Rhode Island
State Rail Plan 2014

Department of Administration
Division of Planning
Statewide Planning Program

State Guide Plan Element 661

February 2014

RHODE ISLAND STATEWIDE PLANNING PROGRAM

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ABSTRACT

TITLE: Rhode Island State Rail Plan: State Guide Plan Element 661

SUBJECT: Statewide, Passenger and Freight Rail Transportation plan

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ABSTRACT: This plan addresses Rhode Island's passenger and freight rail transportation needs over the next twenty years. This plan is based on public participation, as well as state and federal agency collaboration. The Plan has been prepared to ensure compliance with the Passenger Rail Investment and Improvement Act of 2008 (PRIIA) and the federal transportation authorization, Moving Ahead for Progress in the 21st Century (MAP-21).

PREFACE

The Rhode Island State Rail Plan contains goals, objectives, policies and implementation actions for Rhode Island's passenger and freight rail transportation system over the next twenty years.

This Plan was prepared through the efforts of the State Rail Plan Advisory Committee, Transportation Advisory Committee, Technical Committee, and State Planning Council whose members are listed on the subsequent pages, and staff from the Statewide Planning Program, Department of Transportation, and the Rhode Island Public Transit Authority.

Federal funding support was provided by the Federal Highway Administration and Federal Transit Administration.

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TABLE OF CONTENTS

	Page
Chapter 1 - Introduction	
1.1 The Rail System's Role in Rhode Island	1-1
1.2 Federal Mandate for State Rail Plans	1-3
1.3 Coordination with the National Rail Plan	1-4
1.4 U.S. Department of Transportation Goals	1-4
Chapter 2 – Development of the State Rail Plan	
2.1 Public and Agency Participation	2-1
2.2 Coordination with Neighboring States and Stakeholders	2-1
2.3 Stakeholder Involvement	2-1
2.4 Addressing Comments and Incorporation of Stakeholder Recommendations	2-5
Chapter 3 – Public Rail Program Activities in Rhode Island	
3.1 Rhode Island's Legislative Authority	3-1
3.2 Rhode Island's Rail Functions and Structure	3-2
3.3 Other State and Local Rail Planning Activities in Rhode Island	3-4
3.4 State Rail Funding in Rhode Island	3-5
3.5 Federal Rail Programs and Funding Options	3-6
3.6 Rail-Related Legislative Proposals	3-12
3.7 Rhode Island Rail Studies	3-12
3.8 Rhode Island's Involvement in Multi-State Planning	3-14
Chapter 4 – Rhode Island's Freight Rail System	
4.1 Rhode Island's Freight Railroads	4-2
4.2 Rhode Island's Freight Rail Intermodal System	4-16
4.3 Rhode Island's Rail Freight Traffic and Customer Base	4-20
4.4 Recent Freight Rail Infrastructure Initiatives	4-22
4.5 Existing and Projected Freight Issues in Rhode Island	4-25
Chapter 5 – Rail Passenger Service in Rhode Island	
5.1 Existing Intercity Rail Passenger Service	5-1
5.2 Intercity Rail Passenger Service Performance	5-5
5.3 Rhode Island Commuter Rail Service	5-8
5.4 Commuter Rail Passenger Service Performance	5-12
5.5 Rail Passenger Excursion Service	5-15
5.6 Existing and Projected Rail Passenger Issues	5-15
Chapter 6 – Proposed Passenger Rail Service	
6.1 South County Commuter Rail	6-1
6.2 Interlink at T.F. Green Airport	6-6
6.3 Providence Streetcar System	6-6
6.4 Pawtucket/Central Falls Commuter Rail	6-9

	Page
6.5 Blackstone Valley Passenger Service	6-11
6.6 Rail Shuttle Service	6-14
6.7 Aquidneck Island Passenger Rail	6-15
6.8 Additional State Rail Corridors	6-17
Chapter 7 – Analysis of Rail Transportation Impacts	
7.1 Economic Impacts	7-1
7.2 Environmental Impacts	7-5
7.3 Energy Impacts	7-7
7.4 Land Use Impacts	7-9
Chapter 8 – Rail Safety and Security	
8.1 Rail Safety in Rhode Island	8-1
8.2 Grade Crossing Safety in Rhode Island	8-3
8.3 Hazardous Materials	8-4
8.4 Positive Train Control	8-5
8.5 Rail Security	8-5
8.6 Strategic Rail Corridor Network	8-6
Chapter 9 – Implementation Program	
9.1 Vision	9-1
9.2 Passenger and Freight Rail Needs Assessment	9-2
9.3 Goals, Objectives, Policies, and Implementation Actions	9-5
9.4 Rail Investment Program	9-12
Appendix A – State of Rhode Island Rail Line Inventory	
Appendix B – Rhode Island Rail Project Evaluation Score Sheet	

FIGURE INDEX

FIGURE	FIGURE TITLE	PAGE
4-1	Norfolk Southern Network	4-3
4-2	Regional Freight Rail Connections	4-4
4-3	Post-Panamax Increased Ship Size	4-5
4-4	Canadian Freight Rail Connections	4-6
4-5	Post-Panamax International Freight Connections	4-7
4-6	Providence & Worcester Railroad Network	4-9
4-7	Rhode Island Rail System	4-12
4-8	Quonset & Seaview Railroad Service	4-14
4-9	Typical Rail Intermodal Vertical Clearance Height Requirements	4-17
4-10	Northeast Corridor Vertical Rail Clearances	4-19
4-11	Rail Tonnage in Rhode Island 2001-2011	4-21
4-12	Freight Rail Improvement Project (FRIP)	4-23
4-13	AutoMax Autoracks Utilized by the Burlington Northern Santa Fe Railroad	4-26
4-14	Massachusetts Weight Restricted Bridges	4-26
5-1	Annual Amtrak Boardings and Alightings in Rhode Island, 2003-2012	5-2
5-2	Amtrak Station Map	5-4
5-3	MBTA Commuter Rail Service to Rhode Island – Providence Stoughton Line	5-9
5-4	MBTA Passenger Boardings at the Providence Station and Corresponding Fuel Prices, 2003 - 2012	5-11
5-5	MBTA Passenger Boardings at Rhode Island Stations, 2010 to 2012	5-12
6-1	Potential Northeast Corridor Commuter Rail Stations	6-4
6-2	Estimated Daily Boardings and Alighting for South County Commuter Rail Phase II by 2020	6-5
6-3	Proposed Providence Street Car Alignment	6-8
6-4	Projected Weekday Daily Boardings at Pawtucket Commuter Rail Station, 2030	6-9
6-5	Potential Commuter Rail Station Sites, Pawtucket	6-10
6-6	Potential Woonsocket Rail Service	6-13
6-7	Newport Secondary Rail Corridor & Potential Station Locations	6-16
7-1	Transportation Cost as a Share of Sector Output in the United States	7-2
7-2	Number of Miles A Ton of Freight Moves per Gallon of Fuel by Rail, (1995 – 2009)	7-8
8-1	Rail-Related Injuries in Rhode Island by Railroad Operator: 2003- 2012	8-2
8-2	Rail-Related Injuries in Rhode Island by Type of Person: 2003 – 2012	8-3

TABLE INDEX

TABLE	TABLE TITLE	PAGE
4-1	FRA Track Class Standards	4-1
4-2	Abandoned Rail Lines in Rhode Island, 2001-2011	4-15
5-1	Fare Box Recoveries for Acela Express & Northeast Regional Trains in FY 2011 & FY 2012	5-6
5-2	Change in Passenger Miles per Train Mile, 2009-2011 & 2010-2012	5-6
5-3	On Time Performance for Acela Express and Northeast Regional Trains FY 2012	5-7
5-4	Fourth Quarter 2012 Delays per 10,000 Train Miles for Acela Express and Northeast Regional Trains	5-7
5-5	Amtrak Customer Service Index for 4th Quarter, Fiscal Year 2012	5-8
5-6	MBTA Service Standards	5-12
5-7	Comparison of MBTA Rhode Island Service to Span of Service Standards	5-13
5-8	Number of Peak Period Trains to/from Station in Rhode Island	5-13
5-9	Percentage of Trains Arriving/Departing Terminals within 5 Minutes of Scheduled Times Departure and Arrival Times for Service to Providence, June 2011 to April 2012	5-14
8-1	Rail-Related Fatalities, Nonfatal Conditions, and Accidents/Incidents within Rhode Island, 2003-2012	8-1
8-2	Rail-Related Accidents/Incidents within Rhode Island by Type, 2003-2012	8-2
8-3	Warning Devices Available at Rhode Island's At-Grade Crossings	8-4
9-1	Passenger and Freight Rail Needs Assessment	9-3
9-2	Short Range Investment Program	9-17
9-3	Long Range Investment Program	9-23

Chapter 1

Introduction

CHAPTER 1 - INTRODUCTION

1.1 THE RAIL SYSTEM'S ROLE IN RHODE ISLAND

Rail in Rhode Island dates back to 1832 when the ~~New York, Providence, and~~ Boston and Providence Railroad initiated a combined ~~passenger~~ rail and ferry service that connected Boston to New York along the Shoreline Corridor via Providence and Stonington, Connecticut. ~~Almost 14 years later, i~~In 1846~~, freight rail service was initiated in Rhode Island by~~ the Providence & Worcester Railroad, ~~which~~initiated the transport~~ed~~ of goods from the textile factories in the Blackstone Valley to the Port of Providence for further distribution. By the 1890s the railroads in the northeast experienced a series of consolidations and mergers resulting in the formation of the New York, New Haven & Hartford Railroad (commonly known as the New Haven). For many years Rhode Island would have rail service provided by the New Haven. Though poor management plagued the company almost from the moment of its inception in 1892, it pioneered some innovations, such as the four-track right-of-way, that remain important parts of the modern rail infrastructure.

In-state rail transit service in Rhode Island can be traced back to 1865 when the privately-owned Union Railroad began operating a horse-railroad system. During the next decade, as demand grew, this transit system expanded into Providence's suburbs. The electric trolley car debuted in 1889 and by the 1890s this type of trolley was operating mostly in the suburbs. The Union Railroad became the Rhode Island Company in 1902 and took on the task of linking utility companies with railway operations. Just four years later, in 1906, the aforementioned New Haven Railroad acquired the Rhode Island Company, but was later forced to divest it as a result of an anti-trust action. The resulting company was reorganized in 1921 as the United Electric Railways (UER). The UER oversaw the transit system's daily rail trolley and bus operations in Rhode Island. At this time the state also became involved in transit, placing the system under the regulatory authority of the public utilities commission and making it eligible for certain tax exemptions. In 1926, the New England Power Company purchased the UER and a holding company, the Rhode Island Service Company, then took over the operations of the transit system, but the onset of the Great Depression in 1930 stopped service improvements. Service reductions soon followed and ridership and revenue fell.

Despite a bump in ridership and revenue as a result of gas rationing during the World Wars, it was clear by the 1950s that rail services ~~of all kinds~~ were in trouble, a trend which was exacerbated by the construction and expansion of the interstate highway system from the late 1950s to the late 1990s and rapid expansion of passenger air travel and freight/cargo air operations. This competition significantly reduced railroad revenues, and as a result rail facilities suffered from deferred maintenance and the quality of service declined, leading to poor conditions and inefficient operations. In an effort to save public transit in Rhode Island, the UER was reconsolidated as the United Transit Company (UTC), which actively replaced intra-state rail services with gas and diesel bus services in order to reduce costs. The result was even lower ridership and weak revenues. The replacement of UTC with the Rhode Island Public Transit Authority (RIPTA) in 1964 caused a nearly immediate halt to this trend, and began a slow climb in investment and ridership that continues through the present.

At the same time that intra-state transit was undergoing its rough transition from rail-based private firms to publicly owned bus transit, the New Haven was undergoing a similar transition. Despite innovations like a four-track main line (primarily between New Haven, CT and New Rochelle, NY), the company was plagued for years by mismanagement. In 1968 the New Haven joined the massive consolidation that created the short-lived Penn Central Railway. The bankruptcy of this company in 1970 was the largest in the nation's history, and finally galvanized the federal government to enact two major pieces of legislation: the Regional Rail Reorganization Act of 1973 and the Railroad Revitalization and Regulatory Reform Act of 1976. These laws consolidated most of the ~~nation's~~ region's rail systems into Conrail, which carries freight, and Amtrak, which carries passengers. Despite its checkered past, many of the New Haven's tracks and rights-of-way continue to be used in the routes of these two companies, and its use of a four-track right-of-way paved the way for the success of Amtrak's Northeast Corridor (NEC).

Since the low point of the 1970s rail passenger service has stabilized, due to federal and state actions, and investments have begun that led to vastly improved service along the NEC. While these improvements have yet to reach a truly satisfactory level, a continuing series of investments, such as the replacement of wood ties with concrete and the electrification of the main line between New Haven, Connecticut and Boston, Massachusetts, has enabled Amtrak to begin its high-speed Acela service, significantly reducing travel times between Washington, DC and Boston. Rhode Island is host to one of the two segments on the NEC between Boston and New York City in which Amtrak's Acela trains reach travel speeds of 150 mph. ~~The renovations of both Rhode Island's Kingston and Westerly Amtrak stations were also completed in support of this high speed rail service by providing space for other trains to pull off the mainline, allowing Acela trains to travel through at high speeds.~~ From any point in Rhode Island it is estimated that residents are not more than 30 miles or a 45-minute drive from a NEC intercity passenger station. From the NEC, riders can connect to any major city in the United States through Amtrak's hub in New York City at Penn Station.

In addition, commuter rail service, although currently serving primarily the northeast portion of the state, plays a critical role in connecting Rhode Island residents to employment markets, and provides a means to access other modes of transportation such as the state's T.F. Green Airport and the bus transit system. The Rhode Island Department of Transportation (RIDOT) has constructed several projects in recent years to support the expansion of commuter rail service in the state. In 2006, a new rail layover facility was opened in Pawtucket for the Massachusetts Bay Transportation Authority (MBTA). The Pawtucket layover facility enabled Rhode Island to receive a full complement of trains to serve the Providence Station and allowed the MBTA to close its outdated layover facility in Attleboro, Massachusetts (East Junction). Commuter rail service, which continues to expand its reach in the state, provides these services in an efficient and environmentally sustainable manner.

Rail freight service in Rhode Island also continues to play a central role in the state's economic development and growth. After surviving the bankruptcy of the region's railroads in the 1960s and 1970s and the resulting consolidation of the rail network, the quality of rail freight service and traffic levels have both increased significantly in recent years. Much of the recent success of Rhode Island's utilization of rail to move goods is on account of RIDOT's completion of the Freight Rail Improvement

Project (FRIP) in 2006. Construction of this project added a third, 22 mile track along the NEC from the junction of the Providence & Worcester Railroad's main line at the Boston Switch in Central Falls to the Quonset Business Park in North Kingstown, thereby providing a dedicated track for freight and commuter rail operations in a key corridor of Rhode Island. Improvements to the condition and capability of freight service in Rhode Island have played a direct role in the revitalization and expansion of the Ports of Providence and Davisville, and provide a competitive and cost effective means of transportation to many other businesses and industries in the State.

This State Rail Plan describes the role of Rhode Island's passenger and freight rail system, and outlines the public benefits related to existing rail service and the need for coordinated passenger and freight rail planning in the future. In addition to the federal mandates this rail plan addresses, the plan also details current and future freight and passenger rail needs of the state's residents and businesses.

1.2 FEDERAL MANDATE FOR STATE RAIL PLANS

The 1990 Rhode Island State Rail Plan and 1993 Rhode Island Freight Rail Plan were both approved under a prior federal process which required the development of a state plan to detail the rail system within a state's borders including both passenger and freight rail services. This process was, however, primarily focused on the freight rail network and funding to support improvements to freight rail service, and did not address the massive economic changes that rail has undergone in the last two decades.

The Passenger Rail Investment and Improvement Act (PRIIA), passed by the U.S. Congress in 2008, was written with the expressed intent of improving passenger rail service in the United States by taking a more balanced approach to state rail plans. The Act re-authorized Amtrak and appropriated funds for both Amtrak and individual states to improve rail passenger service, operations, and facilities. One of the features of the legislation is the requirement that states applying for federal rail passenger funding have an approved state rail plan. The Act also contained new rail plan requirements.

State rail plan requirements in the PRIIA legislation include the following:

- An identification of rail infrastructure issues that reflects consultation with the public and relevant stakeholders
- A review and inventory of all rail lines in the state and an analysis of the role of rail transportation within a multimodal environment
- A statement of the state's passenger rail service objectives for routes in the state and a description of the framework for implementing public initiatives
- A statement of public financing issues for rail projects and service in the state

The expansion of both freight and passenger rail service in the Northeast since the 1990 passage of the last State Rail Plan also creates the need for the State to have an updated plan to reflect the current and future rail system both in Rhode Island and in the region. This 2014 State Rail Plan will provide an accurate guide for continued investment in and development of the state's rail system.

This State Rail Plan was developed to comply with Chapter 227 of PRIIA and is based upon the November 2009 American Association of State Highway and Transportation Officials (AASHTO) State Rail Planning Best Practices, and the March 2010 AASHTO Standing Committee on Rail Transportation Preliminary State Rail Plan Outline. *Transportation 2035*, Rhode Island's long range surface transportation plan, the 1990 Rhode Island State Rail Plan, and the 1993 Rhode Island Freight Rail Plan served as the basis for developing the goals, objectives, policies, implementation actions, and performance measures for this plan.

1.3 COORDINATION WITH THE NATIONAL RAIL PLAN

In addition to the requirement of state rail plans, PRIIA directed the Federal Railroad Administration (FRA) to develop a Preliminary National Rail Plan to address the rail needs of the United States. PRIIA also directed FRA to provide assistance to states in developing their rail plans to ensure that the federal long-range National Rail Plan will be consistent with approved state rail plans. The Preliminary National Plan, published in 2009, provided objectives for rail as a means of improving the performance of the U.S. transportation system. The Preliminary National Plan's objectives include the following:

- Increase passenger and freight performance
- Integrate all transportation modes to form a more complementary transportation system
- Identify projects of national significance
- Provide increased public awareness

These national objectives are consistent with the views and objectives of the State of Rhode Island.

FRA, in preparing the Final National Rail Plan, will examine passenger and freight corridors running through and between states. FRA will utilize state rail plans to develop the blueprint for an efficient national rail system which meets both regional and national goals.

Rhode Island anticipates that it will provide input to the development of the Final National Rail Plan, which will help to shape policies and to define future programs, as well as supply information on state and regional level infrastructure and operating constraints which are necessary to complete a strategic, long-range plan.

This document was developed by the Rhode Island Division of Planning's Statewide Planning Program in close coordination with Rhode Island Department of Transportation. It meets the requirements set forth in the legislation and public law, and is intended to serve as Rhode Island's State Rail Plan. The plan represents a compendium of recent rail studies supplemented by additional analysis and investigation as required to meet federal requirements.

1.4 U.S. DEPARTMENT OF TRANSPORTATION GOALS

Congress enacted the multiyear federal transportation authorization, Moving Ahead for Progress in the 21st Century (MAP-21) in July of 2012. MAP-21 includes U.S. Department of Transportation (DOT) grant funding for new and expanded rail systems, a number of provisions to improve the condition and

performance of the national freight network, and support for investments in freight- related surface transportation projects. According to the legislation, MAP-21 will:

- Strengthen America's highways
- Establish a performance-based program
- Create jobs and supports economic growth
- Support the Department of Transportation's (DOT) aggressive safety agenda
- Streamline Federal highway transportation programs
- Accelerate project delivery and promotes innovation

MAP-21 sets set out national goals that State's and MPO's must support as they craft their intermodal transportation programs. These goal areas include:

- **Safety** - Significantly reduce transportation-related fatalities and serious injuries.
- **Infrastructure Condition** - Maintain transportation infrastructure in a state of good repair.
- **System Reliability** - Improve the efficiency of the transportation system.
- **Congestion Reduction** - Significantly reduce congestion on the NHS.
- **Freight Movements & Economic Vitality** – Improve national freight network, strengthen rural communities ability to access national and international trade markets, and support regional economic development.
- **Environmental Sustainability** – Enhance the performance of the transportation system while protecting and enhancing the natural environment.
- **Reduce Project Delivery Delays** - Reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices

These goal areas serve as the framework for Rhode Island's State Rail Plan goals, objectives, policies, and implementation actions as well as the evaluation and listing of specific projects.

By providing information on planned and potential future rail service improvements and expansion and their related benefits, this State Rail Plan will not only meet the spirit and requirements of federal planning initiatives, but more important, it will set the direction of the state's rail passenger and freight services for the next two decades.

Chapter 2

Development of the State Rail Plan

CHAPTER 2 – DEVELOPMENT OF THE STATE RAIL PLAN

2.1 PUBLIC AND AGENCY PARTICIPATION

The Rhode Island Department of Administration, Division of Planning's Statewide Planning Program (RISPP) served as the lead agency responsible for the development of the State Rail Plan. The RISPP partnered with the Rhode Island Department of Transportation (RIDOT) for the development of the State Rail Plan. A cooperative agreement between RISPP and RIDOT was executed to formalize the partnership between the two State agencies. RIDOT's Intermodal Planning Unit was heavily involved in all aspects of the Plan's development. Working with RIDOT was critical to not only the success of the State Rail Plan, but to the future implementation of commuter rail projects, programs, and service outlined in this Plan.

In addition to working in collaboration with RIDOT, the RISPP engaged the consulting firm CDM Smith to assist with the development of the State of Rhode Island Rail Plan.

