



**Massachusetts Bay  
Transportation Authority**

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## **Commuter Rail Investments in FY20-24 CIP**

*Commuter Rail Communities Coalition – Transportation for Massachusetts*

**6/10/2019**

*DRAFT AS OF 6/6/19*



## Strategic Priorities for the MBTA Capital Program

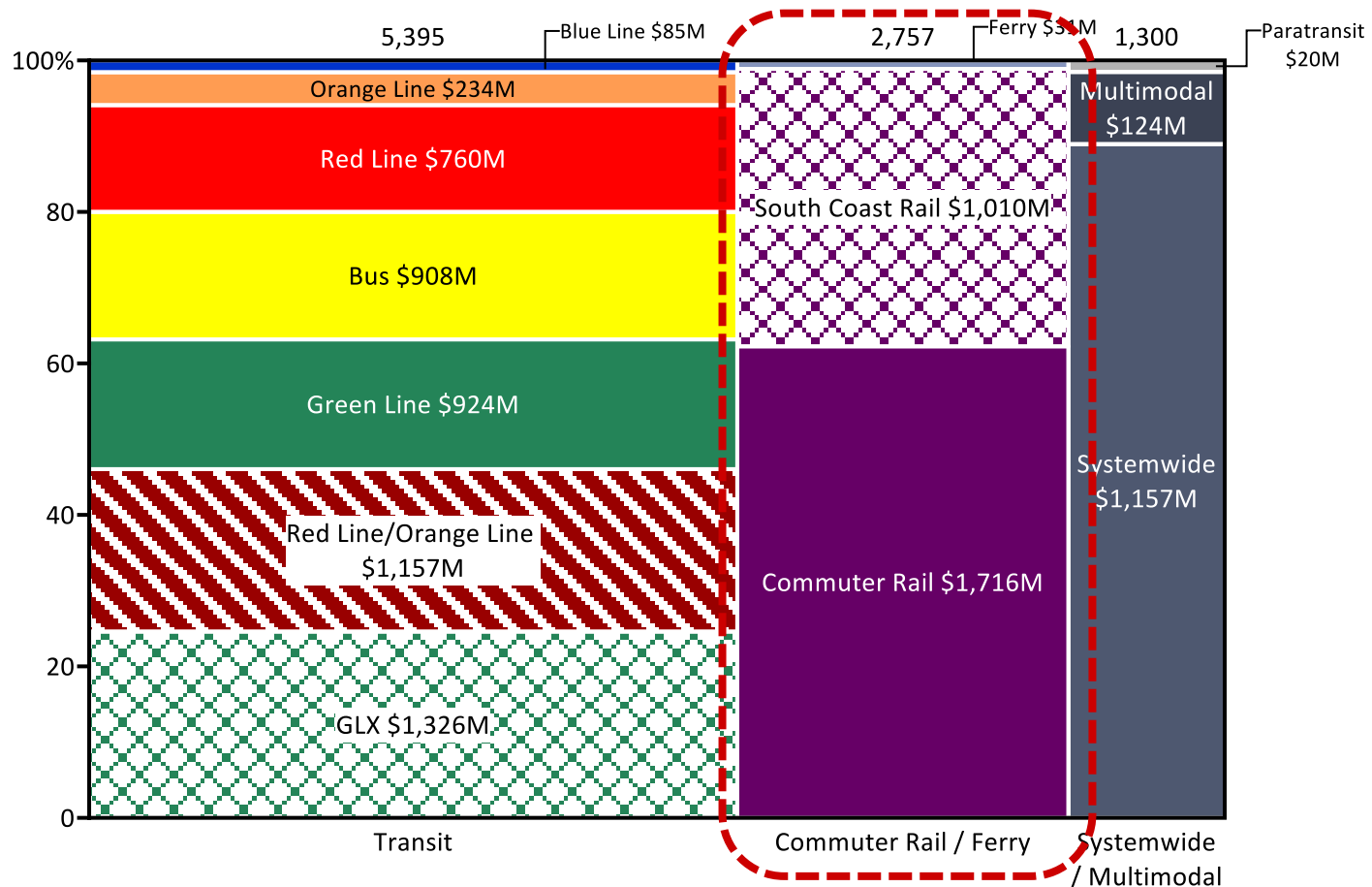
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1. Address Capital Needs to deliver a safe, reliable, and modern transportation system
  - Replace and modernize assets, including bridges, tunnels, vehicles, equipment, stations, facilities, track, signals, and power infrastructure
  - Implement critical safety systems like Positive Train Control
  - Invest in transformative projects like Automated Fare Collection
  - Add capacity to address system bottlenecks through investment in larger vehicles and vehicle fleets or system efficiencies to increase throughput
2. Advance Focus40 “next priorities”
  - Focus40 lays out the long-term vision for MBTA capital investment and this CIP begins implementation of priority projects identified in Focus40
  - Rail Vision is a key element of Focus40 follow-on efforts and will provide the roadmap for Commuter Rail



