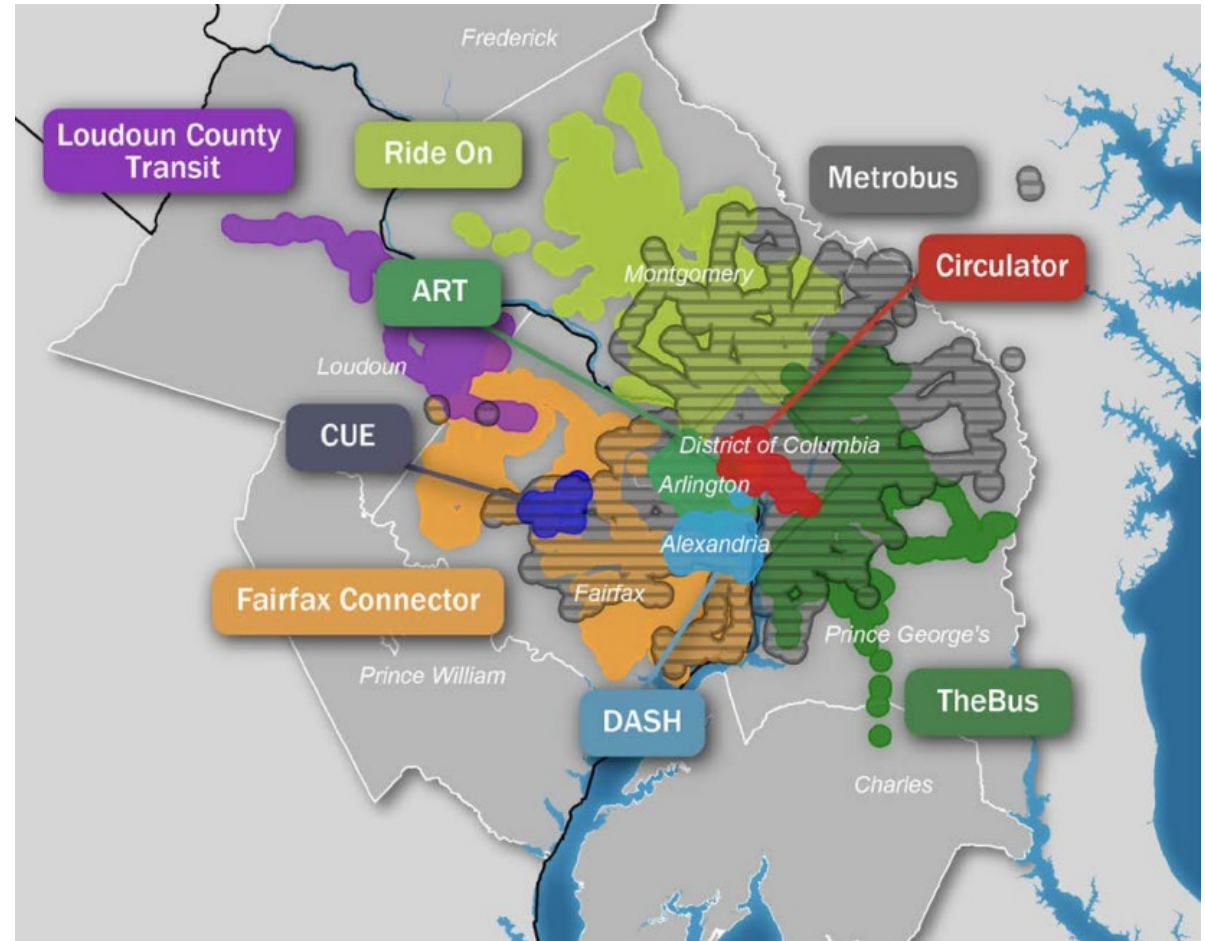
- Designed to transform the bus system to provide **fast, frequent, reliable, affordable service** that feels **unified** and **advances transit equity**
- More than a year of public and stakeholder input developed four strategies and **26 recommendations** to improve bus

