

**Massachusetts Bay
Transportation Authority**

Pro Forma: Headcount Assumptions and Related Expenses FY19-FY24

Fiscal and Management Control Board

October 28, 2019

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Introduction

- **What is the pro forma?**

- A 5 year financial model projecting FY19-FY24 operating budget.
- A tool to inform priorities, help shape policy decisions and guide short and long term budget decisions.
 - Financial impact of initiatives and policy decisions are analyzed and incorporated into the Pro-Forma

- **What is the goal of this presentation?**

- To review headcount assumptions.
- To quantify how headcount implications impact the operating budget over the next 10 years.

- **What assumptions are in this presentation?**

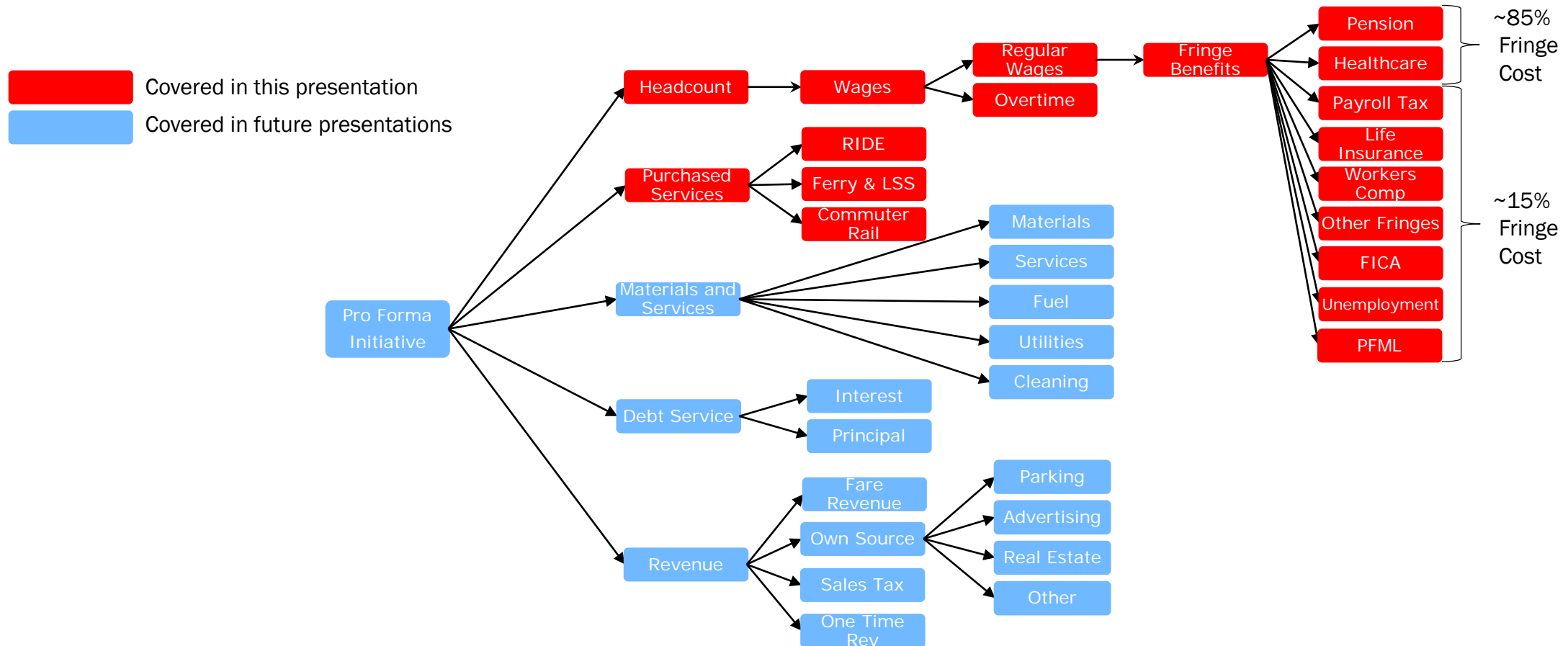
- Achieving the safety, reliability and service goals associated with major investments in the MBTA's Capital Investment Plan (CIP) requires additional staff. This presentation outlines assumptions related to the hiring needs to support the day-to-day operations necessary to achieve these goals.
 - Major Initiatives included in this presentation:
 - Red & Orange Line Improvement Programs, Green Line Extension, AFC 2.0, PTC/ATC, South Coast Rail
 - Regular Wages, Pension, and Healthcare are the major cost categories impacted by headcount.
 - Each category has an underlying growth rate based on inflationary factors such as collective bargaining increases, contribution rate changes and other regulatory changes.
 - As headcount increases, year over year expense growth accelerates.



Introduction: Operating Expense Categories

Cost Driver & Expense Category Flow Chart

Each cost driver has specific expense categories that are impacted by new initiatives



Hiring vs. Attrition

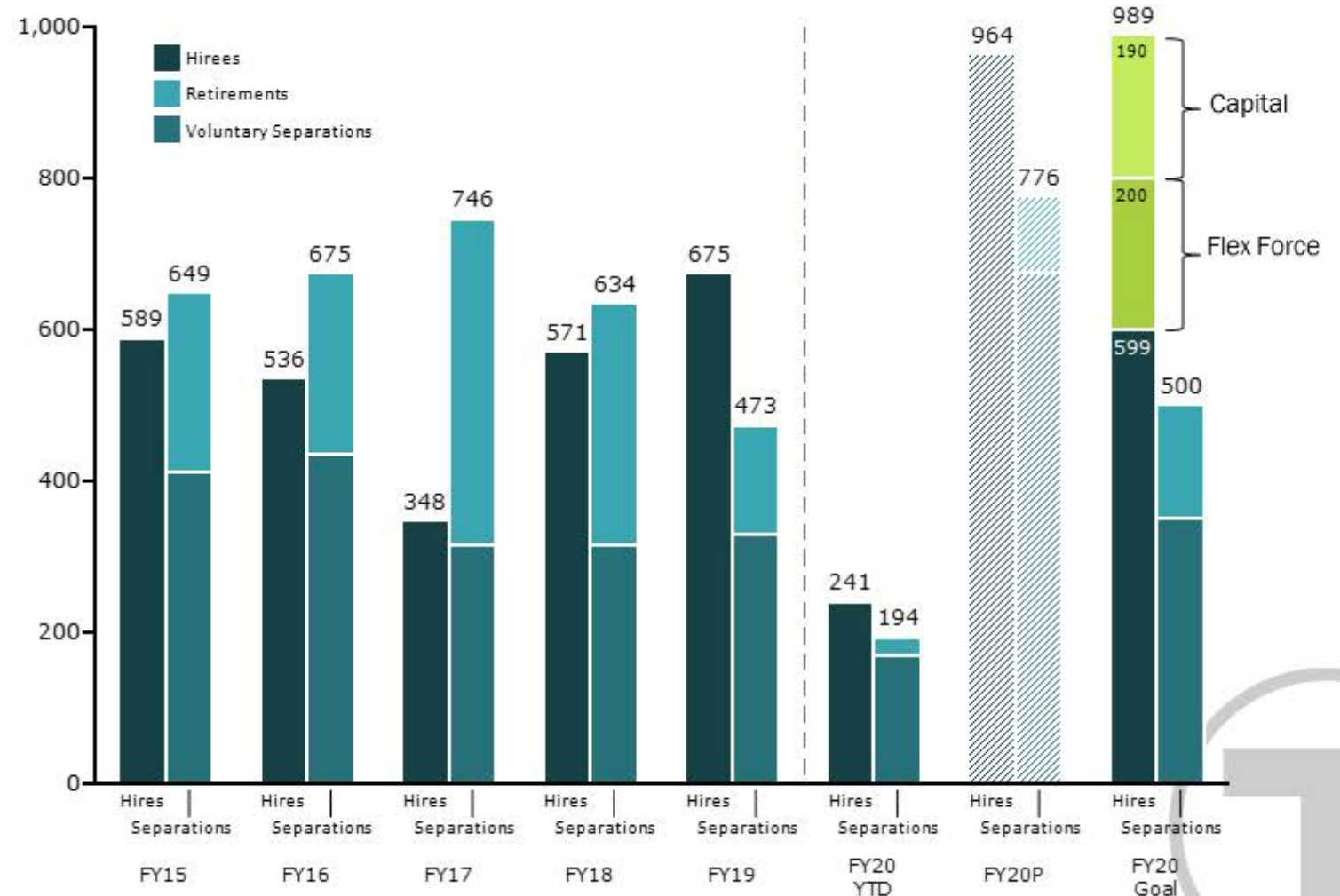
Historical

- Average Hires Per Year FY16 – FY19
 - 544
- Average Separations Per Year FY16 – FY19
 - 635
 - 274 Retirements
 - 361 Voluntary Separations

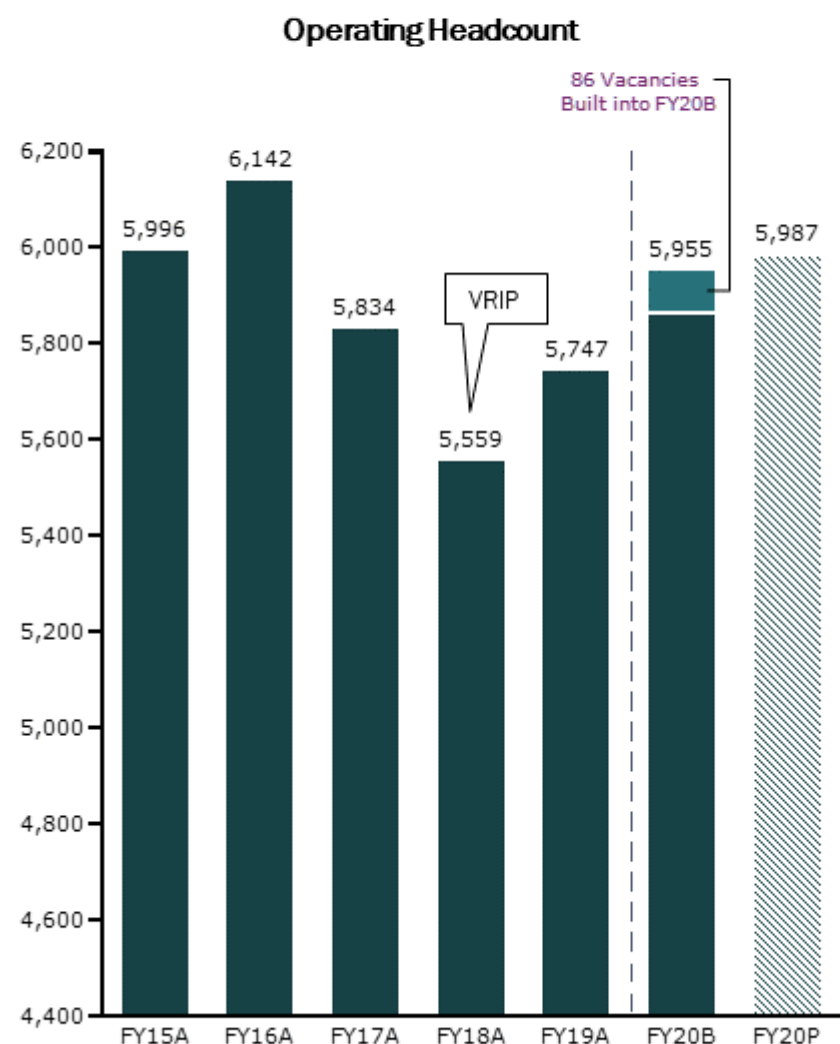
Goal for FY20

- Hire 998 Employees
 - 373 Programmed Hiring
 - 312 Transportation
 - 61 Fuelers, Repairers, Laborers
 - 235 Backfills & Filling Existing Vacancies
 - 200+ Flex Force
 - 190 Capital Programs
- Hiring rates expected to increase through a series of initiatives:
 - Dedicated recruiters for major departments
 - Employing third party firm to support capital employee hires
 - Streamlining hiring process
- On track to meet hiring goals
 - 241 Hires YTD

