



Customer Service and Operations Committee

Board Information Item IV-A

December 3, 2015

Bus Fleet Plan

Washington Metropolitan Area Transit Authority
Board Action/Information Summary

Action Information

MEAD Number:
201679

Resolution:
 Yes No

TITLE:

2015 Metrobus Fleet Management and Facilities Plan

PRESENTATION SUMMARY:

The 2015 Metrobus Fleet Management and Facilities Plan assesses fleet growth and garage capacity, identifies the gap between fleet supply and demand, and outlines facility requirements through FY2025. The plan supports WMATA's Federal capital grant applications.

PURPOSE:

To provide information on the 2015 Metrobus Fleet Management and Facilities Plan prior to its submission to the Federal Transit Administration.

DESCRIPTION:

The 2015 Metrobus Fleet Management and Facilities Plan (the Plan) renews the 2013 Metrobus Fleet Management Plan Update. The 2013 Fleet Plan Update documented the demand for bus fleet, supply of fleet and system-wide maintenance and garage facilities from FY2013 through FY2027 and was adopted by the Board in February 2015. This Plan documents the fleet and facilities needs from FY2016 through FY2025.

The Plan provides the foundation for the replacement, rehabilitation and expansion of the Metrobus fleet, and the need for rehabilitation, replacement and addition of garage and maintenance facilities in the coming years.

Key Highlights:

Fleet demand over the next decade will be greater than currently funded fleet supply.

- Service enhancements, increasing ridership, and maintenance requirements all fuel this demand.

In spite of many improvements, bus maintenance facilities have:

- Outdated and restricted conditions at several facilities
- Spatial mismatch between bus route location and articulated bus maintenance capacity
- Less than optimal relationship between garage location and service areas

Background and History:

The 2013 Metrobus Fleet Management Plan Update was approved by the Board on February 12, 2015. The current document is the FTA mandated 2015 Metrobus Fleet Management and Facilities Plan. After review by the Metro Board, the 2015 plan will be submitted to the FTA for approval, and then returned to the Board for final approval.

Discussion:

Fleet Demand

The fleet demand projection estimates that 373 expansion buses will be needed in the next decade. This projection takes into account a 1% annual increase in ridership, service enhancements for Priority and Emerging corridors and State of Good Operations, and maintenance requirements.

Fleet Supply

During this same period, Metro plans to purchase a total of 1,175 buses, of which 995 will be for replacement and the remaining 180 for expansion.

Fleet expansion continues to lag behind fleet demand due to funding constraints; the additional buses that are needed to meet demand are not included in the current Capital Improvement Program. A lack of investment for fleet growth during these years would hinder Metro's ability to provide new services and deploy expansion buses on the Priority Corridor Network and on Emerging Corridors. The gap between supply and demand will widen from 131 in 2016, to 373 in 2025. Actions to increase funds for bus fleet growth to support planned system development and to meet growing ridership demand are needed.

Future fleet procurement plans largely reflect the need to replace older fleets, not expand the total fleet. A robust replacement program has lowered the average fleet age from 8.7 years in 2010 to 7.6 years as of June, 2015. As the bus age decreased, bus reliability--as measured by mean distance between failures-- increased from 5,548 miles in 2009 to 7,154 in 2015. The mid-life rehabilitation program also contributes to this performance increase. The average fleet age is expected to stay well below the planning target age of 7.5 years until 2025.

Garage and Maintenance Capacity

A recent assessment of Metrobus garage and maintenance facilities found functional deficiencies, deteriorating building conditions and facility locations at a distance from the service area. Some safety and security concerns were identified and immediate measures were taken to protect the safety of building users. Long term remediation is pending.

While overall capacity increased with the opening of Shepherd Parkway, there remains a mismatch between demand location and facility location, and a need for more facilities equipped to maintain articulated fleets and Compressed Natural Gas (CNG) fleets. The shortage of fueling facilities has hindered the expansion of the CNG fleet. It will be ameliorated with the planned CNG installation at Shepherd Parkway, however, given the Authority policy to target a 50 percent Hybrid and 50 percent CNG fuel mix, a need for additional CNG fueling facilities will continue.

With the closure of the Royal Street Division, bus storage capacity decreased from 1,740 to 1,691. Currently system-wide storage capacity is sufficient for the total number of buses in the Metrobus fleet, but plans are underway to increase the size of the standard parking space dimension to accommodate larger buses. Restriping the bus parking spaces will severely reduce available capacity. However, even before the parking dimension change, some operating divisions, especially those in the core Metrobus transit market, are at or near capacity and operating under outdated and restricted conditions.