### Bus Priority Updates and Partnership Opportunities



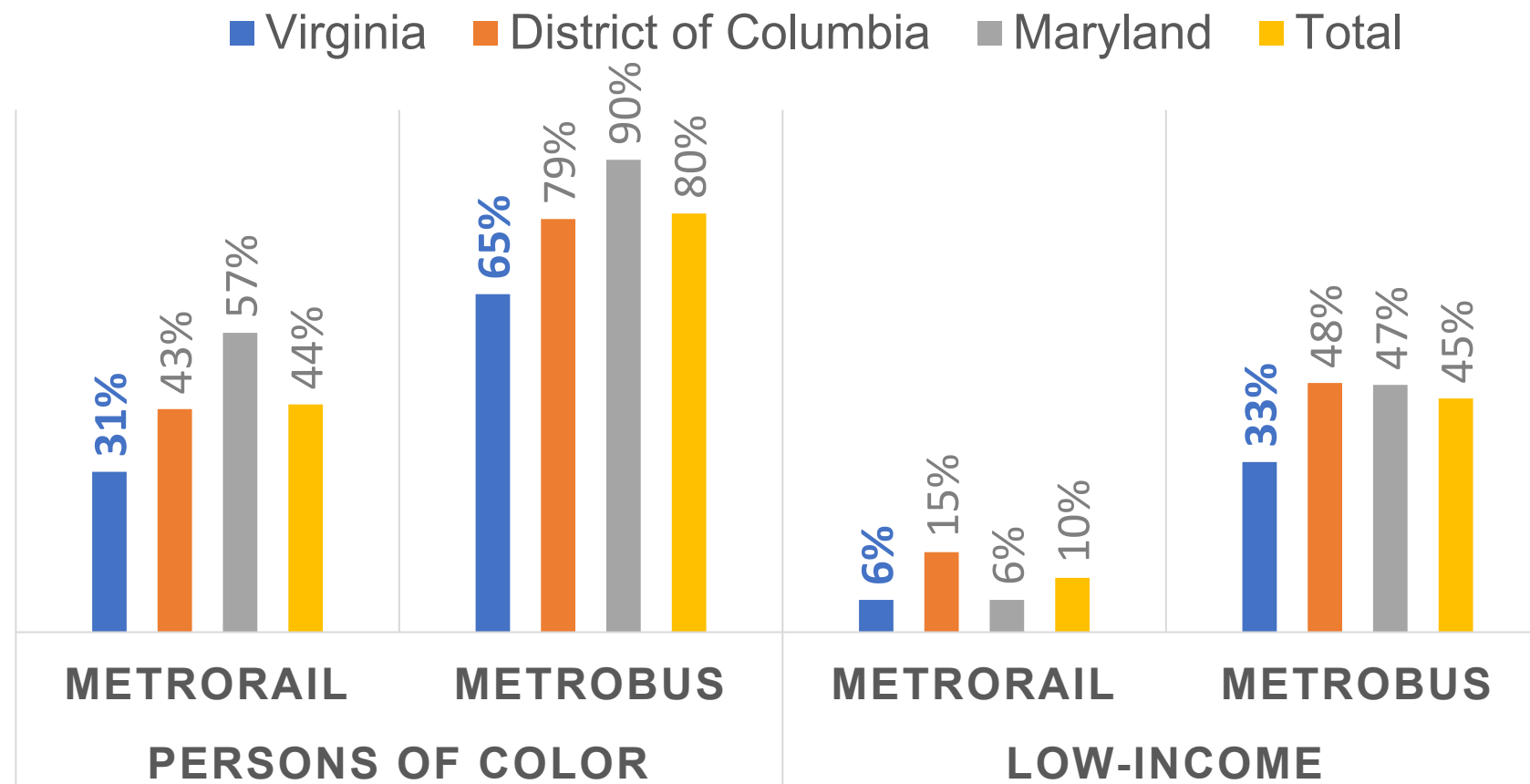
# Buses Move the Region

- A major part of the Washington area's transportation system, connecting residents to destinations
  - Provided by **nine operators**, including Metrobus
  - Since start of the pandemic, Metrobus has carried more riders than Metrorail
- Needs improvement to meet needs of region, especially riders who rely on it most





# Metrorail vs. Metrobus Demographics in Virginia



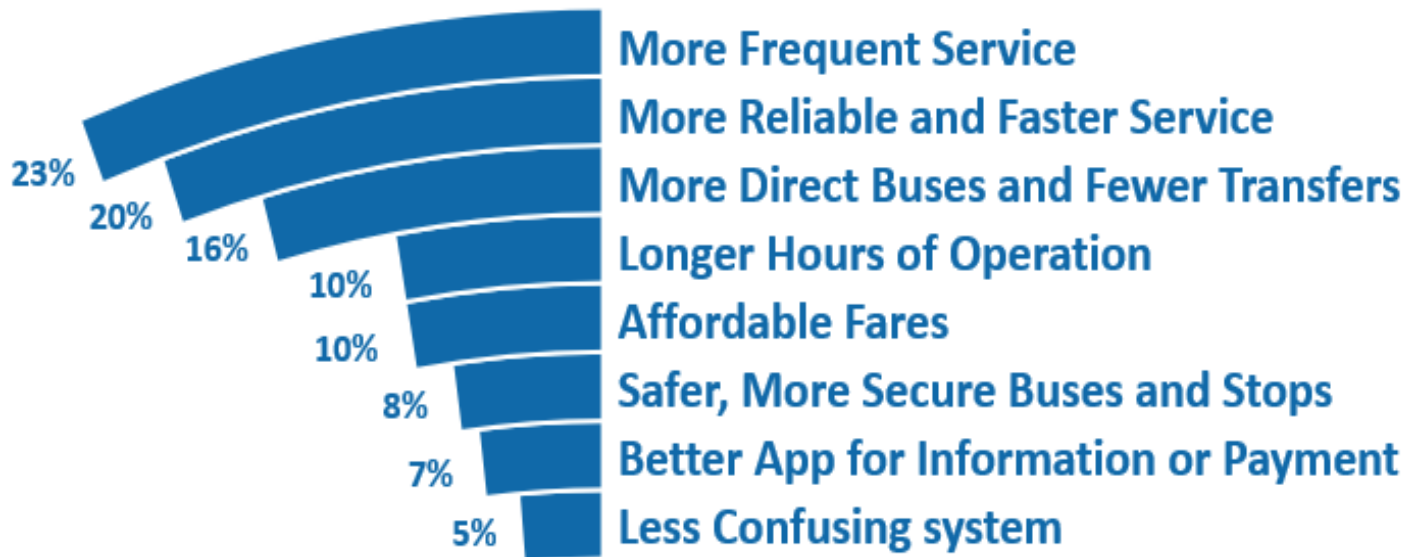
Persons of Color = Non-white or Hispanic

Low-income = Household income of \$30,000 or lower per year

Source: 2016 Metrorail Survey; 2018 Metrobus Survey

# Current and Potential Customers' Priorities

### Survey Example: Bus Customer Priorities



Respondents were asked to prioritize improvements to local bus service by apportioning “coins” from a hypothetical budget of 20 coins to eight different categories of improvement types based on their preferences.

Run more buses!

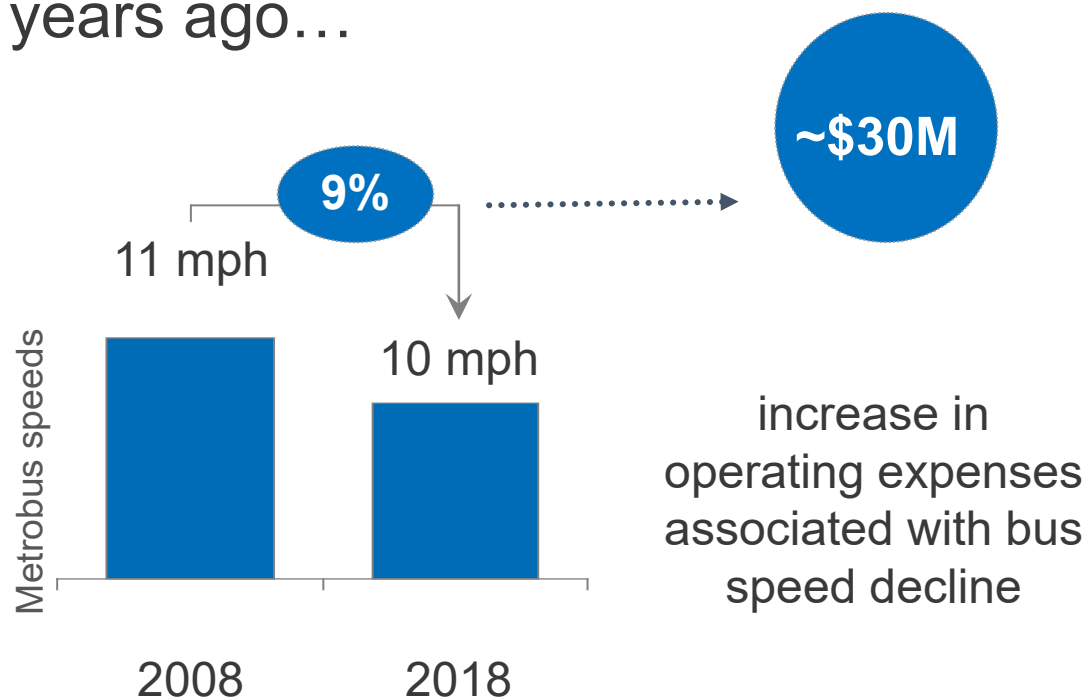
...ridership here would increase exponentially if buses were frequent and preferably in dedicated lanes

Frequent service that is available 7 days a week is critical to building a useful transit network that people can rely on for all their needs

Metro buses come fairly frequently (every 10-15 minutes) which is very convenient because then I can leave work whenever I want and always know a bus will be there soon

# Buses face on-route challenges

Pre-Covid, buses got slower than 10 years ago...



