

# **MBTA**

## **State of the Service:**

### **Red Line Heavy Rail**

**January 25, 2015**

# Key Facts: Red Line



- Over 280,000 trips each weekday—the MBTA’s busiest line, and about 22% of all MBTA ridership
- Asset value: \$2.2b
- Overall SGR rating: 2.27
- SGR Backlog: \$1.5b
- 22 stations
- Right of Way
  - 54 track miles (yard + revenue)
  - 165 switches, 16 signal bungalows
  - 64 bridges (31 transit, 22 road, 11 pedestrian)
  - 9 miles of tunnel section
- 218 Red Line vehicles
  - 168 for peak service
  - 1.1 million miles per month

# Key Facts: Red Line

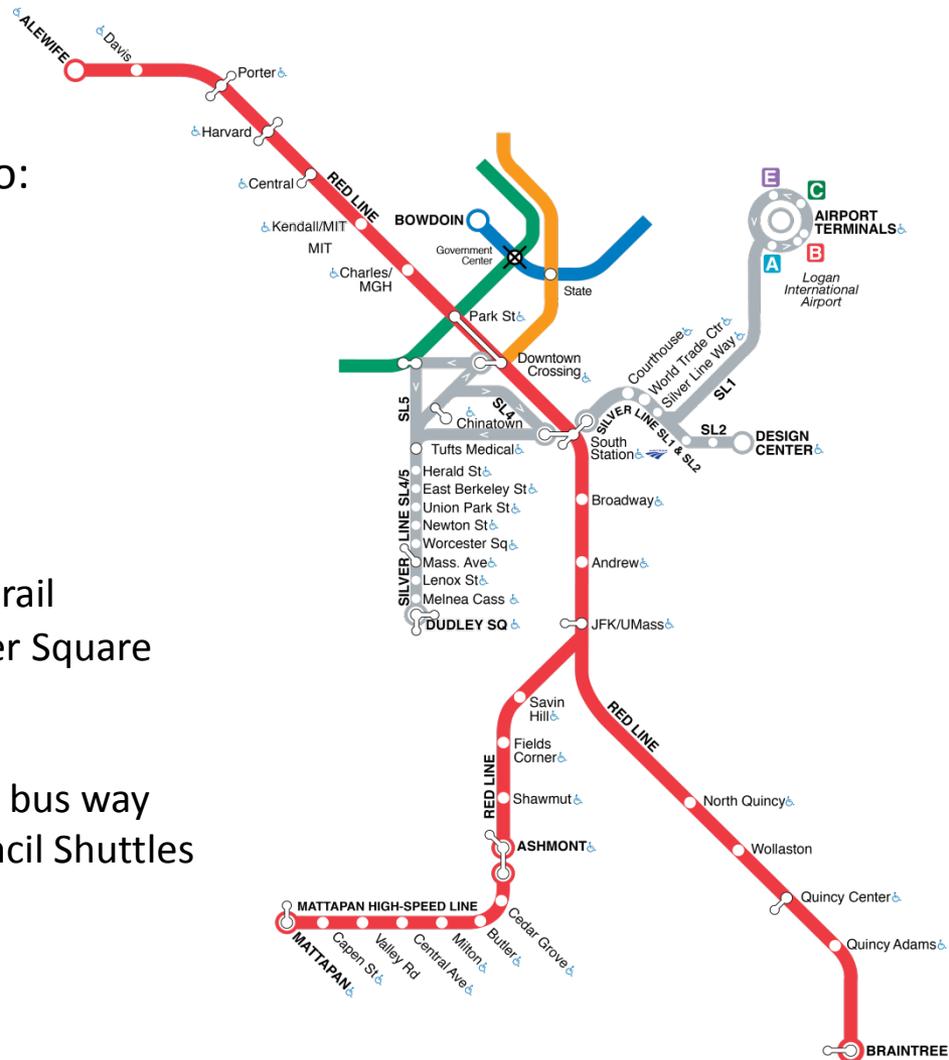


- Core frequencies:
  - Peak: every 4-5 minutes
  - Off-peak: every 6-8 minutes
- Staff:
  - Direct: 447
  - Indirect: 813
- Parking
  - 10 locations
  - 8,600 spaces
  - \$14 m annual income
- Concessions / Leases
  - 35+ active
  - \$1.1 m annual income

# Key Connections: Red Line

Direct connections to:

- 97 bus routes
  - 9 key bus routes
  - 5 Silver Line
- Orange Line
- Green Line
- Silver line
- South side commuter rail
- Fitchburg Line at Porter Square
  
- Mattapan Line
- Harvard underground bus way
- Rt. 128 Business Council Shuttles
- Brockton Area Transit
- EZ Ride Cambridge



Financial  
District

Seaport

Major tourist  
destinations

Major  
universities

Logan Airport

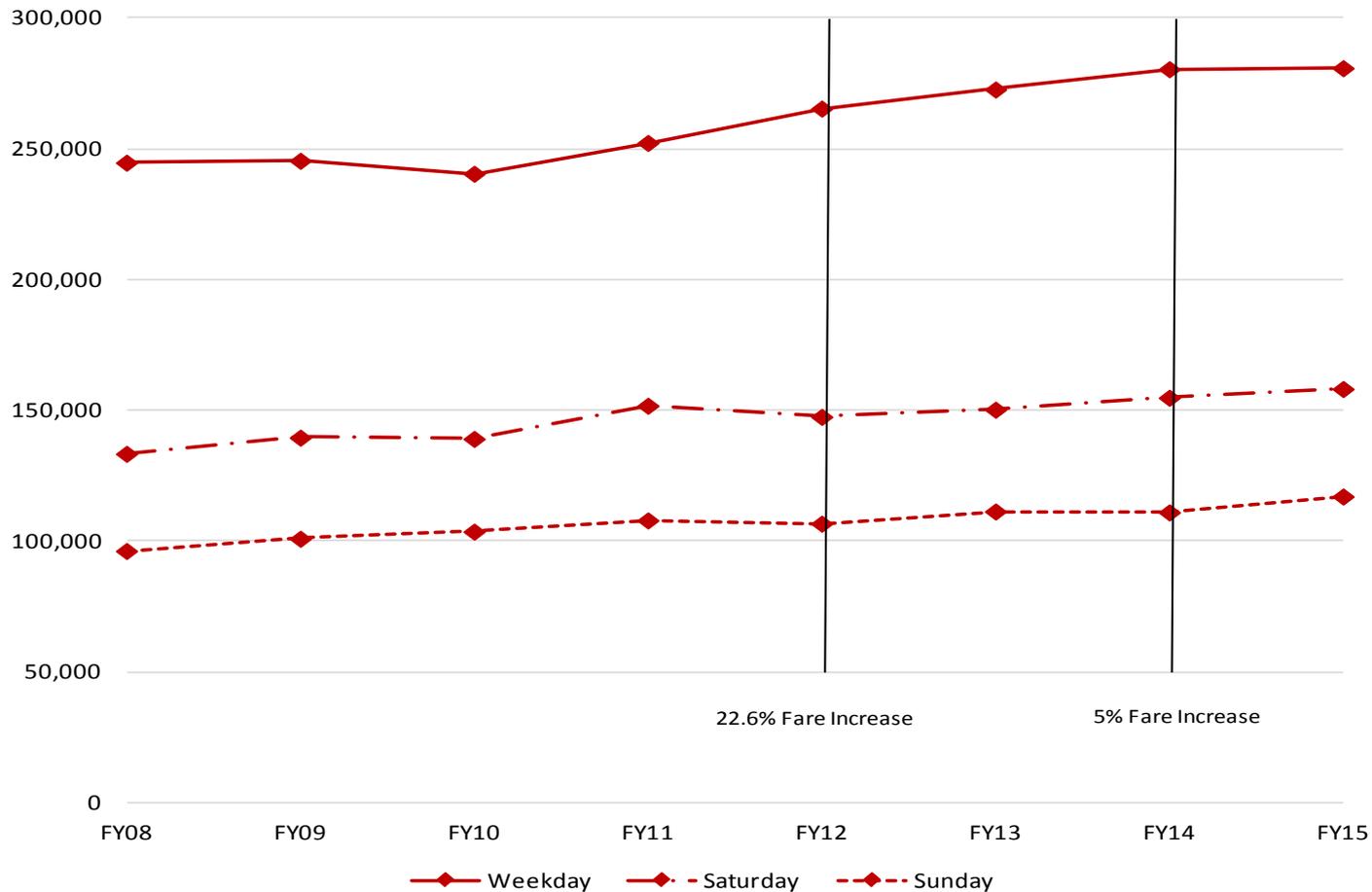
Kendall Square

Mass General  
Hospital

# Ridership Trends: Red Line

Current trend is overall growth, especially in off-peak times.