2.2 COORDINATION WITH NEIGHBORING STATES & STAKEHOLDERS

To support the regional stakeholder participation process, a concerted effort was made to engage representatives from the following neighboring state agencies and stakeholders with respect to facilities and services that cross State boundaries:

- Metropolitan Planning Organizations (MPO)
    - Southeastern Regional Planning and Economic Development District (SRPEDD) – Massachusetts
    - Central Massachusetts Regional Planning Commission (CMRPC) – Massachusetts
- Massachusetts Bay Transportation Authority (MBTA)
- Providence & Worcester Railroad
- SeaView Transportation Co, Inc.
- Amtrak

A variety of approaches were taken to reach out to the neighboring stakeholders to engage them in the Plan's development and to obtain their input and feedback, including face to face meetings, telephone conversations, email exchanges, and through their participation on the State Rail Plan Advisory Committee meetings described in Section 2.3, Stakeholder Involvement.

2.3 STAKEHOLDER INVOLVEMENT

The Rhode Island Statewide Planning Program is committed to engaging stakeholders and the general public in all of its planning activities as an integral part of the planning process. A State Rail Plan Advisory Committee consisting of public and private sector transportation and railroad stakeholders was formed to guide and inform the content of the State Rail Plan. Their engagement provided critical and

meaningful input and feedback on the rail issues, needs, and priorities for Rhode Island. The Advisory Committee consisted of representatives from RISPP, RIDOT, Amtrak, Federal Railroad Administration (FRA), Federal Transit Administration (FTA), Federal Highway Administration (FHWA), Rhode Island Public Transit Authority (RIPTA), Rhode Island Office of the Governor, Rhode Island Commerce Corporation (RICC), Providence & Worcester Railroad, Quonset Development Corporation (QDC), Rhode Island Railroad Association, two of Rhode Island's regional planning agencies, two of the neighboring Massachusetts metropolitan planning organizations, and the Massachusetts Bay Transportation Authority (MBTA) among others. A full listing of Advisory Committee membership can be found on page vii.

The development of the State Rail Plan also drew the interest of individuals and agencies that were not official members of the Advisory Committee but actively participated in the process. Such participants included municipal officials, regional tourist organizations, rail enthusiasts, and the Rhode Island Airport Corporation (RIAC). These participants were notified and welcomed at all meetings of the Advisory Committee.

As part of the Plan's development process the various stakeholders were interviewed by the Statewide Planning Program staff or by the CDM Smith consultant team to obtain data and solicit input regarding the policies, potential projects, evaluation criteria, and programs that are outlined in the Plan. The input provided by a broad representation of rail and transportation stakeholders was critical to identifying issues and assessing potential investment and policy strategies.

In addition to the Advisory Committee, there was an internal group of staff from RISPP, RIDOT, RIPTA, and the Governor's Office that would review the initial draft materials. Once the materials were reviewed and discussed by the internal group, comments and edits would be incorporated into the draft materials. The revised draft materials would then be forwarded to the Advisory Committee in advance of their scheduled meeting in which the topic or chapter would be reviewed and discussed.

The Advisory Committee met during the development of the State Rail Plan to review and comment on the draft materials that would in the end constitute the draft State Rail Plan. Meetings were held at the Rhode Island Department of Administration building in Providence, which is centrally located in the State and accessible by vehicle and public transit. The Advisory Committee met at seven critical points in the development of the State Rail Plan and addressed the following:

Meeting 1 – November 3, 2010

- Advisory Committee welcome and introductions.
- Background of the requirements for state rail plans under PRIIA.
- Proposed scope of work for the State of Rhode Island Rail Plan.

Meeting 2 – November 2, 2011

- Update on the development of the State Rail Plan and project schedule moving forward.

- Overview of the project, a detailed list of deliverables, and the desired outcomes, as well as information on PRIIA and its requirements for state rail plans.

Meeting 3 – July 10, 2012

- Presentation, review, and comment on the following preliminary draft sections that will comprise the State Rail Plan:
    - Introduction
    - Passenger Rail Service in Rhode Island
    - Proposed passenger Rail Service
    - Freight Rail Service in Rhode Island
    - Vision, Goals, Objectives, Metrics, and Standards
    - Minimum Performance Standards and Preliminary Evaluation of Rhode Island Rail System
    - Impacts of Rail on Rhode Island
    - Project Evaluation Methodology
- Review of proposed revised format/outline for the State Rail Plan.

Meeting 4 – October 15, 2012

- Presentation, review, and comment of the following draft chapters of the State Rail Plan:
    - Chapter 1 – Introduction
    - Chapter 3 – Rail Program Activities in Rhode Island
    - Chapter 4 – Rhode Island's Freight Rail System
    - Chapter 5 – Rail Passenger Service in Rhode Island
    - Chapter 6 – Proposed Rail Passenger Services
    - Chapter 7 – Analysis of Rail Transportation Impacts

Meeting 5 – June 25, 2013

- Presentation, review, and comment of the following draft chapters of the State Rail Plan:
    - Chapter 8 – Rail Safety and Security
    - Chapter 10 – Rail Project Evaluation and Methodology
- Review and discussion of Rhode Island's potential passenger and freight rail projects.

Meeting 6 – August 20, 2013

- Facilitated discussion to finalize Rail Plan Vision, Goals, Policies, Objectives, Implementation Actions, and Performance Measures.

Meeting 7 – October 2, 2013

- Presentation, review, and comment of the following draft chapters of the State Rail Plan:
    - Chapter 9 – Goals, Objectives, Policies, and Implementation Actions

- Chapter 10 – Rhode Island Rail Investment Program

Meeting 8 – October 30, 2013

- Presentation, review, and comment on final draft complete State Rail Plan in its entirety.

Once the State Rail Plan Advisory Committee had reviewed and was satisfied with the complete final draft of the State Rail Plan, the Plan was presented to the State Planning Council's two permanent advisory committees, the Transportation Advisory Committee (TAC) and the Technical Committee. The Transportation Advisory Committee (TAC) is comprised of representatives of state agencies, local governments, regional organizations, transportation system providers and users, private organizations, and citizens that have an interest or expertise in transportation matters. This group meets monthly and is directly involved in preparing the state's long range transportation plan, State Transportation Improvement Program (STIP), and Unified Planning Work Program. The TAC advises the State Planning Council on all transportation-related matters and also serves as the cornerstone for public involvement in the transportation planning process.

The State Planning Council oversees the Statewide Planning Program's work. The State Planning Council was established by Rhode Island General Law 42-11-10 and designated as the State's one Metropolitan Planning Organization (MPO) serving the entire State of Rhode Island. The State Planning Council is made up of municipal and state agencies, as well as non-profit and business representatives, and members of the general public. The State Planning Council adopts goals and policies related to planning, most of which are contained within individual plans, which are elements of the State Guide Plan. This State Rail Plan is adopted by the State Planning Council as an element of the State Guide Plan.

A full draft of the State Rail Plan was presented to the TAC at their October 30, 2013 meeting. At the close of this meeting, the TAC voted to recommend that the State Planning Council/MPO schedule a public hearing on the draft State Rail Plan. The Technical Committee and the State Planning Council/MPO subsequently reviewed the draft State Rail Plan at their respective November 2013 meetings and approved it for the purpose of conducting a public hearing. Notice of the public hearing and opportunity to comment on the draft State Rail Plan was provided through a legal advertisement in the Providence Journal on December 20, 2013, posting on the Statewide Planning Program's website in English and Spanish, announcement in its January 2014 monthly e-newsletter, and a direct mailing to the over 2,000 planning and transportation contacts in the Statewide Planning Program's database including the State's 39 cities and towns.

Informational presentations were given at the two public hearings on the State Rail Plan that were held on January 23, 2014 at 10:00 a.m. and at 6:30 p.m. in front of the TAC. The public hearings were held at the Department of Administration building in Providence, which is centrally located and accessible by car and public transit, both bus and train. After the public hearings, the presentation was posted on the Division of Planning website. The public comment period was open from December 20, 2013 until the close of the evening public hearing on January 23, 2014. Public comments received during the public hearing were summarized in a public hearing report and incorporated, as appropriate, into the State Rail

Plan (refer to Section 2.4 for additional information on addressing comments and incorporation of stakeholder recommendations). The State Rail Plan draft was then revised by staff based on direction received from the TAC through the public hearing process. The final revised Plan was then presented to the Technical Committee on February 7, 2014 and the State Planning Council February 13, 2014. The State Planning Council approved and adopted the final State Rail Plan as an element of the State Guide Plan on February 13, 2014.

2.4 ADDRESSING COMMENTS & INCORPORATION OF STAKEHOLDER RECOMMENDATIONS

The importance of the input provided by the full-range of rail stakeholders was critical to identifying issues and assessing potential investment and policy strategies. Input provided at the Advisory Committee meetings typically consisted of the following themes:

- Both passenger and freight rail provides the transportation network with increased efficiency and economic competitiveness, as well as reducing vehicular emissions and highway congestion.
- Opportunities to improve and expand passenger commuter rail service and facilities should be pursued.
- Passenger commuter rail service should be more convenient and frequent to be effective.
- Improvements to the freight rail system will contribute to the State's ability and attractiveness to move goods, which is a growing element of the State's economy.
- The current State rail funding mechanisms are well managed, but are not funded sufficiently to address the current and future rail needs.
- Support regional rail system improvement projects that will improve freight and passenger movements in and out of Rhode Island.

At each of the eight meetings, the Advisory Committee provided comments, corrections, and suggestions that were incorporated into the draft materials. A public hearing report was developed summarizing the comments received during the two public hearings held on January 23, 2014 and during the open public comment period. A response to the public's comments was also included in the report.

Chapter 3

Public Rail Program Activities

CHAPTER 3 - PUBLIC RAIL PROGRAM ACTIVITIES IN RHODE ISLAND

Rail activities undertaken within the public sector in Rhode Island entail a unique organizational relationship between the various aspects of rail planning and project programming. Due to the small size of the state, the general metropolitan transportation planning and transit activities are undertaken by agencies with statewide jurisdiction, whereas in most other states these activities are undertaken by multiple regional organizations or authorities. This chapter describes rail planning in Rhode Island and the processes utilized to support planning and project implementation.

Multimodal planning requires close coordination within state transportation agencies, as well as with federal and other state agencies, local and regional transportation agencies, railroads operating within the state, and the general public. The role of each of these entities and their interactions are described below.

3.1 RHODE ISLAND'S RAIL LEGISLATIVE AUTHORITY

Rhode Island General Law 39-6.1 Rail Preservation provides the Rhode Island Department of Transportation (RIDOT) the authority to qualify for and disburse federal rail funding, establish state programs, and carry out necessary activities to ensure the preservation and safe operation of railroads in the state. RIDOT is authorized to exercise those powers necessary for the state to qualify for rail service assistance pursuant to the provisions of the federal Regional Rail Reorganization Act of 1973. Under this Act, RIDOT's authority is:

1. To establish a state plan for rail transportation and local rail services
2. To administer and coordinate the state plan
3. To provide in the plan for equitable distribution of federal rail service assistance
4. To promote, operate, supervise, and support safe, adequate, and efficient rail services, or to enter into contractual relationships with public or private agencies, persons, or corporations to do so
5. To employ sufficient trained and qualified personnel for these purposes
6. To maintain adequate programs of investigation, research, promotion, and development in connection with such purposes and to provide for public participation therein
7. To provide satisfactory assurance on behalf of the state that such fiscal control of accounting procedures will be adopted by the state as may be necessary to assure proper disbursement of federal funds paid to the state as rail assistance
8. To comply with the regulation of the Secretary of Transportation and the U.S. Department of Transportation affecting federal rail service programs
9. To do all things otherwise necessary to maximize federal assistance to the state under 49 U.S.C. 1654 or other applicable federal laws

Other sections in this chapter also provide RIDOT with the authority to provide financial assistance for the continuation of operations and maintenance of any railroad within or serving the state, to contract

to improve rail transportation service and to cooperate with other states in connection with the purchase, operation, or assistance of or to any rail properties within the state.

3.2 RHODE ISLAND'S RAIL FUNCTIONS AND STRUCTURE

The state agencies involved in rail planning and project development in Rhode Island include the Rhode Island Department of Transportation (RIDOT) and the Department of Administration's (RIDOA) Division of Planning. The following is a short summary of these agencies' rail-related roles and responsibilities.

3.2.1 RIDOT'S RAIL ORGANIZATION

Among the many sections with varied duties within the Rhode Island Department of Transportation is the Intermodal Planning section of the Planning and Finance Division. Intermodal Planning's responsibilities include administration of the Congestion Mitigation Air Quality (CMAQ), Ferry Boat Discretionary (FBD), and Transportation Alternatives programs, and developing an integrated transportation system that provides convenient connections between all modes of transportation.

In addition, the Intermodal Planning Section has specific rail transportation responsibilities which include:

- Conducting early conceptual planning studies to determine feasibility of new or expanded rail services on existing or new corridors.
- Overseeing site assessment and engineering phases of station development projects, and other rail facilities such as layover and maintenance yards.
- Continuous monitoring of rail operations, including: ridership, service levels/schedules, Title VI/Civil Rights, NEC access fees, etc.
- Serving as the primary contact on regional rail issues for the Northeast ~~c~~Corridor Commission and Coalition of Northeast Governors. Working directly with NEC Commission staff on cost allocation, 5 year capital planning, liability issues and NEC Future Environmental Impact Statement.
- Staffing the RI Public Rail Corporation on all commuter rail activities and agreements with Amtrak and MBTA.
- Overseeing and implementing the grade crossing program utilizing FHWA Highway Safety Improvement Program funds that are identified in the Transportation Improvement Program.

3.2.2 RHODE ISLAND STATE PLANNING COUNCIL

As outlined in Rhode Island General Law 42-11-10, the Rhode Island State Planning Council (SPC) serves as the state's metropolitan planning organization (MPO). The Rhode Island Department of Administration's Statewide Planning Program provides staff support to the SPC.

MPOs are federally mandated and funded transportation policy-making organizations comprised of local government and transportation officials. The formation of an MPO is required for any urbanized area with a population greater than 50,000.

MPOs are required to maintain the Long Range Transportation Plan as well as the Transportation Improvement Plan, or TIP, which is a multi-year program of transportation projects to be funded with federal and other transportation funding sources. As MPO planning activities have evolved to address the movement of freight as well as passengers, they have included consideration of multimodal solutions, improved intermodal connections, and more specific rail and rail-related project solutions.

The SPC is unique in that its MPO boundaries cover the entire state and its support staff is housed directly in a state agency, the Statewide Planning Program. Each of the planning areas within the SPC's purview is reflected in an integrated statewide planning framework established in the Rhode Island State Guide Plan. The State Guide Plan sets the path for the future direction of Rhode Island's policies and objectives and serves to integrate transportation planning with land use, housing, economic development and other factors.

3.2.3 RHODE ISLAND DEPARTMENT OF ADMINISTRATION

Within the Department of Administration's Division of Planning, the Statewide Planning Program serves as staff to the metropolitan planning organization (MPO) for the State of Rhode Island, and as such is charged with preparing and maintaining plans for the physical, economic, and social development of the state; encouraging their implementation; and coordinating the actions of federal, state, and local agencies and private individuals with the framework of the state's development goals and policies. This basic charge is established in the Rhode Island General Laws 42-11-10 and 12.

The Statewide Planning Program is divided into four functional sections, the largest of which is the Transportation unit. The other sections include Land Use Planning, Consistency Review, and the Planning Information Center. The specific responsibilities of the Transportation unit include:

- Developing the State's Long Range Transportation Plan (LRTP) and the State Transportation Implementation Program (STIP).
- Developing and maintaining the State's highway functional classification system.
- Co-chairing the State's Congestion Management Task Force, which is the primary vehicle for implementing the State's Congestion Management Process.
- Overseeing the development of the State's Rail Plan and Freight and Goods Movement Plan.
- Maintaining the State's Travel Demand Model.

3.2.4 RHODE ISLAND PUBLIC RAIL CORPORATION

The Rhode Island Public Rail Corporation was established under the Rhode Island General Laws 42-64.2 for the purpose of enhancing and preserving the viability of commuter transit and railroad freight operations in Rhode Island. It has powers, set forth in the law, to acquire and develop real and personal property and to provide financing to others, promoting the economic development of the state and the general welfare of its citizens.

The powers of the Rhode Island Public Rail Corporation are vested in a board of directors consisting of the Director of the Rhode Island Department of Administration, the Director of the Rhode Island Department of Transportation, and the chairperson of the Rhode Island Public Transit Authority or the designee of each. The Corporation is currently staffed by RIDOT. The Corporation has played a role in the extension of the MBTA commuter service from Providence south to Wickford Junction, in that it was the signatory on the agreement that established the service and has the power to defend, indemnify, and save harmless its designated operator and Amtrak for damage or liability, which would not have occurred but for the existence of the commuter rail service south of Providence.

3.3 OTHER STATE AND LOCAL RAIL PLANNING ACTIVITIES IN RHODE ISLAND

Although the Rhode Island Department of Transportation and Department of Administration have primary responsibility for rail planning, policy, and project development, additional agencies in Rhode Island also have a vested interest in the viability and efficiency of the state rail system. These agencies are outlined below.

3.3.1 RHODE ISLAND PUBLIC TRANSIT AUTHORITY (RIPTA)

The Rhode Island Public Transit Authority (RIPTA) is a quasi-public, independent authority authorized to operate public transit services throughout the State of Rhode Island. RIPTA serves 30 of the 39 Rhode Island municipalities, operating 3,175 daily trips on 54 statewide fixed bus routes. RIPTA also operates statewide ADA paratransit service and administers the statewide RIde program for transporting seniors and people with disabilities. RIPTA provides public transit service to all intercity and commuter rail stations in the state.

3.3.2 RHODE ISLAND COMMERCE CORPORATION

The Rhode Island Commerce Corporation is the state's lead economic development agency. The Corporation works with other state agencies, rail service providers, and rail users to facilitate business services including financing, market data, development sites, and other business incentives.

3.3.3 QUONSET DEVELOPMENT CORPORATION

The Quonset Development Corporation (QDC) was established by Rhode Island General Law 42-64-10, as a subsidiary of the Rhode Island Commerce Corporation. The main responsibilities of the QDC include:

- Developing, managing, and conveying federal land on behalf of the state, consistent with base reuse plans and plans duly adopted and/or ratified as provided for in the law to undertake projects.
- Establishing, implementing, and maintaining high standards for design, improvement, operation, and use of property under its control.
- Fostering and maintaining effective working relations with its host and surrounding communities.
- Establishing a professional capacity for the state to develop, manage, and market state lands for commercial purposes.

One of the functions of the QDC is to manage the Quonset Business Park in North Kingstown, the former site of the Quonset Naval Base. The Quonset Development Corporation owns the Quonset Point Davisville Industrial Track, which extends throughout the Quonset Business Park. The Seaview Transportation Company operates the rail service on the line.

3.3.4 LOCAL ECONOMIC DEVELOPMENT AGENCIES

The State of Rhode Island has a number of local public and private economic development agencies which support business development and growth within their community or region.

The state has at least ten economic development entities, including economic development agencies, chambers of commerce, industrial development corporations, and associations at the regional, county or city level of government. Many of these agencies offer business planning, financing, workforce development, and other incentives to attract businesses to the State. Although these agencies do not generally work directly with freight railroad operators, they do have a vested interest in the level of rail services and the rail improvements necessary to supplement their incentives.

3.3.5 RHODE ISLAND FREIGHT PLANNING INITIATIVES

The State of Rhode Island has begun multi-modal freight planning within the state. Currently a working group consisting of staff from the Department of Administration's Statewide Planning Program, Rhode Island Department of Transportation (RIDOT), the Federal Highway Administration (FHWA), U.S. Maritime Administration (MARAD), Rhode Island Economic Development Corporation (RIEDC), Quonset Development Corporation (QDC), and the University of Rhode Island Transportation Center (URITC) have been meeting to address the need for coordinated freight planning in Rhode Island. This effort is still at a preliminary stage; however, a formalized endeavor, in the form of a State Freight and Goods Movement Plan is anticipated for 2014.

3.4 STATE RAIL FUNDING IN RHODE ISLAND

Rhode Island's involvement in financial assistance to the rail industry dates back to the 1970s with its administration of the federal Local Rail Service Assistance (LRSA) Program, which was established by the Regional Rail Reorganization Act of 1973 to provide financial support to states for the continuation of

freight rail service on abandoned light density lines in the Northeast. The subsequent Local Rail Freight Assistance Program (LRFA) expanded funding to all states and allowed capital assistance for rehabilitation of lines prior to abandonment. However, federal funding for this program ended in 1996. Although Rhode Island has not adopted a formal rail financial assistance program, it has provided significant state financial assistance for strategic rail improvements for both passenger and freight services.

The following is a description of state-funded programs utilized in Rhode Island for rail system improvements.

3.4.1 RHODE ISLAND RAIL FUNDING

Rhode Island utilized and matched federal funding available from the LRSA and LRFA programs for freight rail branch line preservation and improvements until federal funding ceased in 1996. Rhode Island chose not to establish a state-funded program dedicated specifically for light density rail lines. Rather, the state invested in larger-scale projects aimed at improving its intercity and commuter passenger rail services and freight rail connections to strategic economic development generators. The state's decision to invest in these projects was made through the State Planning Council's Transportation Improvement Program (TIP) process, which includes project input, selection, and coordination by a wide range of transportation stakeholders and governmental representatives.

Rhode Island has utilized State Capital Budget appropriations and state transportation bond issues to match available federal FTA funds and other state, local, and private funding, including private-public partnerships. These funds have been used to finance rail projects including the Freight Rail Improvement Program (FRIP), station development, and track sidings, and to purchase new commuter rail equipment as its contribution to MBTA's commuter operations in the state.

In 2004, Rhode Island voters approved a $48 million bond referendum for major upgrades at Quonset Business Park. This funding included $5.5 million for railway improvements.

Rhode Island has also used public-private partnerships to develop rail facilities in the state. A current example of the result of this type of partnership is the Wickford Junction train station and parking garage, which was designed and built through a public-private partnership between the Rhode Island Department of Transportation and the developers of the Wickford Junction Plaza.