## FY20-24 CIP Includes \$2.7B for Commuter Rail – 29% of Total Plan

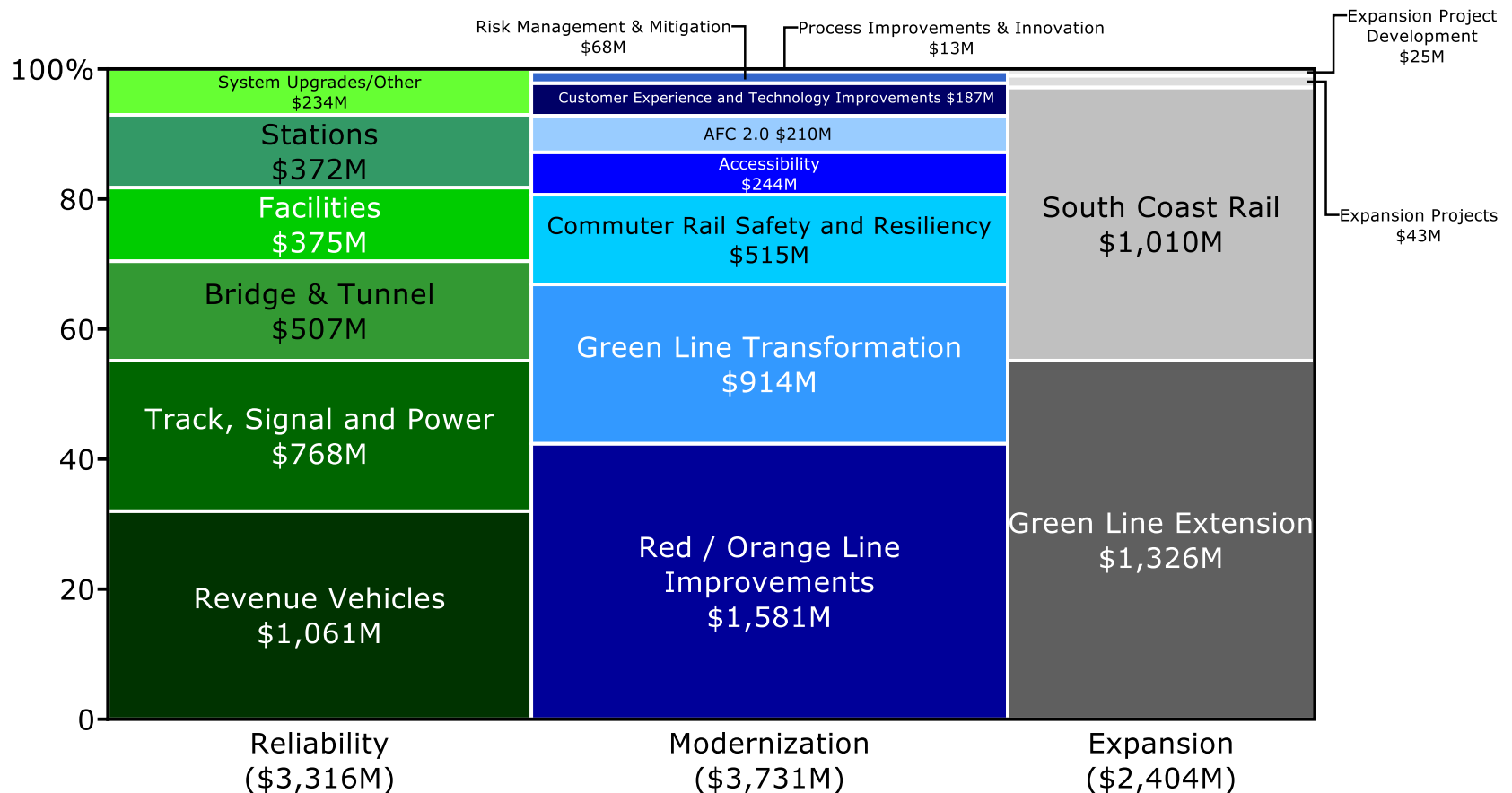
**FY20-24 CIP by Mode/Line (\$M)**





## Commuter Rail Investments Span Multiple *Priorities* and *Programs* in FY20-24 CIP

**FY20-24 CIP by Priority and Program (\$M)**





## Reliability: Bridge and Tunnel

*The purpose of the Bridge & Tunnel program is to repair, reconstruct and replace MBTA commuter rail and transit bridges and tunnels system-wide.*

### North Station Draw 1 Bridge Replacement

Commuter Rail Project (Greater Than or Equal to \$4M in Spend)	Project Budget (\$M)	FY20-24 Spend (\$M)
<u>North Station Draw 1 Bridge Replacement*</u>	236	59
Gloucester Drawbridge Replacement	85	42
Merrimack River Bridge Rehabilitation	65	23
<u>Robert Street Bridge Replacement</u>	16	16
<u>East Cottage Street Bridge Replacement</u>	16	16
<u>Norfolk Avenue Bridge Replacement</u>	14	14
Shoreline and Saugus Bridges Rehabilitation	12	6
East Street Bridge Replacement	18	5



- Replace North Station Draw 1 Bridge and Control Tower A.
- Increase bridge capacity from four to six tracks and add a pedestrian bridge to connect existing pedestrian paths on either side of the river.