Average growth: Weekdays 2.0% Saturdays 2.5% Sundays 2.8%



# Ridership Volume: Red Line

Station	Station Entries (FY15)	Line
South Station	25,138	Red / Silver
Park Street	22,951	Red / Green
Downtown Crossing	21,875	Red / Orange
Harvard	21,336	Red
State	16,714	Orange / Blue
Back Bay	16,663	Orange
North Station	16,262	Orange / Green
Kendall	16,202	Red
Central	15,914	Red
Forest Hills	14,248	Orange



6 of top 10 weekday rapid transit stations are along Red Line

# Ridership Growth: Red Line

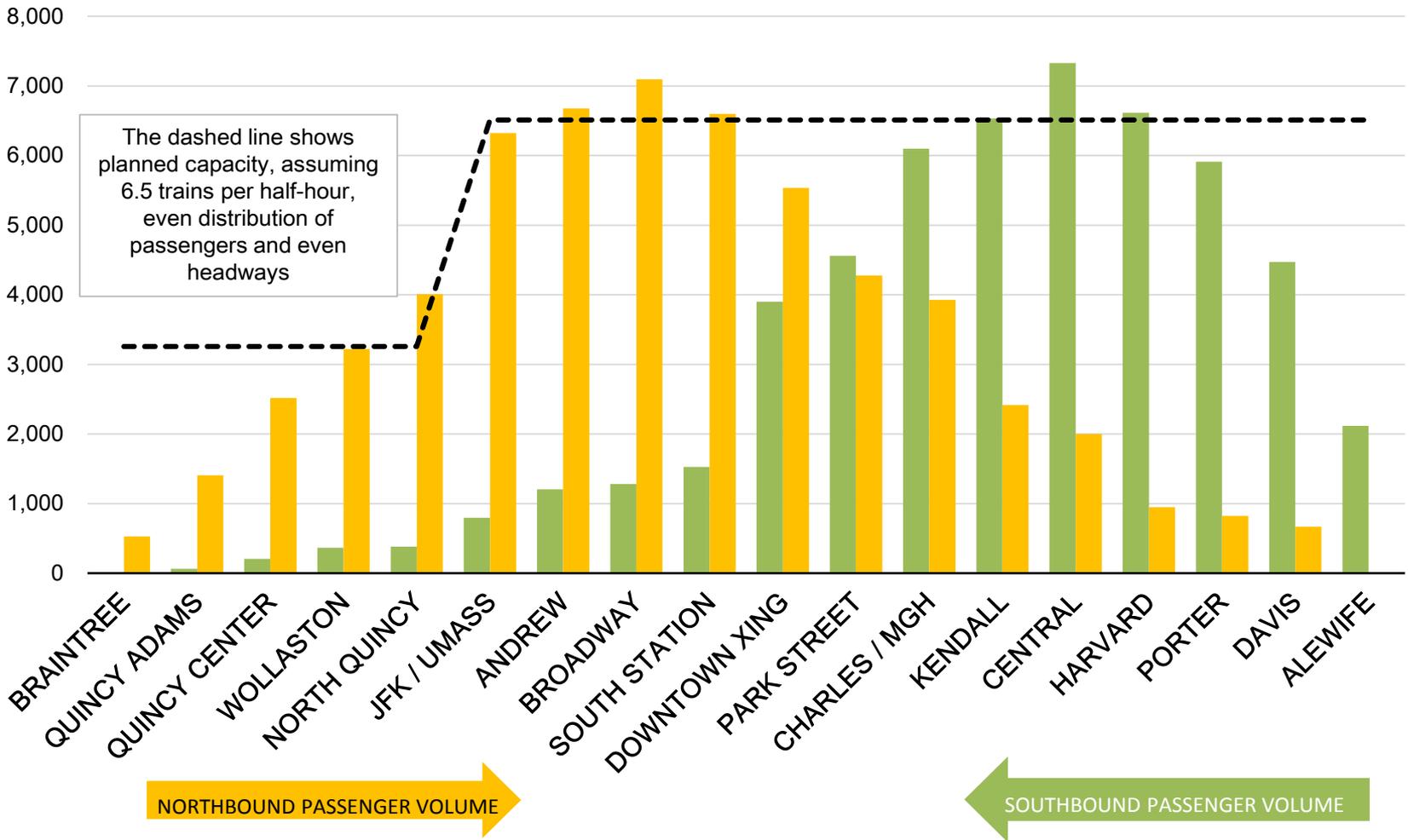
Station	Growth in Station Entries FY08-FY15	% Growth FY08-FY15	Line
State	4,678	39%	Orange / Blue
Ashmont	4,442	93%	Red
Park Street	4,041	21%	Red / Green
Kendall	3,421	27%	Red
South Station	3,276	15%	Red / Silver
Ruggles	2,945	40%	Orange
Haymarket	2,528	24%	Orange / Green
Broadway	2,479	63%	Red
Central	2,347	17%	Red
Assembly	1,864	n/a (new)	Orange



