Service Plan Implementation
Bus Network

March 27, 2017
Overview

• The Service Delivery Policy sets how the MBTA evaluates service quality and allocates transit service.

• The Service Delivery Policy was adopted on January 23, 2017.

• Today’s discussion will focus on implementation proposals and strategies, including an overall plan and timeline to improve service on existing routes.

• Discussions for consideration:
  – Deliverables, service plan and network optimization
  – Tiered approach for recommendations
  – Timeline and resources
The Process, To Date

Setting objectives and developing measures with stakeholders

Survey

Workshops

Presentation to the Board 2/1/16

Baseline analysis

January 2016

Public comment on proposed priorities

Presentation to the Board 4/25/16

October 2016

Board Vote on Service Delivery Policy

Revisions

January 2017

Final stakeholder input

Final draft completed
Defining Service Plan Output

**Bus - Service Plan**

Service changes to be made by the Service Planning and Schedules Team.

**Bus – Improvement Plan**

Overall agency efforts that lead to partnerships, investment and larger changes in the existing bus routes.
## Metrics

<table>
<thead>
<tr>
<th>Service Objective</th>
<th>Standards</th>
<th>Tools to Address</th>
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</thead>
<tbody>
<tr>
<td>Service Availability</td>
<td>Span of service</td>
<td>Service planning</td>
</tr>
<tr>
<td></td>
<td>Frequency of service</td>
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<td></td>
<td>Coverage</td>
<td></td>
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<tr>
<td>Reliability</td>
<td>Service operated</td>
<td>Service planning, operational changes, municipal partnerships</td>
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<tr>
<td></td>
<td>Schedule adherence</td>
<td></td>
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<tr>
<td></td>
<td>Passenger wait time</td>
<td></td>
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<tr>
<td>Comfort</td>
<td>Passenger time in crowded conditions</td>
<td>Service planning, operational changes, municipal partnerships</td>
</tr>
<tr>
<td>Accessibility</td>
<td>Platform accessibility</td>
<td>Capital budget, operational changes</td>
</tr>
<tr>
<td></td>
<td>Vehicle accessibility</td>
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</tbody>
</table>
Scope

To be evaluated at the route level

Definition(s)

Current average network performance

Minimum performance

Current route/mode performance

Target performance Towards 100%

0% 100%
Analysis of Standards

All standards are measured per route and district to identify gaps in performance.
Tactical Toolbox
Bus Network Optimization

**Service Changes**
- Routes alignment and stop spacing
- Frequency and span changes

**Operational Changes**
- All door boarding and faster fare collection
- Improved dispatching tools and procedures

**Partnerships with municipalities**
- Bus lanes
- Signal priority and queue jumps

**Capital Projects**
- Fleet facilities
- Additional buses

**Private sector partnerships**
## Tiered Approach
### Bus – Service and Improvement Plans

<table>
<thead>
<tr>
<th>Tier</th>
<th>Description</th>
<th>Cost Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 1</td>
<td>Unlikely to meet all Service Delivery Policy Standards, but will support improvements.</td>
<td>Cost Neutral Options</td>
</tr>
<tr>
<td>GOOD</td>
<td>与之不同</td>
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</tr>
<tr>
<td>Tier 2</td>
<td>Will likely meet a subset of the Service Delivery Policy Standards. This tier will require investment and/or partnerships.</td>
<td>$$$$</td>
</tr>
<tr>
<td>BETTER</td>
<td>Will meet most, if not all, of the Service Policy Standards. This tier will require partnerships and greater investment.</td>
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</table>
Input 1: Data

Coverage

Span

Reliability

Frequency

Comfort
Percent of passenger trips during time periods that meet expected frequency

MBTA Bus Route Standards: Frequency
Route Grade (standard: meets minimum frequency)
- Clearly Failing: < 75% of standard
- Barely Failing: 75 - 99%
- Barely Passing: 100 - 125%
- Clearly Passing: > 125% of standard

31 routes clearly failing
14 routes barely failing
Input 2: Customer and Staff Feedback

- Street Teams to reach out to bus customers at stops and stations
- Existing community groups and transit committees
- Customer surveying
- MBTA bus garage roundtables and other operation channels
- Staff surveys, discussions and interviews
Input 3: Current Initiatives Underway

