Better Bus Project Update

FMCB, June 24, 2019
Today’s objectives

- Provide **status update** on implementation of **36 Cost Neutral Near-Term Changes** and 45 additional Operators

- **Discuss communication plan** for implementation of Near-Term changes

- Provide **status update** on implementation of **bus priority infrastructure** and highlight criticality of this work as part of a better bus system
**Better Bus Project Process Map: Update**

<table>
<thead>
<tr>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Phase 4</th>
<th>Phase 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Continuous Change</td>
<td>✓ Analysis</td>
<td>✓ Proposed Near-term Changes</td>
<td>✓ Multi-year Investment Strategy</td>
<td>✓ Future Network Redesign</td>
</tr>
</tbody>
</table>

**Products/Actions**

- ✓ Early morning pilot
- ✓ Late night pilot
- ✓ SL3 service expansion
- ✓ Dedicated bus lanes
- ✓ Transit signal prioritization
- ✓ Signal optimization
- ✓ Additional resources
- ✓ Dropped Trip Task Force
- ✓ Quarterly goals

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- ✅ ✓ Dropped Trip Task Force
- ✅ ✓ Quarterly goals

**Phase 1**

- ✓ 1st round public/stakeholder/ operator outreach
- ✓ Review existing service
- ✓ Jan 28: Release State of the System Report
- ✓ Jan 28: Release Market Analysis

**Phase 2**

- ✓ Ongoing: Municipal and State officials outreach
- ✓ Jan 28: Release near-term service proposals
- ✓ Jan 28 to Mar 13: 2nd round public/stakeholder outreach
- ✓ Apr: FMCB Vote: Go/No-Go
- ✓ Early-May: Build new schedules & routes
  - Fall: Begin implementation
- ✓ Jan 28: Release route profiles
- ✓ Feb 25: Discuss multi-year investment strategies for FY20
- ✓ Mar: Finalize FY20 resource request
- ✓ Apr: Selection of FY20 investment level by the FMCB
- ✓ Jun: CIP approved by FMCB
- ✓ Summer/Fall: Discuss peak expansion

**Phase 3**

- ✓ Nov: RFP posted & Internal Task Force convened to develop network level goals/metrics
- ✓ May: External Task Force convened
  - FY20+21: Network alternatives & evaluation
- ✓ FY21 onwards: Implementation & roll-out

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Plan for Fall implementation of Better Bus Project – to go into effect September 1st

Plan for Fall implementation of Better Bus Project – to go into effect September 1st

* Some proposals are going partially into effect in Fall and will be completed in Winter contingent on municipal coordination; For example, the CT1 and 1 will be combined in Fall, but the Dunster Street loop will not be
Communication and roll-out plan (Fall 2019)

Due to level of change, significant coordination effort across multiple departments and stakeholders will be implemented this fall

<table>
<thead>
<tr>
<th>System-wide</th>
<th>Typical service change</th>
<th>Better Bus Implementation</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>• Updated system-wide map (digital)</td>
<td>• Updated Better Bus Project website</td>
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<tr>
<td></td>
<td></td>
<td>• Digital ads and car cards</td>
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<tr>
<td></td>
<td></td>
<td>• Legislative and municipal outreach</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Updated system-wide map (digital)</td>
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<tr>
<td></td>
<td></td>
<td>• Complementary foreign language communications</td>
</tr>
<tr>
<td>Route-specific</td>
<td>• T-Alerts</td>
<td>• Email blasts <em>(in partnership with municipalities and other partners)</em></td>
</tr>
<tr>
<td></td>
<td>• Bus Operator training</td>
<td>• T-Alerts</td>
</tr>
<tr>
<td></td>
<td>• Updated schedule cards</td>
<td>• In-vehicle announcements</td>
</tr>
<tr>
<td>Stop-specific</td>
<td>• Notifications at affected stops 2 weeks prior</td>
<td>• Bus Operator training/engagement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Updated schedule cards</td>
</tr>
<tr>
<td></td>
<td>• ~20 new stops, ~80 removed stops</td>
<td>• ~700 stops w/ changed service</td>
</tr>
<tr>
<td></td>
<td>• ~700 stops w/ changed service</td>
<td>• Notifications at affected stops 4 weeks prior</td>
</tr>
</tbody>
</table>
Better Bus Project Multi-Year Investment Schedule (high-level)

