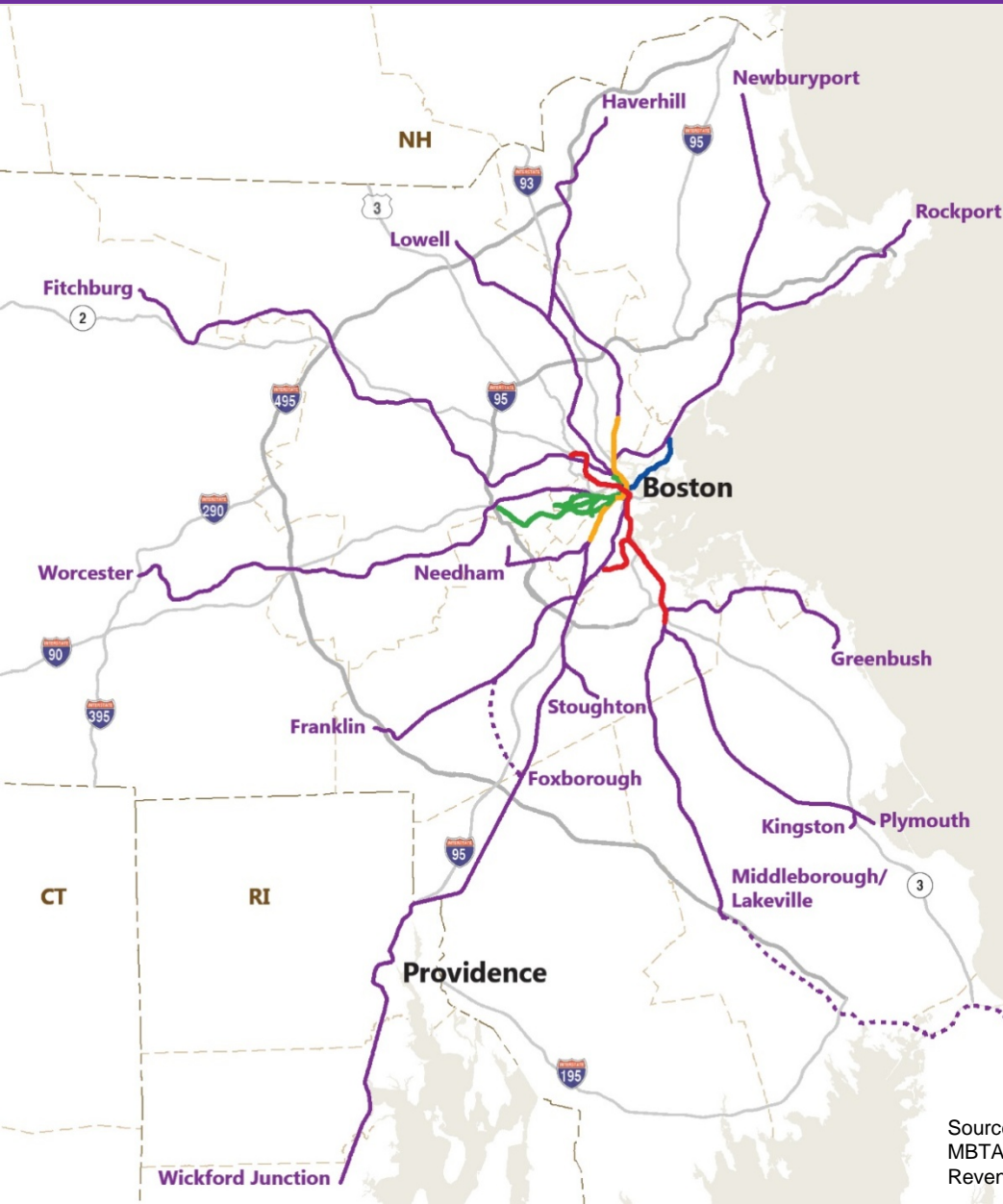


MBTA STATE OF THE SERVICE

Commuter Rail



Commuter Rail at a Glance

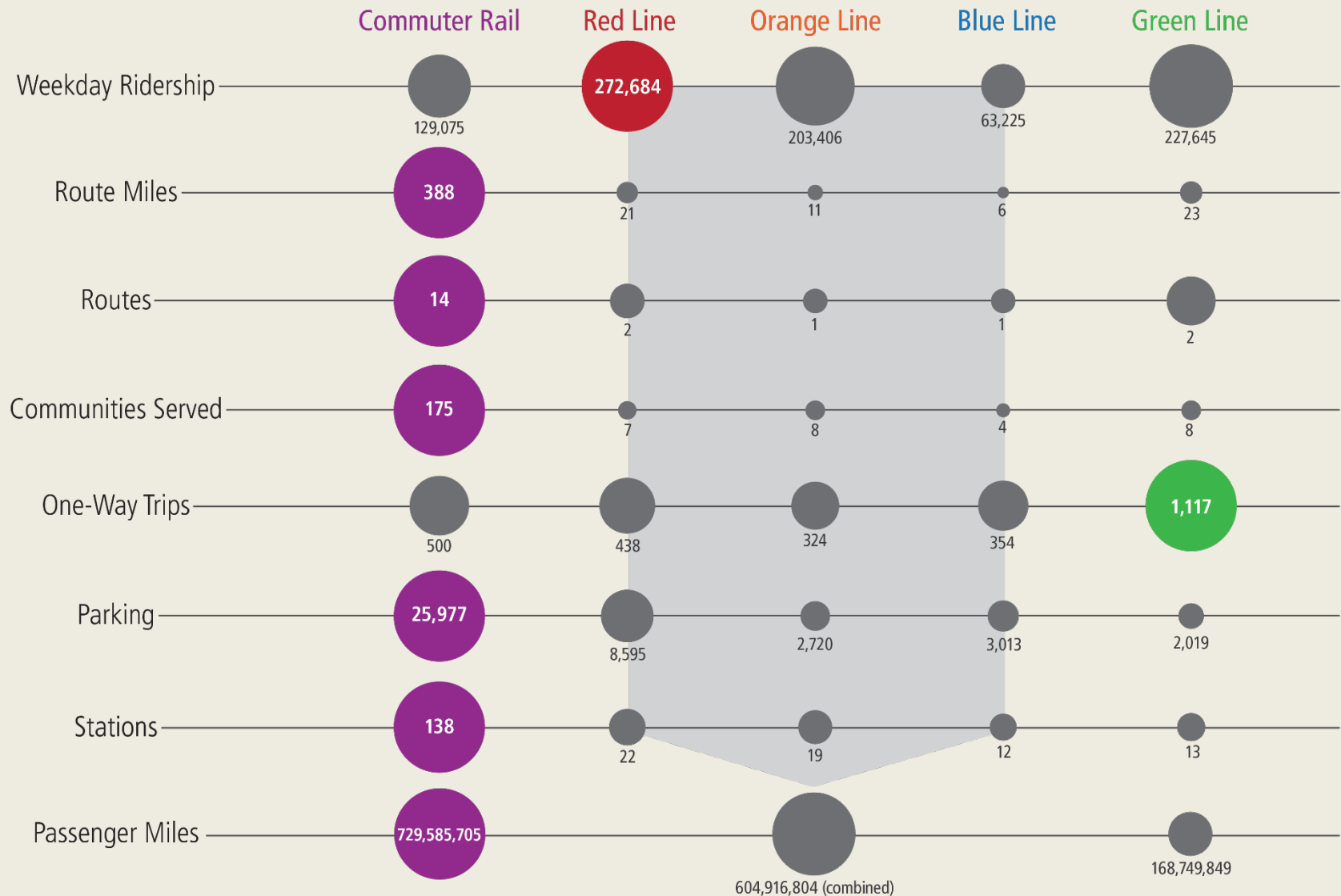


| | |
|----------------------------|------------|
| Commuter Rail Routes | 14 |
| 5 North Side | |
| 9 South Side | |
| Route Miles | 388 |
| Stations | 138 |
| Parking Spaces | 39,246 |
| 12,174 North Side | |
| 27,072 South Side | |
| Weekday Boardings | 129,075 |
| Annual Ridership | 35 million |
| Revenue Fleet | |
| 90 Locomotives | |
| 410 Coaches | |
| Maintenance Facilities | 3 |
| Layover/Storage Facilities | 14 |

Source: MBTA Ridership and Service Statistics, 2014.
 MBTA parking data based on http://www.mbta.com/riding_the_t/parking/.
 Revenue Fleet info based on Draft FY 2016-2030 Commuter Rail Fleet Management Plan.

Overview of the System

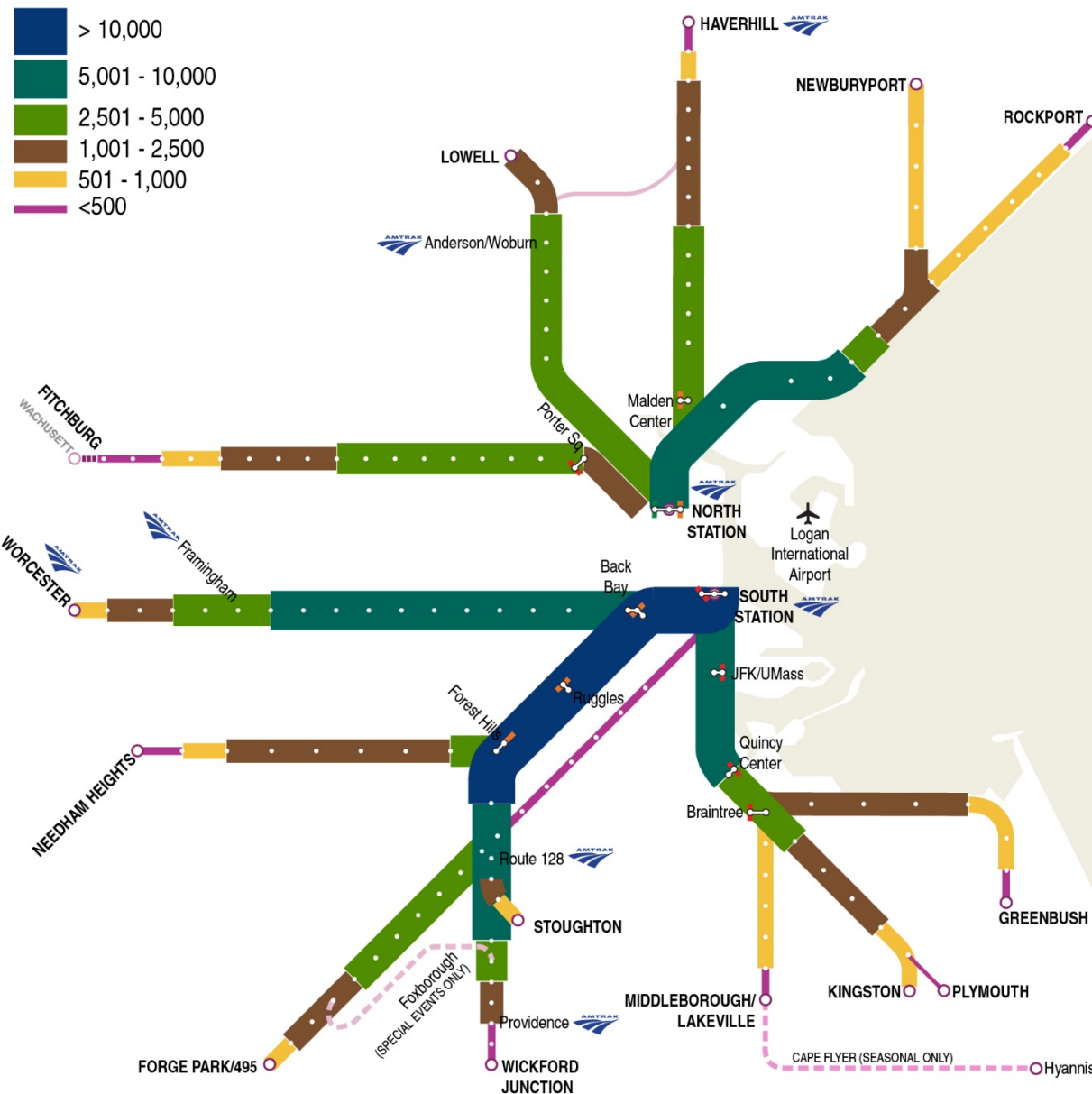
Comparison to Other Services



Source: MBTA Ridership and Service Statistics, 2014.
National Transit Database: 2013 Transit Profiles.