...as a result of multiple changes to the landscape

- Increased **congestion**
- On-street **parking**
- Proliferation of **bus stops**
- **Curbside** developments
- Elimination of historical **bus lanes**
- Lack of **enforcement** for deliveries, taxis, etc. in bus lanes and at stops

Source: National Transit Database, WMATA FY19 budget. BCG Analysis

# Bus Transformation Project | Strategies



1

## Frequent and Convenient Bus Service

Provide frequent and convenient bus service that connects communities and promotes housing affordability, regional equity, and economic growth



2

## Bus Priority on Roadways

Give buses priority on roadways to move people quickly and reliably



3

## Customer Experience

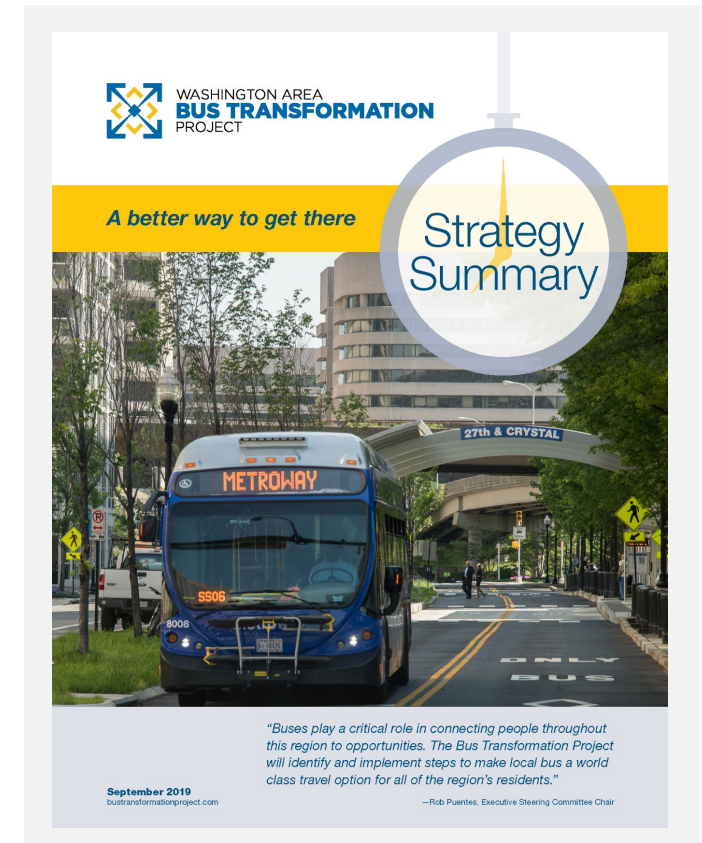
Create an excellent customer experience to retain and increase ridership



4


## Task Force to Implement the Strategy

Empower a publicly appointed Task Force to transform bus and lead the implementation of a truly integrated regional system



## 2. Bus Priority on Roadways

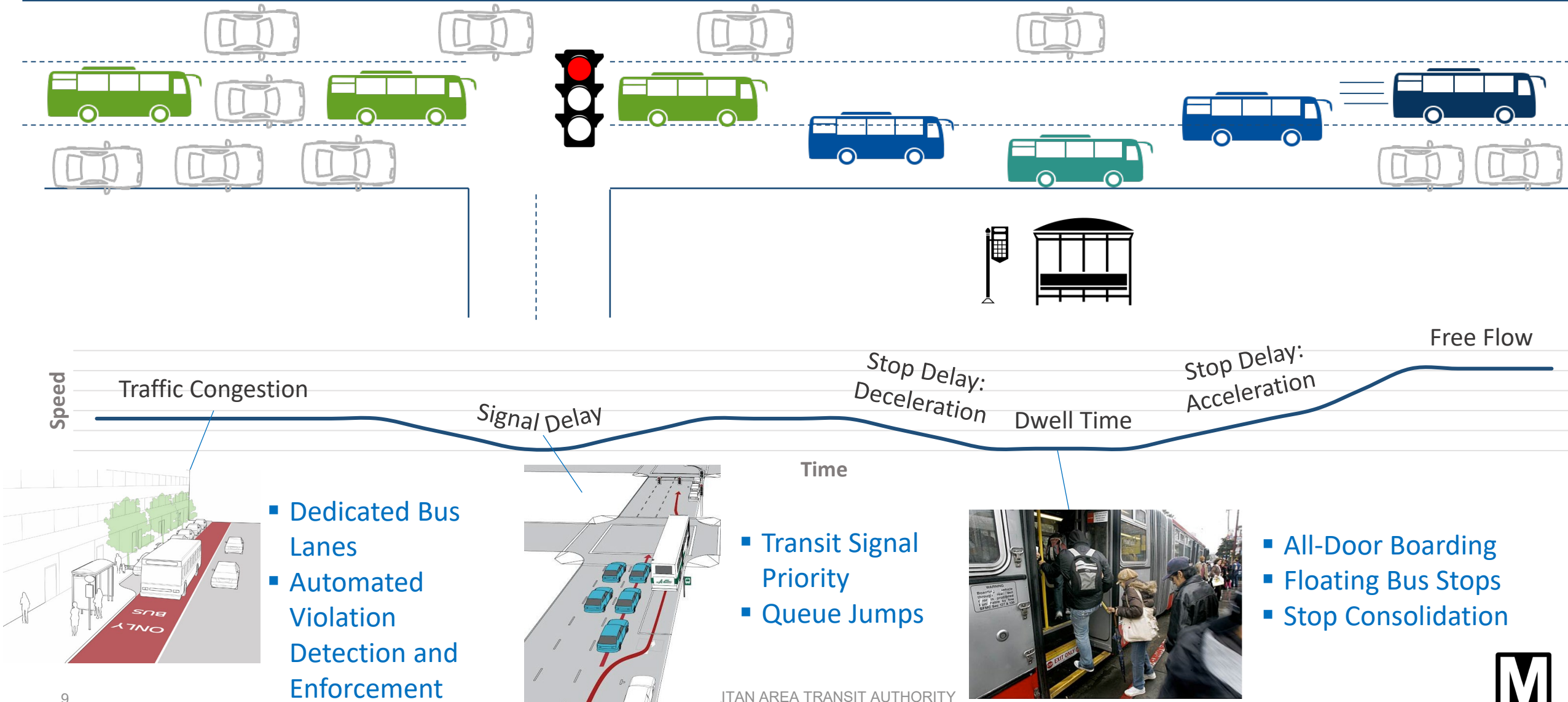
Progress since the Board's endorsement in January 2020