3.5 FEDERAL RAIL PROGRAMS AND FUNDING OPTIONS

In 2008, the Passenger Rail Improvement and Investment Act (PRIIA) and related appropriation bills provided funds directly to states for intercity rail passenger investments. In early 2009, the American Recovery and Reinvestment Act also provided flexible transportation funding to states for capital projects, as well as funding for passenger rail development. These programs, together with selected programs within the current federal transportation funding authorization bill, the Moving Ahead for Progress in the 21st Century (MAP-21) and the former transportation authorization bill, the Safe,

Accountable, Efficient Transportation Equity Act – a Legacy for Users (SAFETEA-LU), have provided rail-related funding to states in recent years.

The following describes these and other federal programs specifically available for rail assistance, as well as programs which may be eligible for selected rail-related applications.

3.5.1 FEDERAL RAIL INTERCITY PASSENGER AND HIGH SPEED RAIL PROGRAMS

In recent years, the federal government has placed a high priority on the improvement of intercity rail passenger service both as a source of economic stimulus and as an essential future mode of passenger transportation. The following are the legislative and budget initiatives which have been approved to assist states in intercity rail passenger planning and development.

PASSENGER RAIL IMPROVEMENT AND INVESTMENT ACT (PRIIA) OF 2008

The Passenger Rail Improvement and Investment Act (PRIIA) of 2008 authorized over $13 billion between 2009 and 2013 for Amtrak, and promotes the development of new and improved intercity rail passenger services. PRIIA also establishes an intercity passenger rail capital grant program for states. States are required to identify passenger rail corridor improvement projects in their State Rail Plan.

PRIIA established three new competitive grant programs for funding high-speed intercity passenger rail improvements. Each of the three programs provides 80 percent federal funding with a required 20 percent non-federal match.

Intercity Passenger Rail Service Corridor Capital Assistance Program

The Intercity Passenger Rail Service Corridor Capital Assistance Program authorized USDOT to use appropriated funds for grants to assist in financing the costs of facilities, infrastructure, and equipment necessary to provide or improve intercity passenger rail transportation. States or groups of states, interstate compacts, and public intercity passenger rail agencies established by states are eligible for these grants. In addition, to be eligible for funding under this program, projects must be included in an approved State Rail Plan. Existing or proposed intercity passenger services in Rhode Island are eligible under this program, although no grants have been received to date.

High Speed Rail Corridor Development Program

PRIIA also authorized $1.5 billion annually to establish and implement a high-speed rail corridor development program. Funding is currently restricted to projects intended to develop the ten federally-designated high-speed corridors for intercity passenger rail services that may reasonably be expected to reach speeds of at least 110 miles per hour.

As Amtrak's Northeast Corridor between Boston and Washington DC has been designated an FRA High Speed Rail Corridor, segment improvements on this line within Rhode Island are eligible for financial assistance under this program. Amtrak has received $795 million through this program to implement projects to improve travel times and reliability throughout the Northeast Corridor.

Congestion Grants

PRIIA also authorizes $325 million annually for grants to states, or to Amtrak in cooperation with states, for financing the capital costs of facilities, infrastructure, and equipment for high-priority rail corridor projects necessary to reduce congestion or facilitate intercity passenger rail ridership growth.

USDOT BUDGET APPROPRIATIONS

Federal funding authorized under PRIIA or other authorization programs must be appropriated under annual budget or other legislative bills.

USDOT's FFY 2010 budget appropriation provided $2.5 billion in funding for the high-speed rail state grant program authorized under PRIIA. Funds are provided to states, on a competitive basis, for up to 50 percent of the capital cost of improving intercity rail passenger service. No high speed rail grant funding has been appropriated since FFY 2010.

Previous USDOT appropriation acts also provided funding that could be utilized for intercity rail passenger improvements under similar terms. The FFY 2009 DOT Appropriations Act provided $90 million to states. The FFY 2008 DOT Appropriations Act provided $30 million to states. Up to ten percent of the funding available under these appropriations is available for rail corridor planning grants. Rhode Island has received no appropriations to date.

AMERICAN RECOVERY AND REINVESTMENT ACT (ARRA)

As a result of the economic recession of 2008, the federal government approved the American Recovery and Reinvestment Act (ARRA) in February 2009 to stimulate the economy, partly through the funding of infrastructure projects which could be initiated in the short term. Programs which could be utilized for rail-related projects under this Act are described below.

Flexible Highway Program

The Flexible Highway Program provided states a total of $27.5 billion of highway funding for surface transportation improvements, including rail improvements. Eligibility criteria included projects being "shovel ready" for early implementation.

Intercity Passenger Rail/High Speed Rail Program

The Intercity Passenger Rail/High Speed Rail Program provided $8 billion of funding to jump start intercity passenger rail improvements authorized under PRIIA. The federal share of costs was 100 percent and proposed projects were not required to be included in a State Rail Plan.

Rhode Island received funding for two projects under the ARRA program, including:

- $26.2 million for final design and construction of an additional 1.5 miles of third track at the Kingston Station, construction of a high-speed interlocking, and construction of two high-level platforms and increased connections to local transit services

- $3 million for the completion of preliminary engineering and environmental documentation required for long-term improvements at Providence Station

Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grants Program

The Transportation Investment Generating Economic Recovery (TIGER) discretionary grant program allowed local and state governments to apply for discretionary funding. Grants are eligible for capital investment in rail, highway, bridge, public transportation, and port projects and are awarded by USDOT on a competitive basis. Three rounds of grants have been held to date. Rhode Island has received two rail-related grants:

- $22.3 million for pier maintenance, a mobile harbor crane for marine highway cargo, rail improvements including on-dock rail on Pier 2, and road construction within the Quonset Business Park to support wind energy manufacturing and logistics operations, and to improve freight transportation and access to industrial properties within the site.
- $10.5 million for the purchase of a barge and a crane within the Port of Providence to enable marine highway cargo greater than 32 feet in draft including bulk cargo. The added barge and crane increase the Port's potential for freight intermodal rail transfers.

MOVING AHEAD FOR PROGRESS IN THE 21ST CENTURY (MAP-21)

The Safe, Accountable, Efficient Transportation Equity Act – a Legacy for Users (SAFETEA-LU), the former authorization bill for the nation's surface transportation program was replaced by Moving Ahead for Progress in the 21st Century (MAP-21). MAP-21 was signed into law in July 2012 and took effect October 1, 2012, authorizing $105 billion for FFY 2013 and 2014. MAP-21 contains a number of programs for with eligibility for rail related projects.

RAIL-RELATED FEDERAL FUNDING PROGRAMS

Highway Safety Improvement Program (HSIP)

The Highway Safety Improvement Program (HSIP) provides federal support to reduce the incidence of traffic fatalities and serious injuries on public roads through the implementation of infrastructure-related highway safety improvements. Funds from this program are set aside each fiscal year for the Railway-Highway Crossings Program (commonly referred to as the Section 130 program). HSIP funds provide for the elimination of hazards and the installation of protective devices at public railway-highway crossings, the elimination of at-grade crossings through grade separation, or the consolidation or closing of crossings. The federal share for HSIP funds is 90 percent. This program will continue under MAP-21. RIDOT receives approximately $1.1 million for the Rail-Highway Crossings Program funding annually, completing an average of two projects per year.

Transit Urbanized Area Program

The Transit Urbanized Area Program provides federal funds to urbanized areas for transit planning, capital, and operating assistance. Grants are awarded by the Federal Transit Administration by formula under the United States Circular (U.S.C.) Section 5307. Eligible activities include planning, engineering design and evaluation of transit projects, and capital investments in bus, bus-related activities, fixed guideway systems including rolling stock, track, signals, and communications. Rhode Island utilizes funds from this program for the operation of its commuter rail service. This program will continue under MAP-21.

Transit Capital Investments Program

The Transit Capital Investments Program, also referred to as New Starts and Small Starts, provides federal funds for new transit capital projects in urbanized and rural areas. These funds are apportioned by formula, under U.S.C. 5309, for fixed guideway modernization and for discretionary grants for new construction and expansion of fixed guideway systems. Eligible activities include light rail, commuter rail, automated fixed guideway systems, or busway/high occupancy vehicle facilities. Rhode Island utilizes funds from this program for facilities and equipment associated with its commuter rail program. This program will continue under MAP-21.

OTHER FEDERAL PROGRAMS WITH SELECTED RAIL APPLICATIONS

In addition to the above programs, a number of programs, although primarily intended for highway use, may be used for rail projects at the discretion of states and with the approval of the administering federal agency. These programs include:

National Highway System (NHS) Program

The National Highway System (NHS) program can be utilized to improve designated highway intermodal connectors between the NHS and intermodal facilities, such as truck-rail transfer facilities. The federal share of NHS funding is 80 percent. These program features continue under MAP-21's National Highway Performance Program.

Congestion Mitigation and Air Quality (CMAQ) Improvement Program

The Congestion Mitigation and Air Quality (CMAQ) Improvement program funds transportation projects and programs that improve air quality by reducing transportation-related emissions in non-attainment and maintenance areas for ozone, carbon monoxide, and particulate matter. Examples of CMAQ-funded rail projects include the construction of intermodal facilities, rail track rehabilitation, diesel engine retrofits and idle-reduction projects in rail yards, and new rail sidings. State departments of transportation and metropolitan planning organizations select and approve projects for funding. The federal matching share for these funds is 80 percent. CMAQ funds are utilized for operations (preventive maintenance) related to Rhode Island's South County Commuter Rail Service and could be utilized for future extensions of that service. This program continues under MAP-21.

Surface Transportation Program (STP)

The Surface Transportation Program (STP) is a general grant program available for improvements on any federal-aid highway, bridge, or transit capital project. Eligible rail improvements include lengthening or increasing vertical clearance of bridges, crossing eliminations, and improving intermodal connectors. State departments of transportation and metropolitan planning organizations select and approve projects for funding under this program. The federal matching share for these funds is 80 percent. This program does continue under MAP-21.

Transportation Infrastructure Finance and Innovation Act (TIFIA)

The Transportation Infrastructure Finance and Innovation Act (TIFIA) provides credit assistance to large scale projects (over $50 million or one third of a state's annual federal-aid funds) of regional or national significance that might otherwise be delayed or not constructed because of risk, complexity, or cost. A wide variety of intermodal and rail infrastructure projects are eligible and these can include equipment, facilities, track, bridges, yards, buildings, and shops. The interest rate for TIFIA loans is the U.S. Treasury rate and the debt must be repaid within 35 years. The Rhode Island Airport Corporation (RIAC) applied for and received a TIFIA loan for the construction of the Interlink rail connection at T.F. Green Airport. The TIFIA program was included in MAP-21.

High Priority Projects

The High Priority Projects program provided designated funding over a five-year period for 5,091 projects identified in SAFETEA-LU. Though primarily highway-related, some projects were rail-related. Rhode Island received High Priority Project funding of $5 million for commuter rail improvements in the state. High Priority Projects were not included in MAP-21.

Transportation Enhancement Program/Transportation Alternatives

Transportation Enhancement Program funds are available to strengthen the cultural, aesthetic, and environmental aspects of the nation's intermodal transportation system. Eligible projects can include the rehabilitation of historic transportation buildings or facilities and the preservation of abandoned rail corridors. Funding from this program has been utilized to preserve abandoned rail lines in the state. The federal share of project costs is 80 percent. Rhode Island has utilized Enhancement funds for improvements at the Providence Train Station. Many of the eligible Enhancement projects are now included and funded under MAP-21's Transportation Alternatives program.

OTHER FEDERAL PROGRAMS AVAILABLE FOR RAIL-RELATED FUNDING

In addition to transportation programs available under the MAP-21 and SAFETEA-LU transportation authorization bills, other programs are administered by federal agencies for which rail-related capital projects are eligible. These programs include:

U.S. Department of Commerce Economic Development Administration (EDA)

The U.S. Department of Commerce provides EDA grants for projects in economically distressed industrial sites that promote job creation or retention. Eligible projects must be located within EDA-designated redevelopment areas or economic development centers. Eligible rail projects include railroad spurs and sidings. Grant assistance is available for up to 50 percent of the project, although EDA could provide up to 80 percent for projects in severely distressed areas.

U.S. Department of Agriculture Programs

The U.S. Department of Agriculture Community Facility Program and Rural Development Program provide grant or loan funding mechanisms for the construction, enlargement, extension, or improvement of community facilities that provide essential services in rural areas and towns. Grant assistance is available for up to 75 percent of the project cost. Eligible rail-related community facilities include transportation infrastructure for industrial parks and municipal docks.

3.6 RAIL-RELATED LEGISLATIVE PROPOSALS

Legislative proposals with potential to affect the rail industry are offered by federal and state legislative bodies, as well as the rail industry itself. The following legislative proposal could affect the Rhode Island rail program over the near term.

RAILROAD TRACK MAINTENANCE CREDIT PROGRAM

The Railroad Track Maintenance Credit Program was originally authorized within the Internal Revenue Code in 2005 to provide tax credits to qualified entities for an amount equal to 50 percent of qualified railroad maintenance expenditures on railroad tracks owned or leased by Class 2 or Class 3 railroads through 2007. The maximum credit amount allowed was $3,500 per mile of track.

The Emergency Economic Stabilization Act of 2008 extended the tax credits through December 31, 2009 and they were further extended through 2011 as part of the federal income tax extensions passed in late 2010. The program expired, however, on December 31, 2011. The American Short Line and Regional Railroad Association and its member railroads support the extension of this program through 2017 and proposed bills have been introduced in both houses of Congress.

Both the Providence & Worcester and the Seaview Railroads are eligible for tax credits under this program.

3.7 RHODE ISLAND RAIL STUDIES

Over the past decade, RIDOT and the Statewide Planning Program have sponsored or participated in a number of studies addressing both freight and passenger rail operations to determine the needs and benefits of the state's rail system. A brief summary of these studies is provided below.

3.7.1 FREIGHT RAIL STUDIES

- ***Transportation 2035, State Guide Plan Element 611 (January 2013)*** – *Transportation 2035*, developed by the Statewide Planning Program and the State Planning Council, addresses Rhode Island's long range transportation needs over the next twenty years. The scope of the plan includes surface transportation for both passengers and freight and connections to other modes. It serves as a key element of the State Guide Plan, which sets direction for state transportation and land use policy and action. *Transportation 2035* also serves as the long-range transportation plan required for the Statewide Planning Program serving as the state's MPO. It also fulfills federal transportation planning requirements for statewide and metropolitan planning by providing a forum for public input and providing direction to the Transportation Improvement Program (TIP).

- ***Statewide Planning Program Technical Paper Number 158, Freight Planning Needs Assessment (July 2006)*** – This paper, developed by the Statewide Planning Program and State Planning Council, examined the freight activities in the state including freight facilities and carriers grouped by major modes; the freight planning activities in Rhode Island; regional planning activities that impact Rhode Island; and the freight planning needs for Rhode Island.

3.7.2 PASSENGER RAIL STUDIES

A number of rail passenger studies have focused on the feasibility of rail passenger services by RIDOT and other public agencies. These studies are detailed below.

- ***South County Commuter Rail Project Phase II*** – This study, currently ongoing, is exploring the feasibility and costs for further extending commuter rail service to Cranston, East Greenwich, West Davisville, and Westerly.

- ***Pawtucket/Central Falls Commuter Rail –*** The Federal Transit Administration has released $1.9 million in New Starts Program Funding for preliminary engineering and environmental review as part of the next phase of development for a proposed commuter rail station in Pawtucket. This work is currently on-going.

- ***Providence Core Connector Study*** – This study, sponsored by RIPTA, included an Alternatives Analysis and Environmental Assessment to evaluate transportation alternatives in a two mile corridor encompassing the key downtown Providence sites, as well as two mixed-use retail/residential districts on College Hill and in Downcity Providence (2012).

- ***Intrastate Commuter Rail Feasibility Study –*** This study looked to determine the feasibility, costs, benefits, ridership, service levels, and potential transit oriented development along an intrastate rail transit corridor from Woonsocket to Warwick. It looked to evaluate a broader vision for rail serving Woonsocket, Cumberland, Lincoln, Central Falls, Pawtucket, Providence, Cranston and Warwick (2008).

- ***Woonsocket Commuter Rail Facility –*** This study examined the feasibility of establishing commuter rail service along the Blackstone Valley freight line between Worcester and Providence and also looked at re-establishing a rail connection between Woonsocket and Franklin, MA to the MBTA's Franklin line (2007).

- ***Aquidneck Island Passenger Rail/Bicycle Path Project –*** This study explored the feasibility of using the Newport Secondary rail right-of-way to serve Aquidneck Island including Newport, Middletown, Portsmouth, and Tiverton (2002).

- **South County Commuter Rail Project Phase I** – This study served as the basis for the extension of commuter rail service from Providence to T.F. Green Airport in Warwick and Wickford Junction in North Kingstown (2001).

In addition, RIDOT is participating in the *Northeast Corridor Future*, which is a comprehensive planning initiative of the Federal Railroad Administration launched in February 2012. Its goal is to prepare a Passenger Rail Corridor Investment Plan (PRCIP) for the Northeast Corridor (NEC) that will set a framework for future investment in the corridor through 2040.

3.8 RHODE ISLAND'S INVOLVEMENT IN MULTI-STATE PLANNING

Rhode Island routinely coordinates with the states of Massachusetts and Connecticut with regard to both passenger and freight services in the region. Rhode Island also participates in multi-state partnerships and with other organizations to study and improve rail services. These coordination activities include:

- **American Association of State Highway Transportation Officials (AASHTO) – Standing Committee on Rail Transportation:** This committee is composed of rail officials from state departments of transportation. The committee conducts conferences, prepares technical studies and reports, and advocates and promotes various federal issues and projects for both freight and intercity passenger rail improvements.

- **Coalition of Northeast Governors (CONEG):** CONEG is a non-partisan association of the Governors of Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island and Vermont. The Governors identify priority interests in transportation and the economy, environment, and energy which set the framework for CONEG's agenda. CONEG works with the states to identify regional issues and provides a forum for discussion and exchange of information about issues of shared interest. CONEG focuses its priority transportation activities on passenger rail, surface transportation, budget and appropriations, and regional integration of transportation.

- **I-95 Corridor Coalition:** The Coalition is a partnership of the departments of transportation and related authorities and organizations from Maine to Florida, working together to accelerate improvements in long-distance freight movement and passenger travel. RIDOT participated in

the development of the Coalition's Northeast Rail Operations Studies (NEROPS), which are intended to identify and make recommendations to eliminate key rail chokepoints in the states of Maine, New Hampshire, Vermont, New York, Massachusetts, Connecticut, and Rhode Island, thereby increasing freight-rail and passenger-rail service capacity and relieving congestion on the rail, highway, and air systems.

- **States for Passenger Rail Coalition:** This is an alliance of state departments of transportation that support intercity passenger rail initiatives and advocate for federal funding. Its mission is to promote the development, implementation, and expansion of intercity passenger rail services with involvement and support from state governments. Currently 32 states, including Rhode Island, are members of the coalition.

- **Northeast Corridor Infrastructure and Operations Advisory Commission:** This commission was established in accordance with the Passenger Rail Investment and Improvement Act (PRIIA) of 2008 to achieve a unified vision for the future growth, development, and operation of the Northeast Corridor. The Commission is comprised of appointed representatives from Connecticut, the District of Columbia, Delaware, Massachusetts, Maryland, New Jersey, New York, Pennsylvania, Rhode Island, Amtrak, and USDOT.

Chapter 4

Rhode Island's Freight Rail System

CHAPTER 4 – RHODE ISLAND'S FREIGHT RAIL SYSTEM

This chapter profiles the freight railroads operating within Rhode Island. Freight railroads in the United States are generally categorized as Class I railroads, Class II or regional railroads, and Class III or short line railroads. Some short line railroads are further classified as terminal railroads.

FREIGHT RAILROAD CLASSIFICATION

Class I railroads are defined by the Federal Surface Transportation Board as having more than $379 million of annual carrier operating revenue. They primarily operate long-haul service over high-density intercity traffic lanes. Class II or regional railroads operate over at least 350 miles of track and/or have revenue of between $40 million and the $379 million Class I threshold. Class III or short line railroads operate over less than 350 miles of track and have annual revenue of less than $40 million per year. Terminal or switching railroads provide pickup and delivery services within a specified area.

RAIL TRACK/SPEED CLASSIFICATION

Maximum allowable speeds on individual rail lines or line segments are determined by track condition and are classified by the Federal Railroad Administration (FRA) based on safety inspections conducted by federally certified inspectors. Each class of track has a corresponding maximum allowable speed for both freight and passenger trains. These Track Standards are shown in Table 4-1, FRA Track Class Standards, below. Rail freight lines in Rhode Island generally range from Class I to Class III. Amtrak's Northeast Corridor is generally rated Class VI or Class VII.

Table 4-1 FRA Track Class Standards

Track Type	Maximum Speeds	
	Freight	Passenger
Excepted	<10 mph	*not allowed*
Class I	10 mph	15 mph
Class II	25mph	30 mph
Class III	40 mph	60 mph
Class IV	60 mph	80 mph
Class V	80 mph	90 mph
Class VI	110 mph	
Class VII	125 mph +	

Source: Federal Railroad Administration

4.1 RHODE ISLAND'S FREIGHT RAILROADS

The description of Rhode Island's freight railroad system focuses on the location of the rail lines, the lines' physical and operational characteristics, railroad facilities located on the lines, and other information available from public sources. With the exception of the Newport Secondary Track on Aquidneck Island, all the rail lines are used for freight. The Northeast Corridor is the only rail line which is used for both freight and passengers.

