



**Massachusetts Bay
Transportation Authority**

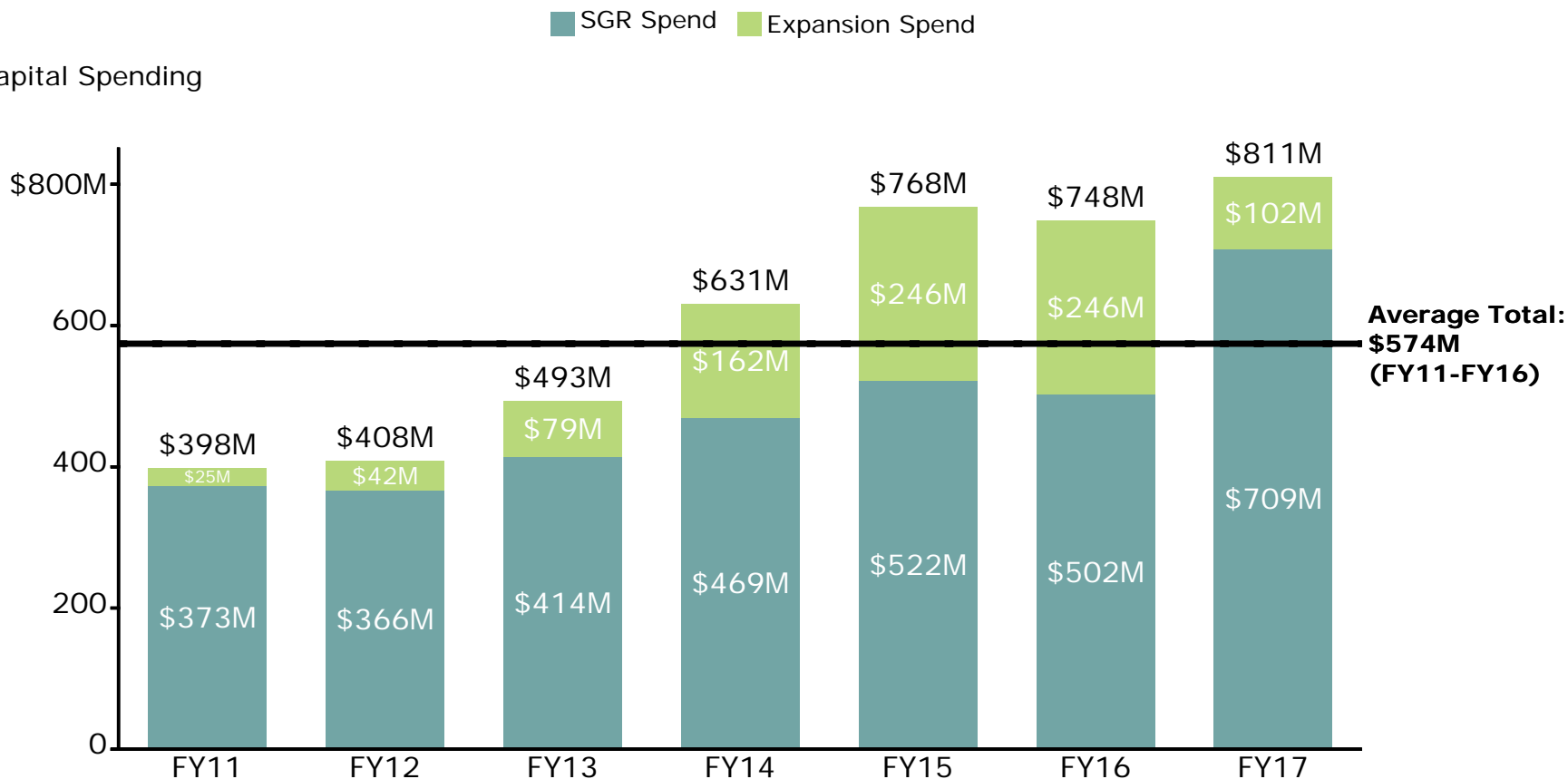
FY18 Q1 Capital Program Update

November 6, 2017



In FY17 the MBTA spent \$811M on its capital program – the most ever. State-of-good-repair spending in FY17 was 40% greater than FY16.