<b>F</b>	Commitments from state and local agencies to expedite coordinated implementation of bus priority	<b>DDOT - Bus lanes, TSP, Queue Jumps, and Violation Detection; Montgomery and Prince George's Counties - Queue Jumps and Tactical Bus Lanes; Northern Virginia – TSP, All-door Boarding</b>
<b>G</b>	Enforcement policies that establish bus priority	Project underway to launch a bus-mounted, fully-automated Bus Priority Violation Detection System (VDS) in coordination with jurisdictions
<b>H</b>	Capital program at Metro for bus priority projects	 Bus Priority team and programmed CIP
<b>I</b>	Regional congestion mitigation efforts	WMATA prepared to support regional efforts

*Note:* Board priority recommendations are in **bold**



# Bus Priority Treatments to Improve Speed and Reliability





## Bus Priority Progress in Region



Metroway in Alexandria and Arlington, VA



Bus Lanes in Silver Spring, MD



A Bus Priority Queue Jump Signal in DC



Bus Lanes in DC



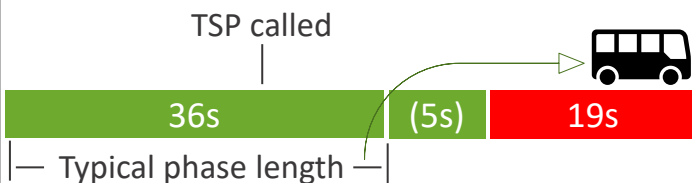
Montgomery County's Flash BRT Service



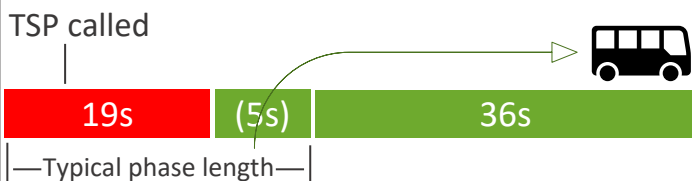
## Active projects include both managing and coordinating programs