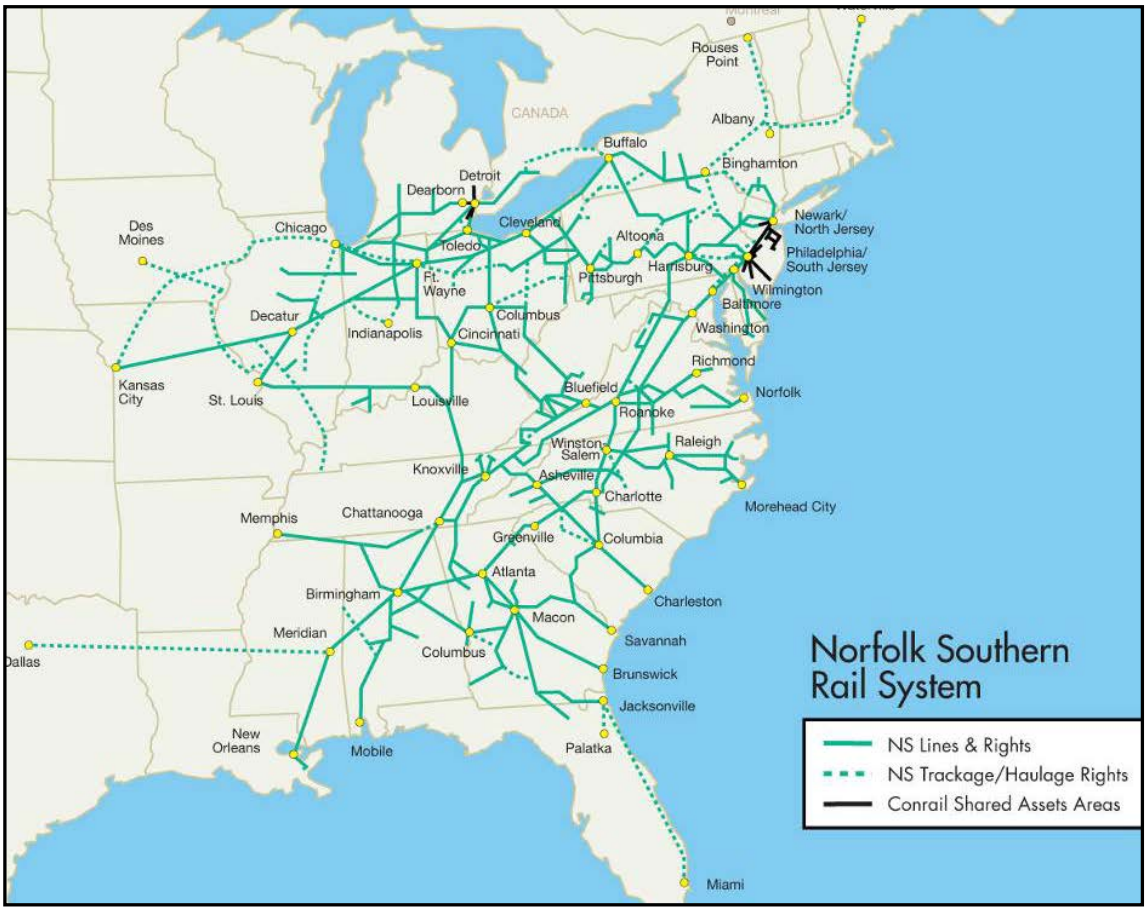
4.1.1 CLASS I RAILROADS

Currently, Rhode Island does not have any operating Class I freight railroads. The last Class I railroad to operate in the state was the Consolidated Rail Corporation (Conrail) which sold its lines within Rhode Island to the Providence & Worcester Railroad (P&W) in 1982.

CSX Transportation (CSX), which took possession of Conrail's routes elsewhere in New England following the sale of Conrail to CSX and Norfolk Southern Rail Corp. (NS) in 1998, operates between Albany, NY and Boston, MA. Rhode Island rail users can connect to CSX at Worcester, MA via the P&W for movements over the national rail network.

NS, the other major Class I carrier in the Northeast, has haulage rights over Pan Am Railways, which operates a line across northern Massachusetts. Rhode Island rail users likewise may connect to NS via the P&W at Gardner, MA. The NS system is illustrated in Figure 4-1, Norfolk Southern Network Map. The Providence & Worcester Rail Railroad's connections to CSX and NS's networks are shown in Figure 4-2, Regional Freight Rail Connections Map.

Figure 4-1 Norfolk Southern Network

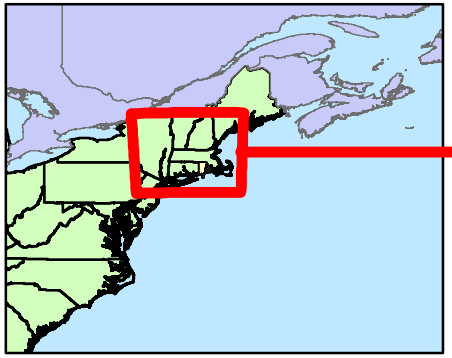


Source: Norfolk Southern web site - http://www.nscorp.com/

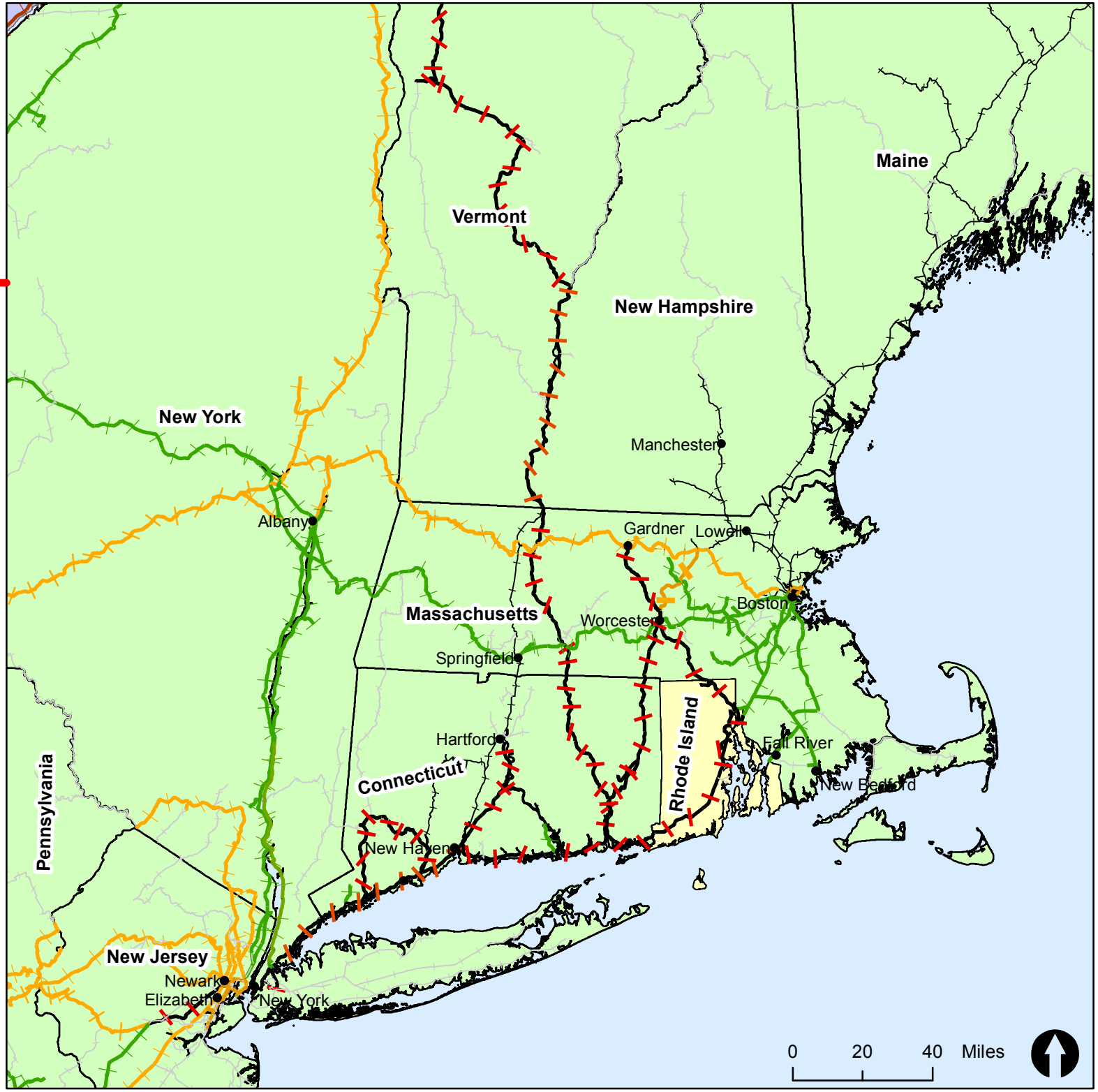
State of Rhode Island

Regional Freight Rail Connections

Figure 4-2
October 1, 2013



- Other Railroads
- CSX
- Norfolk Southern
- Providence & Worcester RR



RHODE ISLAND STATEWIDE PLANNING PROGRAM

RIGIS

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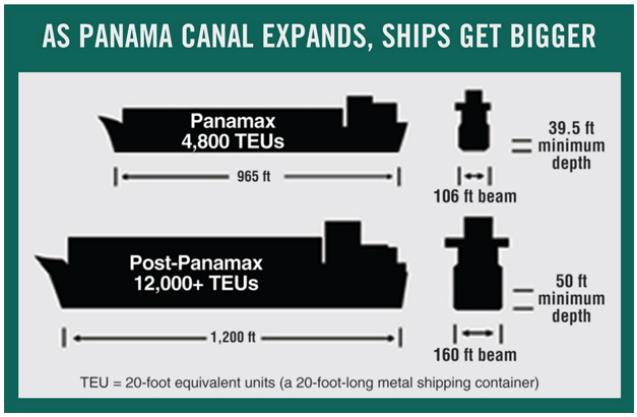
CSX and NS connect Rhode Island to other states along the East Coast into the Mid-Atlantic, including the eastern Gulf of Mexico ports operating on their lines. CSX and NS lines also connect Rhode Island to the western Gulf of Mexico, Midwest, and West Coast Pacific Ocean ports through links with other U.S. Class I railroads such as Union Pacific and Burlington Northern Santa Fe Railroad. CSX and NS also connect Rhode Island to international trade through links to the transcontinental Canadian railroads Canadian National and Canadian Pacific.

In addition, the Province of Quebec, Canada has developed Plan Nord, an economic strategy to invest in energy, mining, and forestry extraction and export. One potential rail outlet for exporting Canada's raw materials or finished products is through the warmer water ports of Rhode Island. Access to the ports would be via U.S. and Canadian Class I railroads through New York and Vermont border crossings with a transfer to the P&W Railroad via a small railroad partnership described in the following section and illustrated in Figure 4-4, Canadian Freight Rail Connections Map.

Furthermore, major ports along the East Coast, Gulf of Mexico, and in the southeastern United States are well placed to become important sources of northbound container rail and Marine Highway traffic when the third, and larger, Panama Canal opens in 2015. This third canal will allow larger post-Panamax ships direct access to these East Coast and southeast U.S. ports. Despite the deep-water conditions at the Port of Davisville (32 feet depth) and Port of Providence (40 feet depth), Rhode Island's facilities cannot accommodate the larger generation of post-Panamax ocean freight vessels which will require 50 feet minimum depth as depicted in Figure 4-3. Therefore the delivery of these containers to New England destinations would primarily be performed by the rail and trucking industries from the larger and deeper East Coast ports. However, Rhode Island's ports have the potential to benefit from an increase in the use of short distance marine shipping of the added containers from the larger East Coast ports to the Port of Davisville and Port of Providence (see Figure 4-5).

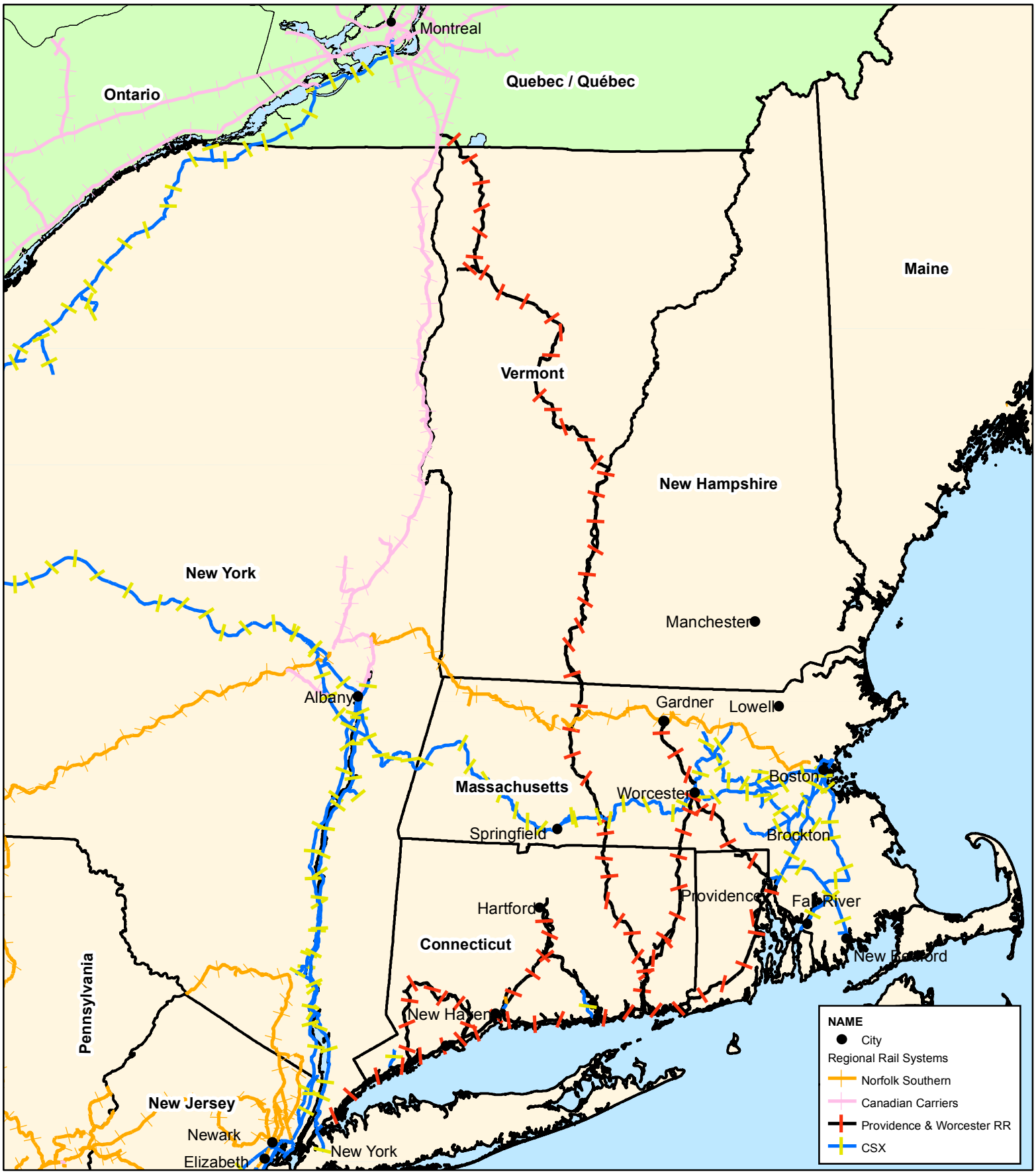
Figure 4-3 Post-Panamax Increased Ship Size



Source Business Facilities Online. September 24, 2013

State of Rhode Island
Figure 4-4

Canadian Freight Rail Connections
Created October 1, 2013



RHODE ISLAND STATEWIDE PLANNING PROGRAM

0 20 40 Miles

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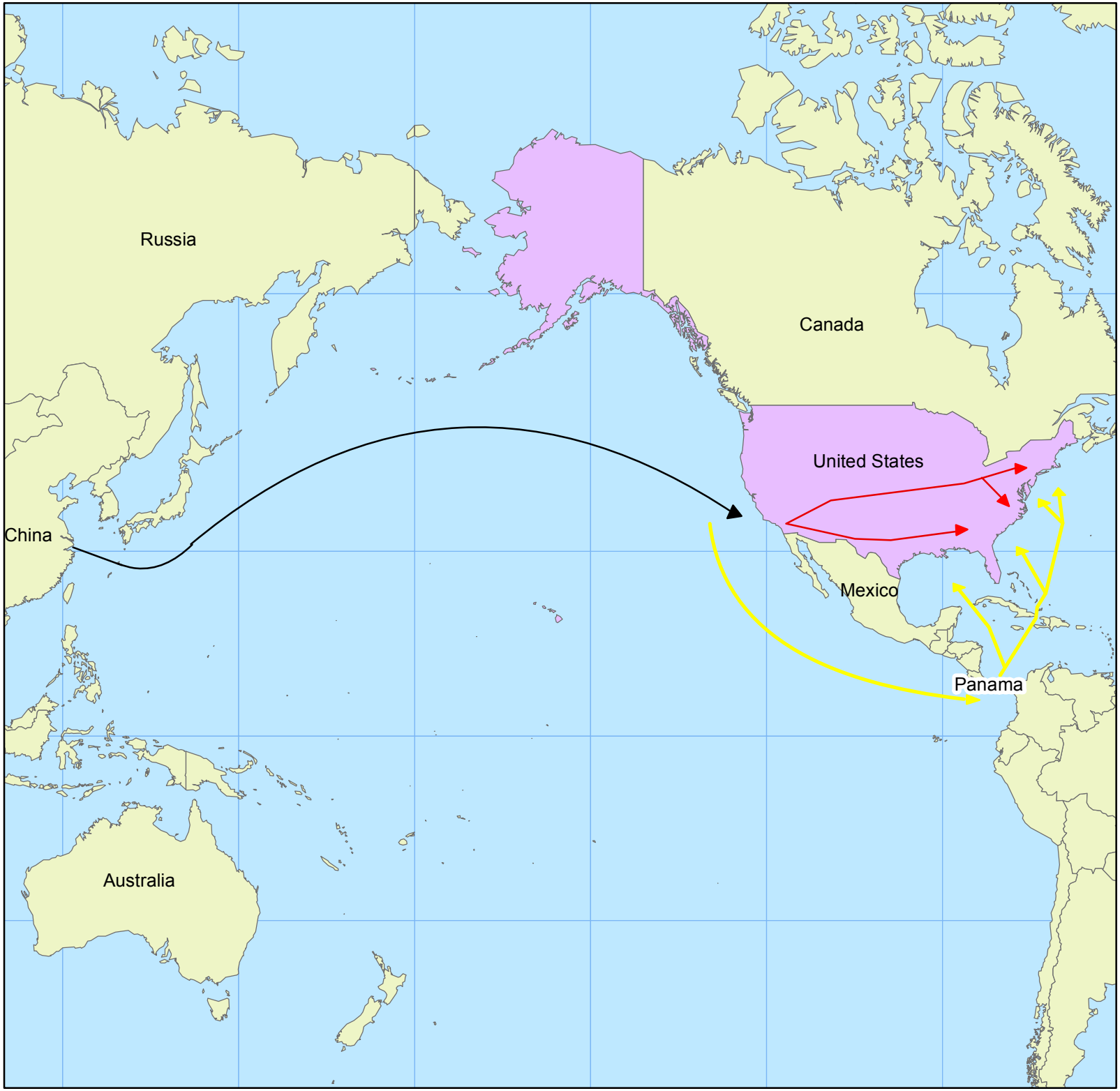
State of Rhode Island

Post Panamax International Freight Connections

Figure 4-5

December 16, 2013



Shipping Routes

- Asia Pacific Route
- US Overland Route
- US East Coast Trade Route

RHODE ISLAND STATEWIDE PLANNING PROGRAM

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4.1.2 CLASS II RAILROADS IN RHODE ISLAND

The Providence & Worcester Railroad (P&W) is a Class II or regional railroad which comprises approximately 516 miles and operates in Massachusetts, Rhode Island, Connecticut, and New York. The P&W Railroad owns and operates over 29.3 miles in Rhode Island and operates on an additional 8.9 miles of rail line that is owned by the State of Rhode Island. P&W also has trackage rights over Amtrak's Northeast Corridor line from Providence to New York City. The P&W's rail network is shown in Figure 4-~~4~~6, P&W Railroad Network.

The P&W connects with the national rail network through its interchanges with Class I and other railroads at a number of locations in New England and New York. It connects with CSX at Worcester, MA and New Haven, CT, with Pan Am Railways at Worcester, with Pan Am Southern and Norfolk Southern at Gardner, MA, with the New England Central Railroad (NECR) at New London and Willimantic, CT, and with the New York and Atlantic Railroad at Fresh Pond Junction on Long Island, NY.

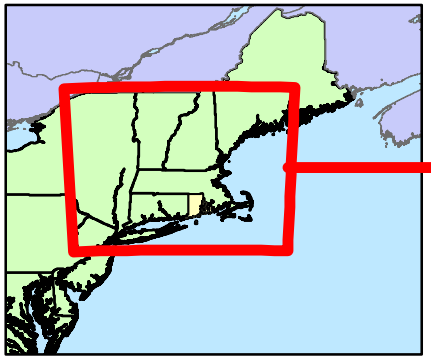
In addition to these direct connections, the P&W has also joined with the New England Central Railroad and Vermont Rail Systems to establish a new competitive rail gateway for large-scale traffic movements. The Great Eastern Route is a new coordinated commercial and operating strategic alliance between the P&W and these New England railroads to increase their business with Canadian Northern and Canadian Pacific by targeting southern New England shippers who can enhance their global access through area port facilities.

The leading commodities carried by the P&W include automobiles, construction aggregates, iron and steel products, chemicals and plastics, lumber, scrap metals, plastic resins, cement, coal, construction and demolition debris, and processed foods.

State of Rhode Island

Providence & Worcester Railroad Network

Figure 4-6
October 1, 2013



Providence & Worcester RR

RHODE ISLAND STATEWIDE PLANNING PROGRAM

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SUMMARY OF RHODE ISLAND FREIGHT RAIL LINES

The following rail lines are owned and/or operated over by the P&W Railroad.