Ridership

Passenger Volume Flow



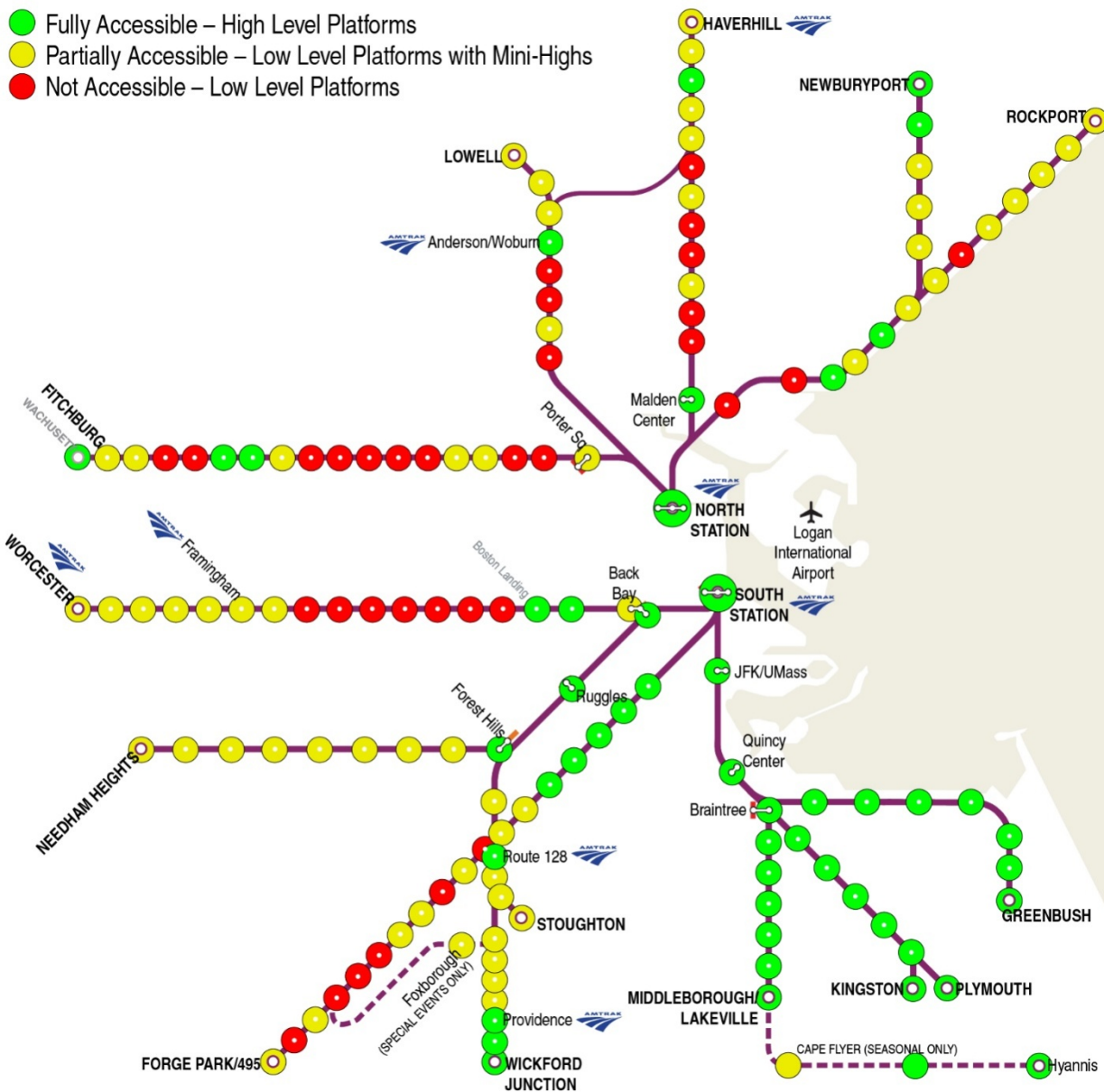
| Line | Riders |
|--|----------------|
| NORTH SIDE TYPICAL WEEKDAY RIDERSHIP | |
| Newburyport/Rockport | 16,254 |
| Haverhill | 8,843 |
| Lowell | 11,965 |
| Fitchburg | 9,556 |
| North Side Typical Weekday Ridership | 46,618 |
| SOUTH SIDE TYPICAL WEEKDAY RIDERSHIP | |
| Frammingham/Worcester | 16,293 |
| Needham | 6,972 |
| Franklin | 12,480 |
| Providence/Stoughton | 26,465 |
| Fairmount | 1,038 |
| Middleborough/Lakeville | 7,182 |
| Kingston/Plymouth | 6,560 |
| Greenbush | 5,411 |
| South Side Typical Weekday Ridership | 82,401 |
| TOTAL TYPICAL WEEKDAY COMMUTER RAIL RIDERSHIP | 129,019 |

Source: MBTA, Ridership and Service Statistics, 2014.
CTPS MBTA Commuter Rail Passenger
Count Results, 2012

Commuter Rail Stations

Station Accessibility

- Fully Accessible – High Level Platforms
- Partially Accessible – Low Level Platforms with Mini-Highs
- Not Accessible – Low Level Platforms



143 total stations
(includes Foxboro, seasonal stations,
and stations under construction)

51 fully accessible
stations, including
2 stations under
construction

57 partially accessible
stations with “mini-high”
platforms

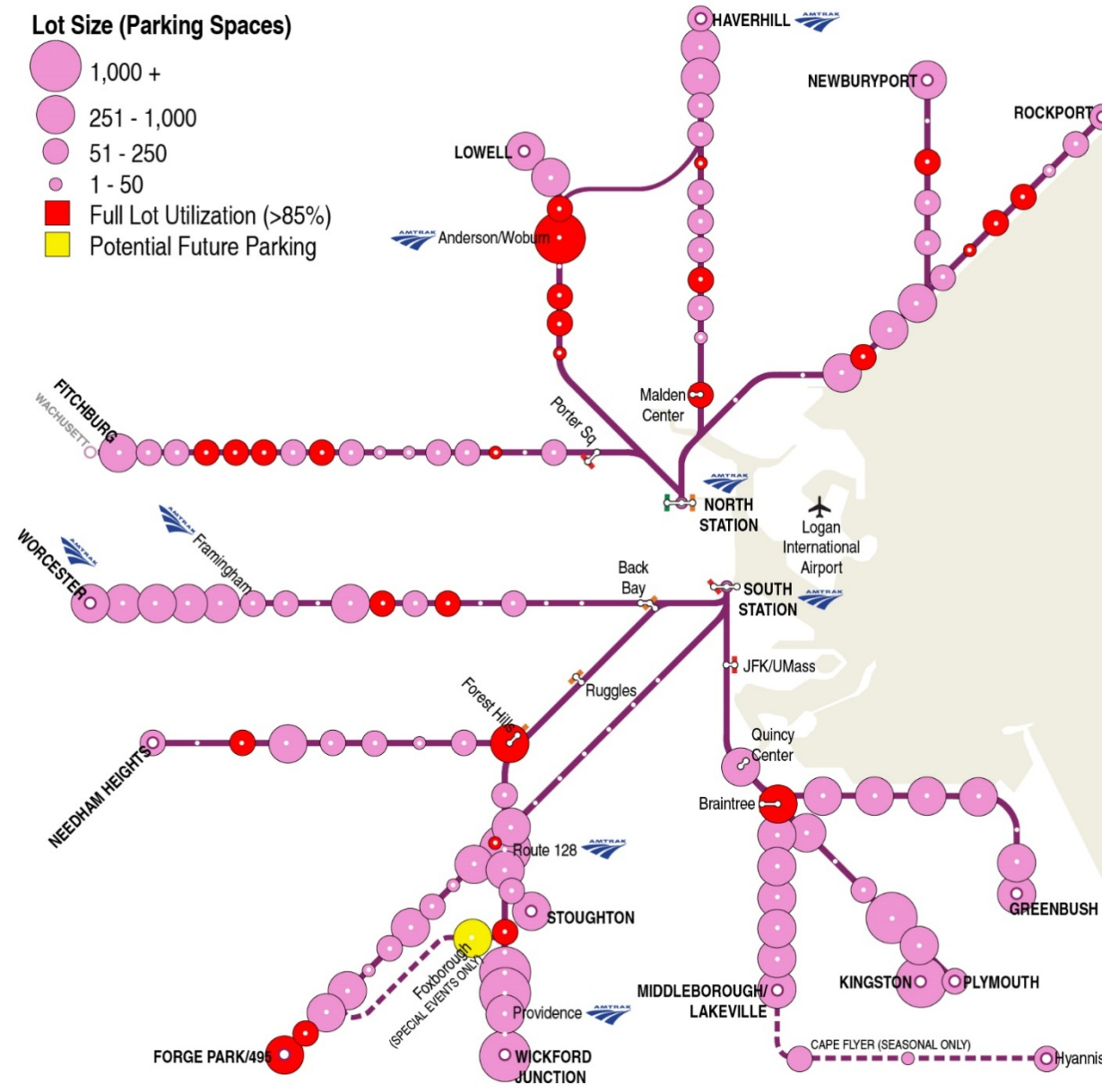
34 stations not
accessible

Back Bay is fully
accessible, except for
Worcester Line platform
with “mini-high”

Commuter Rail Stations

Parking Supply and Utilization

Lot Size (Parking Spaces)



Parking is provided at **114** of the total 138 Commuter Rail stations

Of the 39,246 total commuter rail spaces, **25,977** are owned by the MBTA

4,639 North Side

21,338 South Side

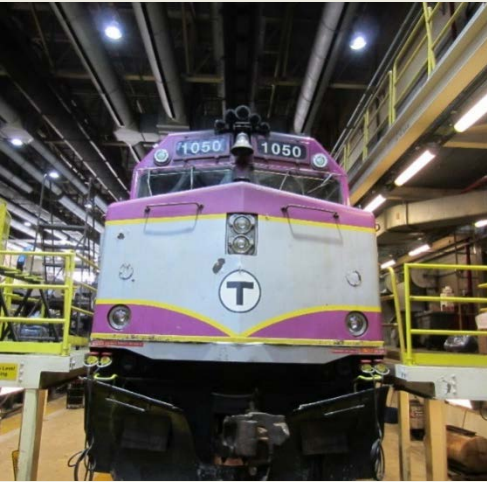
Parking is a revenue generator

Daily rates between **\$4-\$7** per day

Source: CTPS Park-and-Ride Capacity and Utilization (commuter rail only), 2013.
MBTA Parking Facilities Utilization, FY 2016.
www.mbta.com.
www.capeflyer.com.

Commuter Rail Vehicle Fleet

Statistics about the Vehicle Fleet



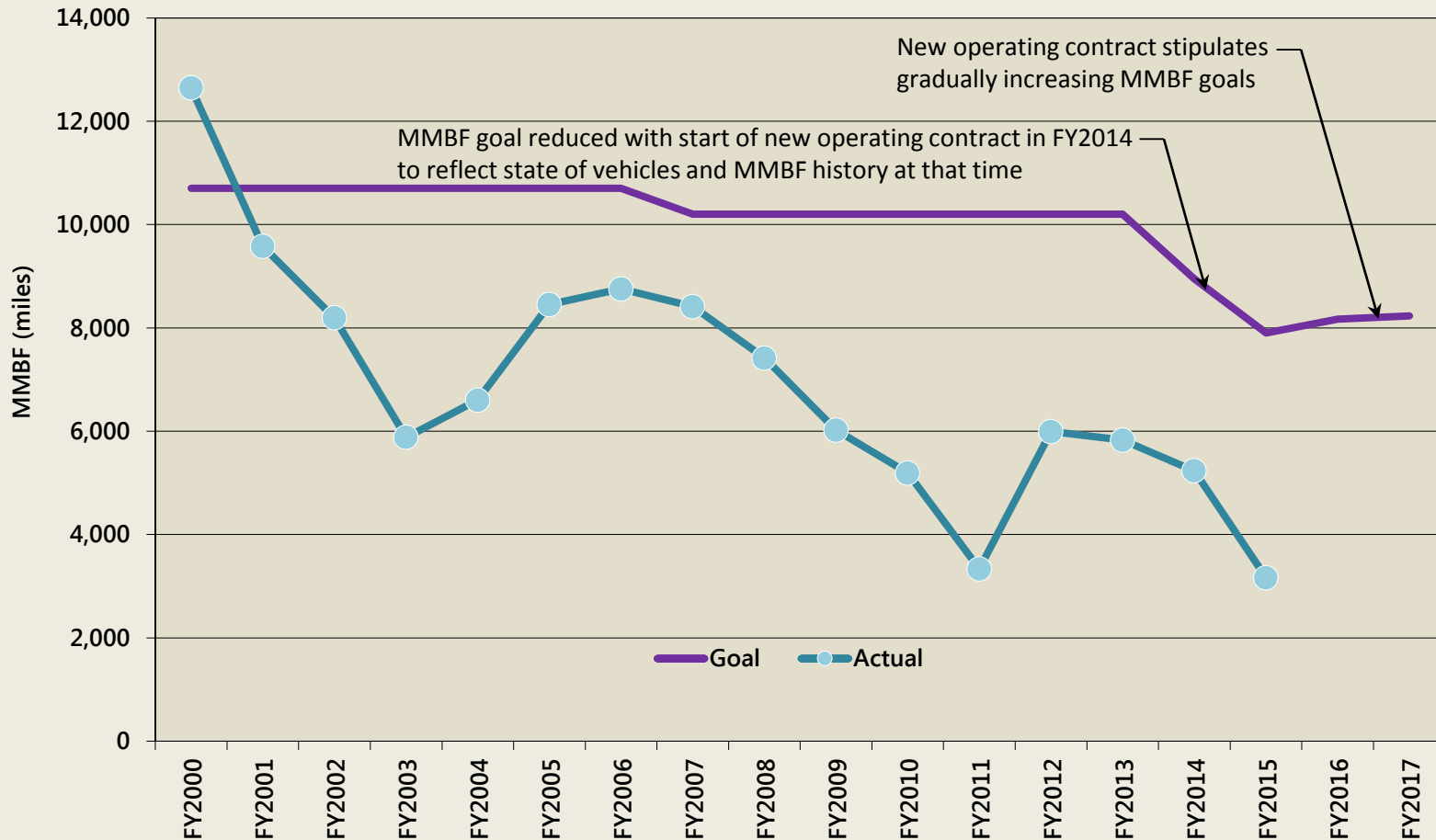
- 92 switching, MOW, and wreck response vehicles in support fleet
- 500 active locomotives and coaches in revenue fleet
- Minimum target service life is 25 years
- 240 revenue vehicles at/beyond 25-year service life
- 37 locomotives are beyond their 25-year service life, with another 13 approaching their 25-year service life within the next six years

| | Active | At/Beyond 25-Year Service Life |
|--------------------|--------|--------------------------------------|
| Coaches | 410 | 203 |
| Locomotives | 90 | 37 |

Source: Support fleet data from MBTA Commuter Rail Operating Agreement, dated February 5, 2014, and MBTA Commuter Rail Operations. Revenue fleet data from FY 2016 – 2030 MBTA Commuter Rail Fleet Management Plan - DRAFT.

