MWCOG/TPB Regional Bus Service Delivery Study

JUNE 26, 2018

INTRODUCTIONS

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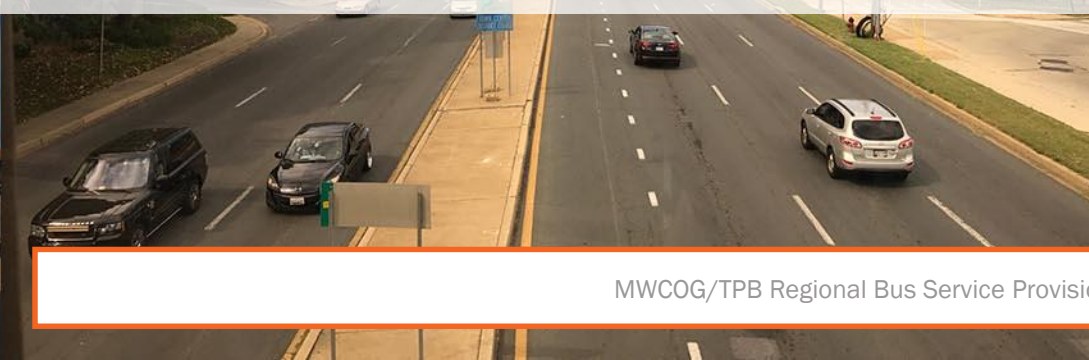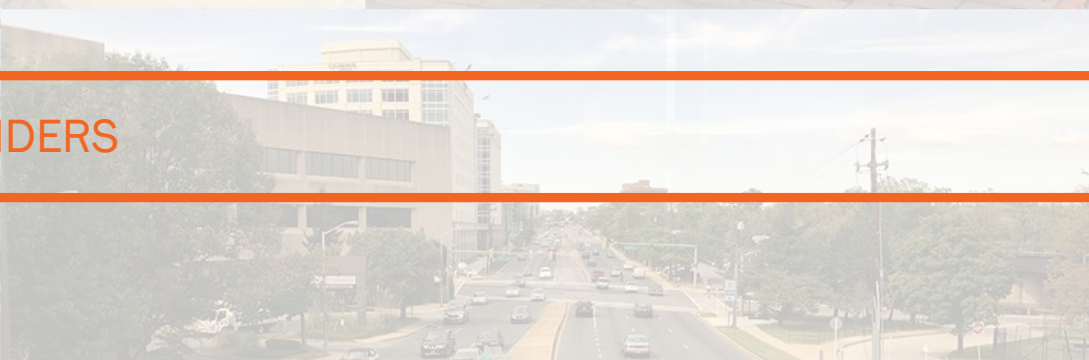INTEGRATED TRANSPORTATION PLANNING

Agenda

- Study Overview
- Bus Service Cost Components
- Literature Review, Peer Review, and Local Examples
- Regional Strategy Recommendations for Enhanced Efficiency
- Next Steps and Implementation

Study Overview

ONE REGION, MANY PROVIDERS

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Study Overview

- Bus service in the Metropolitan Washington region is provided by over ten different agencies, each with its own geography, cost drivers, funding structure, and operational practices

- The purpose of this study was two fold:
  1. To better understand how and why agencies' costs vary
  2. To identify ways to further enhance efficiency and improve coordination, collaboration, and partnering between agencies

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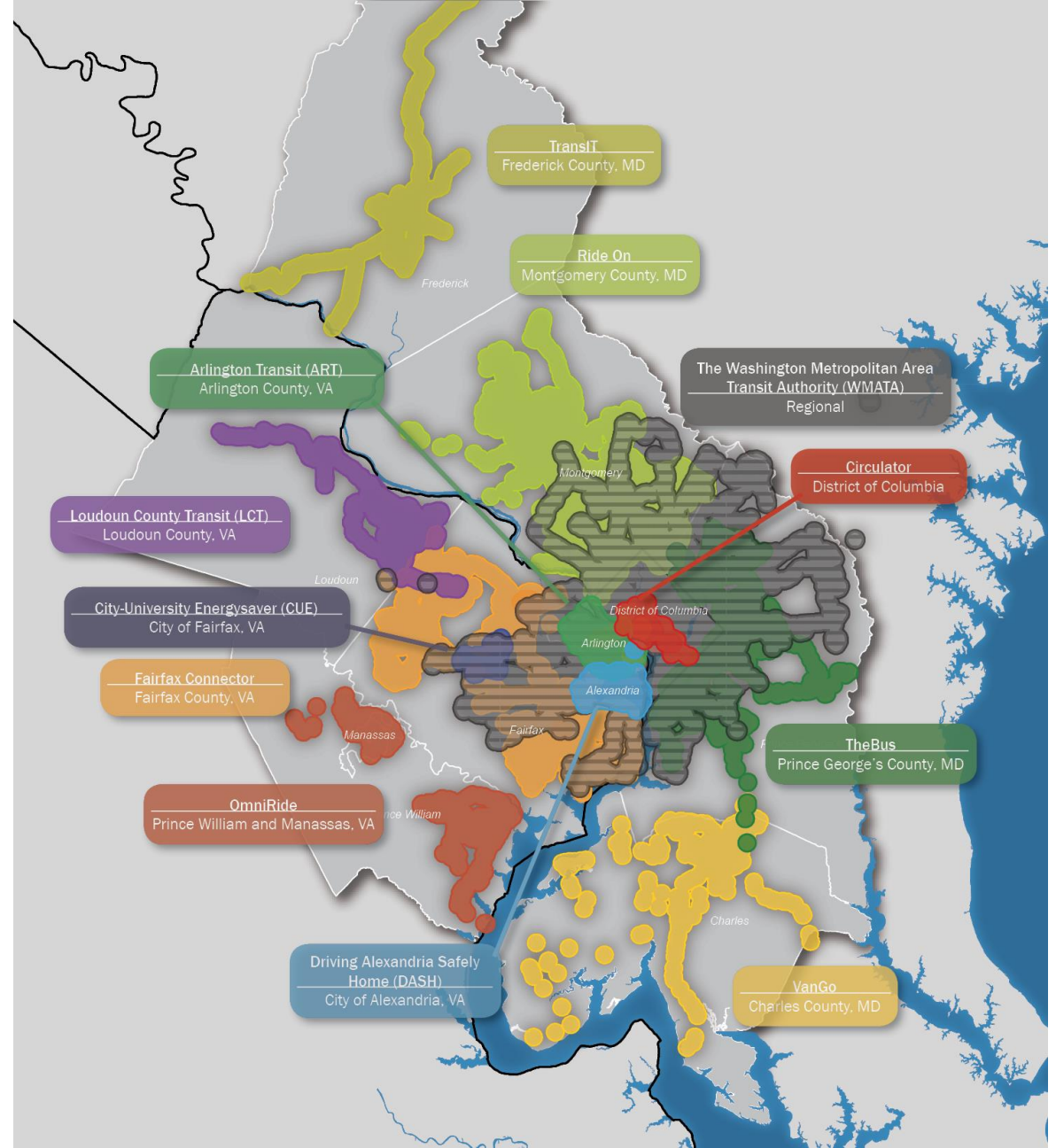
Bus Service Cost Components

