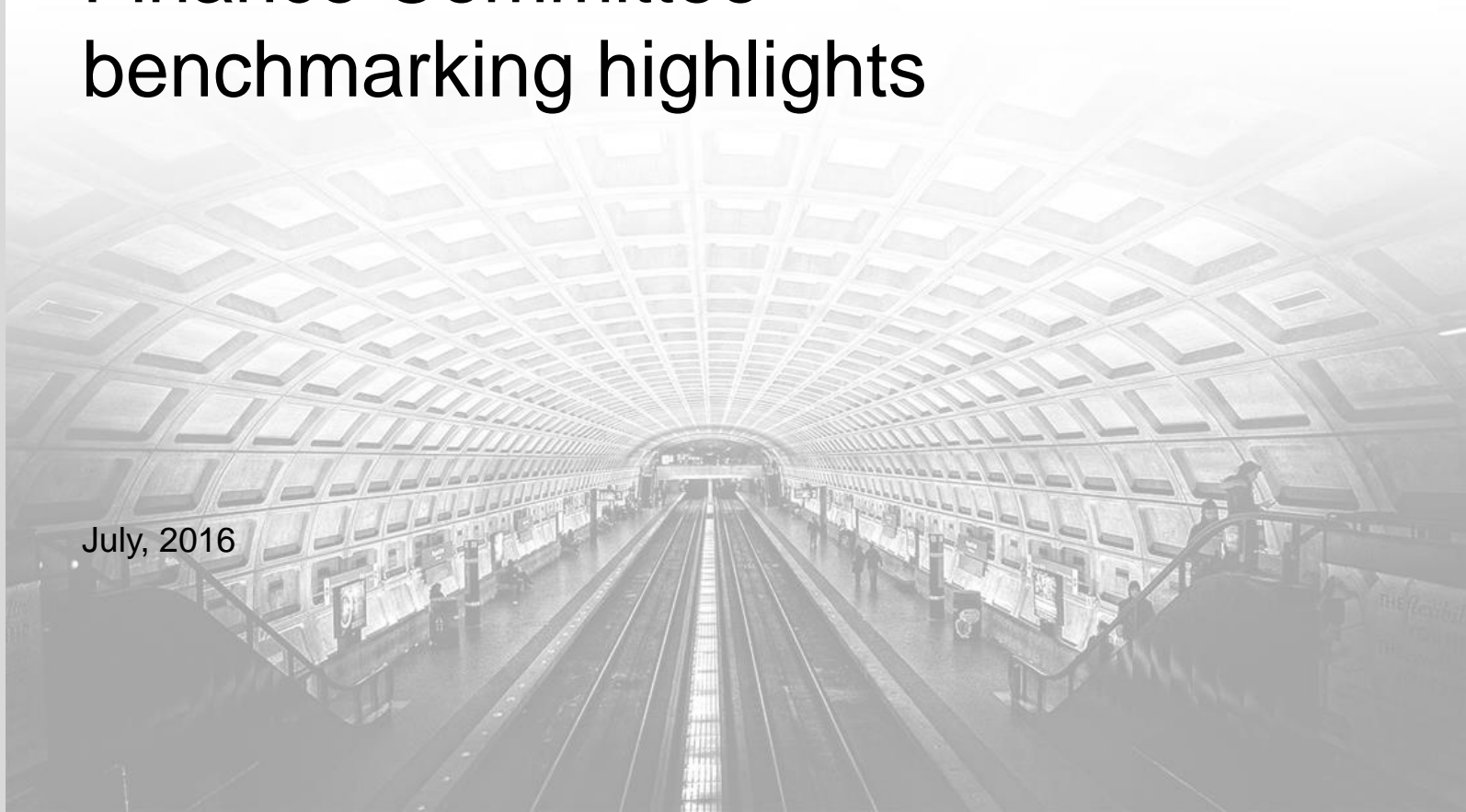




# Finance Committee - benchmarking highlights

July, 2016



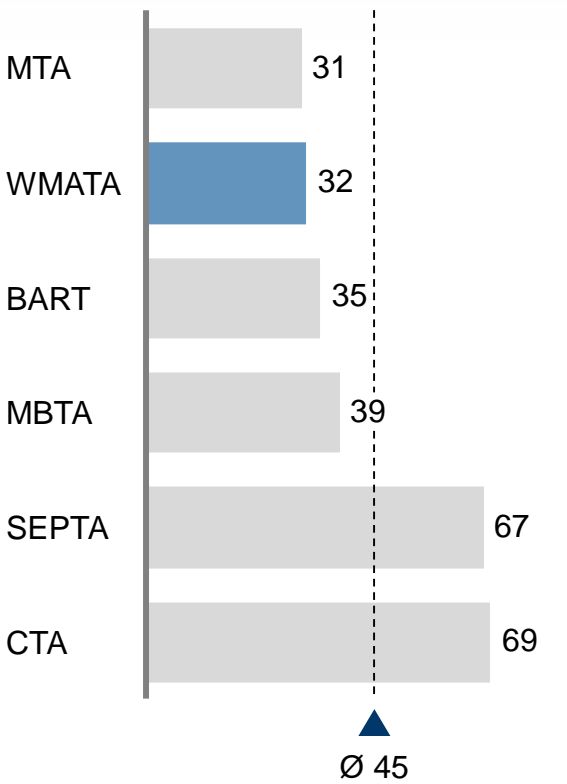
# Although safety performance has declined in 2015, Metrorail has better performance than peers on multiple measures for the last 3 years overall

## Safety and security incidents

January 2013-August 2015

### Collisions, derailments, and fires

Events per 1B unlinked passenger trips

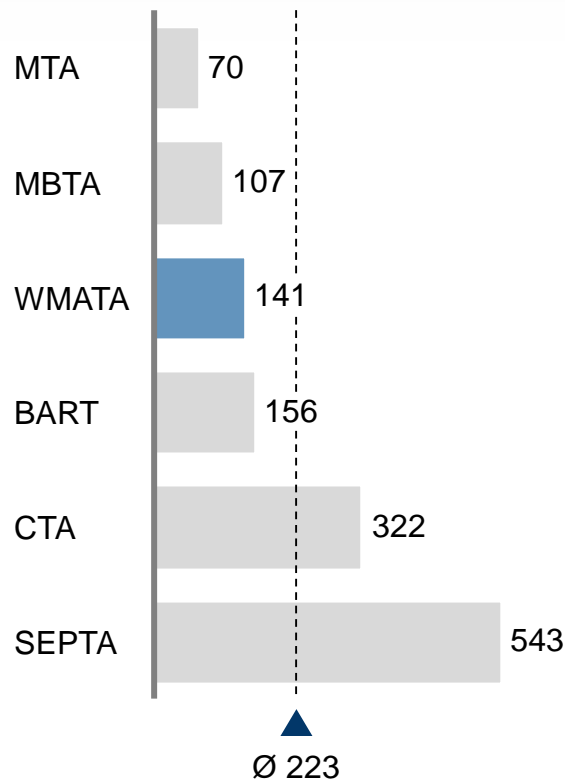


WMATA  
2015 rank

5 / 6

### Security incidents

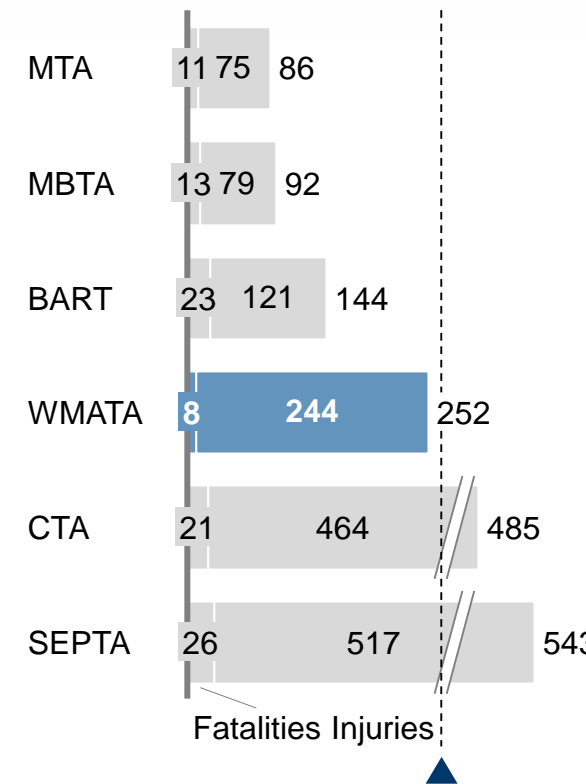
Events per 1B unlinked passenger trips



3 / 6

### Injuries and fatalities, excl. suicides

Number per 1B unlinked passenger trips



5 / 6

6 / 6

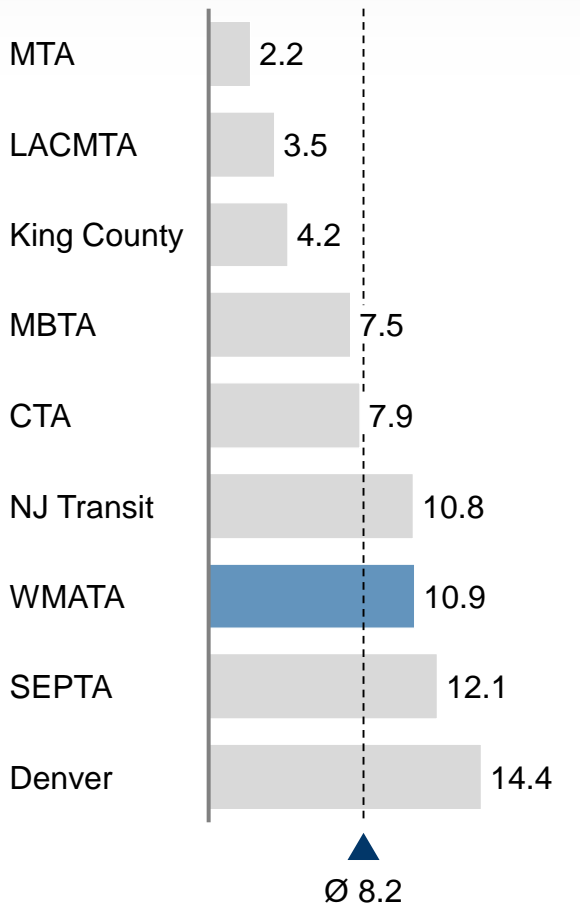
# Metrobus has more safety and security incidents and more injuries than peer bus agencies