Commuter Rail Vehicle Fleet

Mean Miles between Failure for CR Locomotive Fleet

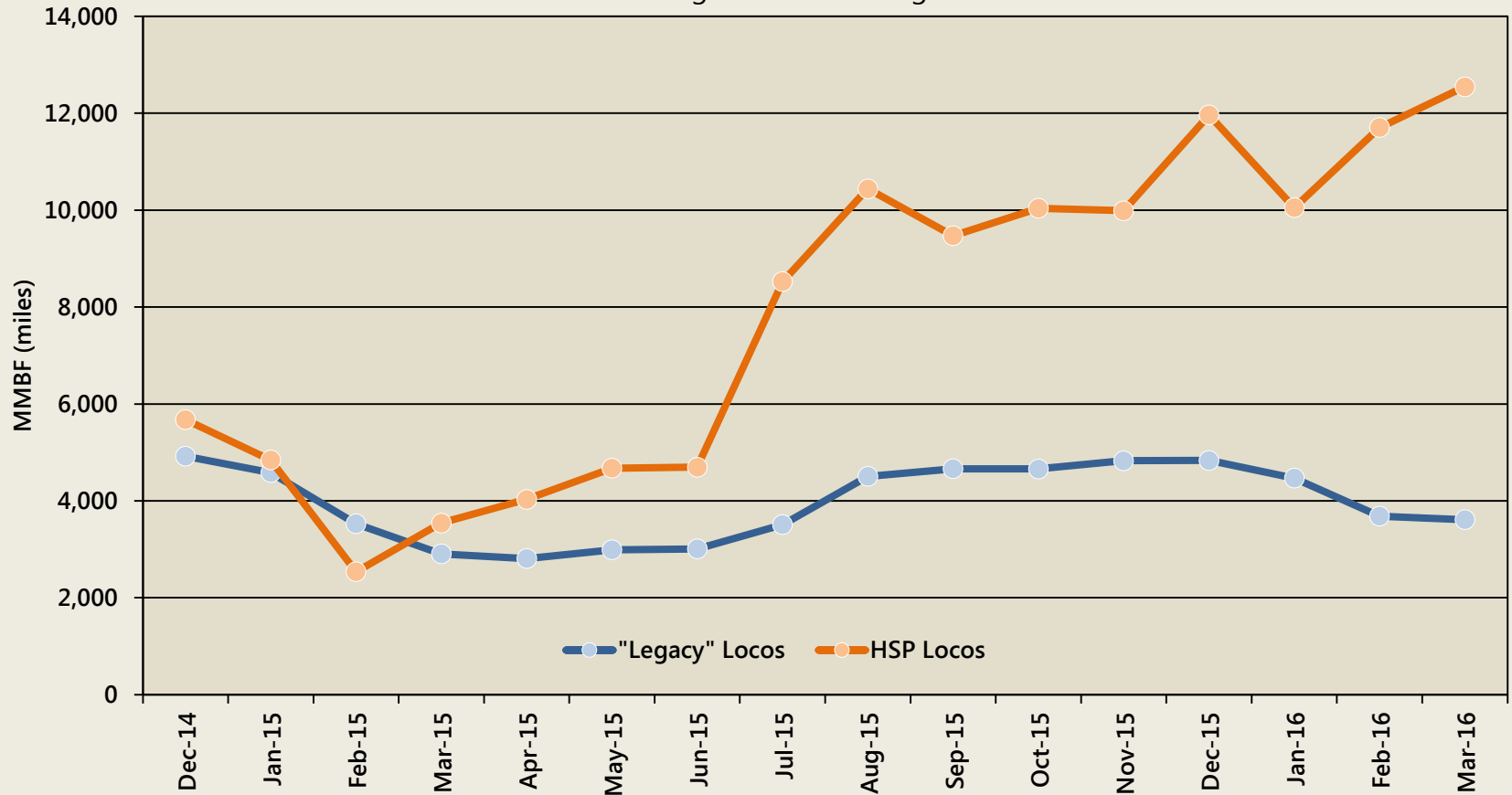


Source: FY 2016 – 2030 MBTA Commuter Rail Fleet Management Plan - DRAFT.

Commuter Rail Vehicle Fleet

"Legacy" vs. HSP Locomotive MMBF Comparison

MMBF By Locomotive Class (FY15 – FY16)
Rolling 6-Month Average



Source: MMBF Reports provided by Leanna Green, MBTA.

Revenues from Commuter Rail

OPERATING
REVENUES
\$215M



NON-OPERATING REVENUES: \$70M



PARKING
\$17M



ADVERTISING
\$6M



RETAIL SPACE +
OTHER LEASES
\$3M



REVENUE ASSESSMENTS
(10% TOWNS WITH
SUBWAY AND BUS)
\$14M



REAL ESTATE
\$12M



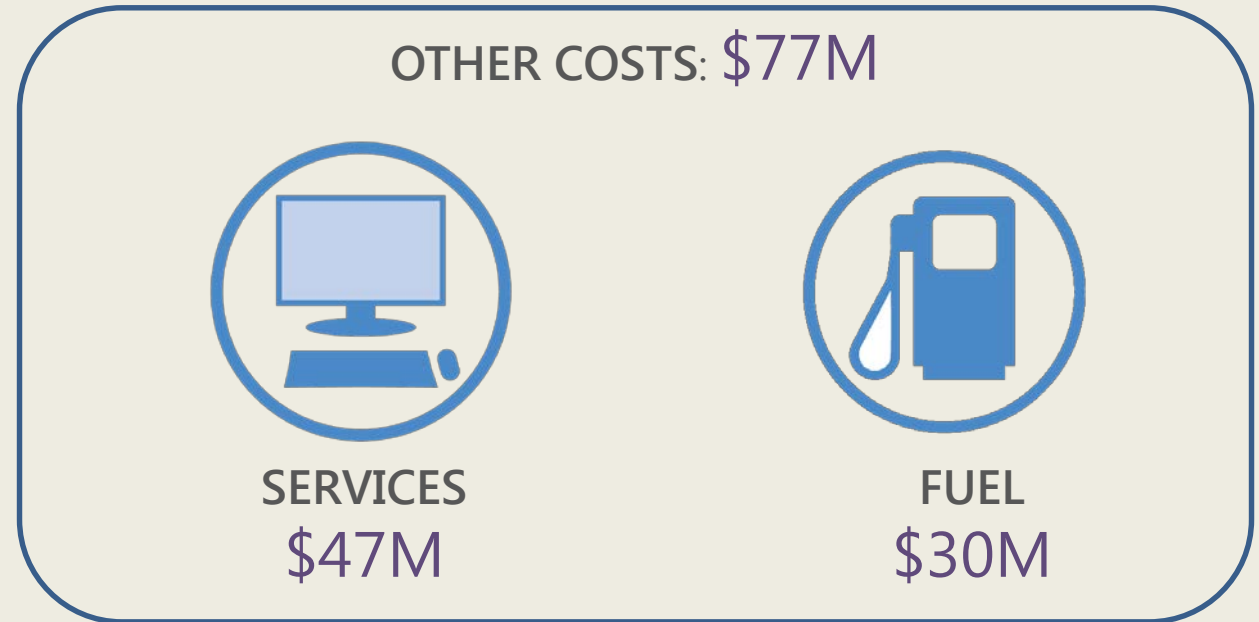
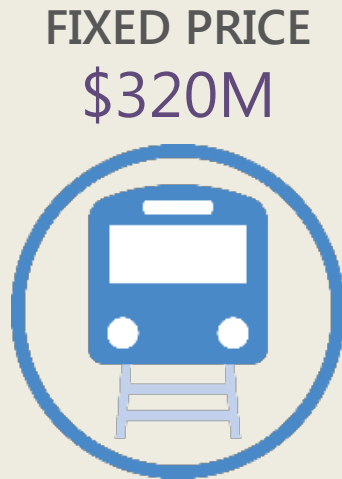
REVENUE ASSESSMENTS
(TOWNS WITH CR ONLY)
\$12M



UTILITIES & TELECOMM
\$6M

TOTAL ANNUAL REVENUE GENERATED BY COMMUTER RAIL= \$285M

Costs to Operate Commuter Rail



* Costs rounded to nearest Million \$

TOTAL ANNUAL COST TO OPERATE COMMUTER RAIL= \$397M

NTD-Reported
Farebox Recovery

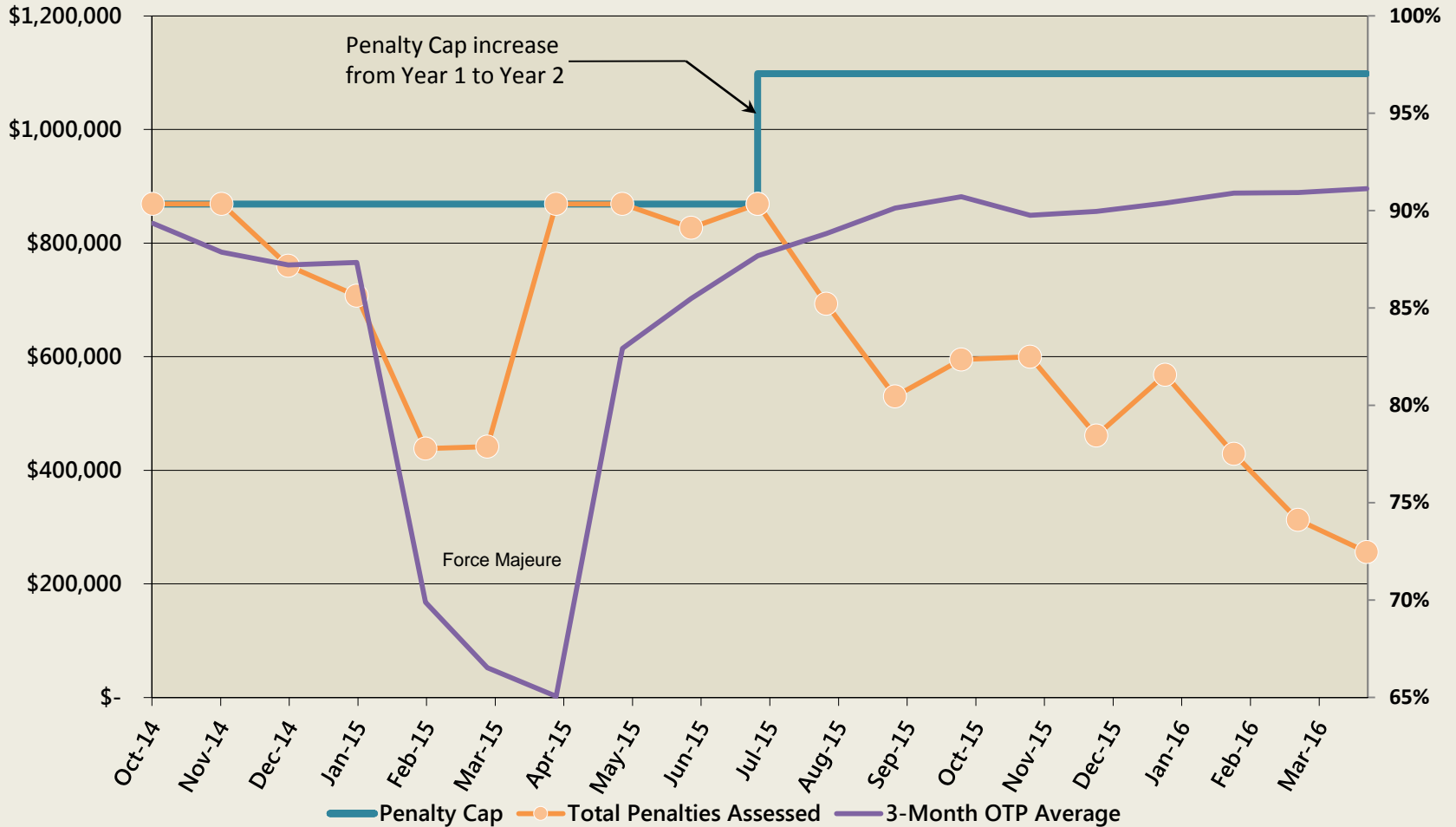
50%

Farebox Recovery
Considering Non-
Operating Revenues

72%

Contractual Performance Penalties

Penalties Assessed vs. Penalty Limit



CURRENT

- Manual Ridership Reports
 - Ridership as reported by conductors
 - On-board only, no station-level breakdown
 - Conductors must multi-task; focus is on safety
 - No incentive to improve accuracy
- Bi-Annual Peak Passenger Counts
 - Platform counts at Boston terminals
 - Peak period only
 - On-board only, no station-level breakdown
 - Primary purpose is to determine equipment and staffing needs – not to collect accurate ridership
- Comprehensive Count Audits
 - Focused on capturing ridership at all stations
 - Expensive and time consuming
 - Last done in 2012
 - None currently planned

POTENTIAL

- Automated Passenger Counters
 - On-board for each commuter rail coach
 - Pilot car is being tested now – successful
 - Wider rollout possible



- Automated Fare Collection 2.0
 - Pay with phone (no app), contactless credit card, Charlie2 issued card
 - No cash on-board vehicle
 - Readers added at all rail stations and on platforms at South Station North Station / Back Bay
 - Automatically captures ridership from the tap made at each station (on, off)



Highest Ridership Stations

| No. | Commuter Rail Station | Daily Inbound Boardings | Parking Capacity | Accessibility |
|-----|-----------------------|-------------------------|------------------|---------------|
| 1. | Salem | 2,389 | 700 | Fully |
| 2. | Mansfield | 2,077 | 806 | Partially |
| 3. | Lowell | 1,770 | 695 | Partially |
| 4. | Beverly | 1,681 | 500 | Partially |
| 5. | Attleboro | 1,665 | 780 | Partially |
| 6. | Route 128 | 1,604 | 2,589 | Fully |
| 7. | Anderson | 1,502 | 1,541 | Fully |
| 8. | Worcester | 1,475 | 500 | Partially |
| 9. | South Attleboro | 1,462 | 568 | Partially |
| 10. | Providence | 1,341 | 330 | Fully |

Source: MBTA Ridership Counts, April 2016 (select stations).
MBTA Ridership and Service Statistics, 2014.
MBTA parking data based on http://www.mbta.com/riding_the_t/parking/

On-Time Performance Top 10 Causes of Delay (2015)

| Rank | Cause of Delay | No. Incidents (2015) |
|------|---------------------------|----------------------|
| 1. | Extreme Weather | 4,743 |
| 2. | Heavy Ridership | 3,801 |
| 3. | Gate Crossing Protection | 1,136 |
| 4. | Amtrak Intercity Conflict | 980 |
| 5. | Signal System | 905 |
| 6. | Speed Restriction | 805 |
| 7. | Other Extraordinary Delay | 845 |
| 8. | Signal Code Line Failure | 713 |
| 9. | Commuter Conflict | 657 |
| 10. | Switch Failure | 650 |

Residual delays, not included in this list, when taken together are by far the greatest reason for delay

Several of the top causes of delay in 2015 related to **extreme weather**

How **delays are coded** makes a difference

On-Time Performance

The Importance of Residual Delays

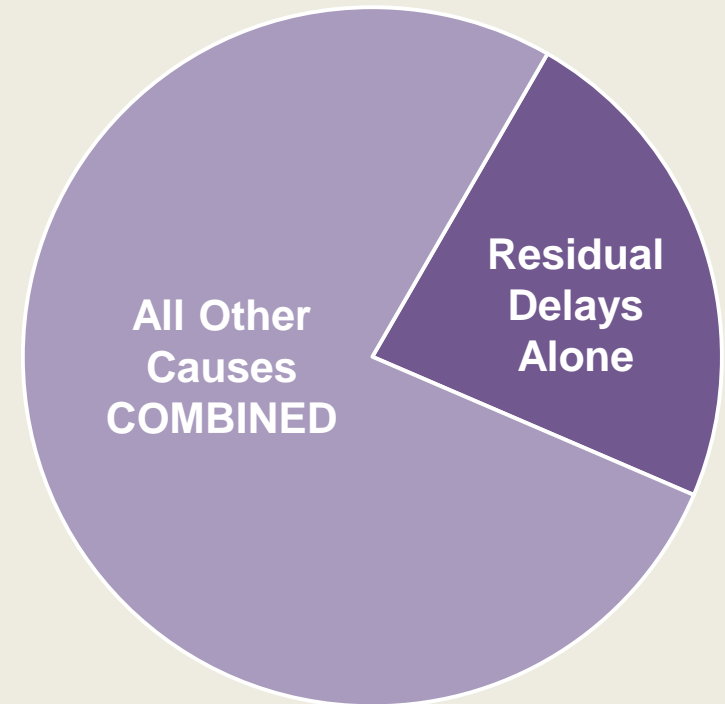


Residual Delays

One initial incident can create a **ripple effect** of delay, as several commuter rail trains are impacted **downstream**, and sometimes on **multiple lines**

Within the Last 12 Months...

