



**Massachusetts Bay
Transportation Authority**

Red/Orange Line Transformation Update

Fiscal and Management Control Board

October 5, 2020

Maysoon Tawfik

Agenda

- Customer Benefits Plans
- FY20 Accomplishments
- Headway & Reliability Governance and Status
- Opportunities & Challenges



Orange and Red Line Customer Benefits

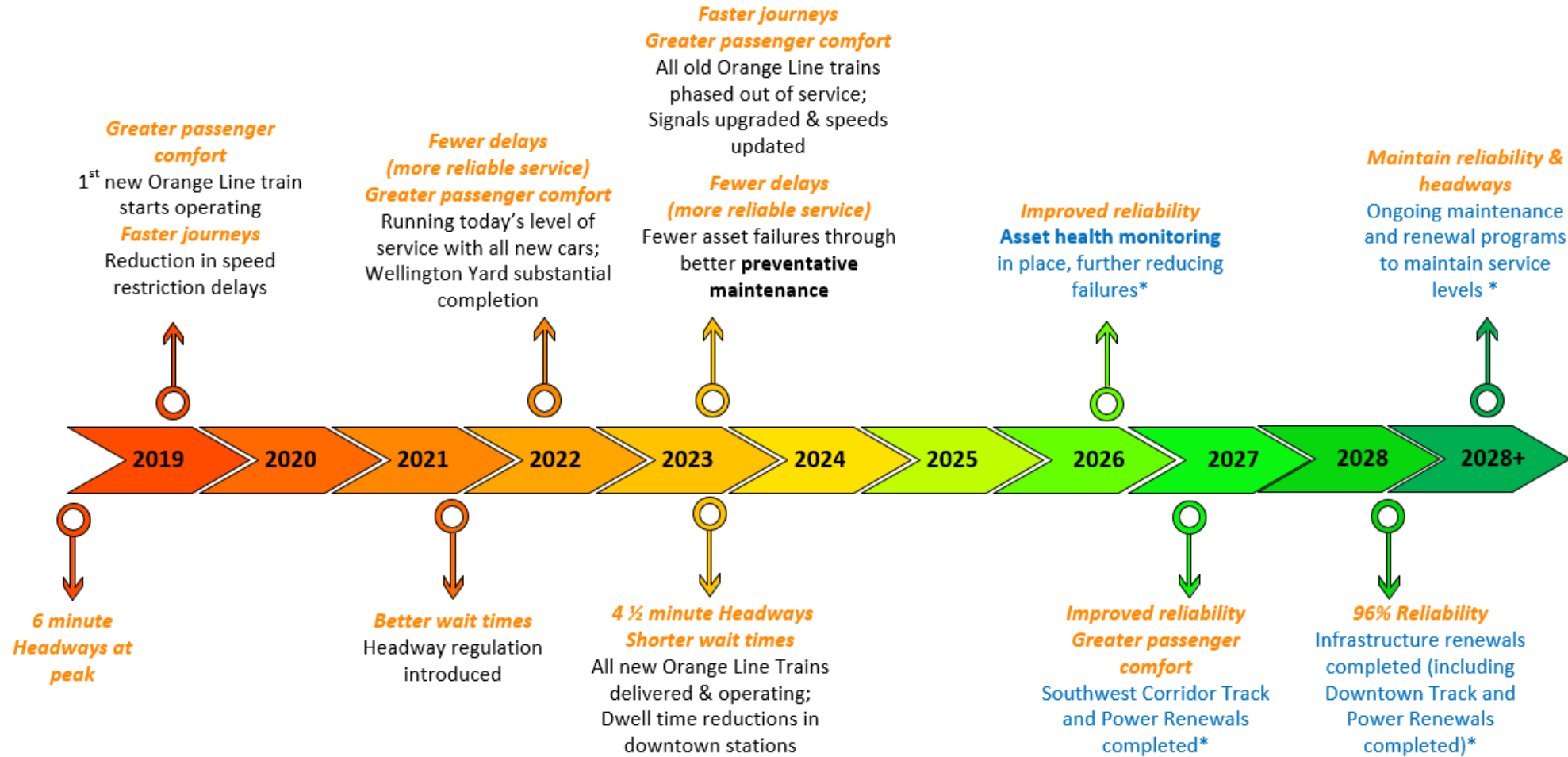
We are on Schedule and On Target to have all infrastructure projects completed to support the delivery of the new Vehicles and the New Headway