<table>
<thead>
<tr>
<th>INVESTMENT</th>
<th>FY19</th>
<th>FY20</th>
<th>FY21</th>
<th>FY22+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus Lanes</td>
<td>3.5 miles built</td>
<td>Goal of 7 high-priority corridor miles</td>
<td>Goal of 7 high-priority corridor miles</td>
<td>Connect completed key corridors</td>
</tr>
<tr>
<td>TSP + Queue Jumps + Bus Bumps</td>
<td>Concurrent with bus lane corridors</td>
<td>Procure new shelter contract &amp; begin PATI construction</td>
<td>Continue construction of stop improvements &amp; 1,000 PATI stops</td>
<td></td>
</tr>
<tr>
<td>Bus Stop Infrastructure</td>
<td>Planning for shelter contract &amp; PATI stop improvements</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peoplepower</td>
<td>Invest in additional operators (~70)</td>
<td>Hire off-peak operators</td>
<td>Hire additional operators</td>
<td>Hire additional operators</td>
</tr>
<tr>
<td>Buses</td>
<td>-</td>
<td>Procure expansion contract</td>
<td>Support peak service</td>
<td>New maintenance garage(s) &amp; delivery of new buses</td>
</tr>
<tr>
<td>Scheduling &amp; Dispatching tools</td>
<td>Workforce Modernization Program, Bus Dispatching Pilot</td>
<td></td>
<td>Additional Optimization</td>
<td></td>
</tr>
<tr>
<td>Pilots &amp; Route Changes</td>
<td>47 Near-Term Proposals</td>
<td>Continuous improvement via piloting and route changes – targeting at least 5-10/year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Network Redesign</td>
<td>Procure &amp; Begin Design</td>
<td>Design</td>
<td>Implementation (FY21 onwards)</td>
<td></td>
</tr>
</tbody>
</table>

- **Phase 1**: Continuous Change
- **Phase 2**: Analysis
- **Phase 3**: Proposed Near-term Changes
- **Phase 4**: Multi-year Investment Strategy
- **Phase 5**: Future Network Redesign
Median bus run times 17% longer during Peak periods over past 12 years

- **Bus riders have longer trips:**
  The median weekday trip* is 11% longer but **17% longer** during peak

- **Bus riders have lost certainty about the length of their daily commute:** MBTA has added 13% more layover time to help buses start on time (in response to increased variation)

Note: Data shown is average weekday schedule summary system-wide, Sept – Oct for each calendar year
**A trip refers to the origin/destination of a bus, not a passenger**
Source: HASTUS
3 examples of bus priority infrastructure and impacts on customers

**Mt. Auburn (Cambridge)**
*Routes 71 & 73*

- **Route 71 AM peak (minutes)**
  - 2011: 14
  - 2018: 10
  - 2019: 7

- **90th percentile**
- **Median**

- **Up to 5 minutes saved per trip** versus 2017
- **50% reduction** in variability versus 2017

**Broadway (Everett)**
*Routes 97, 104, 109, 110 & 112*

- **Route 109 AM peak (minutes)**
  - 2016: 18
  - 2017: 15
  - 2018: 12

- **Up to 7 minutes saved per trip** versus 2016
- **40% reduction** in variability versus 2016

**Washington St. (Boston)**
*Routes 30, 34, 34E, 35, 36, 37, 40, 50, & 51*

- **All Routes AM peak (minutes)**
  - 2016: 22
  - 2017: 15
  - 2018: 10

- **Up to 2-3 minutes saved per trip** versus 2016
- **10% reduction** in variability versus 2016

Bus priority reduces travel times and makes trips more reliable

Note: 2017 spike in travel times in Roslindale at least partially driven by construction; Mt. Auburn data from weekdays in April – May; Broadway data from Sept. – Oct; Mt. Auburn implemented Oct. 2018, Broadway in Nov. 2017, and Roslindale in May 2018

Source: HASTUS

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Bus Priority Investments, Before January 2019

Pre-2019 Bus Lane Investments Include (minutes saved at 90th percentile):

1. Boston: Essex/Washington St (Silver Line)* (N/A)
2. Boston: Washington St. (Roslindale)* (2-3 min)
3. Cambridge: South Mass Ave (under review)
4. Cambridge: Mt. Auburn St. (5 min)
5. Everett: Broadway (7 min)
6. Somerville: Prospect St. (6-10 min)

*MBTA/MassDOT provided financial support
2019 Bus Priority Investments

Completed since Jan. 1, 2019:

Planned in 2019:
12. Boston: Summer St.*
13. Boston/Cambridge/MassDOT/DCR: Mass Ave Bridge*
15. Cambridge/MassDOT: Alewife access ramp*
16. Somerville: Broadway

*MBTA/MassDOT provided financial support
Future Bus Priority Investments

In addition to these bus lane investments, the MBTA will continue to invest in other bus priority technology, such as Transit Signal Priority.