## Safety and security incidents

January 2013-August 2015

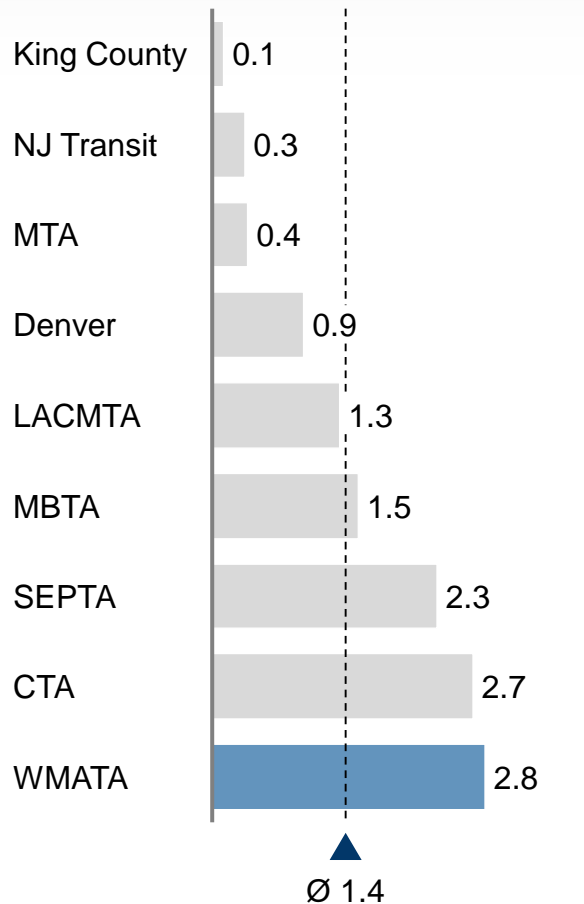
### Collisions and fires

Events per 10B unlinked passenger trips



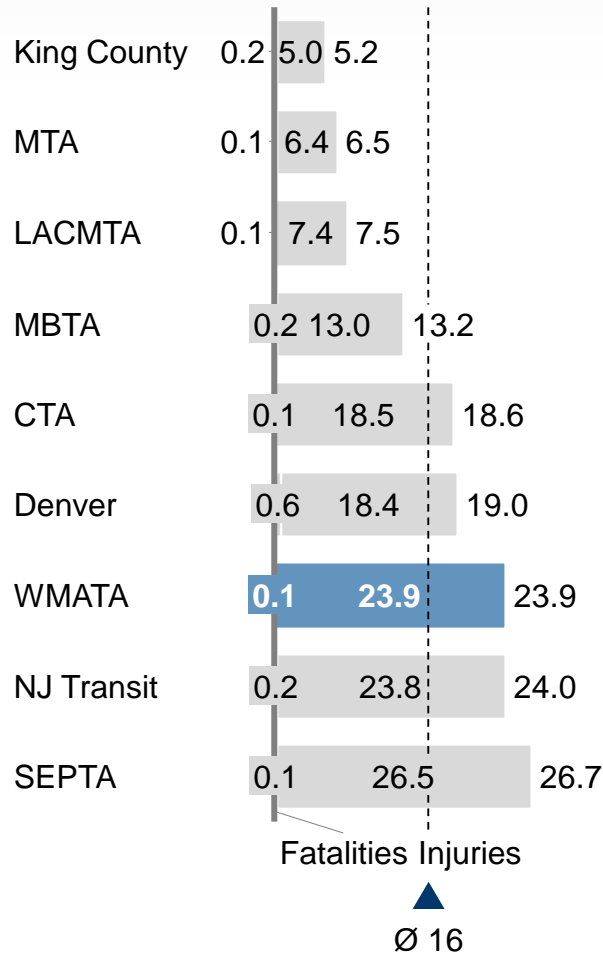
### Security incidents

Events per 10B unlinked passenger trips



### Injuries and fatalities, excl. suicides

Number per 10B unlinked passenger trips

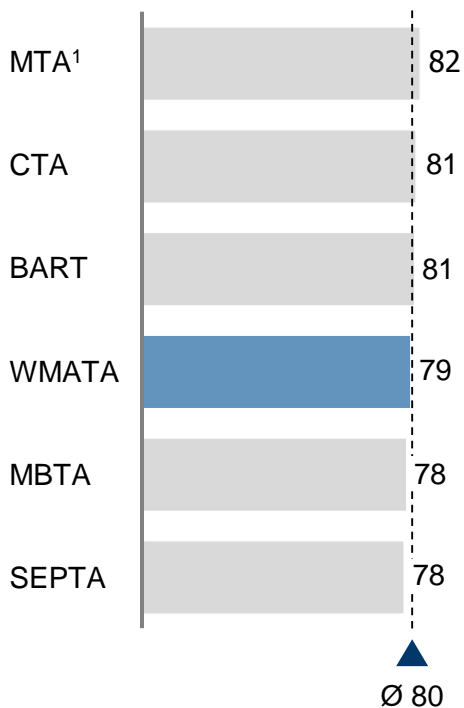


# Railcar availability historically lagged peers, and has fallen significantly further behind since April, partially but not only due to parts shortage

## Fleet availability

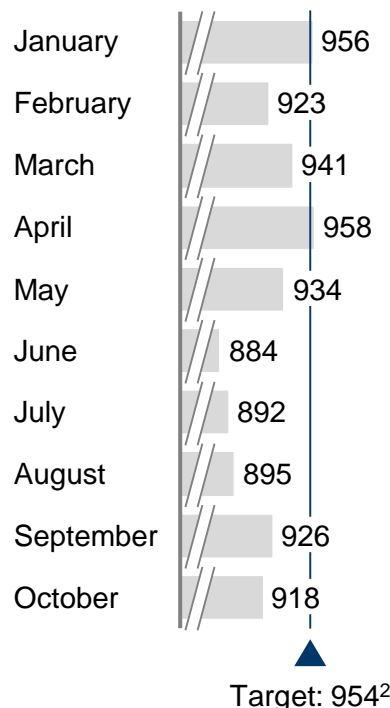
### Availability was slightly behind peers

Vehicles operating in max. service / vehicles available in max. service, 2014, percent



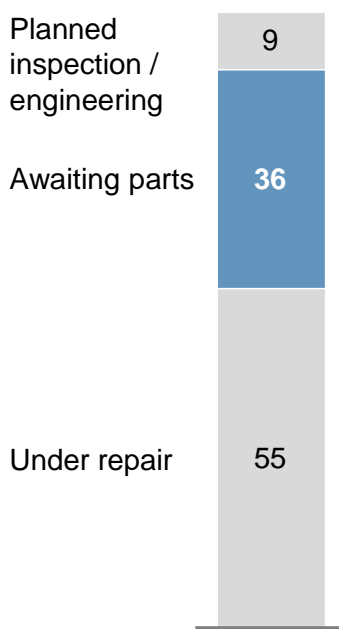
### WMATA availability has declined significantly this year

Cars released for service, 2015



### WMATA railcars out-of-service by cause

Share of out-of-service cars on 12/7/15, percent



## Insights

- WMATA made service before Silver Line, but had a slightly higher spare ratio than peers
- The number of cars available has since fallen, even as service requirements increased
  - Minimum car requirement was met **only 10 out of 64 weekdays in Q3**
- A significant problem is that **76 cars are out of service awaiting critical parts**, in part due to challenges procuring the items
  - Should be <10% (no stock and in-transit items)
  - Immediate situation being addressed, 22 cars expected back in service by January 31
  - Root cause of parts shortage merits attention
- But another **118 cars are out-of-service due to repairs**. Reducing unplanned repairs could improve availability

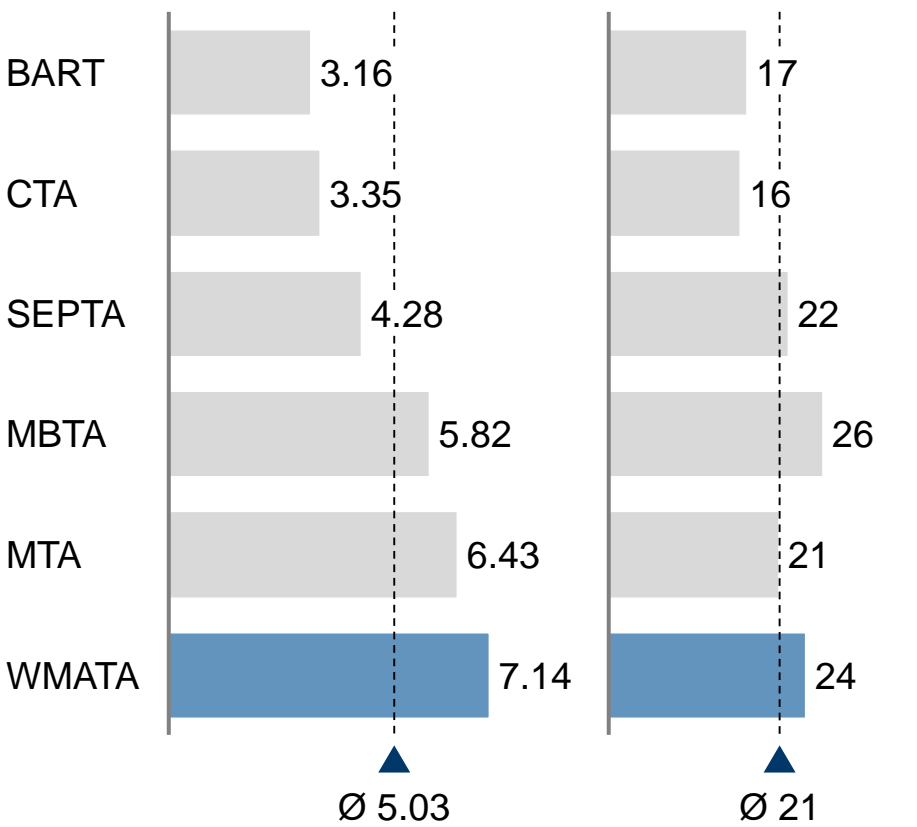
<sup>1</sup> Due to a data discrepancy in the NTD data, 2014 active vehicles used for MTA (excl. Staten Island Rail)