Residual delays comprised **30%** of the number of incidents causing delay, compared to all **other causes combined**



On-Time Performance

North Side, Past 5 Years

| NORTH SIDE ON-TIME PERFORMANCE | | | | | | |
|--------------------------------|-------|-------|-------|-------|-------|-------|
| MONTH | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
| Jan | 62.2% | 89.6% | 89.2% | 82.6% | 81.3% | 92.2% |
| Feb | 68.9% | 91.6% | 90.2% | 76.7% | 25.4% | 90.4% |
| Mar | 89.4% | 90.6% | 92.3% | 88.7% | 81.6% | 95.0% |
| Apr | 88.2% | 88.8% | 93.7% | 89.3% | 89.5% | 95.4% |
| May | 92.1% | 91.9% | 91.7% | 85.8% | 86.7% | 92.5% |
| Jun | 80.7% | 80.5% | 89.5% | 84.7% | 86.9% | N/A |
| Jul | 86.8% | 86.7% | 89.6% | 82.8% | 88.4% | N/A |
| Aug | 87.4% | 85.0% | 89.4% | 84.6% | 92.3% | N/A |
| Sep | 87.3% | 93.7% | 86.6% | 88.5% | 94.5% | N/A |
| Oct | 83.1% | 91.7% | 83.4% | 76.3% | 92.2% | N/A |
| Nov | 79.1% | 89.5% | 82.0% | 77.2% | 91.0% | N/A |
| Dec | 90.4% | 89.6% | 83.8% | 85.7% | 94.4% | N/A |

Since August 2015, the North Side OTP has seen **its best performance in the last 5 years**

Completion of Fitchburg construction results in **OTP improvements**

Source: Actual (Unadjusted) OTP Performance Percentages provided by MBTA.

On-Time Performance

South Side, Past 5 Years

| SOUTH SIDE ON-TIME PERFORMANCE | | | | | | |
|--------------------------------|-------|-------|-------|-------|-------|-------|
| MONTH | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
| Jan | 80.1% | 95.2% | 90.2% | 89.6% | 89.4% | 91.8% |
| Feb | 81.0% | 96.3% | 94.9% | 89.8% | 37.1% | 88.0% |
| Mar | 89.7% | 95.5% | 93.7% | 94.5% | 79.5% | 91.5% |
| Apr | 89.2% | 95.9% | 95.8% | 95.3% | 78.0% | 91.5% |
| May | 87.9% | 93.8% | 94.8% | 92.5% | 86.3% | 87.9% |
| Jun | 86.0% | 93.8% | 92.3% | 89.9% | 88.5% | N/A |
| Jul | 81.9% | 91.4% | 93.4% | 92.4% | 90.5% | N/A |
| Aug | 84.5% | 92.5% | 94.0% | 92.6% | 88.8% | N/A |
| Sep | 92.6% | 95.8% | 94.9% | 94.4% | 90.8% | N/A |
| Oct | 90.7% | 94.8% | 94.5% | 91.5% | 90.2% | N/A |
| Nov | 90.7% | 92.3% | 91.8% | 89.7% | 86.3% | N/A |
| Dec | 94.6% | 93.4% | 92.3% | 92.9% | 91.7% | N/A |

Construction work has impacted Worcester Line OTP

Significant events have impacted OTP:

- Amtrak Forest Interlocking
- Amtrak Tower 1 interlocking
- Amtrak Centralized Electrification and Traffic Control (CETC) dispatching
- Heat restrictions on Worcester Line

Source: Actual (Unadjusted) OTP Performance Percentages provided by MBTA.

On-Time Performance - < 5 Minutes Late

By Line, Past 6 Months

Trains Less than 5 Minutes Late by Service Line

| Average On-Time Performance – December 2015 to May 2016 | | | | | | |
|---|-------|-------|-------|-------|-------|-------|
| Line | Dec | Jan | Feb | Mar | Apr | May |
| Rockport | 93.0% | 93.2% | 89.8% | 95.6% | 96.0% | 95.1% |
| Newburyport | 94.7% | 92.3% | 91.1% | 94.8% | 96.9% | 93.2% |
| Haverhill | 94.8% | 86.8% | 88.3% | 94.4% | 93.6% | 88.5% |
| Lowell | 95.7% | 92.6% | 91.6% | 94.9% | 96.2% | 95.0% |
| Fitchburg | 93.6% | 96.3% | 91.3% | 95.4% | 94.1% | 90.1% |
| Worcester | 84.2% | 88.4% | 86.0% | 88.2% | 78.0% | 64.9% |
| Needham | 91.5% | 91.9% | 86.9% | 95.7% | 96.6% | 94.1% |
| Franklin | 87.3% | 86.0% | 78.6% | 82.4% | 87.2% | 82.7% |
| Providence | 88.5% | 89.0% | 83.2% | 86.3% | 89.4% | 82.5% |
| Stoughton | 88.8% | 86.3% | 77.8% | 88.0% | 92.0% | 88.0% |
| Fairmount | 97.1% | 96.5% | 90.7% | 93.6% | 93.8% | 94.3% |
| Middleboro | 94.9% | 95.4% | 94.1% | 95.4% | 94.4% | 93.1% |
| Kingston/ Plymouth | 95.1% | 96.7% | 96.0% | 97.1% | 96.3% | 96.1% |
| Greenbush | 97.5% | 95.9% | 98.6% | 97.1% | 95.7% | 96.1% |


Providence, Stoughton and Franklin Lines impacted by significant events

Worcester Line impacted by ongoing construction

Steady performance continues on lines with no construction

8 lines had OTP higher than **92%** in May

7 lines had OTP higher than **90%** for each of the last 6 months

 Lines connected to Amtrak North East Corridor

On-Time Performance - 0-9 minutes Late

By Line, Past 6 Months

Trains Less than 9 Minutes Late by Service Line

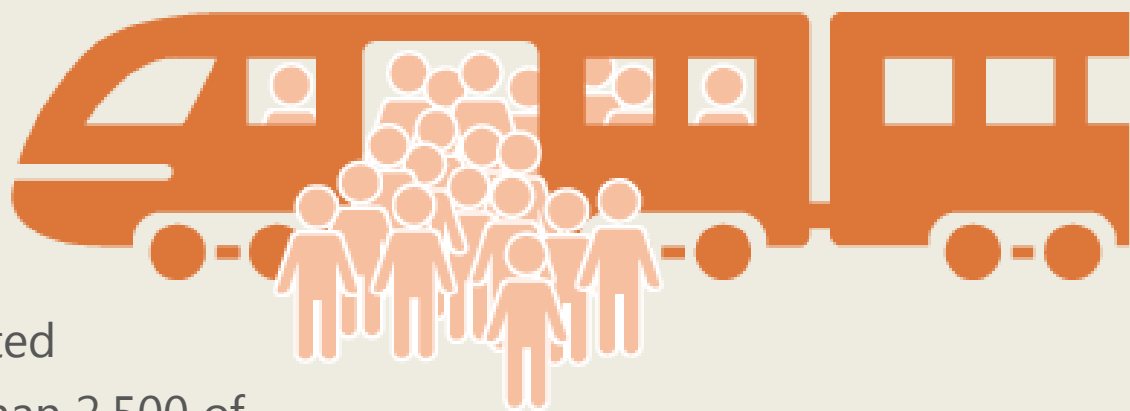
| Average Performance nine minutes or less – December 2015 to May 2016 | | | | | | |
|--|-------|-------|-------|-------|-------|-------|
| Line | Dec | Jan | Feb | Mar | Apr | May |
| Rockport | 96.8% | 97.3% | 95.1% | 98.5% | 98.8% | 97.6% |
| Newburyport | 97.8% | 96.7% | 95.4% | 98.1% | 99.0% | 97.6% |
| Haverhill | 97.8% | 91.9% | 94.2% | 97.4% | 97.1% | 94.7% |
| Lowell | 98.2% | 96.9% | 96.6% | 98.3% | 98.6% | 97.9% |
| Fitchburg | 96.2% | 98.1% | 95.7% | 97.2% | 96.8% | 95.7% |
| Worcester | 92.9% | 94.2% | 92.0% | 94.9% | 88.6% | 81.6% |
| Needham | 95.2% | 97.3% | 91.4% | 98.8% | 99.3% | 98.3% |
| Franklin | 95.0% | 95.5% | 87.1% | 92.5% | 95.2% | 94.1% |
| Providence | 95.3% | 95.5% | 90.4% | 93.0% | 95.1% | 91.3% |
| Stoughton | 94.0% | 95.2% | 86.9% | 95.4% | 97.3% | 95.4% |
| Fairmount | 98.6% | 98.8% | 93.7% | 97.7% | 96.9% | 98.5% |
| Middleboro | 97.9% | 97.6% | 96.0% | 97.4% | 97.5% | 97.0% |
| Kingston/ Plymouth | 97.0% | 98.0% | 97.3% | 98.4% | 98.2% | 98.5% |
| Greenbush | 98.4% | 97.4% | 99.5% | 97.7% | 97.2% | 96.8% |



Lines connected to Amtrak North East Corridor

Train Seating Capacity

Over the last year, MBTA operated over **140,000 trains**. Less than 2,500 of them, or only 1.67%, were over capacity. That means that **98%** of commuter rail trains had a seat for every passenger.





Single track constraints and limited right-of-way

- Newburyport Line, between North Beverly and Newburyport
- Haverhill Line, between Reading and Andover
- Old Colony Main Line, between Boston and Braintree
- Worcester Line, adjacent to the Massachusetts Turnpike



Drawbridge rehabilitation/replacement

- Gloucester Draw
- Beverly Draw
- Saugus Draw
- Draw 1 (North Station)



Parking constraints

- 25 commuter rail stations are at or over parking capacity



Station accessibility

- 34 stations are not accessible
- Challenges with upgrading to fully accessible stations in corridors that require special freight clearances

Maintenance/layover facility capacity

- Overnight layover constraints on the North Side (Rockport, Bradford, Lowell, Fitchburg)
- Overnight layover constraints on the South Side (Worcester, Needham, Franklin, Stoughton)
- Midday layover constraint on the South Side

Coach capacity

- Of 410 coaches in the active fleet, 203 or approximately 50% are single-level

PTC construction

Capital Needs

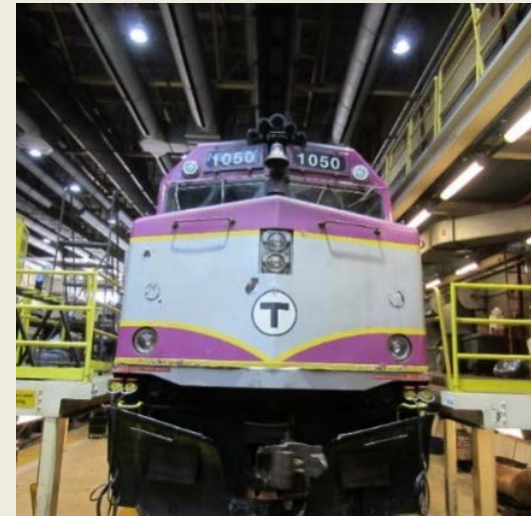
Positive Train Control (PTC)

- Implementation Schedule
 - Phase I – PTC Equipment Installation
 - Plan to complete PTC Hardware installation by December 2018.
 - Phase II – Commuter Rail
 - South Side – Implement PTC on South Side where most of the railroad is already equipped with cab signals (2019).
 - North Side – Implement PTC on North Side where there are no cab signals and a derivative of the PTC technology will be deployed which requires additional testing (2019-2020).
 - Phase III – Freight Main Line (North Side)
 - Implement PTC on the Freight Main Line as an overlay to the passenger rail PTC. This will require additional testing and integration. Plan to complete PTC Project by end of 2020.
- Total estimated project cost
 - \$451.3 M with 15% contingency

Potential Fleet Investments

Locomotives

- Invest in existing locomotives
 - Replace major components on 10 active locomotives (UTEX)
 - Typical 2 year process
 - Not life extending; reliability improvements
 - Rehab 10 active locomotives
 - Life extending – 10 to 15 years
 - Remanufacture 10 locomotives currently stored
 - Life extending – 15 to 20 years
- Possible procurement of new locomotives
 - Will be addressed in Fleet Plan
 - Typical 7 year procurement until final acceptance of fleet



- Invest in existing coaches
 - Kawasaki rebuild program
 - 118 coaches undergoing rebuild
 - Life extending – 10 to 15 years
- Possible procurement of new coaches
 - Coach for coach replacement
 - Single levels replaced by bi-levels
 - Explore potential options on Rotem procurement
 - Significantly reduces delivery time for known product



Structures

- Draw 1/Tower A at North Station
- East Street Bridge
- Bacon Street Bridge

Stations

- Construct Blue Hill Avenue Station (Fairmount Line)
- Provide platform and upgrade Ruggles Station
- Upgrades to Ballardvale and Andover Stations
- Design and plan for accessibility improvements at Winchester, Auburndale, Natick Center, Mansfield, South Attleboro Stations

South Station Expansion

- South Station is at capacity today
- Provides ability to grow on South Side
- Addresses need for midday layover