P&W Main Line – This line extends approximately 37 miles between Worcester, MA and the Boston Switch (Central Falls) where it connects to Amtrak's Northeast Corridor line. A total of 16.94 miles lie within Rhode Island between the Massachusetts border near Collerik Street and Elizabeth Avenue in Woonsocket and its junction with Amtrak near Sacred Heart Avenue and Railroad Street in Central Falls. The line is single track and primarily Track Class III, with allowable freight speeds of 40 mph. The line is limited to a maximum carload weight of 263,000 lb. because rail bridges across the Blackstone River in Massachusetts cannot accommodate the current standard for rail car loadings of 286,000 lbs. P&W's principal rail yard in Rhode Island is located on this line at Valley Falls in Cumberland.

East Providence Branch – This line, which has been combined with the former East Junction Secondary Track, extends a total of 13.9 miles within Rhode Island. The original East Providence Branch extends from its junction with P&W's Main Line near Mill and Smith Streets in Cumberland to Dexter Road in East Providence. The East Junction Secondary Track segment further extends the line to the Massachusetts border near Naushon Road in Pawtucket. The single track line is Track Class I with a maximum speed of 10 mph. P&W's Pawtucket Yard is located on this line.

Freight Rail Improvement Project (FRIP) Track – The FRIP track infrastructure is owned by RIDOT and is built on right of way owned by Amtrak. Both MBTA passenger commuter rail and freight trains utilize the FRIP. ~~It~~The FRIP runs parallel to Amtrak's NEC Shore Line 16.07 miles from the Boston Switch to the West Davisville switch on Amtrak's NEC near Old Baptist and Devils Foot Roads in North Kingstown. The FRIP track is however not continuous between these limits, with an approximate 5-mile gap occurring just south of Main Avenue in Warwick to just north of Post Road in North Kingstown.

Harbor Junction Wharf Industrial Track – This line, owned by the City of Providence, extends 2.04 miles from its junction with Amtrak's Northeast Corridor line near Beckwith and Station Streets in ~~Providence~~ Cranston to Allens Avenue near Thurbers Avenue at the Port of Providence (ProvPort). A one-mile segment extending north along Allens Avenue is currently inactive. The single track line is Track Class I with a maximum speed of 10 mph.

Moshassuck-Saylesville Industrial Track – This line, portions of which are owned by P&W and the City of Pawtucket, extends 2.36 miles from between Bleachery Pond Dam and Moshassuck Road in Lincoln and its junction with Amtrak's Northeast Corridor line near Grotto and Hurley Avenues in Pawtucket. This single track line is Track Class I with a maximum speed of 10 mph.

Amtrak Northeast Corridor (NEC) – This line, owned by Amtrak, is primarily a high speed rail passenger line but is also utilized by P&W via trackage rights. The line extends a total of 49.7 miles within Rhode Island, from the Massachusetts border near Dickens St. and Broadway in Pawtucket to the Connecticut

border near Canal Street and Railroad Avenue in Westerly. This line is largely Class 6 and 7 with allowable freight speeds of 60 mph.

Newport Secondary Track – This line, owned by RIDOT, is currently only operated by the Old Colony and Newport Railroad for rail excursion service. P&W, however, does have freight service rights over the line.

Slatersville Secondary Track – This P&W-owned line extends a total of 4.62 miles from Providence Pike and Charon Road in North Smithfield to Prospect and School Streets in Woonsocket.

South Harbor Track – This line, owned by the City of Providence, extends from its junction with the Harbor Junction Track near Eddy Street and Aldrich Street in Providence to spur tracks within the Port of Providence (ProvPort).

State of Rhode Island
Figure 4-7

Rhode Island Rail System
Created December 16, 2013

RHODE ISLAND STATEWIDE PLANNING PROGRAM

0 2.5 5 Miles

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4.1.3 CLASS III RAILROADS IN RHODE ISLAND

The Seaview Railroad is a Class III or switching railroad which operates over the Quonset Point Davisville Industrial Track within the Quonset Business Park in North Kingston, RI. The Seaview Railroad provides service over 20.36 miles of track within the park, including on-dock rail service to the Port of Davisville. The trackage, owned by the Quonset Development Corporation, extends from the West Davisville switch on Amtrak's NEC to Pier 2 and the Quonset Waterfront and Ferry Terminal. Rail lines within the Quonset Business Park are shown in the map below. The Seaview Railroad is a subsidiary of Integrated Rail Group, which provides a portfolio of transportation services in the Northeast.

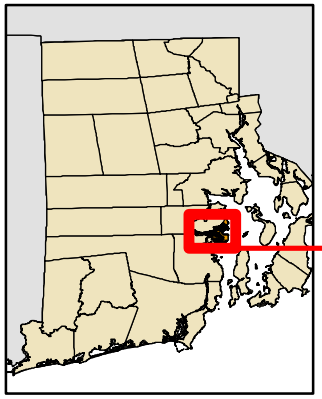
The Seaview Railroad interchanges with the Providence & Worcester Railroad for all rail car loadings originated or terminated at the Quonset Business Park. The P&W accesses the Quonset Business Park from Amtrak's Northeast Corridor line. Seaview's connection to the P&W provides access for its customers to Class I and Class II railroads including NS, CSX, Canadian Pacific, Canadian National, and Pan Am Railroads. Rail lines within the business park are generally FRA Class II with maximum speeds of 20 mph.

A chart describing all active and inactive rail lines in Rhode Island, as well as lines under consideration for future construction, is provided in Appendix A, Rail Line Inventory.

State of Rhode Island

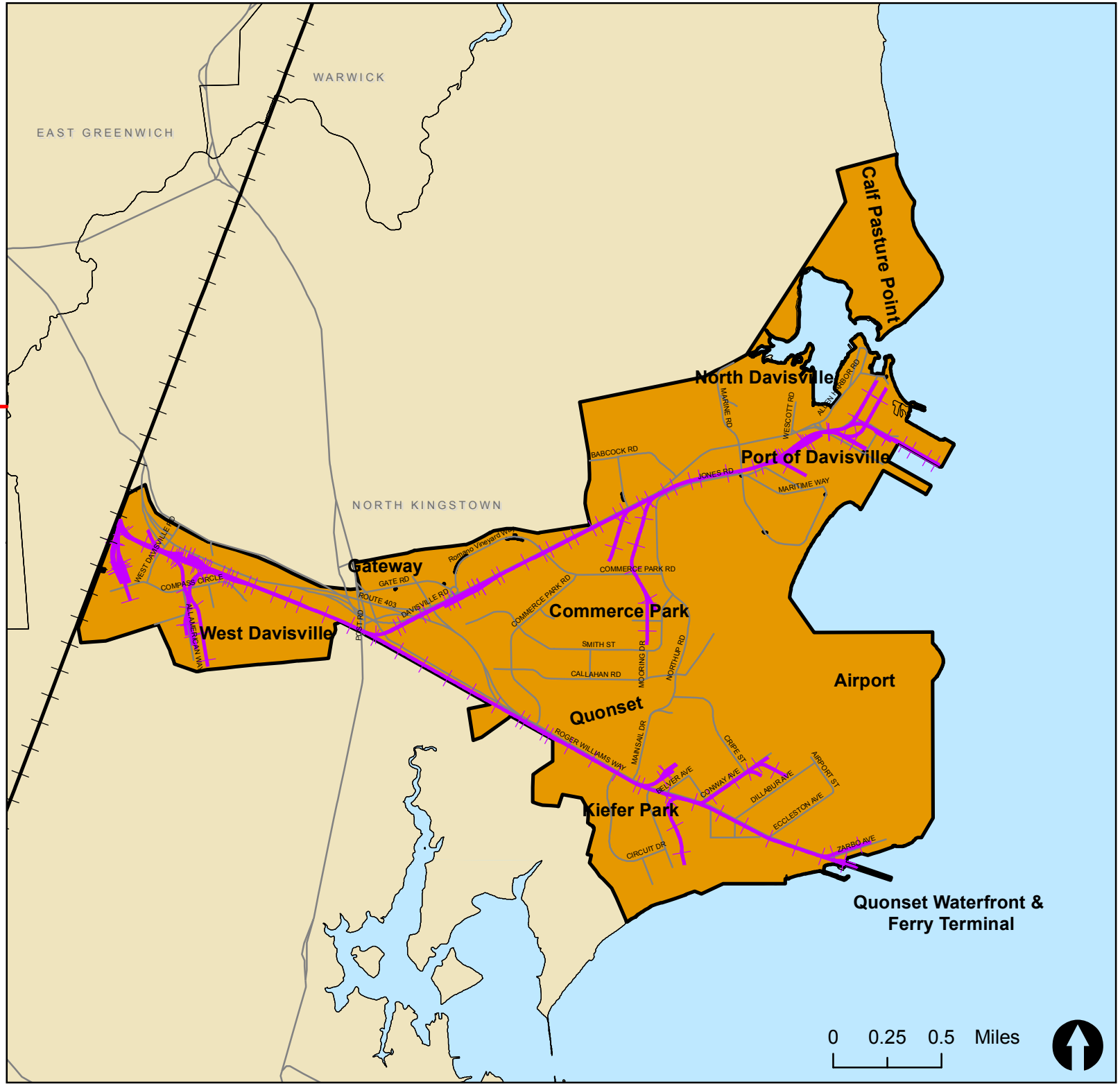
Quonset Business Park
& Seaview RR

Figure 4-8
October 1, 2013



NAME

- Amtrak NEC
- Seaview RR
- Quonset Roads
- Quonset Business Park



RHODE ISLAND STATEWIDE PLANNING PROGRAM

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4.1.4 ABANDONED, INACTIVE, OR DISCONTINUED RAIL LINES

Rail freight services, including the lines over which rail service is operated, are under the jurisdiction of the Federal Surface Transportation Board (STB). Rail owners and operators must apply to the STB for permission to discontinue or abandon freight service on a line.

To abandon an active rail line, the STB requires the railroad to publish a notice once a week for at least three consecutive weeks, and to provide notice at its stations and to its rail customers. For a line on which no service has been provided over the past two years and where no customers object, prior notice is not required and the carrier is exempt from many of the STB abandonment requirements. For each abandonment application, the STB establishes a docket number and collects information and testimony before deciding whether to allow abandonment or permit other actions that may be requested by interested parties. Rail lines abandoned in Rhode Island since 2001 are listed in Table 4-2, below.

Table 4-2 Abandoned Rail Lines in Rhode Island (2001-2011)

Railroad	Line	Description	STB Docket No.	Miles	Year
P&W	E. Providence Br./E. Junction Br.	Abandon a portion of the E. Providence Br. from Milepost (MP) 5.53 near Dunnellen Rd. to MP 9.84 near Whipple Rd., and abandon a portion of the E. Junction Br. From MP 0.48 at Dexter Rd. to the E. Providence Br. at MP 0.0 at Waterman Ave. in E. Providence.	AB-254 (8X)	4.79	2005
P&W	Slatersville Secondary Track	Abandon a portion of the Slatersville Secondary Track extending from MP 0.85 at Boyden St., Woonsocket to 1,480 feet north of the end of track at MP 0.0 in Blackstone, MA.	AB-254(9X)	1.1	2007

Source: Federal Service Transportation Board

In addition to STB's authority to grant or deny abandonment of a rail line, it may also impose other conditions, such as granting "interim trail use" or "public use" of the line.

The National Trails Act allows for reserving railroad right-of-way through the interim use of the railroad corridor as a trail or bikeway. Interim trail use can be employed when it is determined that the railroad right-of-way may be needed in the future for railroad use. Public agencies may also request that the rail corridor be made available for public use if it has determined that the right-of-way is suitable for highway or mass transit, conservation, energy production or transmission, or recreation.

Rhode Island has been very active in utilizing inactive or abandoned rail corridors as bike paths. The following is a list of abandoned rail segments on which bike paths have been established or proposed. Although there are currently no plans to re-establish rail service on these abandoned rail rights-of-way, segments such as the Washington Secondary Track could serve as alternate route to separate freight from passenger service on part of the NEC and alleviate the hazardous material Providence Station

restriction route for access to ProvPort and Davisville, if needed in the future. RIDOT has utilized abandoned rail rights-of-way for the completion of the following bikeways:

EXISTING BIKEWAYS

- Narragansett Pier Line – Portions used as the William C. O'Neill Bike Path (also known as the South County Bike Path)
- Washington Secondary Track (a.k.a. Hartford, Providence & Fishkill) – Portions used as Washington Secondary Bike Path (segments also known as Trestle Trail, Coventry Greenway, West Warwick Greenway, Warwick Bike Path, Cranston Bike Path)
- Former Providence and Springfield RR – Portions used as a the Fred Lippitt Woonasquatuckett River Greenway
- Bristol Secondary Track – Portions used as the East Bay Bike Path
- Providence, Warren, & Bristol-Warren/Fall River Track – Portions used as the Warren Bike Path

Other abandoned rail rights-of-way in Rhode Island have the potential to be utilized for the development of additional bikeways in the state including:

POTENTIAL BIKEWAYS

- Wickford Junction/Wickford Landing
- Pawtuxet Valley-Hope Track
- Former Seaview Trolley Line
- Pontiac Secondary Branch

A table outlining all active, inactive, abandoned, and future potential rail rights-of-way in Rhode Island is provided in Appendix A, Rail Line Inventory.

4.2 RHODE ISLAND'S FREIGHT RAIL INTERMODAL SYSTEM

Intermodal transportation generally refers to the connecting of different modes to form a seamless transportation system through the use of efficient transfer terminals. Intermodal freight transportation is usually associated with moving freight in standardized cargo containers or trailers that can be transferred seamlessly between different modes of transport such as truck and rail and, depending on whether the movement is international or domestic, an ocean-going link. However, intermodal movements can also include non-containerized materials such as bulk commodities including grains, coal, lumber, liquids and so forth. These are often referred to as transload operations and facilities.

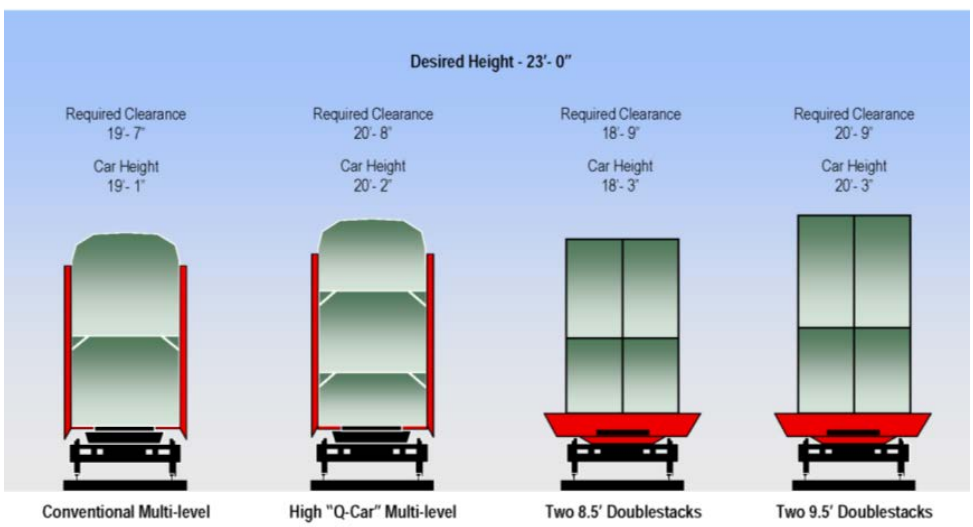
4.2.1 RAIL INTERMODAL VERTICAL CLEARANCES

An important element in intermodal rail operations is adequate vertical clearance, i.e. the height between the top of rail and the lowest point of an overhead structure, for rail cars and containers over a rail line. For a given rail line route, vertical clearance is determined by the clearance of the most restrictive structure on that particular route.

Containerized rail movements require varying minimum vertical clearances depending on the types of containers or cars carried. Figure 4-9 shows the vertical clearances currently required for the various size containers moved by rail and for tri-level auto carriers in most parts of the U.S. An additional six- to eight-inch clearance above the height of the rail car is required to allow for car sway and changes in clearances that may occur due to track maintenance. Most standards call for a minimum of 20 feet 6 inches of vertical clearance to accommodate all modern double stack container movement and 19 feet 6 inches for smaller double stack container and tri-level auto rack movements. Vertical clearance requirements on the Northeast Corridor may necessitate increased heights to 21 feet 6 inches due to the electrical envelope below catenary lines.

The rail industry continues to look for ways to compete with truck movement of trailers, containers, and auto carriers by lowering cost and providing greater protection of these movements. This has resulted in new rail car designs that increase the size and loading capabilities, and thus the associated rail clearance requirements of equipment. This issue is discussed in more detail in Section 4.5.

Figure 4-9 Typical Rail Intermodal Vertical Height Clearance Requirements



Source: Norfolk Southern Railroad

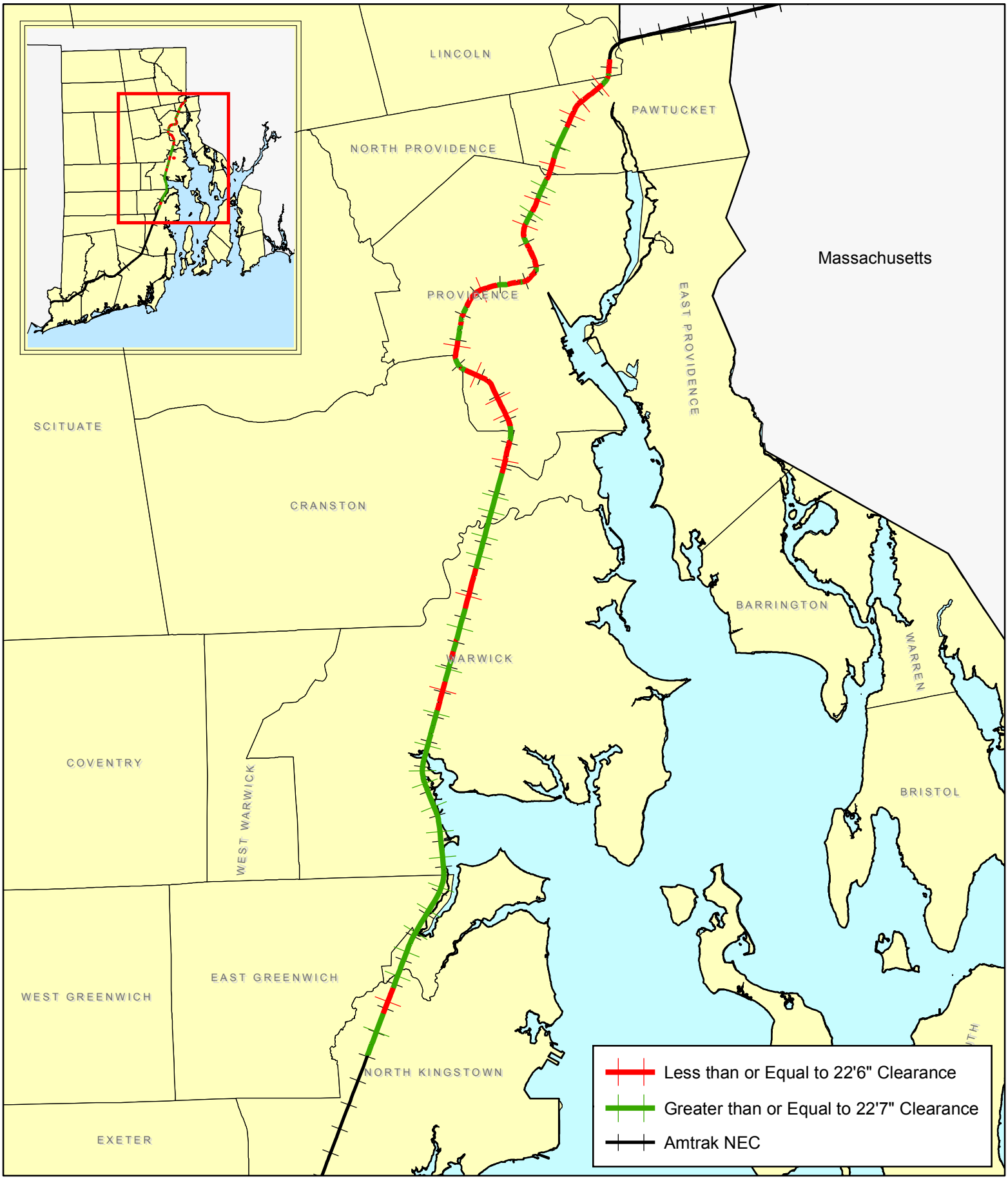
The P&W Mainline and Amtrak Northeast Corridor lines are the most important rail corridors in the State with respect to intermodal movements, as these routes serve all traffic to Rhode Island's intermodal facilities. These routes currently have adequate vertical clearances to serve all but the high cube double stack containers. The rail clearances on this and connecting rail lines are shown in Figure 4-10.

State of Rhode Island

Figure 4-10

NEC Vertical Rail Clearances

Created November 7, 2013



RHODE ISLAND STATEWIDE PLANNING PROGRAM

0 1.25 2.5 Miles

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4.2.2 RHODE ISLAND INTERMODAL FACILITIES AND COMMODITIES CARRIED

Rail intermodal traffic in Rhode Island primarily consists of the transload of bulk commodities and automobiles between rail and either truck or water-served rail users at the Ports of Providence and Davisville. A summary of intermodal operations at these locations is provided below.

At the Port of Providence, commonly referred to as ProvPort, commodities such as coal, salt, and cement are generally off-loaded from ships and transported to locations outside of Rhode Island. For example, coal arrives by ship at the port and is then transported by rail to utilities in Massachusetts and New Hampshire. Recent improvements to the rail system within the port have made transloading to rail more efficient.