Historical Hiring vs. Attrition
Hires are split between capital, operating and flex force



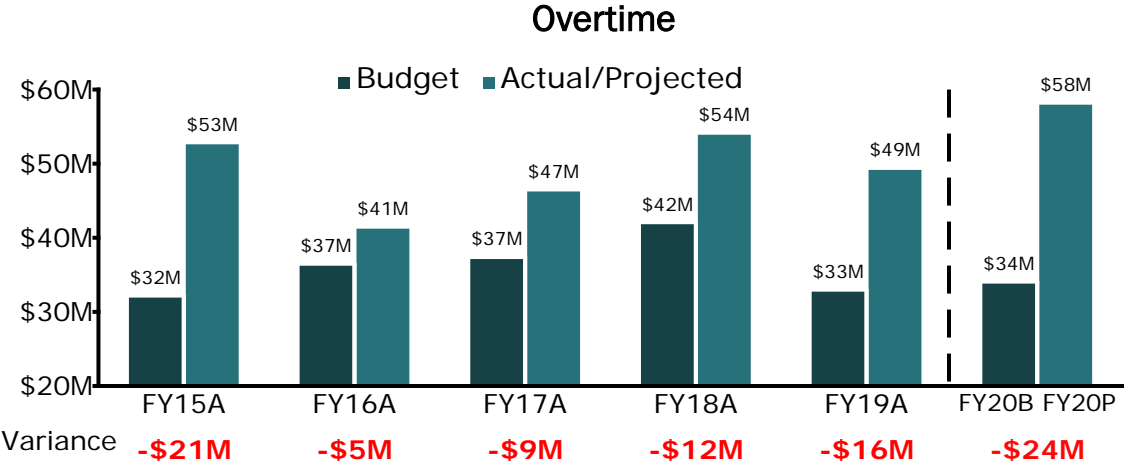
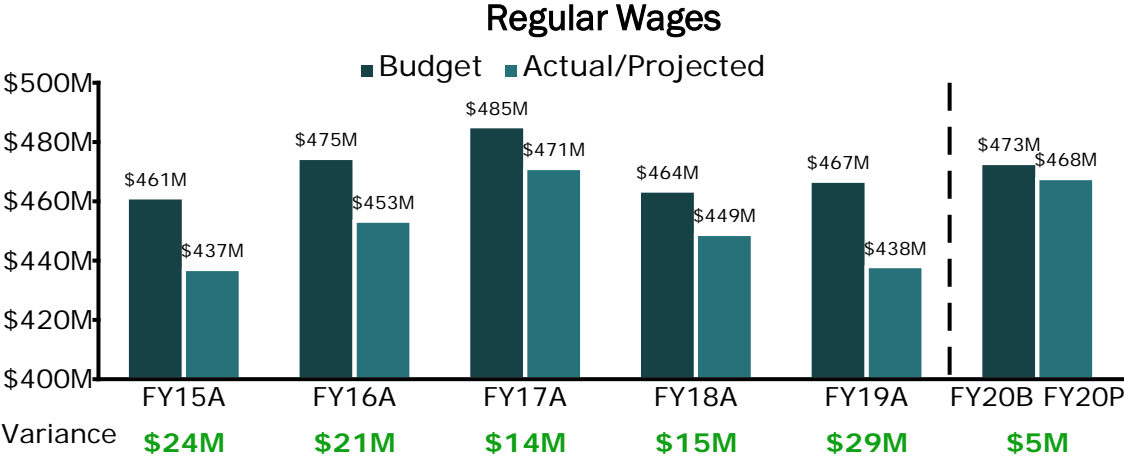
Historical Headcount vs. Expense Relationship



Historical Wages vs. Budget

Historical

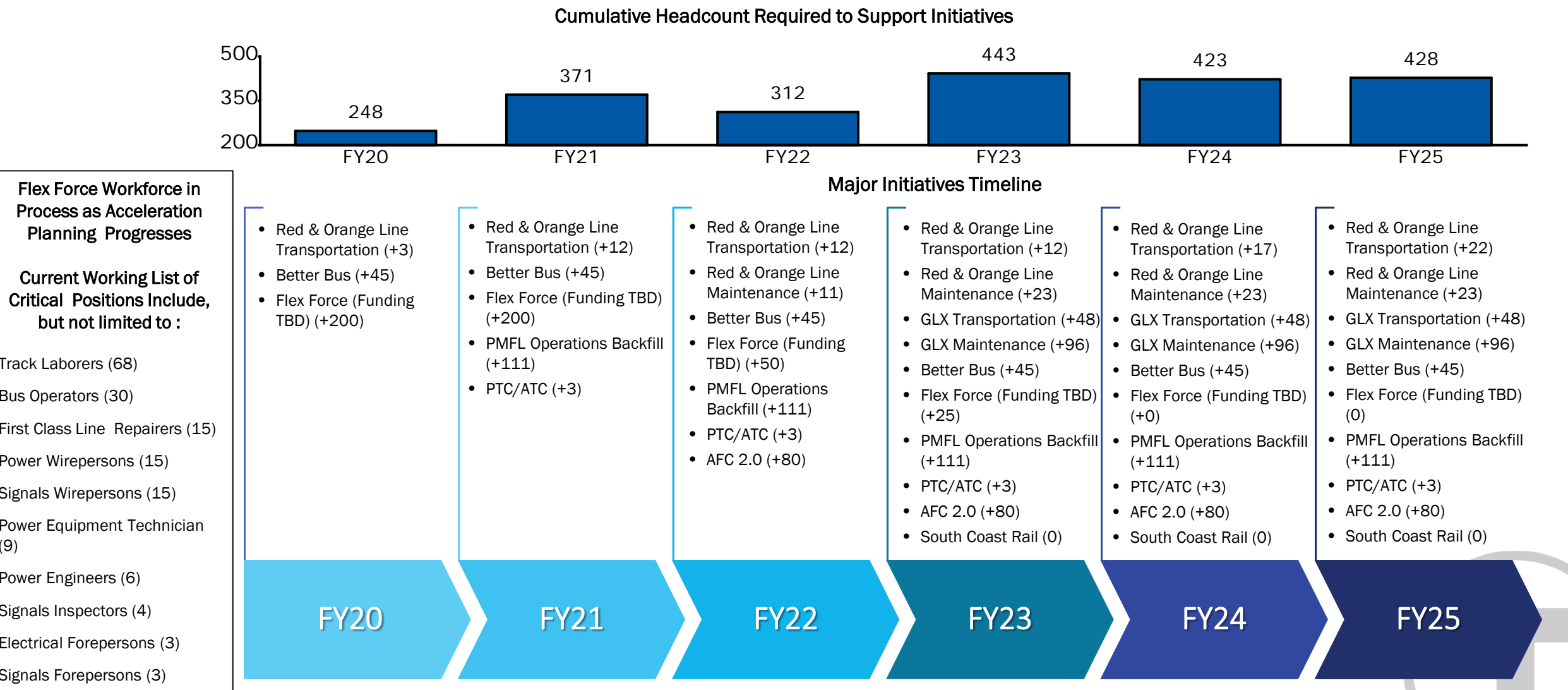
- Vacancies drive underspending in regular wages and overspending in overtime
- Overtime spikes during bad winters (FY15, FY18)
- Hiring is offset by attrition
- The nature of some maintenance departments makes overtime difficult to predict regardless of vacancy rates
 - Bus Maintenance
 - Rail Maintenance
- Other departments will see direct reductions in overtime as vacancies are filled
 - Transit Facilities Maintenance
 - Power Systems Maintenance
 - Signals & Communication
 - Maintenance of Way



Net Impact vs. Budget	+ \$3M	+ \$16M	+ \$5M	+ \$3M	+ \$13M	- \$19M
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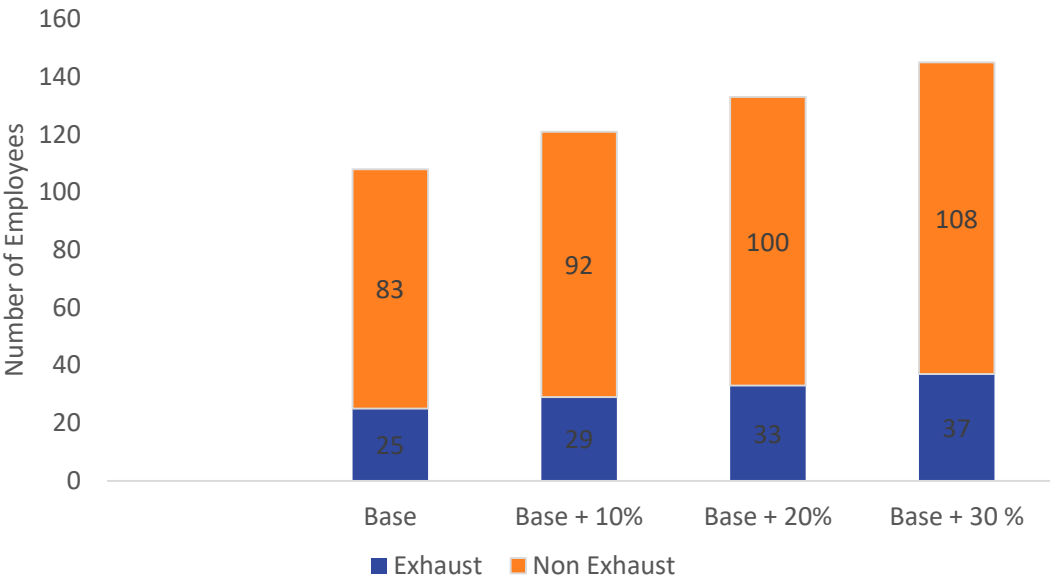
\$58M Overtime Projection By Department		
Department	5 Year Average OT %	5 Year Average OT \$
Bus Transportation	21.2%	12,324,858
Rail Maintenance	14.4%	8,368,139
Police	12.5%	7,257,709
Bus Maintenance	9.7%	5,657,220
Heavy Rail	8.5%	4,942,114
Maintenance of Way	7.4%	4,311,321
Everett Main Repair	5.2%	3,034,719
Transit Facilities Maintenance	5.2%	3,027,931
Signals & Communications	4.4%	2,562,096
Light Rail	4.2%	2,470,811
Power Systems Maintenance	3.7%	2,181,406
OCC & Training	1.4%	811,579
Customer Technology	0.9%	516,756
Vendor Management	0.6%	349,377
ITD	0.4%	208,533
Engineering Dept	0.3%	166,191
Commuter Rail Supervision	0.1%	39,585
	100.0%	58,230,344