The location of some maintenance facilities, at a distance from the service area, increases vehicle miles traveled, and concomitantly increases the number of operators needed to provide service, the consumption of fuel, the frequency of maintenance inspections, the use of consumables, and the number of mechanics required to maintain the fleet. Currently 21% of total vehicle miles are traveled in non revenue service.

The current operation and expanded use of articulated buses, which could match service to demand, is constrained by total maintenance capacity and the discrepancy between artic route locations and artic bay availability at garage facilities.

The rehabilitation and replacement of Northern and Western garages, redevelopment of Bladensburg garage, planned opening of new garages at Cinder Bed and Andrews Federal Center will help to alleviate some of these constraints.

Metro and the jurisdictions will need to develop strategies to rehabilitate or replace the oldest garages in the core service area in order to provide adequate storage capacity and efficient maintenance, increase the use of articulated buses and Compressed Natural Gas buses, and efficiently meet the transit needs of communities.

FUNDING IMPACT:

This item is for information only. There is no funding impact.

Project Manager:		James Hamre
Project Department/Office:		Bus Service/Bus Planning

TIMELINE:

Previous Actions	February 2015 - Board approved the 2013 Metrobus Fleet plan
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Anticipated actions after presentation

Spring 2016 – 2015 Metrobus Fleet Plan will be forwarded to the Federal Transit Administration for their approval.

Summer 2016 - FTA approved Fleet Plan presented to Metro Board of Directors for approval.

RECOMMENDATION:

Review the 2015 Metrobus Fleet Management and Facilities Plan for information on ridership forecasts, fleet replacement and expansion, and facility capacity and replacement needs.



Washington Metropolitan Area Transit Authority

2015 Metrobus Fleet Management and Facilities Plan

Customer Service and Operations Committee

December 3, 2015



Purpose

Share work-to-date on preparation of the 2015 Metrobus Fleet Management and Facilities Plan regarding

- Ridership demand forecast
- Fleet replacement rate & expansion opportunities
- Strategies for facilities capacity, location & replacement





Why A Fleet Plan?

- FTA mandated Metrobus Fleet Management and Facilities Plan (BFMP) provides the foundation for managing the replacement, rehabilitation and expansion of Metrobus fleet and facilities
- The most recent plan update (2013 BFMP) was approved by the Board in February 2015
- FTA requested a new study of Metrobus needs
- The 2015 BFMP is being prepared to project vehicle and facility needs through FY2025
- Does not obligate Metro to meet projected requirements



Fleet and Facility Investment Benefits to Customers

Improvements possible:

- Adequate travel times bringing improved reliability on 28 lines
- Crowding reduction on 20 lines
- All lines meeting minimum service frequency threshold

Quality ride experience with buses:

- Correct type and size for the line
- Proper amenities and features
- Cleaned and serviced daily
- Maintained effectively and efficiently
- Stored safely and securely