OPERATIONS AND MAINTENANCE COST MODEL

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Bus Service Cost Components

Cost Drivers

VEHICLE REVENUE HOURS		VEHICLE REVENUE MILES	VEHICLES OPERATED IN ANNUAL MAXIMUM SERVICE
VEHICLE OPERATIONS	**GENERAL ADMINISTRATION**	**VEHICLE MAINTENANCE**	**NON-VEHICLE MAINTENANCE**
All activities associated with daily vehicle operations (excluding fuel and tires).	All activities associated with the general administration of the transit agency.	All activities associated with revenue and non-revenue vehicle maintenance.	All activities associated with facility maintenance.

Functions

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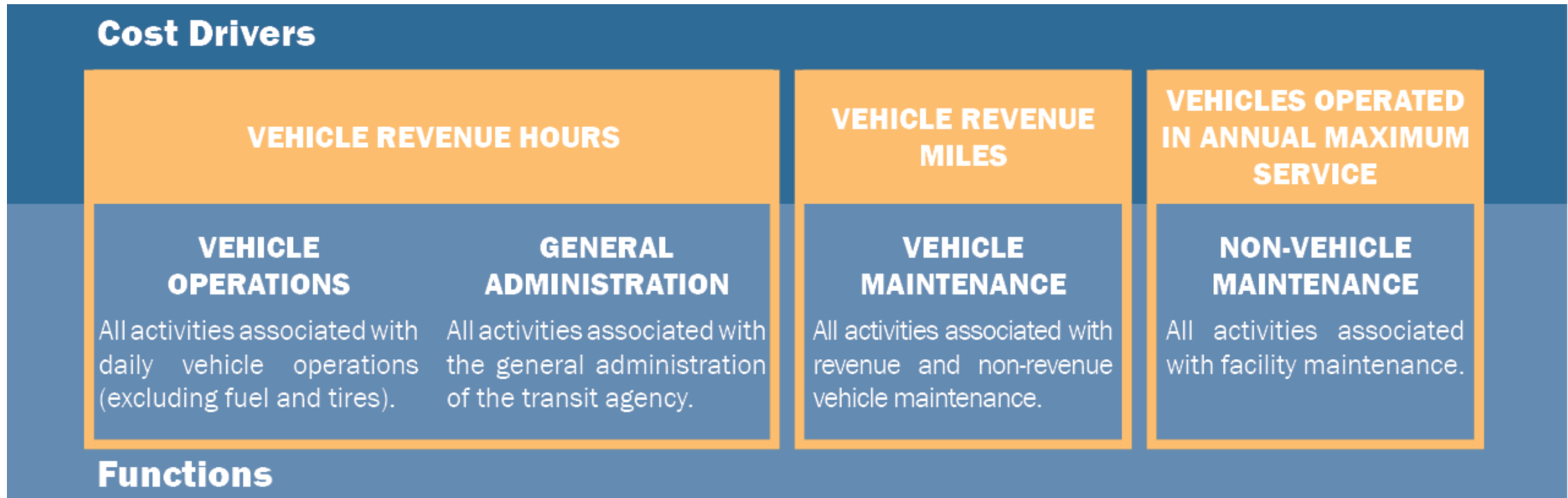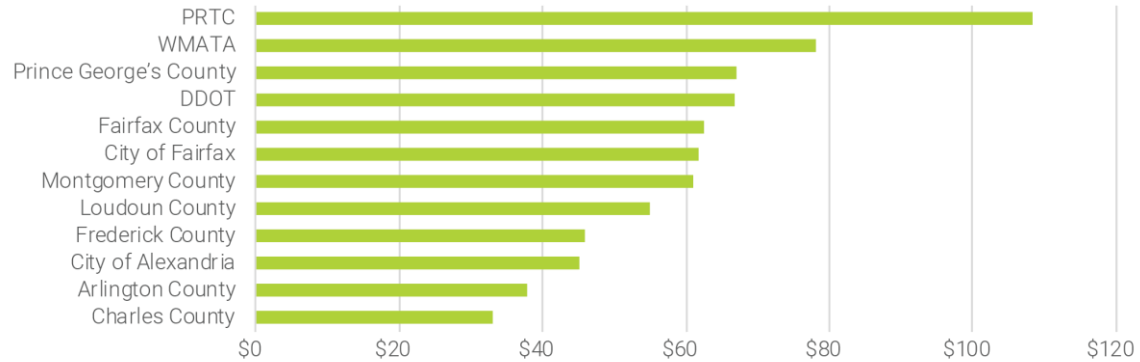
Bus Service Cost Components