<sup>2</sup> In October only 922 cars were required for service because Orange/Blue headways were extended in response to the car problems, but the plan is to return to 6 minute headways in January

# WMATA spends more than peers on rail maintenance, but less on rail ops

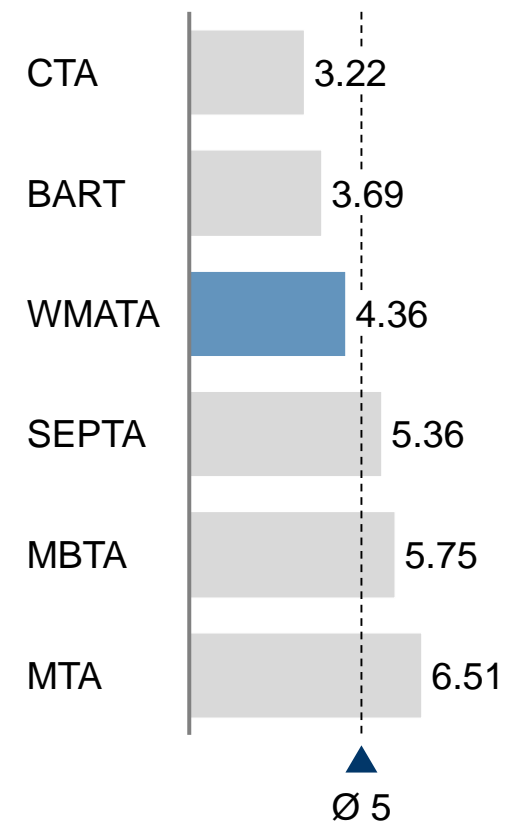
## Rail maintenance cost efficiency

Rail vehicle and non-vehicle maintenance spend per revenue mile 2014



## Rail operations efficiency

Rail vehicle operations spend per revenue mile 2014



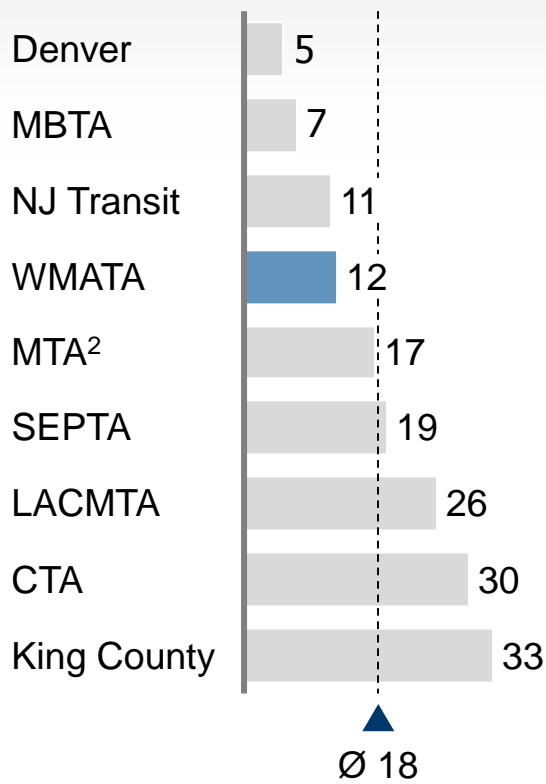
## Insights

- WMATA is ~30% higher than peer average on rail maintenance cost
- Fleet age does not fully explain the gap
  - MBTA spends less with an older fleet
- Reducing the gap on maintenance spend between current state and peer average by half would save ~\$80M annually
- Rail operations cost slightly below peers

# WMATA's bus failure rate and maintenance spend are in line with or slightly ahead of peers, which may be partly due to a relatively young fleet

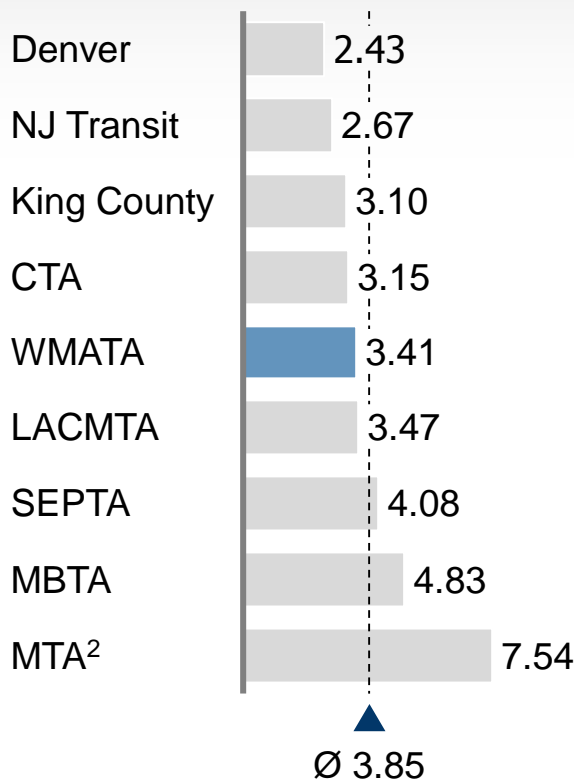
## Bus failures

Total vehicle system failures per 100,000 miles traveled, 2014<sup>1</sup>



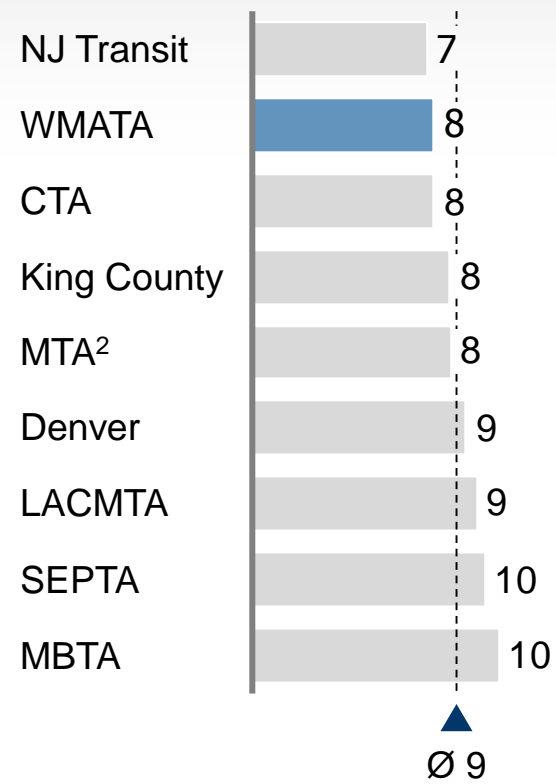
## Bus maintenance costs

Average \$ spent per / revenue mile, 2014<sup>1,3</sup>



## Bus fleet age

Years as of 2014<sup>1</sup>



1 Excludes Commuter Bus

2 Combines NYCT Bus and MTA Bus

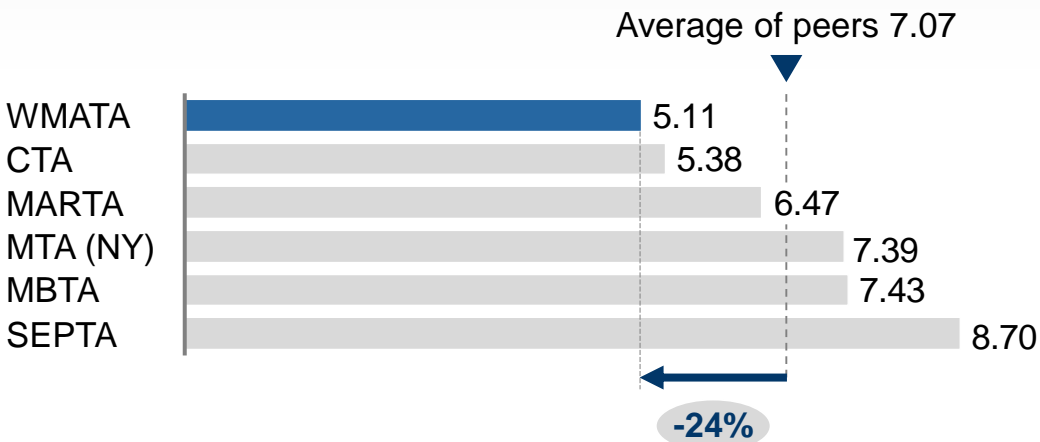
3 Calculated as sum of all vehicle and non-vehicle bus maintenance cost divided by bus vehicle revenue

# WMATA spends 24% less capital on rail per revenue mile compared to its major US transit peers; on bus, WMATA is the highest

## Benchmarking

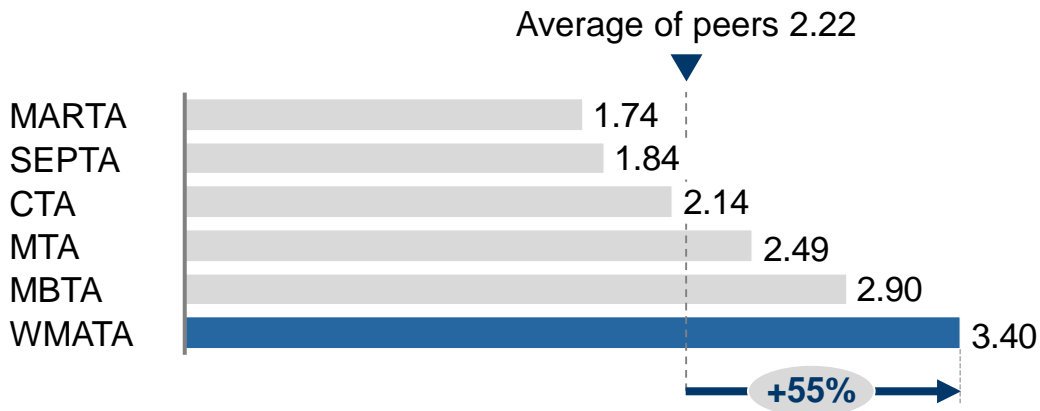
### Average rail capital deployment 2003-2013

