

RAIL & TRANSIT **DIVISION**

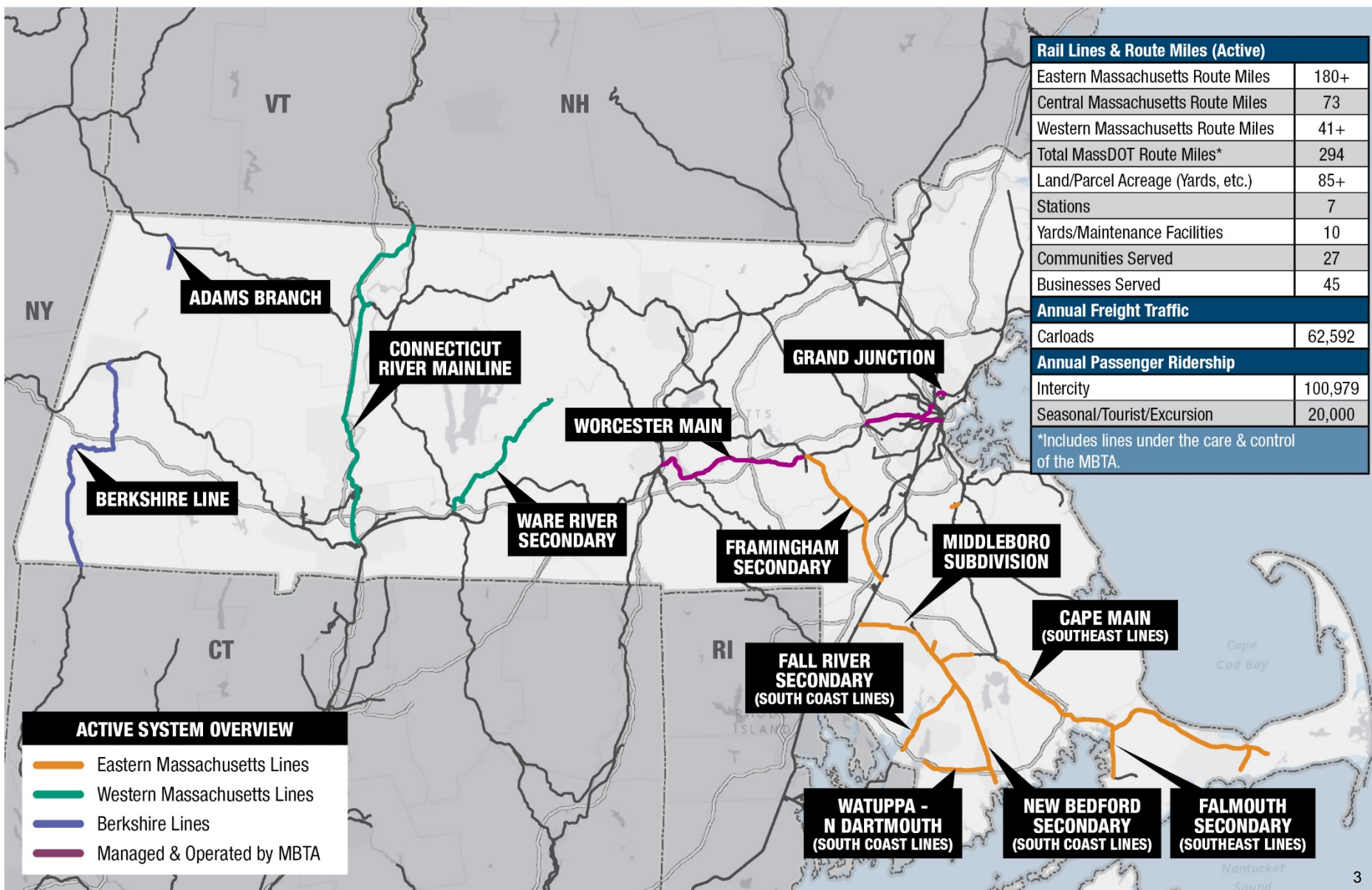


MGL Chapter 161C Rail Transportation in the Commonwealth

It is hereby declared that rail transportation offers economic and environmental advantages with respect to land use air and noise pollution, energy efficiency, safety, and costs per ton mile of movement

- *to the extent that the preservation, development and maintenance of such services is a public purpose and in the public interest;*
- *that essential rail transportation services for the movement of passengers and freight are threatened with cessation or significant curtailment because of the deterioration or inadequacy of rail rights of way either earlier acquired for a public purpose, or because of the insufficiency or inadequacy of rail facilities and related equipment, and because of the inability of private railroad companies to provide such services or facilities without public financial assistance;*
- *that the public convenience and necessity require that the adequate and efficient rail services and facilities be provided in the commonwealth;*
- *that these needs cannot be met without substantial action by the commonwealth; and*
- *that it is the intent of the general court to provide for such action through an act which authorizes a public agency to plan for and carry out the steps necessary to acquire, preserve, develop and construct when necessary on lands not formerly owned or used by a railroad, which insures the maintenance and operation of, adequate and efficient rail rights of way, related facilities or equipment, and rail services.*

MassDOT-Owned Rail System at a Glance



Public Benefits of Rail

- Congestion relief –Massachusetts rail system annually carries a volume of freight equivalent to approximately 850,000 trucks trips.
- Accident reduction – Approximately 5 fatalities per year are avoided in Massachusetts due to the improved safety of intercity train travel as compared to auto travel.
- Energy efficiency – Intercity passenger rail service uses 33% less energy per passenger mile traveled than automobiles and 12% less than airline travel. On average, freight railroads are four times more fuel efficient than trucks.
- Emissions reduction – Every ton-mile of freight moved by rail instead of truck reduces greenhouse gas emissions by 75%.
- There are 823 freight railroad employees in Massachusetts with an average wage and benefits of \$91,720 annually.