COST OF VEHICLE OPERATIONS (USD per Revenue Hour)

Agency	
PRTC	~$108
WMATA	~$76
Prince George's County	~$67
DDOT	~$66
Fairfax County	~$62
City of Fairfax	~$61
Montgomery County	~$60
Loudoun County	~$52
Frederick County	~$46
City of Alexandria	~$46
Arlington County	~$34
Charles County	~$33

COST OF VEHICLE MAINTENANCE (USD per Revenue Mile)

Agency	
WMATA	~$4.65
DDOT	~$3.90
PRTC	~$2.70
Prince George's County	~$2.45
Montgomery County	~$2.30
Fairfax County	~$2.15
Arlington County	~$2.00
City of Alexandria	~$1.95
Frederick County	~$1.65
Loudoun County	~$1.40
City of Fairfax	~$1.15
Charles County	~$0.60
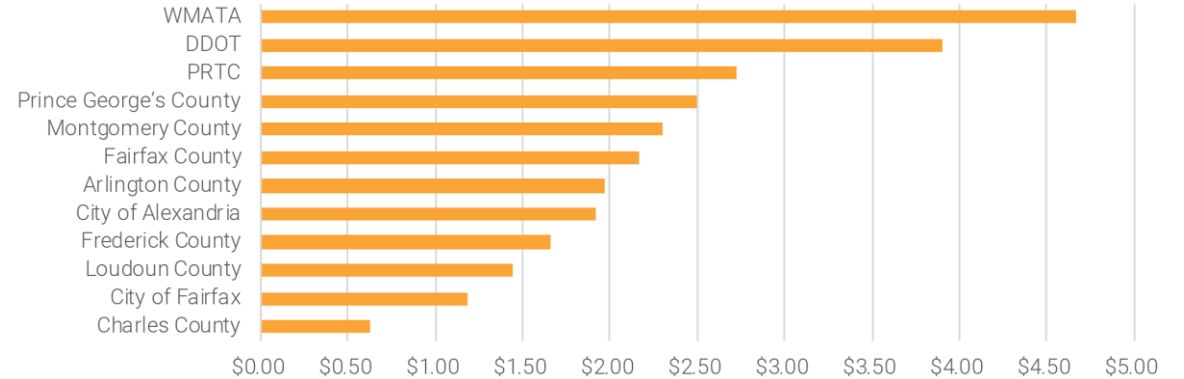
COST OF GENERAL ADMINISTRATION (USD per Revenue Hour)

Agency	
Montgomery County	~$61
Charles County	~$32
PRTC	~$30
City of Fairfax	~$24
Loudoun County	~$22
Arlington County	~$20
WMATA	~$18
Fairfax County	~$17
Prince George's County	~$16
Frederick County	~$15
City of Alexandria	~$15
DDOT	~$13
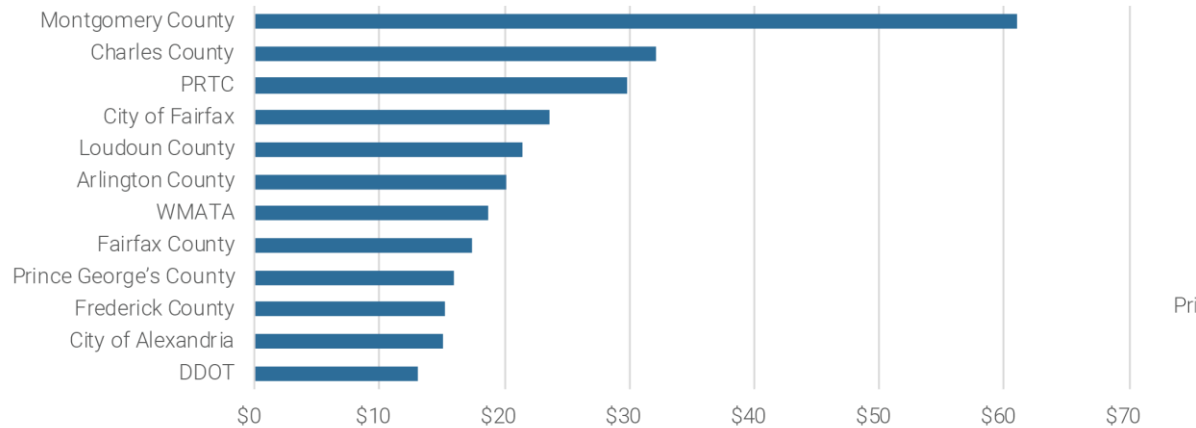
COST OF NON-VEHICLE MAINTENANCE (USD per VOMS)

