BUS TRANSFORMATION PROJECT

Draft strategy

April 2019

WASHINGTON AREA BUS TRANSFORMATION PROJECT

I. Introduction

Congestion, affordability, and mobility are major problems in the DC region that will only continue to grow

It is past time for this region to transform its bus system.

A transformed bus system will meet these challenges and provide real results for the region:

- Reduced congestion and emissions
- Increased transit ridership
- Better and faster transportation
- Affordable transportation for more people
- More efficient use of resources
- Better travel experience for riders

The alternative is unaffordable, and harms regional competitiveness and livability.

The National Capital Region must overcome its transportation challenges in order to continue to grow and compete with other regions around the country

Transportation issues contribute to a range of regional problems:

Commuters spend **82 hours** each year stuck in traffic, degrading quality of life

Congestion imposes a cost premium on centrally located neighborhoods, pushing affordable housing options further into the suburbs

May limit regional economic growth by discouraging businesses from locating here

The National Capital Region is adding 40,000–60,000 jobs and households each year, but its transportation system is struggling to keep pace, leading to some of the longest commutes and worst traffic congestion in the nation.

Source: 2015 TTI Mobility Scorecard, MWCOG Cooperative Regional Land Use Forecasts

Bus is a key element in our regional transportation solution

Reduces emissions

Reduces congestion

Provides affordable transportation

Delivers access throughout the region

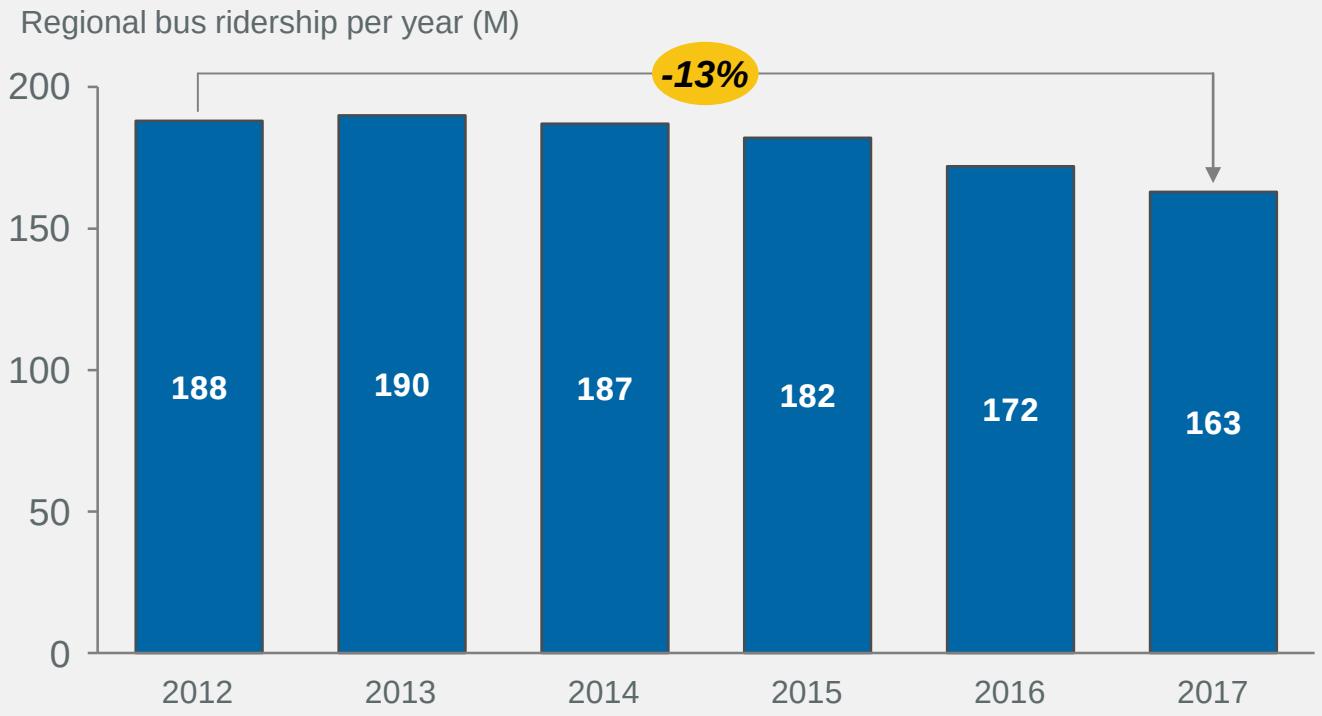
Uses roadway space efficiently

Reduces space devoted to parking

The Challenge:

Customers are turning to other travel options. Traditional definitions of bus service are not keeping pace with rapid technology and social change.

Since 2012, bus ridership has fallen by 13 percent across the region.



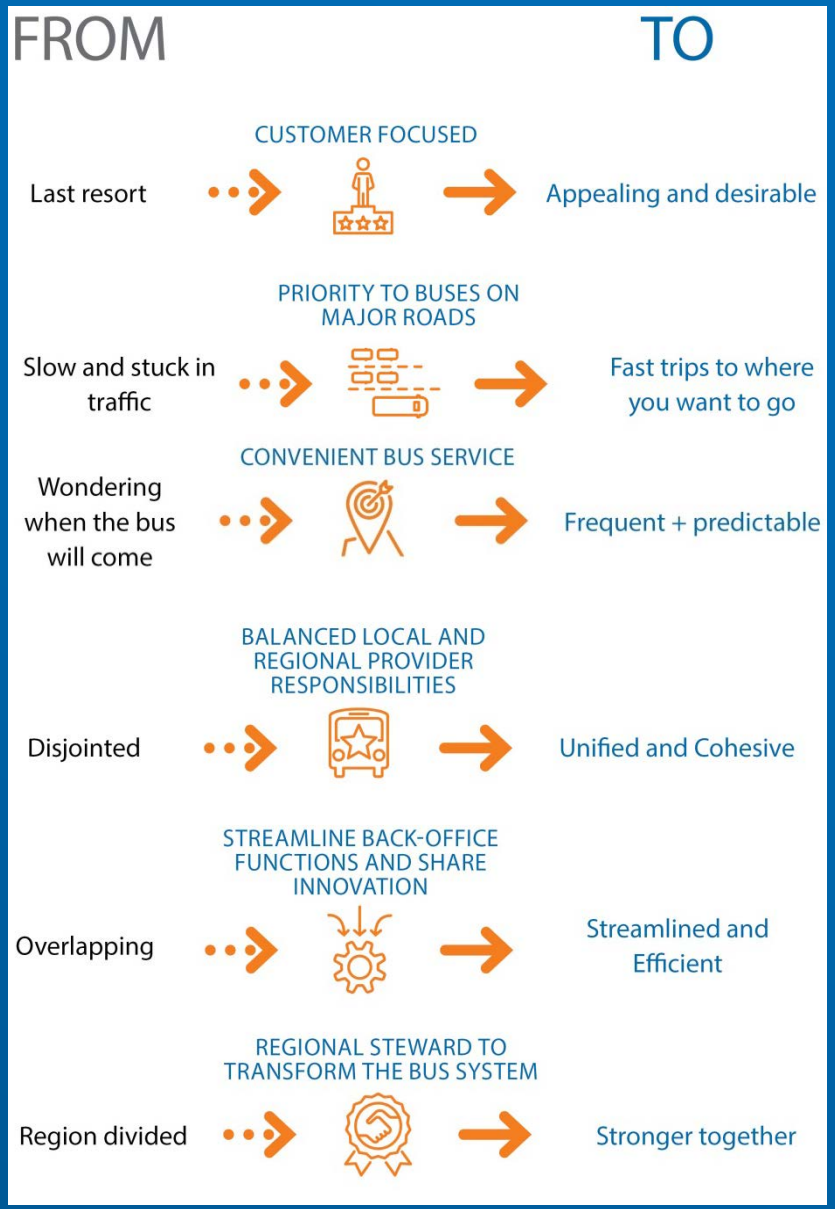
Bus faces several **core challenges** that will continue to grow unless changes are made today:

- Meet changing customer needs
- Keep up with changing technology
- Coordinating across region
- Maintain sustainable cost structure
- Deciding how service is paid for

To solve these problems, the region must **transform its approach to bus**

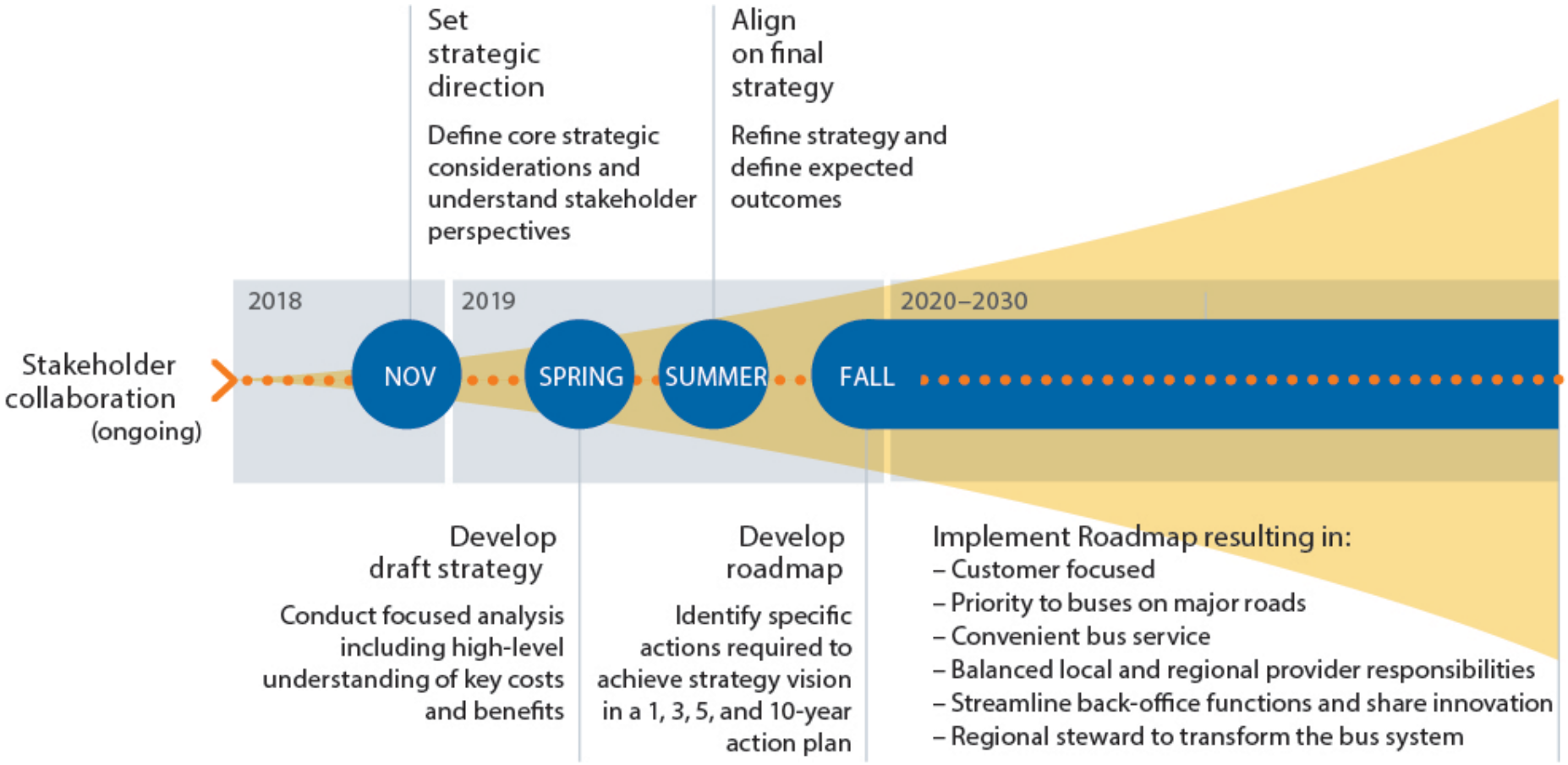
The outcomes of the Strategy will transform our region's bus system by:

- Facilitating fast, frequent, desirable, affordable, and seamless travel connections for customers
- Aligning the high-frequency and high-capacity regional bus network with roadways where buses are given priority
- Clearly delineating and effectively coordinating regionally provided services and locally managed bus systems
- Empowering organizations to coordinate functions, leverage transformative technologies, and transparently track progress



The Transformation starts immediately, but will take time to fully implement

The Strategy informs a 10-year Roadmap that lays out a series of specific implementation steps that will help the Bus Transformation gain momentum over time



II. Overview of draft strategy

Strategy Elements

The strategy to achieve the vision and goals is built around six elements – with a set of recommendations underlying each:

1	**Customer Focused**	The bus system should be customer-focused and an easy-to-use option that people want to ride
2	**Priority to Buses on Major Roads**	Prioritizing buses on major roads is the fiscally responsible way to move the most people quickly and reliably
3	**Convenient Bus Service**	Frequent and convenient bus service is fundamental to accessing opportunity, building an equitable region, and ensuring high quality of life
4	**Balanced local and regional provider responsibilities**	Balance local and regional provider responsibilities by positioning local bus systems to meet their jurisdictional needs and the regional bus system to meet regional needs and deliver regional benefits
5	**Streamline Back-Office Functions and Share Innovation**	Optimize back-office functions through sharing, streamlining and shared innovation by consolidating regional resources and devoting more resources to operating bus service
6	**Regional Steward to Transform the Bus System**	Customers in a region with multiple bus providers need a regional steward to transform the bus system

Principles to keep in mind:

The scope of this project, and what is meant by “bus”

- Adopting an outcomes-focused mindset, references to “bus” in the strategy means any vehicle that makes efficient use of roadways by transporting a large number of riders safely, conveniently and affordably
- This definition includes large buses on fixed routes and shuttle buses operating on-demand; vehicles with drivers and autonomous vehicles; publicly-owned as well as private commercial operations
- This project focuses on local bus, as distinct from commuter bus services which serve many parts of the region. This project does not explicitly address paratransit services which also make up an important part of the transportation service network.

Designing a solution to meet the majority of business needs

- This Draft Strategy lays out several elements that are recommended as the framework for transforming the regional bus system. However, it is acknowledged that there may need to be exceptions to these recommendations based on truly localized needs. Nothing in this Strategy should be seen as precluding those possibilities.

The Bus Transformation Project has completed significant **analysis of the region's bus** systems…

…which are not included in the Draft Strategy

Bus carries almost **as many people everyday as Metrorail**.