### 1 Transit Signal Priority (TSP)

#### a. Extended green

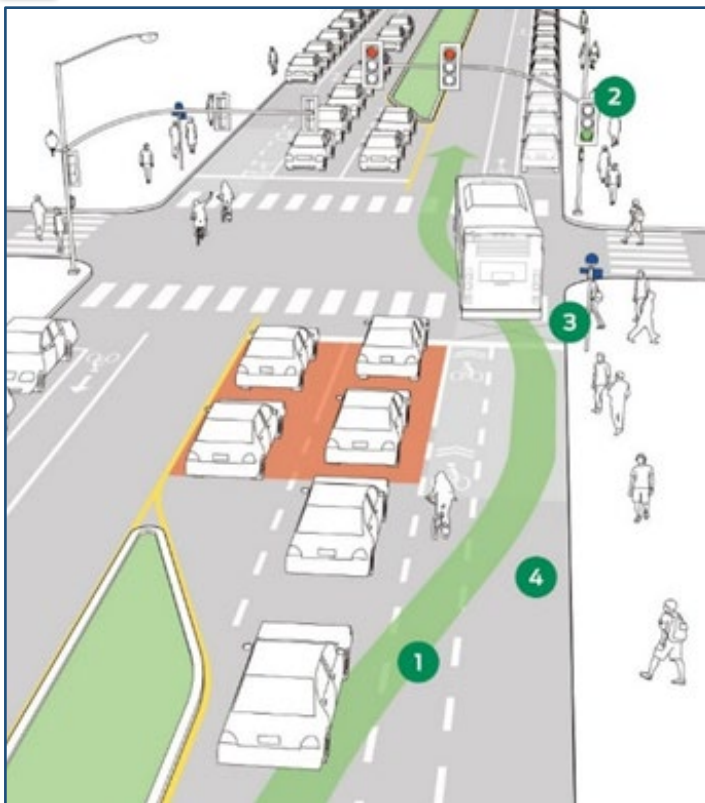


#### b. Truncated red



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

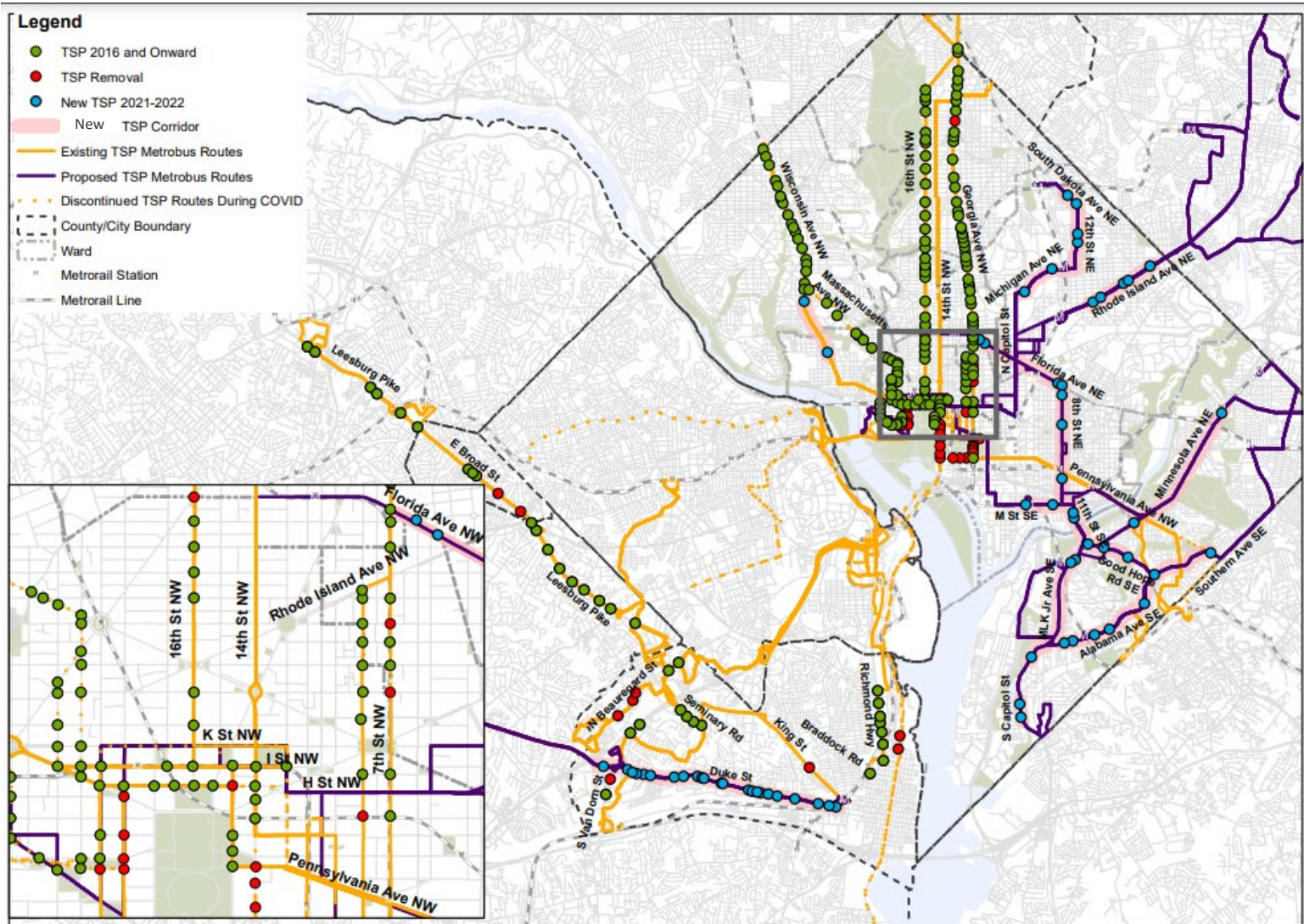


SmarTrip/Mobile Only

SmarTrip, Mobile and Cash

Reduces dwell time by allowing passengers to board from all doors

## New TSP Corridors | Improve Performance and Equity



- Total TSP intersections in the region: **250**
  - DC: 200 intersections
  - Virginia: **50 intersections** and more coming online
- **Transition to 4G communications completed in 2022**
- Ongoing System Maintenance
- New Corridors in NoVA in 2022: **Duke Street**
- Upcoming: Additional intersections on **Route 7**, **Langston Boulevard**, and **Columbia Pike**



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

Downtown Boston

Weekday Morning Rush Hour

June 2017

# 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 to be released this spring
  - Targeting early 2023 for initial rollout

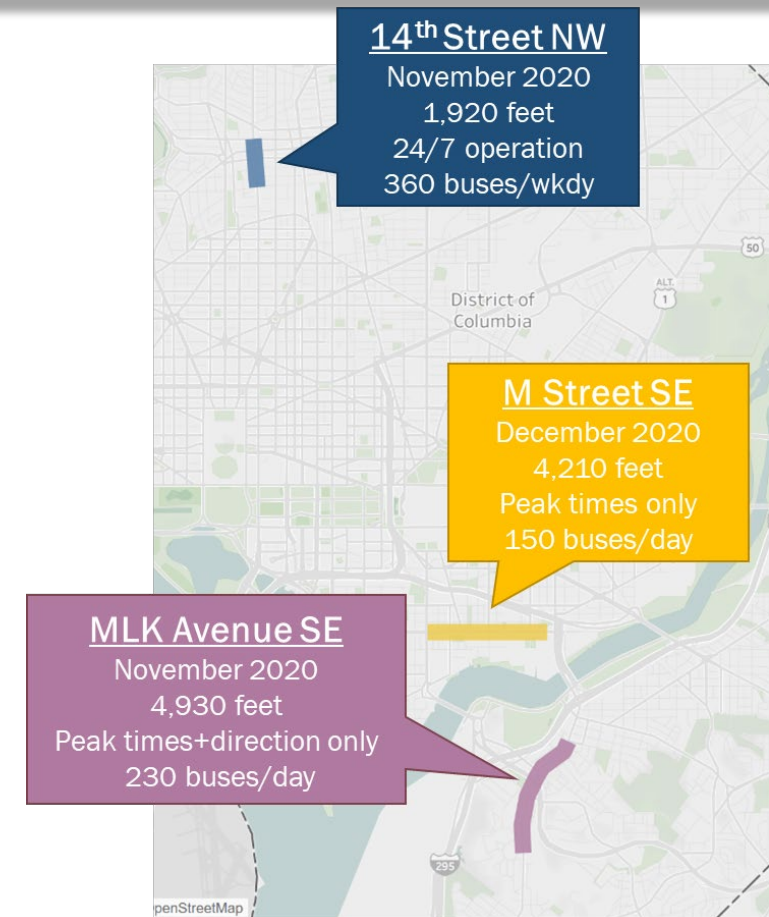


## Key Takeaways

- 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

## Next Steps

- Redesign Bus Network
- Expand bus priority initiatives in partnership with local DOTs



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

# APPENDIX



# Broad Stakeholder Engagement



More than a year of public and stakeholder input including:

- 8,800+ public survey responses
- 23 Executive Steering Committee meetings\*
- 16 Technical Team meetings\*
- 8 Strategy Advisory Panel meetings\*
- 14 WMATA Leadership Team meetings\*
- 13 Metrobus operator listening sessions
- 45 External project briefings
- 33 Pop-up events
- 3 Public Open House events
- 4 Focus Groups
- 140 participants in September 2018 Kickoff Summit
- 285 Social media posting
- 312,000 people reached via social media

# 1. Frequent and Convenient Bus Service

Progress since the Board's endorsement in January 2020

<b>A</b>	<b>Regional standards across bus systems</b>	✓ <b>Metrobus Service Guidelines adopted December 2020</b>
<b>B</b>	Standardized bus operations and performance data	Annual Line Performance Report published December 2020
<b>C</b>	<b>Bus Network Redesign</b>	<b>Scope developed in partnership with jurisdictions and redesign effort initiated</b>
<b>D</b>	<b>Revised Metrobus service definitions and funding allocation formula</b>	<b>Included in Network Redesign (Initiative C)</b>
<b>E</b>	Flexible on-demand services	Study underway