Agency	
WMATA	~$50,000 (Break $20,000 - 45,000)
Montgomery County	~$18,000
PRTC	~$15,000
DDOT	~$9,500
Arlington County	~$7,500
City of Alexandria	~$5,000
Fairfax County	~$4,000
Loudoun County	~$4,000
City of Fairfax	~$3,000
Prince George's County	~$2,500
Frederick County	~$1,000
Charles County	~$500
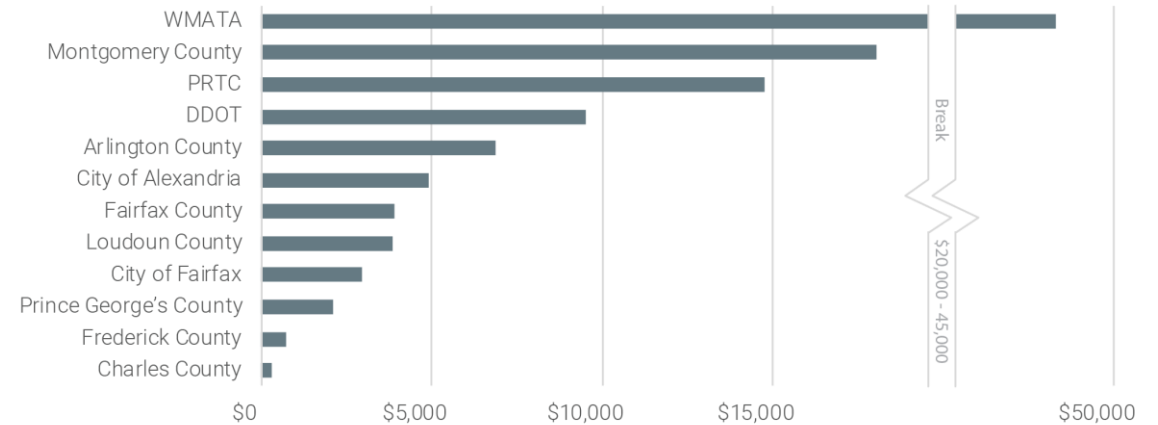
Bus Service Cost Components

- Operating characteristics, contractual issues, and governance structures can dramatically impact these O&M unit costs.

- Among the most important explanations of the differences are:
  - **Deadheading:** the amount of time and distance that vehicles operate outside of regular revenue service.
  - **Labor contracts:** including operator wages, union work rules, and service profile.
  - **Fringe benefits:** all non-salary benefits, including pensions.

Bus Service Cost Components

- Some additional cost data was provided by a subset of operating agencies that provided insight into the differences in general administration costs
  - General administration costs for the suburban operating agencies are a relatively smaller proportion of total expenses than for WMATA
    - Partially explained by the broad set of administrative responsibilities that WMATA has in supporting a very large network across the entire region
  - Fairfax County and Arlington County have relatively large service planning and customer service functions compared to the other suburban operating agencies
  - Arlington County includes their significant customer outreach efforts, including the Commuter Stores in these costs, which results in higher costs than most other providers in this category

Literature Review, Peer Review, and Local Examples

COLLABORATION AND COORDINATION ACTIVITIES

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Literature and Peer Review

- The literature review included a broad search of existing reports and academic research on the topic of coordination between transit agencies

- The peer review identified 7 regions with similar characteristics that have pursued coordination strategies to increase efficiency in bus service:

Minneapolis - St. Paul, MN - Metro Transit And Suburban Transit Association

San Francisco, CA - Metropolitan Transportation Commission (MTC)

Los Angeles, CA - LA Metro & Surrounding Transit Systems

Phoenix, AZ - Valley Metro & Surrounding Transit Systems

Seattle, WA - Sound Transit & Surrounding Transit Systems

Pittsburgh, PA - Port Authority Of Allegheny County

Quebec, Canada - Associacion Du Transport Urbain Du Quebec (ATUC)

Literature And Peer Review

CUSTOMER ORIENTED STRATEGIES

Schedule Coordination
Coordinate service schedules along major service corridors.

Shared Passenger Facilities
Transit hubs and centers that provide passengers with comfortable spaces to make transfers, information services, and other passenger amenities.

Regional Fare Structure
Provide consistent pricing on all transit operators in the region.

Regional Fare Media
Adopt a single fare card or pricing mechanism that can be used for travel on all transit services.

Information/ Data Coordination
Multiple agencies work together to share data on operations, market transit services, produce schedule brochures, and operate a joint call center or information center.

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Literature And Peer Review

AGENCY ORIENTED STRATEGIES

Joint Procurement
Multiple transit providers team to purchase buses, gasoline, and other equipment.

Joint Staff Training
Provide unified regional training program for personnel from all operators.

Joint Maintenance, Parking, and Storage Facilities
One transit agency can provide maintenance/ vehicle storage services to other transit agencies, or maintenance can be contracted to one, third-party provider.

Shared Fleet
Multiple operators share a vehicle fleet.

Shared Technology
All regional transit providers use the same systems including dispatching/ scheduling platforms, GPS systems, AVL systems, and/or customer information platforms.

Merge Duplicative Routes
When two or more agencies operate buses along the same route, they can be taken over by one operator.

Local Examples of Coordination

SHARED PASSENGER FACILITIES
Transit hubs and centers, like the Pentagon Transit Center, provide passengers with comfortable spaces to make transfers, information services, and other passenger amenities.

REGIONAL FARE STRUCTURE
Bus providers in the region have established a 2-hour transfer credit, which encourages trips that cross jurisdictions.