The current regional system includes **nine bus service providers**:

- WMATA
- Loudoun County Transit
- The Bus
- Fairfax County Connector
- RideOn
- ART
- DASH
- CUE
- DC Circulator

A comprehensive assessment of the region's bus system concluded in November 2018 and can be found on the Bus Transformation Project website under Resources/Project Documents.

III. Vision & goals as voiced by stakeholders

The vision, goals, and objectives for bus in the region are the result of collective effort

Since the Bus Transformation Project Kickoff Summit in September 2018, stakeholders across the region have provided perspectives and focused input on the role of bus in the region and the key features of an effective bus system.

Stakeholder outreach has included:

- 5,679 responses to survey
- 20 regional pop-up events
- 25 committee meetings
- 13 operator listening sessions
- 40 stakeholder interviews
- 33 project briefings/meetings with elected officials
- 10,056 people reached by the project Facebook page

These inputs have been synthesized into a set of aspirational goals for bus in the region, which have been reviewed and/or approved by the Executive Steering Committee, Technical Team, WMATA Leadership Team and Strategic Advisory Panel.

Project Vision:

Bus will be the mode of choice on the region's roads by 2030, serving as the backbone of a strong and inclusive regional mobility system.

Goals for bus in the region as voiced by stakeholders

1 **Regional connectivity**	• Provide reliable on-street transit options that efficiently connect people to places and improve mobility
2 **Rider experience**	• Ensure a convenient, easy-to-use, user-centered mobility option
3 **Financial stewardship**	• Maintain a transit mode that is financially sustainable in the long term
4 **Sustainable economic health & access to opportunity**	• Encourage vibrant, economically-thriving and sustainable communities
5 **Equity**	• Create a bus system that is affordable and equitable

The six Strategy Elements have been developed to achieve the goals for Bus Transformation

	Goals	Customer Focused	Priority to Buses on Major Roads	Convenient Bus Service	Balanced local and regional provider responsibilities	Streamline Back-Office Functions and Share Innovation	Regional Steward to Transform the Bus System
		Strategy Elements					
1	Regional connectivity	✓	✓	✓	✓	✓	✓
2	Rider experience	✓	✓	✓		✓	✓
3	Financial stewardship	✓	✓		✓	✓	✓
4	Sustainable economic health & access to opportunity	✓	✓	✓			✓
5	Equity	✓		✓			✓

IV. Draft Strategy: elements and detailed recommendations

1

The bus system should be **customer-focused** and an easy-to-use option that people want to ride

Element: Bus system should be customer-focused and an easy-to-use option that people want to ride

Recommendations to drive strategy:

PLAN

- A Expand **marketing** efforts related to bus to enhance visibility of bus options and benefits
- B Make buses easy to understand with **legible maps and consistent route naming** conventions
- C Create a **single mobile app** that allows riders to plan and pay for trips and access real-time service information

PAY

- D Make **bus fares** clear and consistent across the region
- E Introduce pass products that work across **all bus systems**
- F Enhance **reduced fare products** for low-income residents
- G Allow customers to **transfer for free** between bus and rail
- H Incentivize more employers to offer **transit benefits**

RIDE

- I Make **bus stops** safe, convenient, and accessible across the region
- J Modernize the region's **bus fleet** with energy-saving, green technologies

What the strategy will achieve:

If bus agencies deliver outstanding end-to-end trip experiences for all riders, the region will see:

- Increased **customer satisfaction**
- Reduced **safety incident rates** at bus stops and on buses
- Reduced **environmental impact** of transportation
- **Increased transit ridership**
- **More affordable transportation** for residents that need it most
- **Less congestion** on our region's roads

Recommendation:
Create a single mobile app that allows riders to plan and pay for trips, and access real-time service information

1. **Easy trip planning:** Allows riders to easily plan trips on one seamless interface
2. **Multi-modal options**: Creates opportunity to offer multi-modal options to complete trips (e.g., rail, TNCs, bike-shares)
3. **Seamless payment:** Gives customers a secure, electronic purse that they can load remotely, from any location
4. **Real-time information:** Gives travelers up-to-date information about the trip, connections, emergency messages
5. **Real-time information:** Provides platform to share advertisements and special offers with travelers

Supporting information: WMATA making strides in this space, with plans for mobile application already underway

Case study

WMATA's mobile payment application

As part of Metro's initiative to upgrade its fare collection system, Metro is developing a new fare payment app that will allow customers a quick and easy way to pay and manage their SmarTrip account from anywhere

The new mobile fare payment platform will work with Metro's existing infrastructure, eventually allowing customers to tap their mobile device to the white target at the faregate

Using the app, customers will be able to check fares, get real-time service information, and add money to their SmarTrip account instantly through Auto-Reload when the value is low

Approach to fare modernization

The modernization project will be done in three parts:

1. Metro will upgrade existing fareboxes, faregates, and fare vending machines to support mobile payments and extend their useful life until they can be replaced.
2. Metro will install new faregates at more than 900 entry/exit lanes at all 91 stations
3. Metro will install new fare vending machines that will be more user friendly with large touchscreens, better accessibility for customers with disabilities, multi-language support, and a smaller physical footprint.

Source: WMATA (2018).

Recommendation: Make bus fares clear and consistent across the region

Today's disparate pricing structure is difficult for riders to understand…

Availability of discounted fares: Different bus providers offer lower fares to different segments, e.g.,

- DASH does not offer discounted fares for seniors or students, while many other operators do

Discounted fare level: Even among those who offer discounts to certain riders, the fare level varies, e.g.,

- Student fare for ART is $1.00, for CUE it's $0.85 for students holding FCPS monthly pass

…resulting in several potential opportunities to create a simplified fare structure

Agree on segments that will receive discounted fares across all bus operators, e.g.,

- All low-income, customers with disabilities, students, and seniors receive discounted fares across bus operators

Offer uniform discounts to these groups across bus operators, e.g.,

- All students ride for free
- Seniors and passengers with disabilities pay half-price

Context: Low-income population heavily-dependent on bus, and are seeking more affordable fares

No fare discount programs exist for low-income riders in the region…

Operator	Does operator offer discounted-fare program?			
	Senior	Disability	Youth	Low-Income
Metrobus	✓	✓	✓	✗
RideOn	✓	✓	✓	✗
Fairfax Connector	✓	✓	✓	✗
DC Circulator	✓	✓	✗	✗
TheBus	✓	✓	✓	✗
DASH	✗	✗	✗	✗
ART	✓	✓	✓	✗
CUE	✓	✓	✓	✗

…despite heavy reliance on public transport and strong interest in more affordable fares

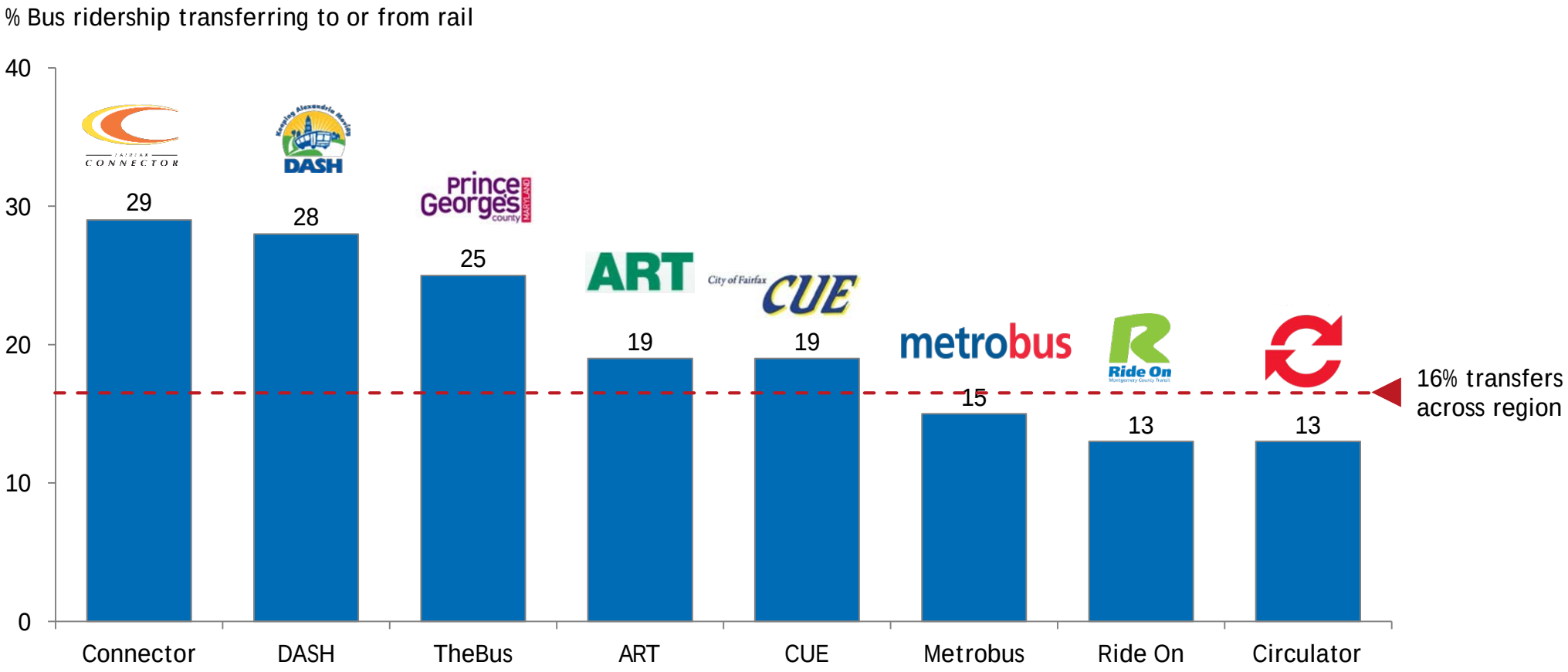
Transit-dependence: 52% of Metrobus riders are low-income (household income less than $30,000, less than half of the median household income in the region) and 55% do not own a personal vehicle

Current spend on transit: On average, low-income riders spend more than 2x as much of their of after-tax income on public transportation, vs. riders who are not low-income

Affordable fares: In the Bus Transformation Project Mobility Survey, regional investment in more affordable fares was the fourth highest priority among low-income respondents, following reliability, frequency, and travel time improvements

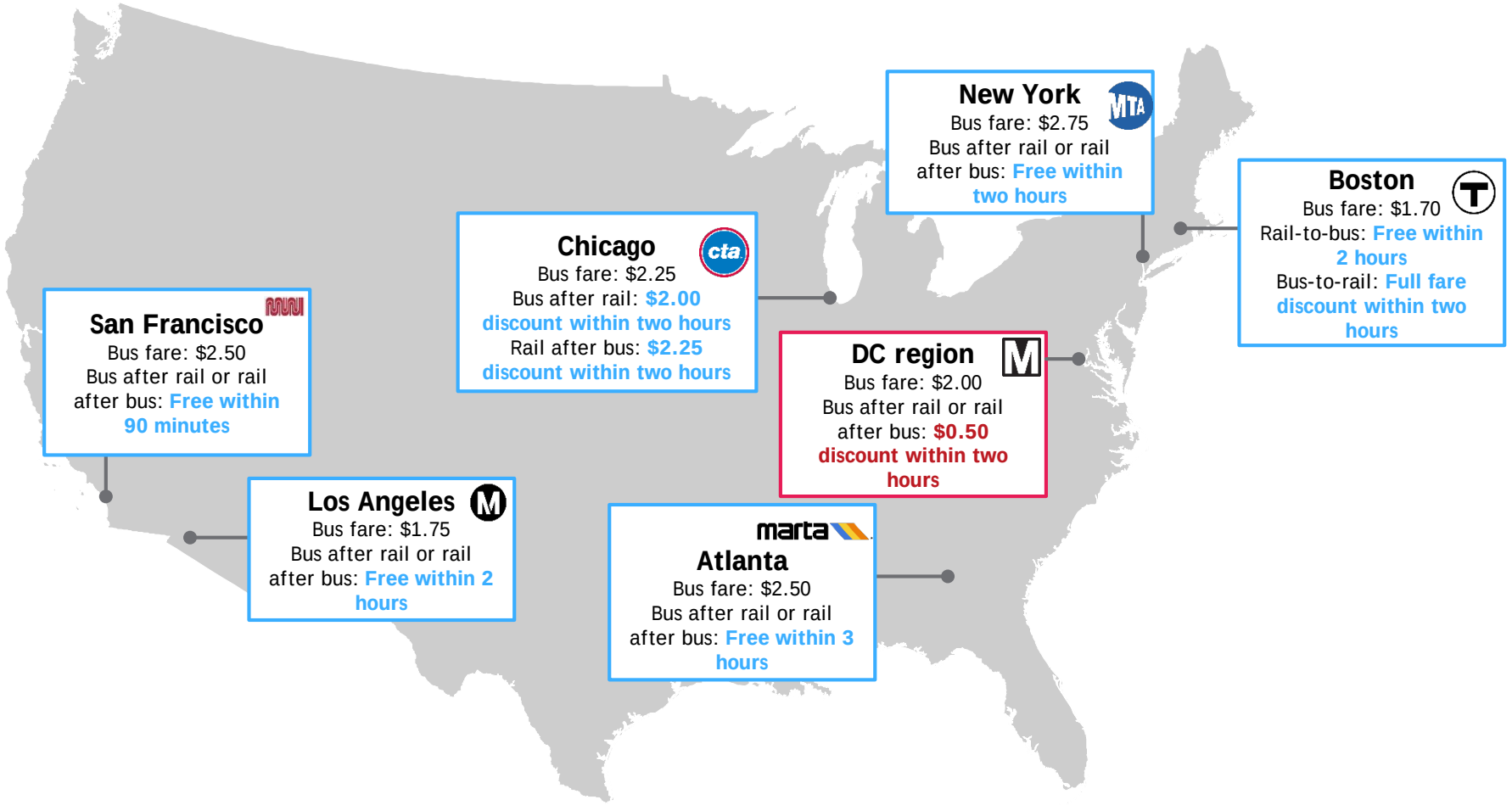
Source: WMATA 2014 Passenger Survey; US Census 2011-2016 5-Year Estimates. Bureau of Labor Statistics Consumer Expenditure Survey (2017) National Average (Table 1203); BCG analysis

Context: Today, ~16% of bus ridership across the region transfers to or from rail



Source: Estimates based on SmarTrip data, 2017. Loudoun County local buses only accept cash for fare payment.

Context: Rail to bus transfer cost in the DC region is high when compared to other large metropolitan areas in the U.S.



