



**Massachusetts Bay
Transportation Authority**

**Integrated Fleet and Facilities Plan:
Baseline Inventory and Condition Assessment**

Interim Update

May 22, 2017



Integrated Fleet and Facilities Plan

- Transition to complete, fully integrated, strategic plan
- Enhance capacity through improved asset management
- Reflects evolving fleet needs
- Working Group Kicked Off January 2017
 - Meets bi-monthly
 - Key stakeholders
- Briefed FMCB March 20, 2017
 - Fleet Framework
 - Defined major capital Needs





Overview of Activities to Date

- Baseline inventory and condition assessment (revenue fleets and maintenance facilities) activity has been completed
- Industry review and benchmarking nearing completion
 - Ground-Breaking Effort
 - EAM and Technology Critical Path
- Investment evaluation and prioritization methodology being developed
- Ongoing meetings / discussions with key stakeholders



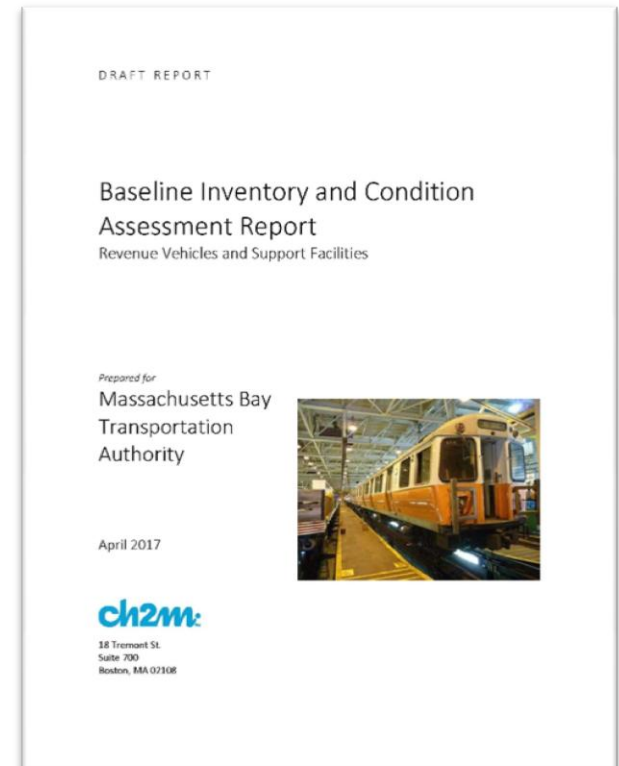
Baseline Inventory and Condition Assessment

- Specific tools tailored to MBTA needs
 - Data collection tools
 - Database for evaluation
 - Asset "Report Card"

- Field work completed in early March

- Draft report presented in April for MBTA stakeholder review and comment

- Final assessment will impact investment prioritization





Facilities Condition Assessment – Draft Findings

- Draft findings have been generated from the draft Inventory and Condition Database
- MBTA stakeholder review and comment currently underway
- Evaluations will serve as a starting point for more in-depth reviews as part of ongoing SGR efforts

