The following projects, which are currently unfunded, must be completed to achieve and maintain a state of good repair by 2030. This list does not represent the full universe of projects that will be needed to bring the system into a state of good repair.

**Revenue Vehicles**

- Procurement of 146 New Orange Line #14 Cars (to Replace #12 Cars)
- Procurement of 480 New Buses
- Bi-Level Coach Procurement (85 Coaches to Replace Pullman Fleet and Support Service Expansion)
- Procurement of 74 New Red Line #4 Cars (to Replace #1 Cars)
- Bus (CNG, Diesel and Electric) Midlife Overhaul
- Midlife Overhaul of 25 GP40-MC Locomotives
- Top Deck Overhaul of 37 F40 Locomotives and Upgrade of 25 Engines to Tier 0 Compliance
- Midlife Overhaul of 75 Bi-Level Kawasaki Coaches
- Coach Reliability and Safety Program (CRASP)
- Lease of 20 Passenger Coaches to Support the CRASP and Kawasaki Coach Overhaul Programs
- Green Line: #8 Primary Suspension Overhaul - Safety/Reliability/Comfort
• Orange Line Bearing Overhaul Program
• Green Line: Type 8 Air Compressor Replacement
• Red Line: #1 Car A/C Motor and Compressor Overhaul
• Red Line: #1 Car Inter-Car Cabling and Automatic Train Operation (ATO) Modification
• Ferry Overhauls
• Orange Line: Improve ATO and Speed Sensors on Vehicles
• Coaches 1607 and 1634 Collision Damage Repair
• Red Line: #1 Car End Door Threshold Repair
• Orange Line: Required Upgrade of Air Compressor
• Replace Inverters on Air Conditioning Units of 25 GP40 Locomotives

**NON-REVENUE VEHICLES**
• Non-Revenue Replacement Vehicles
• Blue Line: Procure New Trailer for Orient Heights Transportation Office
• Portable Generator Trailer for 350KW Unit
• Red Line: Fork Truck Replacement

**TRACK/RIGHT-OF-WAY**
• Floating Slabs and Tunnel Leak Repair - Alewife to Harvard
• Rehabilitate Grand Junction Secondary (connecting north and south side commuter rail systems) between the Worcester Line in Allston and the Fitchburg Line in Cambridge
• Install improved pumping station at Natick Station to prevent flooding of tracks
• Ashmont Interlocking Reconstruction
• North Quincy Interlocking Replacement
• Maintenance-of-way (MOW) - Track Division Annual Initiatives Program (i.e., tie replacement, etc.)

• Systemwide Tunnel Lighting
• Yard Switch Replacement and Track Reconstruction
• Replace Layover Facility - Franklin
• Subway Facility Enhancement Program
• Crossover Upgrades (Red Line) at Broadway and South Station
• Clayton Street Curve Rehab (Red Line)
• Green Line Frog Replacement Program
• Permanent Snow Fencing
• Layover Capacity Improvements - Bradford
• Green Line: Replace Sidings at Blandford Street and Northeastern University
• Green Line: Wooden Overhead Trough Removal
• Red Line: Upgrade of Crossovers at Broadway Station, South Station, and Kendall Station
• Feasibility Study - Crossovers at Aquarium and Maverick
• Green Line Crossover Study - Commonwealth Avenue and Beacon Street
• Side Track Study (Green Line)
• Expand Midday Storage Facilities for Commuter Rail

**SIGNALS**
• Upgrade signal system in Tower A interlocking to allow higher safe train speeds into North Station
• Restore fourth main line track from drawbridge over Charles River to junction between the Haverhill and Newburyport/Rockport Lines
• Improve remote control signals and crossovers on the Worcester Line
• Wellington Yard Switch and Cable Replacement (Orange Line)
• Park Street Signal Replacement (Green Line)
• Government Center Signal Replacement (Green Line)
• Boylston Signal Replacement (Green Line)
• Copley Signal Replacement (Green Line)
• Orange Line 14 Signal Upgrade
• Signals Annual Initiatives Program (third-rail heaters, etc.)
• Upgrade Signal System on the West Route Main Line
• Automatic Vehicle Identification on the Mattapan High Speed Line
• Prudential Signal Replacement (Green Line)
• Arlington Signal Replacement (Green Line)
• Airport and Government Center Crossover Control
• Upgrade Signal System from Beverly Junction to Gloucester Draw
• Harvard to Alewife Cable Replacement
• Hynes Convention Center Signal Replacement (Green Line)
• Haymarket Signal Replacement (Green Line)
• Operations Control Center Technology Re-Investment
• Green Line: Next-Generation Signal Study
• Orange Line: Third-Rail Heat for Track 1 between Community College and Wellington
• Orange Line: ATO Controller Test Stand for Safety/Reliability/Productivity (Prototype for Red)
• Interoperability Study - Systemwide Radio Project
• Green Line Study - Collision Avoidance System