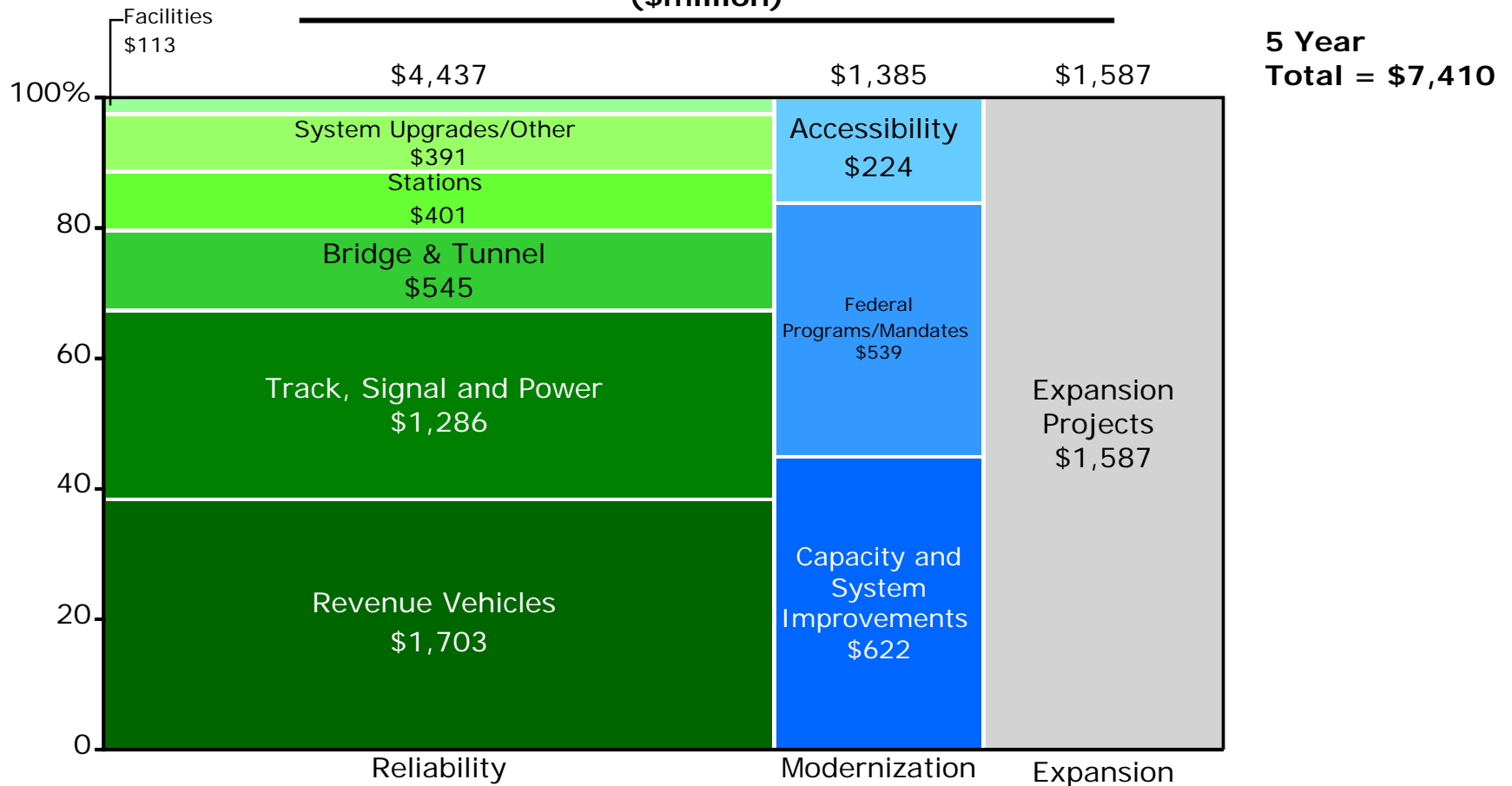
MBTA Capital Spending





FY18-FY22 Capital Investment Plan calls for \$7.4B in capital spending over the next 5 years*

FY18-22 CIP Spending by Priority and Program (\$million)



*MBTA / MassDOT CIP approved by join MassDOT / FMCB board on June 19th, 2017.