SHARED PASSENGER FACILITIES
Transit hubs and centers, like the Pentagon Transit Center, provide passengers with comfortable spaces to make

REGIONAL FARE MEDIA
The SmartTrip card, which was released in 1999 as a fair payment system for MetroRail, has been adopted by all local bus agencies.

INFORMATION/ DATA COORDINATION
Multiple agencies work together to share information through Commuter Stores in Arlington and WMATA's Trip Planner

JOINT MAINTENANCE FACILITY
WMATA has a 75-year lease from Fairfax County for the two agencies to co-occupy the West Ox bus facility. WMATA also pays a commensurate share of the facility operating and infrastructure renewal costs

Regional Strategy Recommendations for Enhanced Efficiency

POLICY OPTIONS, BENEFITS, AND FEASIBILITY

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Transfer or Merger of Service

This refers to switching the operations of a route to a different service provider with a lower operations cost or deadhead time, or merging duplicative routes into one.

Whether transferring service from one agency to another, or merging routes operated by multiple providers, the unique circumstances, operating costs, and desired level of service must be taken into account in order to weigh the costs and benefits of such changes.

Merged Services

Individual Services
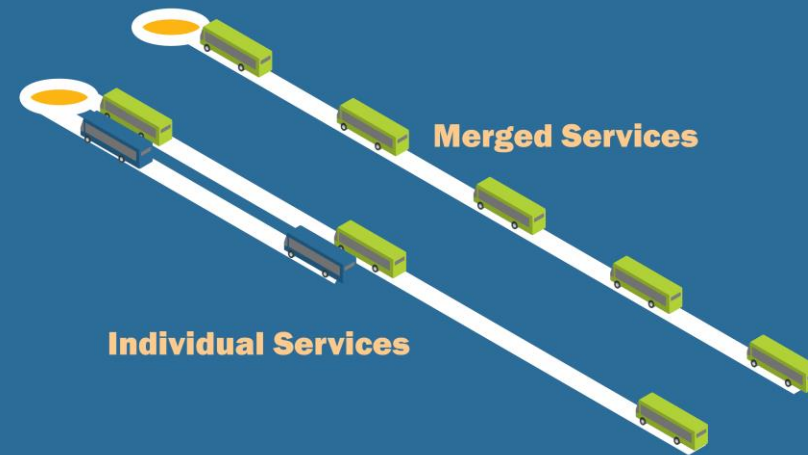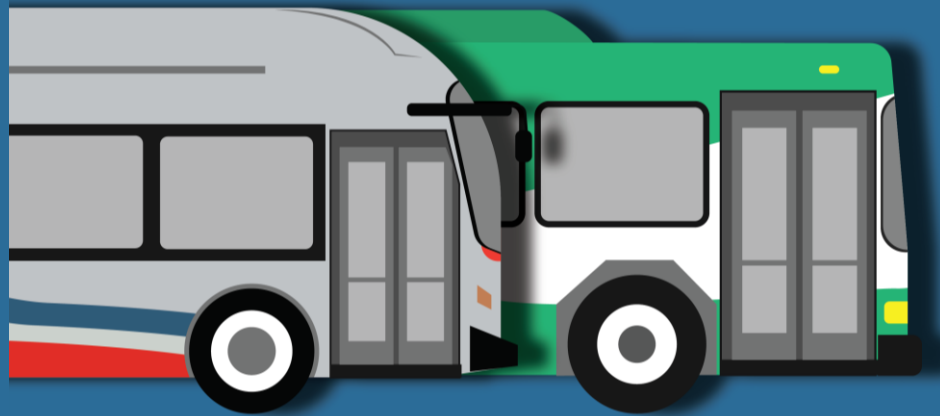
Transfers or Mergers of Service

- **Evaluation Method:**
  - Benefits were determined based on the cost savings realized by transferring operating responsibilities from one operator to another
  - Feasibility determined based on the size of the agencies considered, and whether they would be able to take on additional provision of transit services

- **Highlights of Results:**
  - The benefits of having a local operator take over WMATA routes is med to high, because the are cheaper
  - The feasibility for agencies to take service from WMATA is low or medium because these agencies are smaller and thus may not be able to take on additional routes or services

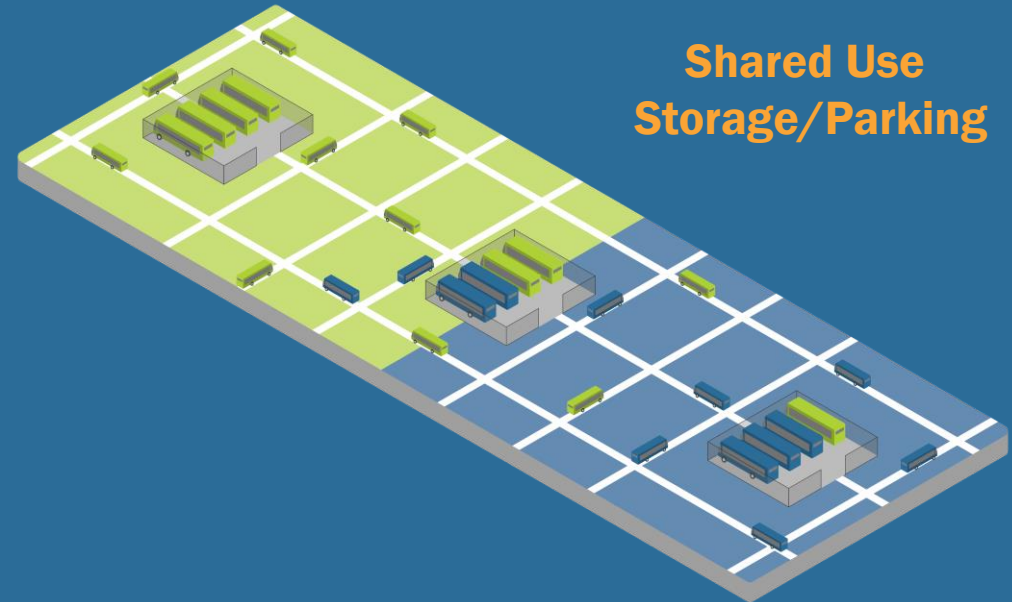# Shared Maintenance, Storage, and Parking Facilities

Shared maintenance, storage, and parking facilities provide space for multiple agencies to fulfill their needs.