At the Port of Davisville within the Quonset Business Park, vehicles arrive and are processed, finished, and distributed across the Northeast by North Atlantic Distribution, Inc. (NORAD), a long-time Quonset tenant. The Port of Davisville is consistently within the top ten of largest auto importers in North America. In 2012, 172,448 automobiles were imported by ship at the port, with another 41,352 autos coming by rail and 2,389 coming by truck. The Port's 2012 auto imports represent a 14.6 percent increase from 2011 and the third consecutive year of double digit percentage growth. The amount of cars imported in 2012 is also more than five times the volume seen at the port just 15 years ago.

The P&W Railroad provides transload services in Pawtucket for steel and other metals and in North Kingston and Cumberland for food warehousing.

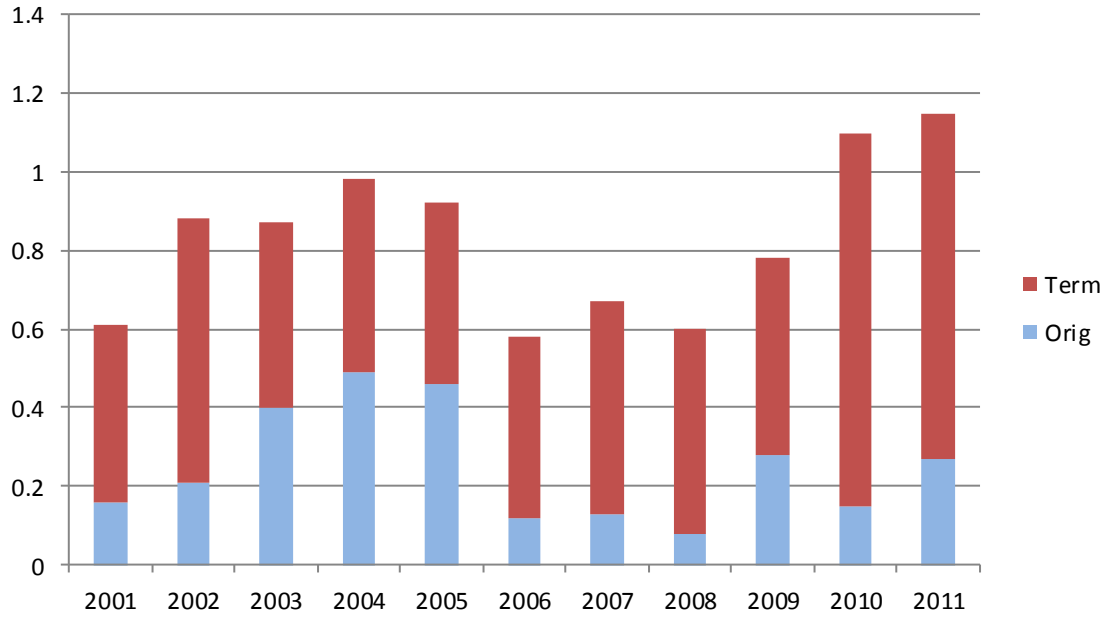
4.3 RHODE ISLAND'S RAIL FREIGHT TRAFFIC AND CUSTOMER BASE

The Providence & Worcester Railroad, which delivers all rail freight shipments to and from Rhode Island, reported that more than 16,000 rail cars were shipped to or from Rhode Island locations in 2011. Shipments were predominantly inbound, with over 13,000 carloads terminating in Rhode Island, while almost 3,000 carloads originated from Rhode Island shippers. This compares with 12,500 terminating and 1,500 originating carloads in 2010.

Commodities and directional flows of traffic carried by the P&W RR include automobiles to Davisville, cement and ethanol to Providence, forest products to Davisville and Pawtucket, and plastic to Davisville, Woonsocket, and Pawtucket. Outbound traffic includes coal, limestone, and aluminum oxide from Providence, and scrap metal from Pawtucket and Providence.

Figure 4-11 below shows a longer term trend of rail tonnage moved by rail to and from Rhode Island. The largest concentrations of rail traffic in Rhode Island are at the Quonset Business Park and ProvPort.

Figure 4-11 Rail Tonnage in Rhode Island 2001-2011 (Millions of Tons)



Source: Association of American Railroads

Most of the Quonset Business Park is part of Free Trade Zone 105, is an area within which goods may be landed, handled, manufactured or reconfigured, and reexported without the intervention of the customs authorities. Only when the goods are moved to consumers within the country in which the zone is located do they become subject to the prevailing customs duties. As noted, rail traffic levels at the Quonset Business Park have increased significantly in recent years, largely due to the delivery of automobiles by rail. Since the inception of rail delivery of autos in 2007, the number of annual rail auto racks delivered to the facility has grown from 167 to 3,717 in 2012. Other commodities, which accounted for 1,856 annual carloads in 2012, include chemicals, lumber, and food products. The increase in auto rail movements contributed significantly to the increase in rail tonnages beginning in 2010.

Rail carloadings generated at ProvPort have also increased significantly in recent years. Current annual rail car volume is approximately 6,000, and the leading commodities carried include ethanol, chemicals, oxides, and various break bulk commodities such as cement, and recycled materials. Rail traffic generated by the ProvPort, however, can be subject to economic factors and changes in freight logistics. During the years 2006-2009 lower coal and ethanol carloadings, combined with a generally poor economy, resulted in lower rail traffic movements in the state. Infrastructure improvements implemented by both P&W and ProvPort have improved the infrastructure issues which had previously prevented use of coal and ethanol unit trains, resulting in increased carloadings for these commodities in recent years.

4.4 RECENT FREIGHT RAIL INFRASTRUCTURE INITIATIVES

The recent increases noted above in freight rail traffic carried in the State are primarily the result of rail infrastructure initiatives undertaken through investments by the railroads and public agencies. The largest initiative was RIDOT's $210 million Freight Rail Improvement Project (FRIP), which entailed the construction of a third track, parallel to Amtrak's Northeast Corridor line, to serve freight movements between Central Falls (Boston Switch) and the Quonset Business Park. The total project length is 22 miles, with 17 miles available for exclusive freight and commuter rail operations and the additional five miles to be shared by Amtrak operations. Twelve miles of new track were built south of Providence and five miles of track were upgraded north of Providence. Figure 4-12 shows the location of the Freight Rail Improvement Project.

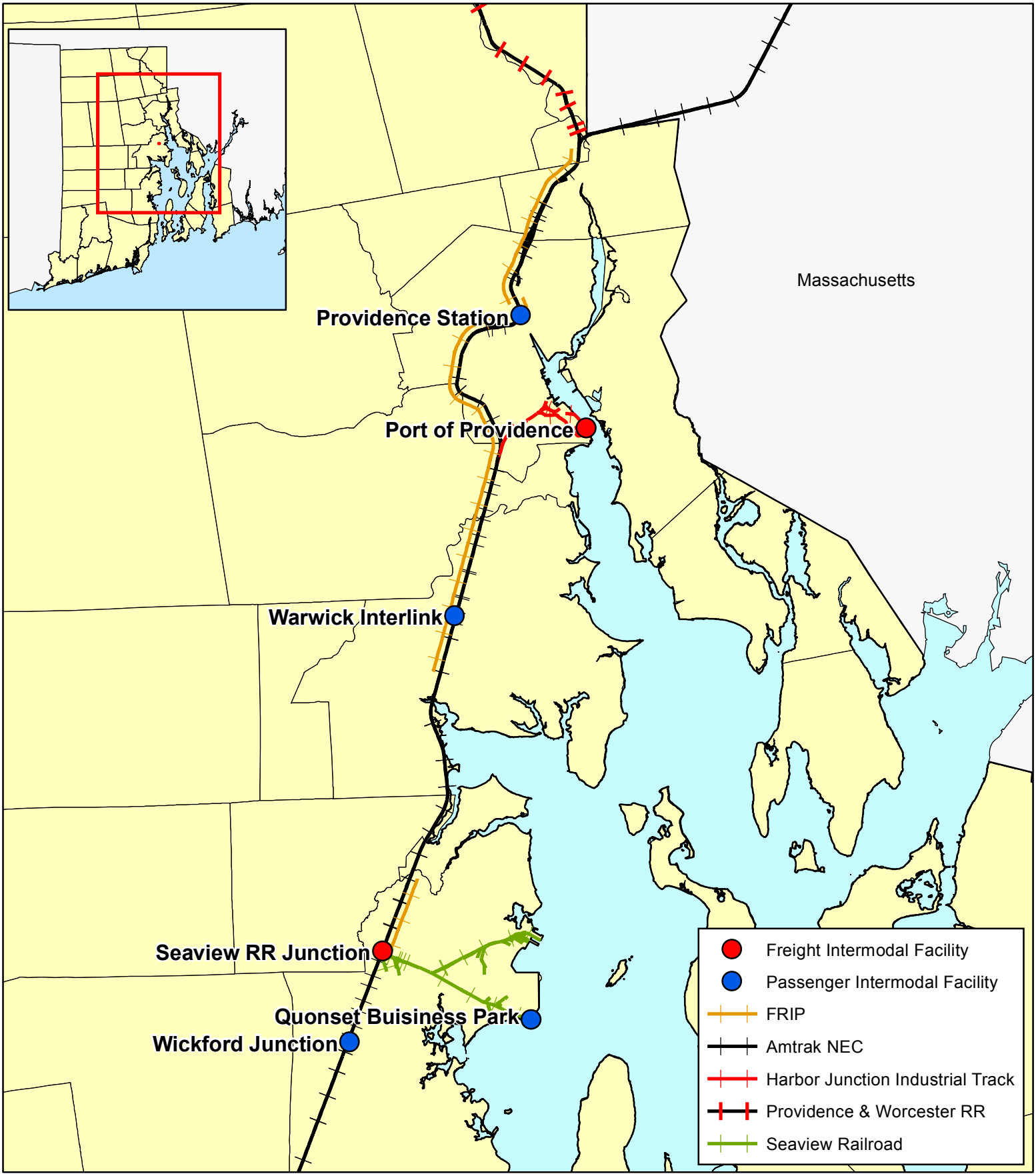
The purpose of the FRIP was to add track capacity for existing and future rail demand and address restrictions on the existing lines due to increased Amtrak passenger operations, and to provide the 21 feet 6 inch vertical bridge clearance necessary to accommodate double-stack containers and tri-level auto rack rail cars, thus supporting future economic growth at the Quonset Business Park and Port of Davisville. The project also improves air quality and congestion impacts due to the reduction of heavy truck traffic on local and State roads, and increases safety by minimizing potential conflicts between passenger and freight operations. The project allows up to ten freight trains per day to operate along the corridor, thereby providing better operating windows for freight. These improvements provided the access and cost efficiencies that led to the recent increases in automobile shipments to the Quonset Business Park. The FRIP's added capacity has also allowed RIDOT to utilize the track for MBTA commuter trains to T.F. Green Airport and Wickford Junction.

State of Rhode Island

Figure 4-12

Freight Rail Improvement Project (FRIP)

Created October 1, 2013



RHODE ISLAND STATEWIDE PLANNING PROGRAM

0 2.25 4.5 Miles

RIGIS

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The Quonset Development Corporation (QDC) completed projects to upgrade the rail system within the Quonset Business Park and the Port of Davisville through general obligation bond fund proceeds and the USDOT's Transportation Investment Generating Economic Recovery, or TIGER grant program. The rail system upgrades have improved safety, allowed for heavier car weights, and reestablished on-dock rail on Davisville Pier 2. As part of the TIGER grant, QDC purchased a new mobile harbor crane for use on Davisville Pier 2. This crane, with lift capacity of 140 metric tons, will allow the port to handle 100 percent of its projected annual container traffic and position it to bring Marine Highway traffic (short-sea shipping) to Davisville.

ProvPort has invested $3.5 million for transportation-related infrastructure improvements within the Port of Providence, including the replacement of 1,700 feet of rail, provided by P&W, along the port's outer pier. Covered rail facilities and indoor rail service to warehouse facilities within the port were also constructed. These improvements have allowed the direct transfer of commodities between ships and rail cars, thereby significantly reducing transfer and transportation costs. Improved rail access to warehouse facilities and protection from the elements also enhances rail use for customers and operators.

The Providence & Worcester Railroad has also rehabilitated a substantial portion of its South Providence rail yard to facilitate the handling of ethanol unit trains. In addition, the P&W owns and has invested over the years in the filling of tidal land in the South Quay area along East Providence's waterfront. This investment has resulted in the creation of approximately 33 acres of waterfront land located adjacent to a 12-acre site also owned by the company. This area is currently not accessible by rail and specific plans for the area have not been announced. However, the current plans show that there will be room after the new Waterfront Drive extension road construction project is built to re-establish rail service to the quay should there be a need. The East Providence Secondary Track (acquired by RIDOT in 1982 for the construction of Waterfront Drive) runs along the East Providence waterfront from the P&W South Quay property to the City of Pawtucket.

P&W also invested $6 million in 2011 to establish the connections to the Canadian Pacific and Canadian ~~Northern~~ National via its aforementioned Great Eastern Route.

Rhode Island shippers depend heavily on rail connections outside of the state. The P&W mainline between Providence and Worcester is a key gateway by which Rhode Island shippers access the North American rail network. In Worcester the P&W connects with the CSX Boston-Albany route; this rail mainline runs east-west across Massachusetts and provides a primary connection between New England and points west. CSX continues to invest in the Boston-Albany route and connecting corridors to improve service efficiency. Another corridor of growing importance is the Pan Am Southern Railway's (PAR) Patriot Corridor. This rail line also runs east-west, north of the CSX mainline. The PAR and Norfolk Southern Corporation (NS) have entered into a joint venture where the NS will be investing $87.5 million in capital improvements to improve PAR lines. These connections can be viewed in Figure 4-6, the Providence & Worcester Railroad Rail Network map.

In summary, significant improvements have been made in recent years to the freight rail system in Rhode Island, particularly as a result of the Freight Rail Improvement Project and improvements to the Quonset Business Park. The resulting increase in rail traffic in the state from these and other improvements along the Northeast Corridor and the P&W mainline reflect not only the needs of the businesses and industries that currently access these rail lines, but also their willingness to utilize rail to transport goods. These investments and strategies have made it possible to increase the availability, access, and efficiency of freight rail service to Rhode Island businesses. They will also offer future opportunities to expand industrial development, increase imports and exports at port facilities with direct multimodal rail connections, and increase access and capacity to accommodate high-clearance rail movements and bulk commodities.

4.5 EXISTING AND PROJECTED RAIL FREIGHT ISSUES IN RHODE ISLAND

Despite recent investment in the state's rail network, additional rail infrastructure needs have been identified to accommodate existing rail traffic increases and to continue efforts to increase rail freight usage in the state. These issues, which can be categorized as operational constraints, security and safety issues, and environmental issues, are outlined below.

4.5.1 OPERATIONAL CONSTRAINTS

The Quonset Business Park has identified projects necessary to accommodate increased rail traffic and support its business expansion plans. The first project would be to construct a three-track rail yard within Quonset for the storage of rail cars. This yard facility would increase storage capacity within the complex so as not to interfere with existing running tracks. The estimated cost of this project is $2.7 million. The second project would relocate the Business Park's turnout track with Amtrak's Northeast Corridor line, thereby freeing up property which could then be used for additional development. The estimated cost of the turnout project is $4.5 million. The timeframe for these projects depends on required property purchases and funding.

Although the Freight Rail Improvement Program (FRIP) did provide additional capacity and adequate clearances for the tri-level auto rack cars destined for Davisville, a number of constraints continue to exist and will likely be exacerbated in the future. Freight trains continue to operate over five miles of Amtrak's trackage between Central Falls and Quonset without the availability of a third track. In this segment P&W freight trains are restricted to daytime windows between Amtrak and commuter passenger trains. Future increases in freight and passenger rail volumes, passenger train delays, or the need for extended maintenance on Amtrak's line will shrink or eliminate these operating windows. This will in turn decrease the capacity and reliability of freight service to Davisville and other shippers accessed via the Northeast Corridor line.

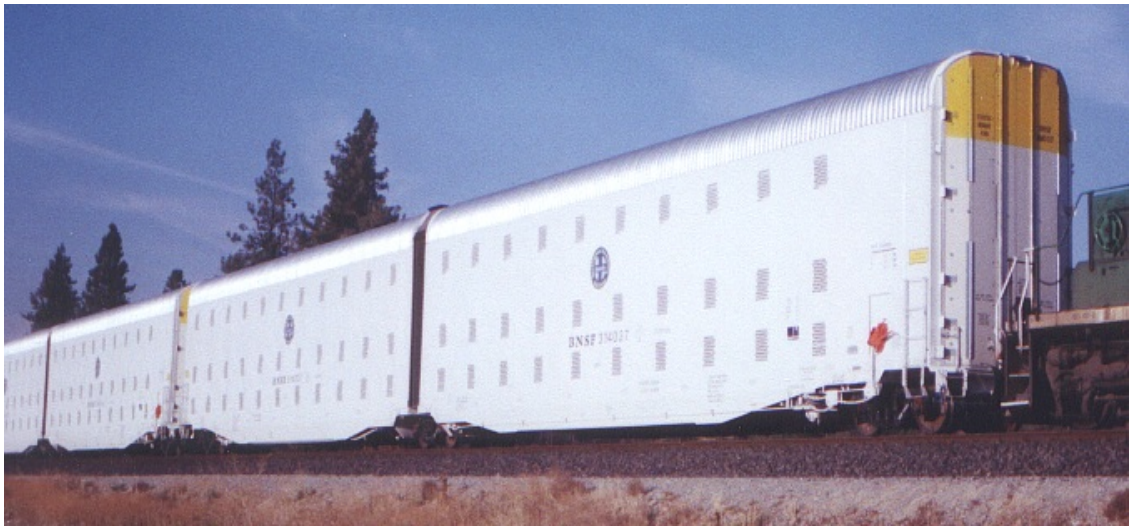
Freight trains are also precluded from movements through the Providence Station area when passenger trains are at the station, and hazardous material movements through the station are restricted when

passengers are present on the platforms. Projected increases in passenger service on the route will continue to reduce the capacity and efficiency of rail freight service over this important rail line unless projects to separate passenger and freight service over the corridor are developed. The issue of the restriction of freight trains transporting hazardous materials through Providence Station while passengers occupy the platforms is being reviewed by RIDOT, working with Amtrak and the Providence Fire Department. The parties involved continue to meet and discuss this restriction and structural mitigation measures to separate the movement of rail hazardous materials through the Providence Station and tunnel will be further investigated in the near future. The lifting of the restrictions would result in long term capacity expansion for both commuter and freight rail services on the Northeast Corridor.

ProvPort has identified a project to extend existing rail lines and construct a loop track within the port area. This track expansion would provide additional space for rail cars and speed the process of loading and unloading materials from ships. The estimated cost for this project is $1.5 million however it is dependent on securing available funding.

As noted earlier, railroads continue to work toward increasing the capacity and productivity of intermodal movements. Currently railroads in the western U.S. are utilizing new double-length, articulated auto rack railcars with adjustable interior decks to carry up to 22 light trucks and minivans. These cars measure 145 feet 4 inches in length and are 20 feet 2 inches high. These new auto rack rail cars are shown in Figure 4-13.

Figure 4-13 *AutoMax* Autoracks Utilized by the Burlington Northern Santa Fe Railroad



Source: Burlington Northern Santa Fe Railroad

The implementation of these larger auto rack rail cars by eastern railroads, together with the potential to bring international containers into Rhode Island ports as a result of increased use of an expanded Panama Canal and the institution of marine highway shipping connections between large East Coast

ports to smaller ports, will require increased clearances into and through the State, from the current 19 feet 6 inches to 21 feet 6 inches, for Rhode Island's ports to remain competitive for these movements. A future study is needed to identify the locations requiring additional clearance to estimate the feasibility and scope of this effort.

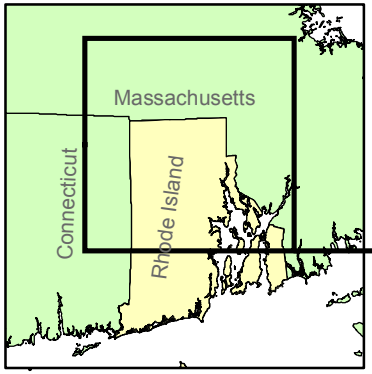
Infrastructure improvements on P&W rail lines will be required to accommodate traffic increases and higher and heavier rail movements into and out of the state. Although the P&W mainline is comprised primarily of Class III track, all branch lines have Class I track which restricts speed, efficiency and service reliability. Many bridges on the P&W system in Rhode Island are at least 100 years old and will soon be in need of replacement, especially on branch lines. These railroad-owned bridges do, however, accommodate the 286,000 lb. rail car loadings that many shippers require to maintain competitive transportation costs.

The P&W RR has also cited yard capacity limitations at Valley Falls, Cranston, and the Port of Providence which restricts their capacity and operational efficiency at these locations. Expansion of these yard facilities, however, is restricted by their location, which borders Interstate 95, Amtrak's Northeast Corridor, and high density commercial and residential areas. Therefore, it is unlikely that any significant expansion is possible at their current locations beyond the construction of a 7,000 foot sidetrack now underway in Cumberland (Valley Falls).

In addition to the identified rail infrastructure needs within Rhode Island previously noted, additional project needs on key rail lines outside the state reduce the efficiency of rail operations and negatively impact rail service to Rhode Island shippers. The P&W RR has recognized the need to replace five of its bridges located in Massachusetts on its mainline between Worcester and Providence. These bridges, which carry the mainline over the Blackstone River, do not have the load capacity to accommodate today's 286,000 lb. rail car weights. In addition to the negative impacts on Rhode Island rail users, this limitation on P&W's mainline route impacts the competitiveness of existing and potential new freight rail gateways established with other New England rail carriers, as rail weight restrictions are prevalent throughout southern New England. These weight restrictions are shown in Figure 4-14, Massachusetts Weight Restricted Bridges.