- Currently in planning. Received new funding for design and construction.

Underlined project denotes new or additional funding in FY20-24 CIP.

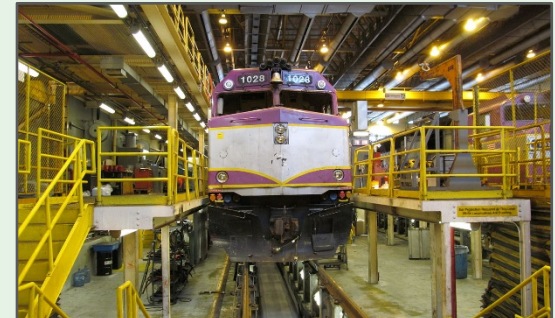


## Reliability: Facilities

*The purpose of the Facilities program is to rehabilitate and update maintenance and administrative facilities that support MBTA operations.*

<b>Commuter Rail Project</b> (Greater Than or Equal to \$4M in Spend)	<b>Project Budget (\$M)</b>	<b>FY20-24 Spend (\$M)</b>
<u>New Iron Horse Operations Control Center</u>	44	41
Billerica MOW Repair Facility Improvements	25	25
<u>New South-Side Maintenance Facility*</u>	15	15
New Pawtucket Layover Facility	14	10
Rochester Maintenance Facility Upgrades	6	6
Walpole Lewis' Wye Signal Improvements	8	5
Haverhill Layover Facility Relocation	5	5
Fluid Dispensing System Upgrades	4	4

### New South-Side Maintenance Facility



- Construct a new south-side facility for locomotive and coach repairs.
- Support closure of Grand Junction during upcoming Allston highway project. Improves maintenance capacity and capabilities.
- Currently in conceptual planning phase. Advanced in coordination with Allston highway project.