Multiple regional and local agencies can fund and operate a facility together and all parties can access and use the facility, or one agency can fund the facility and lease space to other agencies.

Shared Use Maintenance

Shared Use Storage/Parking

Shared Maintenance, Storage, and Parking Facilities

- **Evaluation Method:**
  - Benefits were determined based on the number of transit providers operating with a 5-mile radius, and the number of routes that operate with a 5-mile radius
  - Feasibility was determined based on the density of development within ¼ mile of each facility

- **Highlights of Results:**
  - Nearly all planned facilities in this region could be used by multiple transit agencies based on proximity of their routes to the facility
  - Only one planned facility did not have multiple agencies operating within a 5-mile radius
  - Facilities with high densities of development surrounding them had lower feasibility, and those with low density development were determined to have higher feasibility

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Shared Infrastructure on High Investment Corridor

This strategy primarily refers to partially or fully separated fixed-guideway transit corridors. Allowing multiple operators to utilize operating infrastructure can provide faster and more reliable service for all involved transit operators.

These types of investments can increase travel speed, reduce delay, and increase the overall reliability of bus service, making the routes that run along them more efficient and attractive to potential riders.

CURRENTLY IN THE METROPOLITAN WASHINGTON THERE ARE SEVEN HIGH INVESTMENT CORRIDORS WHERE SHARED USE COULD BE APPLIED.

- **Arlington - Columbia Pike Premium Transit Network**
- **Fairfax - VA-7 Transitway**
- **Fairfax - US-1 Transitway**
- **Alexandria - West End Transitway**
- **Alexandria - Duke Street Transitway**
- **Montgomery - MD 355 BRT corridor**
- **Montgomery - US 29 BRT corridor**

Shared Infrastructure

- **Evaluation Method:**
  - Benefits were determined based on the total number of agencies that operate along the corridor today, the number of routes that each agency operates, and the total length of all routes operating along the corridor
  - Feasibility was determined based on the ability of multiple bus types to physically access and utilize an improved corridor

- **Highlights of Results:**
  - All planned high-investment corridor improvement projects have at least 2 bus service providers operating routes along them
  - Nearly all projects have a high feasibility based on current design plans.
  - The two projects with low feasibility are ones that will have level boarding, off-board payment, and infrequent stations
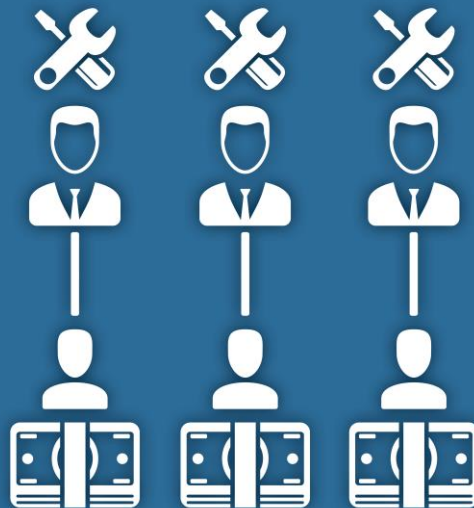
Joint Procurement

Joint procurement refers to the process of two or more transit providers joining forces to collectively purchase vehicles, parts, fuel, and services.

Joint procurement of new assets, fuel, parts, and or services can increase an individual agency's purchasing power by introducing economies of scale into the process of purchasing.

INDIVIDUAL PROCUREMENT

JOINT PROCUREMENT

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Joint Procurement

- **Evaluation Method:**
  - Benefit were determined as low, medium, or high based on the scale of the financial impact of the proposed strategy
  - Feasibility was determined based on the legal and administrative ease of implementing each strategy

- **Highlights of Results:**
  - There is an inverse relationship between the benefits of a procurement strategy and its feasibility
  - Regional procurement strategies that would lead to the most savings (i.e. a regional procurement contract for buses) are the most difficult to implement

Shared Customer Service Functions

The sharing of customer service functions entails multiple agencies or operators coordinating to jointly market transit services and/or provide information and customer support services to riders.

The operation of a joint customer center would likely entail the sharing of data and programs on service operations, enabling service providers to have accurate and timely information about on-the-ground conditions and changes.

Consolidating customer information or support services into one operation can lead to cost savings by achieving economies of scale and eliminating or reducing redundancies.

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Shared Customer Service Functions

- **Evaluation Method:**
  - Benefits were determined based on either potential cost savings or improvements to the rider experience
  - Feasibility was determined based on the technological, legal, and administrative ease of implementing each strategy

- **Highlights of Results:**
  - All proposed shared customer service strategies would bring medium to high benefits
  - Proposed strategies with bigger scopes were determined to be less feasible

Shared Administrative Functions

Shared administrative functions is the sharing and/or coordination between multiple agencies or service providers to carry out business functions that have similarities across organizations.