\$ capital spend per revenue mile



### Average bus capital deployment 2003-2013

\$ capital spend per revenue mile



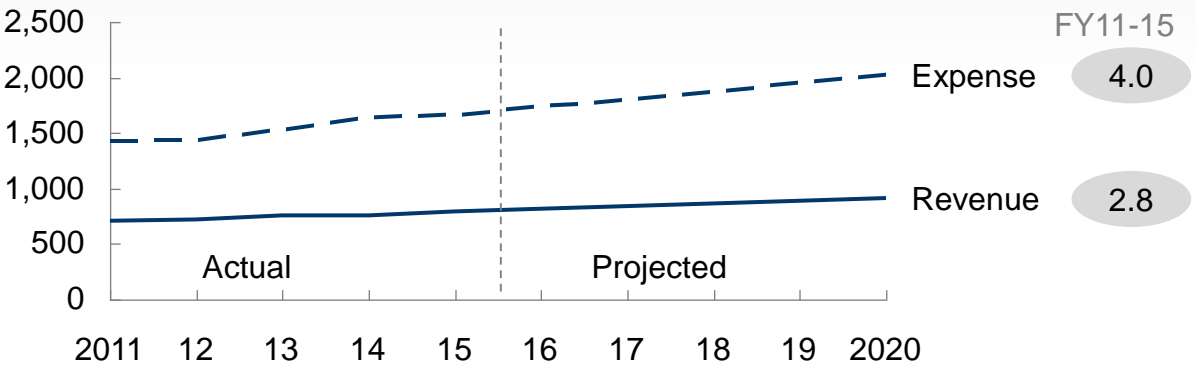
## Observations

- **WMATA may be undercapitalizing its rail system - normalizing for system size**, as measured by revenue mile, WMATA's rail spend is significantly below peers for the period 2003-13 (24% below peer average)
- **The situation would have been better but still below average if WMATA would have spent its entire budget** (spend would be \$5.94, still below peer average of \$7.07)
- **On the other hand, bus spending exceeds peers** (WMATA spends the most of any major national peers). This is driven by the recent investments in fleet
  - Bus replacement was the largest item of WMATA capital spend in FY 2012 (\$110M) and the second largest in FY 2013 (\$70M)

# WMATA's operating deficit is growing and farebox recovery declining as expense growth outpaces revenue growth

## Operational deficit and farebox recovery<sup>1</sup>

Expense & revenue, \$M by FY CAGR, %

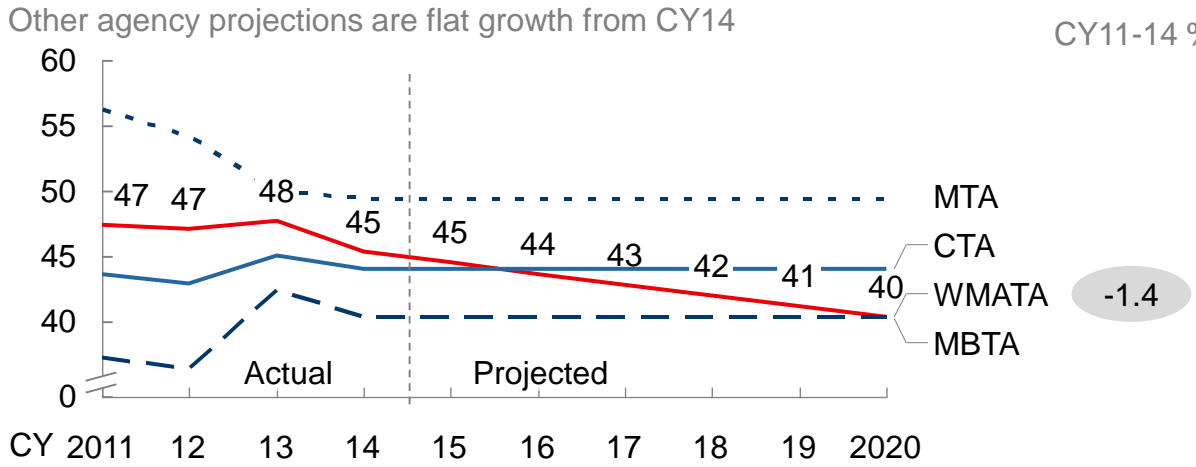


## Insights

**If revenue and expense continue on current trends:**

- WMATA's operating deficit will continue to grow to \$1.1B in FY20
- By CY20, WMATA's farebox recovery would be the lowest among comparable peers' if peer ratios remain the same

Farebox recovery ratio<sup>2</sup>, % by CY CAGR, %



## Benchmarking

System	CY14 Recovery ratio, %
MTA NYCT	49
<b>WMATA</b>	<b>45</b>
CTA	44
MBTA	40

<sup>1</sup> Excluding silver line expansion, which will grow the deficit

<sup>2</sup> Farebox recovery ratio = total fare revenue / total operating expense



# The decline in rail annual passenger trips has limited revenue growth but has been mitigated by fare increases

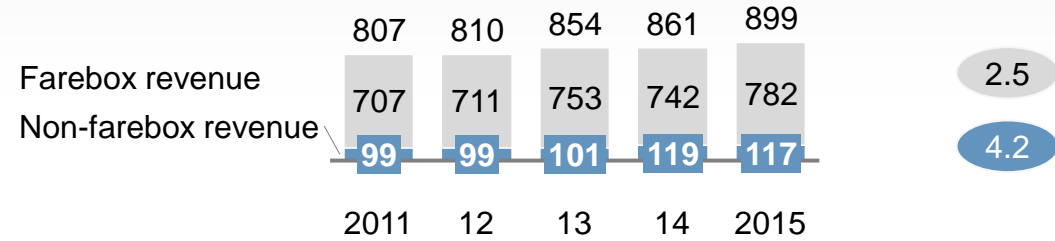
## Revenue decomposition

CAGR,  
FY11-15 %

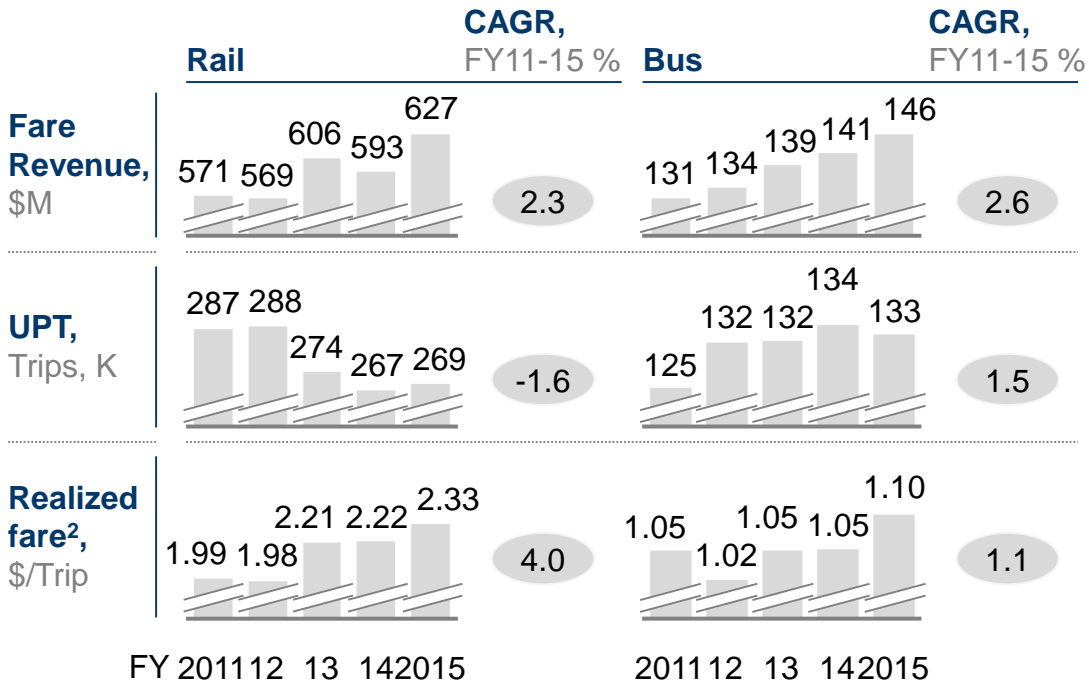


## Insights

### Revenue<sup>1</sup>, \$M



- Due to the decline in annual rail trips since FY12, WMATA lost ~\$44M in rail fare revenues in FY15
- Growth in annual bus trips and bus realized fare has led to a ~3% p.a. growth in bus fare revenue