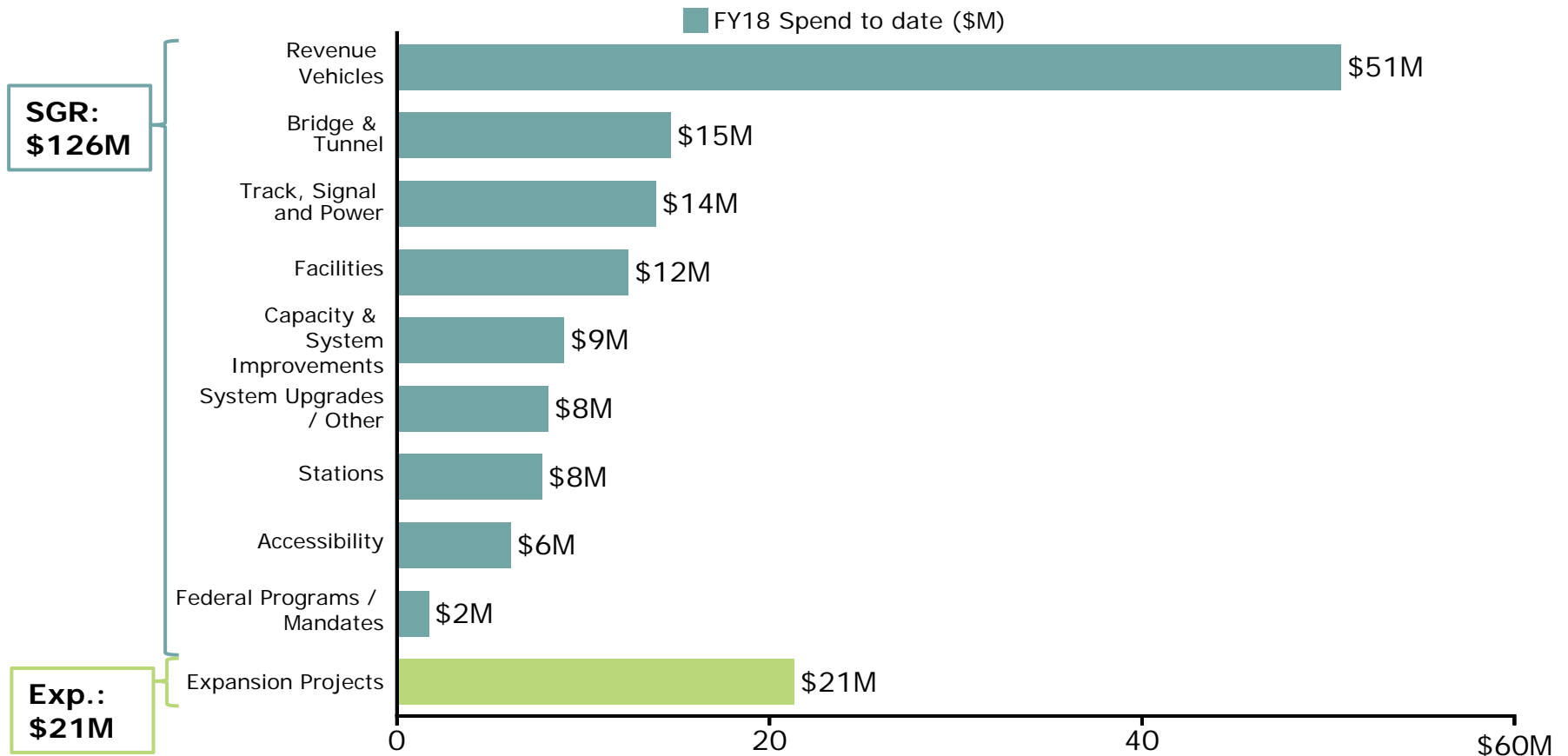
Major capital goals for FY18

- 1) Execute approved FY18-FY22 Capital Investment Plan (CIP)
 - a) Invest \$942M total on the capital program in FY18, including \$795M on state of good repair projects
 - b) Award over \$450M in new state of good repair construction contracts to ensure project pipeline that will drive future spend
- 2) Improve project controls, reporting, and processes and implement enterprise-wide project management system
- 3) Lead the development of a FY19-23 Capital Investment Plan that helps advance the MBTA's strategic priorities and achieve meaningful outcomes for customers