All fares listed are based on smartcard payment. If paying in cash / single ticket, Chicago bus fare is $2.50, San Francisco is $2.75, Boston is $2.00, New York is $3.00.
Source: CTA, SF MUNI, LA Metro, MARTA, MTA

Recommendation: Modernize the region's bus fleet with energy-saving, green technologies (I)

Cities around the world are committing to electric bus

In 2017, twelve cities signed the C40 Fossil-Fuel Free Streets Declaration, committing to only procuring electric buses from 2025 onwards (more cities have signed the Declaration since 2017)

Los Angeles, San Francisco, and New York announced that they would transition to a 100% electric bus fleet by 2030, 2035, and 2040, respectively

In the DC region, electrification is occurring in pockets, for example:

In May 2018, 14 new Proterra E2 Catalyst Electric Buses added to DC Circulator fleet. The 100% battery-electric vehicles bring clean, quiet, zero-emission transportation to more than 4.8 million annual riders across all six distinct Circulator routes

59% of Metrobus' 1,500+ bus fleet are hybrid vehicles and one bus is fully electric, compared to 29% CNG, 9% Clean diesel, and 3% standard diesel

Reasons to transition to electric bus across the region

Energy efficiency: Reduced environmental footprint of bus, and transportation in general

Ridership experience: Quiet motors offer a more pleasant ride over their noisy diesel counterparts

Lower operating cost: Lower maintenance costs over the lifetime of the vehicle, thus decreasing the costs of providing transit service

Garages: Electric bus garages are more community-friendly than existing bus garages; as a result, less pushback from NIMBYs

Source: WMATA 2017 Metrobus Fleet Plan, https://www.wmata.com/about/board/meetings/board-pdfs/upload/3A-Metrobus-Fleet-Plan-TO-POST.pdf, C40, Forbes (2018); Clean Technica (2018), ITDP (2018).

2

Prioritizing buses on major roads is the fiscally responsible way to move the most people quickly and reliably

Element: Prioritizing buses on major roads is the fiscally responsible way to move the most people quickly and reliably.

Recommendations to drive strategy:

A. Obtain commitments from each local and state jurisdiction to prioritize bus on major corridors within their boundaries

B. Adopt consistent priority guidelines for corridors across the region

C. Develop enforcement programs that maximize the effectiveness of bus priority efforts

D. Offer incentives to jurisdictions to encourage implementation of the regional priority guidelines

E. Coordinate with regional congestion mitigation efforts, including congestion pricing, curb access management, and parking limitations to move more people more efficiently

What the strategy will achieve:

If the region commits to priority treatment of bus, it will experience:

- Reduced **journey time** for bus riders
- Increased **ridership**
- Greater **on-time performance** for bus
- Decreased **bus operating costs**
- Improved **traffic conditions** across modes
- Improved **regional productivity and competitiveness**

Context: Traffic congestion slows down buses and the whole region.

Significant congestion in the Washington region today….

2nd Most congested metropolitan area in the U.S.

19th Most congested metropolitan area in the world

23% of driver time spent in congestion during morning and evening commutes

….resulting in negative consequences for transit and society at large

- Slower bus services
- Wasted fuel and increased emissions
- Increased stress and fatigue for drivers
- Reduced personal time for other activities
- Inability to forecast travel time accurately
- Economic loss (e.g., decreased business productivity)
- Higher risk of collision due to tight space on roadways
- Difficult passage for emergency vehicles
- Increased wear and tear on vehicles

Source: INRIX Global Traffic Scorecard (2018).

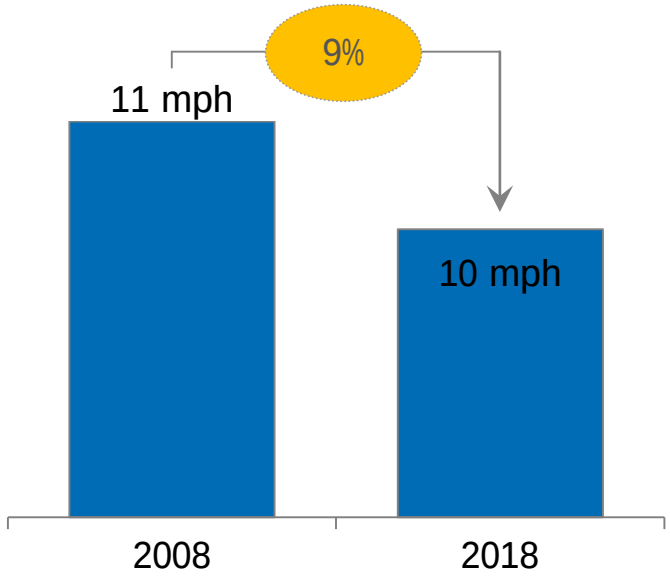
Context: While bus remains the most efficient roadway mode, it is no longer competitive based on time and cost considerations, compared to other options.

Bus is the most efficient way to move people on roadways…

60 vehicles for 60 passengers

1 bus for 60 passengers

…but buses are traveling slower today than 10 years ago…



This speed decrease represents more than **3.8M hours** lost to regional residents each year, and a cost to WMATA of more than **$30 million** annually.

…as a result of several landscape changes

Increased **congestion** from vehicles on the road, including TNCs

On-street **parking**

Proliferation of **bus stops**

Curbside developments

Lack of **enforcement** for deliveries, taxis, etc. in bus lanes and at stops

Elimination of historical **bus lanes**

Source: 2017 NTD data

Context: Today, jurisdictions plan and execute bus priority interventions in a de-centralized fashion, rather than taking an integrated regional approach

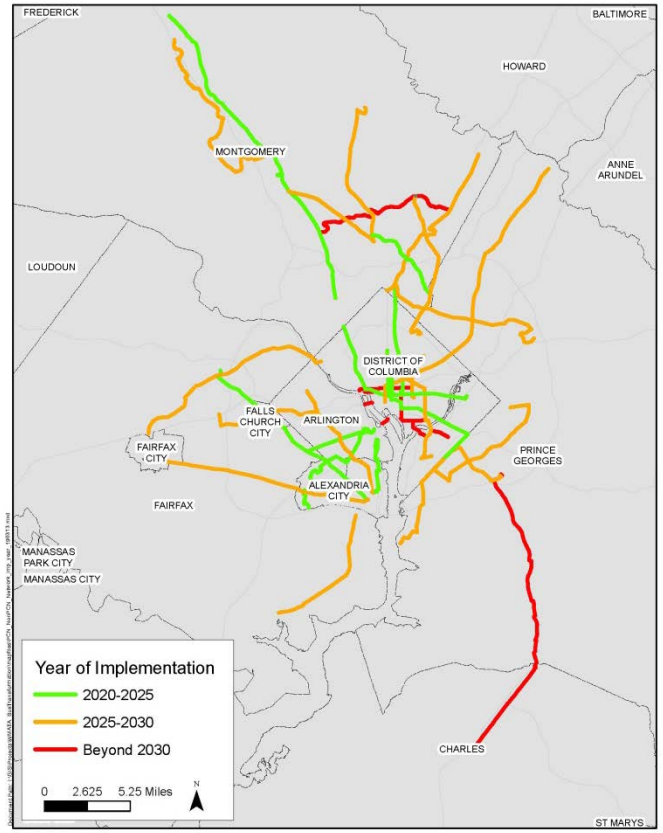
Bus priority interventions have been driven independently by jurisdictions so far…

Arlington & Alexandria: In 2016, dedicated bus lanes were introduced in Crystal City and Potomac Yard, providing faster, more reliable trips for bus riders along the U.S. 1/Jefferson Davis Highway corridor

DC: In 2018, D.C. set up a bus lane on 5th Street and Rhode Island Avenue Northeast, expediting G8, G9, and other special shuttle service

….and upcoming bus priority interventions are still decided and planned on a local level.

Jurisdictions face challenges in balancing regional goals of dedicated bus lanes with local issues like on-street parking and side street traffic operations.



Source: Transportation.arlingtonva.us, Greater Greater Washington (June 2018), Greater Greater Washington (Oct. 2018), WTOP (2016)

Context: Buses cannot take full advantage of priority treatments without regulation and enforcement

Without enforcement of bus facilities, buses cannot take full advantage of priority treatments, reducing the return on priority investments

Vehicles blocking bus facilities impact overall roadway operations:

- Slow travel speeds in bus lanes
- Force buses to merge into general traffic to get around stopped vehicles
- Cause passengers to board and alight in unsafe traffic conditions

Sources: National Capital Region: TPB. Bus Lane Enforcement Study. June 2018
https://nyc.streetsblog.org/2018/10/23/hike-in-nypd-bus-lane-enforcement-barely-makes-a-dent-for-riders/

Recommendation: Obtain commitments from each local and state jurisdiction to prioritize bus on major corridors within their boundaries

Obtain formal agreement across the region to commit to implementing bus priority together

Jurisdictions and bus operators formally agree to jointly pursue bus priority interventions across the region

Agreement includes intention to establish regional bus priority guidelines to drive implementation.

Commitment to operational enforcement from the beginning is essential to success.

Ensure regional bus investments are prioritized in capital allocation planning

WMATA prioritizes bus in capital plan by creating competitive grant program to implement on-street bus priority measures that will have the largest regional impact

Jurisdictions pursue enhancements needed for successful bus priority implementation

Identify additional funding sources for bus priority interventions (if needed)

Jurisdictions and WMATA work together to estimate total cost of implementing agreed-upon priority interventions

If needed, region identifies additional standalone funding sources for implementation (e.g., car tab fees, sales taxes)

Recommendation: Adopt consistent priority guidelines for corridors across the region (I)

Establish regional standards for identifying select corridors to receive priority treatment

Alignment on key metrics / thresholds for designating a corridor to receive priority treatment based on potential benefits to the region, e.g.,

Bus Service Frequency:

Prioritization on high-frequency corridors helps to eliminate bus bunching

Bus Passenger Volumes:

Prioritization on high-volume corridors will provide benefits to the greatest number of users

Bus Stop Density:

Prioritization on corridors with a high number of bus stops per mile will help eliminate additional, unnecessary stopping along the route

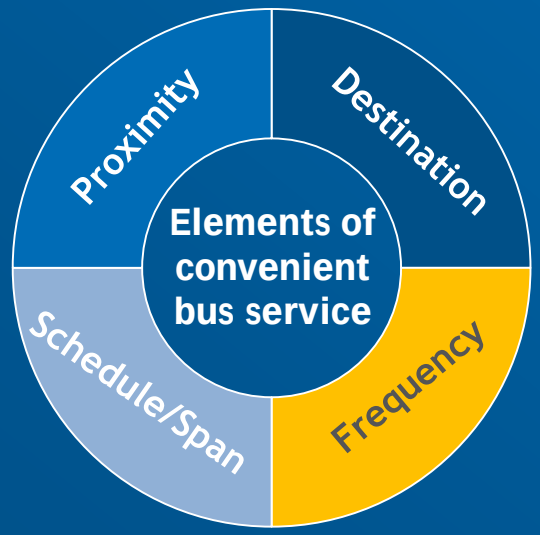
Land Use Characteristics:

Prioritization on corridors with high density, transit friendly land-use will help to make bus an even more attractive option and improve service efficiency

3

Frequent and **convenient bus service** is fundamental to accessing opportunity, building an equitable region, and ensuring high quality of life

Element: Frequent and convenient bus service is fundamental to accessing opportunity, building an equitable region, and ensuring high quality of life



Recommendations to drive strategy:

A. Develop a regional bus network plan that realigns routes to create the most efficient and customer focused bus system

B. Adopt consistent guidelines across the region to provide customers with the right amount of bus service by location and time of day

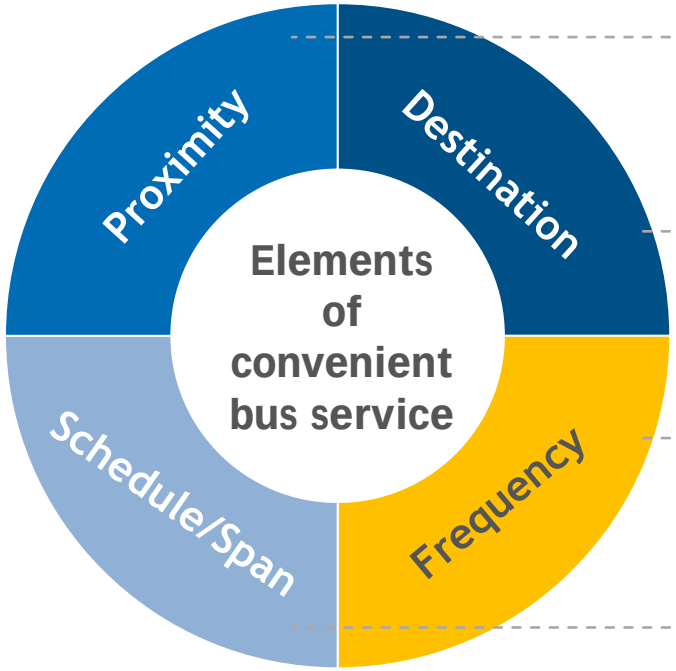
C. Provide flexible, on-demand transit services to markets where customers are not well-served by conventional bus service

What the strategy will achieve:

Strategic investment in enhancing access to bus will result in:

- Increased **responsiveness to customer demand** for service
- Increased **access to transit (frequency, schedule, span)**
- Increased bus **ridership**
- More **efficient use of resources**

Context: Four key drivers for improving convenience of bus service



Proximity: Bus is available within ¼ of a mile
Compare today: 81% of Washington area population (94% of transit-dependent population) has a bus within ¼ mile, but span, frequency, and destination limit utility

Destination: Bus takes rider to desired location
Compare today: Third most common reason for not riding bus is the region is "Buses don't go where I need to go"

Frequency: Bus departs at frequent intervals
Compare today: 48% of the population in the region has access to high-frequency (15-minutes or less) bus within ¼ mile during peak periods, but that number decreases significantly during other time periods

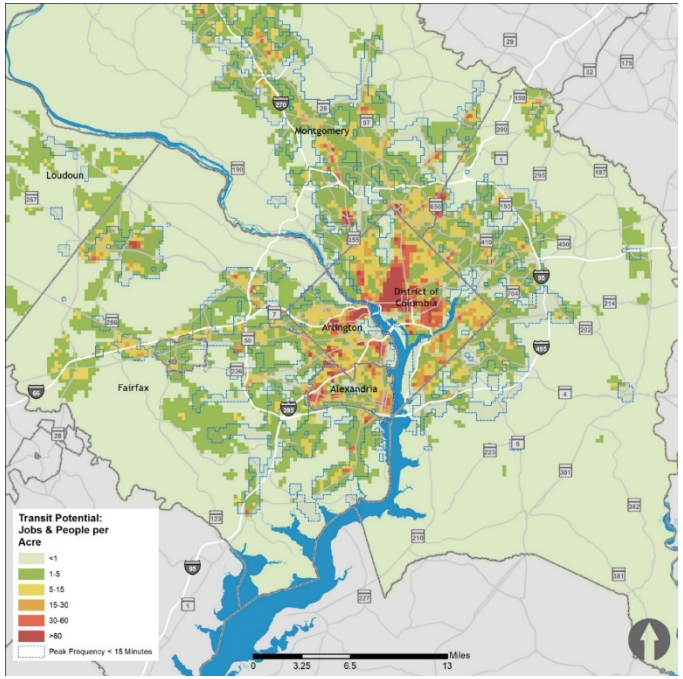
Schedule/Span: Bus is available when people need it
Compare today: Many areas of the region have very little or service outside of 7am-7pm, in addition to significantly reduced utility to riders on the weekends.