## Benchmarking

WMATA rail service includes commuter rail-type service and fares

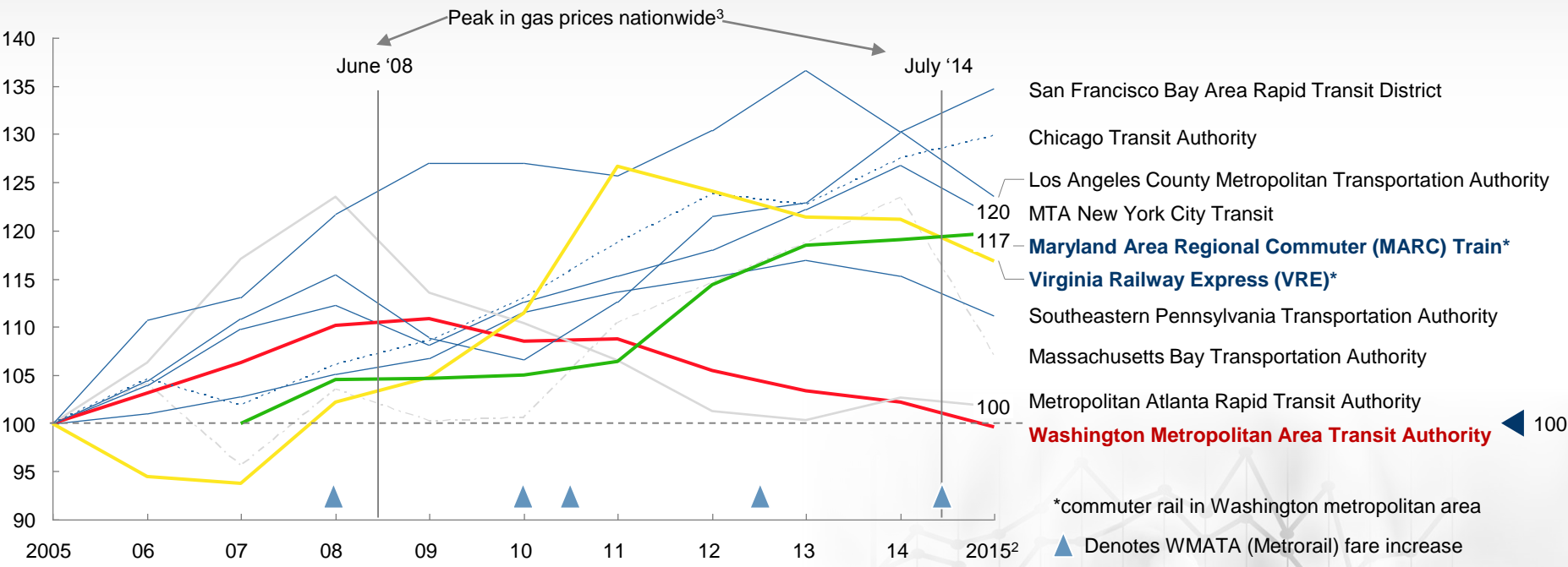
System	Rail fare/pass. mile	Bus fare/pass. mile
WMATA	0.39	0.34
CTA	0.20	0.43
MTA	0.28	0.54
MBTA	0.33	0.29

<sup>1</sup> Farebox revenue includes "passenger" revenue; non-farebox revenue includes "passenger-other" revenue and "non-farebox revenue" from payroll data  
<sup>2</sup> Realized fare = fare revenue / annual ridership



# Despite recent attention, WMATA has seen declining rail ridership for six years; 2015 ridership has been no higher than 2005

Total unlinked passenger trips on Heavy Rail, Index=100 in 2005



## Observations

- When normalized for population, 2015 WMATA ridership is only 86% of the 2005 level (see detail on next page)
- Most other agencies have remained above 2005 levels
- Regional commuter rail systems (VRE and MARC) are significantly above 2005 levels and have increased from 3.9% to 4.8% of regional rail activity<sup>3</sup>

1 US regular gasoline prices, US Energy Information Administration  
 2 Year to date (compared to 2005 Year to date)  
 3 Sum of MARC, VRE, and WMATA Metrorail trips, CY2009-2014



# Since 2011, demand has declined most acutely at the system's outer edges and during off-peak times

## Analysis

### Change in Ridership since 2015

May 2015 vs. May 2011, all-day entries



## Observations

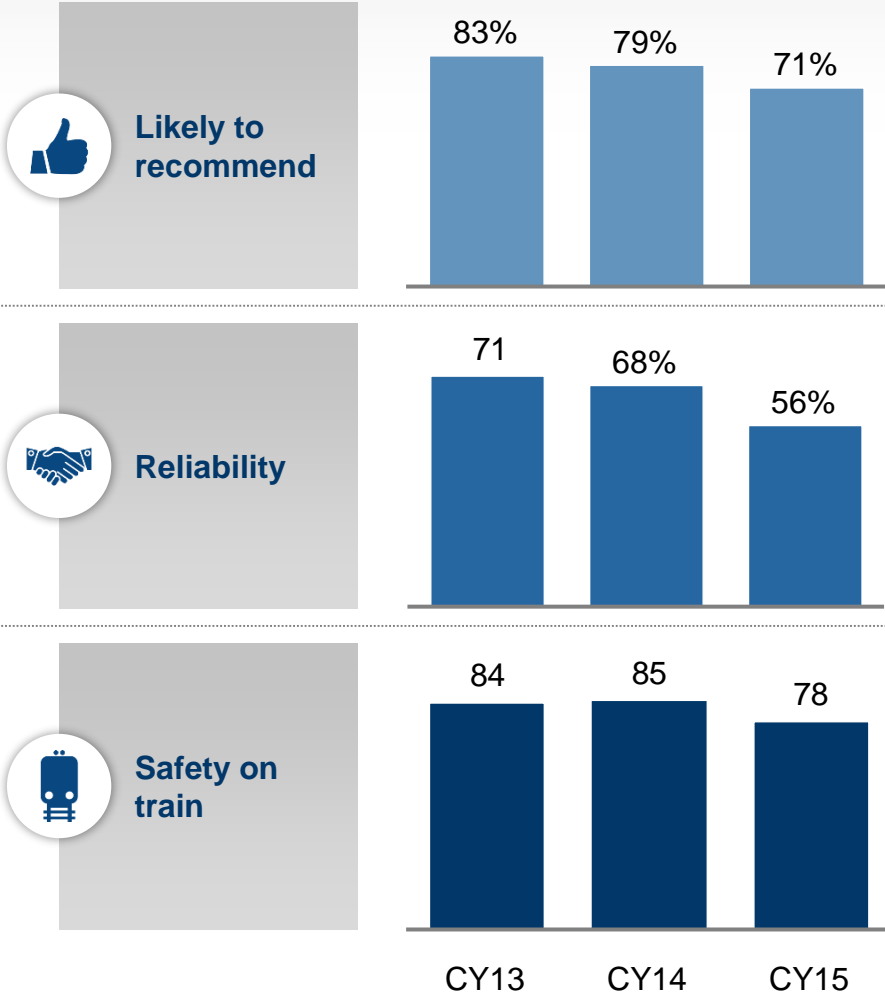
- Ridership losses are spread across all lines and geographic areas, pointing to a secular shift in transit demand
- Stations on the outer edges appear hardest hit (eg, New Carrollton, Landover)
- Off-peak (weekday midday/evening and weekends), comprising 40% of weekly boardings, has contributed 48% of the decline from FY11-FY15

1 Average weekly entries across entire system FY11-FY15 (all months) estimated with Sat,Sun, and weekday boardings (multiplied by 5)