* Sources: Association of American Railroads; Ian Savage, “Comparing the Fatality Risks in United States Transportation Across Modes and Over Time”; United States Department of Energy.

Preserving the System

Rail Line Acquisition/Preservation

Nearly sixty percent of the active railroad system in Massachusetts is now publicly owned (25% MassDOT, 32% MBTA, 1% Amtrak/MWRA/Federal). This allows MassDOT to preserve and maximize the public benefits from this important transportation asset. Recent acquisitions include:

- June 2010, MassDOT acquired:
 - *South Coast Lines,*
 - *Boston Terminal Running Track,*
 - *West First Street Yard in South Boston, and*
 - *the Grand Junction Branch.*
- July 2012, MassDOT agreed to buy Connecticut River Line and completed the acquisition in 2015
- October 2012, MassDOT acquired the Boston Main Line from Framingham to Worcester
- January 2015, MassDOT purchased the Berkshire Line (Housatonic Railroad)
- June 2015, MassDOT completed acquisition of Framingham Secondary Rail Line
- October 2015, MassDOT completed acquisition of the Adams Branch

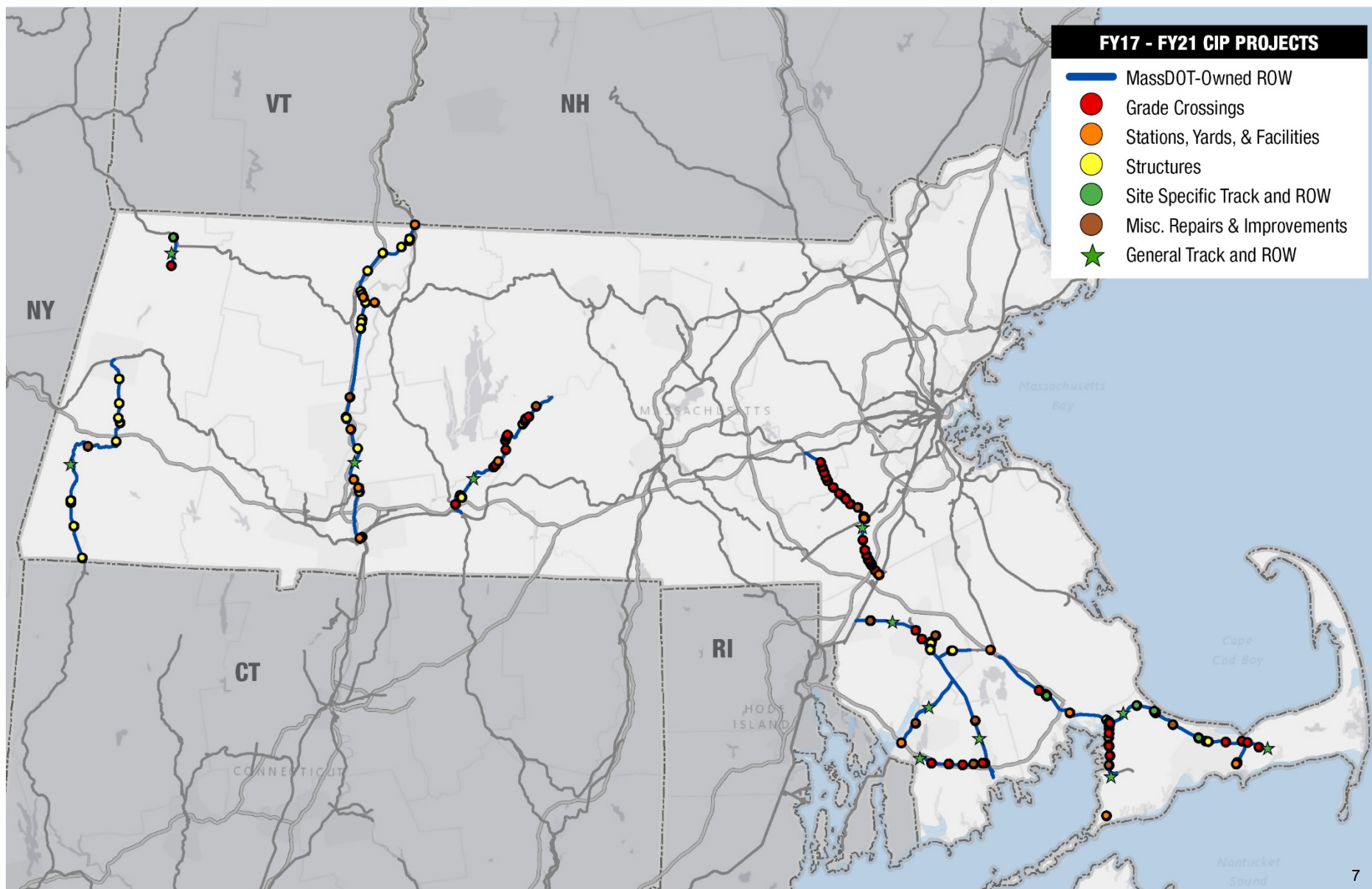
Overview of MassDOT-Managed Rail Assets

| Segment | Total Active Route Miles | Public Grade Crossings | Private Grade Crossings | Undergrade Bridges | Culverts | Tunnels | Inter-lockings | Power Switches | Hand Throw Switches |
|------------------------------------|--------------------------|------------------------|-------------------------|--------------------|------------|----------|----------------|----------------|---------------------|