While most of the region has bus stops within ¼ of a mile, significant opportunity for improvement on destination, frequency, schedule, & span

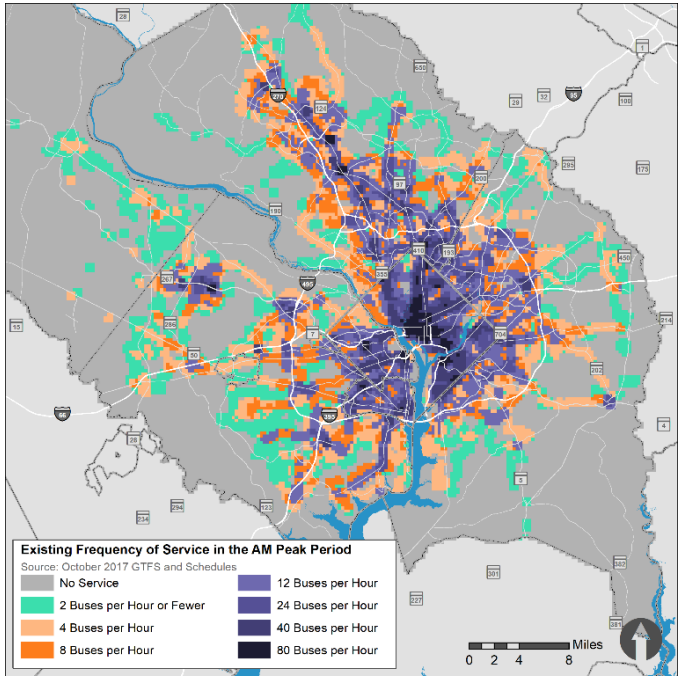
Source: Foursquare ITP analysis. WMATA 2014 Passenger Survey; US Census 2011-2016 5-Year Estimate, Bus Transformation Project Mobility Survey (2018).

Context: Assuming service levels should meet demand, gaps exist in current service frequency and coverage, especially during off-peak periods

Current level of activity (population/employment) in the region today



Current level of AM Peak bus service in the region today

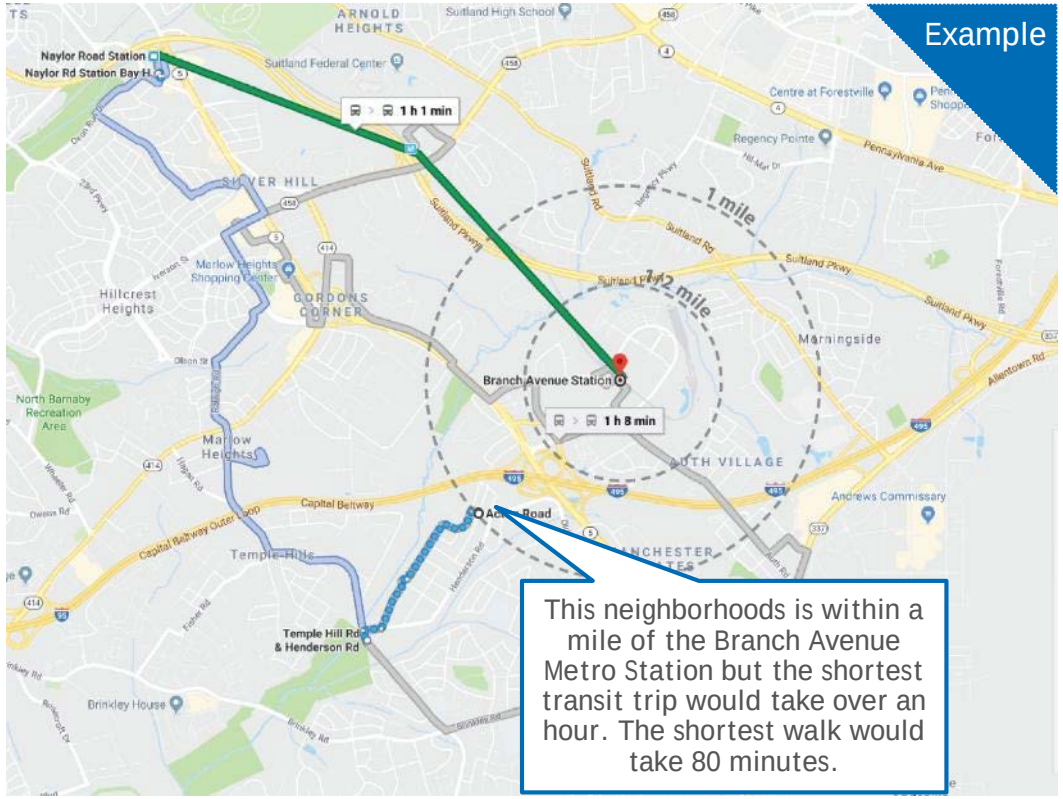


While service in the peak periods is generally well matched to demand, weekday midday frequencies across much of the region are not

Jurisdiction	% of Jurisdiction with Midday High Frequency (<15 minutes) Service
City of Alexandria	85%
Washington D.C.	83%
Arlington County	76%
City of Falls Church	61%
Fairfax City	52%
Montgomery County	47%
Prince George's County	34%
Fairfax County	24%
Loudoun County	8%

Context: Traditional bus is not able to efficiently provide access in certain areas or to destinations, like Metrorail stations

Traditional bus service is not able to effectively provide access to low density areas with circuitous roadways



Flexible service offers a number of advantages over traditional bus in low demand areas

Increase access: Flexible service models can provide a transit option for a wide range of neighborhoods that could not be served by local bus

Door-to-door: Service can directly connect passengers to their destination or high frequency transit, like Metrorail stations, serving a greater range of needs

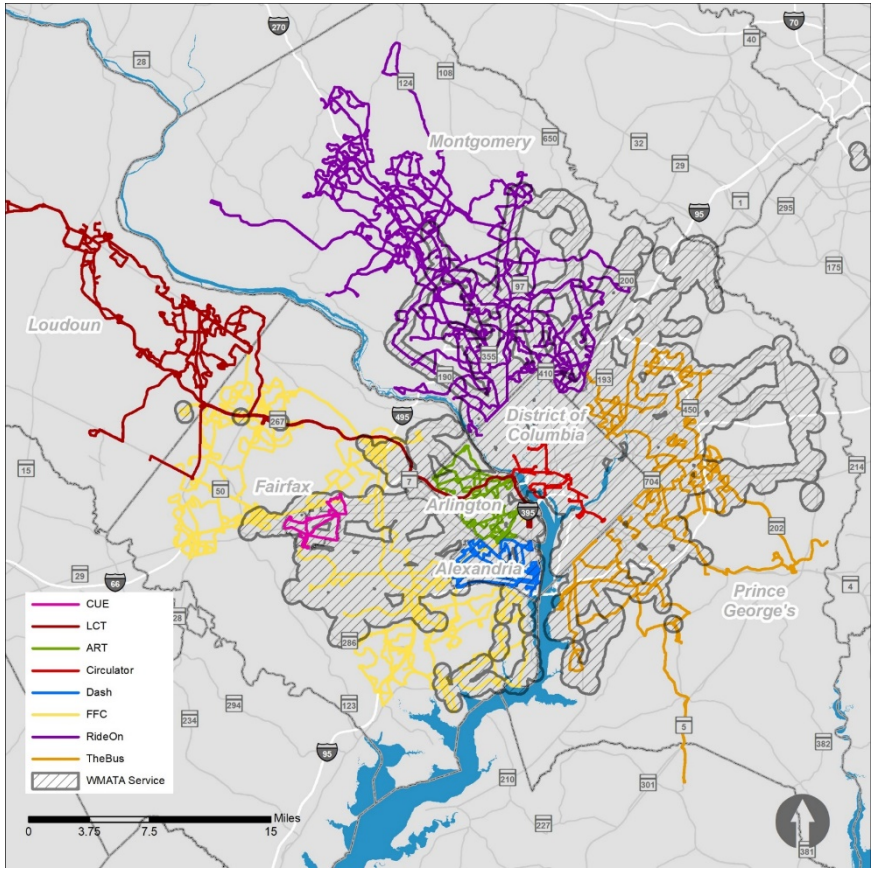
Better service to high-need users: Users with mobility issues, such as seniors and persons with disabilities, can be better served with on-demand transit

Technology-enabled: App-based on-demand services provide a convenient way to request and pay for services

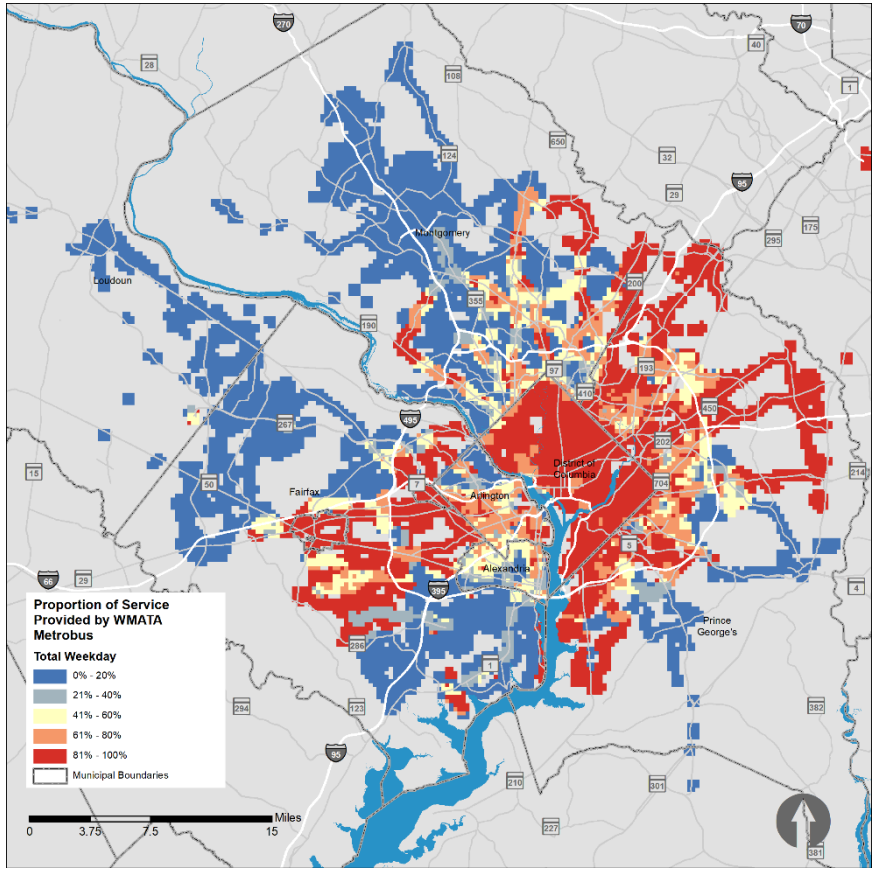
Release resources: Free-up larger vehicles for other routes

Context: Planning for bus service does not occur regionally

Bus service planning is done by each agency and not part of a regional planning process



WMATA participates in each plan with each agency individually. There is no regional bus plan to guide local efforts



Recommendation: Develop a regional bus network plan that realigns routes to create the most efficient and customer focused bus system

Regional Bus Network Plan

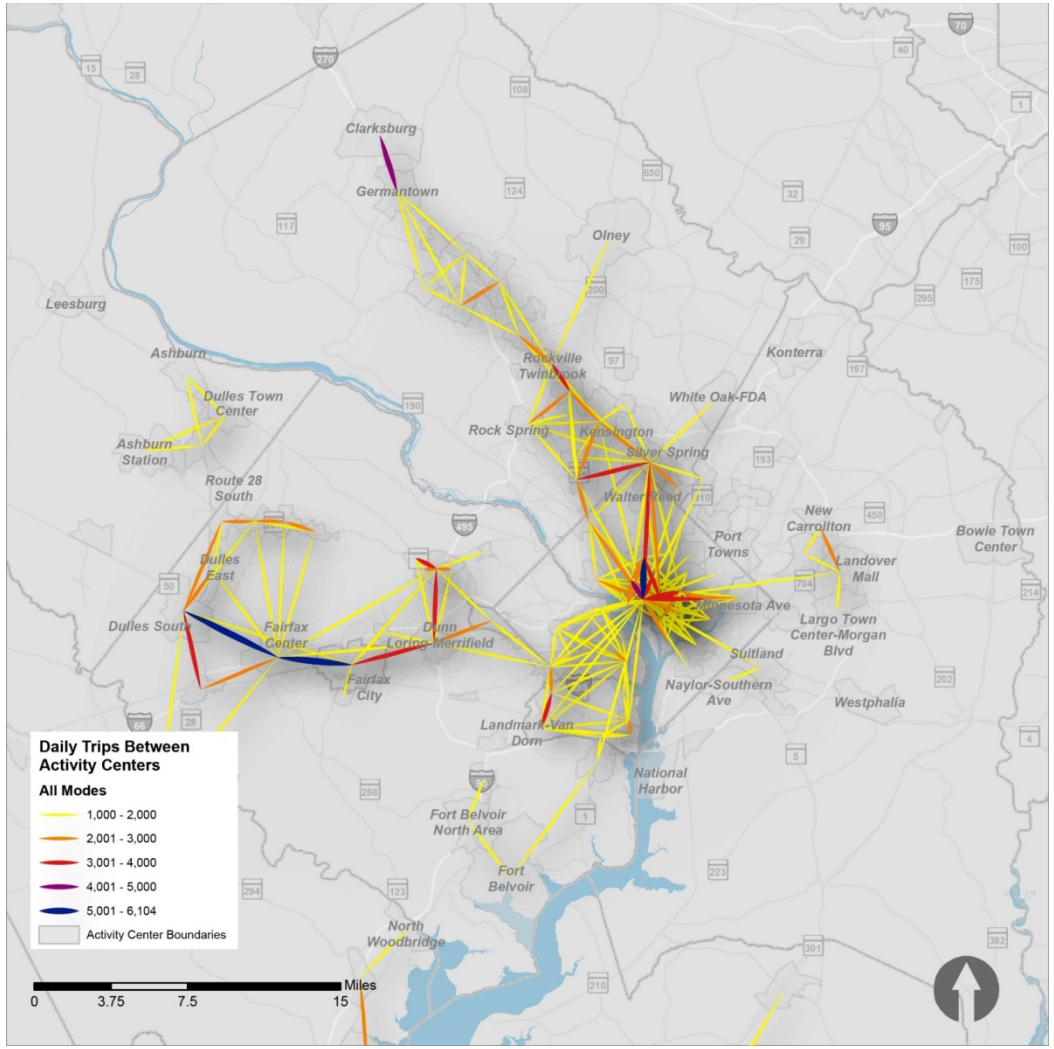
As recommended by the 2017 LaHood report, a regional bus network refresh based on the new criteria for regional routes (see Element 4) would include planning and implementation of significant changes to the network of bus routes, informed by an evaluation of the network structure as a whole rather than solely as a collection of routes

The goals of the refresh will be to improve the quality and utility of transit service by better meeting the current and future travel patterns and needs of both current and potential riders

Objectives

The primary objectives include:

- Simplifying the system for ease of public use
- Improving rider satisfaction
- Increasing ridership (or counteracting ridership losses)
- Improving on-time performance and reliability
- Increasing operational efficiency and effectiveness



Source: TCRP Synthesis 140, Comprehensive Bus Network Redesigns, In Press, MWCOG/NCRTPB Travel Forecasting Model, Round 9.0.