In Planning for 2020+:
- 17 Boston: Warren St.
- 18 Boston: N. Washington Bridge
- 19 Chelsea: Broadway
- 20 Everett: Broadway (cont.)

Other MBTA High Priority Corridors:
- 21 Boston: Tremont St.
- 22 Boston: Huntington Ave.
- 23 Boston: Mass Ave.
- 24 Boston: Blue Hill Ave.
Next Steps

• **Hiring a Transit Priority team** to focus specifically on design and municipal engagement for on-street infrastructure (including bus lanes)

• **Continuing focus on working with municipalities** to identify, design, and implement bus priority infrastructure

• **$8.7M approved in FY20–FY24 CIP** to help fund, design, and implement bus priority infrastructure in high-priority areas

• Implementing first wave of **36 Near Term proposals** and **additional bus operators** this Fall
Appendix: Individual routes impacted differently compared to system-wide (e.g. Route 111)

Median & 90th percentile run-times Route 111
(minutes)

Inbound AM - 90th 68%
Inbound AM - 50th 54%
Outbound PM - 90th 36%
Outbound PM - 50th 32%

Note: Data shown is average weekday schedule summary, systemwide
Source: HASTUS
## Appendix: MBTA Existing and Planned Bus Priority Corridors

### Completed and Near-Term Investments

**Completed Prior to 2019:**
- Boston: Essex/Washington St. (Silver Line)
- Boston: Washington St. (Roslindale)
- Cambridge: South Mass Ave.
- Cambridge: Mt. Auburn St.
- Everett: Broadway
- Somerville: Prospect St.

**Completed in 2019:**
- Boston/MBTA: Sullivan Sq. Access
- Boston: Brighton Ave.

**Planned for 2019:**
- Arlington: Mass Ave.
- Boston: N. Washington St.
- Boston/MassDOT: Morton St.
- Boston: Summer St.
- Boston/Cambridge/MassDOT/DCR: Mass Ave. Bridge
- Boston/MassDOT/DCR: Soldiers Field Rd.
- Cambridge/MassDOT: Alewife Access Ramp
- Somerville: Broadway

### Longer-Term Investments

- Boston: Warren St.
- Boston: N. Washington Bridge
- Chelsea: Broadway
- Everett: Broadway (cont’d)
- Boston: Tremont St.
- Boston: Huntington Ave.
- Boston: Mass Ave.
- Boston: Blue Hill Ave.

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**Notes:**
- Draft for Discussion and Policy Purposes Only
- On Street Infrastructure
Appendix: All-Day Eastbound Brighton Ave. Bus Lane Announced

• In collaboration with the City of Boston, a permanent all-day eastbound bus lane will be installed on Brighton Ave.

• Between Cambridge St. in Union Sq. and Comm. Ave. in Packards Corner

• Painting/installation of the bus lane started week of June 10th

• Expected to reduce travel times for MBTA bus riders by 30-40%

• Will be a shared-use bus/bike lane, allowing bicycles to travel in the lane, separated from general traffic
# Appendix: Top 40 Bus Routes

Highest Ridership Routes / Corridors Definition: >3,200 daily weekday riders

<table>
<thead>
<tr>
<th>Key Bus Routes (14)</th>
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<tbody>
<tr>
<td>1</td>
<td>28</td>
<td>66</td>
<td>111</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>32</td>
<td>71</td>
<td>116/117</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>39</td>
<td>73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>57/57A*</td>
<td>77</td>
<td></td>
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<table>
<thead>
<tr>
<th>Silver Line (5)</th>
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<tbody>
<tr>
<td>SL1</td>
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<td>SL2</td>
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<td>SL3</td>
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<td>SL4</td>
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<td>SL5</td>
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<table>
<thead>
<tr>
<th>Local Routes w/ highest ridership (21)</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>7</td>
<td>31</td>
<td>47</td>
<td>88</td>
<td>104</td>
<td>441/442*</td>
</tr>
<tr>
<td>9</td>
<td>34/34E*</td>
<td>70/70A*</td>
<td>89</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>35/36/37*</td>
<td>86</td>
<td>93</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>44</td>
<td>87</td>
<td>101</td>
<td>220/221/222*</td>
<td></td>
</tr>
</tbody>
</table>

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Note: * Refers to corridor created by overlapping routes which have very high ridership when taken together; Daily weekday ridership determined via APC counts

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