Overview

• The Service Delivery Policy sets how the MBTA evaluates service quality and allocates transit service
• Staff first presented on this to the FMCB February 1, 2016
• The MBTA has been working with stakeholders for two years to develop objectives, standards, and priorities
• The policy is a living document, and this version gives the MBTA the tools necessary to start a bus service planning process
• It creates the mechanisms to balance tradeoffs in order to improve service
The process

Setting objectives and developing measures with stakeholders

Baseline analysis

Survey

Workshops

Presentation to the Board 2/1/16

January 2016

Presentation to the Board 4/25/16

2015

Presentation to the Board 10/20/16

October 2016

Final stakeholder input

Final draft completed

Revisions

Public comment on proposed priorities

January 2017

Board Vote on Service Delivery Policy
Summary of Last Round of Public Input

- Reliability and crowding are both problems
- High frequency service is important, even more frequent than 15 minutes
- Need for overnight service
- Better communication is important
- Measure connectivity, not just access to the service
- Make transfers easier
- Need for more bus stop shelters and amenities
- Positive feedback about the new cost-benefit methodology
Service Objectives

Included in Service Delivery Policy

Service Availability (Convenience)
Reliability
Comfort
(Used in service planning)

Accessibility

Communication
(in development)

Capacity & Connectivity
(in development)

Developed and tracked through other initiatives/departments

Customer Satisfaction (Measured by the Customer Opinion Panel Survey and reported on Performance Dashboard)

Safety and Security (Safety, Security, and MBTA Police Departments)

Environmental Benefit (MBTA Environmental and Energy Department)
## Service Standards

<table>
<thead>
<tr>
<th>Service Objective</th>
<th>Standards</th>
<th>Tools to address</th>
<th>Title VI Implication</th>
</tr>
</thead>
</table>
| **Service Availability** | Span of service
Frequency of service
Coverage:
  - Coverage of the service area
  - High-frequency service coverage for high-density areas
  - Coverage for low-income households | Service planning                                                       | Service monitoring and equity analyses for major service changes |
| Reliability            | Service operated
Schedule adherence
Passenger wait time | Service planning, operational changes, municipal partnerships | Service monitoring                                  |
| Comfort                | Passenger time in crowded conditions                                      | Service planning, operational changes, municipal partnerships | Service monitoring                                  |
| Accessibility          | Platform accessibility
Vehicle accessibility | Capital budget, operational changes                        | Elevators included in service monitoring            |
Setting Priorities for Bus Service Plans

• No clear agreement among riders and stakeholders on how to prioritize between standards in case of trade-offs
• Proposed mechanism includes a medium-range goal (target) while ensuring a certain baseline of service (minimum) regardless of priorities
• If a mode average falls below the minimum, this standard is prioritized in the service planning process
• If any individual route falls below a minimum on a standard, it is prioritized to be addressed in a quarterly or service plan
Structure of the Bus Standards

Can be evaluated at the network, mode or route level

- Current average network performance
- Minimum performance
- Current route/mode performance
- Target performance Towards 100%
MINIMUMS AND TARGETS
Accessibility measures

- No tradeoffs
- Minimum always set at the existing performance
- Proposed targets set to 100%
- Factored into capital budget, elevator uptime contracts, and operating procedures

<table>
<thead>
<tr>
<th></th>
<th>Minimum</th>
<th>Target</th>
<th>2016 Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platform Accessibility</td>
<td>92%*</td>
<td>100%</td>
<td>92%*</td>
</tr>
<tr>
<td>Vehicle Accessibility (GL)</td>
<td>98.6%</td>
<td>100%</td>
<td>98.6%</td>
</tr>
</tbody>
</table>

*Gated Rapid Transit stations, pre-Government Center reopening
The bus service planning measures

- **Span**
- **Coverage**
- **Reliability**
- **Frequency**
- **Comfort**
Balancing tradeoffs

Acceptable performance (all routes)

- Reliability
- Span
- Coverage
- Crowding
- Frequency
Standard: Network Coverage

Proportion of residents in service area within 1/2 mile walk to transit

Low income coverage

Suggested target: 85%

High frequency, high density coverage

Suggested target: 85%

Base coverage

Suggested minimum: 75%
**Standard: Network Coverage**

Proportion of residents in service area within ½ mile walk to transit

**Low income coverage**

*Suggested target: 85%*

**High frequency, high density coverage**

*Suggested target: 85%*

**Base coverage**

*Suggested minimum: 75%*

**DISCUSSION QUESTION:** Is this the right way to approach minimums and targets for coverage?
Standard - Bus Span

Percent of passenger trips on routes that meet expected span

- Current average performance
- Acceptable performance

60% 70% 80% 90% (minimum) 95% (target) 100%
Standard- Bus Frequency

Percent of passenger trips during time periods that meet expected frequency

**DISCUSSION QUESTION:** Setting minimum at the current performance level gives Service Planning very little opportunity to address other standards.
Standard – Bus Reliability

Proportion of on-time service on each route

Note: this diagram represents most (not all) bus routes with average reliability, 3/24/2016-12/31/2016.
Standard – Bus Reliability

Proportion of on-time service on each route

Note: this diagram represents most (not all) bus routes with average reliability, 3/24/2016-12/31/2016.
Standard–Bus Crowding

Percent of passenger time spent in comfortable conditions

Note: this diagram represents most (not all) bus routes with average weekday crowding, 9/1/2015 – 12/14/2015.
Standard–Bus Crowding

Note: this diagram represents most (not all) bus routes with average weekday crowding, 9/1/2015 – 12/14/2015.
COST EFFICIENCY
Measuring the benefits of a route

The benefit of a bus route can be assessed on a number of dimensions:

- **Ridership** (how many total people are served by the route?)
- **Transit-dependent riders** (how many people with discounted fares are served by the route?)
- **Value to the network**
Diagnostic cost-benefit methodology

Allows for a more targeted approach for improving performance compared to previous method, which included only ridership and cost.