| Eastern Massachusetts Lines | | | | | | | | | |
| Cape Main | 42.70 | 37 | 22 | 12 | 78 | | 1 | 3 | 46 |
| – Buzzards Bay Secondary | 18.30 | | | 5 | | | | | |
| – Hyannis Secondary | 24.40 | | | 7 | | | | | |
| Other SE Lines | 11.00 | 10 | 9 | 11 | 10 | | 1 | 1 | 13 |
| – South Dennis Secondary | 2.80 | | | | | | | | 3 |
| – Falmouth Secondary | 6.70 | | | 7 | | | | 1 | 3 |
| – Dean Street Industrial Track | 1.50 | | | 4 | | | | | 7 |
| Watuppa Branch/NDIT | 8.50 | 7 | | 3 | 8 | | | | 1 |
| South Coast Lines | 30.40 | 32 | 4 | 31 | 59 | | | | 23 |
| – Fall River Secondary | 12.50 | | | 18 | | | | | |
| – New Bedford Secondary | 17.90 | | | 13 | | | | | |
| Framingham Secondary | 21.20 | 25 | 5 | 19 | 47 | | | 2 | 20 |
| Middleboro Subdivision | 18.20 | 12 | 2 | 11 | 30 | | | | 23 |
| Randolph Secondary | 1.00 | | | | | | | | 24 |
| Western Massachusetts Lines | | | | | | | | | |
| Conn River Main Line | 49.29 | 23 | 25 | 37 | 197 | 1 | 10 | 19 | 15 |
| Ware River Secondary | 23.35 | 19 | 17 | 9 | 79 | | | | |
| Berkshire Lines | | | | | | | | | |
| Adams | 4.47 | 4 | 1 | 2 | 14 | | | | 11 |
| Berkshire Line | 36.00 | 32 | 20 | 28 | 83 | | | | 20 |
| Totals | 246.11 | 201 | 105 | 163 | 605 | 1 | 12 | 25 | 196 |

Note: Does not include lines in the care and control of the MBTA.

Maintaining a State of Good Repair

Programmed Capital Repairs on MassDOT-Managed Rail System



Supporting Economic Growth

Customers on MassDOT-Owned Lines rely on rail service

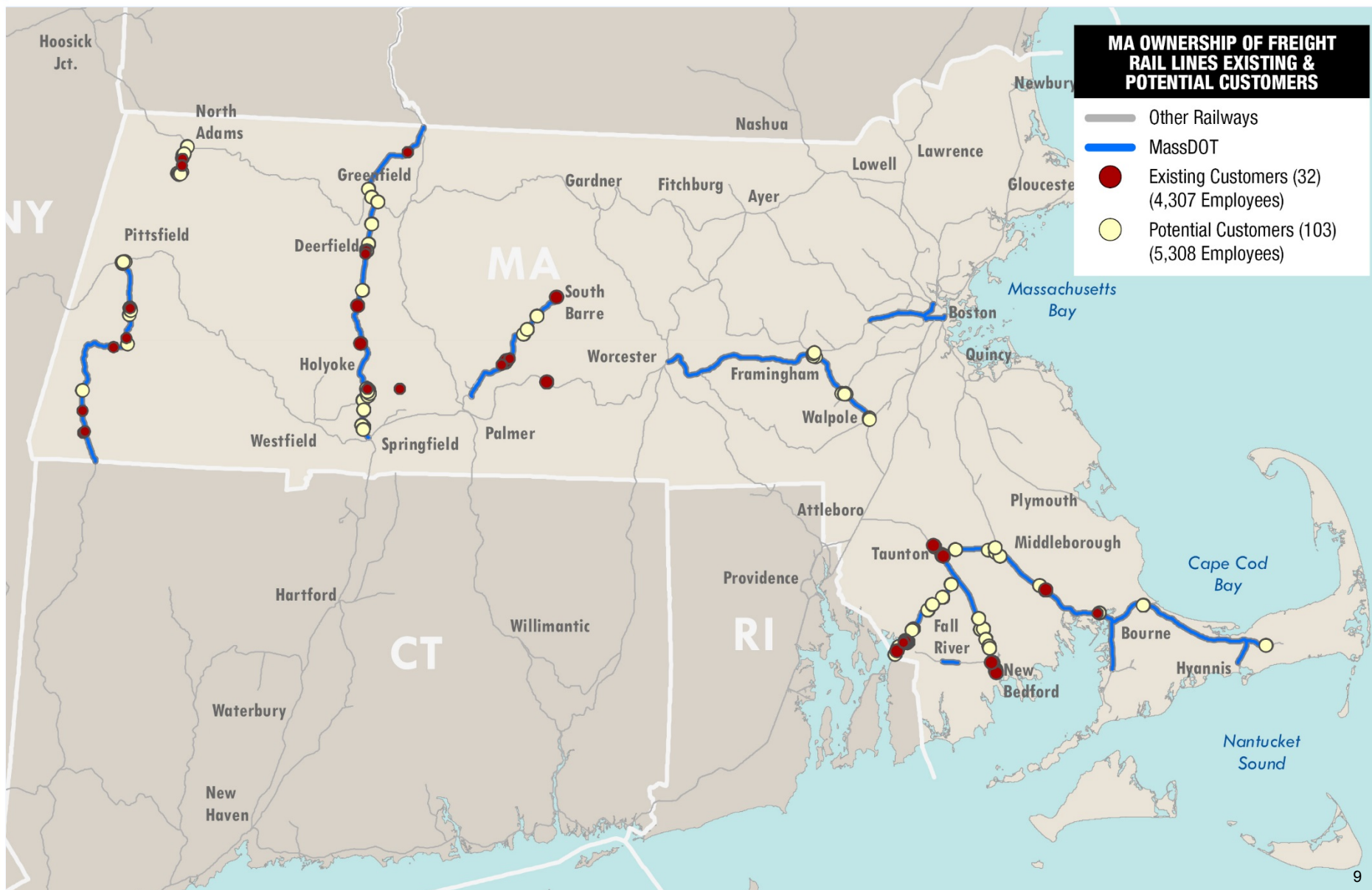
MassDOT-owned lines support the economy of the Commonwealth:

- Increases the value of goods and services sold in the Commonwealth (Economic Output) by \$850M annually
- Increases the annual value of Commonwealth-made products by \$385M
- Raises labor incomes in the Commonwealth by \$267M annually
- Supports over 4,300 jobs

| Impact Metric | Direct | Indirect | Induced | Total |
|--|---------|----------|---------|----------------|
| Eastern Massachusetts Lines | | | | |
| Output | \$252.5 | \$79.1 | \$81.2 | \$412.8 |
| Value Added | \$123.3 | \$46.0 | \$49.5 | \$218.8 |
| Labor Income | \$89.8 | \$32.8 | \$30.5 | \$153.0 |
| Employment | 1,313 | 454 | 569 | 2,336 |
| Western Massachusetts Lines | | | | |
| Output | \$143.1 | \$64.4 | \$30.4 | \$237.9 |
| Value Added | \$25.3 | \$30.4 | \$17.5 | \$73.2 |
| Labor Income | \$22.0 | \$21.1 | \$10.7 | \$53.8 |
| Employment | 380 | 380 | 235 | 994 |
| Berkshire Lines | | | | |
| Output | \$138.9 | \$27.6 | \$32.1 | \$198.6 |
| Value Added | \$61.2 | \$12.7 | \$18.5 | \$92.4 |
| Labor Income | \$39.9 | \$8.9 | \$11.5 | \$60.4 |
| Employment | 537 | 172 | 268 | 977 |
| Output, value added, and labor income are expressed in 2016 million dollars. | | | | |

Note: Revenue and employment data for current customers on MassDOT-owned rail lines were obtained from InfoUSA, a third-party database that collects business information. This data was combined with IMPLAN input-output modeling system multipliers to estimate output, value added, employment, and wages.

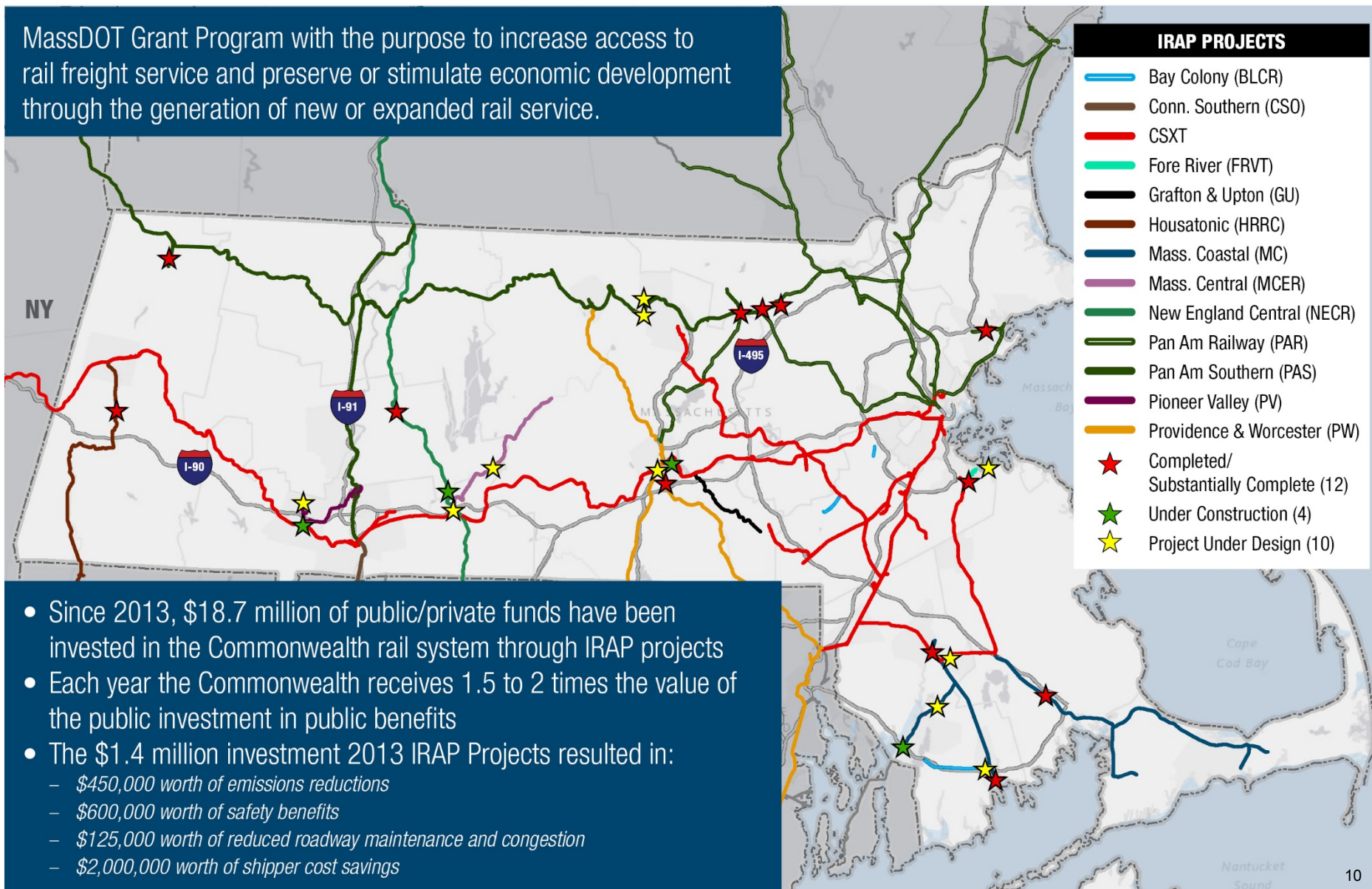
Existing & Potential Rail Customers



Supporting Economic Growth

Industrial Rail Access Program (2013-2016)