Headcount Projected to Increase



*Flex Force presumed to be funded through legislative mandate

Operations: the Potential Impact of PFML on Bus & Rail Operator Headcount



Base Assumption: 50% of employees who exhaust or nearly exhaust all available time under FMLA will continue to exhaust all available time under PFML. Also, since PFML is now a paid benefit and eligibility has expanded, there will be a **75%** increase in usage among employees who do not exhaust all available time.

Bus and Rail Operators had 35,032 lost work days as a result of FMLA leave usage in FY18. (Data from Work Partners, the MBTA's Third Party Benefit Administrator)

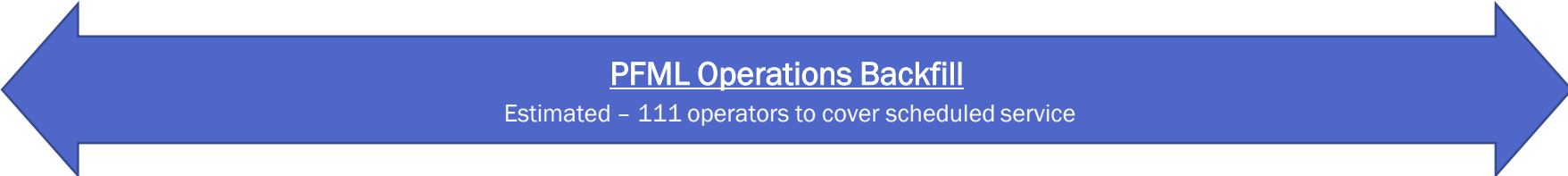
The number of new employees needed was calculated on the assumption that employees work 230 days per year.

The financial impact was calculated on the assumption that a new employee cost \$125,000 when base pay and benefits are considered.



Some positions can be attributed to specific initiatives,
while others work across multiple initiatives

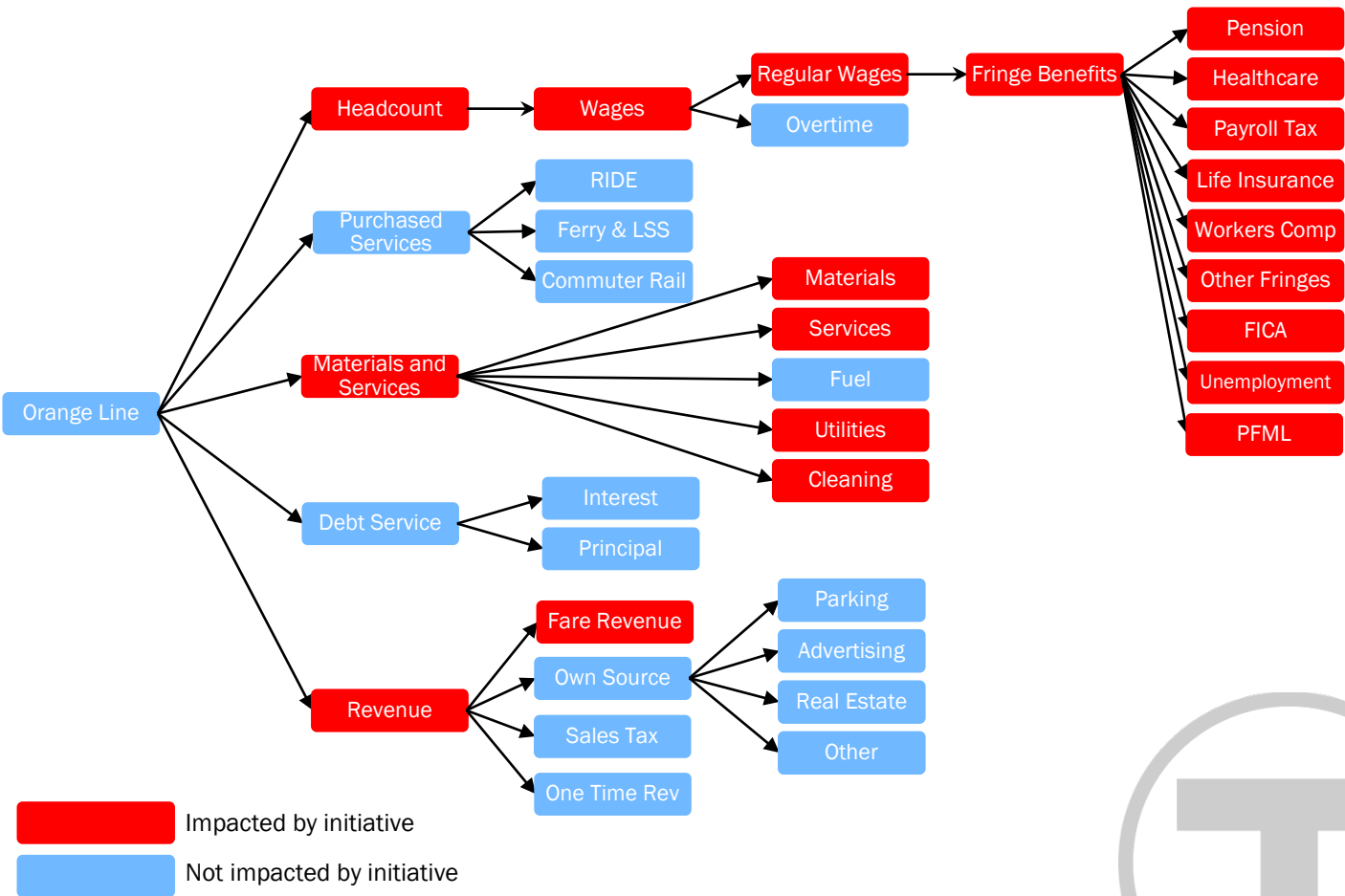
Orange Line	Red Line	GLX	SCR	PTC/ATC	AFC 2.0
<ul style="list-style-type: none">• +11 in Transportation• +1 in Rail Maintenance• +10 in System Maintenance	<ul style="list-style-type: none">• +11 in Transportation• +1 in Rail Maintenance• +12 in System Maintenance	<ul style="list-style-type: none">• +48 in Transportation• +23 in Rail Maintenance• +73 in System Maintenance	<ul style="list-style-type: none">• No Direct Hires	<ul style="list-style-type: none">• +3 management staff	<ul style="list-style-type: none">• +80 fare inspectors



Orange Line Improvement Program Operating Expense Assumptions

Project Goals	Assumed Quantifiable Impacts
<ul style="list-style-type: none">➤ Reduce headways during peak from 6 mins to 4.5 mins➤ Increase peak ridership <i>capacity</i> by 40% (30,000 daily)➤ Increase fleet by 32 cars, from 120 to 152➤ Improve safety and reliability	<ul style="list-style-type: none">➤ 11 identified new Transportation staff (Motorpersons)➤ 1 identified new Rail Maintenance staff (data analytics on new cars)➤ 10 identified new System Maintenance staff➤ Additional overtime costs during transition period with both new and old cars

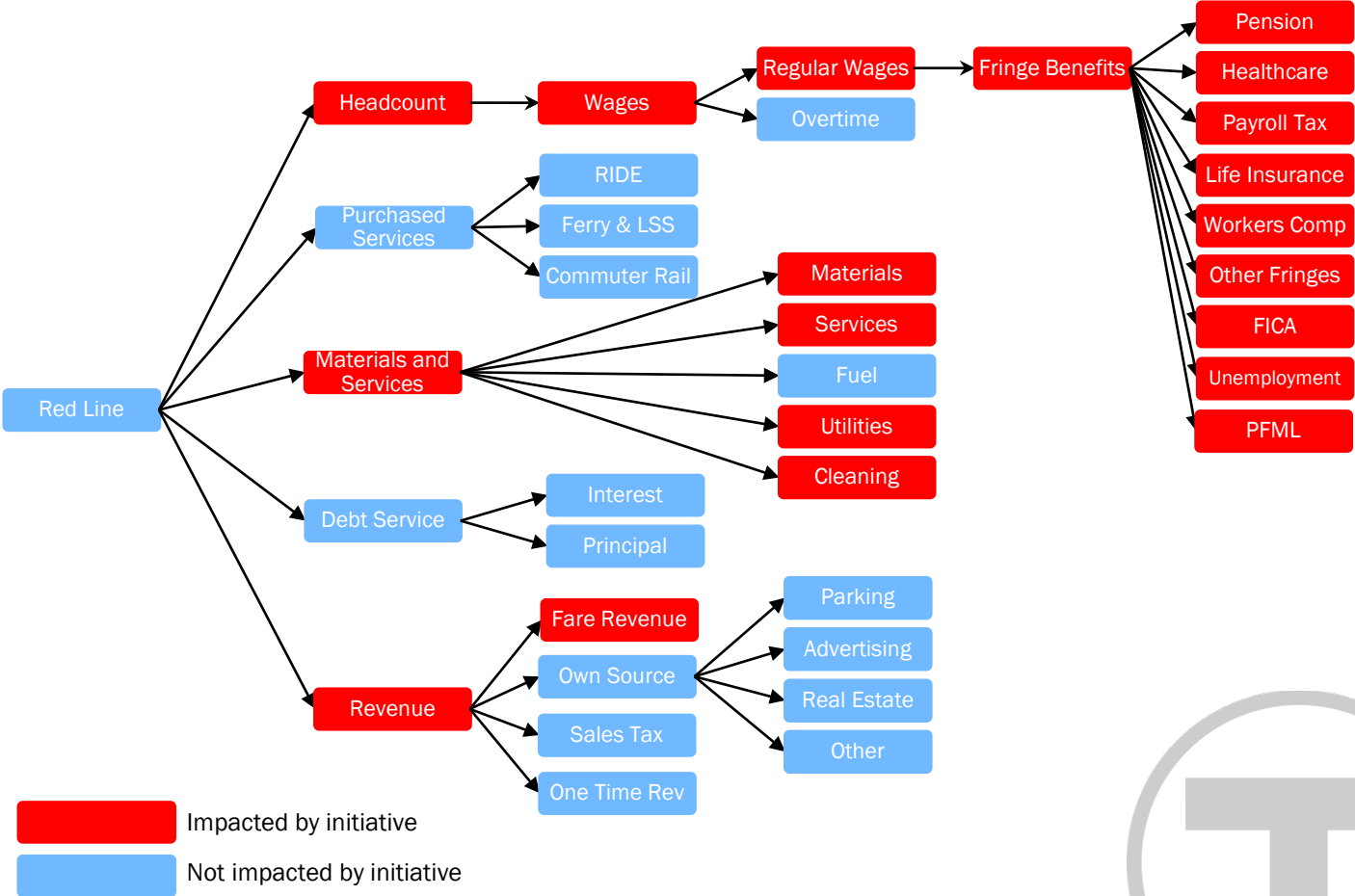
Cost Driver & Expense Category Flow Chart
Orange Line Cars will impact headcount, M&S, and revenue