Most notable trait:
- **Balanced**
- **Value to the network**
- **Ridership**
- **Transit-dependent riders**
Cost-Benefit Ratio

- Ridership
- Balanced
- Value to the network
- Ridership
- Transit-dependent riders

Daily Net Cost per Route

- $0
- $5,000
- $10,000
- $15,000
- $20,000

Total Benefit (70% Ridership, 15% Vulnerable Riders, 15% Network Value)
Using the Cost-Benefit Ratio

• Suggested weights: Emphasis on Ridership
  • Ridership 70%
  • Transit Dependent 15%
  • Network Value 15%
• Routes whose cost/benefit is in the bottom ~10% percentile will be examined for service changes
• Routes in the top ~10% percentile will be examined for lessons on high performing routes

DISCUSSION QUESTION: Weights and threshold for review.
Next Steps

• Vote to adopt Service Delivery Policy
• The Service Delivery Policy will be updated:
  • To add Communication, Connectivity and Capacity standards as soon as complete
  • As we get better data
  • As priorities change or targets are met
  • With any changes to the standards for contracted service
• Start Service Planning Process
### Performance, Minimums, Targets

<table>
<thead>
<tr>
<th>Standard</th>
<th>Minimum</th>
<th>Target</th>
<th>2016 performance</th>
<th>2016 data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Span of Service Standards</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bus</td>
<td>90%</td>
<td>95%</td>
<td>93%</td>
<td>Spring 2016</td>
</tr>
<tr>
<td>Heavy Rail</td>
<td>—</td>
<td>100%</td>
<td>100%</td>
<td>Dec 2016</td>
</tr>
<tr>
<td>Light Rail</td>
<td>—</td>
<td>100%</td>
<td>100%</td>
<td>Dec 2016</td>
</tr>
<tr>
<td>Commuter Rail</td>
<td>—</td>
<td>100%</td>
<td>100%</td>
<td>Dec 2016</td>
</tr>
<tr>
<td>Boat</td>
<td>—</td>
<td>100%</td>
<td>100%</td>
<td>Dec 2016</td>
</tr>
<tr>
<td><strong>Service Frequency Standards</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bus</td>
<td>90%</td>
<td>95%</td>
<td>90%</td>
<td>Spring 2016</td>
</tr>
<tr>
<td>Rapid Transit</td>
<td>—</td>
<td>100%</td>
<td>100%</td>
<td>Dec 2016</td>
</tr>
<tr>
<td>Boat</td>
<td>—</td>
<td>100%</td>
<td>100%</td>
<td>Dec 2016</td>
</tr>
<tr>
<td><strong>Coverage Standards</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Base</td>
<td>75%</td>
<td>—</td>
<td>80%</td>
<td>Fall 2016</td>
</tr>
<tr>
<td>Frequent service in dense areas</td>
<td>—</td>
<td>85%</td>
<td>80%</td>
<td>Fall 2016</td>
</tr>
<tr>
<td>Low-income households</td>
<td>—</td>
<td>85%</td>
<td>83%</td>
<td>Fall 2016</td>
</tr>
</tbody>
</table>
### Table D1: All Service Standards, continued

<table>
<thead>
<tr>
<th>Standard</th>
<th>Minimum</th>
<th>Target</th>
<th>2016 performance</th>
<th>2016 data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Accessibility Standards</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Platform Accessibility (Rapid Transit, gated stations)</td>
<td>92%</td>
<td>100%</td>
<td>92%*</td>
<td>Apr 2015– Mar 2016</td>
</tr>
<tr>
<td>Vehicle Accessibility (Green Line)</td>
<td>98.6%</td>
<td>100%</td>
<td>98.6%</td>
<td>Jul 2015– Jun 2016</td>
</tr>
<tr>
<td><strong>Reliability Standards</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bus Reliability</td>
<td>70%</td>
<td>75%</td>
<td>65%</td>
<td>Mar–Dec 2016</td>
</tr>
<tr>
<td>Rapid Transit</td>
<td>—</td>
<td>90%</td>
<td>89%</td>
<td>Mar–Dec 2016</td>
</tr>
<tr>
<td>Passenger Wait Times</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commuter Rail Reliability</td>
<td>Contract requires 92% (adjusted)</td>
<td>93.8% (adjusted)</td>
<td>Jan–Dec 2016</td>
<td></td>
</tr>
<tr>
<td>Bus Service Operated</td>
<td>—</td>
<td>99.5%</td>
<td>98.5%**</td>
<td>Jul 2015– Jun 2016</td>
</tr>
<tr>
<td>Light Rail Service Operated</td>
<td>—</td>
<td>99.5%</td>
<td>96.5%**</td>
<td>Mar–Dec 2016</td>
</tr>
<tr>
<td>Heavy Rail Service Operated</td>
<td>—</td>
<td>99.5%</td>
<td>99.1%**</td>
<td>Mar–Dec 2016</td>
</tr>
<tr>
<td>Commuter Rail Service Operated</td>
<td>Contract sets fines for canceled service</td>
<td>99.8%</td>
<td>Jan–Dec 2016</td>
<td></td>
</tr>
<tr>
<td><strong>Passenger Comfort Standards</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bus Passenger Minutes in Comfortable Conditions</td>
<td>94%</td>
<td>92%</td>
<td>96%</td>
<td>Weekdays, Sep–Dec 2015</td>
</tr>
</tbody>
</table>

*Pre-Government Center re-opening

**Data subject to change due to changes in methodology