South Coast Rail

- Expands service to New Bedford/Fall River region

Systemwide Track & Signal Upgrades

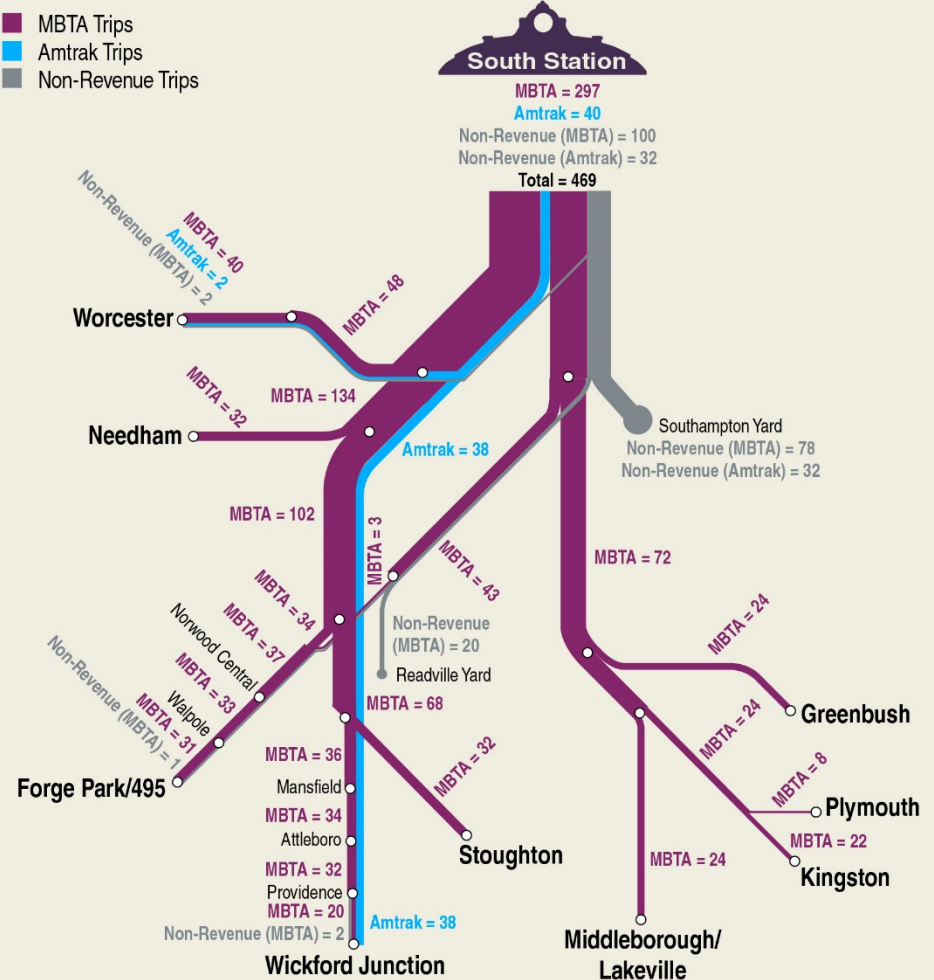
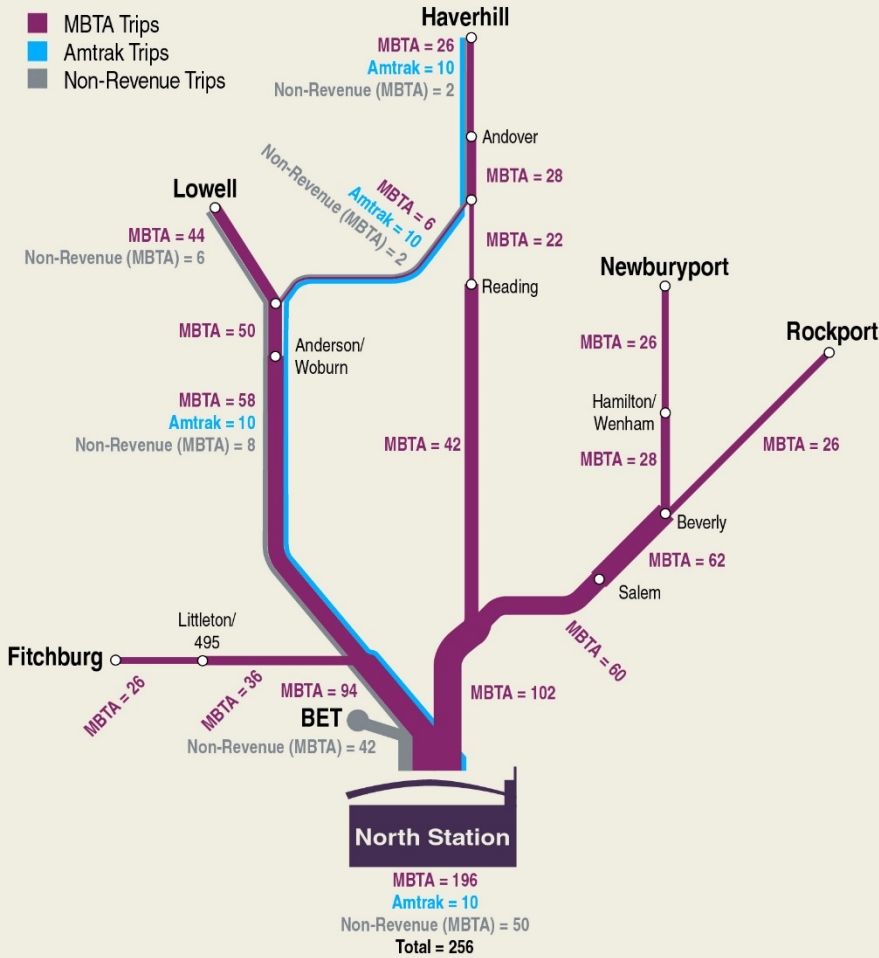
- Replace jointed rail with CWR
- Restore double track
- Modernize signal system

APPENDIX



Overview of the System

Operations – Train Volumes

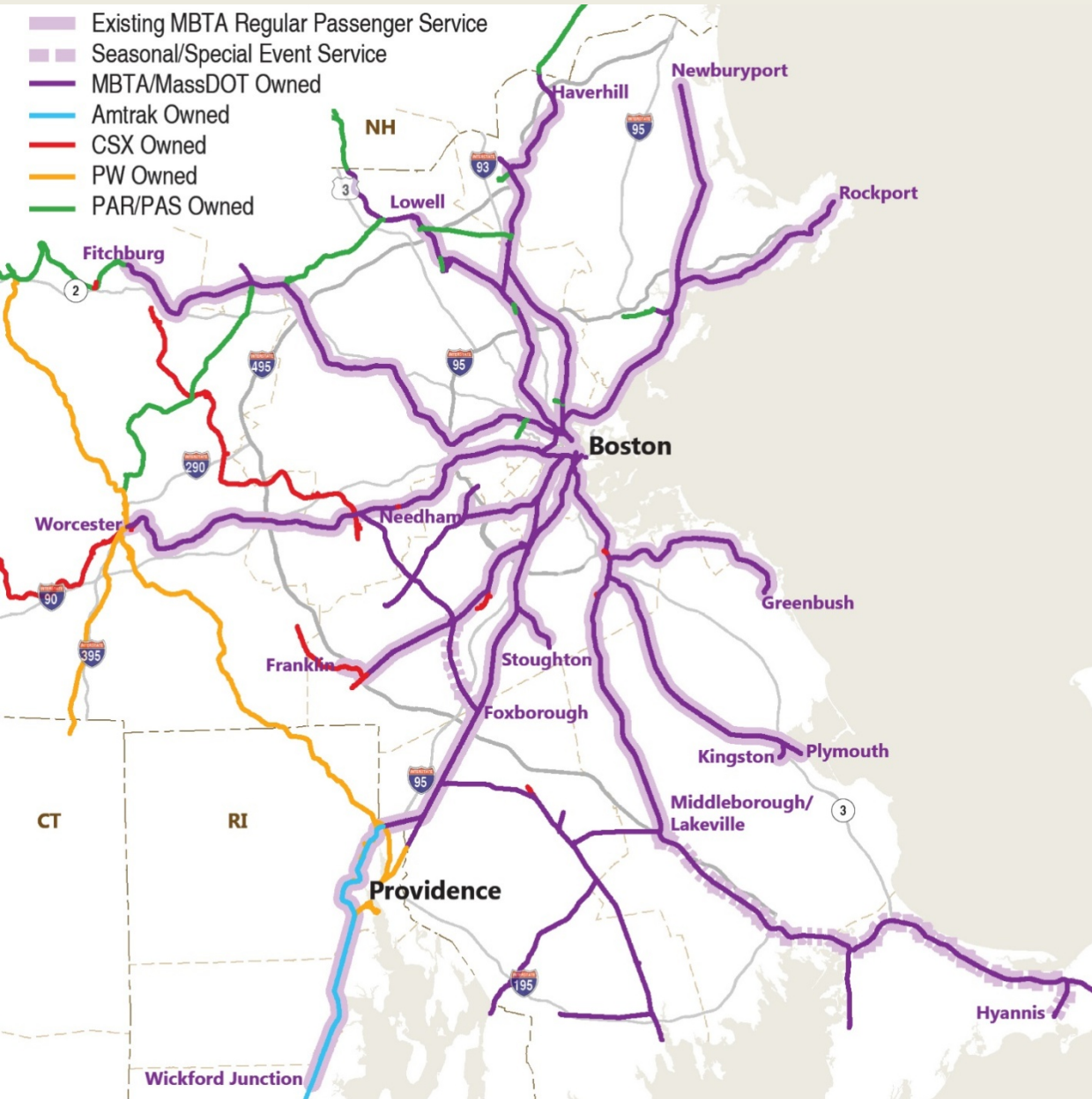


Source: North Side Equipment Cycle, Effective June 29, 2015.
 South Side Equipment Cycle, Effective June 15, 2015.
 Train Schedules, Effective December 14, 2015.

Overview of the System

Ownership and Agreements

- Existing MBTA Regular Passenger Service
- Seasonal/Special Event Service
- MBTA/MassDOT Owned
- Amtrak Owned
- CSX Owned
- PW Owned
- PAR/PAS Owned



MBTA owns the right of way used for existing passenger service within Massachusetts

Amtrak is the primary owner of the Northeast Corridor outside of Massachusetts

Proposed extension of service to Wachusett Station would operate over a segment of Pan Am track

Proposed extension of service beyond Forge Park would operate over CSX track

Overview of the System

Operations – Service Delivery Policy



| Service Area | Service Delivery Policy Standard | Commuter Rail Actuals |
|-----------------------------|---|---|
| Span of Service | <ul style="list-style-type: none"> • Weekday: 7AM – 10PM • Saturday: 8AM – 6:30PM | <ul style="list-style-type: none"> • Weekday: 3:30AM-1:40AM • Saturday: 6:35AM-11:30PM |
| Minimum Frequency (weekday) | <ul style="list-style-type: none"> • AM/PM: 3 peak direction trips • All others: 180 minutes each direction | <ul style="list-style-type: none"> • AM/PM: 4 peak direction trips • All others: 100 minutes each direction |
| Safety and Comfort | <ul style="list-style-type: none"> • AM, Midday, PM Peak: 110% passengers/seat • Off-Peak: 100% passengers/seat | <ul style="list-style-type: none"> • AM, Midday, PM Peak: 98.58% trains met standard • Off-Peak: 100% trains met standard |
| Schedule Adherence | <ul style="list-style-type: none"> • 92% On-Time Performance | <ul style="list-style-type: none"> • 92.5% On-Time Performance (March 2016) |

Source: MBTA Service Delivery Policy.
MBTA Service Reliability Metrics Presentation
(2/29/16).

**Commuter Rail's
reliability target is
the highest in the
MBTA system**

Proposed On-Time Performance Targets



COMMUTER RAIL
92%



SUBWAY
90%



BUS
75%

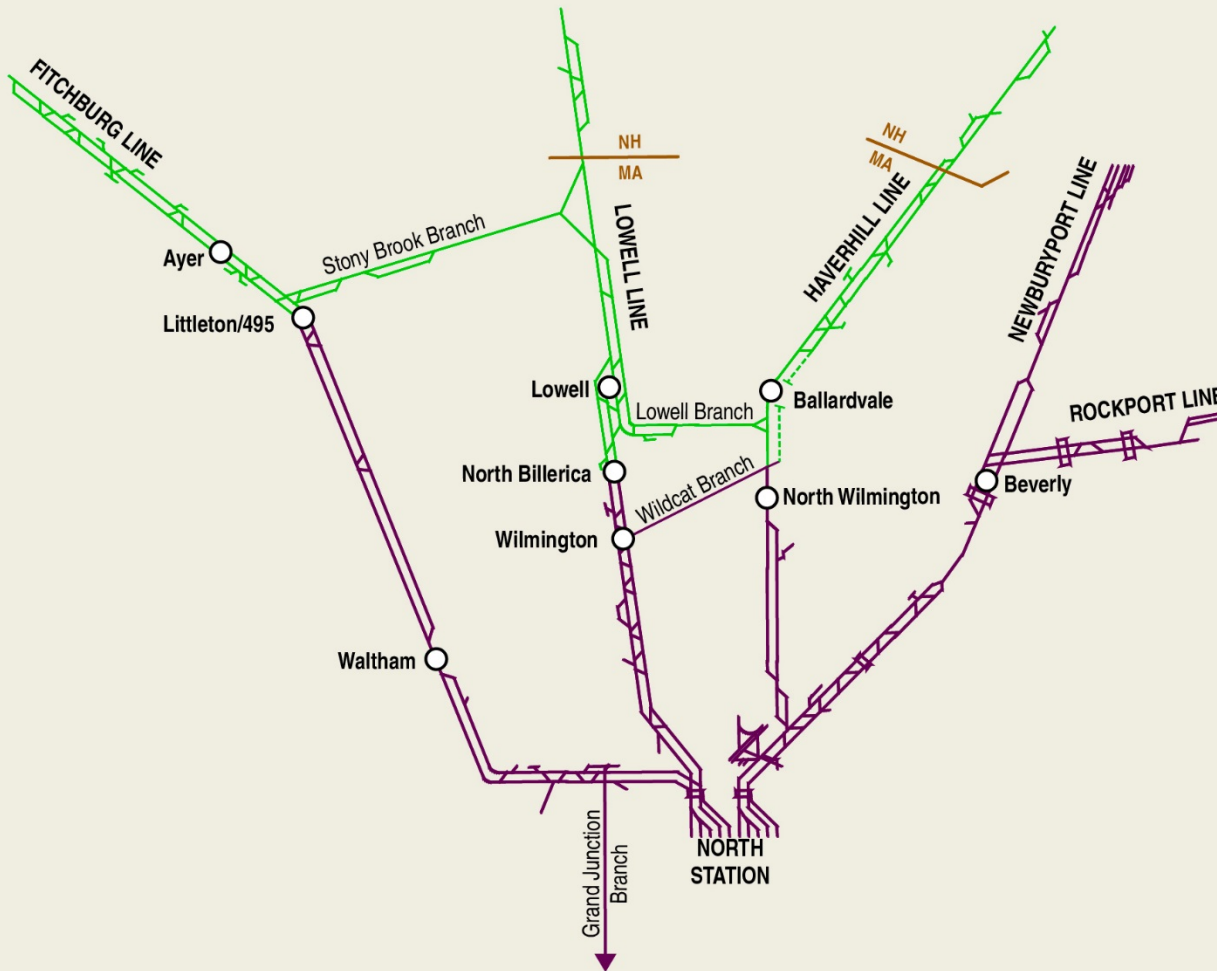
Overview of the System

Dispatching – North Side

- MBTA/Keolis Cobble Hill Dispatching System “ARINC”
- PAR/ST Computer Dispatching System “TRAINTRAK”