Red Line Improvement Program Operating Expense Assumptions

Project Goals	Assumed Quantifiable Impacts
<ul style="list-style-type: none">➤ Reduce headways during peak from 4.5 mins to 3 mins➤ Increase peak ridership <i>capacity</i> by 50% (65,000 daily)➤ Increase fleet by 34 cars, from 218 to 252➤ Improve safety and reliability	<ul style="list-style-type: none">➤ 11 identified new Transportation staff (Motorpersons)➤ 1 identified new Rail Maintenance staff (data analytics on new cars)➤ 12 identified new System Maintenance staff➤ Additional overtime costs during transition period with both new and old cars

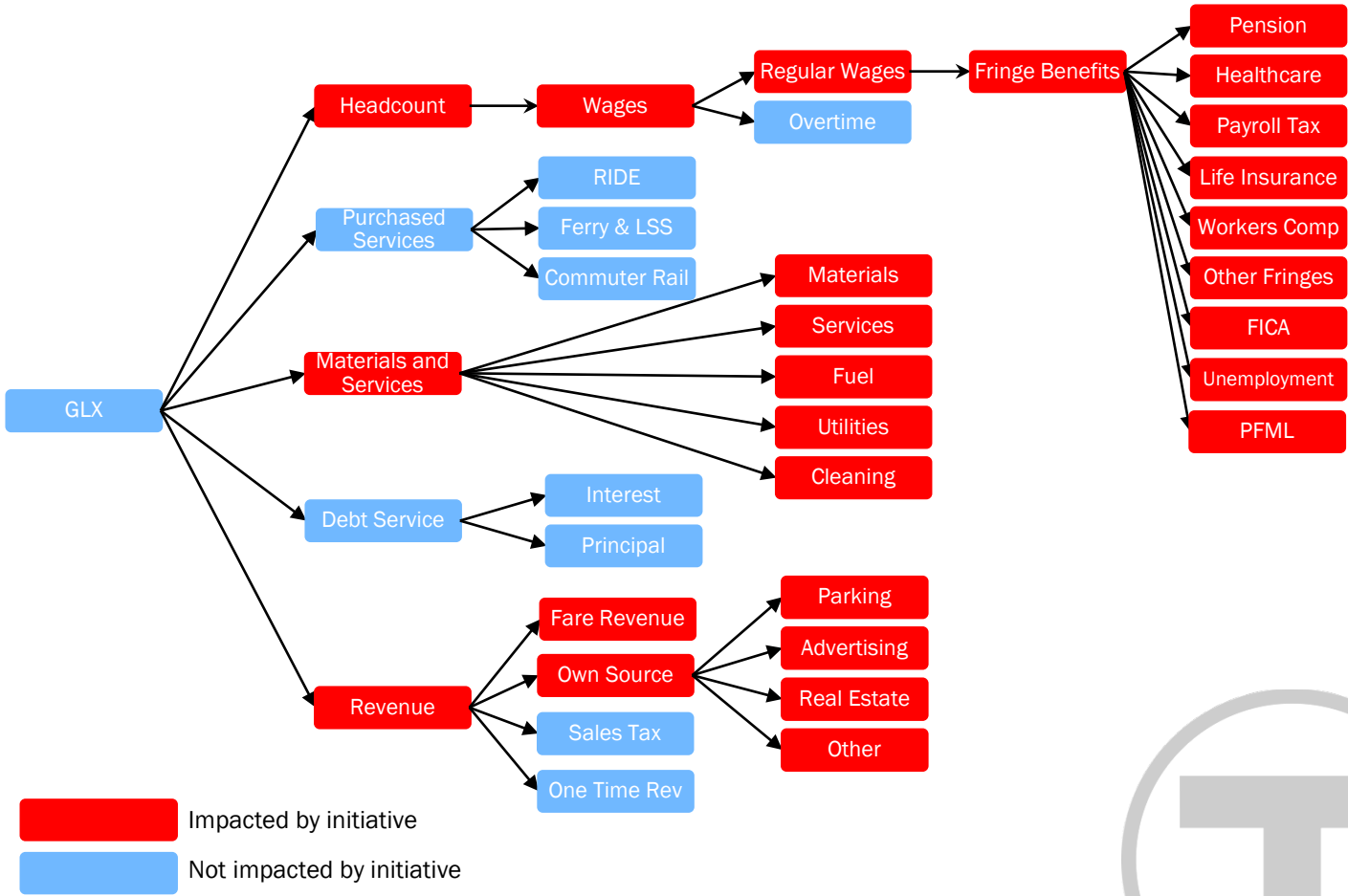
Cost Driver & Expense Category Flow Chart
Red Line Cars will impact headcount, M&S, and revenue



GLX Operating Expense Assumptions

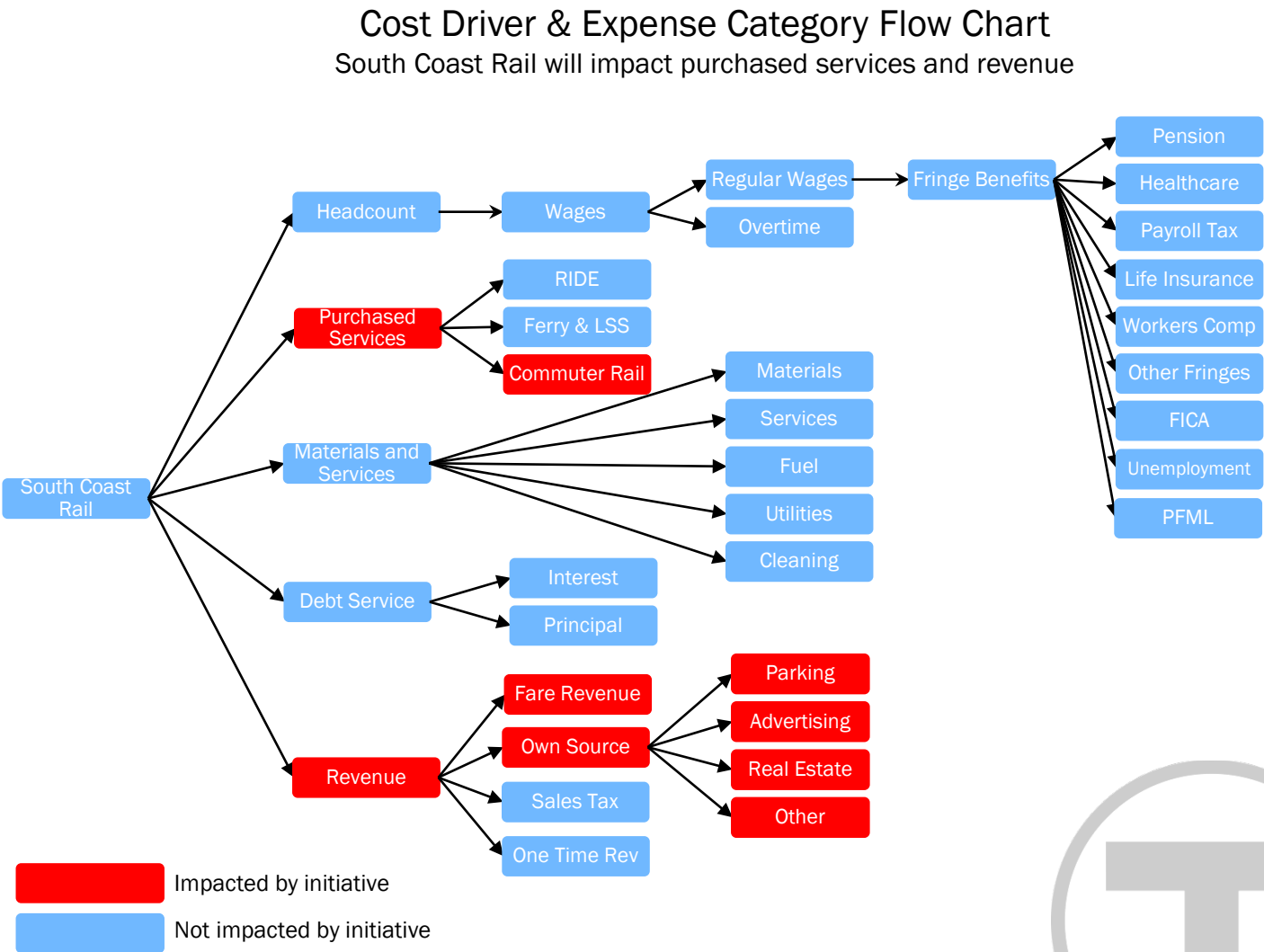
Project Goals	Assumed Quantifiable Impacts
<ul style="list-style-type: none">➤ Expand service to Somerville and Medford<ul style="list-style-type: none">➤ Serve communities with a combined population of 160,000➤ New vehicles to improve accessibility and reduce crowding➤ Increase ridership by up to 50,000 passenger trips per day (25% increase)	<ul style="list-style-type: none">➤ 1 new maintenance facility➤ 6 new stations➤ 8 miles of new track➤ 24 new vehicles<ul style="list-style-type: none">➤ assumes 19 additional vehicles in service at peak➤ 48 identified new Transportation staff<ul style="list-style-type: none">➤ 20 Motorpersons➤ 9 Inspectors➤ 5 Yard Masters➤ 5 Chief Inspectors➤ 3 Instructors➤ 3 Dispatchers➤ 2 Supervisors➤ 1 Superintendent➤ 23 identified new Rail Maintenance staff➤ 73 identified new System Maintenance staff<ul style="list-style-type: none">➤ 26 - MOW➤ 19 - PSM➤ 18 - SCM➤ 10 - TFM