# The reliability decline has been accompanied by declining customer satisfaction and ridership on rail

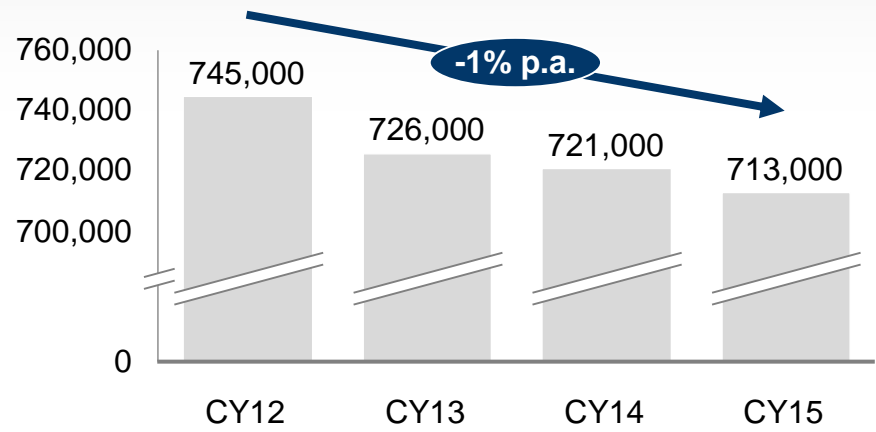
## Metrorail customer satisfaction

% of respondents selecting 4 or 5 on a 1-5 scale



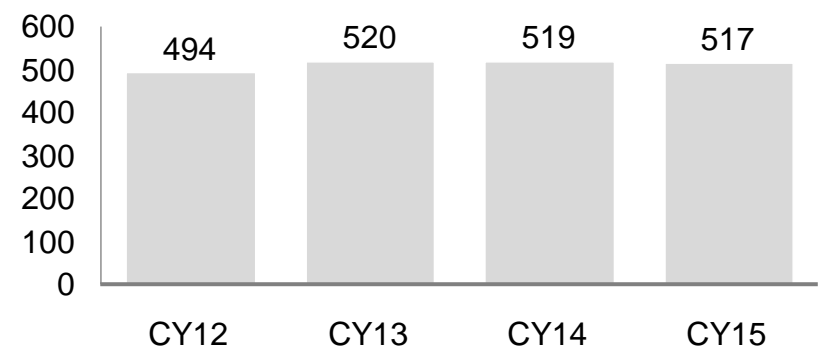
## Metrorail ridership

Average weekday boardings, May



## Metrorail passenger revenue

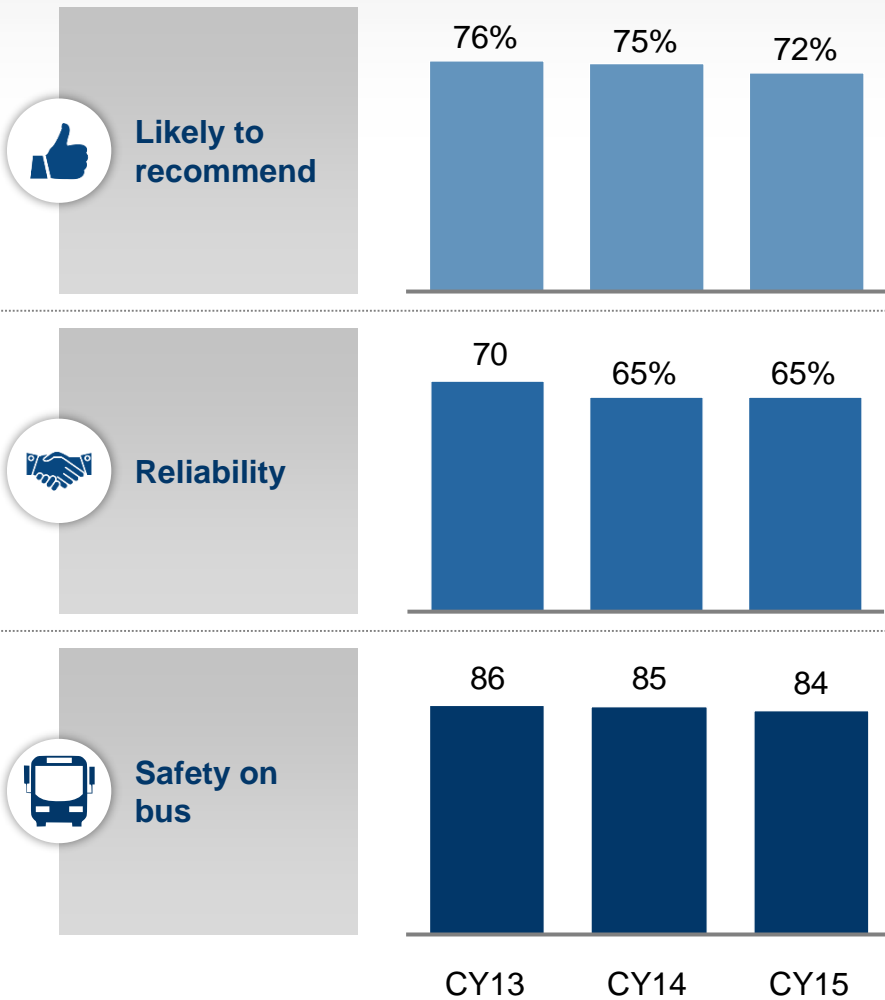
\$M, by CY



# Bus presents a more positive story of stability in customer satisfaction, increases in Metrobus ridership and revenue since 2013

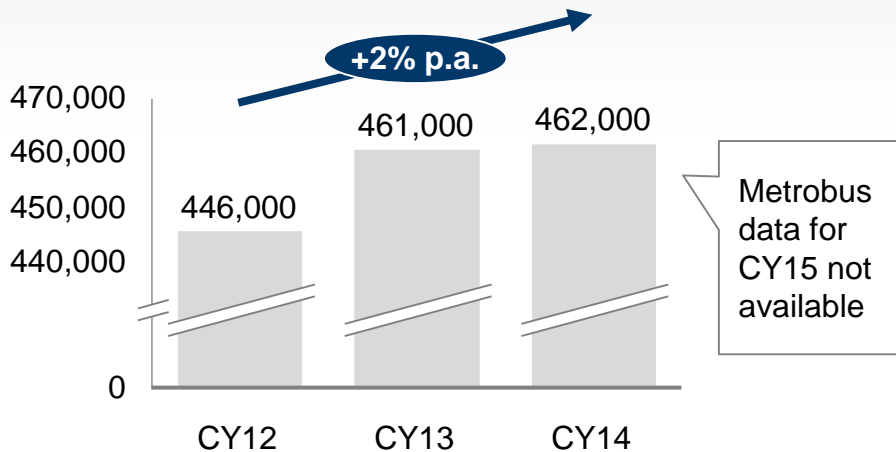
## Metrobus customer satisfaction

% of respondents selecting 4 or 5 on a 1-5 scale



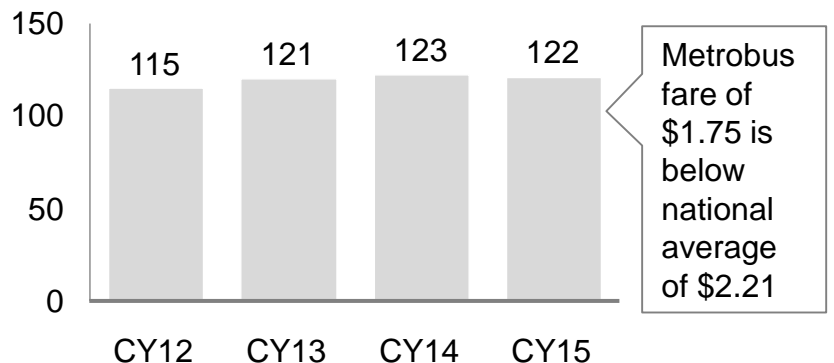
## Metrobus ridership

Average weekday boardings, May



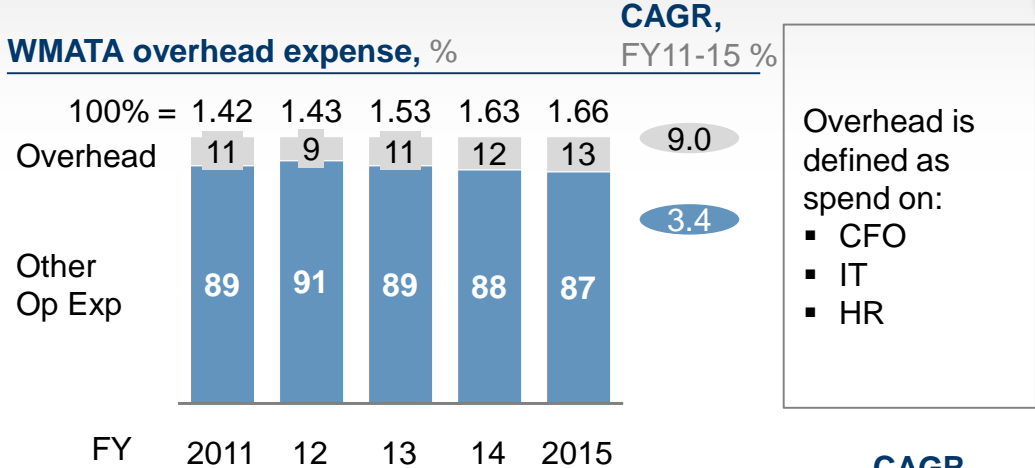
## Metrobus passenger revenue

\$M, by CY



# Overhead is ~13% of operating expense across WMATA

## Overhead spend at WMATA

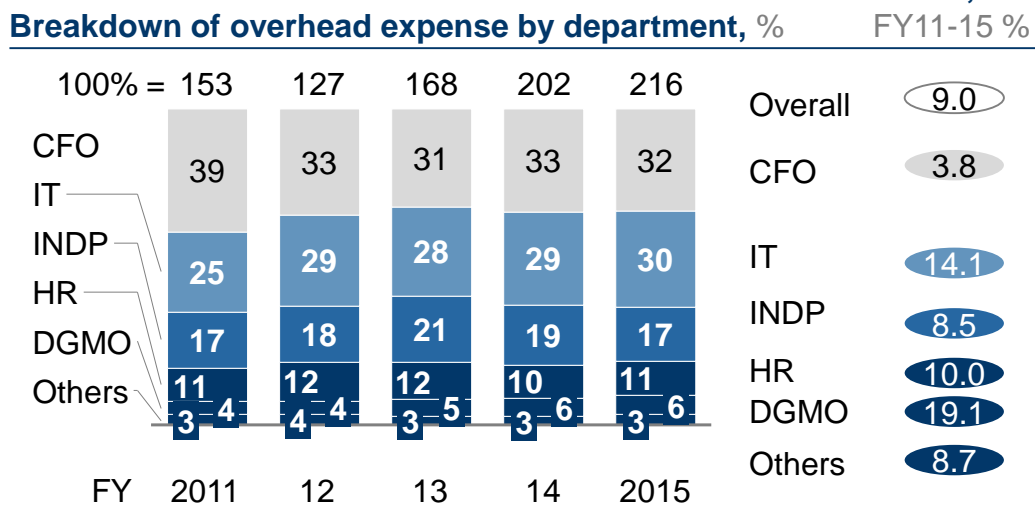


Overhead is defined as spend on:

- CFO
- IT
- HR

## Observations

- Overhead expense is growing at a faster rate than other operating expense
- The largest amount of overhead expense is allocated to the CFO department in FY2015
- DGMO's overhead expense is growing the fastest at ~19% p.a. since 2011
- WMATA's overhead expense is on par with its peers'



## Benchmarking

System	CY14 overhead expense, %
MTA	15
MBTA	14
<b>WMATA<sup>1</sup></b>	<b>12</b>
MBTA	12

For each support activity (such as IT, procurement, and finance), there are identified ways to cut costs by working more economically and looking for entirely new ways to deliver support.