| Average Condition: Facilities by Component Group | | | | | | | | | | | | | |
|--|---------------------------|------------------|----------|-------|------------|------------|-----------------|------|----------|-------------|----------------|------------|------|
| Facility Name | Function | Facility Average | Building | | | | Systems | | | Maintenance | | | Site |
| | | | Interior | Shell | Substruct. | Electrical | Fire Protection | HVAC | Plumbing | Conveyance | Shop Equipment | Maint Bays | |
| 1. Bus / Trolley Bus | | | | | | | | | | | | | |
| Albany | Fleet Maintenance | 2.7 | 1.8 | 2.8 | 3.0 | 2.9 | 2.5 | 3.0 | 2.7 | 3.5 | 3.0 | 1.5 | 2.8 |
| Arborway | Fleet Maintenance | 3.1 | 3.0 | 3.5 | 3.0 | 3.1 | 3.0 | 3.0 | 3.0 | | 3.2 | 3.0 | 3.0 |
| Cabot (Bus Maintenance) | Fleet Maintenance | 2.8 | 2.8 | 3.3 | 3.0 | 2.9 | 3.0 | 2.6 | 2.0 | 3.0 | 3.2 | 2.5 | 2.5 |
| Charlestown (Bus Maintenance) | Fleet Maintenance | 2.5 | 2.6 | 3.0 | 3.0 | 2.7 | 3.0 | 2.8 | 2.0 | 2.5 | 2.7 | 2.5 | 1.4 |
| Charlestown (Covered Storage) | Storage | 2.0 | 2.0 | 1.8 | 2.0 | 1.8 | 3.0 | 2.0 | 2.0 | 3.0 | 2.5 | 2.0 | |
| Everett Bus Main Repair | Fleet Maintenance (Heavy) | 2.6 | 2.6 | 2.7 | 1.7 | 2.8 | 3.0 | 1.3 | 3.0 | 3.0 | 3.6 | 3.0 | 2.0 |
| Fellsway | Fleet Maintenance | 2.4 | 2.4 | 2.0 | 2.5 | 2.3 | 3.5 | 3.0 | 2.0 | 3.0 | 3.6 | 3.0 | 1.4 |
| Lynn | Fleet Maintenance | 2.7 | 1.6 | 3.0 | 2.7 | 2.4 | 3.0 | 2.8 | 2.3 | 3.0 | 3.4 | 3.0 | 2.4 |
| North Cambridge | Fleet Maintenance | 3.2 | 3.6 | 4.0 | 3.7 | 3.3 | | 3.2 | 2.7 | 3.5 | 3.2 | 3.0 | 2.1 |
| Quincy | Fleet Maintenance | 2.4 | 1.6 | 2.3 | 2.7 | 2.3 | 3.0 | 2.8 | 2.7 | 2.0 | 3.3 | 1.5 | 2.1 |
| Southampton (Bus Maintenance) | Fleet Maintenance | 3.1 | 3.2 | 3.3 | 4.0 | 3.3 | 3.0 | 3.5 | 3.7 | 3.5 | 2.6 | 3.0 | 2.3 |
| Southampton (Covered Storage) | Storage | 3.6 | 3.5 | 3.0 | 4.0 | 3.4 | | | | | | | 4.0 |
| 2. Light Rail | | | | | | | | | | | | | |
| Lake Street Car House | Fleet Maintenance | 2.5 | 3.0 | 2.2 | 2.5 | 2.7 | 3.0 | 3.0 | 2.7 | | 1.7 | 2.5 | 1.6 |
| Lechmere Station and Yard | Storage | 1.3 | | 1.0 | 1.0 | 1.5 | | | | | | | 1.4 |
| Reservoir Car House | Fleet Maintenance | 2.6 | 2.6 | 2.4 | 3.0 | 3.3 | 2.7 | 2.6 | 2.3 | 3.0 | 2.4 | 2.0 | 1.6 |
| Riverside Car House | Fleet Maintenance (Heavy) | 2.7 | 2.4 | 2.3 | 3.0 | 2.7 | 3.0 | 3.0 | 2.3 | 3.0 | 2.8 | 2.5 | 2.6 |
| 3. Heavy Rail | | | | | | | | | | | | | |
| Cabot (Red Line) | Fleet Maintenance (Heavy) | 2.7 | 3.0 | 2.2 | 2.7 | 2.5 | 3.5 | 2.8 | 2.0 | 3.0 | 3.2 | 2.5 | 3.0 |
| Caddigan Yard (Red Line) | Storage | 2.4 | | | | 2.3 | | | | | | | 2.5 |
| Codman Yard (Red Line) | Storage | 1.5 | 1.0 | 1.8 | 1.3 | 1.5 | | 2.0 | 1.7 | | 1.0 | | 1.8 |
| Everett Repair Shop | Fleet Maintenance (Heavy) | 2.5 | 2.8 | 3.0 | 3.0 | 2.9 | 3.0 | 1.3 | 2.0 | 3.0 | 3.5 | 3.0 | 1.4 |
| Forrest Hills Yard Storage / Pit (Orange Line) | Storage | 2.3 | | | 3.0 | 2.5 | | | | 1.0 | | 3.0 | 2.0 |
| Orient Heights (Blue Line) | Fleet Maintenance (Heavy) | 3.3 | 3.4 | 4.0 | 3.5 | 3.1 | 3.0 | 3.6 | 3.0 | 3.0 | 3.2 | 3.5 | 3.2 |
| Wellington (Orange Line) | Fleet Maintenance (Heavy) | 2.6 | 3.0 | 1.8 | 3.0 | 3.0 | 3.0 | 2.2 | 2.7 | 3.0 | 3.0 | 2.5 | 2.0 |
| 4. Commuter Rail | | | | | | | | | | | | | |
| Boston Engine Terminal (BET) | Fleet Maintenance (Heavy) | 3.1 | 3.2 | 3.2 | 3.0 | 3.4 | 3.0 | 3.0 | 2.7 | 3.5 | 2.8 | 3.0 | 3.2 |
| Haverhill | Layover | 2.6 | 2.5 | 3.0 | 3.0 | 2.5 | | | | | | | 2.5 |
| Middleboro | Layover | 3.2 | 3.0 | 3.0 | 3.0 | 3.3 | 3.0 | 3.0 | 3.0 | | 3.0 | 4.0 | 3.4 |
| Needham Heights | Layover | 1.9 | 2.0 | 1.3 | 2.0 | 2.6 | | 1.3 | | | | | 1.5 |
| Readville | Fleet Maintenance (Heavy) | 3.2 | 3.3 | 3.0 | 3.0 | 3.2 | 3.0 | 3.5 | 3.5 | | 3.5 | 3.5 | 2.8 |
| South Side Service & Inspection | Fleet Maintenance | 3.0 | 3.0 | 3.6 | 3.0 | 2.8 | 3.0 | 3.0 | 2.7 | 3.0 | 2.8 | 3.0 | 2.8 |