6 of top 10 highest growth weekday rapid transit stations are along Red Line

# Usage vs. Planned Capacity

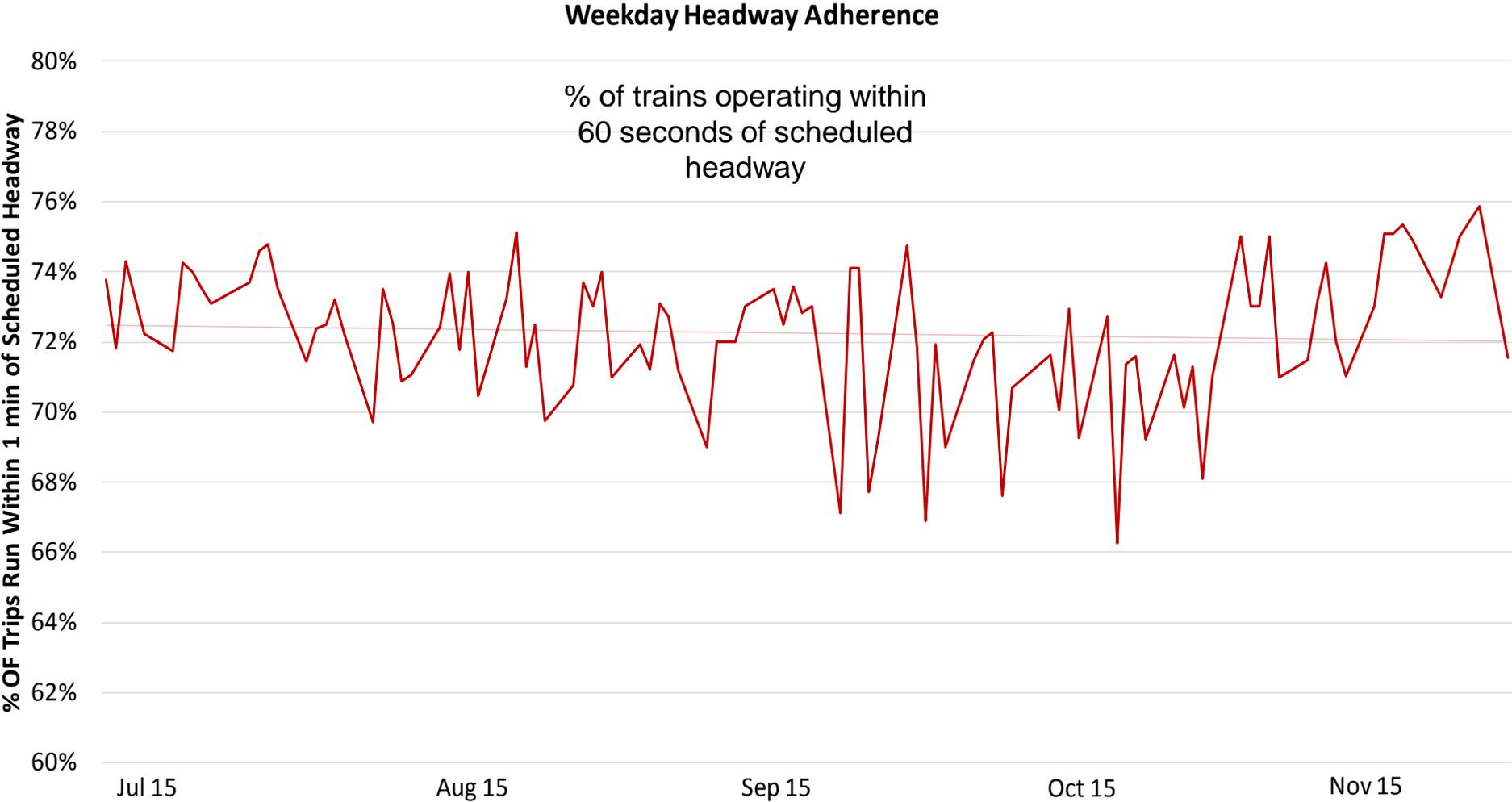
**BRAINTREE BRANCH**  
 8-8:30 AM, WEEKDAYS - MARCH AND APRIL 2015