Recommendation: Adopt consistent guidelines across the region to provide customers with the right amount of bus service by location and time of day

Regional service guidelines applied consistently across the region will improve service in an equitable manner

Data Driven

Guidelines should be developed based on readily available and regularly reproduceable data such as census data, land use characteristics, and existing service metrics.

Regional

Guidelines should be arrived at through regional consensus and be flexible enough that all bus service providers can apply them across our diverse region. Mechanisms should be developed to ensure guidelines are followed.

User Focused

Guidelines should be developed to ensure the best possible service for bus riders, to meet their needs in the most convenient, frequent, fast, and reliable manner that is financially sustainable.

Recommendation: Provide flexible, on-demand transit services to markets where customers are not well served by conventional bus service

Introducing flexible service pilots through the regional bus plan effort would realize the following benefits:

- Improved **access to transit** service
- Reduced **wait times**
- Reduced **travel times**
- More **direct** service
- More **convenient** service
- Free up **resources**

Assumptions for potential on-demand service pilots

Identify areas where:

- The estimated demand falls below a reasonable threshold for local bus
- The roadway conditions (network, circuity, etc.) suggest the use of flexible service

Service Assumptions:

- 1 vehicle for every 3 square miles of flex zone
- 15 hours of service on weekdays
- 13 hours of service on weekends

Service Assumptions Source: OCTA - OCFlex: Pilot Project White Paper (2017)

4

Balance local and regional provider responsibilities by positioning local bus systems to meet their jurisdictional needs and the regional bus system to meet regional needs and deliver regional benefits

Element: Balance local and regional provider responsibilities by positioning local bus systems to meet their jurisdictional needs and the regional bus system to meet regional needs and deliver regional benefits

Recommendations to drive strategy:

A. Position the regional bus system to provide the services that meet regional needs

B. Revise the cost local jurisdictions pay WMATA for local service to better match the actual cost to provide service

C. Facilitate short-term operations of local services based on revised cost and service designation and investigate opportunities for improving operations and cost efficiency.

D. Develop a 10-year plan to optimally allocate services between bus systems for applicable routes

What the strategy will achieve:

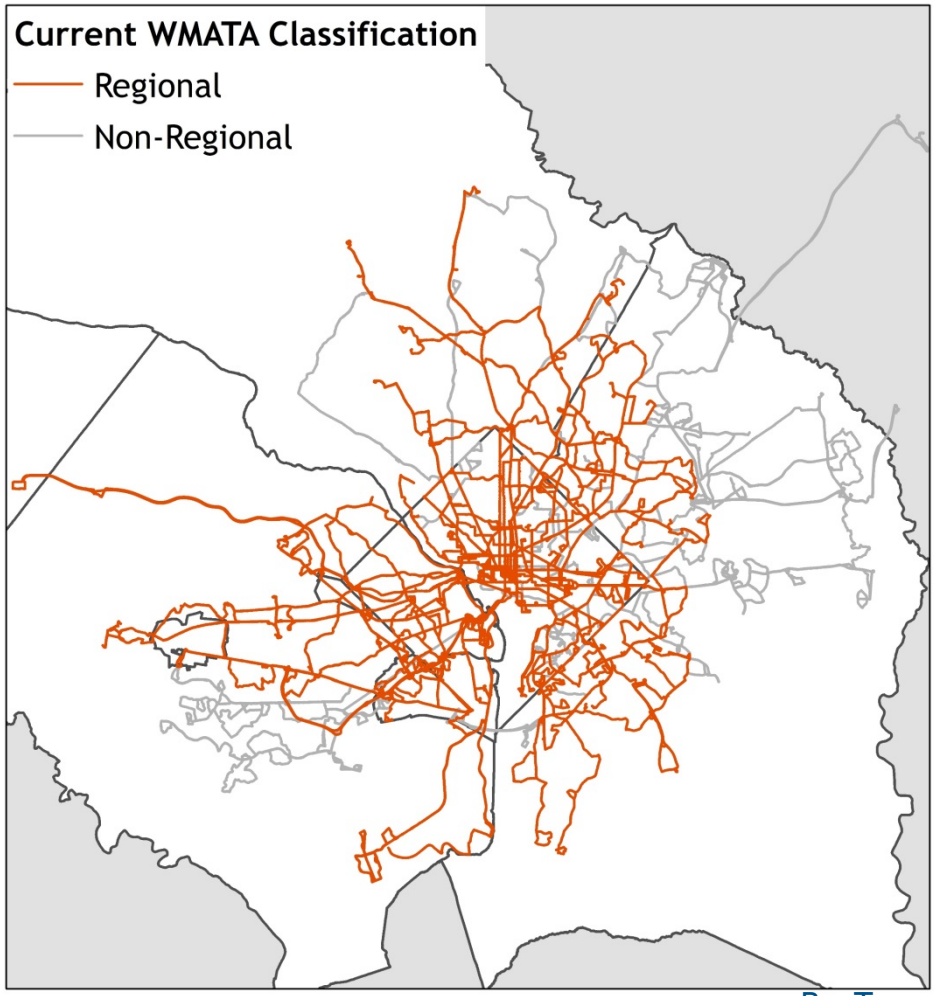
Balancing local and regional provider responsibilities will:

- Better **align bus service** with regional needs
- **Reduce cost** of bus service regionally
- Improve **regional coordination** of bus service delivery
- Improve responsiveness of bus service to **rider needs**

Context: WMATA Regional bus network works with Metrorail as the backbone of the regional transit network – and both are funded jointly by the region

Metrorail network

WMATA Regional bus network (shown in orange)



Context: Current criteria that defines what service is funded regionally

WMATA-adopted definitions of Regional and Non-Regional Bus Routes

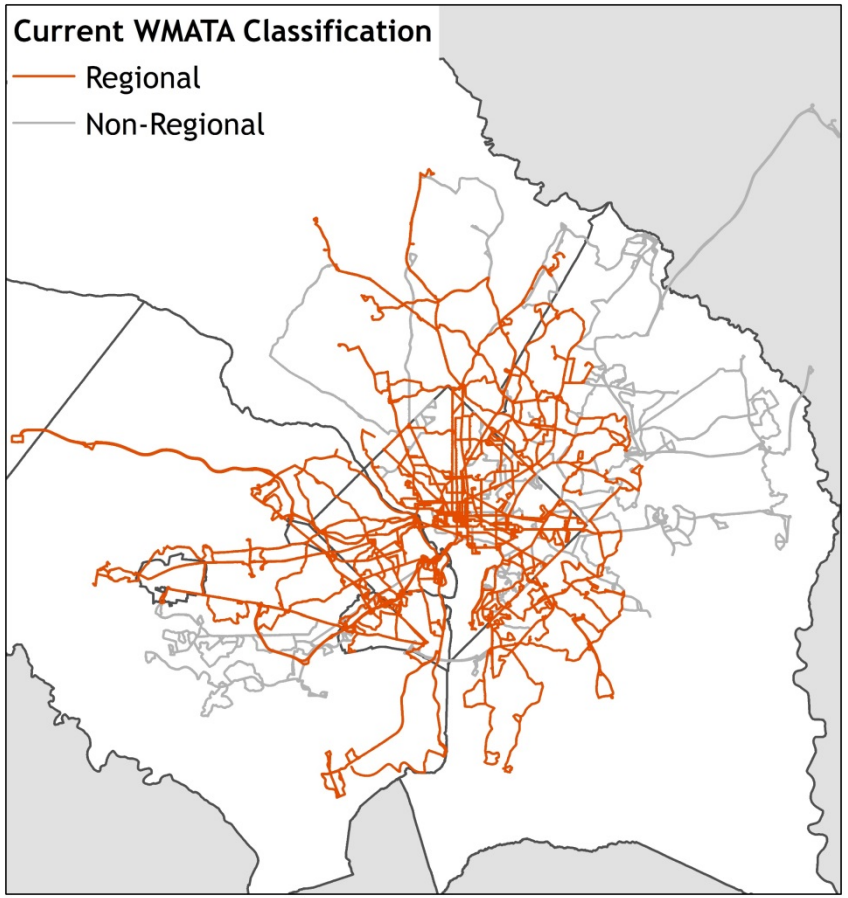
Regional Routes			Non-Regional Routes
Interjurisdictional Connection (at least ½ mile in each jurisdiction)	**OR**	• Serves at least 1 COG Regional Activity Center • Travels "considerable distance" on arterial roads • Achieves cost efficiency	Any routes that do not meet the criteria of a regional route

Source: Blue Ribbon Mobility Panel, 1997

Context: Many routes do not meet purpose of providing interjurisdictional connections

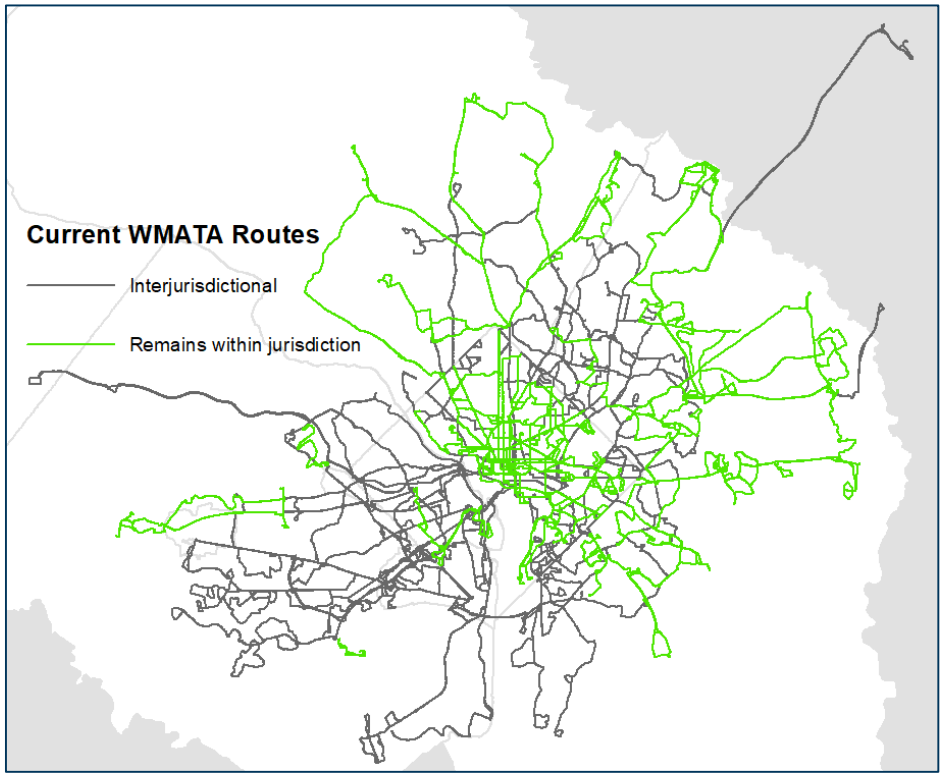
Today 63% of Metrobus routes are designated regional…

The current criteria for WMATA Regional routes result in 159 routes (63% of total) being designated as "Regional"



… Of those Regional routes, only 66% cross jurisdictional boundaries

54 of the 159 Regional routes do not cross jurisdiction lines. Considering Metrobus as a whole, 113 routes (44% of total) connect areas *within* jurisdictions, and 141 routes (56% of total) provide regional connectivity *between* jurisdictions.



Context: Other changes have changed the usefulness of the Regional Activity Center criteria for "regional" routes

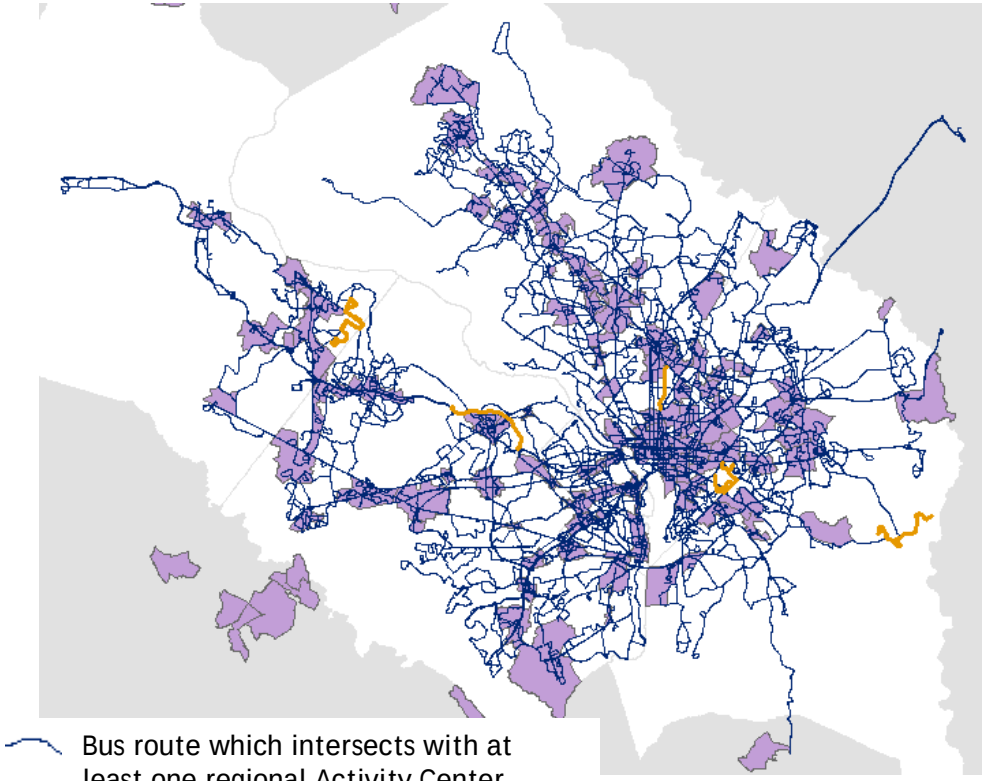
The vast majority of bus routes in the region touch at least one Regional Activity Center but…

When definitions were developed, there were only 58 Regional Activity Centers…

…while today there are 141.