**POWER**

• AC Cable/Duct Replacement 039-1, 0-39-2, 0-39-3
• AC Cable Duct Bank, Alewife to Porter
• Trackless Trolley Overhead Replacement
• Orange Line DC Breaker Upgrade
• Jet Replacement
• Red Line 480 Volt AC Cable Replacement
• Suspension Renewal - Commonwealth Avenue
• Orange Line 480 Volt AC Cable Replacement
• Wellington and Cabot DC Breakers
• Power Section Modifications
• Blue Line DC Feeder Cable Upgrade
• Systemwide Unit Substation Upgrades
• Replace Unit Substation - Long Wharf
• Haymarket Orange Line Electrical and Lighting System Replacement
• Section Insulator Replacement - Green and Blue Lines
• North Station Panel Board Circuit Breaker Replacement
• Cabot Trolley Bug 600 Volt DC Switchgear
• Harvard Station Feeders and Panel Board Replacement
• Davis Station Feeders and Panel Board Replacement
• 500 Arborway HVAC Upgrades
• Green Line: Chestnut Hill Avenue Catenary Pole Relocation, Signalization, and Switch Design Study
• Green Line Track Switch Heaters
• DC Circuit Trip Settings
• Wellington Transportation AC Replacement
• Wellington & Sullivan Transformer Replacement

**COMMUNICATIONS**

• Cabot Rapid Transit Unit Substation Circuit Breaker Replacement
• Replace Eight Radio Base Stations
• Replace 100 Hz Motor Generator Power Stations

**MAINTENANCE FACILITIES**
• Orange Line: Infrastructure Required for New #14 Trains
• South Shore Garages
• Green Line: Car Washes - Riverside/Reservoir
• Orange Line: Truing Machine Required for New #14 Cars
• Repair Cabot Bus Garage Roof
• Wellington Carhouse Roof
• Mattapan Facility Upgrade
• Subway: Upgrade of All Carwashes
• Systemwide Vehicle Washer Upgrade
• Wellington Carhouse Sprinkler/Fire Alarm Upgrade
• Green Line: Riverside, Reservoir, and Lake Street Storage and Work Platform Mezzanine
• Red Line: Overhead Hoist Equipment Overhaul
• Cabot Yard Fire and Domestic Water Main Replacement
• MOW Storage Silo Replacement
• Orient Heights Car Yard and Maintenance Facility, Phase II
• Replace HVAC System - Wellington Carhouse
• Riverside Carhouse Upgrades
• Subway: Install and Update Lighting in All Yard Areas for Safety
• Everett Shops Improvement
• Everett: Replacement of Critical Machine Shop Equipment Lacking Required Safety Devices
• Wellington Signal Tower - HVAC Replacement
• Bus Wash Water Recycling
• Commuter Rail Maintenance Facility/Boston Engine Terminal (CRMF/BET) Leak Detection & Fuel/Water Line Replacement
• Replace Everett Compressor System
• Repair Water Main at Southside Service and Inspection Facility (S&I)
• Charlestown Bus Storm Drain System Repairs
• Everett: Replacement of Six Unreliable and Unsafe Overhead Cranes
• Everett: Critical Support Equipment Replacement for General Shop Services
• Reservoir Roof
• Mystic Junction Tank Removal
• Green Line: Yard Technology Study
• Modify CRMF Air Brake Room
• Rehabilitation of the Cathodic Protection System at South Side S&I
• Everett: Sandblast Booth for the Motor Room
• Orange Line: Procure a Parts Washer
• Orange Line: Install New Carhouse Security Doors: Study Door Re-Design