Achieve 4.5-minute
Headway in the
Summer 2023

Achieve 3-minute
Headway in the Winter
2024



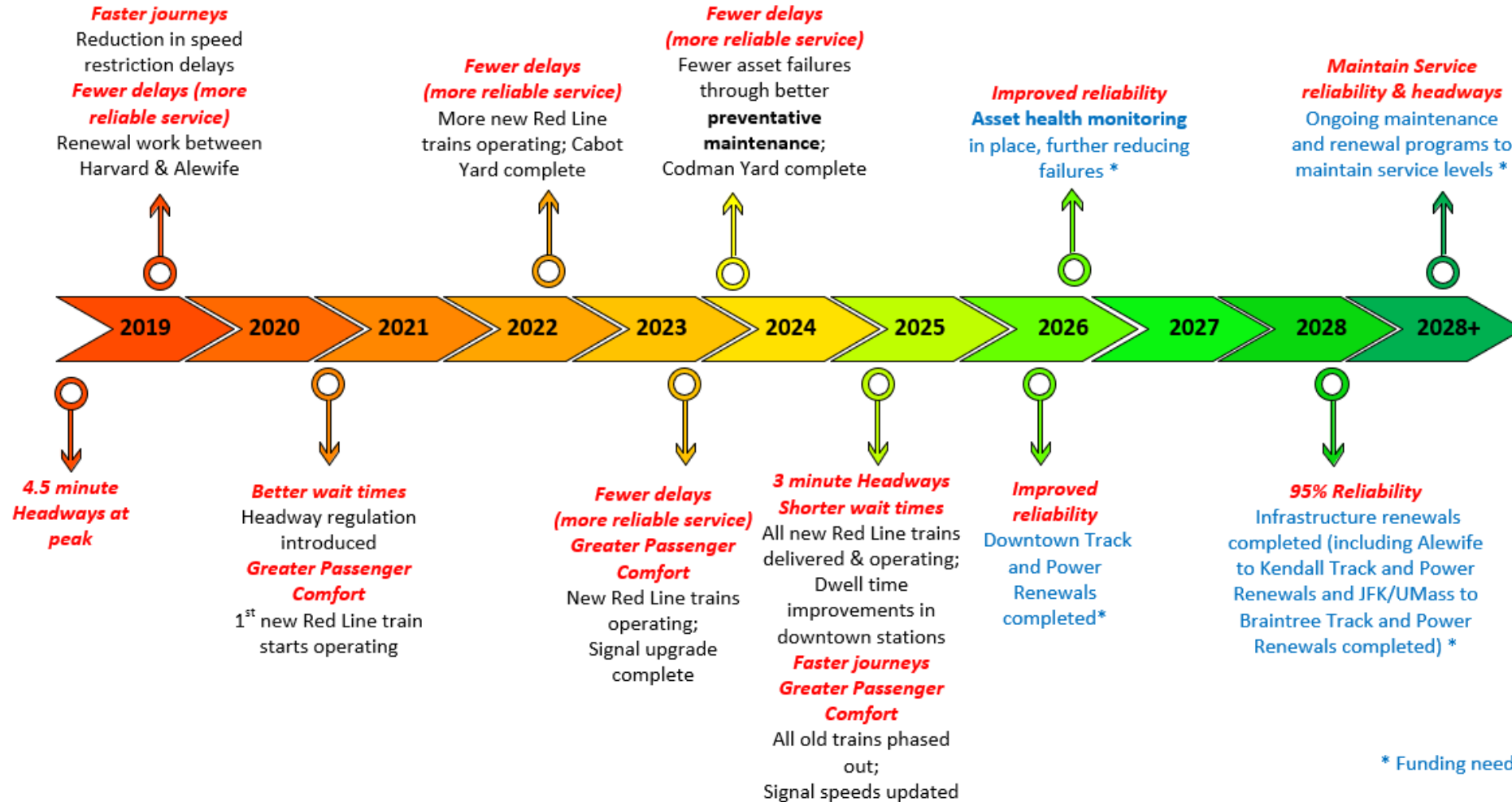
Orange Line Customer Benefits Plan



* Funding needed

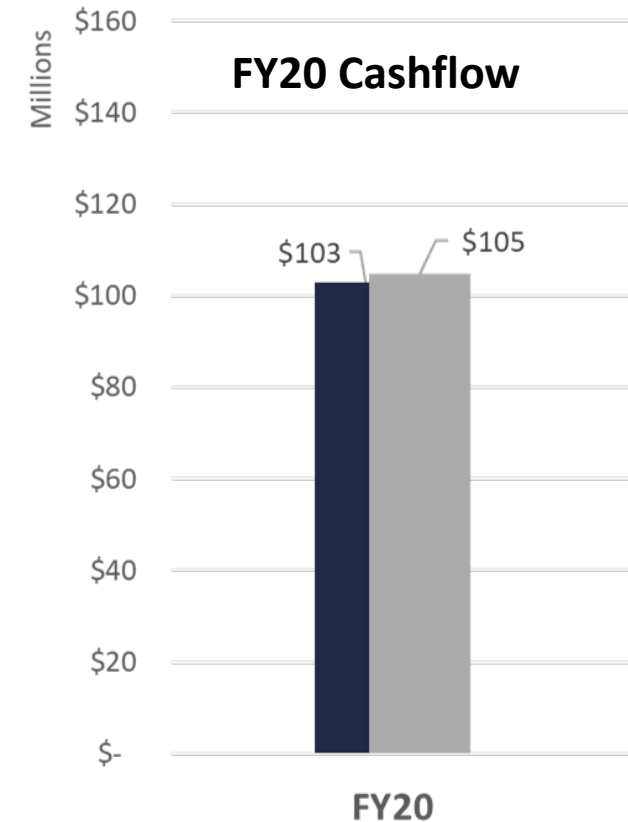


Red Line Customer Benefits Plan



FY20 Accomplishments

- Alewife Crossover Improvements completed design
- Red Line Test Track is ready for vehicle testing
- Completed Parts/Storage building foundation at Cabot
- Codman Yard Rebuild & Expansion procured designer of record
- Wellington Yard Expansion (Tracks 33-38) close-out Phase
- Wellington Yard Rebuild completed Zone C
- Orange Line Traction Power Substation Upgrades, completed Oak Grove trailers and delivery of load break switches
- Red/ Orange Line Signals Upgrade, completed Intermediate system design



98.6% of Forecast



Orange and Red Line Transformation Steering Committee

Chair: Jeffrey Gonneville, Deputy General Manager (General Manager)

Co-Chair - James Neider, Chief of Capital Programs (Capital Program Oversight)

Steering Committee Members

- **Capital Program Oversight/Capital Delivery:** Vikram Dogra, Deputy Chief of Capital Programs
- **Chief of Administration:** David Panagore, Chief Administrative Officer
- **Engineering and Maintenance (E&M):** Joseph Cheever, Senior Director of E&M, Chief Operating Officer
- **Office of Chief Engineering (OCE):** Erik Stoothoff, Chief Engineer
- **Safety:** Ronald Ester, Chief Safety Officer, General Manager
- **Task Force Lead:** Maysoon Tawfik, Chief of Red and Orange Line Transformation
- **Transit Operations:** Todd Johnson, Chief Operating Officer
- **Vehicle Maintenance (VM):** Steve Hicks, Chief Mechanical Officer - MBTA, Rail Maintenance