MBTA controls dispatching on much, but not all, of the commuter rail network

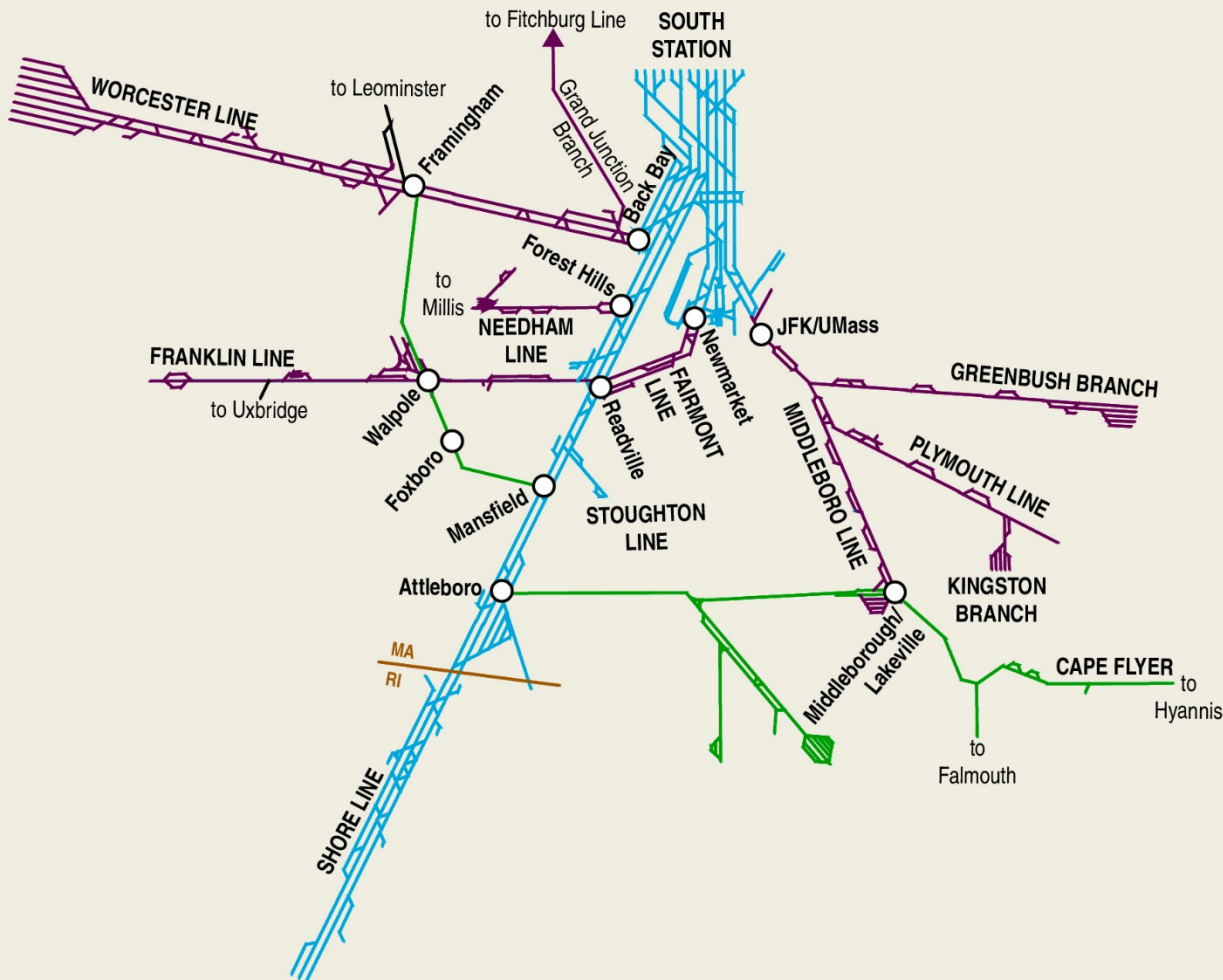
Pan Am controls dispatching on segments of the Haverhill, Lowell, and Fitchburg Lines



Overview of the System

Dispatching – South Side

- Mass Coastal Railroad
- MBTA/Keolis at Centralized Electrification & Traffic Control CETC
- Amtrak Centralized Electrification & Traffic Control CETC

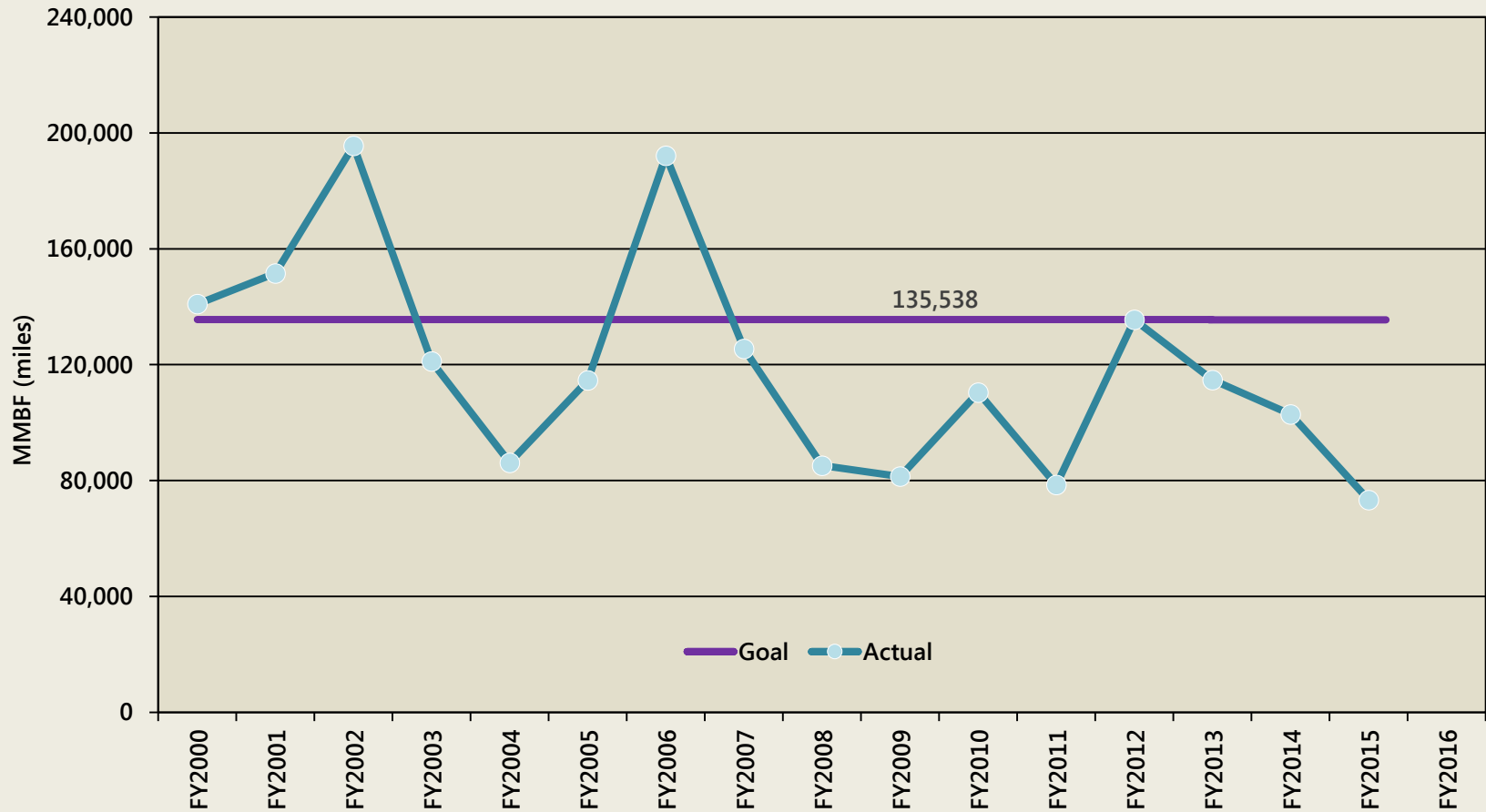


Amtrak controls dispatching along the entire Northeast Corridor, at South Station, and over a small segment of the Dorchester Branch

Mass Coastal controls dispatching along the Framingham Secondary, Middleborough Secondary, and Cape Main Line

Commuter Rail Vehicle Fleet

Mean Miles between Failure for CR Coach Fleet



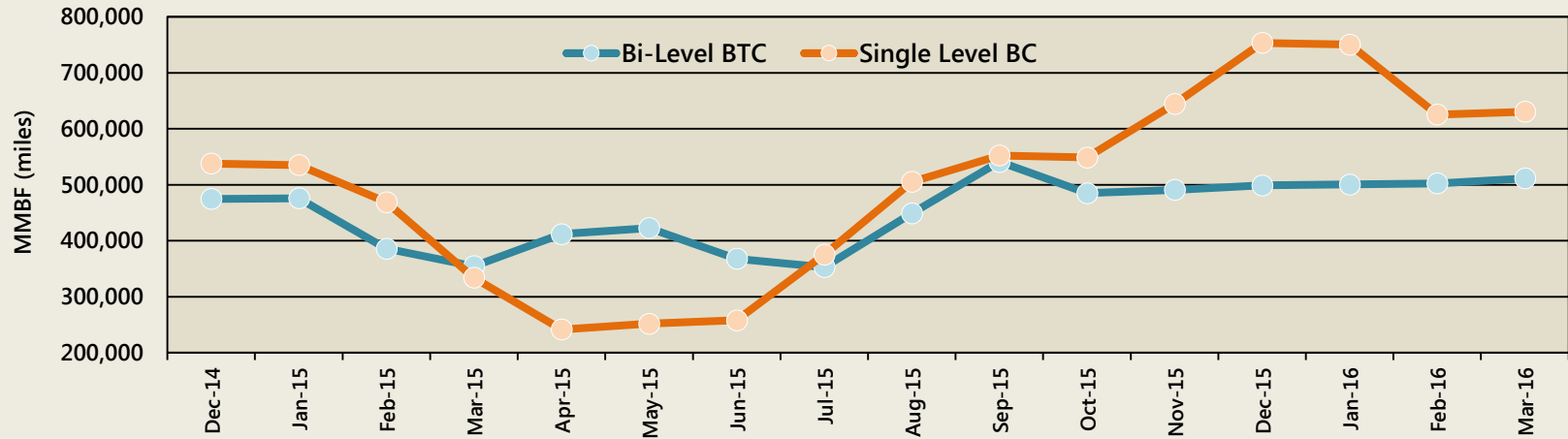
Source: Modified from FY 2016 – 2030 MBTA Commuter Rail Fleet Management Plan - DRAFT.

Commuter Rail Vehicle Fleet

Coach Equipment Type MMBF Comparison

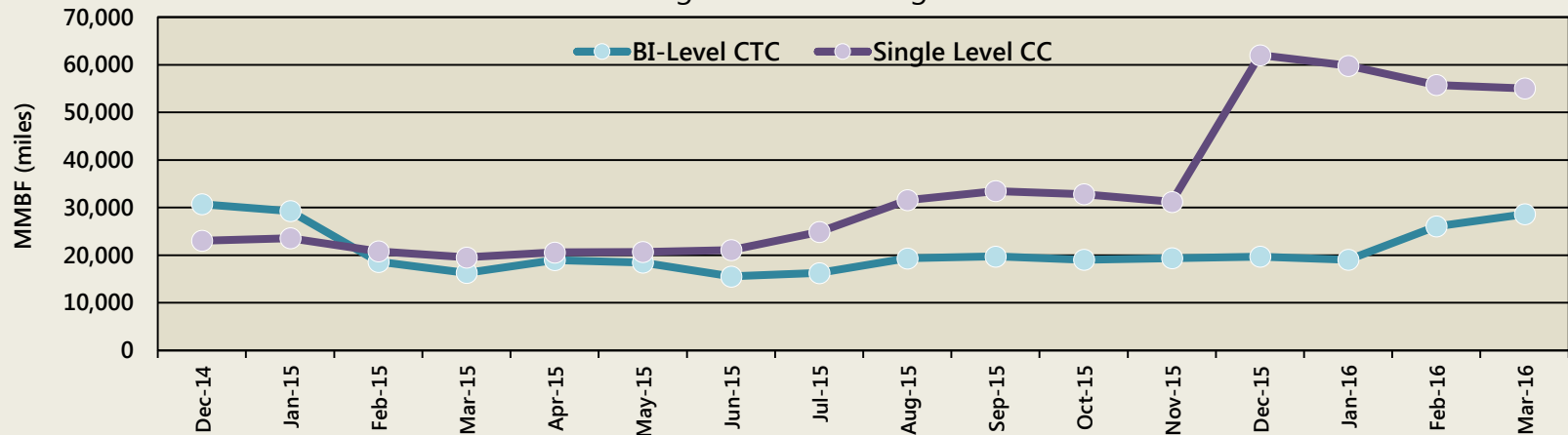
MMBF By Blind Coach Equipment Type (FY15 – FY16)

Rolling 6-Month Average



MMBF By Control Coach Equipment Type (FY15 – FY16)