NORTHBOUND PASSENGER VOLUME

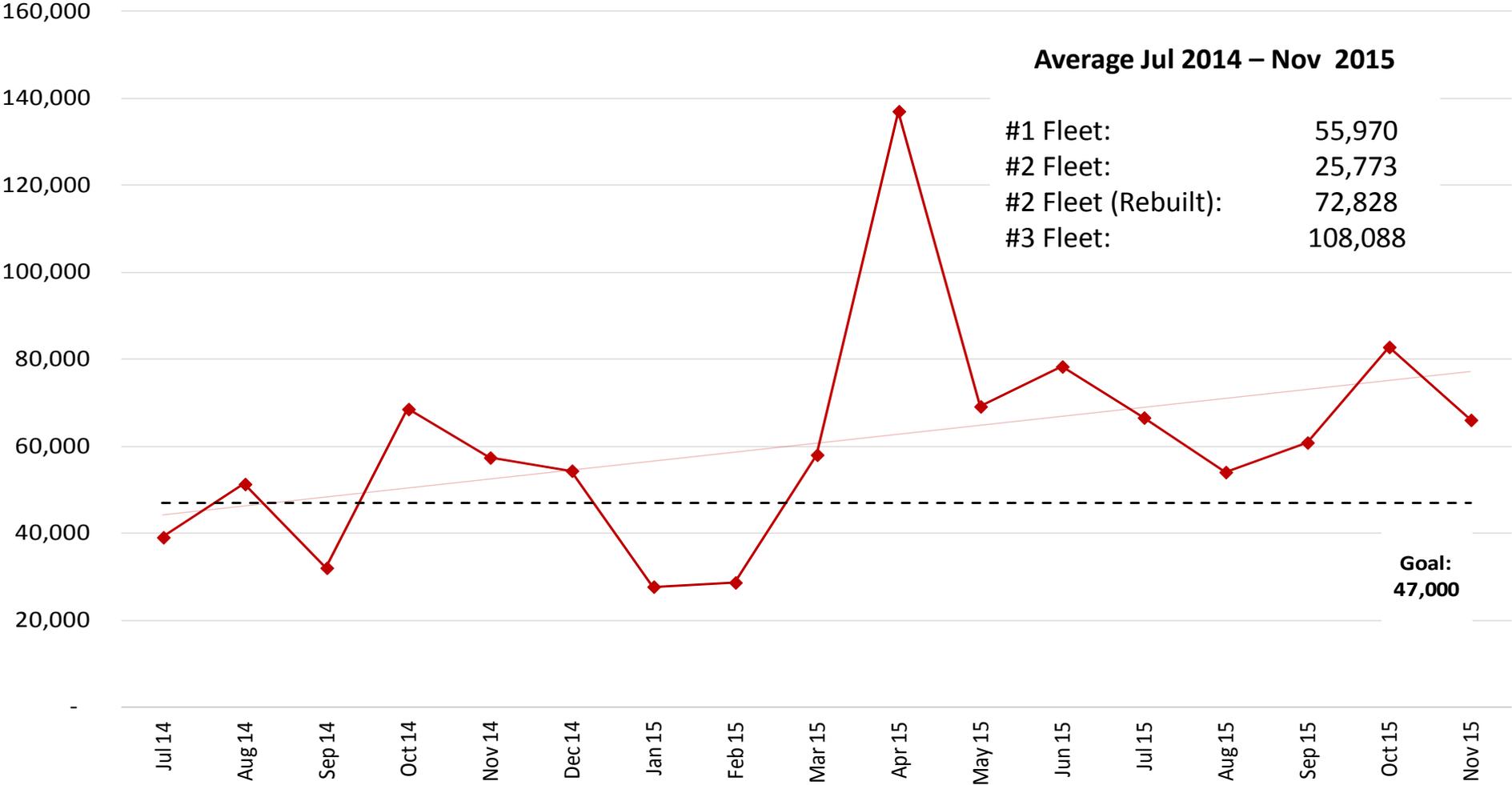
SOUTHBOUND PASSENGER VOLUME