Next Steps for the Red/Orange Line Transformation Steering Committee

Steering Committee

- Initial meeting in October 2020
 - Future Meetings – Monthly Meetings and Special Meetings as needed

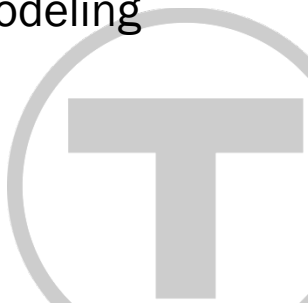
Task Force

- Kickoff Meeting with Task force Team to follow Steering Committee initial meeting
 - Future Meetings – Bi-Monthly Meetings and Special Meetings as needed
- Systems Engineering Consultant (SE)–NTP issued on September 8, 2020
 - Commenced with Baseline Analysis
- Continue to coordinate with all stakeholders to gather all documentation (plans/reports/models/analysis) initiated to date for the SE’s Baseline Analysis.
- *Next Steps*
 - *Develop Holistic Systems Integration Road Map*
 - *Develop Gap Analysis*



Opportunities and Challenges

- Construction Logistics
 - Alternative contract delivery methods
 - Busing resources
 - COVID-19
 - Operation service lines
- Operational Technology Upgrade Readiness
 - Technological advancements for the Signaling System
 - Technological advancements for the New Trains
- Broaden the industry supply chain of available resources
- Delivery of Vehicles
- Funding In order to sustain reliability targets for the future (Estimated \$3.2 Billion)
 - Track/Power projects
 - Operation need and reliability
 - Infrastructure maintenance
 - Vehicle maintenance
 - Integrated asset strategies
 - Phase 2 Systems Engineering integration
 - Modeling
 - Operational Modeling of Improvements
 - Dwell Time (Station Assessment/Passenger Flow)
 - Reliability Modeling
 - Station improvements resulting from modeling analysis