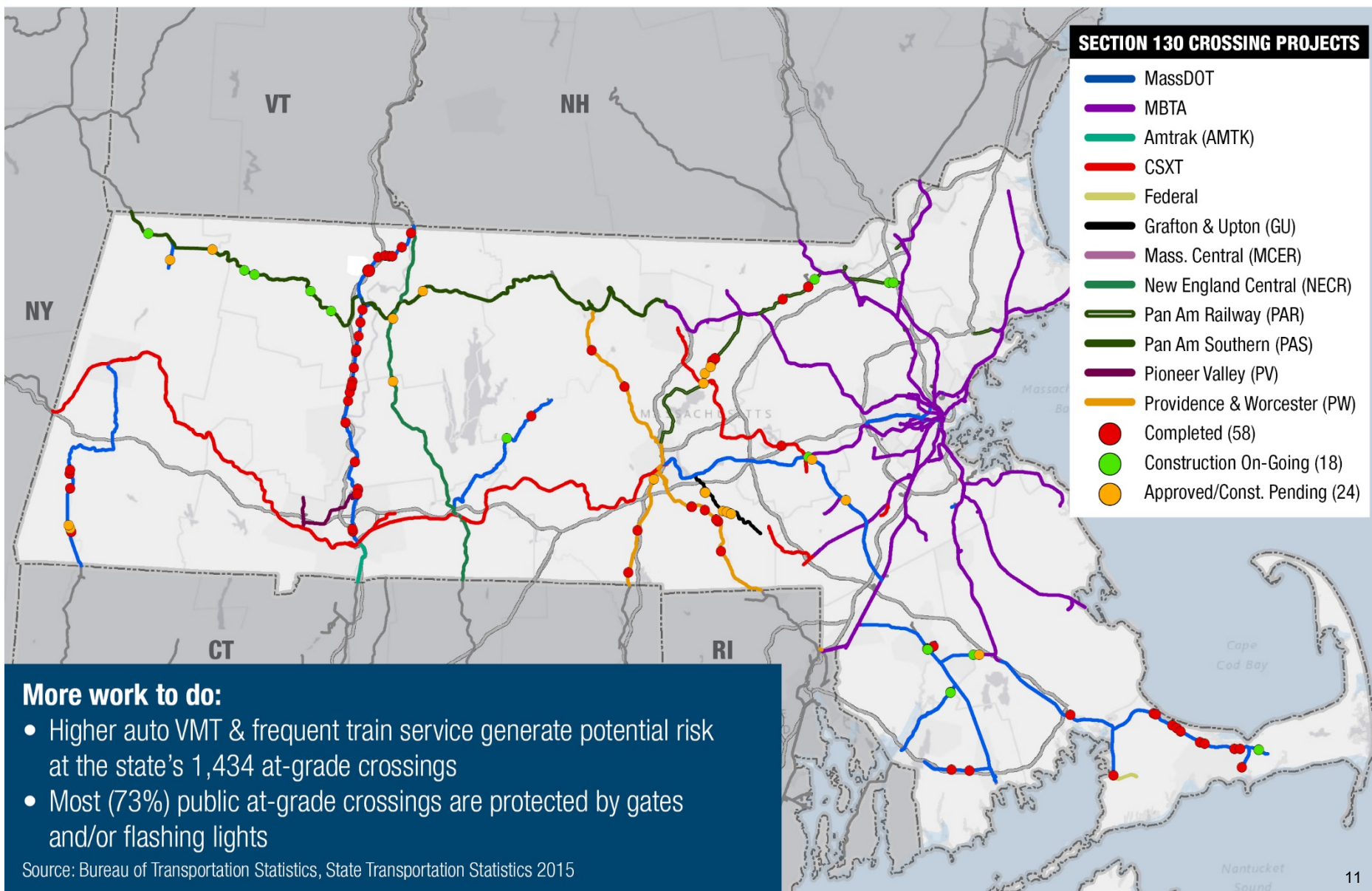
MassDOT Grant Program with the purpose to increase access to rail freight service and preserve or stimulate economic development through the generation of new or expanded rail service.



- Since 2013, \$18.7 million of public/private funds have been invested in the Commonwealth rail system through IRAP projects
- Each year the Commonwealth receives 1.5 to 2 times the value of the public investment in public benefits
- The \$1.4 million investment 2013 IRAP Projects resulted in:
 - \$450,000 worth of emissions reductions
 - \$600,000 worth of safety benefits
 - \$125,000 worth of reduced roadway maintenance and congestion
 - \$2,000,000 worth of shipper cost savings

Improving Safety

At-Grade Crossing Safety Projects (2010-2016)