*Note:* Board priority recommendations are in **bold**

## Building a Better and More Equitable Bus Network



**Purpose:** Transform bus into a fast, frequent, reliable, affordable system that feels unified

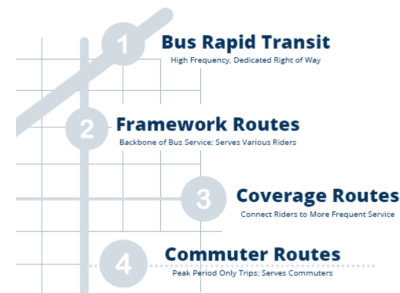
**Outcomes:** 26 recommendations + Action Plan

### New Service Guidelines

- Adopted Dec 2020
- New service classifications
- New performance metrics

#### WMATA BUS SERVICE GUIDELINES

##### Service Classifications (Purpose)



##### Service Tiers (Density)



Availability

Comfort

Reliability

Productivity

Route Design

Cost Effectiveness

### Frequent Service Network

- Frequent service all day
- At least 12-20 minute service
- 36 high-ridership routes

### Bus Prioritization

- Bus lanes and queue jumps
- Traffic signal priority
- Bus lane enforcement

### Bus Network Redesign

- Analyze demand
- Assess market
- Equity emphasis
- Public engagement
- Prioritize resources
- Redesign network



# Service Guidelines | Adopted in December 2020

**1 Bus Rapid Transit** high frequency routes that have dedicated right-of-way or other traffic control measures



**2 Framework Routes** are the backbone of bus service, serving various purposes for riders



**3 Coverage Routes** often connect riders to more frequent service



**4 Commuter Routes** provide peak period only trips during periods when commuters would use the services



**1 Service Classifications** group routes by the **purpose** they serve

**2 Service Tiers** group routes by the **density** in which they operate in

**A | densely populated** corridors such as 16<sup>th</sup> Street in the District

**B | moderate density** areas such as Arlington Blvd. in Fairfax County

**C | lower density** residential areas such as Bowie or Burke



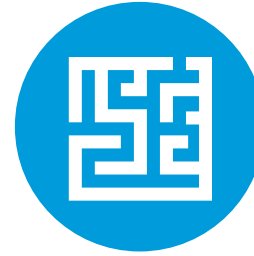
# Bus Network Redesign | Goals and Outcomes



**Increase access to frequent service**



**Grow ridership and mode share**



**Simplify bus network for existing and future customers**



**Leverage Service Guidelines for regional cohesion**



**Align with changes in land use and demographics**



**Harmonize payment systems and fare structure**



**Promote equity, access to opportunity, and an inclusive region**



**Coordinate service investments with bus priority infrastructure**

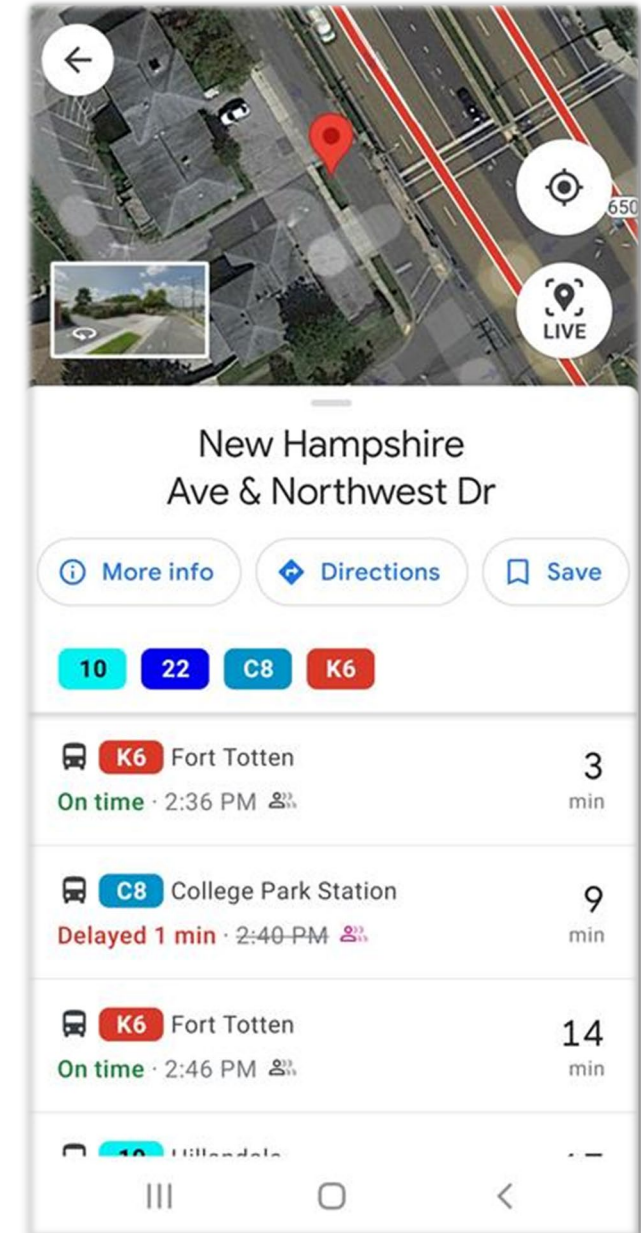
### 3. Customer Experience | High-quality information