Only **six routes** do not physically intersect with a current Regional Activity Center

Bus Routes & Regional Activity Centers



Source: WMATA 2017

Context: The arterial roads criteria for “regional” routes is both broad and vague

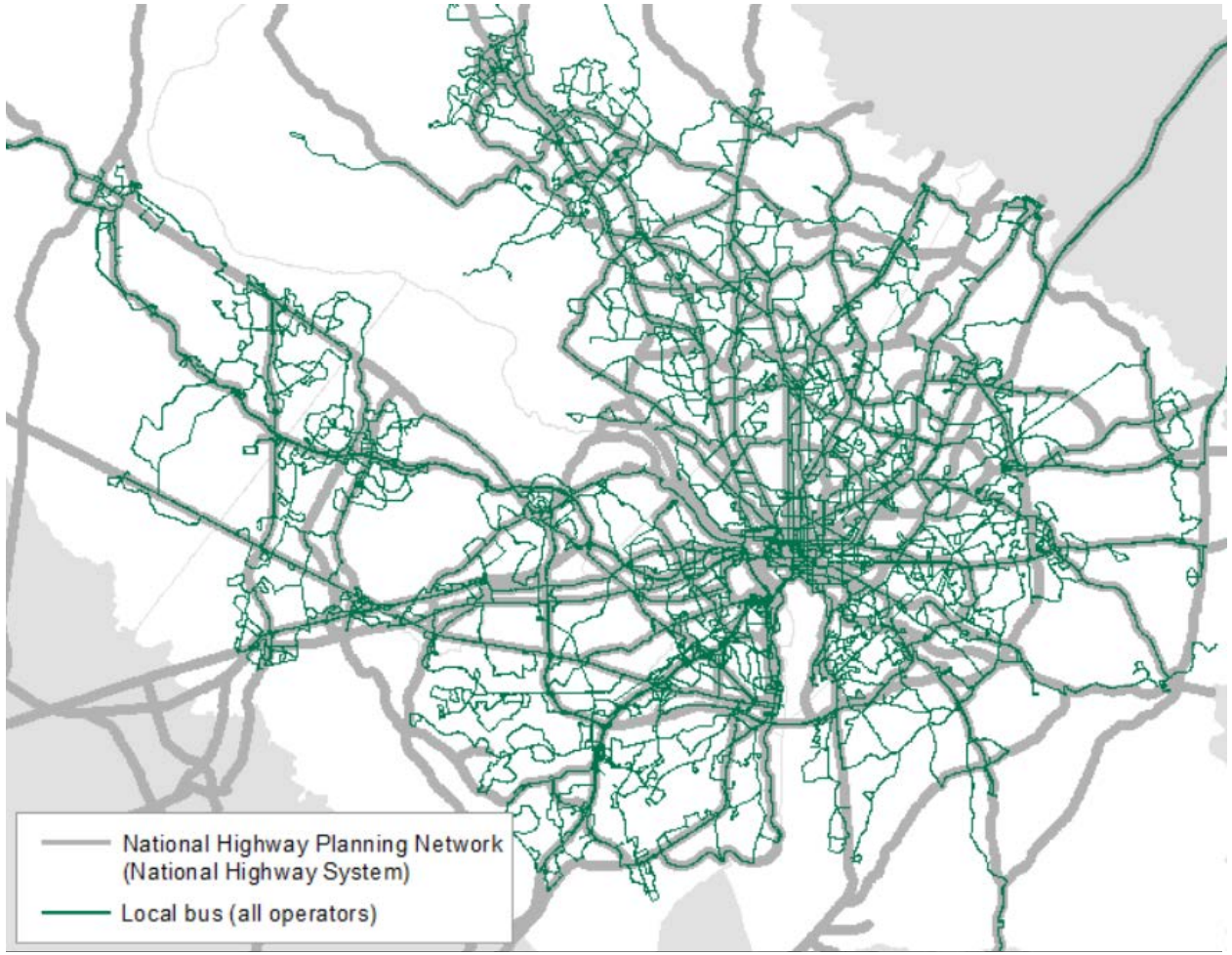
A large number of routes in the region travel on arterial roads

Criteria: “Travels “considerable distance” on arterial roads”

Undefined terms make this difficult to apply consistently:

- Considerable distance
- Arterial road

Bus routes and arterial roadways



Source: WMATA 2017

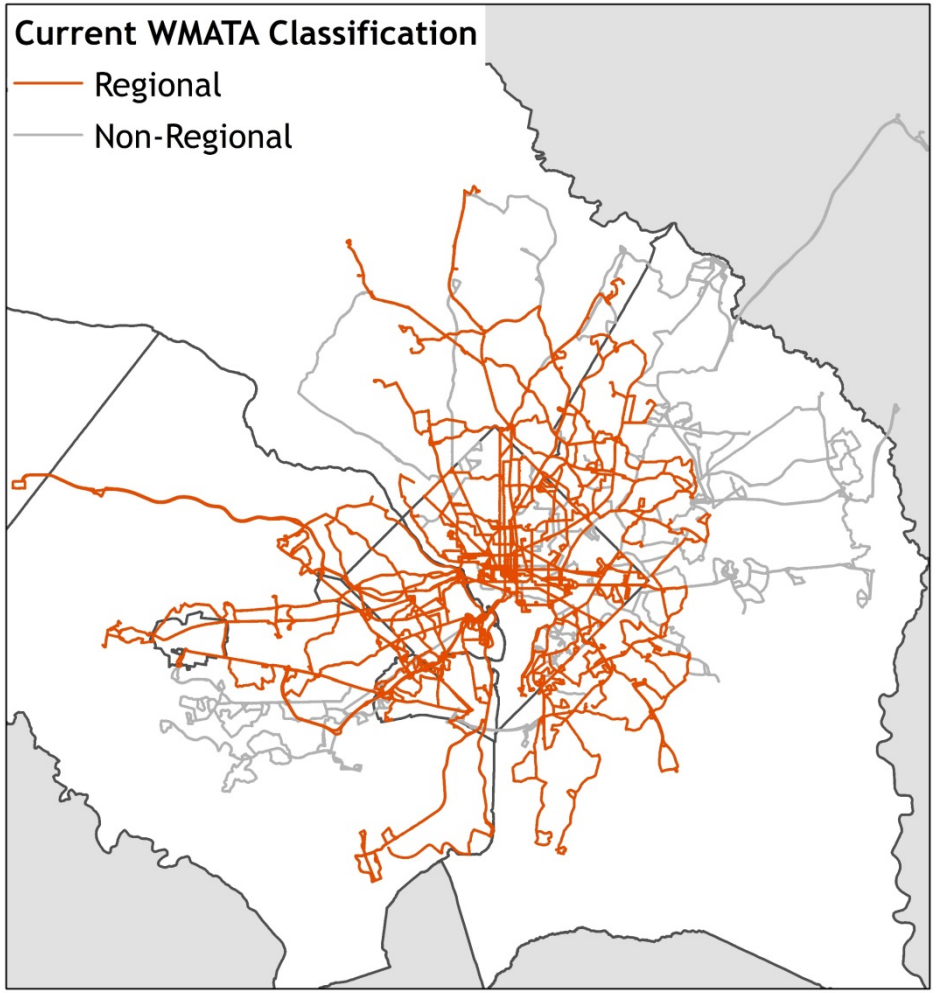
Context: Today, 63% of WMATA routes are funded regionally

Many of these routes may not meet the original purpose envisioned for Metrobus as the regional provider

Regional routes must be planned and coordinated regionally, causing inefficiencies in the network, and increasing the cost of Metrobus's operations

The Regional designation has expanded beyond what is truly regional, creating conflict among jurisdictions

Regional vs. non-Regional routes



Source: WMATA 2017

Recommendation: Position the regional bus system to provide the services that meet regional needs

As the regional provider, Metrobus will focus on the backbone bus network that provides benefits to the region as a whole, which:

- Serves as a comprehensive network of routes that support regional mobility as the "rubber-tire-rail" network akin to Metrorail, that the region agrees to fund jointly
- Provides access to jobs
- Ensures a resilient transit system
- Supports regional quality of life

Metrobus is best positioned to operate these services:

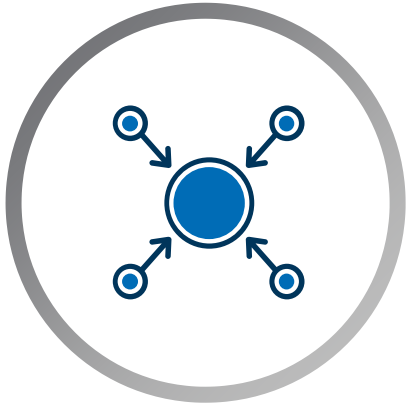
- Best positioned to provide true inter-jurisdictional services, which are essential in the region
- Invested in facilities across the region and a large vehicle fleet, to meet regional needs
- Regional cost-sharing arrangements and allocation formulas already exist and are used successfully

Benefits of a Regional bus system:

- Decreasing congestion on roads regionwide
- Lower levels of emissions
- Improving mobility options for residents and visitors without a car
- Lowering costs for travel in the region
- Providing access to public transportation to areas not served by rail

Recommendation: Position the regional bus system to provide the services that meet regional needs

Three criteria for Metrobus service: **Must provide at least one**



Direct Interjurisdictional Connections

OR

Transfer Value to Network

OR

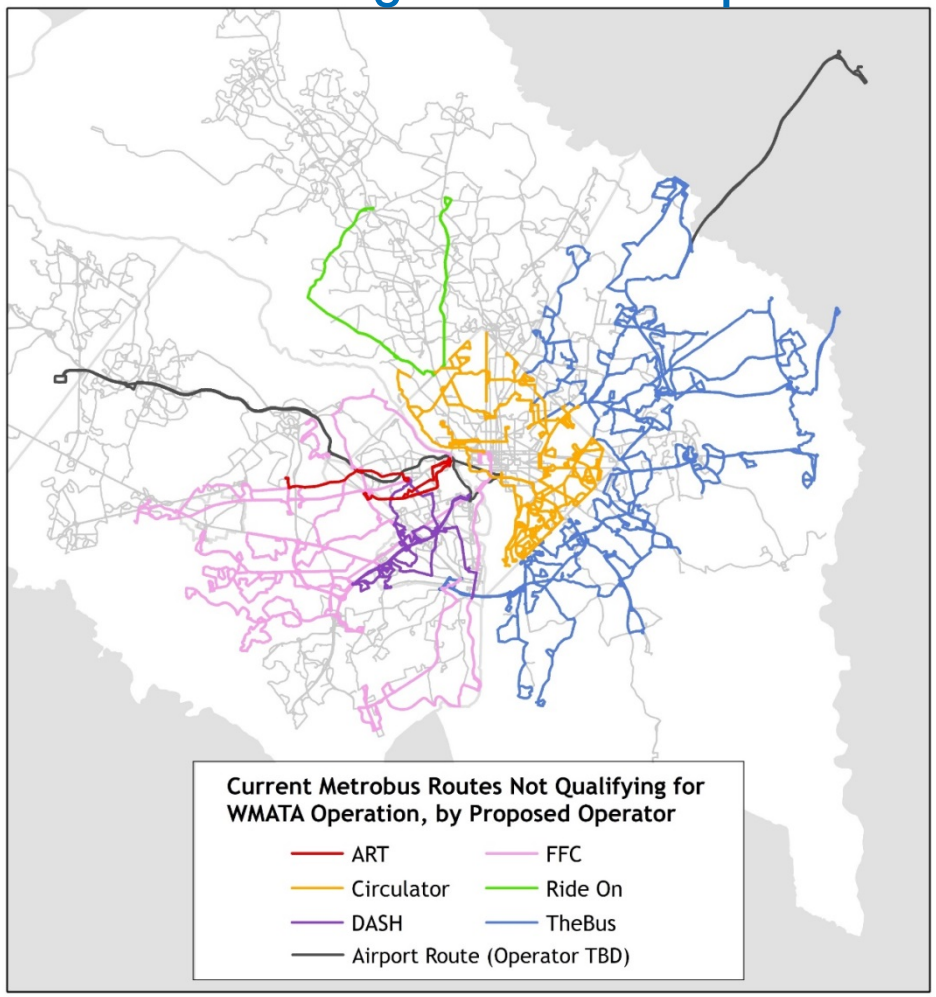
High Transit Potential

Supporting information: Current* WMATA Regional routes that would become local routes and be eligible for WMATA operation during transition period

Under the proposed criteria, WMATA could add 14 routes currently operated by other operators which are eligible for Regional status and cost-sharing. 140 current Metrobus routes are recommended for transition to other providers (shown on this map) which could be operated by WMATA as non-Regional routes during the transition period. Under the proposed criteria, Metrobus would operate 122 fewer routes than it does today.

