MBTA
State of the System:
Blue Line Heavy Rail
August 8, 2016
Key Facts: Blue Line

• 5% of total system ridership with over 67,500 (FY16) average weekday trips

• Direct connections to
  – 30 bus routes
  – Orange & Green Lines

• Over 3,040 vehicle and 919 bike parking spaces

• Fleet
  – 94 vehicles
  – 72 for peak service
Build Dates: Blue Line
Topics: Blue Line

- Fleet maintenance management
- Modernization and capacity expansion
- High off-peak utilization
- Moving Forward
Fleet: Blue Line

- In service from 2007 – 09
- Quantity: 94 cars
- Make: Siemens
- Reliability Centered Maintenance (RCM) Program
  - **Action:** Continuous investment, predictive component replacement
  - **Outcome:** Increased reliability
  - **Potential:** No out of service time for mid-life overhaul
Multi-Unit Project Summary

Campaign: MOTOR R/R

REMOVE AND REPLACE BOTH TRACTION MOTORS USING THE TRUCK REBUILD SIGN OFF SHEET

<table>
<thead>
<tr>
<th>Originator:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty Status:</td>
<td>NO</td>
</tr>
<tr>
<td>Planned Start Date:</td>
<td>09/25/2014</td>
</tr>
<tr>
<td>Planned Completion Date:</td>
<td>09/25/2020</td>
</tr>
</tbody>
</table>

Comments:
REMOVE AND REPLACE BOTH TRACTION MOTORS USING THE TRUCK REBUILD SIGN OFF SHEET

Overall WO Status Counts

- CLOSED: 51
- WORK FINISHED: 1
- OPEN: 3
- WAIT FOR EQUIP: 141

WAIT FOR EQUIP: 71.9%
OPEN: 1.5%
WORK FINISHED: 0.5%
CLOSED: 26.0%
Total: 100.0%

MOTOR R/R PROJECT TASK LIST

Discussion & Policy Purposes Only
Fleet Performance: Exceeding Goal

Blue Line Mean Miles Between Failures

Goal: 35,000
Blue Line: On-Time Performance

Goal: 90%

Goal: 75%
Capacity Expansion: Blue Line
Modernization Program: Blue Line

Span: 1993 - 2016

Facility: New car house at Orient Heights

Fleet: 94 vehicles to move from 4 to 6-car sets

Infrastructure:

• System-wide power upgrades to third rail and Catenary systems
• Signal upgrades
• 2.5 mile track upgrade

Stations: 11 lengthened and / or upgraded

Outcome: Capacity increased 24%
## Station Modernization: Blue Line

<table>
<thead>
<tr>
<th>Station</th>
<th>Platform Length Increase</th>
<th>Cost</th>
<th>Completed</th>
<th>Construction Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wonderland</td>
<td>70 ft</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revere Beach</td>
<td>100 ft</td>
<td>$30M</td>
<td>6/1995</td>
<td>14 mos</td>
</tr>
<tr>
<td>Beachmont</td>
<td>100 ft</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suffolk Downs</td>
<td>100 ft</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orient Heights</td>
<td>n/a</td>
<td>$30M</td>
<td>7/2014</td>
<td>29 mos</td>
</tr>
<tr>
<td>Wood Island</td>
<td>n/a</td>
<td>$13M</td>
<td>10/1995</td>
<td>23 mos</td>
</tr>
<tr>
<td>Airport</td>
<td>n/a</td>
<td>$29M</td>
<td>5/2007</td>
<td>7 yrs</td>
</tr>
<tr>
<td>Maverick</td>
<td>40 ft</td>
<td>$43M</td>
<td>5/2008</td>
<td>30 mos</td>
</tr>
<tr>
<td>Aquarium</td>
<td>n/a</td>
<td>$78M</td>
<td>9/2003</td>
<td>6.5 yrs</td>
</tr>
<tr>
<td>State</td>
<td>60 ft</td>
<td>$66M</td>
<td>4/2011</td>
<td>29 mos</td>
</tr>
<tr>
<td>Government Center</td>
<td>70 ft</td>
<td>$19M</td>
<td>3/2016</td>
<td>33 mos</td>
</tr>
<tr>
<td>Bowdoin</td>
<td>n/a</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Outcome: Ridership up 9.8% from 2008
Capacity for Growth

BLUE LINE PASSENGER VOLUME & POLICY CAPACITY
8:00-8:30 AM, WEEKDAYS - MAY 2015

The dashed line shows policy capacity, assuming one train every 4.5 minutes, even distribution of passengers and even headways.

BLUE LINE PASSENGER VOLUME & POLICY CAPACITY
5:00-5:30 PM, WEEKDAYS - MAY 2015

The dashed line shows policy capacity, assuming one train every 4.5 minutes, even distribution of passengers and even headways.

Discussion & Policy Purposes Only
Strong Late Evening Utilization

BLUE LINE PASSENGER VOLUME & POLICY CAPACITY
11:00-11:30 PM, WEEKDAYS - MAY 2015

The dashed line shows policy capacity, assuming one train every 10 minutes, even distribution of passengers and even headways.

Add to Notes for this slide: Mitigation
Customer Satisfaction

Blue Line Riders – Customer Satisfaction

How would you rate the MBTA overall?
- Extremely Dissatisfied: 6%
- Very Dissatisfied: 11%
- Somewhat Dissatisfied: 0%
- Neutral: 44%
- Somewhat Satisfied: 33%
- Very Satisfied: 6%

How would you rate this trip overall?
- Strongly Disagree: 0%
- Disagree: 17%
- Slightly Disagree: 6%
- Neither Agree nor Disagree: 11%
- Slightly Agree: 56%
- Agree: 11%
- Strongly Agree: 6%

The MBTA provides reliable public transportation services.
- Strongly Disagree: 11%
- Disagree: 22%
- Slightly Disagree: 6%
- Neither Agree nor Disagree: 22%
- Slightly Agree: 33%
- Agree: 6%
- Strongly Agree: 6%

Source: April 2016 Customer Opinion Panel
• Sustaining fleet RCM program
• Off-peak demand
• Managing state of good repair