Cost Driver & Expense Category Flow Chart
Green Line Extension will impact headcount, M&S, and revenue



South Coast Rail Operating Expense Assumptions

Project Goals	Assumed Quantifiable Impacts
<div>➤ Extend commuter rail service (Middleborough/Lakeville line) to Taunton, Fall River, and New Bedford by end of 2023</div> <div>➤ Add service to 9 existing stations and 6 new stations</div>	<div>➤ Third-party management fees<ul style="list-style-type: none">➤ Escalated to account for 48 new hires➤ Operations at 6 new stations, including 2 layover and maintenance facilities</div> <div>➤ Service Planning<ul style="list-style-type: none">➤ 26 trains daily in each direction for weekday service</div>

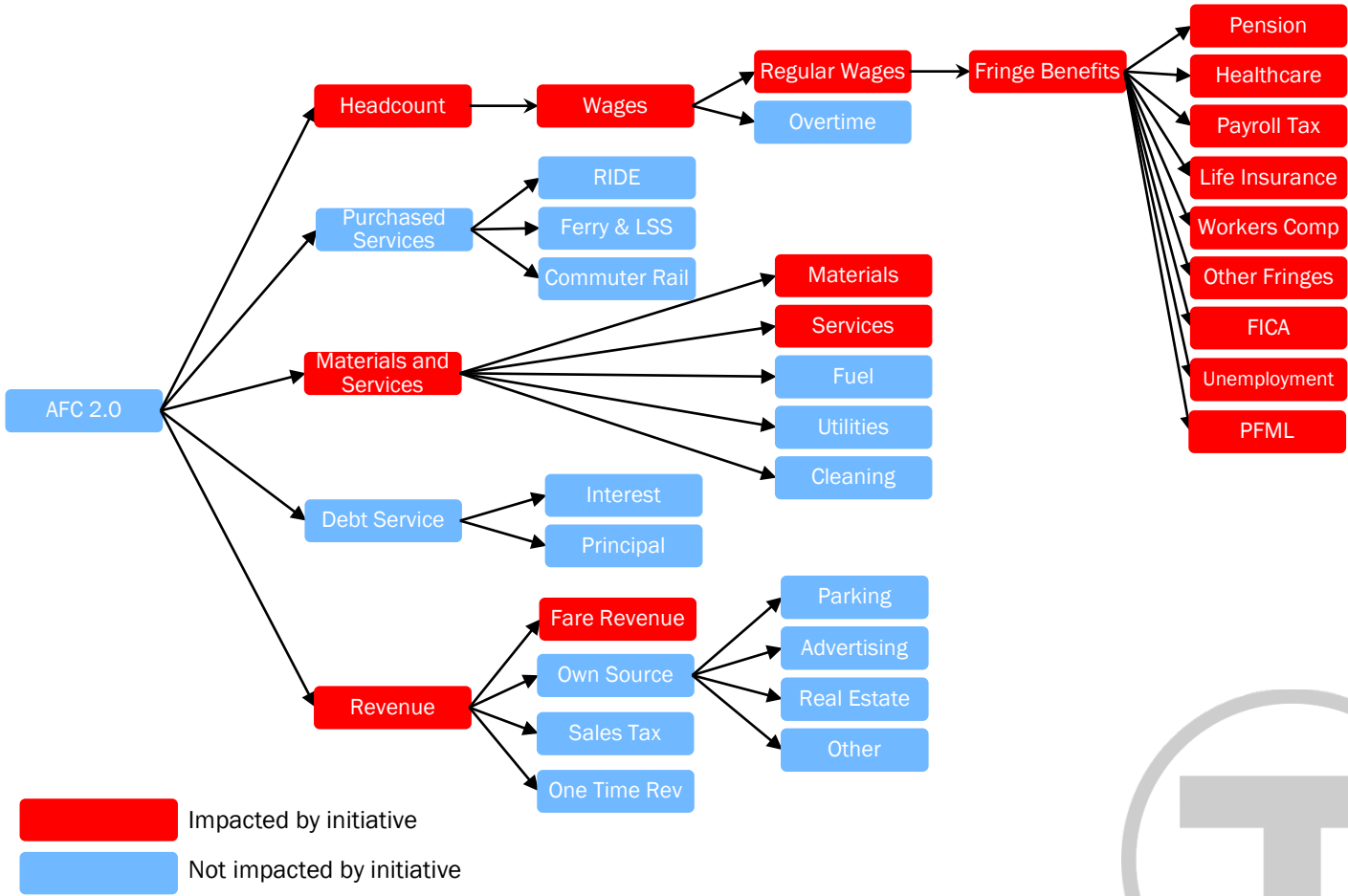


AFC 2.0 Operating Expense Assumptions

Project Goals	Assumed Quantifiable Impacts
<ul style="list-style-type: none">➤ Improve fare collection efficiency➤ Facilitate fare payment for customers with a standardized payment system➤ Expedite boarding times across system by up to 10%<ul style="list-style-type: none">➤ e.g. allow all-door boarding on Green Line and buses	<ul style="list-style-type: none">➤ Headcount: 80 new fare inspectors<ul style="list-style-type: none">➤ Inspection model requires revised legislation➤ Administrative staff will be a blend of former AFC 1.0 and new AFC 2.0 hires<ul style="list-style-type: none">➤ AFC 1.0 technicians will transition to E&M➤ Call Center: Expected increase in call volume (scope of potential need for more hires under review)➤ Fare Revenue: Adjustment for new revenue collection model in first full year of operation

Cost Driver & Expense Category Flow Chart

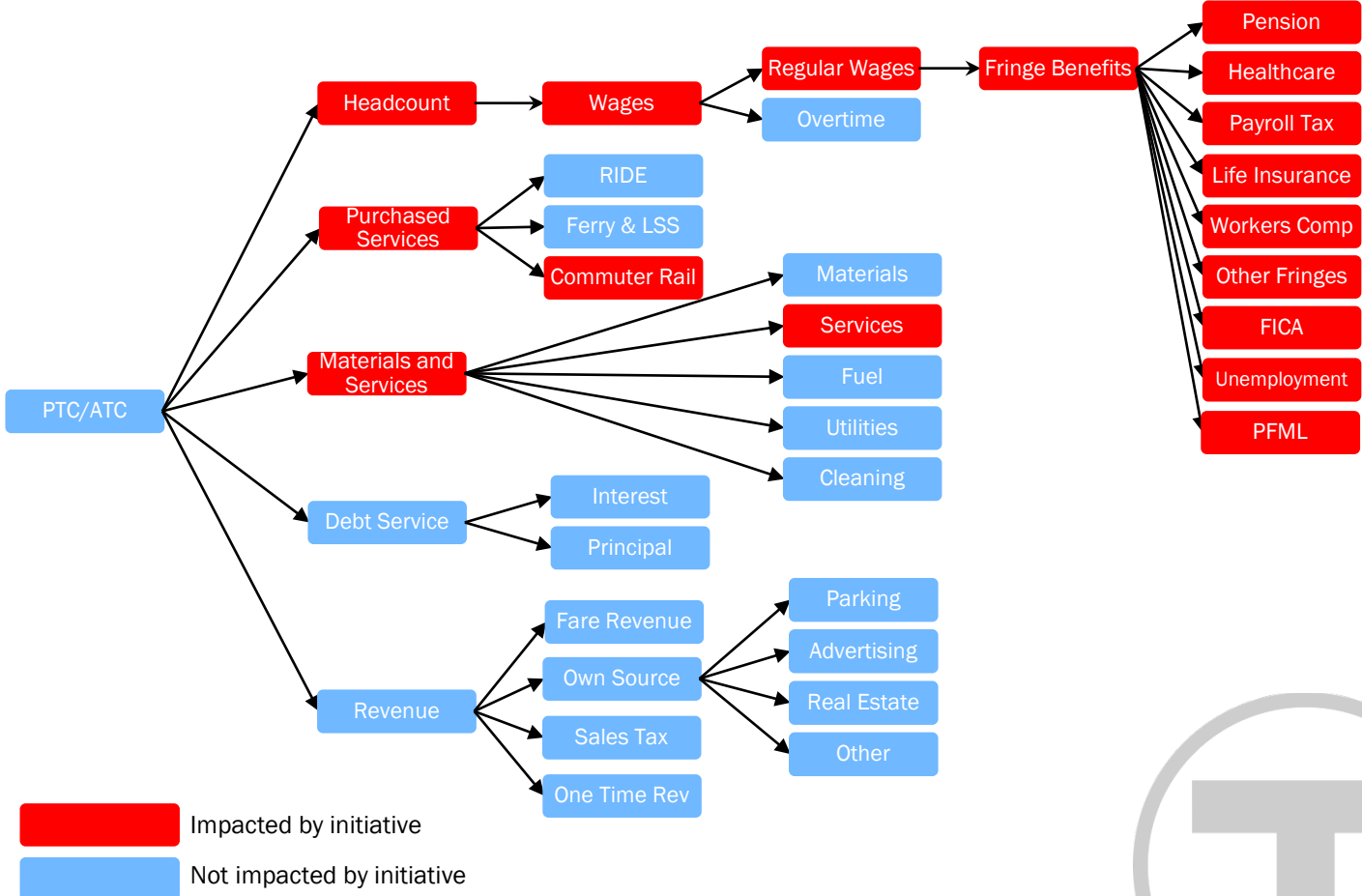
AFC 2.0 will impact headcount, M&S, and revenue