FY18 Q1 Actual Spend by CIP Program

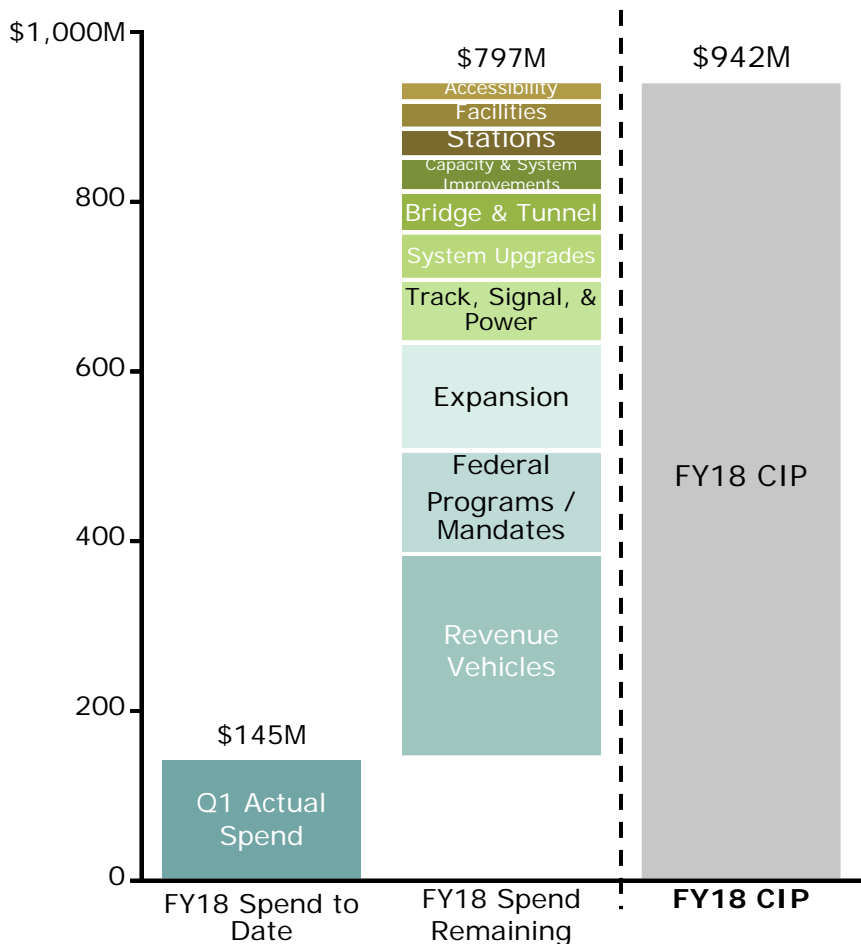
Total spend to date: \$146M (updated through 9/30/17)



Note: Numbers may not sum due to rounding. Does not include over \$25M of est. work incurred on Positive Train Control (PTC).



FY18 \$942M capital investment plan – How do we get there?



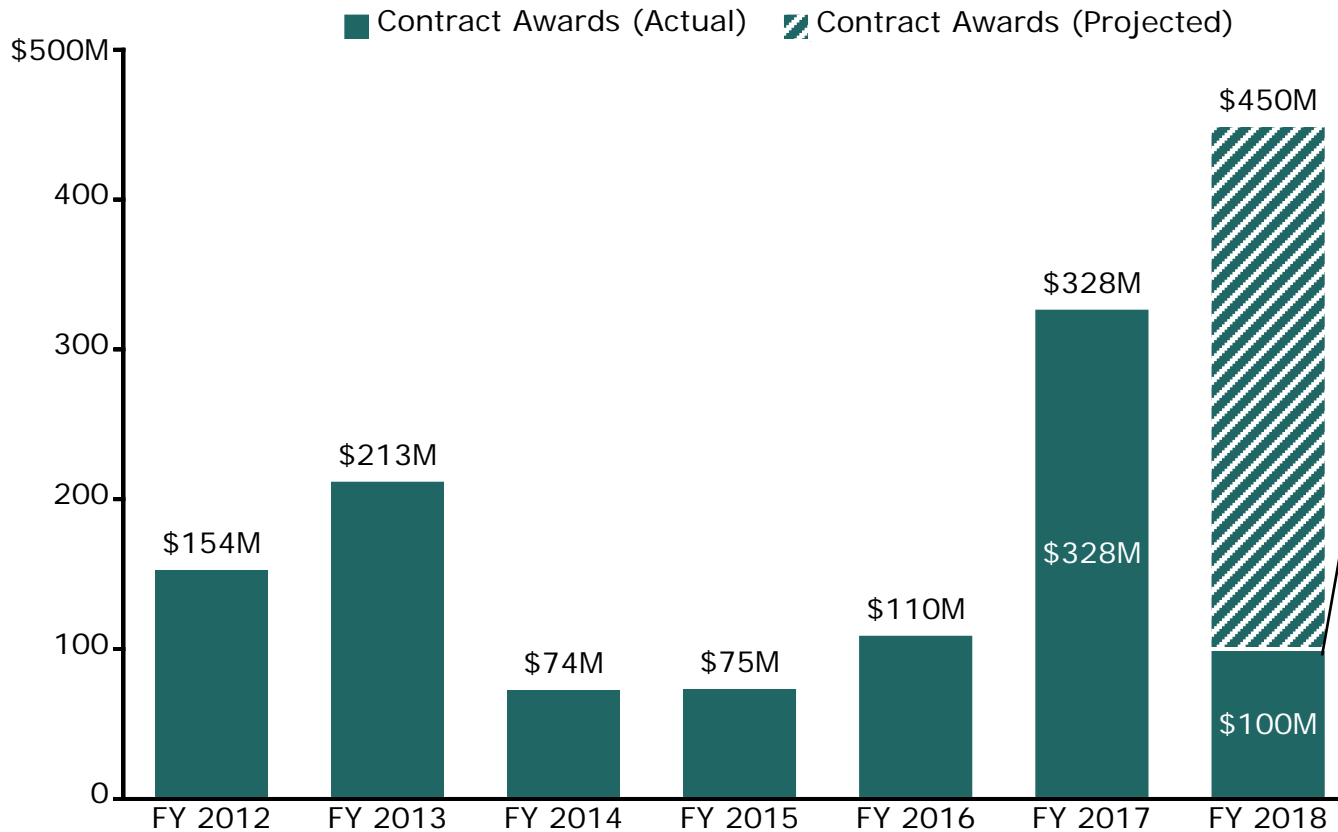
Q2 Look Ahead:

- Vehicle milestone payments:
 - Orange Line pilot cars
 - Red line #3 car
 - Green Line type 7 car
- Federal programs / Mandates: Positive Train Control milestone payment
- Expansion: GLX, Blue Hill Ave. Station
- Bridge: Beverly Drawbridge rehab, East Street Bridge
- On-call contracts to accelerate various state-of-good repair projects (facilities, track, and parking / paving)
- Accessibility projects: elevators at Tufts, Downtown Crossing, Alewife, Central Square, Harvard Square)
- Stations: Ruggles, Wollaston



FY18 SGR construction contracts awarded – continuing growth from FY17

Dollar Value of Contracts (\$M)



| Contract Description | Contract Value (\$M) |
|-----------------------------------|----------------------|
| Parking and Paving On-Call | \$22M |
| Gloucester Drawbridge Replacement | \$57M |
| Red Line Test Track | \$21M |
| TOTAL | \$100M |

Note: Contract awards data as of 10/30/17.



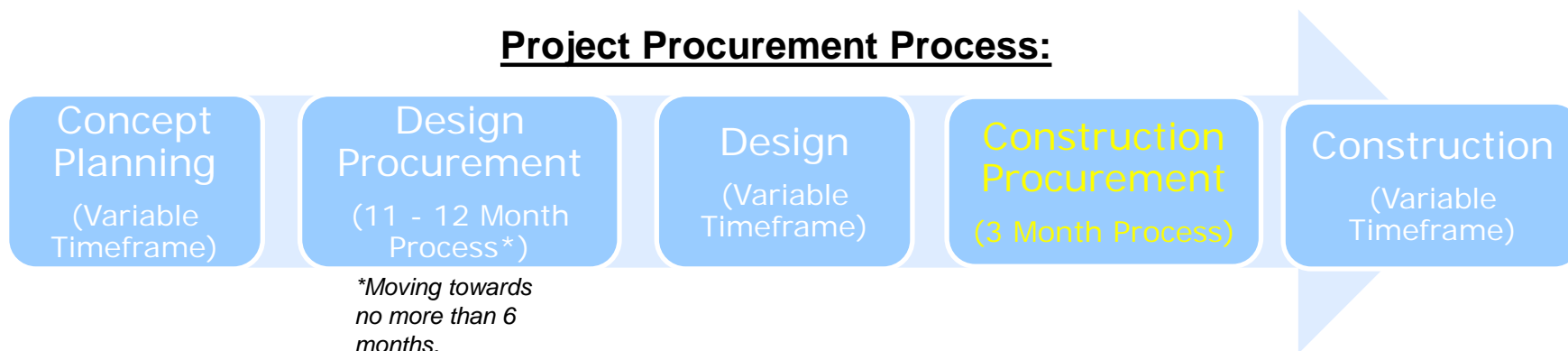
Important process improvements have helped to streamline project delivery and execution

The MBTA has shortened the construction procurement from 7-9 months to no more than 3 months since the beginning of FY17 with the following improvements:

- ✓ Eliminated duplicative processes
- ✓ Held to stated bid periods
- ✓ Reduced time for routine tasks
- ✓ Reviewed bid timelines with construction industry groups

The MBTA is currently focused on reducing design procurement to no more than 6 months.

Project Procurement Process:



Goal 2: Controls and Process Improvements



Capital Delivery and Capital Program Oversight have filled 24 key staff positions this calendar year to support the increased capital program, as well as 22 positions filled for GLX since January 2017