Underlined project denotes new or additional funding in FY20-24 CIP.



## Reliability: Revenue Vehicles

*The purpose of the Revenue Vehicles program is to rehabilitate and replace MBTA revenue commuter rail, heavy rail, light rail, buses and ferries units.*

Commuter Rail Project (Greater Than or Equal to \$4M in Spend)	Project Budget (\$M)	FY20-24 Spend (\$M)
Procurement of 181 Bi-Level Coaches	640	159
<u>F40 Locomotive Overhaul*</u>	84	69
Overhaul of 33 900-Series Bi-Level Coaches	67	44
Kawasaki Coaches - Overhaul Option	38	30
Procure Commuter Rail Locomotives (Base)	212	16
Locomotive Reliability Maintenance Program	15	14
Kawasaki Coaches - Overhaul	130	11
Remote Monitoring Equipment Subsystems	6	6

### F40 Locomotive Overhaul



- Overhaul of F40 locomotive fleet.
- First phase of 10 locomotive overhauls already underway.
- Recently received funding to overhaul an additional 20 locomotives.
- Extends service life of locomotives by 20 years while Rail Vision is determining future service levels.

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## Reliability: Stations

*The purpose of the Stations program is to rehabilitate and upgrade MBTA stations and parking facilities for all transportation modes.*

<b>Commuter Rail Project</b> (Greater Than or Equal to \$4M in Spend)	<b>Project Budget (\$M)</b>	<b>FY20-24 Spend (\$M)</b>
<u>Winchester Center Station Improvements</u>	50	39
<u>Back Bay Station Ventilation Improvements*</u>	43	39
Lynn Station & Garage Improvements Ph. 2	33	33
South Attleboro Station Improvements	4	4
<u>Worcester Union Station Improvements</u>	4	4

Underlined project denotes new or additional funding in FY20-24 CIP.

### Back Bay Ventilation Improvements



- Improve platform area ventilation, upgrade mechanical systems, and stabilize structural elements.
- Includes stair pressurization system to contain exhaust at track level, jet fans to introduce fresh air, and expansion joint repairs.
- Pressurization system under constr. Remaining phases in design.





## Modernization: Accessibility

*The purpose of the Accessibility program is to improve accessibility across all stations. This program is necessary to meet the goals of the Authority's Plan for Accessible Transit Infrastructure ("PATI").*

<b>Commuter Rail Project</b> (Greater Than or Equal to \$4M in Spend)	<b>Project Budget (\$M)</b>	<b>FY20-24 Spend (\$M)</b>
<u>Natick Center Station Accessibility Impvmnts.</u>	42	41
Newton Stations Accessibility Improvements	21	19
Systemwide Accessibility Improvements	7	6
Mansfield Station Accessibility Impvmnts.	11	5

Underlined project denotes new or additional funding in FY20-24 CIP.

### Natick Center Station Accessibility Improvements



- Make station fully accessible and improve/modernize asset condition.
- Includes high-level platforms, elevators and ramps, relocated track, and drainage improvements.
- Currently completing final design. Full construction funding included in FY20-24 CIP.



## Modernization: Commuter Rail Safety and Resiliency

*The purpose of the Commuter Rail Safety and Resiliency program is to improve the safety and resiliency of the Commuter Rail network, including the implementation of Positive Train Control.*

<b>Commuter Rail Project</b> (Greater Than or Equal to \$4M in Spend)	<b>Project Budget (\$M)</b>	<b>FY20-24 Spend (\$M)</b>
<u>Commuter Rail Positive Train Control (PTC)</u>	466	206
ATC Implementation on North-Side Lines	279	256
<u>Fiber Optic Cable Network Resiliency</u>	39	29
<u>Systemwide Tree Removal</u>	29	10
<u>Critical Gas Switch Heater Installation</u>	5	5
Additional Critical Switch Heater Install.	5	5
<u>Wayside Bearing Acoustic Defect Detection</u>	4	4

Underlined project denotes new or additional funding in FY20-24 CIP.