The main difference between this strategy and shared customer service functions is that shared administrative functions involves "back end" activities (i.e., those that are not visible to the public and, generally, do not directly affect the customer experience).

Potential Areas for Coordination:

●Staff ●Facilities ●Financial Management Services ●Legal/Compliance Services
●Contracting ●Grant Management ●Human Resources (HR) ●Service Operations
●Security Services ●Asset Inventories, Maintenance, Condition Assessment, or Disposal

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Shared Administrative Functions

- **Evaluation Method:**
  - Benefit were determined as low, medium, or high based on potential cost savings
  - Feasibility was determined based on the technological, legal, and administrative ease of implementing each strategy

- **Highlights of Results:**
  - All proposed strategies were determined to have medium to high benefits
  - Proposed strategies that would necessitate new laws and/or policies across jurisdictional boundaries were determined to have low feasibility

Joint Training

A portion of the cost of labor in a specialized field like public transit comes from staff trainings, some of which are required by local regulations, and some of which are the result of changing policies and technologies.

Examples include extensive training requirements for maintenance personnel, bus operator training and education, dispatcher training, safety and security training, and leadership training.

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Joint Training

- **Evaluation Method:**
  - The benefits were determined based on either potential cost savings or the potential of the joint training program to address a critical regional challenge
  - Feasibility was determined based on the technological, legal, and administrative ease of implementing each strategy

- **Highlights of Results:**
  - The majority of the proposed joint training strategies provide low benefits, with the exception of a "Regional Technician Training Program" which would satisfy a great need
  - The feasibility of implementing almost all of the proposed strategies is high

Shared Technology

With technology playing an increasingly important role in the region's transportation system, it is important that transit providers not only keep abreast of the latest developments in the industry, but also coordinate their use of technology across jurisdictions.

This includes utilizing compatible Automatic Vehicle Location (AVL) and GPS systems, adopting Transit Signal Priority (TSP) protocols, and providing easy access to Automatic Passenger count and other data.

Shared Technology

- **Evaluation Method:**
  - Benefits were determined based on either potential cost savings or the potential of the strategy to unify data collection and improve the rider experience
  - Feasibility was determined based on the technological, legal, and administrative ease of implementing each strategy

- **Highlights of Results:**
  - Most shared technology strategies would yield high benefits
  - The feasibility of implementing joint technology initiatives is challenging - Each agency has different information/technology needs, making it difficult to create technology solutions which satisfy all the parties involved

Next Steps and Implementation

ACTIONS, TIMEFRAME, AND LEADERSHIP

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TRANSFER OR MERGING OF SERVICE BETWEEN AGENCIES

Medium/Long(+3 years)

Leadership: **All Agencies**
- Determine service characteristics, including type of services and who should operate them as part of a regular performance evaluation (Transit Development Plans or other planning efforts).
- Engage agencies with overlapping service areas to identify which service provider should take over operation of the route or service, or where two services can be merged.

SHARED INFRASTRUCTURE IN HIGH INVESTMENT CORRIDORS

Medium/Long(+3 years)

Leadership: **All Agencies**
- For planned infrastructure, agencies should explore the possibility of allowing other agencies to operate on the new infrastructure.
- When pursuing new projects, transit agencies should perform a feasibility study to explore if a sharing infrastructure is possible.

SHARED MAINTENANCE, STORAGE, AND PARKING FACILITIES

Medium/Long(+3 years)

Leadership: **All Agencies**
- For planned facilities (included those identified in this report) agencies should explore the possibility of allowing other agencies to access the new facility.
- When pursuing a new facility, transit agencies should assess the plans of bus service providers with proximal service areas.
- When needs align, perform a feasibility study to explore whether a shared facility is possible, and whether the costs and benefits would make collaboration worthwhile

JOINT PROCUREMENT

Regional Procurement Contract for Buses

Long(+5 years)

Leadership: **COG/WMATA/State Agency**
- Create a Regional Bus Procurement Committee, with representatives and decision makers from local, regional, and state agencies.
- Complete a survey of procurement laws and regulations in MD, VA, and DC, and identify areas of potential conflict.
- If changes in state law and regulation are necessary, pursue these changes with state agencies/legislatures.
- Plan out a scope and guidelines for developing a cooperative purchasing agreement for buses.
- Develop a cooperative purchase agreement that all local agencies can use to acquire buses.

Procurement Agreement for Buses between Two or More Jurisdictions

Short(1-2 years)

Leadership: **All/Any Agencies**
- Identify immediate and long-term bus procurements needs.
- Research the procurement requirements of other agencies, short term procurement needs, and existing procurement contracts.
- Enter into negotiations to piggyback off of an existing contract or to create a new collaborative contract with another agency.

Regional Procurement Contract for Other Purchases: Fuel, Parts, Service

Medium/Long(+3 years)

Leadership: **COG/WMATA/State Agency**
- Create a Regional Bus Procurement Committee, with representatives and decision makers from from local, regional, and state agencies.
- Complete a survey of procurement laws and regulations in MD, VA, and DC, and identify areas of potential conflict.
- If changes in state law and regulation are necessary, pursue these changes with state agencies/ legislatures.
- Plan out a scope and guidelines for developing a cooperative purchasing agreement for other purchases.
- Using the scope and guidelines, develop a cooperative purchase agreement that all local agencies can use.

Procurement Agreement for Other Purchases between Two or More Jurisdictions

Short(1-2 years)

Leadership: **All/Any Agencies**
- Identify immediate and long-term needs of other purchases.
- Research the procurement requirements of other agencies, short term procurement needs, and existing procurement contracts.
- Enter into negotiations to piggyback off of an existing contract or to create a new collaborative contract with another agency.