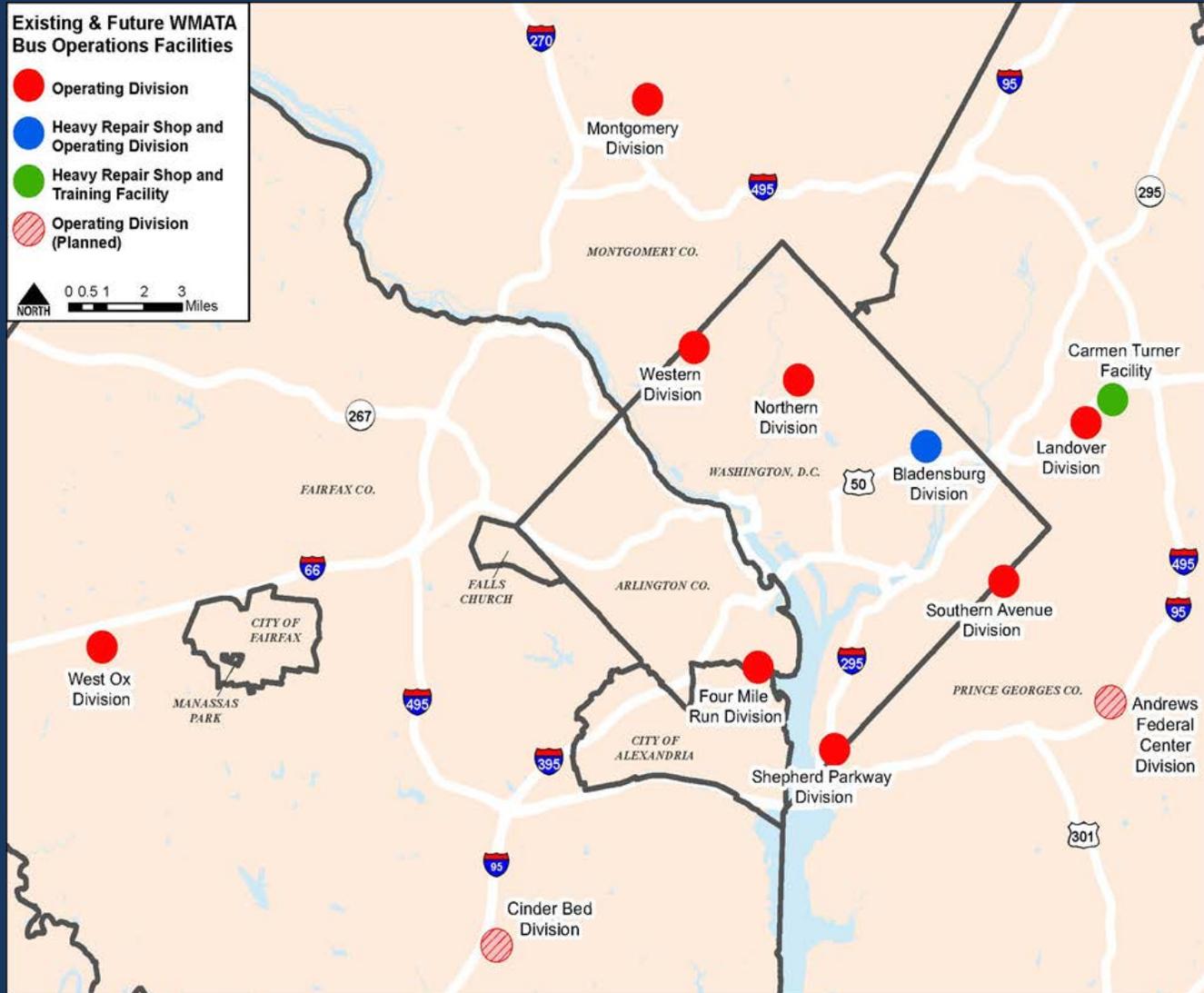


Current Fleet and Facilities

Division	Current Buses	Storage Capacity
District of Columbia		
Bladensburg	266	257
Northern	150	175
Southern Avenue	79	103
Western	119	138
Sub Total	614	673
Maryland		
Landover	177	210
Montgomery	214	240
Shepherd Parkway	225	250
Sub Total	616	700
Virginia		
Four Mile Run	222	218
West Ox	96	100
Sub Total	318	318
Total	1548	1691