Facilities Condition Assessment – Draft Findings



➤ Quincy Garage

- *Low overhead clearance in storage and maintenance areas.*
- *Low overhead doors limit vehicle dimensions.*



Investment Prioritization

- The Working Group is in the process of developing an evaluation methodology to prioritize fleet and facility investment needs
 - MassDOT Planning Department
 - Operations, Environmental, Materials, Accessibility, Safety, Commuter Rail, The Ride

 - Methodology will consider overall strategic objectives, consistent with MBTA Strategic Plan and Focus 40
 - **“Condition”** (SGR) is a significant factor when prioritizing needs, but it does not “tell the whole story”
 - A variety of other factors including condition, capacity, functionality, current and future ridership levels, accessibility, sustainability, etc. will be considered

 - This will allow investments to be prioritized based on overall impact to MBTA’s mission – Operations, Maintenance, and the riding public
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Investment Prioritization – cont.

- The system will utilize a 5 point rating scale
- Establishes a defensible and repeatable rating system
- Ratings will be established by key stakeholders including Working Group members
- Investment priorities will be established for both fleets and facilities

DRAFT - FOR DISCUSSION PURPOSES ONLY

| Rating System | | Maint. Equipment (Type, Quantity, Function) | Building Subsystems | Facility Layout | Maintenance / Storage Capacity |
|---------------|---|---|---|--|--|
| Facility | 1 | Incorrect, inadequate, or non-functional maintenance equipment | Significant inadequacies / functionality issues with building subsystems; major overhaul / replacement of subsystems required | Layout results in significant inefficiencies to maintenance; not feasible to address | Facility not adequate to support current fleet |
| | 2 | Critical equipment inadequate or of marginal reliability / quantity | Moderate inadequacies / functionality issues with subsystems; overhaul of subsystems required | Layout results in moderate inefficiencies to maintenance; challenging to address | Facility is marginally capable of supporting current fleet. |
| | 3 | Some equipment inadequacies, marginal reliability / quantity issues | Some inadequacies / functionality issues with subsystems; can be addressed through maintenance | Minor inefficiencies which may be addressed through config improvements | Facility adequate to support current fleet |
| | 4 | Correct maintenance equipment; some functionality / quantity issues | Minimal inadequacies / functionality issues with subsystems; can be addressed through maintenance | Minor inefficiencies which may be addressed through operational improvements | Facility has capacity for a minimal number of additional vehicles |
| | 5 | Correct, adequate, fully functioning equipment | No or minor issues with subsystems; routine maintenance relatively current | No issues related to facility layout | Facility has capacity for a moderate amount of additional vehicles |



Year Over Year Plan Development

- Using the results of the investment prioritization process, a comprehensive year over year strategic investment plan will be developed and reconciled with latest CIP
- The plan will describe projects to address each of the identified needs as appropriate to meet SGR and other Strategic Objectives
- Specific projects may include:
 - Expansion of existing maintenance facilities to accommodate ridership growth (e.g. Arborway)
 - Redesign / retrofit of maintenance facilities to accommodate new / larger vehicles (e.g. Riverside)
- Facility project schedules will be reconciled with fleet / service needs



Next Steps

- Key Next Steps
 - Finalize investment prioritization methodology
 - Establish priorities / projects for fleets and facilities
 - Reconcile with CIP and other applicable constraints
 - Confirm procurement, funding and financing approaches

- Schedule
 - Finalize Draft of Fleet and Facilities Plan
 - August 2017

 - Presentation of Draft Plan to FMCB
 - Late August – September 2017