Progress since the Board's endorsement in January 2020

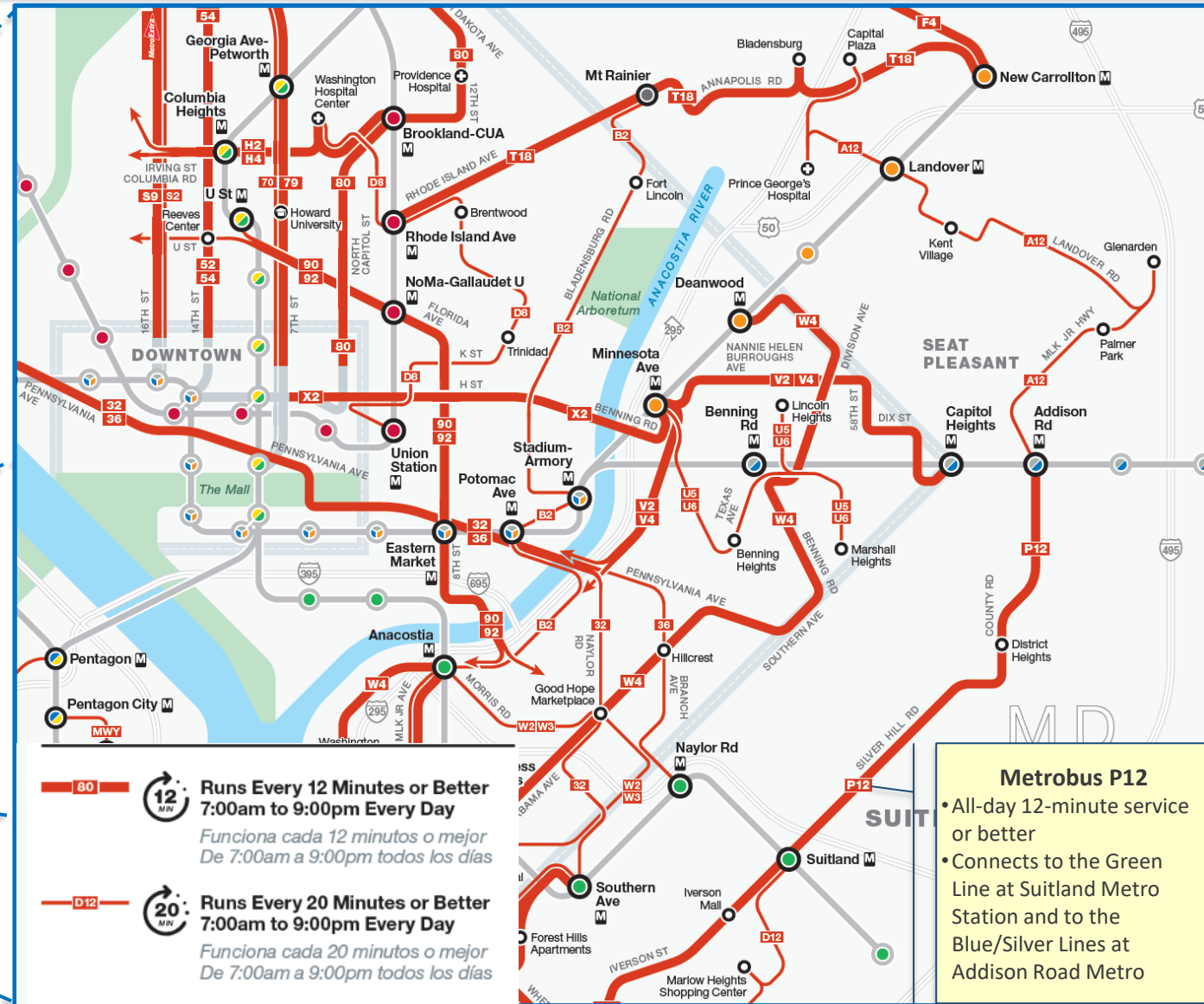
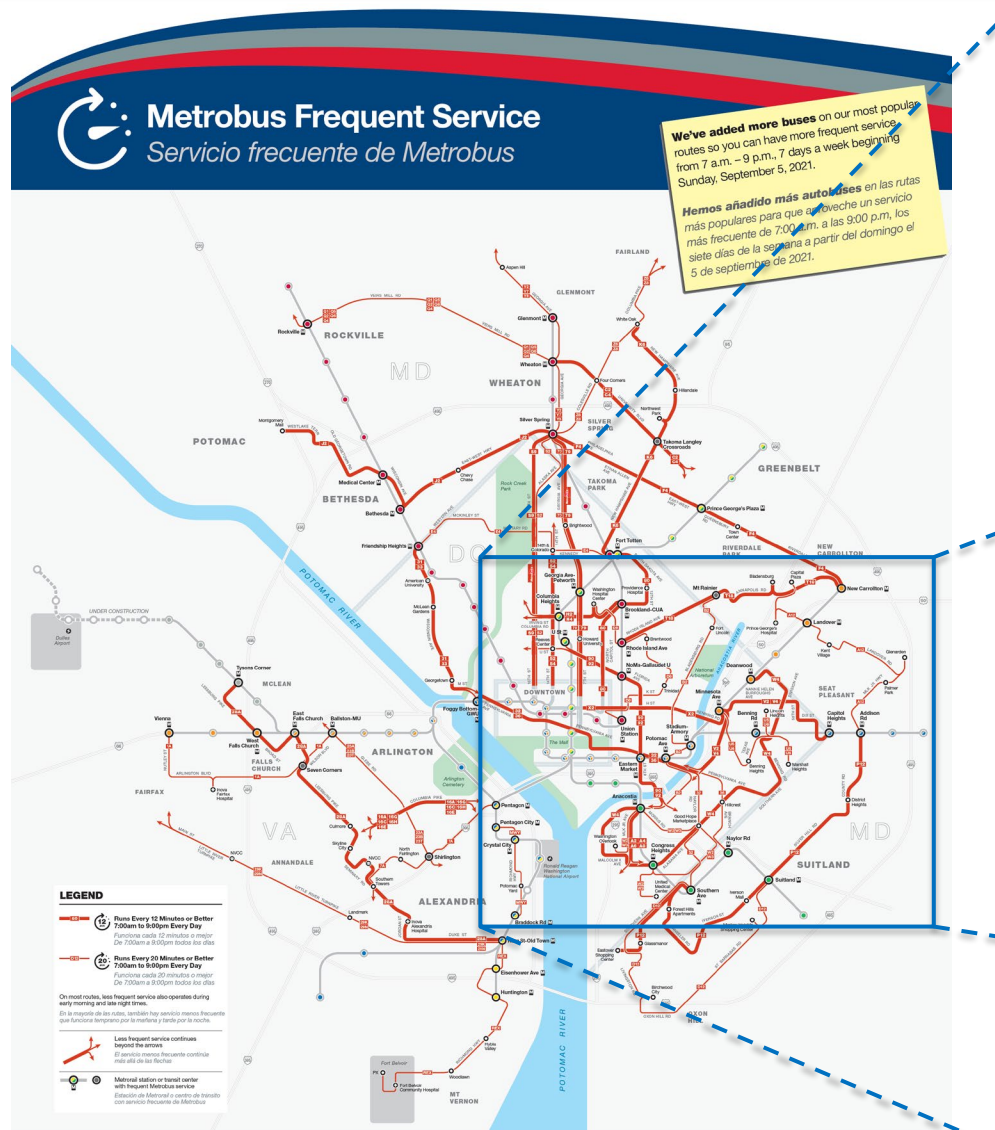
J	Accurate, real-time service information	December 2020 - Realtime crowding on Bus and Rail Future – Additional real time information for Bus customers
K	<b>Legible maps and customer-friendly route names</b>	<b>September 2021 - All Day Frequent Bus Service Map</b> <b>Future – Digital wayfinding strategy with integrated bus-rail maps</b>
L	Marketing efforts to enhance visibility of bus and benefits	Ongoing – on social media