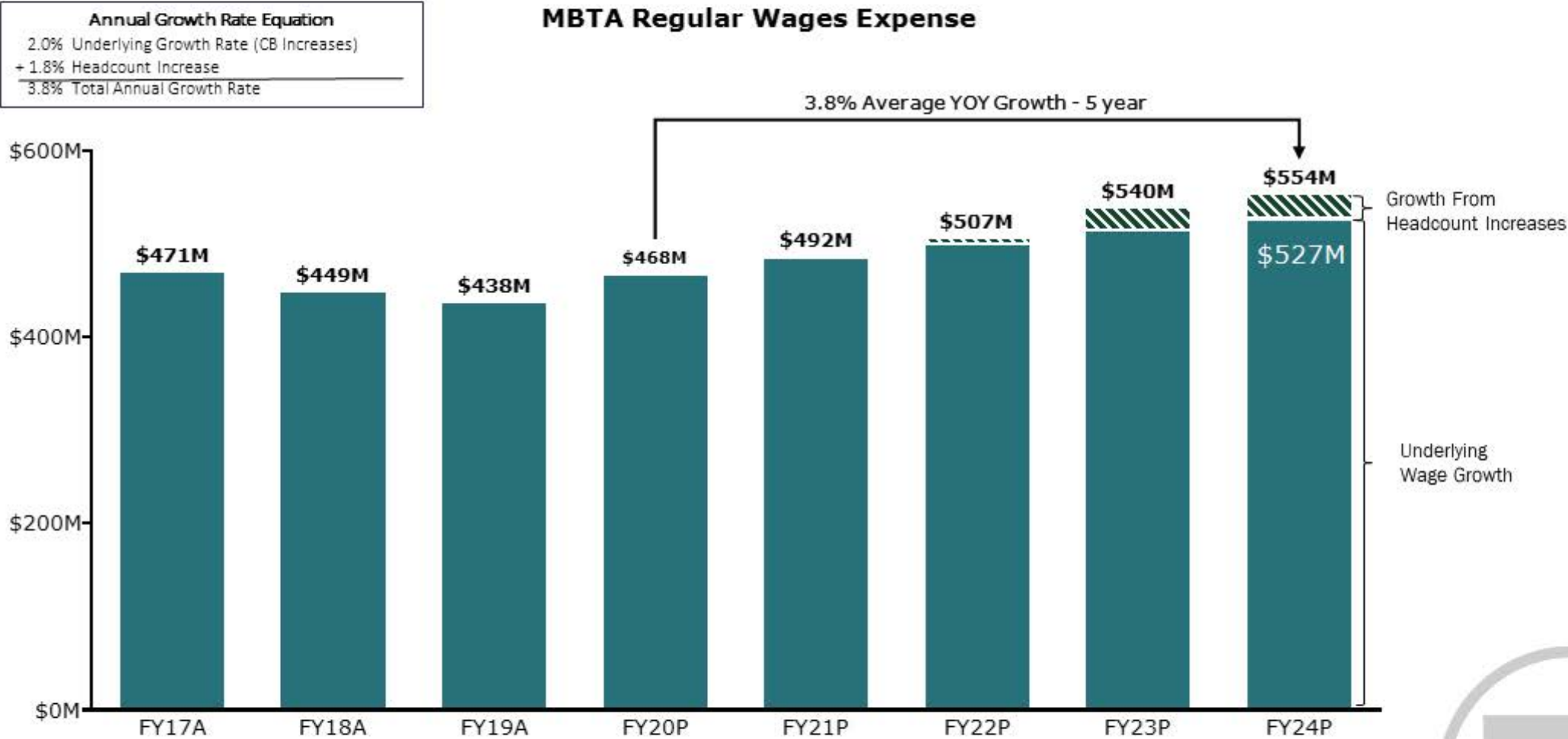
PTC/ATC Operating Expense Assumptions

Project Goals	Assumed Quantifiable Impacts
<ul style="list-style-type: none">➤ Improve safety on commuter rail, reducing the risk of human error➤ Adhere to federal train safety standards<ul style="list-style-type: none">➤ Complete deployment mandated by December 31, 2020	<ul style="list-style-type: none">➤ Headcount: 3 new MBTA Railroad Operations staff➤ Third-party management fees for system maintenance<ul style="list-style-type: none">➤ Rolling stock<ul style="list-style-type: none">➤ Daily departure inspections of 179 cars➤ Communication systems<ul style="list-style-type: none">➤ 320 miles of fiber/cables➤ 174 communication towers and radio installations➤ Wayside systems<ul style="list-style-type: none">➤ 2,400 transponders

Cost Driver & Expense Category Flow Chart
PTC/ATC will impact headcount, purchased services, and M&S



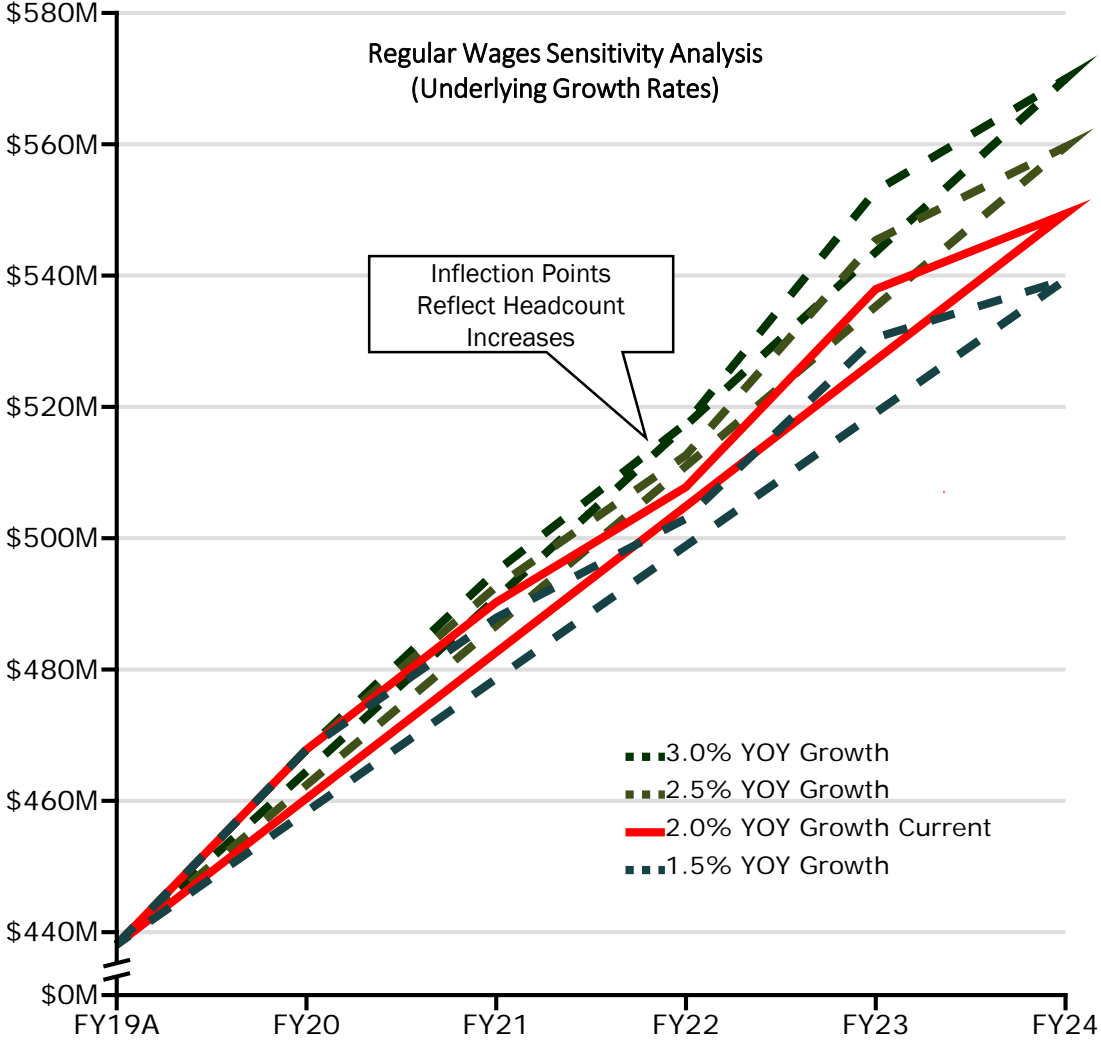
Regular Wage Impact



*Flex Force presumed to be funded through legislative mandate



Regular Wages Sensitivity Analysis



Sensitivity Analysis

- 3.0% Underlying Growth Rate
 - 1.0% increase from current growth rate
 - **\$96.5M** cumulative increase in expenses from FY21-FY24
- 2.5% Underlying Growth Rate
 - 0.5% increase from current growth rate
 - **\$47.5M** cumulative increase in expenses from FY21-FY24
- 2.0% Underlying Growth Rate - Current
 - Collective Bargaining
- 1.5% Underlying Growth Rate
 - 0.5% reduction from current growth rate
 - **\$46.3M** cumulative savings from FY21-FY24