**STATIONS**
• New Emergency Smoke Vent Shafts in Downtown Crossing
• Station Rehabilitation & Enhancement Program
• Orient Heights Station Project
• Subway Stations Ventilation Improvements Program
• Back Bay Vent Fan Upgrade
• Southwest Corridor Orange Line Station Platform Repairs
• Kenmore Station Light Rail Accessibility Program and Surface Improvements
• Blue Line Platform Repairs
• Harvard Square Station Pavement Safety Improvement
• Safety Hazard Mitigation of Systemwide Busways
• Roxbury Crossing Station Roof
• Jackson Square Station Roof
• Oak Grove Station Pedestrian Walkway
• Massachusetts Avenue Roof Replacement
• Sullivan Square Station Pavement Safety Improvement
• Reconstruction of Wollaston Lobby Drains
• Charles/MGH Station Accessibility and Modernization
• Replace Two Mini–High Platforms at Mansfield Station
• Maverick Square Station and Blue Line Vents
• Suffolk Station Footbridge and Ramps
• Braintree Lobby Floor Drains
• JFK Station Footbridge and Ramps
• Forest Hills Gutter and Roof System
• Alewife Emergency Ventilation Maintenance
• Systemwide Platform Ventilation Fans
• Improve Air Quality at Back Bay Station: Engineering Study
• Seven Station Engineering Study
• Bus Sign Reprogramming Process Efficiency Improvement
• Back Bay Station Expansion-Joint Replacement
• Courthouse - World Trade Center Headhouse Ventilation
• Replace the Stairways to the Platform at Newtonville Station
• Replace the Platform Pavement at Sharon Station
• Lighting Repairs at Back Bay Station Tracks 5 and 7
• Replace the Platform Pavement at Melrose Highlands Station
• Replace the Platform Pavement at Waverly Station
• Alewife Station Lobby Ventilators
• Green Line: Station Ventilation Technology Survey

FACILITIES
• Lighting - Systemwide Parking Lots
• Systemwide Busway Rehabilitation
• Storm Drain Replacement
• Quincy Center Retaining Wall Repairs
• Drainage System Repairs - Systemwide
• Red Line Sound Wall Repairs
• McSweeney Building Roof
• Systemwide Restroom Upgrade
• Systemwide Bird Control
• Systemwide Sprinkler Upgrade
• Hingham Commuter Boat Dock Replacement
• Systemwide Overhead Door Replacement
• Emergency Repair Services - Structural and General
• 45 High Street HVAC Upgrades
• 500 Arborway Roof
• Station Sewage Ejector Renovations
• Emergency Generator System Upgrades
• Systemwide Crossover Lighting Program
• Green Line: Improve Employee Facilities at Reservoir and Riverside
• Red Line: Upgrade Locker Room Facilities in Carhouse
• Route 3 Braintree Parking Lot Status Signs
• 1000 kw Portable Generator for 45 High Street
• CNG Detector - Alarm System Upgrades
• Special High-Reach Lifts for Electrical Maintenance
• Blue Line: Upgrade Bathrooms at Bowdoin Station

BRIDGES
• Reconstruction/Rehab of Gloucester Drawbridge, Draw 1 East and West, and Savin Hill Underpass
• Merrimack River Bridge
• Construction/Rehab of Two Bridges: Beverly Draw and Shawsheen River
• Construction/Rehab of Three Bridges: Dean Road and Two Neponset River Bridges
• West Street Bridges
• Mechanical and Electrical Upgrade of Beverly Drawbridge
• Newport Avenue (Route 1A) Bridge Sidewalk Modification and Pedestrian Overpass Replacement
• Orange Line: Infrastructure Study on Dana Bridge

ACCESSIBILITY
• Auburndale Commuter Rail Station Accessibility Improvements
• ADA Compliance - Green Line Track/Platforms
• Platform Edge/Detectable Warning Repairs/Replacements - Systemwide
• Station Accessibility Enhancement
• Mobile Wheelchair Lifts Replacement
• Subway: Station Accessibility Train/Platform Bridgeplates Design

TECHNOLOGY
• Computer Technology Upgrade/Expansion
• Payment Card Industry and Data Security Standard Compliance
• PeopleSoft Timekeeping Project
• Absence Management Module in PeopleSoft Personnel Software
• Integration of Contract Management System with PeopleSoft
• Database Technology Standardization
• Data Transfer Initiative
• Business Center with State Compass Purchasing System
• Biometric Timeclocks
• Custom Trip Planner
• Bus and Subway Maintenance Portals and Kiosks
• Procurement and Installation of Maintenance System Portal
• Data Center Upgrades
• Bus Operations Vehicle Maintenance Software Upgrade
• MBTA Website Upgrades
• Replacement of Voice Mail System
• PeopleSoft-Payroll E-Pay Project