Operator	Proposed Number of Metrobus Routes Transitioned to Local Provider
ART	3
Circulator	49
DASH	12
FFC	26
Ride On	2
TheBus	48
Total	**140**

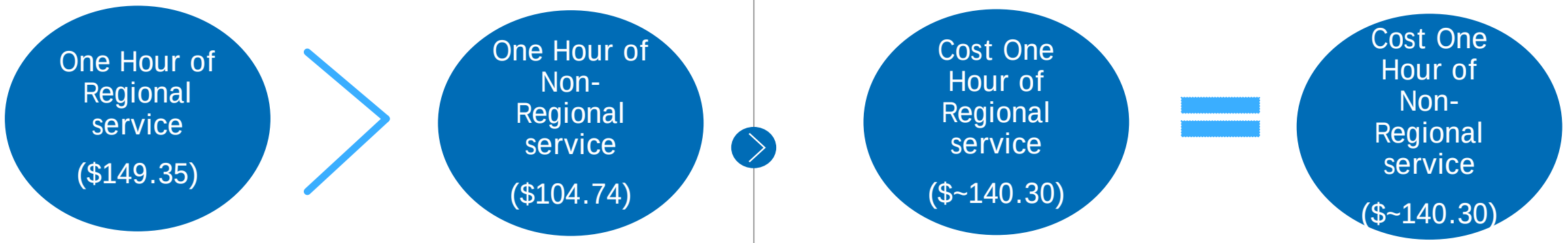
Note: Proposed provider for formerly-WMATA routes were identified by identifying jurisdiction where at least 50% of a route's stops fall. If no jurisdiction held 50% of stops, the route went to the jurisdiction with the largest share of stops.



*Note: Maps and lists of routes qualifying based on criteria are current as of 2017, which was when the latest and most consistent data were available across providers

Recommendation: Revise the cost local jurisdictions pay WMATA for local service to better match the actual cost to provide service

Costs to operate an hour of Regional service will be the same as the cost to operate an hour of non-regional service



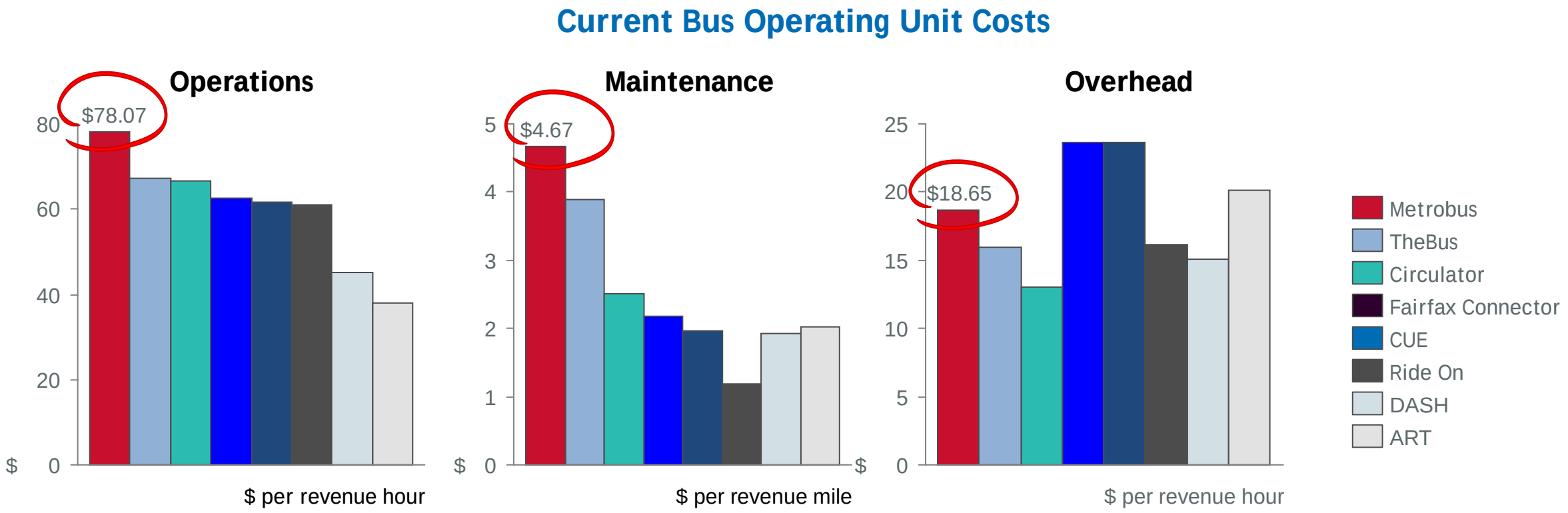
Today

Recommendation

Non-Regional service is contracted out based on actual cost and is not considered as part of the 3% subsidy cap

Source: WMATA FY2017 Operating Budget, Estimate of proposed hourly cost based on 2017 NTD data.

Supporting Information: Local bus systems generally have lower unit operating costs than Metrobus…



Differences in scope, scale, and operating environment affects agency performance across these metrics.

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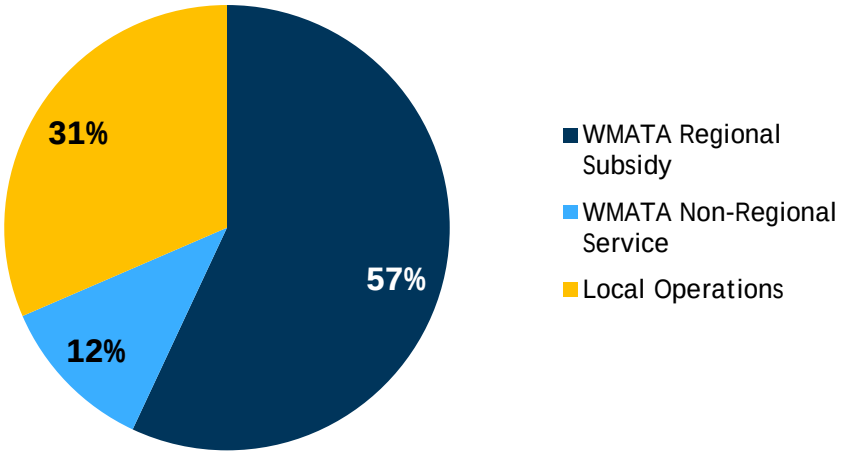
Note: Figures are for Calendar Year 2017. Peer group includes Ride On (Montgomery), Fairfax Connector (Fairfax County), TheBus (Prince George's), DC Circulator, ART (Arlington), DASH (Alexandria), and CUE (City of Fairfax). Source: MWCOG 2018 Regional Bus Service Provision Study

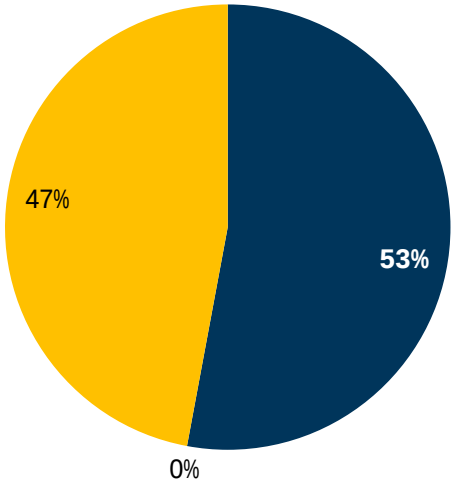
Supporting information: Shifting more service to local bus systems would decrease the total amount spent on bus operations in the region by $60M per year (8% decrease)

~$738M annually



Today

~$678M annually



New Definition of Regional Service AND non-Regional service transitioned to local operators

Source: FY2017 WMATA and Local Operating Data, 2016 NTD Data

Supporting information: With these changes, all jurisdictions would decrease the amount spent on bus annually in the long-term

If jurisdictional operating costs remain as low as they are, the region could save almost $60M on bus operations each year by making the recommended changes

Jurisdiction	Current Total Spent on Bus Operations	Proposed Total Spent on Bus Operations	Total Change in Bus Operating Cost	
			Dollars	Percent of Total Spent on Bus
Alexandria	$34,613,000	$31,981,300	-$2,631,700	-7.6%
Arlington County	$41,088,000	$37,804,300	-$3,283,700	-8.0%
City of Fairfax	$3,165,200	$3,068,600	-$96,600	-3.1%
DC	$243,848,300	$222,684,900	-$21,163,400	-8.7%
Fairfax County	$129,036,500	$116,496,600	-$12,539,800	-9.7%
Falls Church	$1,535,900	$1,294,100	-$241,900	-15.7%
Montgomery County	$160,576,000	$153,048,900	-$7,527,100	-4.7%
Prince George's County	$124,147,600	$111,937,400	-$12,210,200	-9.8%
Regional Total	$738,010,500	$678,316,000	-$59,694,500	-8.1%

* All costs are operating costs only, excluding capital costs.

5

Optimize back-office functions through sharing, streamlining, and shared innovation by consolidating regional resources and devoting more resources to operating bus service

Element: Streamline back-office functions and share innovation by consolidating regional resources and devoting more resources to operating bus service

Recommendations to drive strategy:

A. Consolidate **back-office support functions** to realize shared benefits of scale for bus systems that choose to participate

B. Establish a Regional Mobility **Innovation Lab** to drive continuous improvement in customer experience

C. Develop **regional standards for bus data** collection, formatting, sharing, and analysis

What the strategy will achieve:

If the region pursues centralization of select business functions and shared innovation across bus operators, it will experience:

- Annual **Cost saving** potential of ~$11.7 million due to economies of scale, which can be redirected into improving service
- Greater **consistency in service** for customers
- Greater understanding of bus system usage, which will enable additional **cost savings** and efficiencies
- Improved customer experience, leading to **ridership growth**

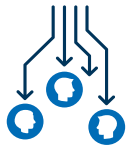
Context: 12% of bus operating costs in the region are devoted to back-office and administrative functions

Many key back-office activities are duplicated at agencies across the region

Customer service

Business development

Procurement & contract admin



Marketing & communications

Payment systems mgmt.

Human resources

Risk mgmt. & security

Vehicle maintenance

Sign & stop maintenance

Use of centralized resources across bus operators only occurs intermittently, e.g.,

Procurement: MTA and ART have piggybacked previously on WMATA's bus procurement

Payment systems: SmarTrip card accepted by all local transit providers, except for the VRE, Loudoun County local bus system, and MARC commuter rail systems

Signage: WMATA developed standard regional bus stop signage used by all bus operators

Technology integration: The TIGER Transit Service Priority Project allows buses to run along the same corridors, across jurisdictions, using the same TSP technology

Source: MWCOG Regional Bus Service Provision Study

Context: De-centralized regional bus operating model duplicates support functions, meaning that less money is available to provide better bus service

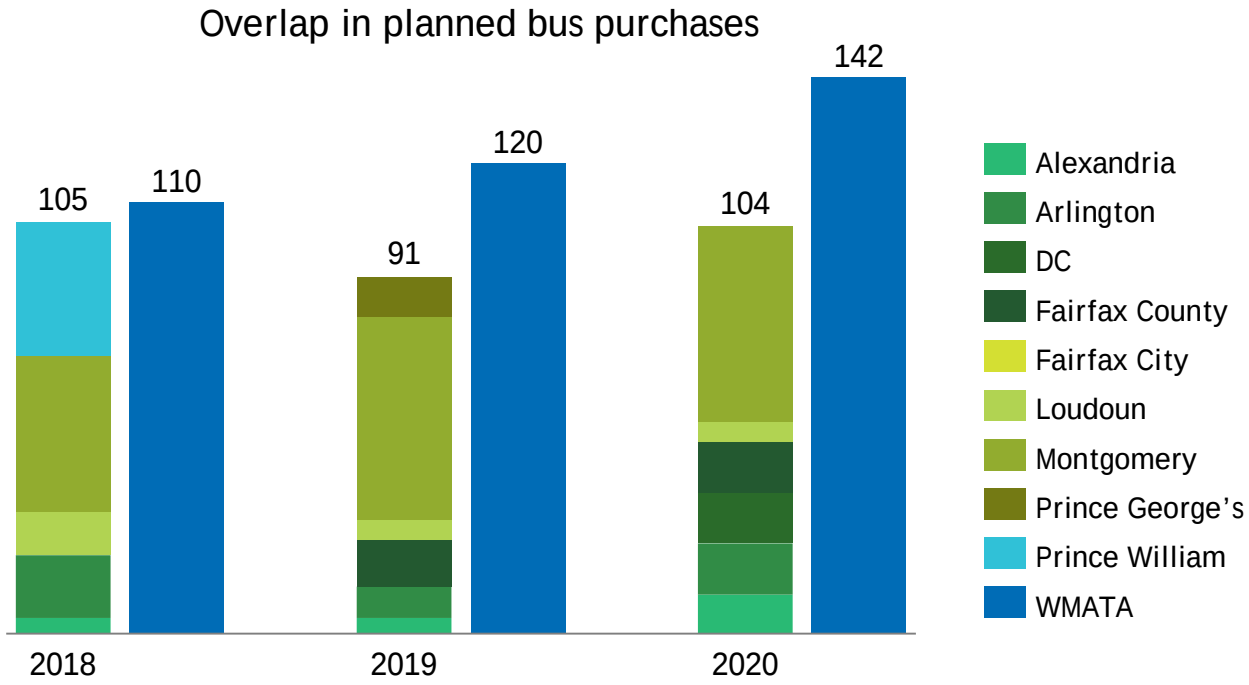
Missed opportunities for efficiencies from de-centralized support function model

Integrated systems and consistent rider experience: Standardized processes, contracts, systems, data collection across bus operators to drive more consistent customer experience

Functional excellence: Ability to bring together best practices across operators to ensure highest quality support

General administration cost reduction: Fewer resources and time needed to achieve the same outcomes in a centralized support model due to economies of scale

Example: De-centralized procurement means operators lose opportunity to maximize purchasing power when buying buses



Bus providers could augment purchasing power with joint procurement, and give the region access to preferred pricing

Source: MWCOG Regional Bus Service Provision Study

Supporting analysis: Initial survey of bus systems across the Washington region indicates potential benefits for centralizing several functions

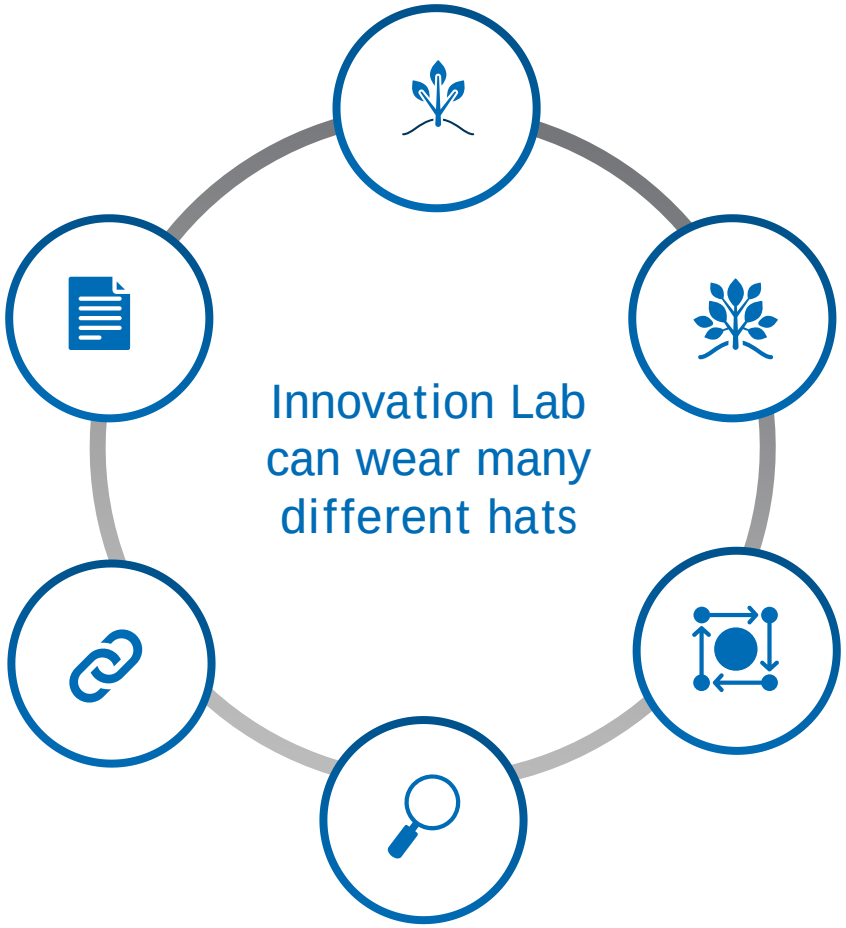
Preliminary identification of functions that may benefit from centralization across bus operators in the region	Key Benefits based on bus operator survey: Consistent systems/rider experience	Functional excellence	G&A cost reduction
Customer Information (Printed & Digital Materials)	✓	✓	✓
Vehicle Overhaul		✓	✓
Sign and Stop Maintenance	✓		✓
Driver & Mechanic Recruitment (Applicant Solicitation, Screening, Testing)		✓	✓
Revenue Vehicle Procurement		✓	✓
Customer Call Center	✓	✓	✓
Promotion and Advertisement	✓		✓

Key questions follow-up study will answer:

- Who should provide the shared service?
- What resources are needed to set up shared service?
- How long will it take to set up shared service?
- What processes / systems should the service use?
- How will each function interact with bus agencies in the region?
- What other functions could potentially benefit from centralization?