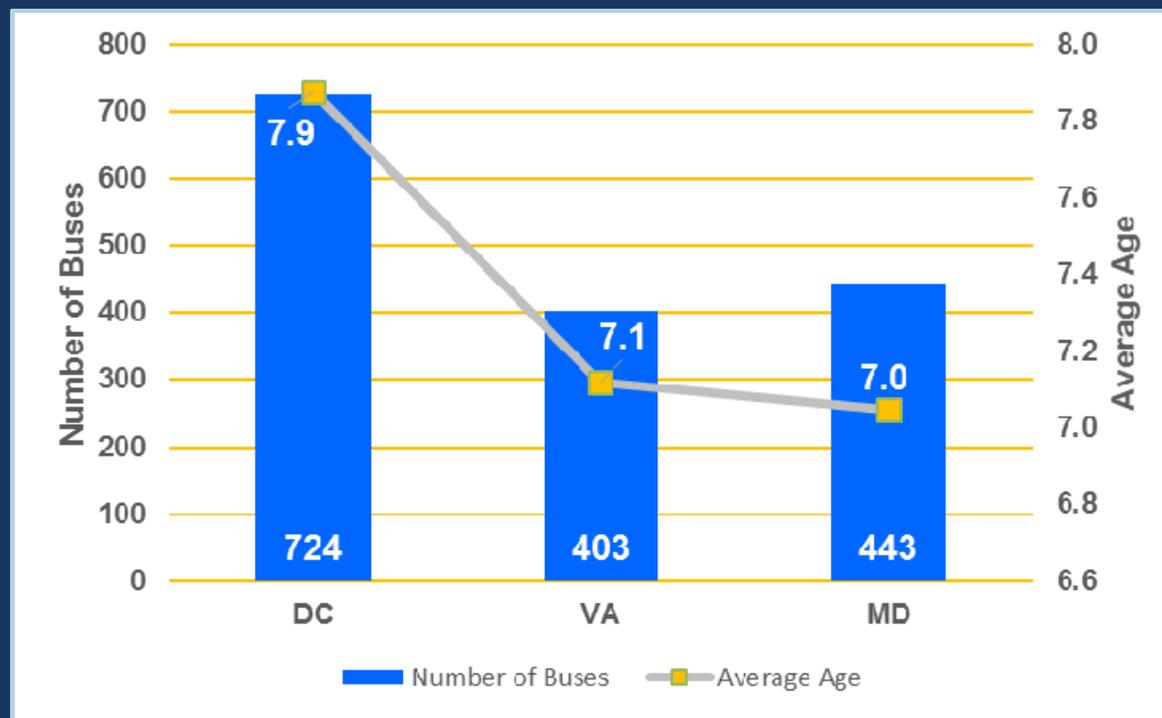
Operating Division Locations





Fleet Age by Jurisdiction

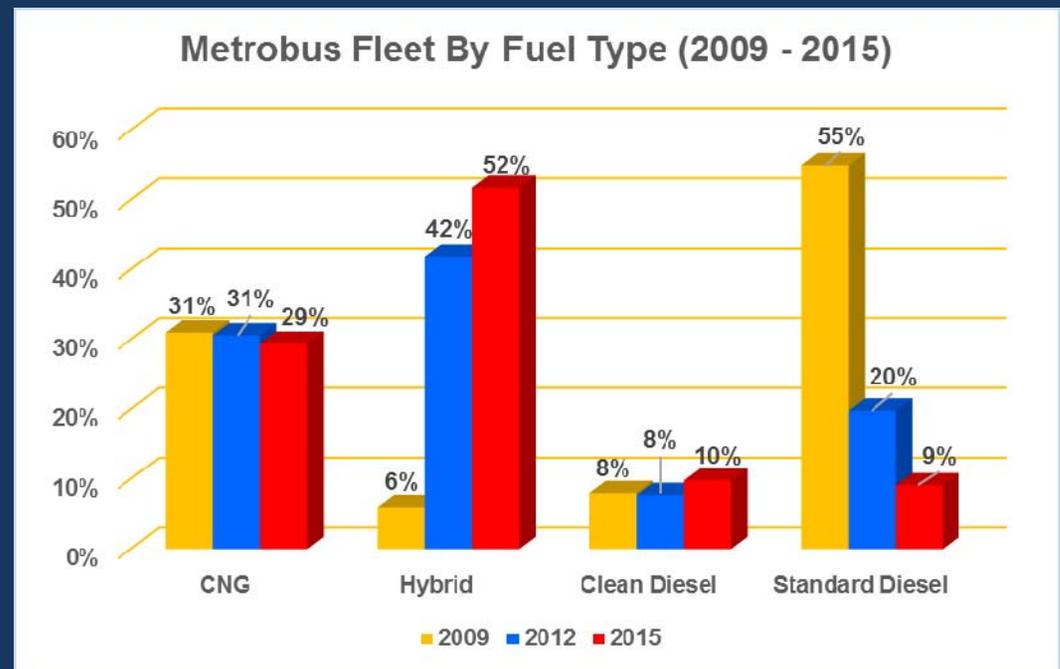
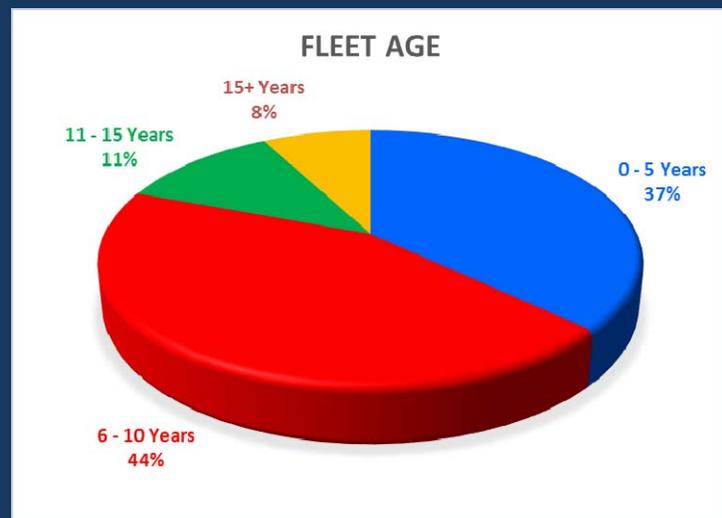
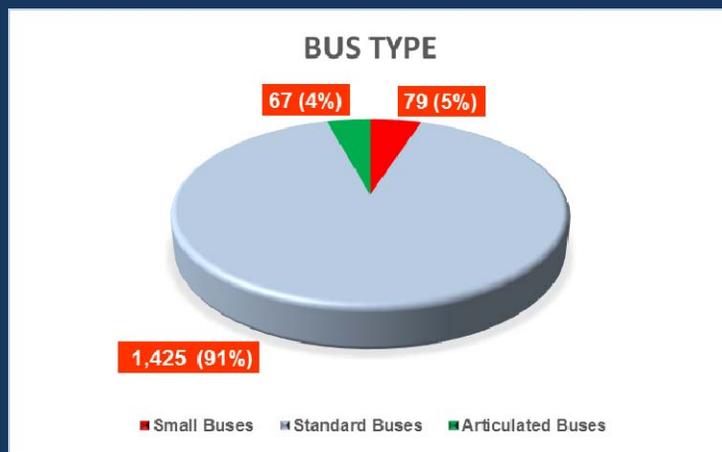
Overall Fleet average age is 7.6 years
Age of fleet is managed by state for equity