Recognizing the strategic importance of these Massachusetts bridges, RIDOT was the lead agency for a TIGER III grant application for the estimated $30 million required to rehabilitate the weight-restricted bridges. These bridges have not been selected for federal funding to date.

State of Rhode Island
Massachusetts
Weight Restricted
Bridges
Figure 4-14
November 13, 2013



Weight Restricted Bridge
Providence & Worcester RR
SeaView RR
Port
Blackstone River

0 3 6 Miles

RHODE ISLAND STATEWIDE PLANNING PROGRAM

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Worcester
Massachusetts
Providence & Worcester RR Main Line
Connecticut
Norwich & Worcester Line
BURRILLVILLE
NORTH SMITHFIELD
CUMBERLAND
LINCOLN
GLOCESTER
SMITHFIELD
JOHNSTON
PROVIDENCE
EAST PROVIDENCE
Port of Providence
FOSTER
SCITUATE
CRANSTON
BARRINGTON
WARREN
WEST WARWICK
WARWICK
COVENTRY
BRISTOL
Port of Bristol
EAST GREENWICH
WEST GREENWICH
NORTH KINGSTOWN
Port of Davisville
PORTSMOUTH
TIVERTON
EXETER

4.5.2 SAFETY AND SECURITY ISSUES

The safety and security of the nation's rail network has received increased emphasis over the past decade. The proposed expansion of the rail passenger network, which largely operates over rail lines owned and operated by freight railroads, raises concern about the joint use of passenger and freight over freight lines. Freight rail security concerns largely focus on the potential for terrorism involving rail hazardous material movements. These issues are discussed below as they pertain to Rhode Island.

The safety of Rhode Island freight rail operations, especially those conducted over Amtrak's Northeast Corridor, do present a safety concern given the current high volumes of train movements and the likely increase in these volumes in the future. The implementation of the Freight Rail Improvement Project (FRIP) has not only increased operating efficiency, but also reduced the potential conflicts between passenger and freight trains. Potential conflicts still remain, however, until freight and passenger movements over the corridor are completely separated.

Rhode Island is somewhat fortunate that the exposure between its roadways and rail lines at at-grade crossings is limited, since crossings on the Northeast Corridor are grade separated and the length of other rail lines are limited. P&W has cited the multiple at-grade crossings along the East Providence Secondary Track, which parallels the George Bennett Highway in Pawtucket and is protected only by roadway signal systems, as potential safety issues.

4.5.3 ENVIRONMENTAL ISSUES

In general, rail freight operations generate lower environmental emission levels per ton moved than their trucking counterparts, which is further discussed in Chapter 7. However, freight rail operations in and of themselves do result in various environmental and other community impacts that should be understood.

Most environmental and other impacts from rail operations occur in the vicinity of rail yards. Complaints received from the public mostly cite air and noise issues at these locations. The Valley Falls Yard, P&W's largest and most active rail yard, has been the subject of resident complaints regarding its operations, and noise in particular. Rail locomotives operating in urbanized areas are eligible for funding assistance to retrofit power units, which reduces emissions. The P&W has installed idle minimization technology on all of its locomotives, resulting in noise, fuel use, and emission reductions.

Chapter 5

Rail Passenger Service in Rhode Island

CHAPTER 5 – RAIL PASSENGER SERVICE IN RHODE ISLAND

This chapter discusses the existing intercity rail and commuter rail operations in Rhode Island. These services are provided by Amtrak and~~,~~ the Massachusetts Bay Transportation Authority (MBTA), under contract with the Rhode Island Department of Transportation. Intercity rail passenger services focus primarily on long distance trips, often measuring in the hundreds, if not thousands, of miles. Commuter rail service focuses primarily on moving workers from residential areas to urban work centers on weekdays, with trips averaging typically from 30 to 50 miles. However, commuter rail systems can also provide access to tourism and cultural attractions.

5.1 EXISTING INTERCITY RAIL PASSENGER SERVICE

Amtrak, more formally referred to as the National Railroad Passenger Corporation, provides passenger rail service in Rhode Island on the Northeast Corridor (NEC) which extends between Boston, MA and Washington, DC. The NEC is the busiest rail line in North America, with more than 2,200 trains operating over some portion of the Washington-Boston route each day. Amtrak has three stations in Rhode Island: Providence, Westerly, and Kingston.

5.1.1 INTERCITY PASSENGER SERVICE OVERVIEW

Amtrak operates two intercity services that provide service in Rhode Island: the Northeast Regional Route and Acela Express.

NORTHEAST REGIONAL

The Northeast Regional service operates between Boston, MA and Virginia Beach, VA. Five of the ten Northeast Regional daily weekday trains operate between Boston and Washington, DC and four trains operate between Boston and points south of Washington, DC including Lynchburg, Richmond, and Virginia Beach, VA. One Northeast Regional train and the Vermonter corridor train operate between Springfield, MA and Washington, DC over the NEC and do not serve Rhode Island stations.

Nine of Amtrak's Northeast Regional trains serve both Providence and Kingston while four make stops at the Westerly station. As of Amtrak's March 2013 schedule, nine roundtrips operate daily from Providence at varying schedule headways in each direction. The first weekday southbound train (toward New York City) leaves Providence at 6:50 AM and the last train departs at 10:22 PM. The first weekday northbound train (toward Boston) leaves Providence at 6:58 AM and the last departs at 11:19 PM. Travel time on Northeast Regional trains between Providence and New York Penn Station is approximately three and one half hours, while travel time between Providence and Boston's South Station is approximately 53 minutes.

ACELA EXPRESS

The Acela Express provides limited stop service between Boston and Washington, DC. Interim stops include New Haven, New York City, and Philadelphia. In Rhode Island, Acela Express trains serve only

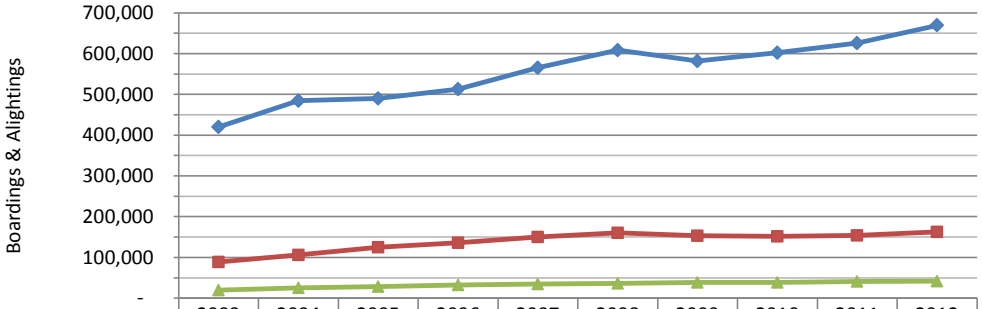
Providence. Ten roundtrips operate in each direction on weekdays with less service offered on weekends. Acela Express service is faster than the Northeast Regional service and typically has higher fares. The first weekday southbound train leaves Providence at 5:45 AM and the last southbound train departs at 5:55 PM. The first weekday northbound train leaves Providence at 9:21 AM and the last departs at 9:55 PM. Travel time on Acela Express trains between Providence and New York Penn Station is approximately two hours and 55 minutes while travel time between Providence and Boston's South Station is approximately 47 minutes.

5.1.2 INTERCITY RAIL PASSENGER RIDERSHIP

In FY 2012 Amtrak carried 31.2 million passengers, the largest annual total in its history. More than one third of those passengers were traveling somewhere on the Boston-to-Washington segment of the Northeast Corridor.

In FY 2012 Amtrak served 874,436 passengers at three Rhode Island stations (boarding and alightings) for an increase of 13 percent over FY 2009. Providence saw the greatest increase as boardings and alightings grew 15 percent between FY 2009 and FY 2012 at this location. Ridership increased by 8.3 percent at Westerly and 6.4 percent at Kingston for the three-year period. See Figure 5-1 below.

Figure 5-1 ~~Annual~~ Amtrak Boardings and Alightings in Rhode Island, FY 2003 – 2012



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Providence	420,015	484,513	489,829	512,974	565,701	608,417	582,296	602,474	625,995	669,576
Kingston	88,747	105,987	125,364	135,796	150,339	160,420	153,023	151,954	154,237	162,837
Westerly	19,822	25,621	28,659	32,178	34,483	36,430	38,792	38,589	41,335	42,023

Source: Amtrak State Profile Reports

5.1.3 RHODE ISLAND AMTRAK STATIONS

The Amtrak stations located in Rhode Island – Providence, Kingston, and Westerly – are described below and depicted in Figure 5-2.

Providence Station, owned by Amtrak, includes an enclosed passenger waiting area, ticket windows, restrooms, Wi-Fi service, and several concessions. Checked baggage service is available. Located adjacent to the Rhode Island State House grounds, the station is served by Amtrak and MBTA commuter

rail service. In addition, several Rhode Island Public Transit Authority (RIPTA) routes provide connecting bus service. The waiting area and platform are ADA accessible, and an elevator is available. The station is open from 5:00 AM to 11:30 PM seven days a week. Approximately 330 parking spaces are available.

RIDOT is investing $6 million in improvements to exterior and pedestrian access areas at Providence Station, including ADA facilities, bus facility connections, streetscape/landscaping, and pedestrian connections to RIPTA buses in Kennedy Plaza. In addition, RIDOT has also received a $3.0 million federal High Speed Intercity Passenger Rail (HSIPR) grant for preliminary engineering and environmental work to look at more long term upgrades to the Providence Station. The upgrades will keep the station in a good state of repair, improve the passenger experience and pedestrian/transit connectivity, and improve freight rail movements through the tunnel.

Kingston Station, owned by RIDOT, includes an enclosed passenger waiting area, ticket windows, and restrooms. The station is staffed from 6:00 AM to 11:00 PM seven days a week. No checked baggage service is available. The station has six short-term parking spaces and 100 long-term spaces. The waiting room and platform are ADA accessible. This historic station, built in ~~1896~~1875, was restored and relocated further from the right-of-way in 1998 by RIDOT.

RIDOT has recently received a $26.2 million HSIPR grant for the purpose of adding 1.5 miles of a third track parallel to the Northeast Corridor at Kingston Station. The project also includes the proposed installation of high level platforms. This project will allow passing movements of passenger trains, thus improving transit times for Acela and Northeast Regional trains. It will also enable a future commuter rail stop at Kingston Station.

Westerly Station, owned by RIDOT, has an enclosed passenger waiting area, ticket windows, and restrooms. Ticket windows are open from 5:30 AM to 1:15 PM Monday through Friday. No checked baggage service is available. The station has 30 short-term parking spaces. The waiting room and platform are ADA accessible. This historic station, built in 1913, was restored by RIDOT in 2000.

State of Rhode Island

Figure 5-2

Amtrak Stations

Created October 9, 2013

RHODE ISLAND STATEWIDE PLANNING PROGRAM

0 3 6 Miles

RIGIS

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5.2 INTERCITY RAIL PASSENGER SERVICE PERFORMANCE

The evaluation of intercity rail passenger performance has entailed such measures as ridership, on-time performance, and other factors. The Passenger Rail Investment and Improvement Act of 2008 (PRIIA) charged the Federal Railroad Administration (FRA) and Amtrak to work in consultation with other parties to develop new or improved metrics and minimum service standards for Amtrak intercity passenger train services. A final set of metrics and standards were released by the FRA in May of 2010.[1] Historical and FRA-recommended measures to evaluate intercity rail passenger service in Rhode Island are presented below.

5.2.1 RIDERSHIP

Amtrak ridership in Rhode Island has generally increased over the past ten years. The total number of passengers getting on and off trains in Rhode Island in 2012 was 65 percent higher than in 2003. Intercity rail passenger ridership trends are shown in Figure 5-1.

5.2.2 FINANCIAL/OPERATING PERFORMANCE

FRA and Amtrak have developed new metrics intended to gauge Amtrak services in achieving standards for financial and operating performance. As the data necessary to evaluate many of the metrics is not yet available, for the purposes of this Plan the financial and operating performance measures used to evaluate Rhode Island intercity passenger service will include operating revenues and costs, passenger-miles per train-mile, on-time performance/ delay, and customer satisfaction.

OPERATING REVENUE/COSTS

Amtrak's fiscal year begins on October 1 and route revenue is reported on a monthly and year to date basis. Amtrak maintains cost recovery information by month and fiscal year and includes revenues and operating expenses (excluding depreciation) by route. The ratio of operating revenues divided by operating expense is commonly known as the fare box recovery ratio. These statistics help to identify the extent to which passenger fares cover the costs of the service. While costs exceed revenues on most Amtrak routes, the two Amtrak Northeast Corridor services that operate in Rhode Island, Acela and Northeast Regional, both cover their operating expenses. In FY 2012, both Acela and Northeast Regional service revenues exceeded operating costs by 71 percent and 18 percent respectively, thus allowing additional contributions toward capital expenditures. Fare box recovery on Acela and Northeast Regional services improved by 8.2 percent and 9.3 percent respectively between FY 2011 and FY 2012, as noted in Table 5-1.

[1] Docket No.FRA-2009-0016, Metrics and Standards for Intercity Rail Passenger Service, Response to Comments; Issuance of Metrics and Standards, effective May 12, 2010.

Table 5-1 Fare Box Recoveries for Acela Express and Northeast Regional Trains in FY 2011 (October 2010 to September 2011) and FY 2012 (October 2011 to September 2012) in Millions of Dollars

Train	FY 2011			FY 2012			% Change Fare Box FY11 to FY12
	Revenue	Expense	Fare Box Ratio	Revenue	Expense	Fare Box Ratio	
Acela Express	$510.3	$323.4	158%	$521.0	$305.3	171%	8.2%
Northeast Regional	$505.3	$467.2	108%	$552.8	$467.6	118%	9.3%

Source: Amtrak

PASSENGER MILES PER TRAIN MILE

As mentioned above, Amtrak and FRA have also developed a metric to measure passenger- miles per train-mile per route. This statistic effectively records the load factors of Amtrak trains, i.e., the average number of passengers on a train at a given time on the train's route. It is recorded on a two-year (four quarter) moving average basis. The standard is year-over-year improvement. As shown in Table 5-2, Amtrak has met this standard, improving by 1.6 percent for Acela Express and 5.7 percent for Northeast Regional for the quarter ending September 2012.

Table 5-2 Change in Passenger-Miles per Train-Mile, 2009-2011 & 2010-2012

Train	Oct 2009 – Sep 2011	Oct 2010 - Sep 2012	Change	Percent Change (Standard > 0)
Acela Express	190	193	+3	+1.6%
Northeast Regional	197	209	+12	+5.7%

Source: Amtrak/FRA

ON-TIME PERFORMANCE/DELAY

FRA and Amtrak developed the following metrics to evaluate route performance in terms of on-time performance and train delays:

1. Change in effective speed, to be calculated on a rolling four-quarter basis and compared to a fixed FY2008 baseline
2. Percent of trains on time (OTP) at endpoint of the route
3. Percent of trains on time (OTP) all-stations on the route

The standard for change in effective speed is improvement over the FY2008 baseline. The standard for on-time performance is 90 percent for the Acela Express and 85 percent for the Northeast Regional service. Amtrak defines on-time performance (OTP) as the total number of trains arriving on time at a station divided by the total number of trains operated on that route. A train is considered on time if it arrives at the final destination within an allowed number of minutes, or tolerance, of its scheduled arrival time. Trains are allowed a certain tolerance based on how far they travel. For the four quarters ending September 2012, Amtrak was not able to improve effective train speed over the fiscal year 2008 baseline for Acela services, with average speed decreasing by 0.1 mph. Amtrak was also unable to meet

the endpoint OTP standard for Acela trains, with an endpoint OTP of 86.3 percent. Acela and Northeast Regional services did meet the all-station OTP standard, attaining 90.5 percent and 89.1 percent respectively.

On-time performance standards and values are shown in Table 5-3. Values that do not meet the standards are shown in red.

Table 5-3 On Time Performance for Acela Express and Northeast Regional Trains FY 2012

Train	Change in Effective Speed (mph) FY2008 to 4 quarters ended 9/12 (Standard >= 0)	Endpoint OTP 4th Quarter FY 2012 (%)	All Stations OTP 4th Quarter FY 2012 (%)
Acela Express	-0.1	86.3 (Std. =90)	90.5 (Std.=90)
Northeast Regional	0.5	85.3 (Std. =85)	89.1 (Std.=85)

Source: Amtrak/FRA

The Amtrak/FRA standards also consider minutes of delay per 10,000 train-miles. The standard minutes of delay per 10,000 train-miles for the Acela Express is 265 minutes, while the standard for the Northeast Regional service is 475 minutes. Causes of delay are also published. As shown in Table 5-4, both the Acela Express with delay of 234 minutes and the Northeast Regional services with delay of 378 minutes met the standards in the fourth quarter of 2012. For the Acela Express, the most frequent cause of delay was locomotive failure followed by maintenance of way activity, while Northeast Regional trains were most often delayed by locomotive failures or interference with other passenger trains.

Table 5-4 Fourth Quarter 2012 Delays per 10,000 Train-Miles for Acela Express and Northeast Regional Trains

Train	Total Delay (Min)	Largest Delay Category		2nd Largest Delay Category	
		Cause	Minutes	Cause	Minutes
Acela Express	234 (Std. = 265)	Locomotive Failure	29	Scheduled Maintenance of Way	27
Northeast Regional	378 (Std. =475)	Locomotive Failure	56	Passenger Train Interference	40

Source: Amtrak/FRA

CUSTOMER SATISFACTION

Another performance metric relates to customer satisfaction. The Amtrak Customer Service Index (CSI) is derived from survey responses. Topics cover a broad range of customer experiences on and off the train. Standards require that for most topics, a “very satisfied” rating must be received from 80 percent of respondents. The standard for overall service is 82 percent. As shown in Table 5-5, neither the Acela Express nor the Northeast Regional services currently achieve all customer service standards in any category. Values that did not meet standards are shown in red. Shortfalls were particularly significant in the on-board food service and cleanliness ratings.

Table 5-5 Amtrak Customer Service Index for 4th Quarter, Fiscal Year 2012

Train	Overall Service (Std.=80)	Amtrak Personnel (Std.=80)	Information Given (Std.=80)	On-Board Comfort (Std.=80)	On-Board Cleanliness (Std.=80)	On-Board Food Service (Std.=80)
Acela Express	80	80	78	80	66	59
Northeast Regional	81	79	67	79	53	60

Source: Amtrak/FRA

5.3 RHODE ISLAND COMMUTER RAIL SERVICE

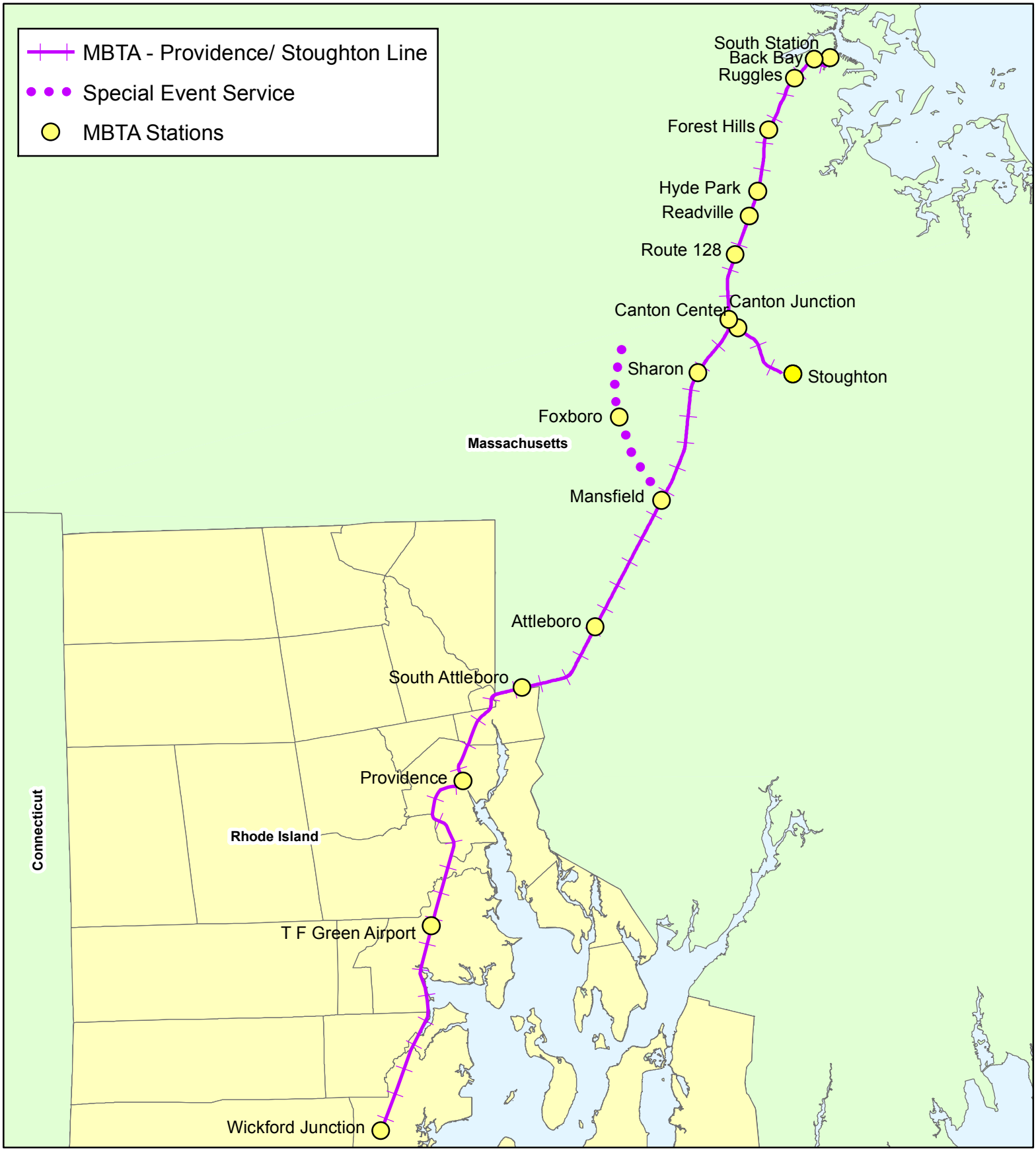
The Massachusetts Bay Transportation Authority (MBTA) provides commuter rail service in Rhode Island under an agreement with the Rhode Island Department of Transportation (RIDOT). Service between Boston and Providence was initially implemented in 1988 through the Pilgrim Partnership Agreement. In 1995, the Pilgrim Partnership II Agreement extended the term of the agreement for an additional ten years and provided for additional service between the two cities. The Pilgrim Partnership Agreement continues through a series of amendments. ~~Extended~~Limited service to T.F. Green Airport was extended in December 2010 under a phased-in approach outlined in ~~and Wickford Junction in North Kingstown was implemented in 2010 under~~ the South County Commuter Rail Operating Agreement. Subsequently, full service was extended to Wickford Junction in April 2012. A map of MBTA's service to Rhode Island over its Providence/Stoughton Line is shown in Figure 5-~~4~~3, MBTA Service to Rhode Island – Providence Stoughton Line.