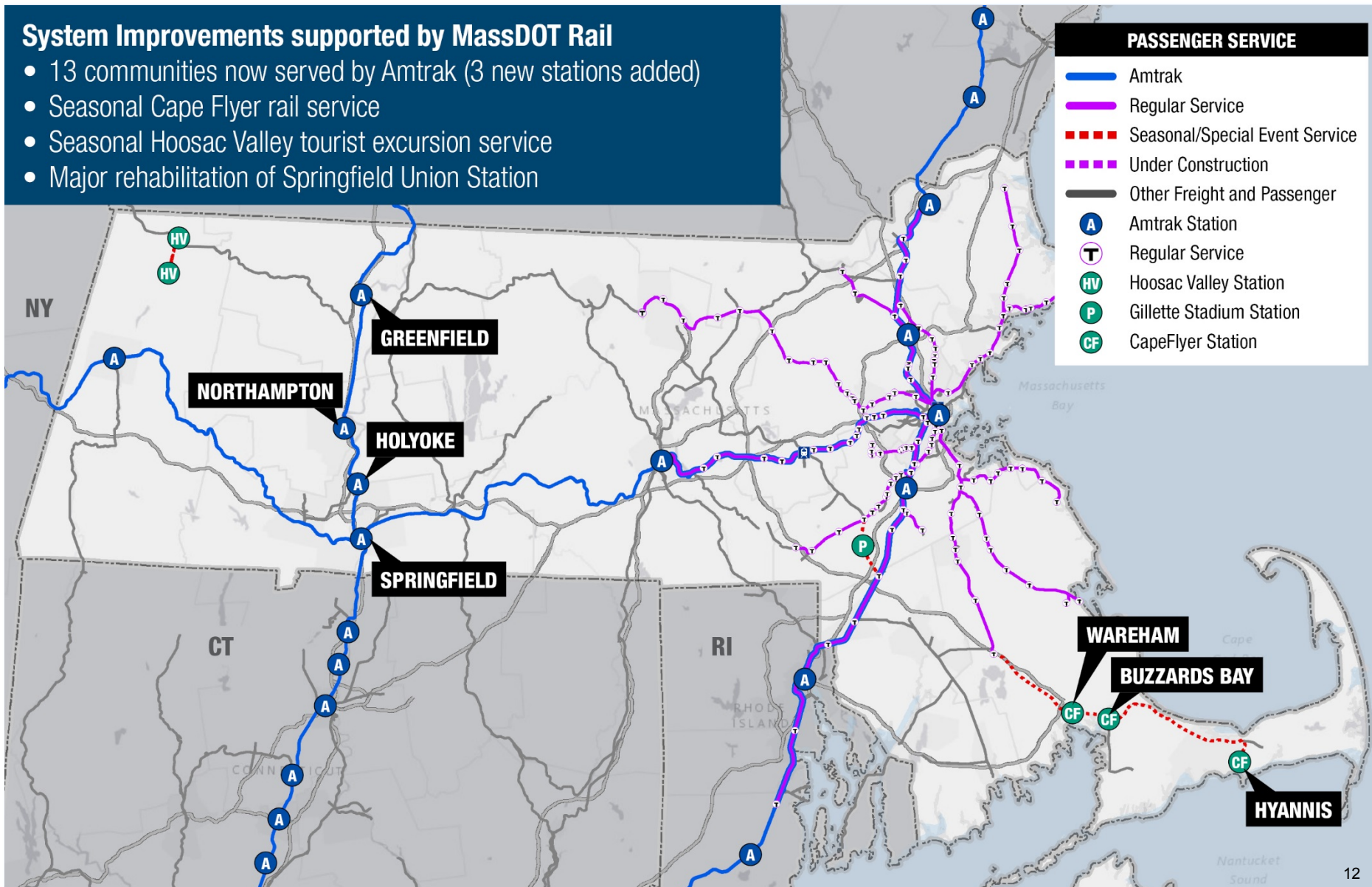


System Improvements on MassDOT-Owned Rail

Passenger Rail Service

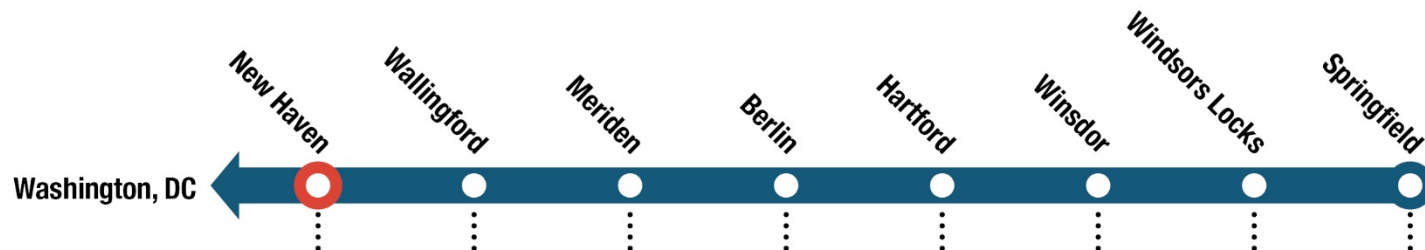
System Improvements supported by MassDOT Rail

- 13 communities now served by Amtrak (3 new stations added)
- Seasonal Cape Flyer rail service
- Seasonal Hoosac Valley tourist excursion service
- Major rehabilitation of Springfield Union Station



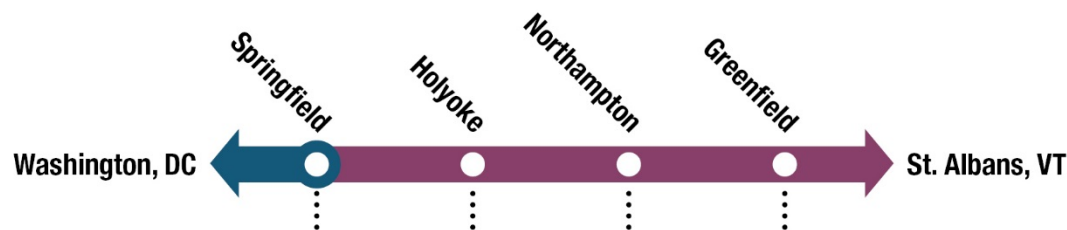
MassDOT-Supported Amtrak Service (PRIIA209)