# Performance: Red Line

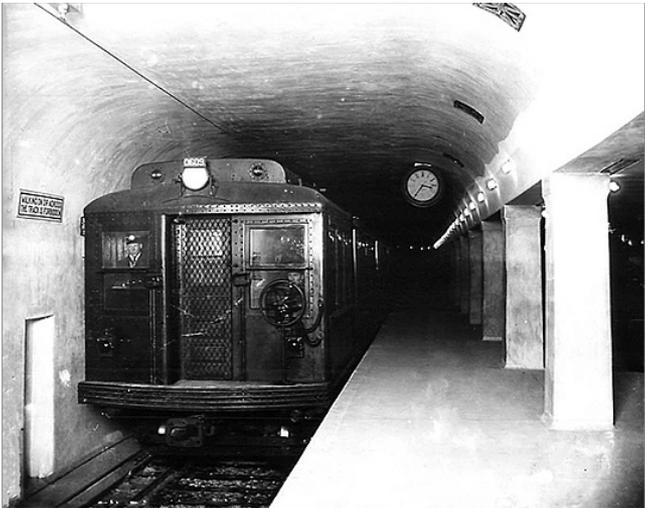
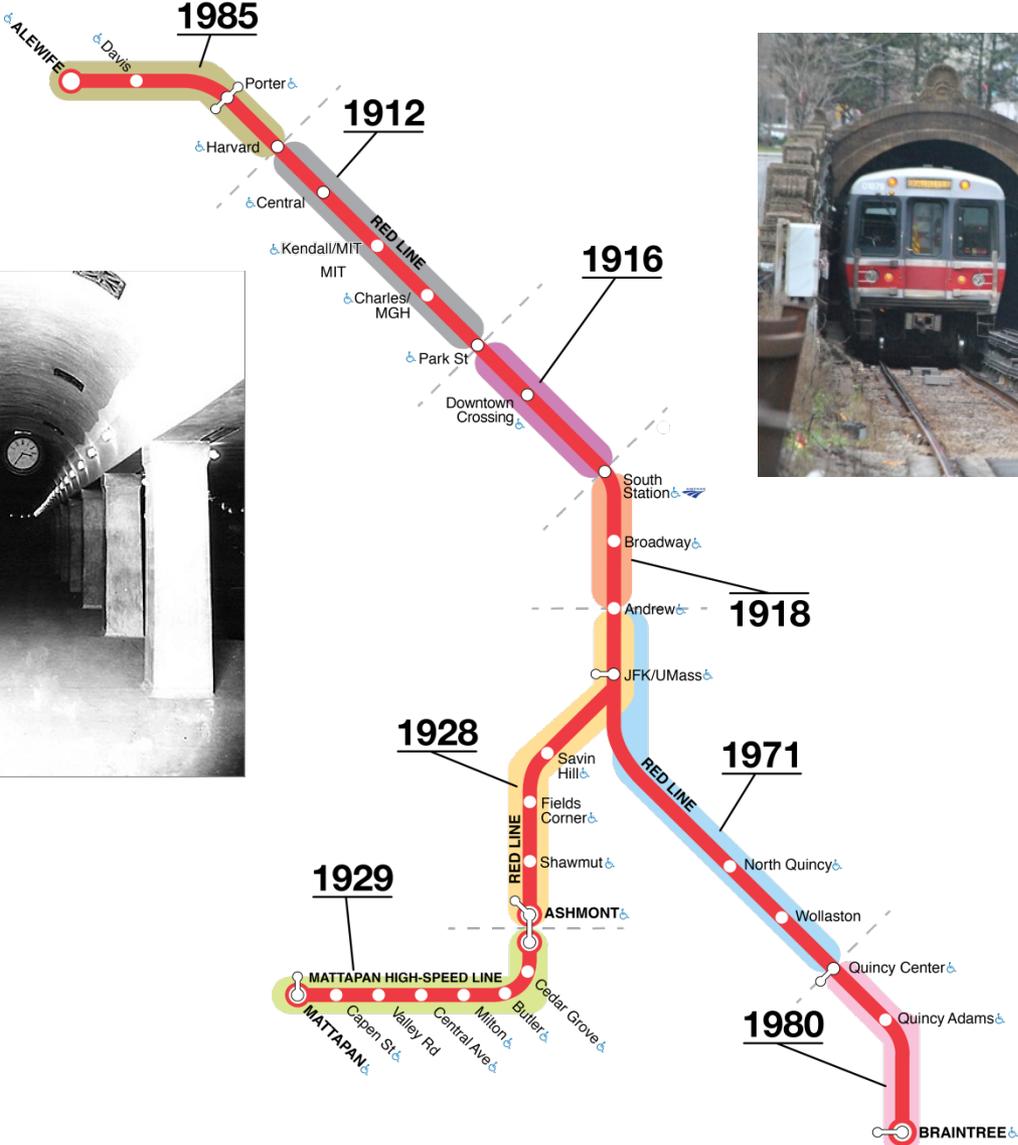