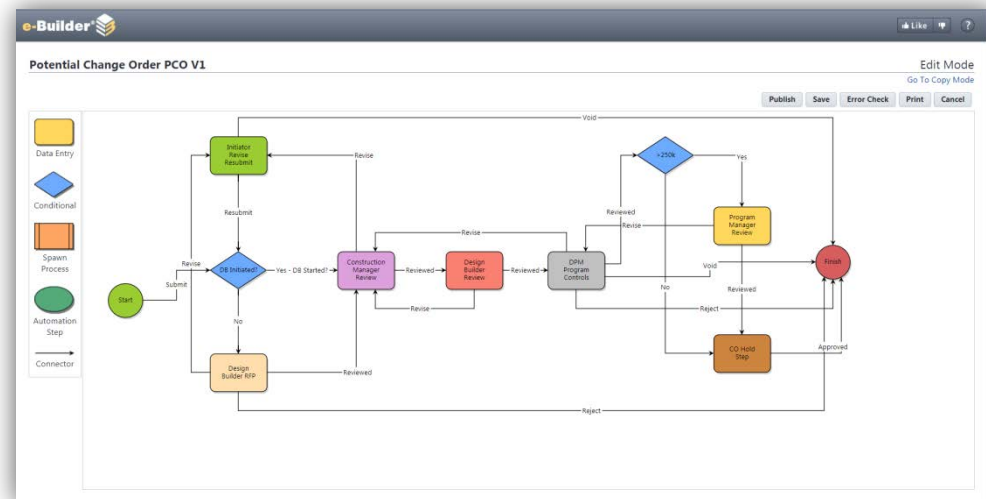
| Position filled | Number |
|------------------------------------|--------|
| <i>Capital Delivery</i> | |
| Deputy AGM, Commuter Rail Programs | 1 |
| Senior Director, Bridge & Tunnel | 1 |
| Director of Administration | 1 |
| Project Manager, Commuter Rail | 1 |
| Resident Engineer | 5 |
| Construction Inspector | 5 |
| Project Coordinator | 1 |
| Change Order Analyst | 3 |
| Executive Assistant | 1 |
| <i>Capital Program Oversight</i> | |
| Senior Director, Capital Planning | 1 |
| Senior Director, Project Controls | 1 |
| Senior Manager, Federal Programs | 1 |
| Budget Analyst | 2 |

| Position filled | Number |
|-----------------------------------|--------|
| <i>Green Line Extension (GLX)</i> | |
| Director of Administration | 1 |
| Deputy Program Manager of Design | 1 |
| Director of Construction | 1 |
| Deputy Program Manager of Legal | 1 |
| Project Coordinator | 2 |
| Engineer | 8 |
| Senior Budget Analyst | 2 |
| Safety Manager | 1 |
| Change Order Analyst | 1 |
| IT Support Coordinator | 1 |
| Document Control Manager | 1 |
| Administrative Assistant | 2 |



Purpose of a PMIS (e-Builder)

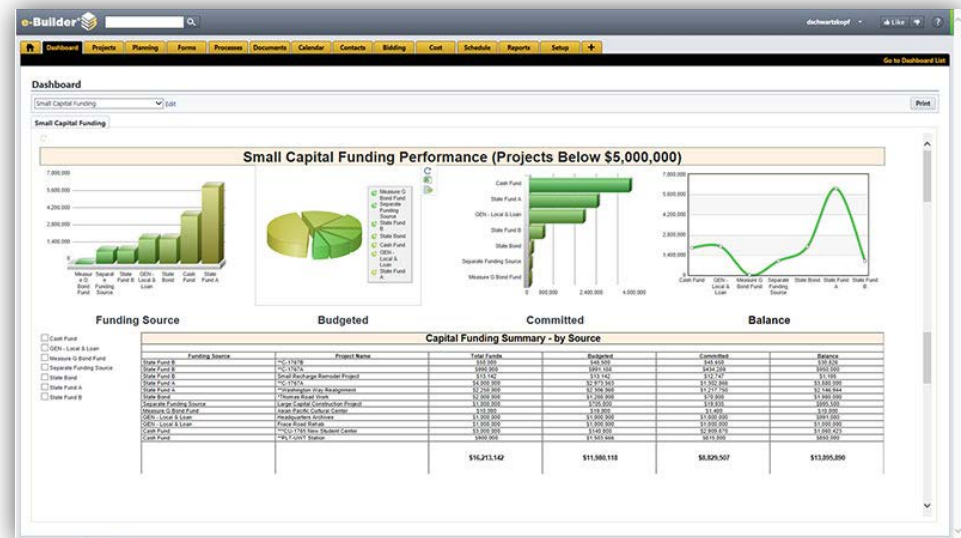
- e-Builder is a cloud based PMIS that is accessible by any device (laptop / phone / tablet / etc.)
- The main functions of e-Builder are:
 - Functions as a collaborative tool for all project related participants
 - Repository of all project information
 - Owner-based project management tool
 - Increases productivity, consistency, and reporting





Targeted Outcomes

- The PMIS will provide the following benefits:
 - ✓ Informed and timely decision making based on accurate data
 - ✓ Accountability for data and delivery
 - ✓ Reduce time for data handling and increase time for analysis
 - ✓ Accessibility to data
 - ✓ Transparency / audit trail
 - ✓ Efficiency





GLX / PTC / Red-Orange Line e-Builder Implementation

Current Uses:

- ~600 current user licenses issued across GLX / PTC / Red-Orange Line programs
- Sending, receiving and tracking project team communications
- Document control

Current Implementation & Development:

- Workflows & Process
 - Requests for Information (RFIs)
 - Design Package & Construction Submittals
 - Invoicing (Professional Service and Construction)
 - Funding, Budget and Cost Management

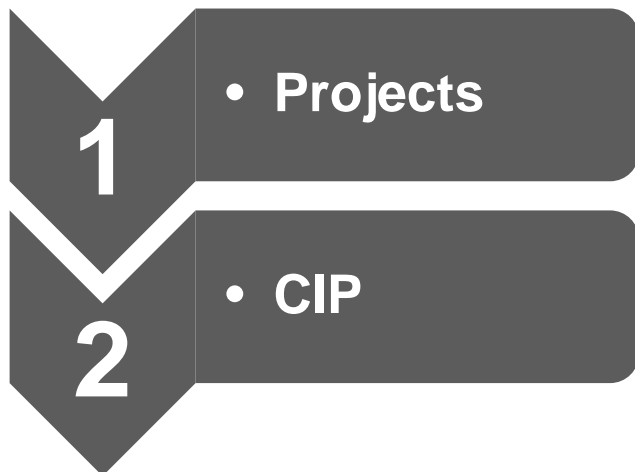
Future Implementation & Development:

- Enterprise-wide reporting
- Integration with existing systems

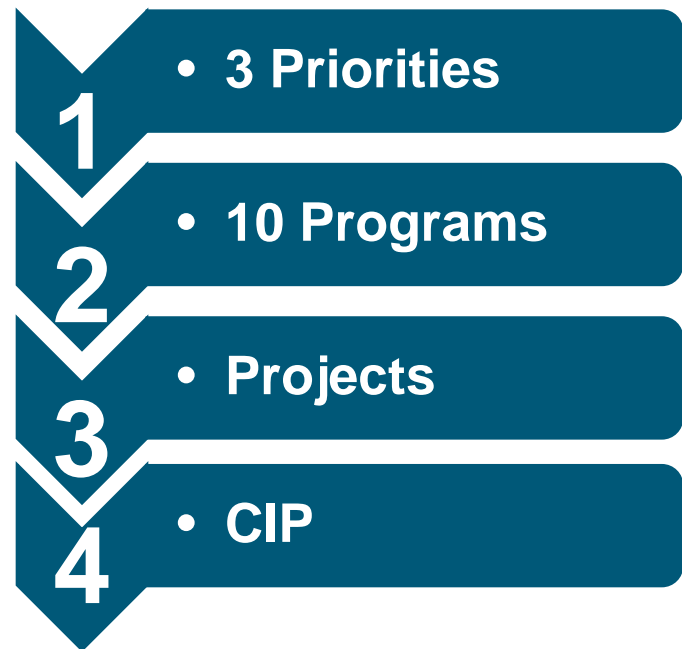


The FY17-21 CIP introduced a more strategic approach to capital budgeting

• Prior CIP approach



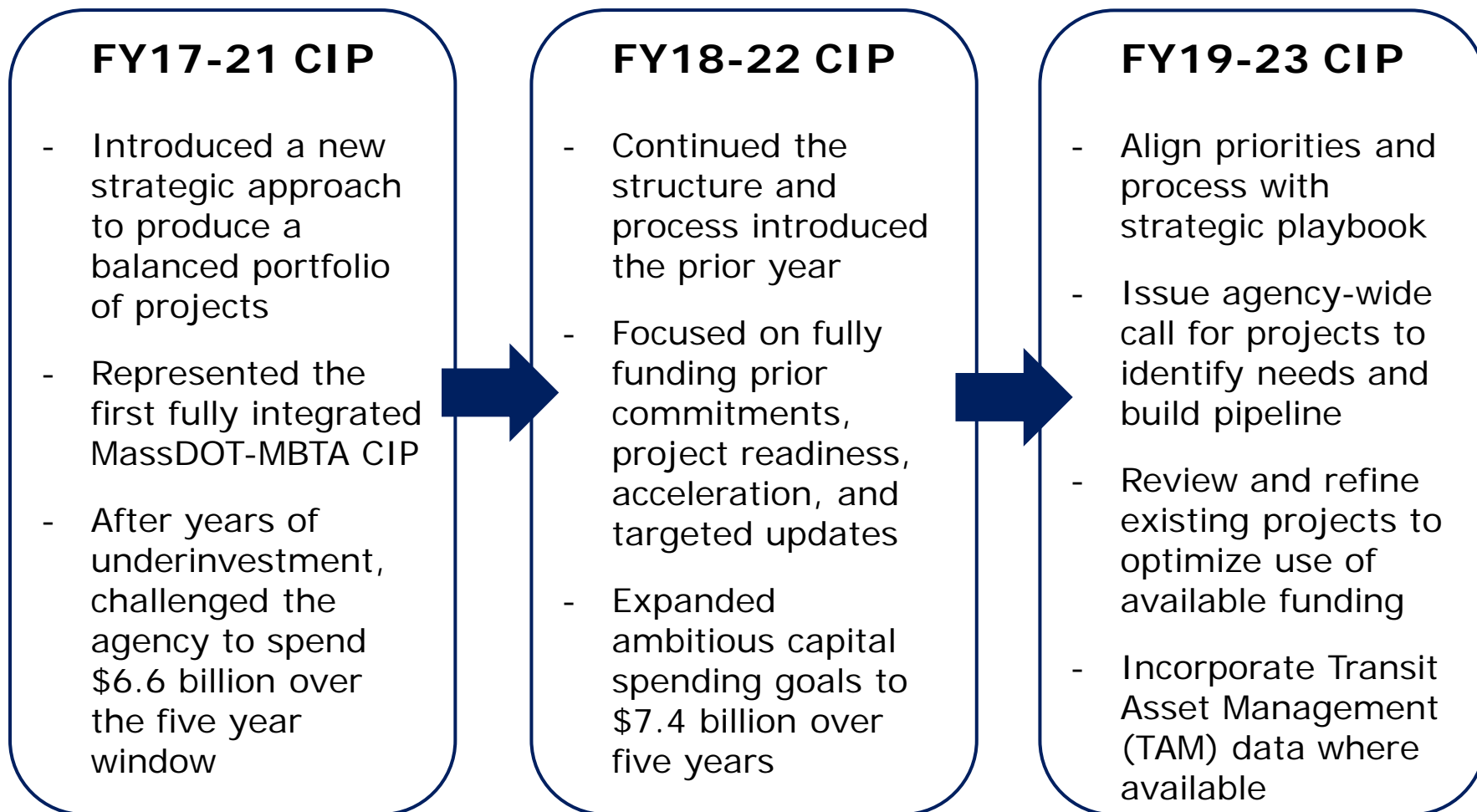
• New CIP approach



The FY17-21 CIP was also the first fully integrated capital plan produced jointly by the MBTA and all the MassDOT Divisions



Next evolution of the MBTA CIP: a top down *and* bottom up process





Strategic playbook for FY19-23 MBTA CIP

MBTA and MassDOT strategic planning efforts to influence FY19-23 CIP:

MBTA Strategic Plan (published April 2017)

- Codifies vision, mission, values, priorities, and objectives for MBTA
- Sets goal to eliminate SGR backlog in 15 years

MassDOT Tracker (next report to be published November 2017)

- Reports progress toward overarching performance goals for MassDOT and MBTA on customer experience, system condition, budget and capital performance, safety, and healthy and sustainable transportation

Integrated Fleet and Facilities Plan (expected fall 2017)

- Outlines unconstrained fleet plan to eliminate SGR backlog and provide sufficient capacity to meet regional growth estimates

Focus40 (expected spring 2018)

- Intended to provide “the 25-year strategic vision for the MBTA” to meet goals of mobility, equity, prosperity, climate mitigation and resilience, and stewardship
- Presents investment strategies to meet the needs of the region in 2040



Next Steps

- 1) Continue to drive capital investment and contract awards
 - On-going
- 2) Launch enterprise-wide PMIS implementation
 - November, 2017
- 3) Kick off FY19-FY23 CIP process
 - November, 2017



Appendix



In addition, there are a number of key contracts to be advertised with anticipated award dates in FY18, indicating a strong pipeline

| <i>FY18 Contracts Advertised</i> | |
|--|----------------------------------|
| Project Name | Engineer's Estimate (\$M) |
| Red / Orange Line Signal Upgrades D/B | \$185 |
| Wellington Yard Rebuild | \$105 |
| Cabot Yard Rebuild and Carhouse | \$105 |
| Bridge Bundle D/B | \$102 |
| South Shore Garages | \$85 |
| Reservoir to Riverside Signal Improvements | \$39 |
| Commuter Rail Tracks, Ties, Switches (On-Call) | \$30 |
| Transit Track and Tie Replacement (On-Call) | \$25 |
| Facility Improvements (On-Call) | \$25 |
| Fenway Portal | \$22 |
| Chelsea Commuter Rail Station | \$22 |
| Commuter Rail Right of Way Improvements | \$20 |
| Green Line Grade Crossings | \$15 |
| Harvard Busway | \$15 |
| Back Bay Ventilation, Package 1 | \$3 |
| TOTAL | \$798M |