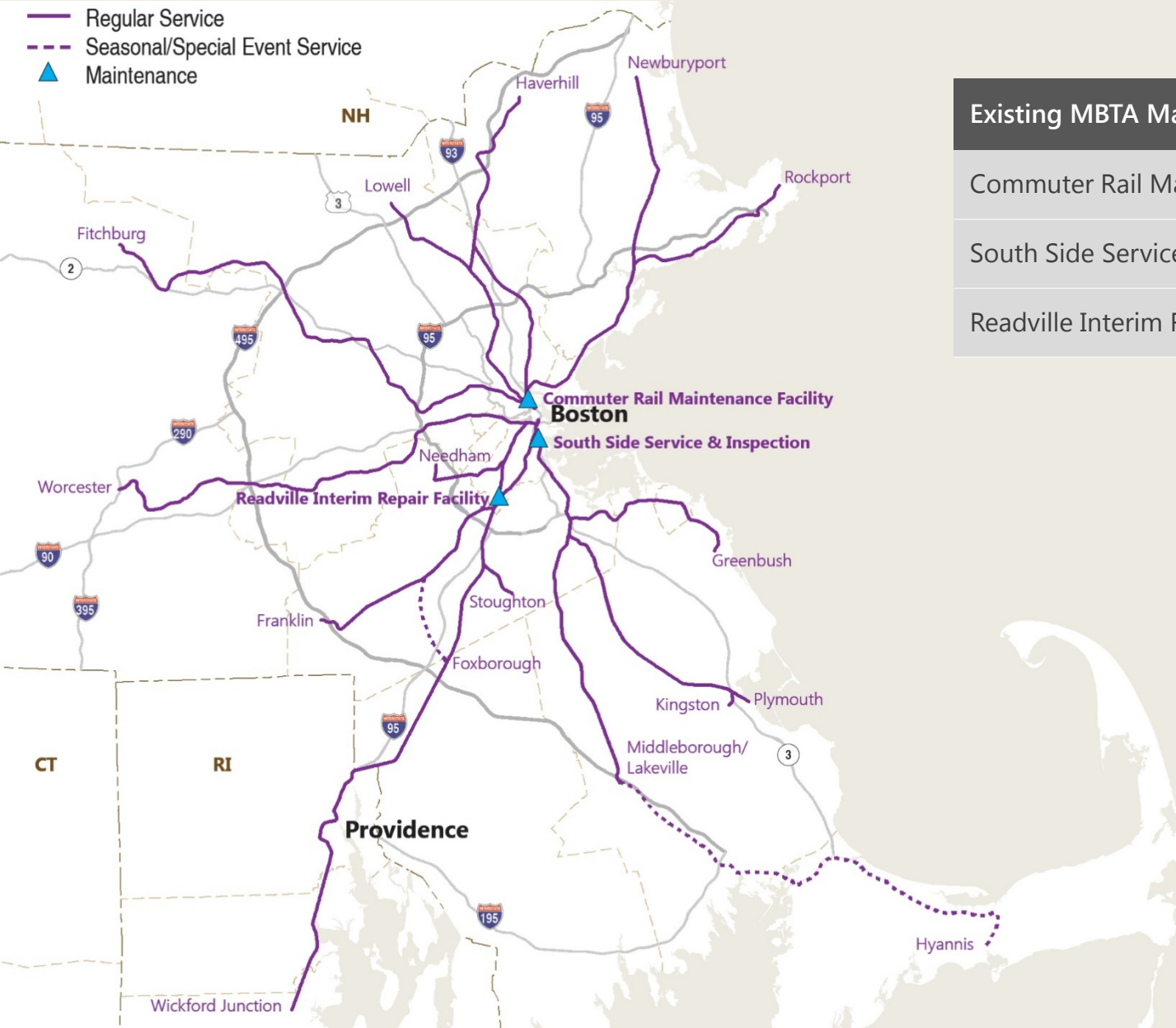
Rolling 6-Month Average



Maintenance and Layover Facilities

Maintenance Facilities

- Regular Service
- - - Seasonal/Special Event Service
- ▲ Maintenance



Existing MBTA Maintenance Facilities

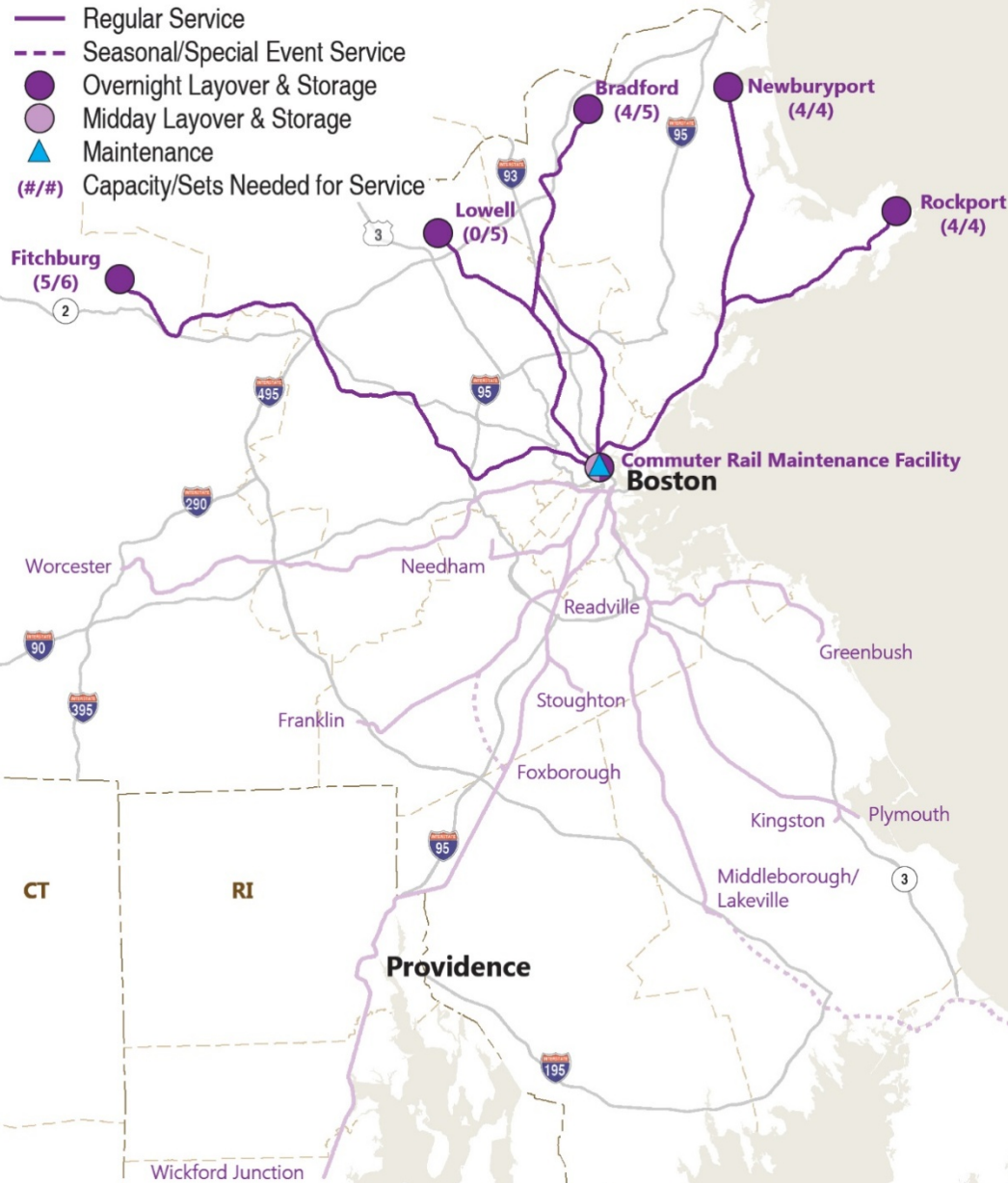
Commuter Rail Maintenance Facility (CRMF)

South Side Service & Inspection

Readville Interim Repair Facility

Maintenance and Layover Facilities

Overnight and Midday Layover Facilities – North Side

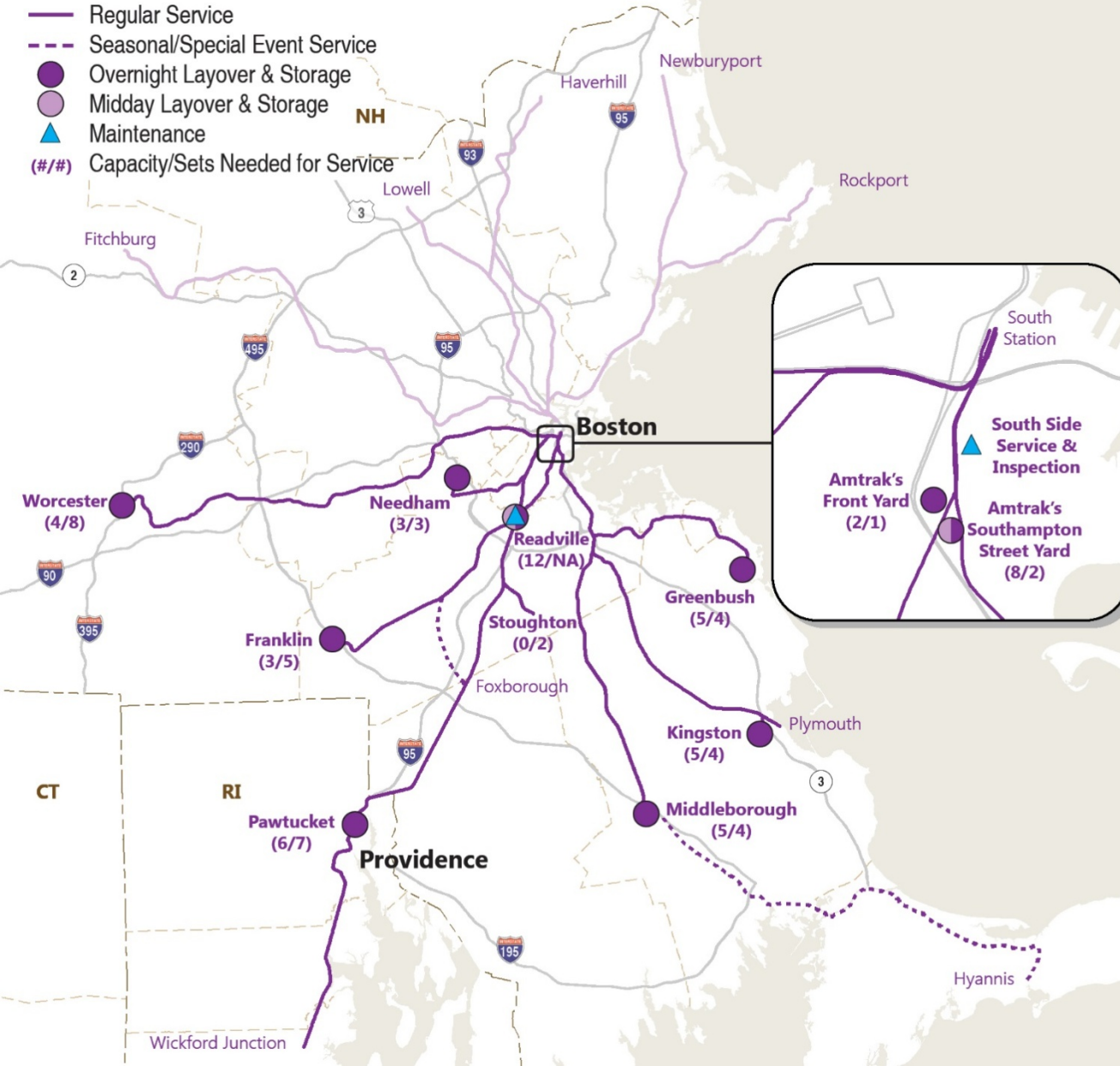


| Location | Consist Capacity | Sets Needed for Service |
|---|------------------|-------------------------|
| OVERNIGHT LAYOVER FACILITIES | | |
| Rockport | 4 | 4 |
| Newburyport | 4 | 4 |
| Bradford | 4 | 5 |
| Lowell | 0 | 5 |
| Fitchburg (Wachusett replaces Fitchburg in 2016) | 5 (6) | 6 |
| Commuter Rail Maintenance Facility (CRMF) | 12 | 1 (spare) |
| <i>Subtotal</i> | 29 (30) | 25 |
| MIDDAY LAYOVER FACILITIES | | |
| Commuter Rail Maintenance Facility (CRMF) | 12 | |
| <i>Subtotal</i> | 12 | |

Maintenance and Layover Facilities

Overnight and Midday Layover Facilities – South Side

- Regular Service
- - - Seasonal/Special Event Service
- Overnight Layover & Storage
- Midday Layover & Storage
- ▲ Maintenance
- (#/#)** Capacity/Sets Needed for Service



| Location | Consist Capacity | Sets Needed for Service |
|-------------------------------------|------------------|-------------------------|
| OVERNIGHT LAYOVER FACILITIES | | |
| Worcester | 4 | 8 |
| Needham | 3 | 3 |
| Franklin | 3 | 5 |
| Pawtucket | 6 | 7 |
| Stoughton | 0 | 2 |
| Boston (Readville) | 12 | N/A |
| Middleborough | 5 | 4 |
| Kingston | 5 | 4 |
| Greenbush | 5 | 4 |
| Boston (Amtrak SHSY) | 8 | 2 (Fairmount) |
| Boston (Amtrak Front Yard) | 2 | 1 (spare) |
| <i>Subtotal</i> | 53 | 40 |
| MIDDAY LAYOVER FACILITIES | | |
| Boston (Readville) | 12 | |
| Boston (Amtrak SHSY) | 8 | |
| <i>Subtotal</i> | 20 | |