# Fleet Performance: Red Line

Red Line: Mean Miles Between Failures (MMBF)

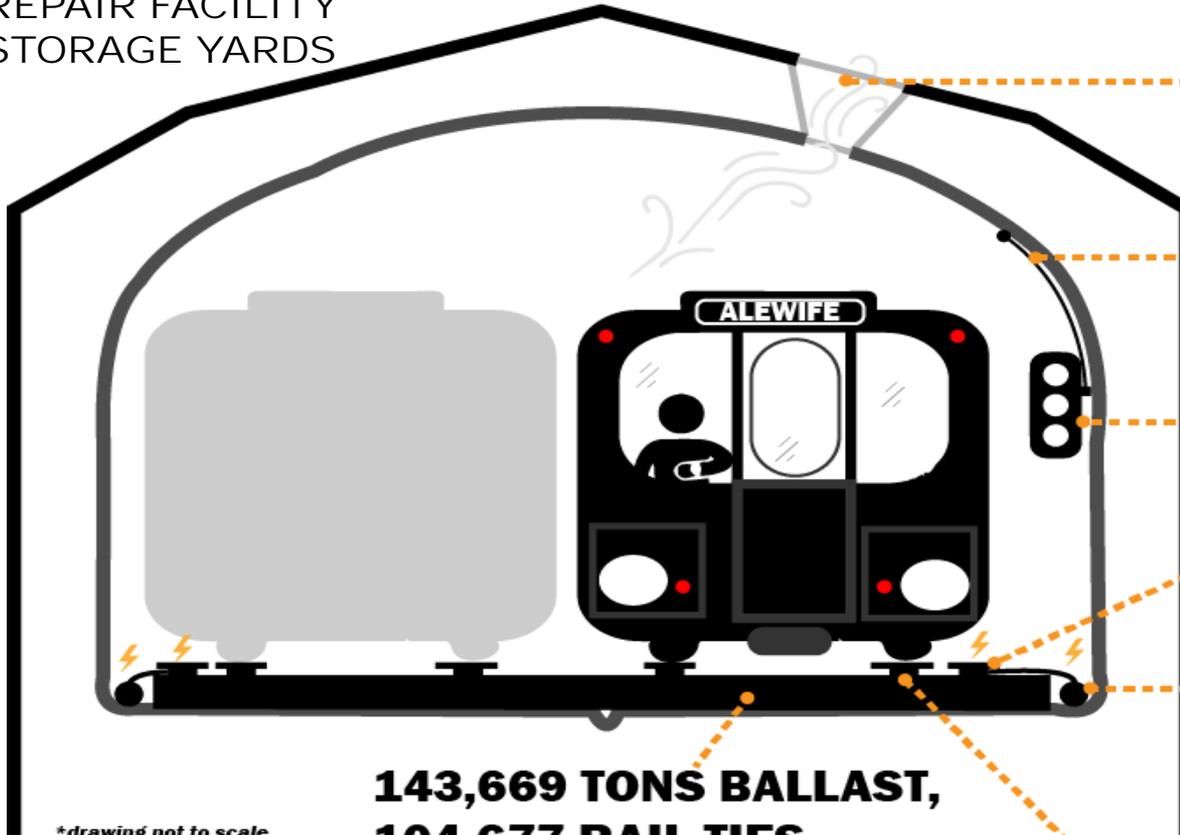


# Build Dates: Red Line



# Assets Overview: Red Line

218 VEHICLES (3 types)  
1 REPAIR FACILITY  
3 STORAGE YARDS



**50 VENTILATION  
SHAFTS**

**67 VENTILATION  
FANS**

**1,788,371 FT  
SIGNAL WIRES**

**92 SIGNALS**

**41.8 MILES  
MAINLINE TRACK  
AND 3RD RAIL**

**200 MILES  
POWER CABLE (DC)**

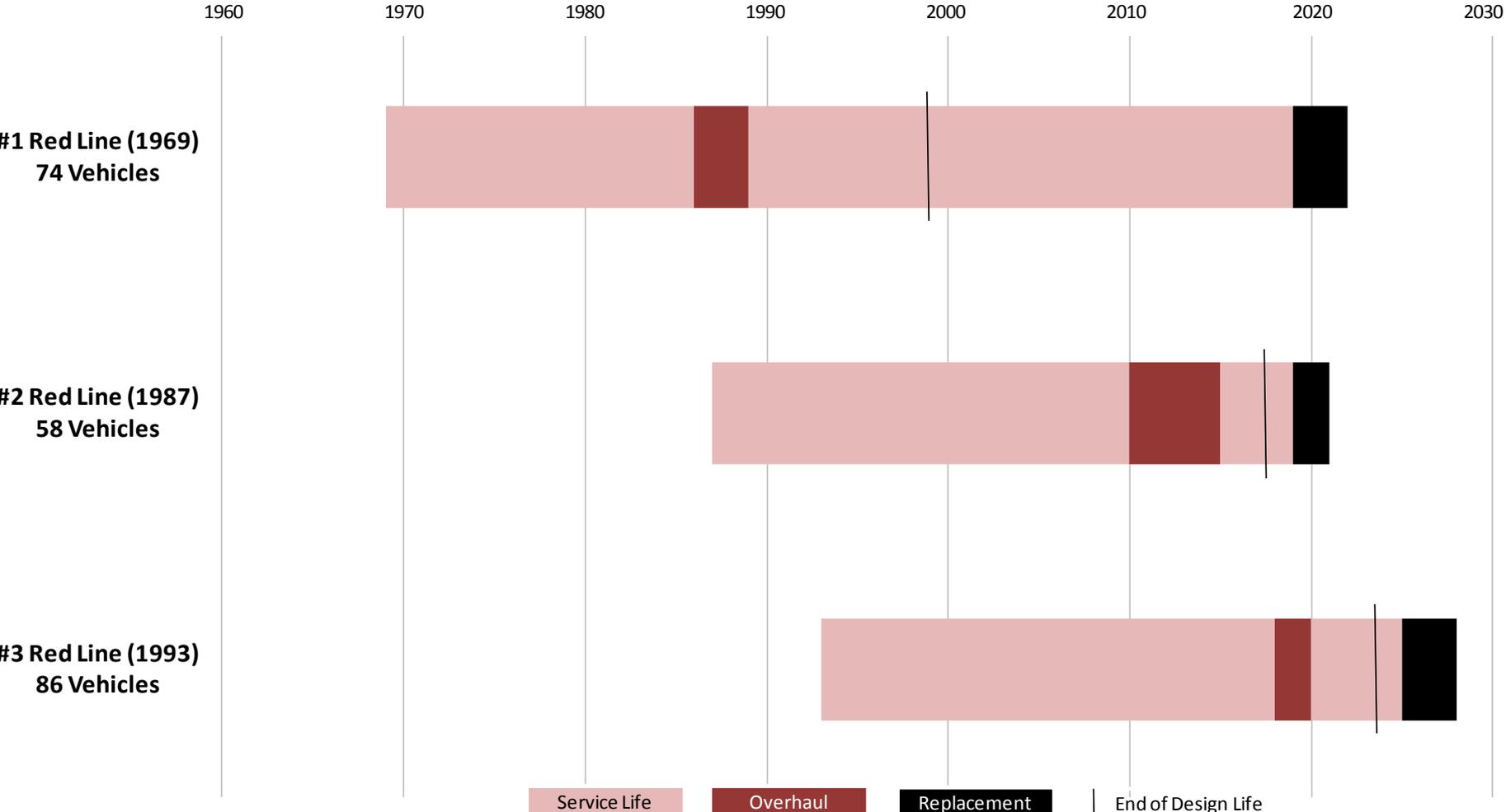
**143,669 TONS BALLAST,  
104,677 RAIL TIES,  
AND 5 MILES CONCRETE  
TRACK BED**

**54 TRACK MILES**

*\*drawing not to scale*

# Fleet: Red Line

## Fleet History



# Challenges: Red Line

- SGR Backlog
  - Vehicles
  - Signals, Power, Track
  - Facilities
- Passenger Boarding / Alighting Dwell Time
- System Bottlenecks
  - Alewife
  - Columbia Junction
  - Park Street
- Improvements / Maintenance
  - Track access points
  - Side tracks
  - Equipment Storage