*Note:* Board priority recommendations are in **bold**

# Realtime Service Information



# Legible, Customer-friendly Maps



schematic map not to scale  
mapa esquemático fuera de escala

wmata.com/changes



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY





### 3. Customer Experience | Easier Bus Fare Payments

Progress since the Board's endorsement in January 2020

<b>M</b>	Free Transfers between bus and rail	✓ Launched in September 2021 and adopted in the FY 2023 budget
<b>N</b>	Reduced fare options for low-income riders	Pilot resuming
<b>O</b>	Mobile solution to plan trips and pay in one place	✓ Mobile Payment Implemented
<b>P</b>	New regional passes across all providers	Board approved revised combo passes; coordination with regional providers underway
<b>Q</b>	Incentivize more employers to offer transit benefits	SmartBenefits ad campaign to be launched as ridership returns

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### 3. Customer Experience | Safer and More Pleasant Rides

Progress since the Board's endorsement in January 2020

<b>R</b>	Improved bus stops and shelters	In progress – bus shelters in bus loops will be replaced with modern shelters
<b>S</b>	Technology and programs to improve safety	In progress - Replacement of CCTV video systems; procurement of a collision avoidance
<b>T</b>	Exceptional customer service from frontline staff	Regular meetings at WMATA to review customer complaints and improve customer service
<b>U</b>	Highest standards of comfort and cleanliness	Implemented – Covid-19 daily bus cleaning and sanitation SOPs

*Note:* Board priority recommendations are in **bold**

## Modernizing Bus Shelters





- Existing shelters: 30+ years old and rusting
- New shelters will include
  - Structural steel
  - Solar panels and Lighting
  - Digital Bus Information Screens





## 3. Customer Experience | Innovation to improve bus

Progress since the Board's endorsement in January 2020

	New vehicle technologies to improve bus' environmental footprint and efficiency	<b>Launched - Zero-Emission Vehicles program</b> <b>Adopted – Board goal of Zero-Emission bus fleet by 2045</b>
	Regional Mobility Innovation Lab to share knowledge and accelerate improvements	Monthly - Regional Fare Coordination Meeting Bi-Monthly - Regional Bus Priority Meeting Annual - Bus Ridership Workshop

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## 4. Coordination Improves Implementation

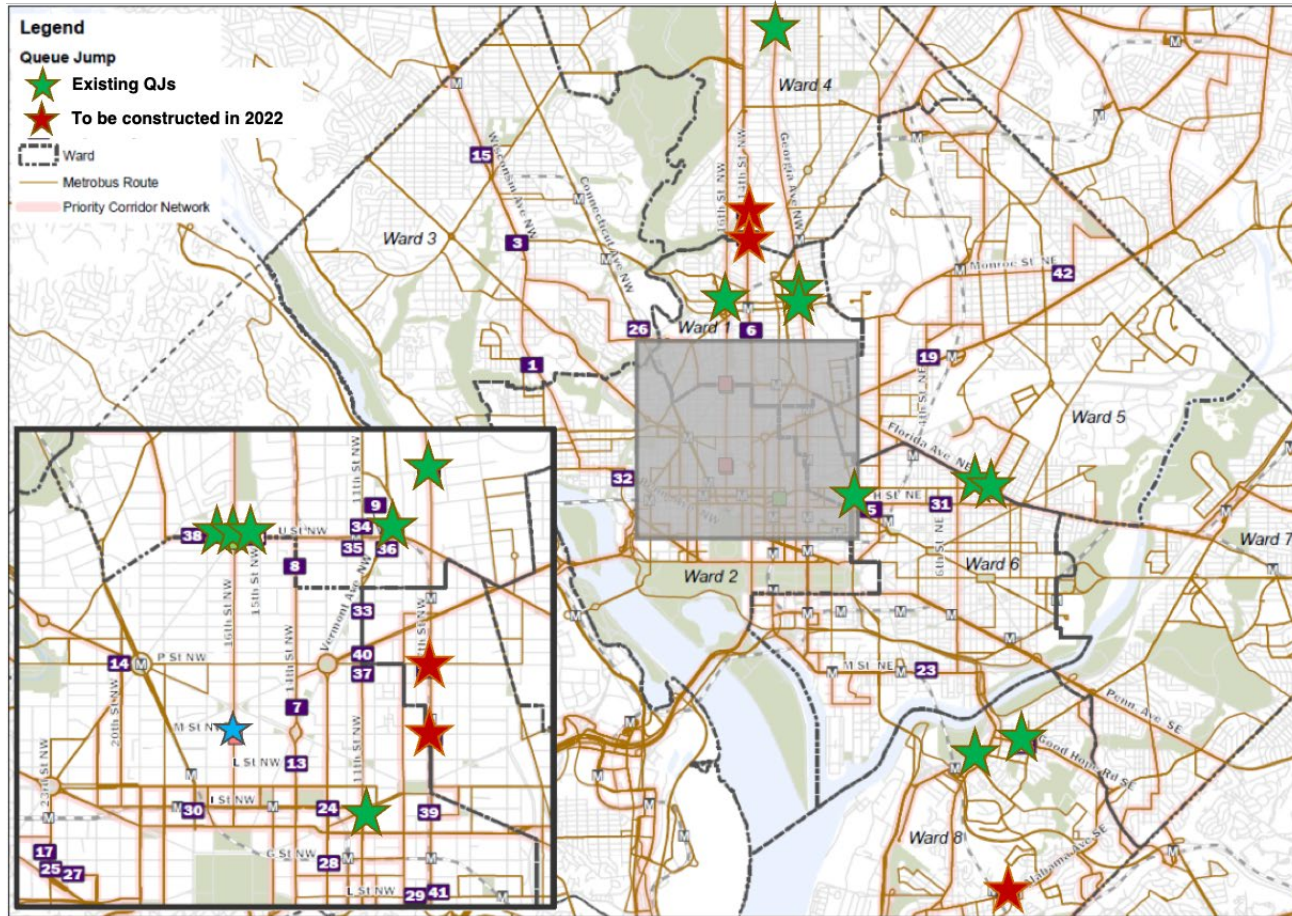
Progress since the Board's endorsement in January 2020

X	Task Force to provide long-term leadership for the region's bus systems	Re-Launched in Winter 2022 as a Quarterly Regional Leadership Meeting for Bus System Providers
Y	An independently-published annual progress report on BTP Strategy implementation and a bus performance scorecard to track the level of service delivered to customers	BTP Progress Report completed by MetroNow in January 2022
Z	A platform for rider feedback for incorporating feedback into revisions of the BTP recommendations	Metro Ridership and Recovery Survey completed in summer 2021

*Note:* Board priority recommendations are in **bold**

## 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