### Commuter Rail Positive Train Control (PTC)



- Installation of PTC to prevent train-to-train collisions, over-speed derailments, work zone infractions, movement of trains through track switches left in incorrect position.
- FRA approved extension of MBTA's PTC system to December 31, 2020.
- PTC continues to be the MBTA's highest priority capital program.



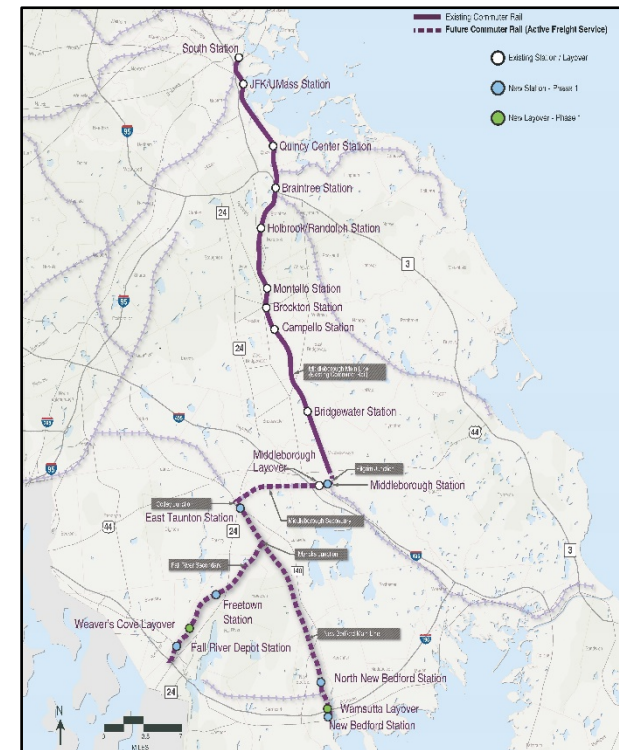
## Expansion: South Coast Rail

*New program for South Coast Rail. Phase 1 includes construction of 28 miles of new track, upgrading 7 miles of existing track, construction of two new layover facilities and six new stations.*



<b>Commuter Rail Project</b> (Greater Than or Equal to \$4M in Spend)	<b>Project Budget (\$M)</b>	<b>FY20-24 Spend (\$M)</b>
<u>South Coast Rail Program Implementation</u>	1,137	976
South Coast Rail (Design Review and FA)	42	9
South Coast Rail Early Action Bridge Projects	26	25

Underlined project denotes new or additional funding in FY20-24 CIP.





## Other Commuter Rail Investments

Commuter Rail Project	Priority	Program	Project Budget (\$M)	FY20-24 Spend (\$M)
<u>North Station Terminal Signal</u>	Reliability	Track, Signals & Power	45	43
Track Ties and Switches Replacements	Reliability	Track, Signals & Power	28	23
Franklin Double Track & Signal	Reliability	Track, Signals & Power	20	19
<u>Keolis Capitalization Initiatives (FY18, FY20)</u>	Reliability	Track, Signals & Power	44	18
Culverts, Bridges & ROW Improvements	Reliability	Track, Signals & Power	19	17
<u>CR Signal SGR and Resiliency Program</u>	Reliability	Track, Signals & Power	9	9
Energy Efficiency	Reliability	Track, Signals & Power	25	8
<u>CR Track SGR and Resiliency Program</u>	Reliability	Track, Signals & Power	8	8
<u>Station Transformation and Revitalization</u>	Modernization	Cust. Exp. & Tech.	20	16

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