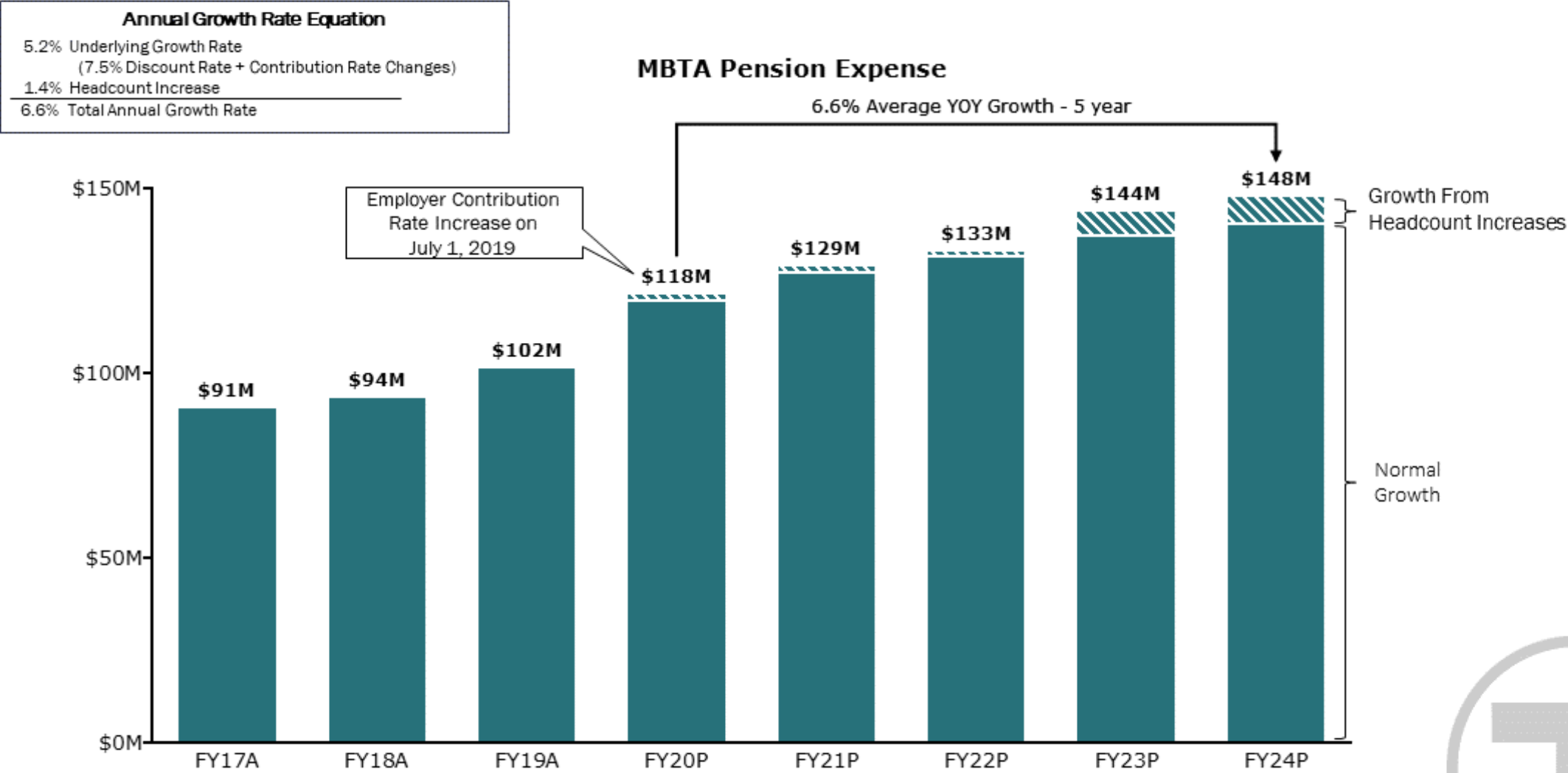
Regular Wages Explained

- Growth rates accelerate as headcount increases
- Regular Wages accounts for 29% of operating expenses
- Increases in headcount should lead to a decrease in overtime

*Flex Force presumed to be funded through legislative mandate



Pension Impact



*Flex Force presumed to be funded through legislative mandate



Pension Sensitivity

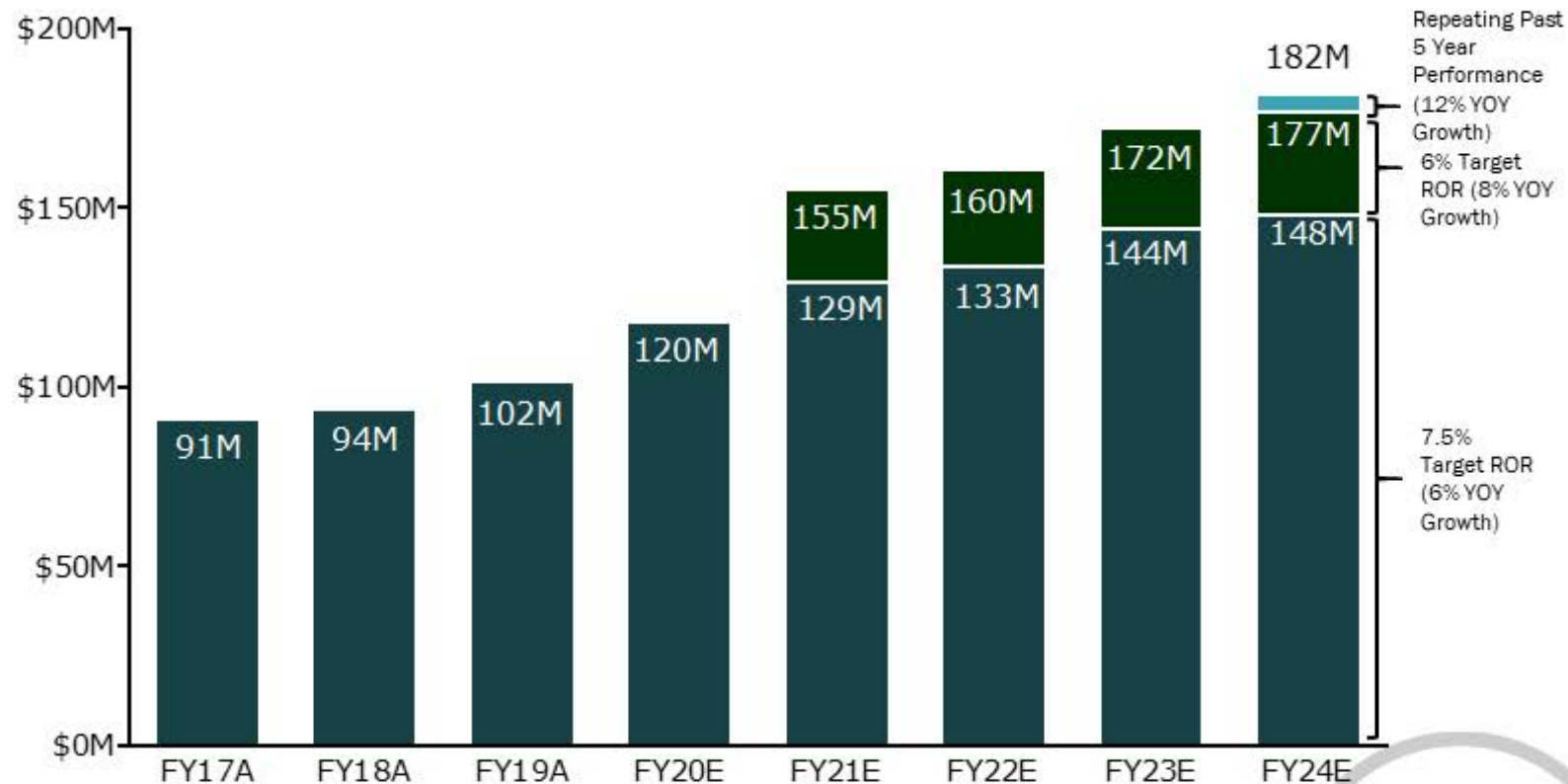
Pension Rate of Return

Actual vs. Target Rate of Return

	FY17	FY18	FY19	FY20
Target Rate of Return	7.75%	7.75%	7.75%	7.75%
Actual Rate of Return	15.8%	-3.08	TBD	TBD

- Target Rate of Return on pension assets is 7.75%
- **Average Actual Rate of Return from FY15 to FY17 was 5.13%**
- A lower rate of return means increased employer contributions

Annual Pension Expense



*Flex Force presumed to be funded through legislative mandate

Healthcare Impact

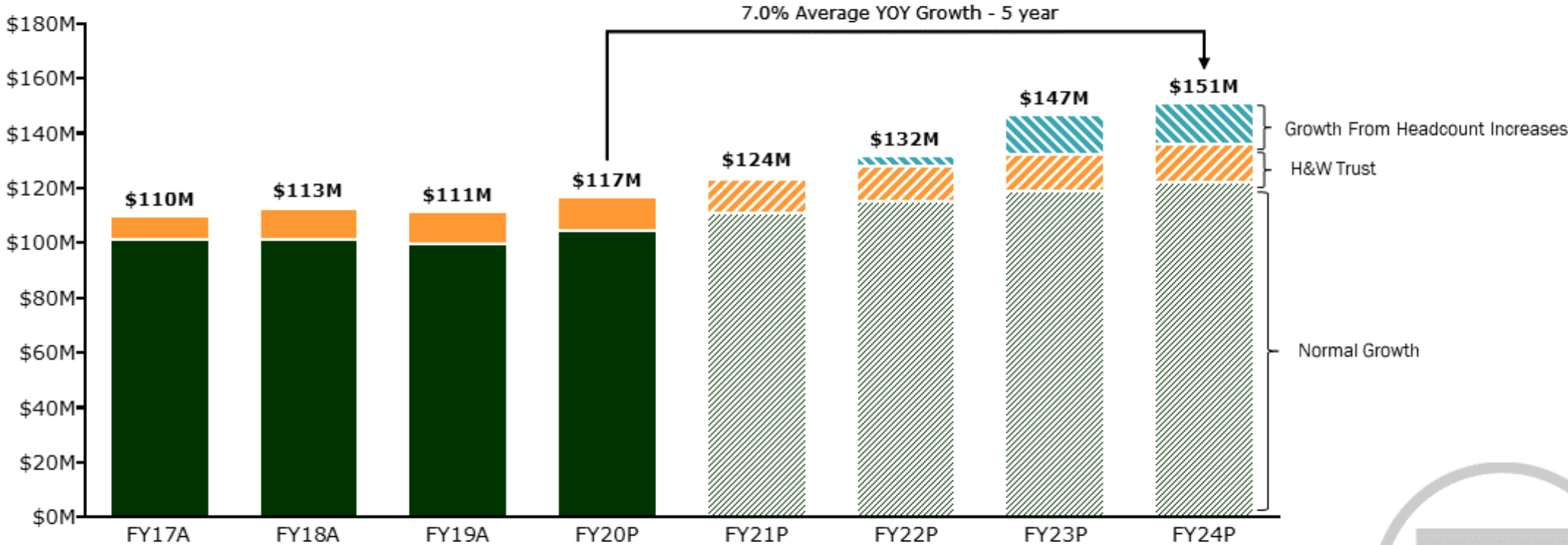
Annual Growth Rate Equation

2.7% Underlying Growth Rate
(CMS Growth Rate Projection)