SPRINGFIELD TO NEW HAVEN SERVICE



| | New Haven | Wallingford | Meriden | Berlin | Hartford | Windsor | Windsors Locks | Springfield |
|-------------------------------------|-----------|-------------|---------|--------|----------|---------|----------------|-------------|
| One-Way Passenger Fare to New Haven | | \$5.00 | \$7.00 | \$9.50 | \$14.00 | \$17.00 | \$18.00 | \$23.00 |
| Miles from New Haven | 0 | 12.4 | 18.4 | 25.7 | 36.4 | 42.7 | 47.2 | 61.9 |
| Parking Capacity | 1153 | 96+ | 16+ | 60+ | 197 | 30 | 100 | 377 |
| Parking Utilization | | ■ | ■ | ■ | ■ | ■ | ■ | |
| Annual Station Ridership (On & Off) | 136,879 | 8,959 | 17,318 | 16,012 | 136,004 | 9,167 | 16,632 | 38,116 |
| Station Accessibility | ● | ● | ● | ● | ● | ● | ● | ● |
| Average Daily Revenue Trips | 280 | 11 | 36 | 39 | 338 | 20 | 38 | 203 |

VERMONT SERVICE



| | Springfield | Holyoke | Northampton | Greenfield |
|-------------------------------------|-------------|---------|-------------|------------|
| One-Way Passenger Fare to New York | \$35.00 | \$41.00 | \$41.00 | \$41.00 |
| Miles from Springfield | 0 | 7 | 17 | 36 |
| Parking Capacity | 377 | 25 | 10 | 10 |
| Annual Station Ridership (On & Off) | 24,057 | 1203 | 17,332 | 5,920 |
| Station Accessibility | ● | ● | ● | ● |

- Station Accessibility**
- Fully
 - Partial
 - Not Accessible
- Parking Utilization**
- Partial 85%
 - Not Accessible 50%
- Dispatching Control**
- MNR RTC NHV to Division Post
 - Amtrak CETC Centralized Electrification
 - PanAm Southern Traffic Control

Improving Freight Connections

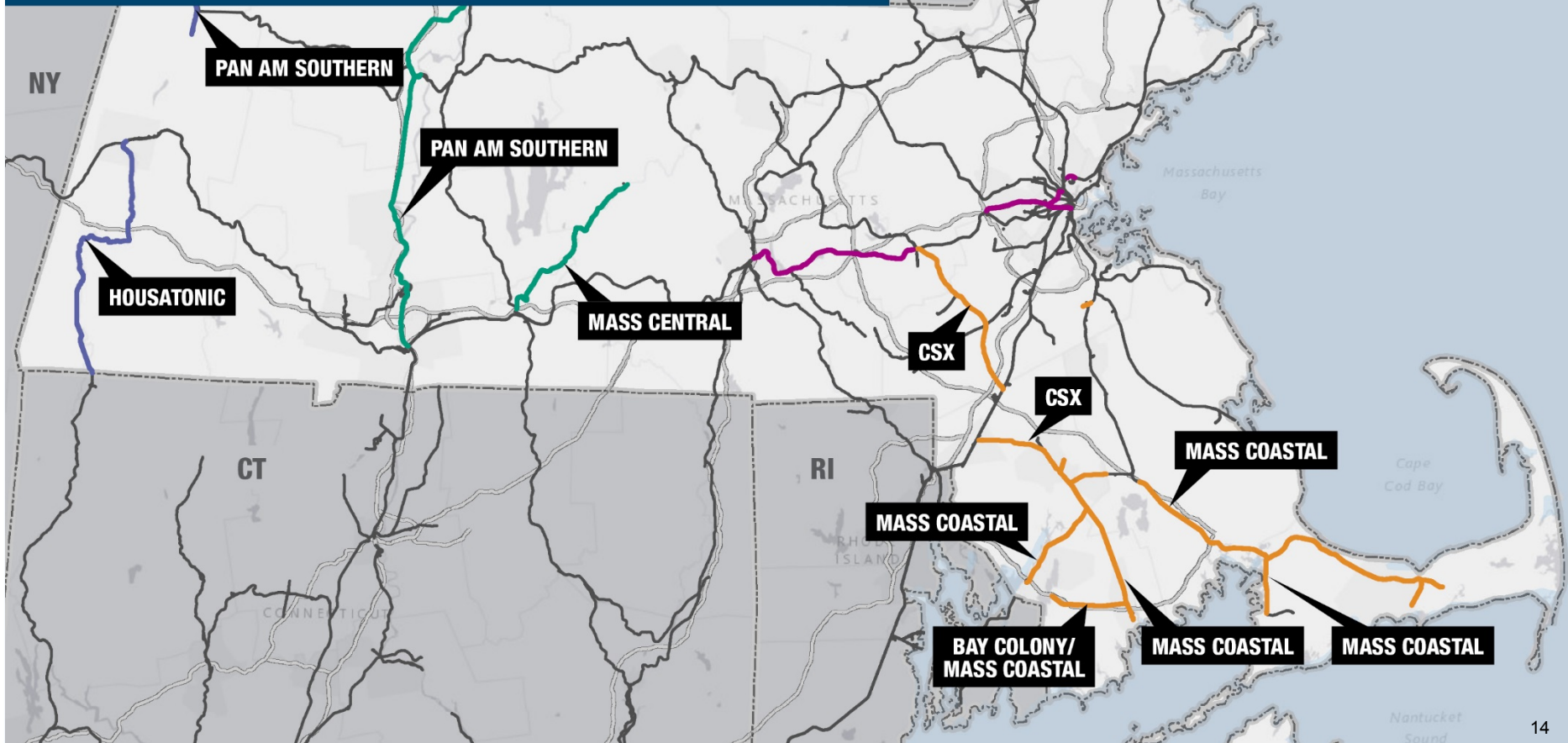
Freight Operation on MassDOT-Owned Rail Lines