Discussion

Build A Better T

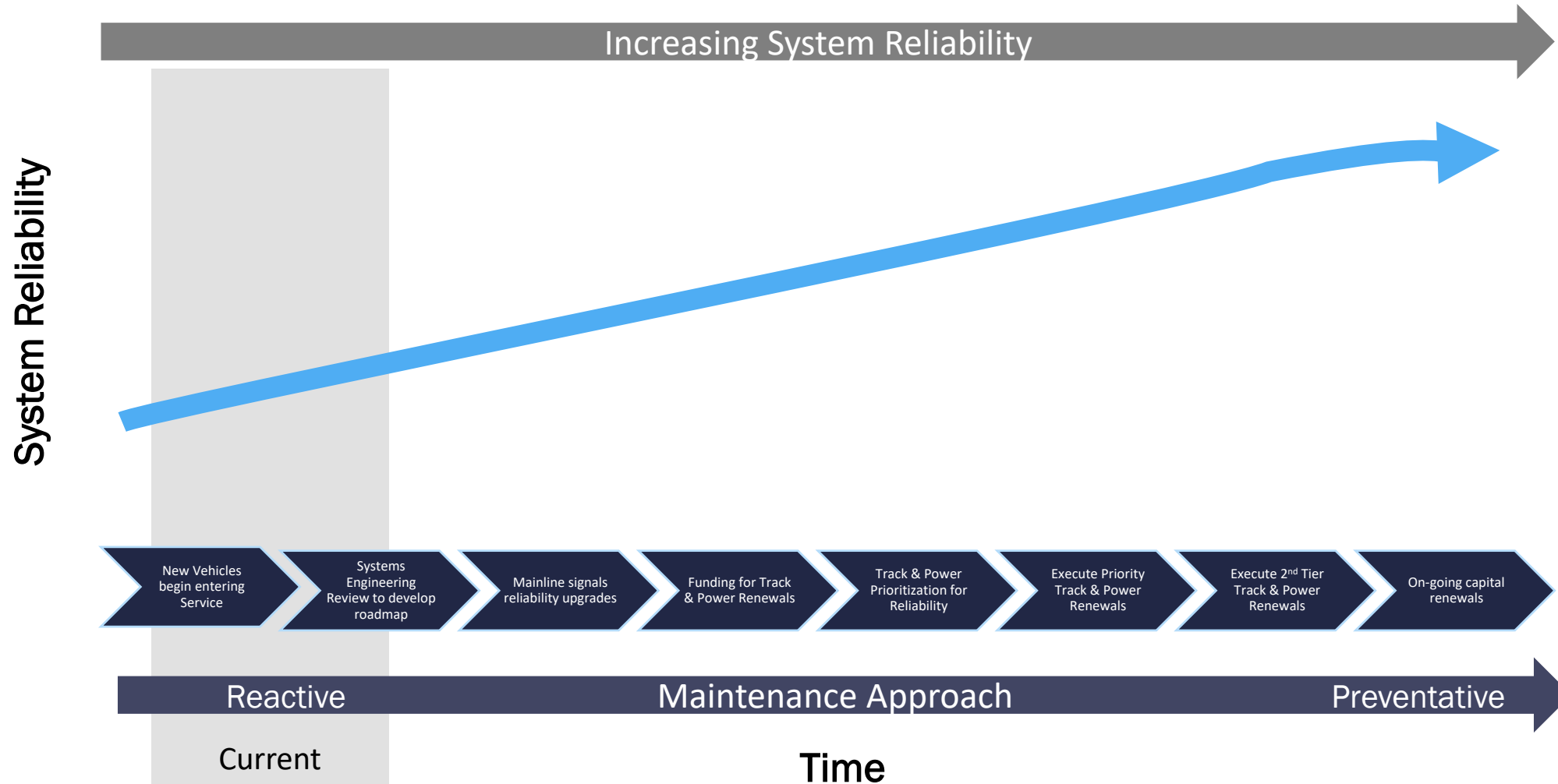


Appendix

Building A Better T



System Reliability Concept



Funding Needs to Meet Headways And Reliability

- **FY 2021 - \$331 million**
 - Design/construction of Southwest Corridor Track/Power \$307.0
 - Capacity and operations modelling \$ 2.5
 - OCE/asset inventories completed \$ 11.2
 - Decommissioning of vehicles \$ 10.0
- **FY 2022 - \$86.3 million**
 - Design – Red Line Downtown Track/Power \$ 65.5
 - Construction logistics and packaging \$ 1.0
 - Reliability modelling \$ 2.5
 - Preventative maintenance \$ 8.3
 - Operational improvements \$ 2.0
 - OCE \$ 7.0
- **FY 2023 - \$293.3 million**
 - Construction Red Line Downtown Track/Power \$284.3
 - Operational improvements \$ 2.0
 - OCE \$ 7.0



Funding Needs to Meet Headways and Reliability

- **FY 2024 - \$106.8 million**
 - Design Red Line Track/Power Alewife to Kendall \$ 51.8
 - Design Orange Line Track/Power Downtown \$ 33.5
 - Reliability-based maintenance \$ 12.5
 - Operational improvements \$ 2.0
 - OCE \$ 7.0
- **FY 2025 - \$154.6 million**
 - Construction Orange Line Downtown Track/Power \$124.8
 - Design – Red Line Downtown Track/Power JFK-Braintree \$ 20.8
 - Operational improvements \$ 2.0
 - OCE \$ 7.0
- **FY 2026/FY 2027 - \$211.5 million**
 - Construction Red Line Track/Power Alewife to Kendall \$209.5
 - Operational improvements \$ 2.0
- **FY 2028 - \$83.5 million**
 - Construction Red Line Track/Power JFK-Braintree \$ 83.5