Bus - Service Plan

- Quarterly
- Rolling Service Changes
- Diversions

Bus – Improvement Plan

- Bus Lane
  - Everett, Boston and Cambridge
- TSP and Signalization
  - Boston and Brookline
- Public Private Partnerships
  - Kendall Square
TIMELINE AND RESOURCES
Option 1: Timelines and Resources

- Today -

<table>
<thead>
<tr>
<th>Garage(s)</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
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<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
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- 39 month process – First two larger districts separately, then clustered approach
- Assumes $500k consultant support per year, continuously throughout process
- Assumes no additional consulting services or additional staff

**Trade Offs**

- 3.25 yr rolling schedule
- No additional expertise in-house
### Option 2: Timelines and Resources

**30 month process –** Same approach as Option 1, but expedited due to increased resources.

**Assumes $500k consultant support per year, continuously throughout process.**

**Request of $2.4M over three years for additional consulting.**

<table>
<thead>
<tr>
<th>Garage(s)</th>
<th>Year/Quarter</th>
<th>2017</th>
<th>2018</th>
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**Trade Offs**

- 2.5 yr rolling schedule
- No additional expertise in-house
Option 3: Timelines and Resources

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<td></td>
</tr>
</tbody>
</table>

- 21 month process – Same as Option 1 and 2, but expedited due to increased resources
- Assumes $500k consultant support per year, continuously throughout process
- Request of $2.9M over a two years for additional consulting

**Trade Offs**
- 1.75 yr rolling schedule
- No additional expertise in-house
Option 4: Timelines and Resources

- Recommended -

- 18 months – All districts concurrently, with a staggered roll out

- Assumes $500k consultant support per year, continuously throughout process

- Request of $5M, as a one time infusion
Defining Service Plan Output

Bus - Service Plan
Service changes to be made by the Service Planning and Schedules Team.

Bus - Improvement Plan
Overall agency efforts that lead to partnerships, investment and larger changes in the existing bus routes.

Includes Service Plan + Network Optimization Recommendations
# Proposals and Associated Costs

<table>
<thead>
<tr>
<th>Tier 1</th>
<th>Good</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 2</td>
<td>Better</td>
</tr>
<tr>
<td>Tier 3</td>
<td>Best</td>
</tr>
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## Tier 1
Unlikely to meet all Service Delivery Policy Standards, but will support improvements.

## Tier 2
Will likely meet a subset of the Service Delivery Policy Standards. This tier will require investment and/or partnerships.

## Tier 3
Will meet most, if not all, of the Service Policy Standards. This tier will require partnerships and greater investment.

## Cost Neutral Options

- **Tier 1**
  - Good
- **Tier 2**
  - Better
- **Tier 3**
  - Best

Includes a tiered approach to offer a range of plan and network optimization options and recommendations.

Cost neutral changes be made through regularly scheduled service rating changes.
## Timeline and Resources

What is the preferred timeline? What resources are available to meet this timeline?

<table>
<thead>
<tr>
<th></th>
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<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Timeline</strong></td>
<td>39 months</td>
<td>30 months</td>
<td>21 months</td>
<td>18 months</td>
</tr>
<tr>
<td><strong>Approach</strong></td>
<td>First two large districts individually, then clusters of two</td>
<td>First two large districts individually, then clusters of two</td>
<td>First two large districts individually, then clusters of two</td>
<td>All Districts, with a staggered roll out</td>
</tr>
<tr>
<td><strong>Cost for Initial Analysis &amp; Plan</strong></td>
<td>-</td>
<td>$4.4M (162K/month)</td>
<td>$3.9M (185K/month)</td>
<td>$6.0M (333K/month)</td>
</tr>
<tr>
<td><strong>Overall Cost, FY18 to FY23</strong></td>
<td>-</td>
<td>$4.9M</td>
<td>$5.4M</td>
<td>$7.5M</td>
</tr>
<tr>
<td><strong>Request, FY18 to FY23</strong></td>
<td>-</td>
<td>$2.4M</td>
<td>$2.9M</td>
<td>$5.0M</td>
</tr>
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