SHARED CUSTOMER SERVICE FUNCTIONS

Regional Coordination and Promotion of Transit Information Resources

Medium(2-5 years)

Leadership: **COG/Arlington County**
- Engage in a discussion of strategy value among participating/interested agencies for public transit agencies.
- Review CommuterPage.com and other existing information resources for regional comprehensiveness and to identify gaps and needed improvements.
- Consider logistical requirements and details of redirecting transit users to a new website, application, or phone number.

Joint Regional Call and Communication Center

Long(+5 years)

Leadership: **COG/WMATA**
- Form a task force to assess the need and feasibility.
- Assess and document current communications and customer service practices and identify major differences and similarities.
- Perform studies to assess issues surrounding location, employment, funding, and oversight.

Establish a Consistent Channel to Coordinate Communications Regarding Service Disruptions

Short(1-2 years)

Leadership: **COG/WMATA**
- Assess and document current practices for communicating service changes and disruptions.
- Perform a feasibility study that identifies gaps in communications and coordination practices, as well as potential solutions to fill these gaps.
- Implement a regional information outlet for service disruptions (i.e. website, email alerts, printed publication) and create a uniform standard for communication.

Shared Customer Service Studies

Short(1-2 years)

Leadership: **All Agencies**
- Identify ongoing and upcoming customer service studies and assess similarities.
- Formulate and implement an agreement/MOU to jointly conduct or contract for customer service studies and surveys.

SHARED ADMINISTRATIVE FUNCTIONS

One Agency Performs Bus Acceptance for Other Agencies

Short(1-2 years)

Leadership: All Agencies
- Assess opportunities, current practices, and interest, as well as potential challenges that would need to be addressed.
- Identify agencies with additional capacity, and implement an agreement/MOU that allows for one agency to perform acceptance for another.

Merging of Governance, Staff, Operations, and/ or Other Functions between Bus Service Providers

Long(+5 years)

Leadership: COG/ WMATA
- Form a task force to assess the need and feasibility.
- Form a regular forum with local, regional, and state stakeholders for coordination between interested parties of the merger or merged functions.

Regional Collaboration on Asset Disposal and Auction or Other Asset Management Functions

Short(1-2 years)

Leadership: All Agencies
- Assess opportunities and current practices.
- Conduct a feasibility study of opportunities for merging asset management functions.
- Formulate and implement an agreement/MOU to jointly share certain asset management functions.

Information Sharing regarding Successful Practices in Administration

Short(1-2 years)

Leadership: COG
- Identify regional best practices for transit administration as well as existing administrative challenges, and ask agencies with greater experience and capabilities to present through a regional forum for transit providers.
- Identify appropriate staff to participate in the forum to ensure the information reaches the right staff and that relationships for further coordination between peer staff are formed.

Joint CDL Training

Short(1-2 years)

Leadership: WMATA

- Complete a survey of current CDL requirements in Maryland, Virginia, and the District of Columbia.
- Identify the largest training programs in the region, with the greatest capacity to accommodate additional trainees.
- Set up a fee structure that would be advantageous for both the agencies providing training and the agencies sending their staff to be trained.

Joint Clever Device Training

Short(1-2 years)

Leadership: All Agencies

- Identify which regional agencies use Clever Device technology platforms.
- Set up a fee structure that would be advantageous for both the agencies providing training and the agencies sending their staff to be trained.
- Identify opportunities and barriers for other agencies that do not currently use Clever Devices to adopt consistent technology platforms as time allows.

Maintenance Trainings

Short(1-2 years)

Leadership: All Agencies

- Identify which regional agencies share a similar fleet makeup with similar maintenance needs.
- Identify barriers to implementation based on agency-specific labor/union requirements.
- Set up a fee structure that would be advantageous for both the agencies providing training and the agencies sending their staff to be trained.

Safety and Security Training

Short(1-2 years)

Leadership: All Agencies

- Identify which regional agencies share safety and security protocols.
- Identify barriers to implementation based on agency-specific safety and security protocols.
- Set up a fee structure that would be advantageous for both the agencies providing training and the agencies sending their staff to be trained.

Regional Technician Training Program

Long(+5 years)

Leadership: COG/ WMATA

- Identify which regional agencies would be interested in participating.
- Identify local program partners, including educational institution, non-profits, and other community stakeholders.
- Develop a common curriculum based on agency needs and maintenance requirements.
- Develop other programmatic details based on the needs of participating agencies.
- Set up a fee structure that would be advantageous for participating agencies.

SHARED TECHNOLOGY

Standardized Processes for the Collection and Dissemination of GTFS, APC, and AVL

Medium(2-5 years)

Leadership: **COG/ WMATA**
- Identify which regional agencies share compatible technology platforms.
- Identify barriers to implementation based on technology and security constraints.
- Define which data would be useful to share and create processes for data collection and dissemination.

Flex Services

Long(+5 years)

Leadership: **All Agencies**
- Each agency should continue to monitor changes in technology and the transit industry.
- Identify opportunities to implement cross-jurisdictional flexible service when it can better serve riders.
- Create cost-sharing models that distribute the costs of cross-jurisdictional flexible service across multiple agencies.

Transit Signal Priority Systems

Long(+5 years)

Leadership: **COG/ WMATA**
- Identify agencies, jurisdictions, and other stakeholders who are interested in participating in this program.
- Identify funding source for program.

THANK YOU

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