<sup>1</sup> WMATA's NTD overhead expense is used for fair comparison

# The growth in opex is driven by increases in labor expense and fringe benefits, with the latter's growth exceeding peers'

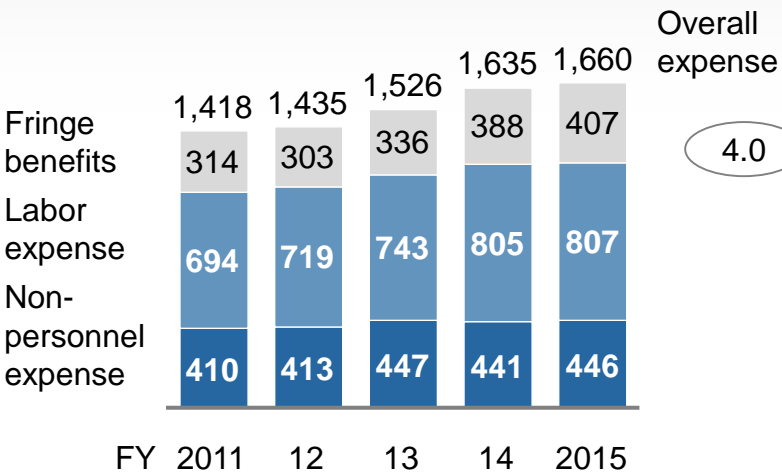
## Operating expense

CAGR, FY11-15 %



## Insights

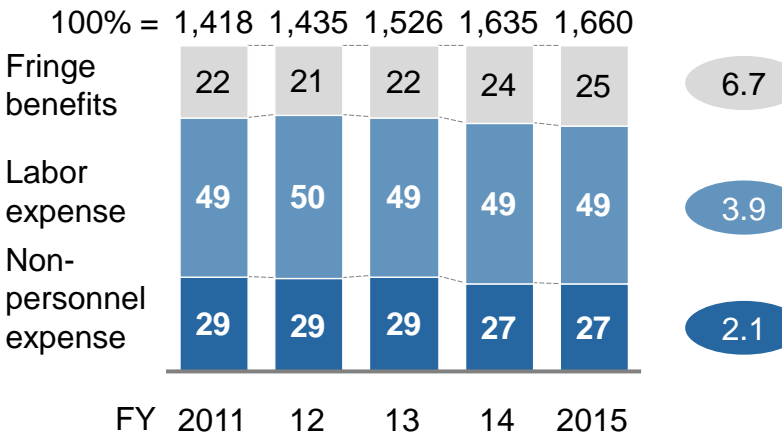
### Annual operating expense, \$M



Overall expense  
4.0

- The level of expense growth that outpaces revenue growth (and shrinks the recovery ratio) is coming from personnel expense
- Within personnel expense, fringe benefits are growing much faster than labor (~7% p.a. vs. ~4% p.a.), due to increasing headcount relative to hours worked
- If fringe benefits grew at the same rate as they did at MTA NYCT since 2011, WMATA could have saved ~\$25M from fringe benefits in 2015 (a 6% savings relative to FY15 actuals)

### Expense breakdown, %



6.7

3.9

2.1

## Benchmarking

CAGR, FY11-15 %

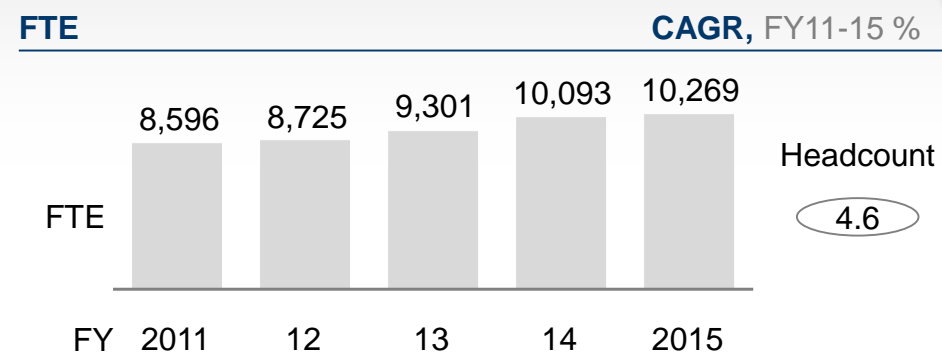
System <sup>1</sup>	Personnel expense share, %	Labor exp, %	Fringe benefit, %	Non-personnel exp, %
WMATA	74	4	7	2
MTA	73	4	7	6
CTA <sup>2</sup>	70	3	3	1

<sup>1</sup> WMATA and CTA statistics are based on FY15; MBTA statistics are missing due to data issue CAGR are available

<sup>2</sup> For CTA only combined labor and fringe benefits

# FTE has grown by ~5% p.a. since 2011 and is concentrated in the BUS and TIES departments

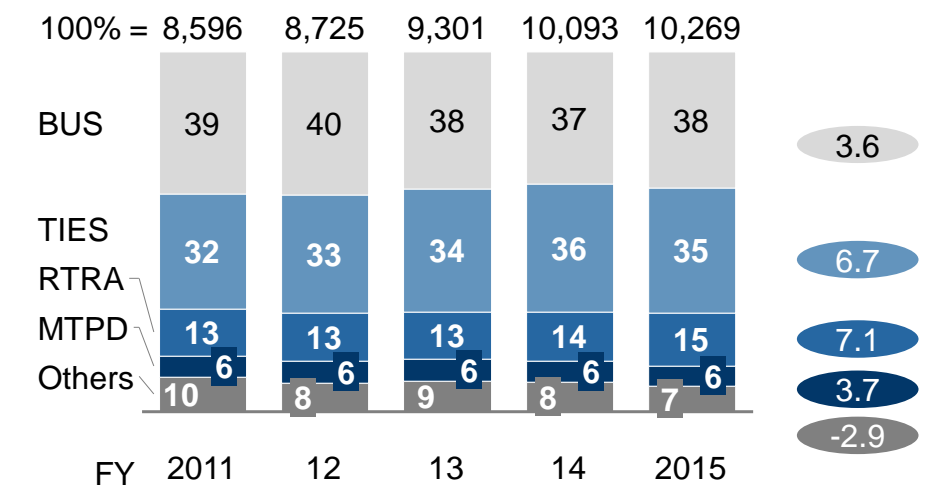
## FTE



## Observations

- FTE has grown at ~5% p.a. since 2011
- BUS and TIES department constitute 73% of FTE in 2015
- TIES and RTRA departments are growing the fastest at ~7% p.a. since 2011

## FTE breakdown by department, %



## Benchmarking

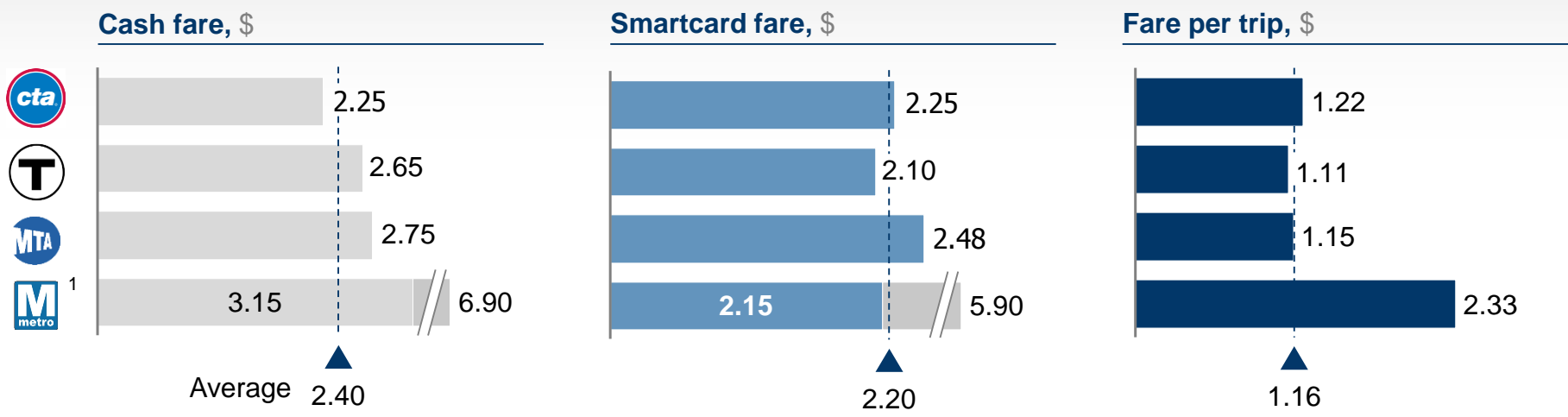
System	Employee headcount CAGR, FY11-14 %
WMATA <sup>2</sup>	4
MBTA	2
MTA	1
MTA	1

1 Operating headcount includes: general administration, vehicle maintenance, non-vehicle maintenance, and vehicle operations  
 2 WMATA's headcounts from budget reports are used to compare against peers'

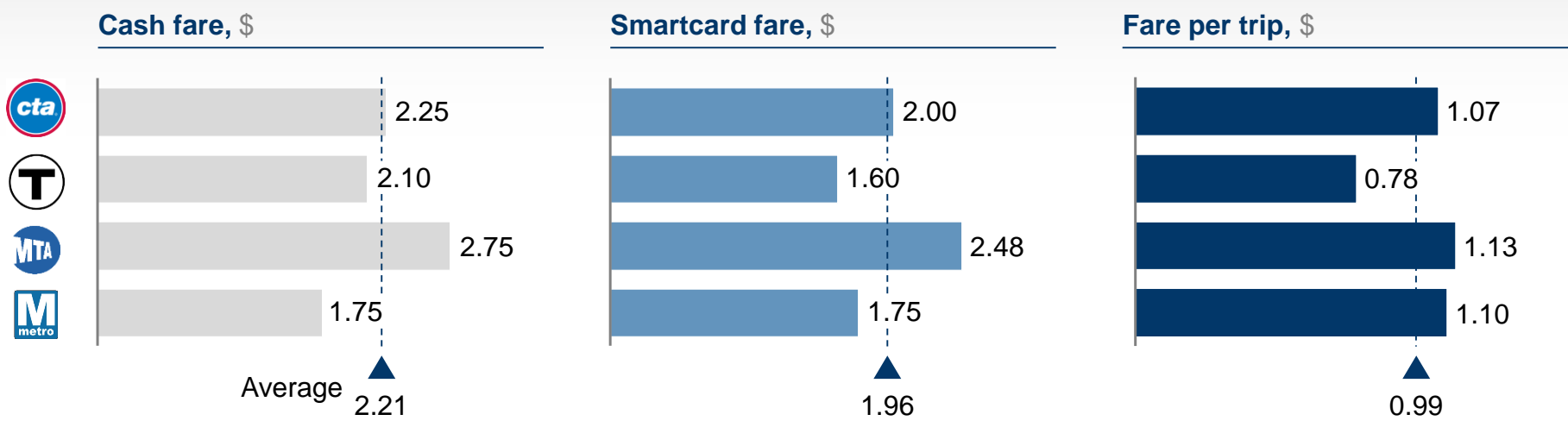


# Realized rail fares are higher than peers' due to variable pricing while realized bus fares are in line due to limited pass options