MassDOT Rail working with Freight Rail Operators to strategically invest in assets to increase volumes, for example:

- Prioritizing systemwide bridge repair to maintain & improve carload weights where needed
- Focusing tie replacement program in locations where speed restrictions impact service

SYSTEM OVERVIEW

- Eastern Massachusetts Lines
- Western Massachusetts Lines
- Berkshire Lines
- Managed & Operated by MBTA



Overview of MassDOT-Owned System

| Rail Line | Date Acquired | Route Miles | Active | Inactive | Maintain Transportation Services | Current/Future MBTA Service | Current/Future Other Passenger Service | Preserve for Other Transportation or Public Purposes |
|--------------------------------------|---------------|--------------|--------------|-------------|----------------------------------|-----------------------------|--|--|
| Southeast Lines | 1982 | 63.7 | 53.7 | 10.0 | ● | ● | | ● |
| – Buzzards Bay Secondary | | 18.3 | 18.3 | 0.0 | | | | |
| – Hyannis Secondary | | 24.4 | 24.4 | 0.0 | | | | |
| – South Dennis Secondary | | 5.7 | 2.8 | 2.9 | | | | |
| – Falmouth Secondary | | 13.8 | 6.7 | 7.1 | | | | |
| – Dean Street Industrial Track | | 1.5 | 1.5 | 0.0 | | | | |
| Watuppa Branch | 1982 | 6.1 | 2.5 | 3.6 | ● | | | ● |
| Middleboro Subdivision | 1982 | 18.2 | 18.2 | 0.0 | ● | ● | ● | |
| – Attleboro Secondary | | 9.4 | 9.4 | 0.0 | | | | |
| – New Bedford Secondary | | 3.9 | 3.9 | 0.0 | | | | |
| – Middleboro Branch | | 4.9 | 4.9 | 0.0 | | | | |
| Lowell Secondary | 1982 | 19.9 | 0.0 | 19.9 | | | | ● |
| Dighton Industrial Track | 1982 | 1.1 | 0.0 | 1.1 | | | | ● |
| Marion Pit Track | 1982 | 2.2 | 0.0 | 2.2 | ● | | | ● |
| Millbury Branch | 1982 | 2.7 | 0.0 | 2.7 | | | | ● |
| Randolph Secondary | 1982 | 1.0 | 1.0 | 0.0 | ● | | | ● |
| Southbridge Secondary | 2004 | 7.5 | 0.0 | 7.5 | | | | ● |
| South Coast Lines | 2010 | 32.2 | 30.4 | 1.8 | ● | ● | | |
| – Fall River Secondary | | 14.3 | 12.5 | 1.8 | | | | |
| – New Bedford Secondary | | 17.9 | 17.9 | 0.0 | | | | |
| North Dartmouth I.T. | 2010 | 6.0 | 6.0 | 0.0 | ● | ● | | |
| Framingham Secondary | 2015 | 21.2 | 21.2 | 0.0 | ● | ● | | |
| Conn River Main Line | 2015 | 49.3 | 49.3 | 0.0 | | | ● | |
| Ware River Secondary | 1982 | 23.4 | 23.4 | 0.0 | ● | | | |
| Berkshire Line | 2015 | 36.0 | 36.0 | 0.0 | | | ● | |
| Coltsville Industrial Track | 2015 | 1.9 | 0.0 | 1.9 | | | | ● |
| Adams Branch | 2015 | 4.5 | 4.5 | 0.0 | ● | | ● | |
| Adams Branch | 1993 | 10.5 | 0.0 | 10.5 | | | | ● |
| Grand Junction Branch | 2010 | 6.1 | 3.5 | 2.6 | ● | ● | ● | ● |
| Boston Terminal Running Track | 2010 | 1.0 | 0.0 | 1.0 | ● | ● | | |
| Worcester Main Line | 2012 | 33.3 | 33.3 | 0.0 | ● | ● | | |
| Total | | 347.7 | 282.9 | 64.8 | | | | 15 |

What is a State Rail Plan?

Objective: The State Rail Plan Update will seek to:

- Provide an analysis that will guide future rail investment decisions
- Incorporate *new* PRIIA Expectations (Multi-State Planning)
- Enable Massachusetts to Apply for Federal Rail Funding

Origins: Federal Law (Section 303 of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA))

Federal guidance for State Rail Plan outline

- Role of Rail in Statewide Transportation
- Existing Rail Service
- Proposed Rail Improvements and Investments
 - *Passenger*
 - *Freight*
- State's Rail Service and Investment Program
 - *Prioritization of investments – 20 year vision and 4 year program*

Schedule

- Evaluation of Projects – ongoing
- Draft to FRA – by Fall 2017

Next Steps: Evaluation Process

Initial Project Identification & Development of Evaluation Criteria

- Input from November Public Meetings & Stakeholders
- MassDOT Rail Planning Goals & Objectives

Phase 1 Evaluation Criteria

- Initial Evaluation/ Ranking of projects (including SGR needs) based on established criteria.

Identification of Projects for Economic Analysis (Phase 2)

- Selection of Projects based on Phase 1 Evaluation/Ranking

Phase 2 Benefit-Cost Analysis

- Determine the Long-Term Benefits for Top State-Wide Projects

Finalization of State Long-Term Plan

- Fall 2017