+ 4.3% Headcount Increase

7.0% Total Annual Growth Rate

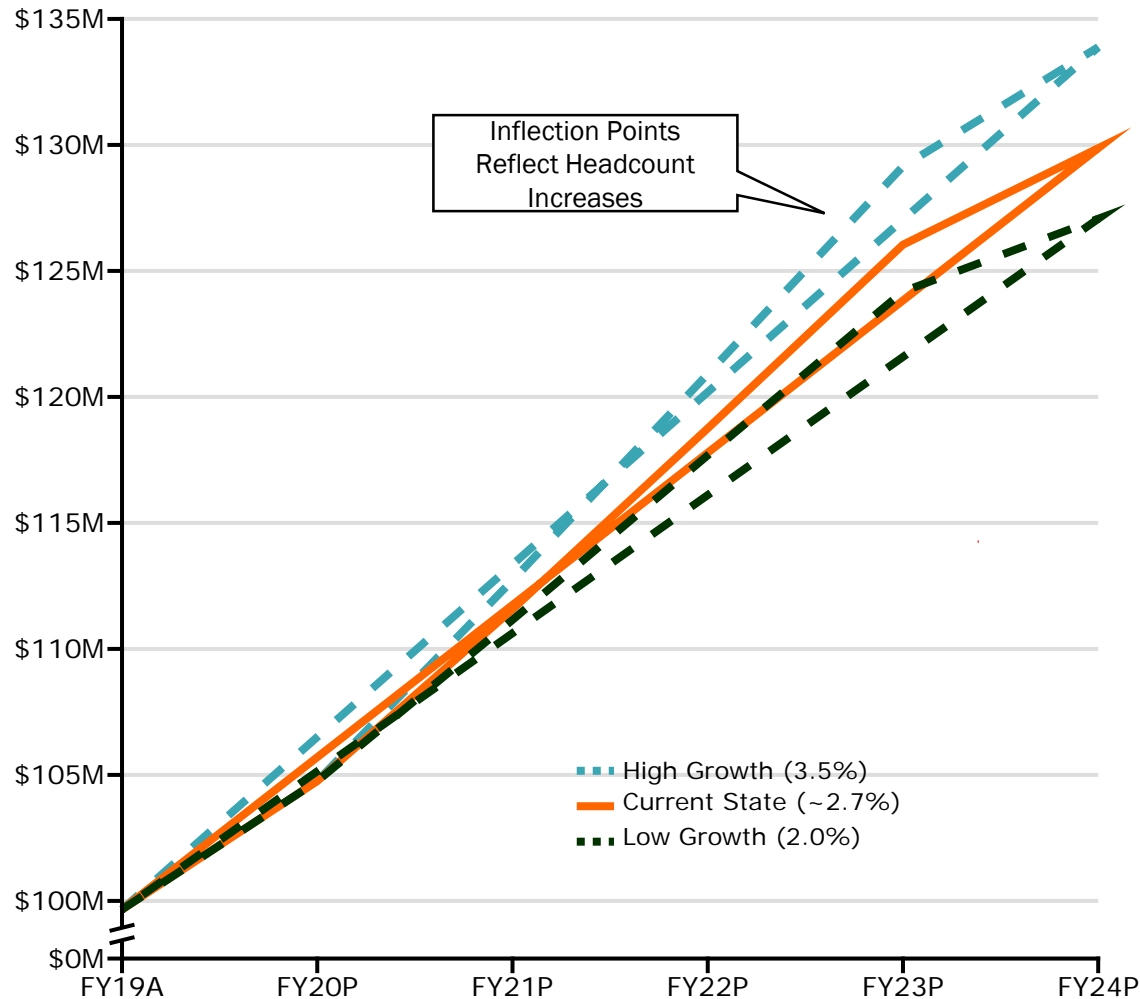
MBTA Healthcare Expense



*Flex Force presumed to be funded through legislative mandate



Healthcare Sensitivity Analysis



Sensitivity Analysis

- 3.5% YOY Growth
 - 0.8% increase from current growth rate
 - **\$13M** cumulative increase in expenses from FY21-FY24
- 2.7% YOY Growth - Current
 - CMS Personal Healthcare Growth Rate Index
- 2.0% YOY Growth (Low)
 - 0.7% decrease from current growth rate
 - **\$14M** cumulative decrease in expenses from FY21-FY24

Healthcare Spending Background

- Underlying growth rates based on CMS Personal Healthcare Growth Rate Index
 - CMS is projecting underlying growth rates to accelerate
 - FY21 – 2.4%
 - FY22 – 2.6%
 - FY23 – 2.7%
 - FY24 – 2.8%
- Prior to FY19, Healthcare was the most expensive fringe benefit

Next Steps

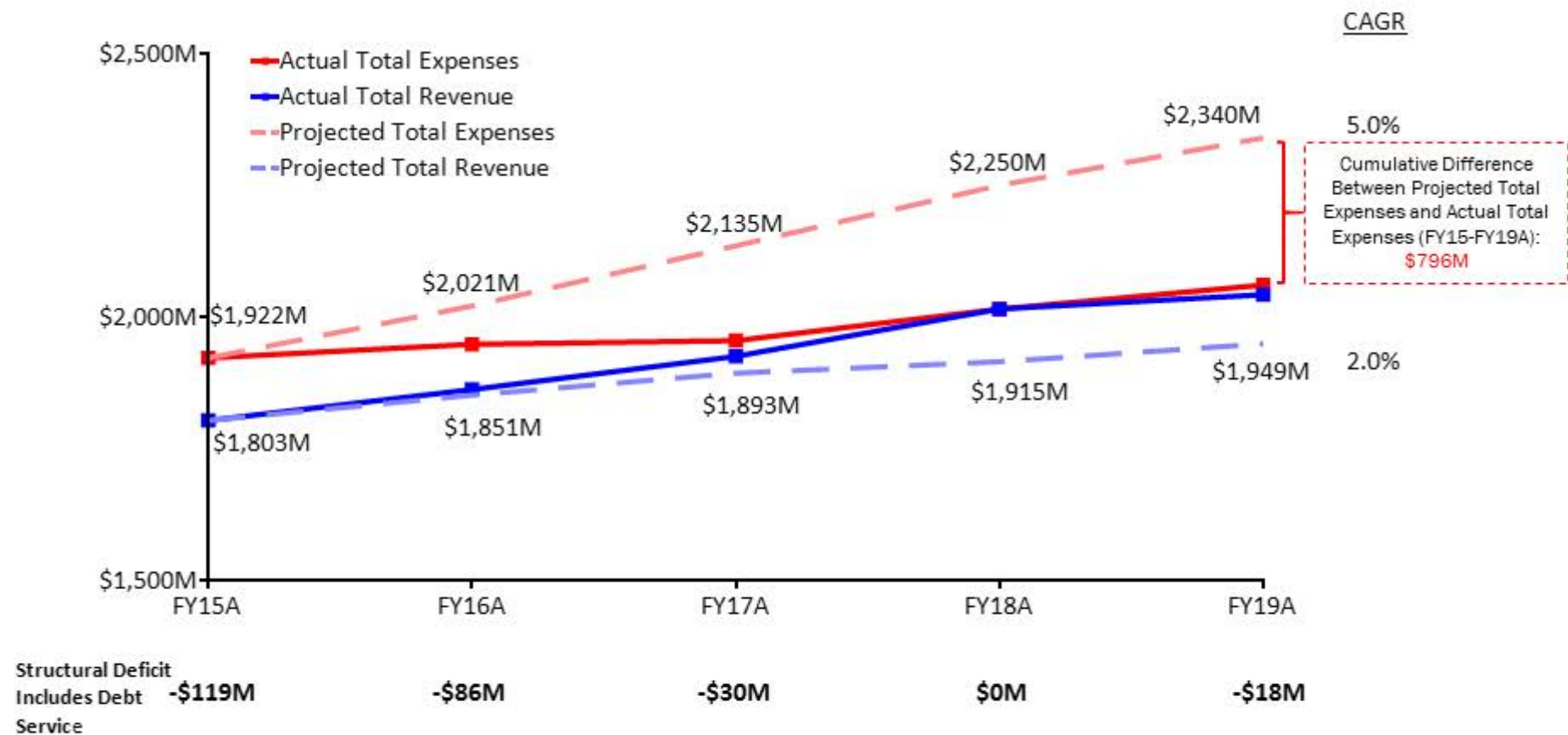
- Present pro forma assumptions for remaining factors
 - Debt & Revenue
 - Purchased Services and Materials & Services
- Currently refining pro forma assumptions as part of the overall FY20 & FY21 budget process
- Clarify/update staffing needs to operationalize initiatives
 - Finish developing hiring plans
 - Identify overlapping areas including Flex Force
- Provide pro forma update in January 2020
- Explore avenues to contain costs including overtime, pension, and healthcare
- Safety Panel recommendations are forthcoming; impact TBD



Appendix

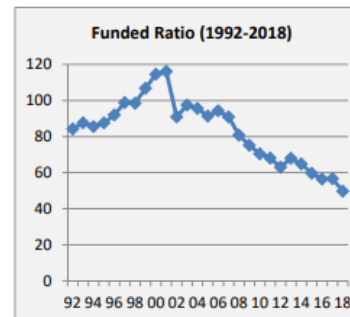
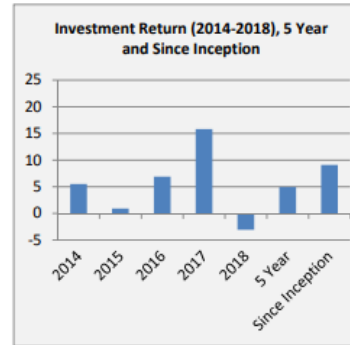
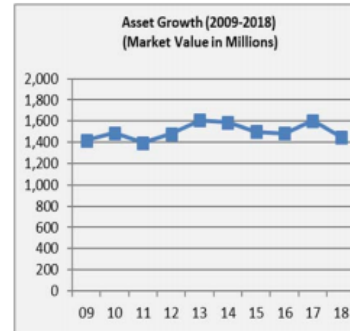


Since the inception of the FMCB, \$796M of cumulative savings has been achieved



Pension Orientation Sheet

- Pension contributions are determined by annual actuarial analysis
- Contributions, asset gains & losses, and retiree distributions are the major drivers
- Contribution Rates Increased on July 1, 2019
 - Employer – 22.6811% -> 25.1261%
 - Employee – 8.0089% -> 8.8239%
- Number of Members
 - 5,392 Active -> Contributing
 - 6,714 Retired -> Drawing benefits
- Current Assets & Liabilities
 - \$1.45B Assets (State of MA is \$69B for comparison)
 - \$2.91B Liabilities
 - \$1.46B Unfunded Liability



ACTUARIAL	
Funded Ratio	49.70%
Date of Last Valuation	12/18
Actuary	Buck Global, LLC
Assumed Rate of Return	7.50%
Targeted Rate of Return	7.50%
Funding Schedule	Closed period, increasing by 4% per year
Net Pension Liability	1,467.1M

	Active	Retired
Number of Members	5,392	6,714
Annualized Salary/Amount in Pay as of 12/31/17	425.9M	221.3M
Actual Payroll/Benefit	423.1M	218.4M
Average Salary/Benefit	78,980	32,285
Average Age	47.74	69.80
Average Service	10.65	NA

AUDIT	
Date of Last Audit	6/19
Period Covered	1/1/18-12/31/18
Auditor	KPMG, LLP

Annual Contributions	
Member Contributions	32.6M
Authority Contributions	92.0M
Annual Pension Benefits	218.4M

2018 Return	-3.08%
Actuarial Rate of Return	7.50%
2018 NAV	1,449.7
2014-2018 Annualized Return	4.95%
Since Inception	9.09%
Custodian	State Street Bank

Investment Return History		
<u>1 Year 2018</u>	<u>5 Year 2018</u>	<u>10 Year 2018</u>
-3.08%	4.95%	8.30%
<u>Since Inception</u>		
9.09%		

*Returns are gross of fees with the exception of hedge funds which are net of fees