## Rail fares



## Bus fares



1 Peak fare used

# Benchmarking WMATA's current operations in bus and rail against peers

Category	Benchmark <sup>1</sup>	Overall performance <sup>2</sup>		Rail		Bus		
		WMATA	Peers	WMATA	Peers	WMATA	Peers	
Fiscal sustainability	Farebox recovery ratio, 2014	45%	44%	62%	59%	25%	26%	
	Realized fare per trip	N/A		\$2.33	\$1.15	\$1.10	\$1.08	
	Ridership percentage change, CAGR 11-15	N/A		(1.6%)	1.2%	1.5%	(1.0)%	
	Staffing level trend, passenger trips/FTE CAGR, FY2011–15	N/A		(4%)	N/A	(4%)	N/A	
	Labor expense growth, FY2011-15	4%	3.5%	4.3%	3.8%	0.8%	0.7%	
	Fringe benefit expense growth, FY2011-15	7%	4.6%	5.4%	5.7%	1.3%	2.4%	
	Headcount growth, FY2011-15	4.6%	1.4%	5.7%	2.4%	2.9%	(1.2)%	
	Overhead exp as % of total op exp, 2014	11.6%	13.8%	6.2%	6.4%	3.3%	4.6%	
Service reliability	Fleet availability <sup>3</sup>	N/A		79%	80%	87%	82%	
	Maintenance cost per revenue mile	N/A		\$7.14	5.03	\$3.41	3.85	
	Average fleet age, years	N/A		24	21	8	9	
	Capital spend per revenue mile, 2003-2013	\$4.46	\$4.58	\$5.11	\$7.07	\$3.40	2.22	
	Capital planning process	WMATA lacks a target-based capital strategic plan and independent capital decision-making authority						
	Capital portfolio optimization	Project prioritization is not centralized and does not use clearly defined evaluation criteria						
Safety	Collisions derailments and fires by service size rank, Jan 2013-Aug 2015	N/A		2/6	N/A	7/9	N/A	
	Security incidents per by service size rank	N/A		3/6	N/A	9/9	N/A	
	Total injuries + fatalities by svc. size rank	N/A		4/6	N/A	7/9	N/A	

1 Data are for calendar year period, unless otherwise noted

2 Some overall statistics are on calendar year schedule

3 Fleet availability has declined by 6% Oct 2014-Oct 2015

# In order to address these core challenges, experience suggests the transformation has to be a portfolio of initiatives

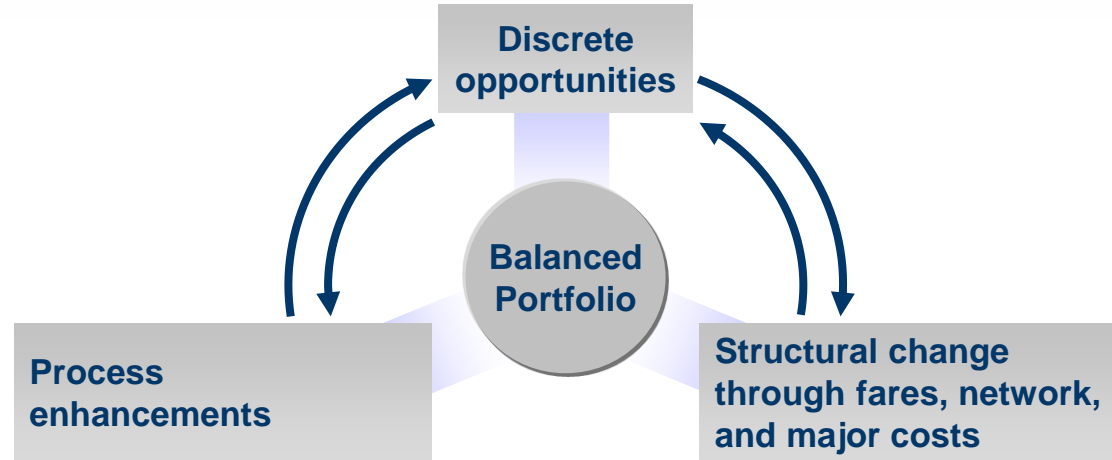
## Objectives of the transformation...

- **Regain the trust of WMATA customers** by improving safety and reliability which creates the space for bigger, bolder initiatives
- **Regain the trust of the jurisdictions** by demonstrating short and long term improvements in the financial position which demonstrates capability to invest
- **Launch reforms of critical business processes** (e.g. financial management systems and procurement)



## ...imply a balanced portfolio

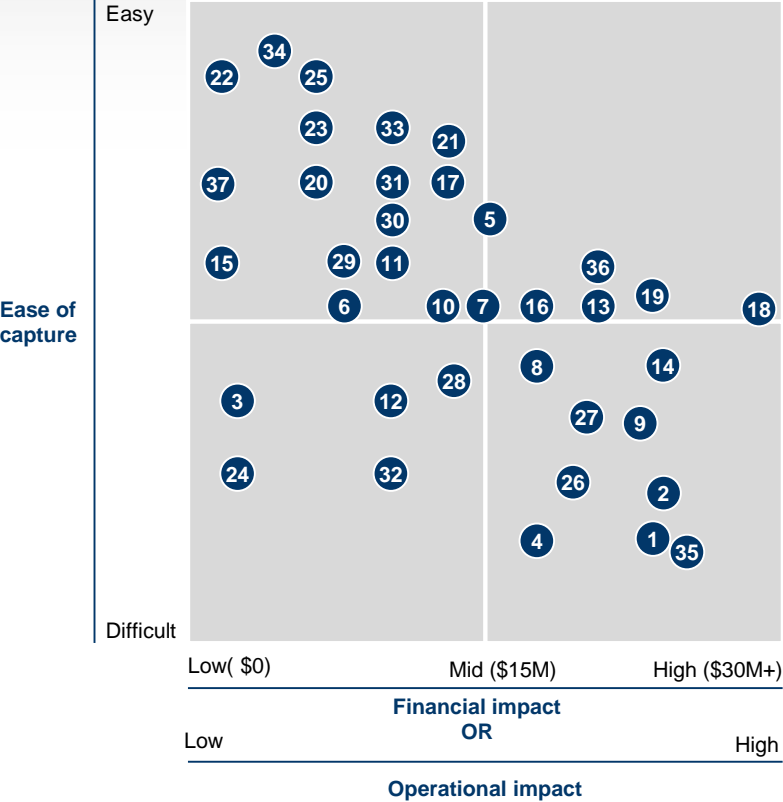
- Relatively quick impact, but typically \$20-30M per initiative
- Requires focus and execution
- Savings can be re-invested in other priorities



- Longer term bends cost curve
- Implementation risk high
- Focused on improving systems, processes, etc.
- Politically very difficult
- Impact can be quick, but sustaining it can be difficult
- Near term implementation risks lower

# Expert interviews, experience from other systems and internal discussions generated a wide range of ideas

Deep dive areas



- 1 Retool worker's compensation process
- 2 Adjust pensions and OPEB commitments
- 3 Reduce or outsource other fringe benefit administration
- 4 Better manage overtime expense through clear policies and enforcement
- 5 Reduce fare evasion on bus
- 6 Improve data quality and integration
- 7 Implement a quality management system (QMS)
- 8 Move HQ building
- 9 Automate HR business processes and Reduce TCO
- 10 Outsource medical services
- 11 Set up asset management information system
- 12 Create account based ticketing system
- 13 Monetize high value bus maintenance real estate
- 14 Monetize parking real estate
- 15 Increase parking payment yield
- 16 Transform paratransit delivery
- 17 Increase service on crowded bus routes
- 18 Transform capital planning process (strategy to execution)
- 19 Implement advanced acquisition practices in select categories
- 20 Increase concessioning at rail stations
- 21 Manage grade structure through attrition of workforce

- 22 Increase advertising revenue
- 23 Transform customer experience
- 24 Create Smartrip partnership with credit card companies
- 25 Introduce promotions/discounts for customers
- 26 Adjust service rail to match supply to demand
- 27 Adjust service on underutilized bus routes
- 28 Reform financial management and process
- 29 Reduce bus maintenance spend through refurbishing facilities
- 30 Reduce overruns on select capital projects
- 31 Optimize facilities footprint
- 32 Adjust bus fare policies while targeting support to lower income households
- 33 Undertake comprehensive review of spans and layers in the organization
- 34 Create a WMATA app (potentially through competition)
- 35 Transform / lean railcar maintenance process
- 36 Outsource selected auxiliary services(e.g., bus maintenance, facilities cleaning, non revenue fleet maintenance)

# The MTA's turnaround shows how an initiative portfolio can drive change

## Situation

- Faced with a dramatic drop in revenues during the 2008 financial crisis, the MTA had to reduce costs
  - Dedicated MTA taxes generated nearly \$1B less in revenues compared to plan and fare revenues fell by \$200M
  - Costs increased >\$200M from an unfavorable labor arbitration award and increased costs
  - By statute, the MTA is required to operate on a “self-sustaining basis,” including a balanced budget each year
- MTA needed to improve costs and build credibility with legislature, proving itself a good steward of public funds; to build the case for new tax revenues in a bad economy



## Response

- Reduced the size of the capital program by \$2B and achieved \$525M in annually recurring operating cost savings in the first year
- Operating savings initiatives were designed around several principles
  - Mix of quick wins, incremental, and transformative changes
  - Visible to consumers
  - Share the burden across stakeholders
  - Balance with strategic investments for customers
- Used a broad set of levers
  - Fare increases, service reductions, layoffs, and wage freeze
  - Rebid employee healthcare
  - More efficient Paratransit provision
  - Reduced overtime
  - Consolidated back-office functions
  - Strategic sourcing
  - Rationalized office space
- Communicated its success to the public, legislature, and labor



## Outcome

- State increased support by \$1.7B p.a. with a new dedicated tax and fees
- MTA has not stopped pursuing capital and operating savings
  - Capital program reduced another \$2B in 2011 and proposed a lean program for the next 5 years (recently approved and funded)
  - Recurring operating savings at \$1.3B annually in 2015, with targets rising to \$1.8B in 2019 from new, specific initiatives