Source: Survey of six operators (Metrobus, ART, DASH, Ride On, The Bus, DC Circulator), who provided comments on feasibility of sharing certain functions and estimates of current costs for providing the functions.

Recommendation: Establish a Regional Mobility Innovation Lab to drive continuous improvement in customer experience



Incubator
- Generates new ideas with help of iterative design process and fast testing
- Forms new interdisciplinary teams for each new topic consisting of designers, researchers, developers

Accelerator
- Scales existing ideas in different stages of development from inside the organization
- Gives access to resources, especially relevant experts

Knowledge Broker
- Pools knowledge and translates it for the relevant context
- Creates visibility for new ideas and helps to establish them across the region

Impact evaluator
- Evaluates and measures the impact of its projects
- Sets up system for performance measurement through Key-Performance-Indicators

Networker
- Establishes a network between all regional stakeholders
- Offers public events and workshops in which participants can exchange best practices

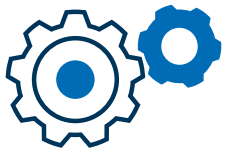
Think tank
- Publishes major findings from projects and makes them available to the public
- Provides information to the public on the work inside the lab

Recommendation: Develop regional standards for bus data collection, formatting, sharing, and analysis

Data Standards

Data Standards outline what data should be collected by each bus system at a minimum

Specify consistent data formats so that regional data can be easy compiled



Data Sharing Agreement

Develop regional agreement to share specific types of data across bus systems to limit effects of jurisdictional boundaries on regional understanding of bus usage and needs

Wherever possible, bus data should be consolidated with data from other modes (e.g. roads, TNCs, rail, etc.)

Consolidated Data Analysis

Dedicated staff with data analytics expertise will provide the best opportunity to understand large quantities of data produced at a regional level

Data analysis specialists can focus on both regional issues and specific local needs

Better Understanding of Market and Customers

Bus systems will be better positioned to:

- Provide the services that customers want
- Improve operating efficiencies
- Understand and address issues

6

Customers in a region with multiple bus providers need a **regional steward to transform the bus system**

Element: Customers in a region with multiple bus providers need a regional steward to transform the bus system.

Action recommendations to drive strategy:

A. Form a **task force** responsible for Bus Transformation Project execution; after a three-year period, transfer responsibilities to a formal **Coalition of jurisdictional representatives** with authority for implementation

B. Hold transportation and transit agencies accountable for prioritizing bus as a **primary mode of transportation** within their organizations

C. Publish an annual Bus Transformation and **bus performance scorecard** to drive accountability for results

What the strategy will achieve:

If the region commits to strengthening coordination and governance, it will experience:

- Increased **customer focused** decision making
- More **cost efficient** use of resources
- Improved **coordination** among bus operators and across mobility modes

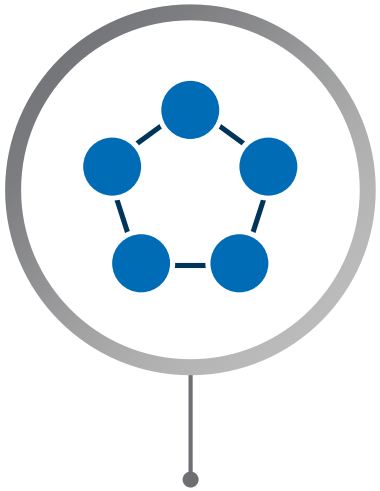
Context: Lack of coordination likely due to fragmented bus oversight…

13 decision-making and funding bodies…	…oversee nine bus operators
1 Washington Metropolitan Area Transit Authority	metrobus
2 Fairfax County Department of Transportation	CONNECTOR
3 City of Alexandria Transit Services Division	DASH
4 Prince George's County Department of Public Works & Transportation	Prince Georges County
5 Arlington Department of Environmental Services	ART
6 City of Fairfax Transportation Division	CUE
7 Montgomery County Department of Transportation	Ride On
8 DC Department of Transportation	
9 Loudoun County Transit and Commuter Services	LOUDOUN COUNTY
10 City of Falls Church	--
11 Northern Virginia Transportation Commission	CONNECTOR, DASH, ART, CUE, LOUDOUN COUNTY
12 Maryland Department of Transportation	Prince Georges County, Ride On
13 Department of Rail & Public Transportation	CONNECTOR, DASH, ART, CUE, LOUDOUN COUNTY

Source: ART, NVTC, PG County, City of Fairfax, Fairfax County, City of Alexandria, Loudoun County, City of Falls Church

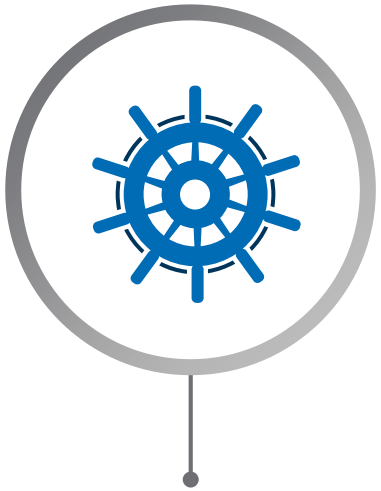
Recommendation: Form a regional task force responsible for Bus Transformation Project execution…(II)

Key attributes of regional task force representatives



Regional orientation

Prioritize building a better bus system for the region



Decision-making authority

Able to make decisions on behalf of the organizations they are representing

Funding authority

Able to commit funding to regional bus projects required to execute strategy (e.g., bus priority capital program)

Technical expertise

Has some relevant technical expertise that can be leveraged as part of the task force

Public influencer

Willing to engage with key non-bus stakeholders (e.g., roadway officials, TNCs) to facilitate implementation of strategy

Recommendation: ...after a three-year period, transfer responsibilities to a formal Coalition of jurisdictional representatives with authority for implementation

Immediate: Regional task force of local decision-making & funding bodies

- ⊕ Task force representatives already have local governing authority
- ⊕ Task force begins to meet on Day 1 of implementation; establishes clear goals for first 6 and 12 months of activity
- ⊕ Meeting structure supports participation by all affected jurisdictions and agencies
- ⊖ Task force does not have formal regional oversight authority - does not have "teeth" – could make it difficult to consistently bring stakeholders to the table

Year 3: Formal regional Coalition with authority to facilitate bus coordination

- ⊕ Fully-dedicated staff committed to the effort
- ⊕ Single accountable entity for bus sits under "one roof"
- ⊕ Would have regional authority to drive changes across bus system
- ⊖ Time-intensive to set up structure and obtain relevant oversight authority; would not be ready to go right away, which is why coalition serves as a "bridge"

Recommendation: Hold transportation and transit agencies accountable for prioritizing bus as a primary mode of transportation within their organizations

Current state

Limited focus on bus

Across the region today, transportation agencies tend to de-prioritize discussion of bus in executive dialogue (compared to rail and/or roadways), and organizational structures do not always adequately support prioritization of bus

Future state: Greater focus on bus

Deeper discussions on bus

Push for increased engagement on bus during transit discussions (e.g., WMATA Board meetings) to ensure realization of vision to make bus the "roadway mode of choice"

Enabled bus organizations

Hold agencies responsible for exploring and establishing organizational structures that elevate bus as a mode of transportation (e.g., give bus leaders within agencies same seniority as rail leaders)

Recommendation: Publish an annual Bus Transformation and bus performance scorecard to drive accountability for results (I)

Number of benefits associated with publishing Project progress, e.g.,

Ensures accountability

- Enables public to understand how much progress is being made on each recommendation
- Tracks true regional progress on strategy
- Tracks Coalition's effectiveness at managing transformation of bus system

Provides insight into lagging milestones

- Facilitates diagnosis of major roadblocks and risks
- Supports identification of mitigation tactics to keep Strategy execution on-track

Enables prioritization of key actions

- Supports efforts to continuously turn high-level recommendations into concrete, prioritized actions

Enhances visibility into regional bus performance

- Provides insight into how regional bus is performing on key success metrics (today, bus performance metrics are typically shared at local level only)

Sample: Key elements of Project scorecard to be shared with the public

Progress tracker

Strategy point	Recommendation	Completion	Key leads	Status	Notes
Align bus service to demand	Develop regional service guidelines	[Date]	[Name]	Complete	
Prioritize bus on roadways	Obtain commitment from elected officials to prioritize bus on roadways			On-track	
	Align on bus priority guidelines			Progressing but facing obstacles	
Create a system people want to ride	Develop route-naming proposal for the region			Behind schedule	

Regional bus performance

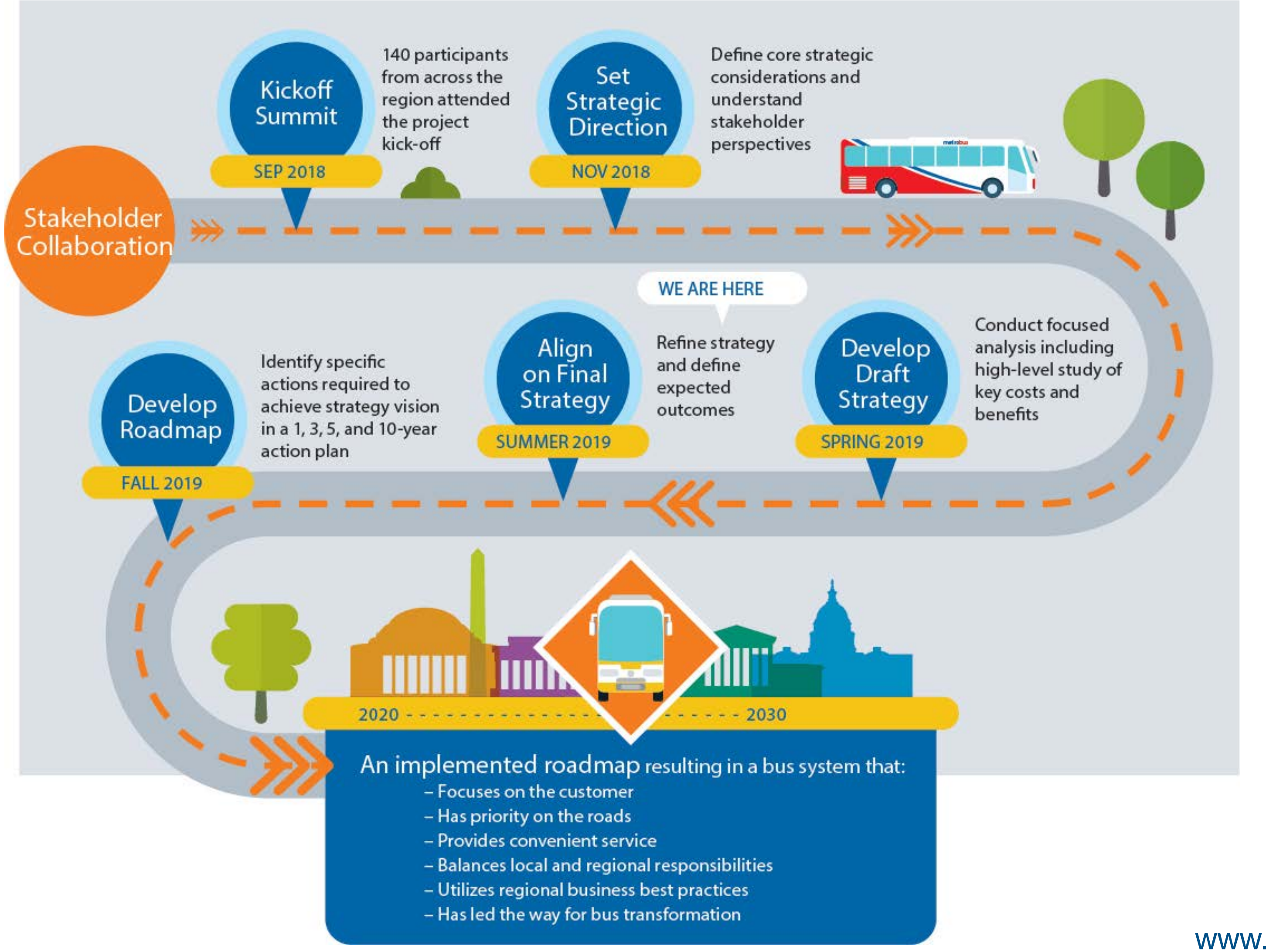
Ridership change:
On-time performance:
Customer satisfaction:
Financials:

Looking Ahead: Risks & Mitigation

- xx

V. Next Steps

The Transformation starts immediately, but will take time to implement fully



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