Revenues

Monthly MBTA Commuter Rail Unallocated Revenue

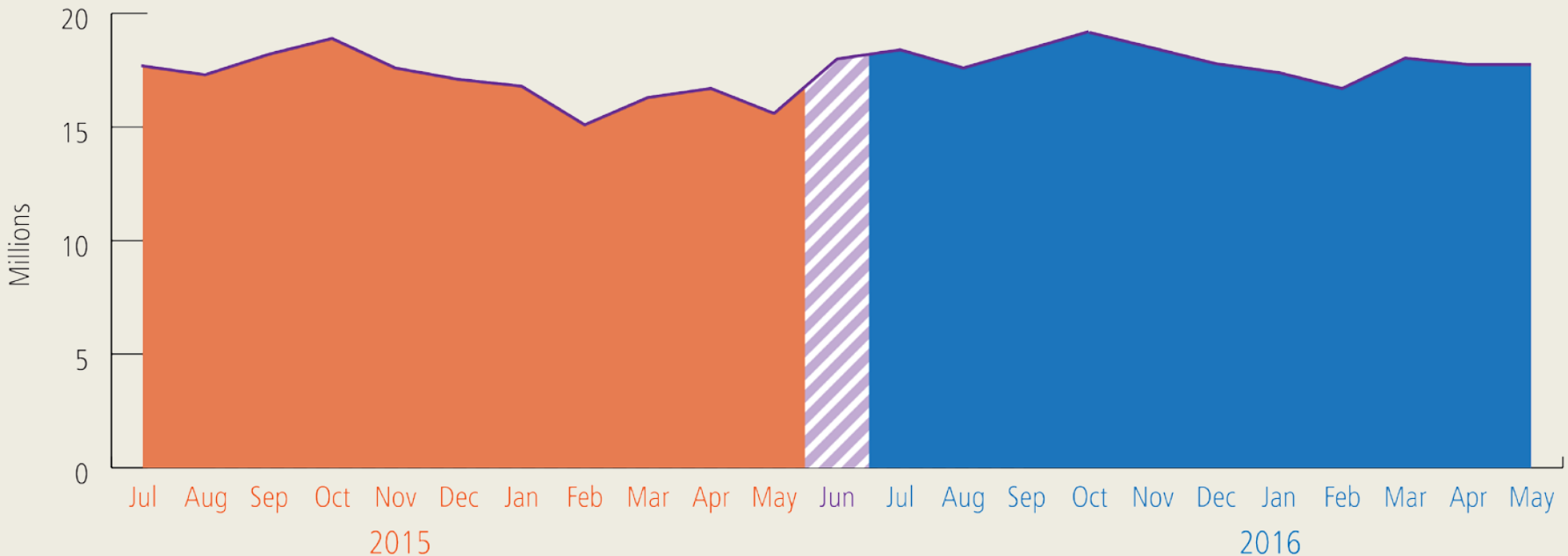
First 11 months of FY2015

First 11 months of FY2016

\$186.7M

\$197.6M

6%↑

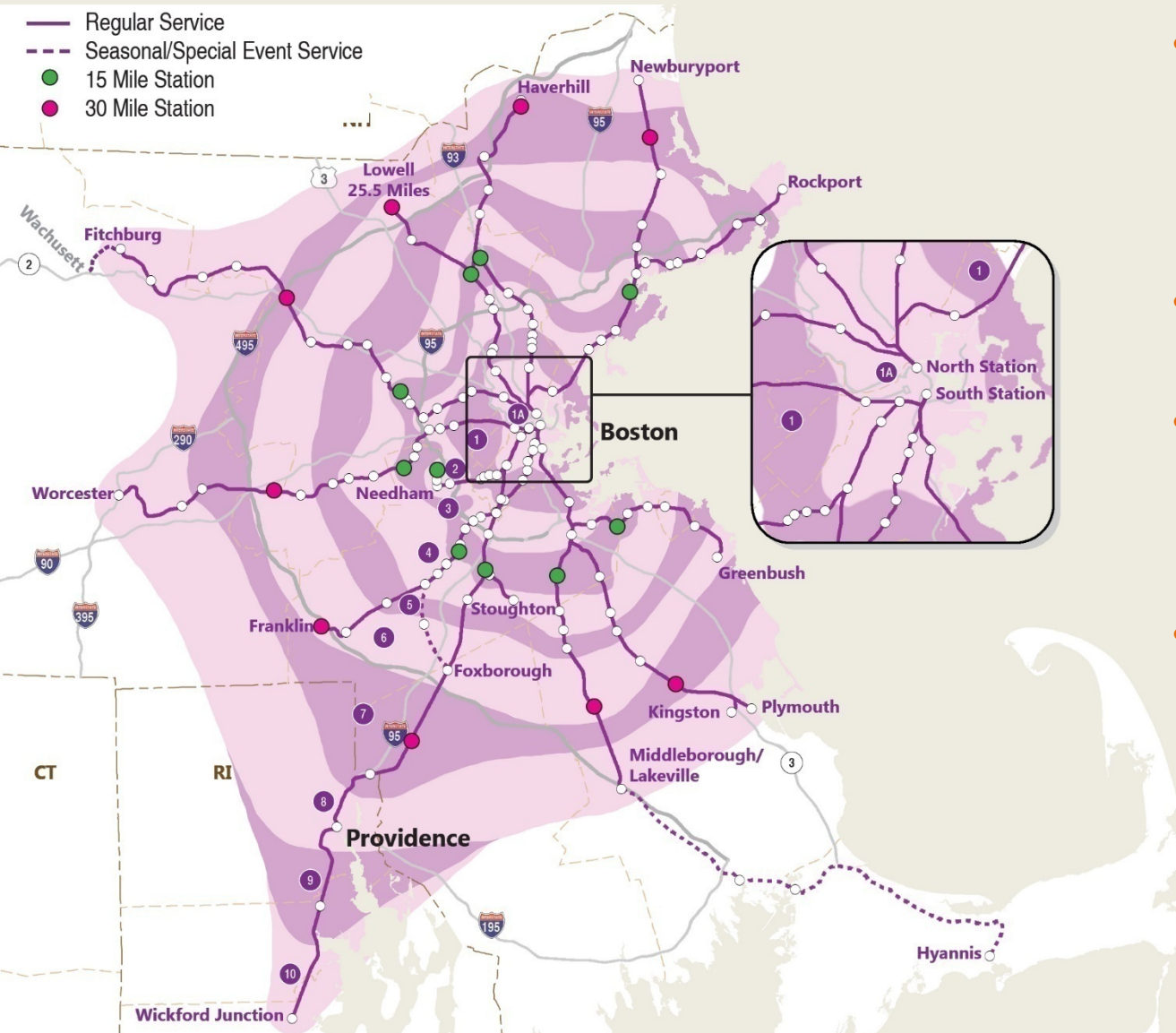


Note: Chart above shows "unallocated" commuter rail revenue, prior to CTPS allocation for linked trips to other modes.

Source: CTPS MBTA Unit Sales for Fiscal Year 2015, 2016.

Ridership

Zone Structure and Travel Times



- There are 11 commuter rail zones (Zone 1a through Zone 10) with one-way fares between \$2.10 and \$11.50
- There are 14 stations¹ in Zone 1a alone
- The Needham and Fairmount Lines are entirely within Zones 1 and 2
- The Providence Line is the only one extending beyond Zone 8, with one station (T.F. Green) in Zone 9 and one (Wickford Junction) in Zone 10

¹ Including North Station and South Station

Ridership

Characteristics of High Ridership Stations

2,389

Salem

2,077

Mansfield

1,770

Lowell

1,681

Beverly

1,665

Attleboro

1,604

Route 128

1,502

Anderson

1,475

Worcester

1,462

South Attleboro

1,341

Providence



Why Boarding Rate is High

More frequent service

Higher density land use and mix of uses

Located at the end of the line

Ample parking supply and highway access

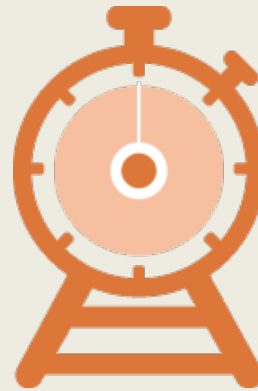
Higher train speeds are allowed

Stations are fully or partially accessible



Reliability

Almost 2/3 of the commuter rail lines operated at **92% on-time performance or greater** over the last 12 months



Coverage Area

More than **60% (86)** of all commuter rail stations are **greater than a 30 minute travel time** from North or South Station.



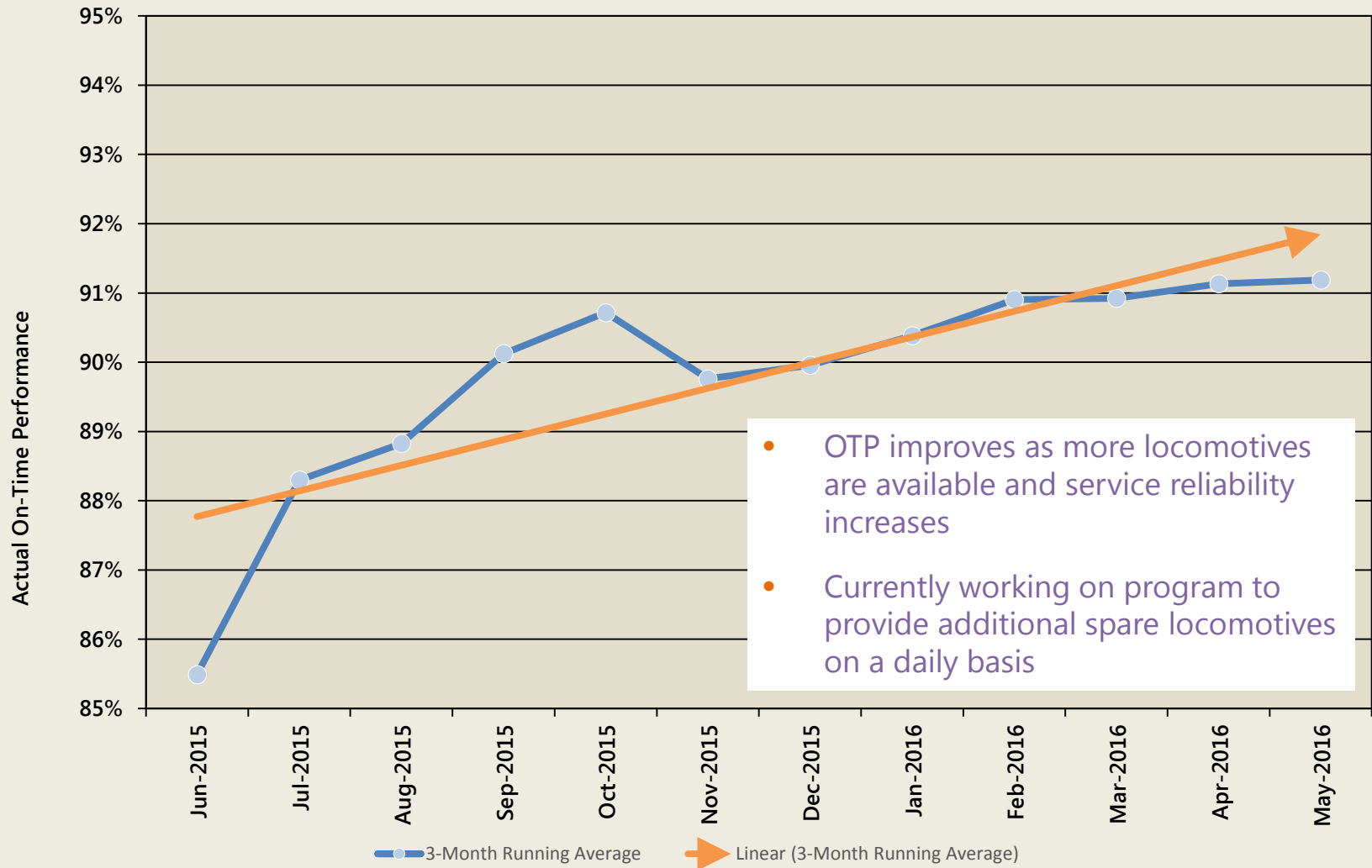
Train Frequency

Each weekday, commuter rail operates **over 500 trains**, of one-way distances **between 10 and 63 miles**

| ASSET CATEGORY | NORTH SIDE | SOUTH SIDE | TOTAL |
|---------------------------|---------------|---------------|---------------|
| Total Track Miles | 327.82 | 410.12 | 737.44 |
| Revenue Track Miles | 297.27 | 342.90 | 640.17 |
| Layover Track Miles | 11.87 | 12.79 | 24.66 |
| Non-Revenue Track Miles | 18.18 | 54.43 | 72.61 |
| Single Track Miles | 45.07 | 133.69 | 178.76 |
| Grade Crossings | 169 | 187 | 356 |
| Culverts | 176 | 129 | 305 |
| Undergrade Bridges | 139 | 216 | 355 |
| Interlockings | 61 | 84 | 145 |
| Switches | 386 | 431 | 817 |
| Hand Throw Switches | 165 | 197 | 362 |
| Power Switches | 221 | 234 | 455 |

On-Time Performance

Systemwide Actual On-Time Performance



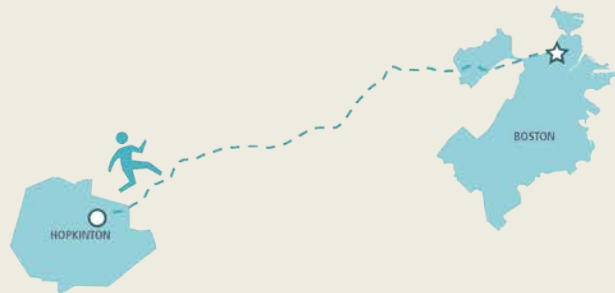
Systemwide Challenges (Continued)

Drawbridges

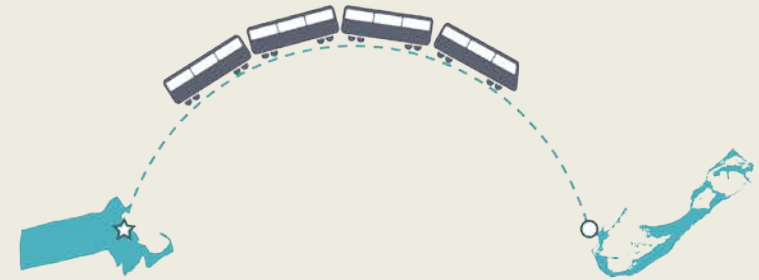
| Drawbridge | Condition | Replacement Cost | Year Built | |
|--|------------|---|------------|------|
|  | Gloucester | Structurally Deficient – to be replaced | \$60M | 1911 |
|  | Beverly | Structurally Deficient – to be replaced | \$56M | 1885 |
|  | Saugus | Structurally Deficient – to be replaced | \$60M | 1911 |
|  | Manchester | Structurally Adequate | N/A | 1944 |
|  | Tower A | Structurally Deficient – to be replaced | \$121M | 1931 |

Commuter Rail at a Glance

Fun Facts



The **total length** of commuter rail platforms is greater than the **Boston Marathon** route.



If lined end to end, the **total MBTA commuter rail track miles** would extend from **Boston to Bermuda**.



There are as many **grade crossings** on the north as on the south side, though there are less than half as many lines.



The **Fitchburg Line** is the longest and has the most assets of all the commuter rail lines. It also had the **best on-time performance (97%)** in January 2016



Commuter rail has **818 active, operating switches** on its system – that's a switch a mile!



The commuter rail network has **178 miles of single track**. That's the equivalent of walking the length of the Blue Line **30 times**.

MBTA STATE OF THE SERVICE
System Map