Fleet Composition

Current Fleet Composition





Fleet Plan Scenario

- Ridership is projected to grow
- Service enhancements to reduce crowding and improve reliability (PCN, SOGO, Local)
- Need expanded capability for 60-foot buses
- Fleet size should increase to accommodate growth
- Gap between fleet need and supply – **373 buses**

Type	Total Demand	Total Supply	Balance
Priority Corridor Network (PCN)	147	130	(17)
Emerging Corridors	87	0	(87)
State of Good Operations (SOGO)	240	65	(175)
Others	19	0	(19)
Spare Buses	75	0	(75)
Total Fleet Demand	568	195	(373)



Maintenance Facility Highlights

Funded improvements:

- Andrews Federal Center and Cinder Bed Road
- Heavy overhaul shop relocation
- Shepherd Parkway CNG fueling facility
- Bladensburg replacement
- Southern closure

Plans evolving:

- Northern
- Western
- Montgomery
- Four Mile





Facility Plan Shortcomings

Despite improvements deficiencies identified:

- State of good repair needs at several facilities
- Spatial mismatch between service need location and articulated bus maintenance capacity
- Street capacity and operating characteristics
- Less than optimal relationship between garage location and service areas

Organization	Weekday			Annual		
	Actual Vehicle Miles	Deadhead Miles	Deadhead Miles as a %	Actual Vehicle Miles	Deadhead Miles	Deadhead Miles as a %
Los Angeles MTA	256,292	46,299	18.1%	81,680,605	13,676,270	16.7%
SEPTA	145,036	16,854	11.6%	44,963,354	5,207,375	11.6%
King County - Seattle	130,817	29,758	22.7%	40,368,618	8,317,969	20.6%
WMATA	167,572	45,294	27.0%	49,925,325	10,748,837	21.5%
Peer Groups Average	99,741	16,895	16.9%	31,004,439	4,910,679	15.8%



Metrobus Customer Facility State of Good Repair Needs

- 55 Metrorail Bus Terminals
- 4 Off-Street Bus Loops
- Over 11,100 Bus Stops
 - 3,100 – Virginia
 - 3,300 – DC
 - 4,700 – Maryland
- Bus Shelters
 - 589 – WMATA Owned
 - 1,965 – Jurisdiction Owned
- 11 On-Street Terminals
 - 8 programmed for Investment





Findings

- Bus procurement – 1175 buses (995 – replacement and 180 Expansion)
- Add 70 expansion/replacement articulated buses
- Build and/or renovate four garages
- Add maintenance bays to expand capacity
- Fund customer facility needs
- Fund facility SOGR
- Seek shared operating scenarios





Next Steps

Finalize the plan – March 2016

Submit the plan to FTA – Spring 2016

Review FTA Comment – Summer 2016

Board Approval – Fall 2016