State of Rhode Island

Figure 5-3

MBTA Service to Rhode Island - Providence Stoughton Line

Created October 1, 2013



RHODE ISLAND STATEWIDE PLANNING PROGRAM

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5.3.1 COMMUTER RAIL SERVICE OVERVIEW

The MBTA's Providence/Stoughton Line serves three stations in Rhode Island: Providence Station, the Interlink at T.F. Green International Airport in Warwick, and Wickford Junction in North Kingstown. Thirty-seven trips operate each weekday between Boston's South Station and Providence. T.F. Green Airport and Wickford Junction receive more limited service, with fifteen daily trips between Boston. There are also five trips operating each weekday between Wickford and Providence.

As of the October 2013 MBTA schedule, the earliest inbound weekday train leaves Providence at 5:07 AM and arrives in South Station at 6:20 AM. The last train leaves Providence at 10:40 PM and reaches South Station at 11:50 PM. The earliest outbound weekday train departs from South Station at 6:20 AM and reaches Providence at 7:20 AM. The last train leaves South Station at 11:59 PM and arrives in Providence at 1:06 AM.

In December 2010 the MBTA expanded service to T.F. Green Airport and in April 2012 it expanded further to Wickford Junction. Ten trains serve Wickford Junction and the Interlink at T.F. Green Airport in each direction on weekdays. Three outbound and two inbound trains operate only between Wickford Junction, the Interlink and Providence with the remaining trains operating between Wickford Junction and Boston. The earliest inbound weekday train leaves Wickford Junction at 4:50 AM and reaches South Station at 6:40 AM. The last train leaves Wickford Junction at 10:10 PM and arrives in South Station at 11:50 PM. The first outbound train leaves South Station at 7:20 AM and arrives in Wickford Junction at 8:54 AM. The last weekday train leaves Boston at 8:15 PM and arrives at Wickford Junction at 9:55 PM. All trains that stop at Wickford Junction also stop at the Interlink.

5.3.2 COMMUTER RAIL STATIONS IN RHODE ISLAND

The following describes rail stations available for rail commuter service in Rhode Island.

Providence Station serves Amtrak and MBTA commuter rail service and includes an enclosed passenger waiting area, restrooms, Wi-Fi service, and several concessions. Several RIPTA routes provide connections. Although passengers may purchase Amtrak tickets from onsite agents, customers must purchase MBTA commuter rail tickets from a small café located in the station. The station is open from 5:00 AM to 11:30 PM seven days a week. There are plans to establish a more formal MBTA ticket purchasing system at the station.

The Interlink at T.F. Green Airport in Warwick officially opened in October 2010 with MBTA service commencing in December 2010. The facility combines airport-related transportation options, including MBTA commuter rail service to Providence and Boston, local RIPTA bus service, a garage containing 458 parking spaces for daily parking and 201 spaces for monthly cardholders, and a consolidated rental car facility. The station is located west of the airport, south of Coronado Road on Jefferson Boulevard. The train station and rental car facility are connected to the airport terminal by a 1,200-foot elevated, enclosed skywalk with moving sidewalks. Currently, there are no ticket purchasing facilities at the station, and tickets must be purchased on the train. There are plans to establish a ticket purchasing system at the station. Amtrak has no current plans to serve the station.

Wickford Junction Station, located on Ten Rod Road in North Kingstown, officially opened in April 2012. The station was built through a public-private partnership between RIDOT and the developers of the Wickford Junction Plaza. The station is linked to RIPTA bus service and is ADA compliant. The station has an indoor waiting area, food service, and a covered platform with a seating area. A four-story, 1,100 space parking garage is also attached to the station. Currently there are no ticket facilities at the station, and tickets must be purchased on the train. There are plans to establish a ticket purchasing system at the station. Amtrak has no plans to serve the station.

5.3.3 COMMUTER RAIL RIDERSHIP

According to the MBTA, boardings at the Providence Station have experienced explosive upward growth of 160 percent from 2003 to 2012. It is evident that MBTA service from Providence has become increasingly popular as a viable means to commute to or from Boston. In addition, fluctuations in gas prices during this same time can be correlated to variations in MBTA ridership from Providence Station, which in the end of 2012 have had an overall positive influence on commuter rail ridership over the last 10 years, as displayed in Figure 5-~~5~~4.

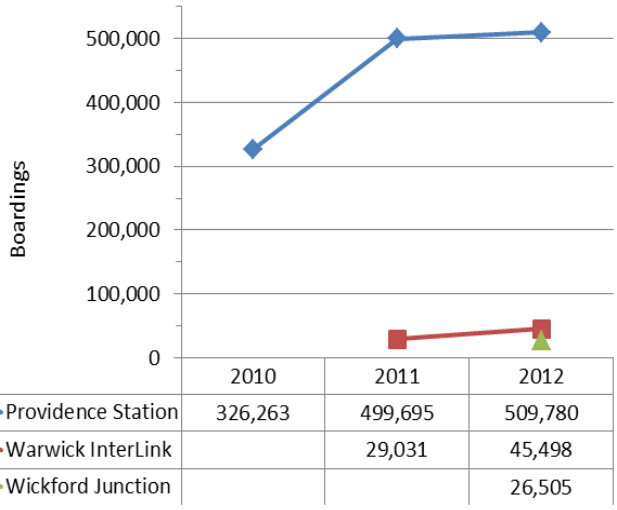
Figure 5-4: MBTA Passenger Boardings at the Providence Station and Corresponding Fuel Prices, 2003 - 2012

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Providence	196,416	290,664	262,680	266,376	531,696	517,440	355,344	326,263	499,695	509,780
Gas Price Per Gallon	1.603	1.895	2.314	2.618	2.843	3.299	2.406	2.835	3.576	3.68

Source: Rhode Island Department of Transportation and Rhode Island Statewide Planning Program

The newly added service at the Warwick InterLink and Wickford Junction in 2010 and 2012 respectively, shows early signs of positive growth in ridership. The ridership figures at the Warwick InterLink are particularly notable with a 57 percent increase in boardings from 2011 to 2012, as illustrated in Figure 5-~~6~~5. The ridership from Wickford Junction is also expected to increase in popularity in the coming years.

Figure 5-5: MBTA Passenger Boardings at Rhode Island Stations, 2010 to 2012



Source: Massachusetts Bay Transportation Authority, Rhode Island Department of Transportation, Rhode Island Statewide Planning Program

5.4 COMMUTER RAIL PASSENGER SERVICE PERFORMANCE

The MBTA developed a Service Delivery Policy in order to establish service standards and service planning methods for its bus, light rail, commuter rail, and boat services. The most recent revisions to the Service Delivery Policy were approved by the MBTA Board of Directors on June 2, 2010. This is an update of a Service Delivery Policy that was originally developed in 1996. The 1996 Service Delivery Policy was the result of a study that surveyed service standards and service planning methods used by other North American transit systems. Although the MBTA's official commitment to the service delivery policy is applicable only to Massachusetts, with Rhode Island service subject to the available funding and policies of Rhode Island, for the purpose of this Plan, MBTA's service standards will be utilized. MBTA's Service Objectives and Standards are summarized in Table 5-6 below and are also described in detail.

Table 5-6 MBTA Service Standards

Service Objective	Service Standard/Guideline
Accessibility	Span of service Frequency of service
Reliability	Schedule adherence
Safety and comfort	Vehicle load
Cost effectiveness	Net cost/passenger

Source: MBTA

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ACCESSIBILITY

The span of service guidelines for MBTA commuter rail service dictate that service is provided between at least 7:00 AM to 10:00 PM on weekdays and 8:00 AM to 6:30 PM on Saturdays. The service span is established such that the first train toward Boston in the morning must arrive before the 7:00 AM start time, and the last train must depart from Boston in the evening after the 10:00 PM end time. For the Providence/Stoughton Line schedule effective March 2013, weekday service to Providence met all the standards, while service to T.F Green Airport and Wickford Junction Station failed to meet service span standard for the last departure time from South Station at 8:15 PM with 9:55 PM arrival at Wickford Junction. Currently no commuter rail service is provided to T.F. Green Airport or Wickford Junction Station on weekends, therefore Saturday service standards to these stations have not been met.

Table 5-7 portrays the level by which Rhode Island service meets MBTA's accessibility standards. Values that do not meet the service standards are shown in bold red.

Table 5-7 Comparison of MBTA Rhode Island Service to Span of Service Standards

Day	First Northbound ~~Arrival~~ Departure/Arrival at South Station				Last Southbound Departure from South Station			
	Standard	~~From~~ Departure ~~Providence~~ Wickford Jct.	~~From~~ Departure ~~Wickford Jct.~~ Providence	Arrival South Station	Standard	Departure South Station	~~To~~ Arrival Providence	~~To~~ Arrival Wickford Jct.
Weekday	7:00 AM	4:50 AM[1] ~~5:07AM~~	~~4:50AM~~5:07 AM	6:20 AM	10:00 PM	11:59 PM	~~11:59~~1:06 ~~PM~~AM	**~~8~~9:~~15~~ 55 PM**[2]
Saturday	8:00 AM	**N/A ~~6:35AM~~**	6:35 AM ~~N/A~~	7:43 AM	6:30 PM	11:10 PM	~~11~~12:~~10~~15 ~~PM~~AM	**N/A**

1The first AM Departure from Wickford Junction arrives at South Station at 6:40 AM and is a different train than the 5:07 AM departure out of Providence.

2The last PM train to Wickford Junction departs South Station at 8:15 PM. There are later PM trains out of South Station with service to Providence.

Source: MBTA

MBTA has also established minimum frequency standards for commuter rail. These standards require at least three trains provide service in the peak direction during the AM and PM peak periods. Trains should run at least every three hours during the weekday off peak time and direction and on Saturdays. The MBTA services to and from stations in Rhode Island meet the peak period frequency requirement of three trains, as PM peak service to Wickford Junction just recently increased from two to three trains during the PM peak. All trains that service Wickford Junction also stop at the Interlink at T.F. Green Airport. Service to and from Providence meets the off peak standards of service every three hours. However, there is a gap in midday weekday service from Wickford Junction and the Interlink of four hours. This gap exceeds the off-peak service frequency standard. Peak standards and values are shown in Table 5-8.

Table 5-8 Number of Peak Period Trains to/from Stations in Rhode Island

	Providence	Wickford Jct.
Northbound AM Peak Trains	7	4
Southbound PM Peak Trains	5	3

Source: MBTA

RELIABILITY

The MBTA has established standards for commuter train adherence to schedules. Ninety-five percent of all trips departing and arriving at terminals should do so within five minutes of scheduled departure and arrival times. MBTA service into Rhode Island has not consistently met this standard between June 2011 and April 2013, with the on-time percentage typically falling between 71 and 93 percent. Results during this period are shown in Table 5-9, with those periods not meeting on-time performance shown in red.

Table 5-9 Percentage of Trains Arriving/Departing Terminals within Five Minutes of Scheduled Departure and Arrival Times for Service to Providence, June 2011 to April 2013

Month	Percentage On Time (Standard = 95%)
April 2013	91%
February 2013	84%
December 2012	91%
October 2012	91%
August 2012	89%
June 2012	93%
April 2012	NA
February 2012	91%
December 2011	88%
October 2011	NA
August 2011	71%
June 2011	76%

Source: MBTA Scorecards

SAFETY AND COMFORT

MBTA has established vehicle load standards based upon the ratio of passengers to seats. Between 6:00 AM and 9:00 AM and between 1:30 PM and 6:30 PM on weekdays the passenger to seat standard is 110 percent. At other times, the standard is 100 percent.

COST EFFECTIVENESS

MBTA's Service Delivery Policy's service objective for cost effectiveness is that services should be tailored to target markets in a financially sound and cost-effective manner. Commonly utilized measures for commuter rail cost efficiency are vehicle load, the number of passengers per vehicle, and net cost per passenger. MBTA's public documents do not provide these statistics in a manner in which commuter service provided to Rhode Island can be evaluated. The Federal Transit Authority's 2011 National Transit Database reports that the fare recovery ratio for MBTA's commuter rail system is 44.9 percent, which is in line with most U.S. major urban area commuter rail services.

5.5 RAIL PASSENGER EXCURSION SERVICE

Categories of railroads, also commonly known as tourist, historic, or scenic railroads, are often rail lines which were once run as freight or passenger railroads and were reopened for historic or tourism purposes. In Rhode Island excursion services operate on an active freight line, the Providence and Worcester Main Line and on a State owned right-of-way, the Newport Secondary. These tourists and excursion rail operators contribute to the vitality of the State's important tourism sector and to the Rhode Island economy.

Blackstone Valley Tourism Council

The Blackstone Tourism Council, working with the Providence & Worcester Railroad, offers two sets of excursion train rides. The first excursion is the Fall Foliage and Shopping Excursion Tour, which is a 3.5 hour trip from Woonsocket, RI to Putnam, CT, which operates in October. The second excursion is The Polar Express, a 90-minute excursion which operates in November and December. In 2013, the excursion services attracted approximately 10,800 riders to the Blackstone Valley area and the excursion train ride.

Newport Dinner Train

The Newport Dinner Train provides a variety of lunch, dinner, tour, and specialty excursions over the Newport Secondary Track. Trains operate between May and December, primarily on weekends and holidays. The excursions vary in length but range from 60 to 90 minutes along the east shore of Narragansett Bay. Trains leave from the Newport Station at 19 America's Cup Ave. in Newport, which is located near the Newport Visitors Center. In 2013, the Newport Dinner Train attracted approximately 18,000 riders to the Newport area and the excursion train ride.

Old Colony and Newport Railway

The Old Colony & Newport Railway provides train tours of Aquidneck over the Newport Secondary Track. Trains operate year-round ~~between June and December,~~ primarily on weekends and holidays, during the summer months, and at other times of the year during Newport tourism events such as the Winter Festival in February. The train typically provides a~~n~~ ~~80~~ 90 minute, scenic ~~ten~~eleven-mile trip

along the east shore of Narragansett Bay. Trains leave from the Newport Station at 19 America's Cup Ave. in Newport, which is located near the Newport Visitors Center.

5.6 EXISTING AND PROJECTED RAIL PASSENGER ISSUES

Rhode Island passenger rail ridership has increased in recent years for both intercity and commuter services, suggesting a certain degree of success for these services. Additionally, RIDOT has improved passenger safety and enabled a higher volume of trains by separating freight and intercity passenger service over a key segment of the Northeast Corridor through its Freight Rail Improvement Program (FRIP) and has also significantly expanded commuter rail service, with additional expansion possible in coming years. Nevertheless, review of intercity and commuter passenger service standards have pointed out areas that merit improvement.

MBTA rail commuter service now provides an increased scope and level of service due to its recent expansion. A comprehensive evaluation of this expanded level of service will be required after it has been in effect for a longer period of time. However, as MBTA operates over the same rail lines as Amtrak, it is faced with similar capacity constraints. Also, further expansion will require additional public investment in equipment to maintain the same levels of service over an expanded service area.

Amtrak currently predicts that the Boston-Providence segment of the Northeast Corridor will exceed capacity by 2030. To address this, Amtrak is currently carrying out a simulation model study of passenger operations over the NEC between New York City and Boston to determine future capacity constraints and to identify strategic improvements to provide additional capacity in the future. This is an important first step, as Amtrak's strategic plan calls for hourly Acela service to New York City, which would add six to eight trains daily over the corridor and increase maximum speeds to 160 mph on the corridor in the future.

Amtrak's intercity rail passenger services over the Northeast Corridor consistently fail to meet on-time performance standards due to significant delays, predominantly caused by maintenance issues and equipment delays. Amtrak hopes to address this by introducing new electric locomotives in 2014. Delays caused by interference with other trains, usually an indication of insufficient capacity, are also a contributing factor. Again, Amtrak has identified a new siding track and freight-related improvements at Kingston in its "Vision for the Northeast Corridor" report to reduce interference delays and further separate passenger and freight operations. Recent increases in ridership, while benefitting the financial viability of these services, will also lead to increasing operational and service problems in the future. Additional riders could have an effect on-time performance due to longer station dwell times. If additional trains are required to meet demand, capacity constraints may arise in high density commuter territory and freight service delays could be experienced due to shorter service windows over the portions of the Northeast Corridor where third track was not implemented.

Chapter 6

Proposed Passenger Rail Service

CHAPTER 6 – PROPOSED PASSENGER RAIL SERVICE

For the past two decades, RIDOT and other public and private organizations have studied multiple options for expanding passenger rail service in Rhode Island. Some projects have made the transition from concept to implementation. Others are currently under review, and several have been abandoned. As articulated in Transportation 2035, the State's Long Range Transportation Plan, one of the goals of the overall transportation system in the State is to create an intermodal system with seamless transitions between modes with aligned schedules to reduce congestion and emissions along the State's highways. New and improved commuter rail options are key in meeting this goal. This chapter discusses plans and proposals for commuter passenger rail services in Rhode Island.

6.1 SOUTH COUNTY COMMUTER RAIL

In 1994, RIDOT began studying expanded MBTA commuter rail service from Providence to Westerly as part of the South County Commuter Rail (SCCR) project. Phase I of the project examined expanding service south of Providence to Wickford Junction in North Kingstown. Phase II is exploring the potential to expand rail service as far south as Westerly. These projects are intended to reduce congestion along the I-95 and Route 1/Route 4 corridors, provide intermodal connections to T.F. Green Airport, add system capacity without expanding the road network, and attract economic development.

6.1.1 SOUTH COUNTY COMMUTER RAIL PHASE I

The first phase of the South County Commuter Rail project studied extending commuter rail south of Providence to two locations: T.F. Green Airport in Warwick and Wickford Junction in North Kingstown. A station was constructed at T.F. Green Airport as part of an intermodal facility called the InterLink and it opened to MBTA passenger service in December 2010. As described earlier, the InterLink combines airport-related transportation options, including MBTA commuter rail service to Providence and Boston, local RIPTA bus service, and a consolidated rental car facility. The commuter rail station at Wickford Junction opened with MBTA commuter rail service in April 2012.

The current service to the InterLink and Wickford Junction does not operate on weekends and provides less frequent weekday service than MBTA service to Providence or within Massachusetts. Limited rail service between the two stations and Providence is provided on the weekdays, with two inbound trips and three outbound trips provided to and from Providence. Additional service is under consideration to fill the service gaps; however, any added service needs to be examined for coordination with Amtrak and freight operations, as capacity on the NEC is an issue.

6.1.2 SOUTH COUNTY COMMUTER RAIL PHASE II

In Phase II of the South County Commuter Rail study, RIDOT is exploring the feasibility and costs of extending commuter rail service to five additional stations. Two stations already are in place and serve Amtrak passengers (Kingston and Westerly); three additional stations are under consideration (Cranston, East Greenwich, and West Davisville). Service would build on the 20-mile MBTA commuter

rail extension from Providence to Wickford Junction examined in Phase I, and would require an additional 24-mile extension to reach Westerly. However, Phase II service would most likely provide intrastate service to the existing and added stations within Rhode Island and not MBTA service to Boston. The study is also looking into potential connections to Connecticut's Shoreline East commuter service. Figure 6-1 depicts potential Northeast Corridor (NEC) commuter rail stations in Rhode Island, including Phase II South County commuter rail stations and the potential Pawtucket/Central Falls Station described under Section 6.4.

6.1.3 COMMUTER STATIONS

The following commuter station locations have been evaluated in the South County Commuter Rail plans.

6.1.3.1 EXISTING STATIONS

Kingston

Located three miles from the University of Rhode Island in South Kingstown, the historic Kingston station was renovated by RIDOT in 1998. The station currently serves as an Amtrak station stop and as the trailhead for the South County Bike Trail. In 2012, 162,837 Amtrak passengers used Kingston Station (boardings and alightings). Kingston is in the top 50 Amtrak stations for ridership out of the total 500 stations nationwide. With a coordinated RIPTA connection between URI and Kingston station, adequate demand may exist for a more frequent and affordable commuter service.

Westerly

The renovated historic Westerly Station is located near the Connecticut state line and serves as an Amtrak station stop. Commuter rail service could potentially support transit-oriented development around the station due to its densities and proximity to the Downtown Westerly Historic District. In 2012, 42,023 Amtrak passengers used Westerly Station (boardings and alightings).

6.1.3.2 POTENTIAL NEW STATIONS UNDER STUDY

Cranston

The City of Cranston proposed a potential station in an underutilized industrial area of the City bounded by Park Avenue to the north, Elmwood Avenue to the east, and Wellington Avenue to the south and west. Amtrak's Northeast Corridor bisects the project area. The station is one of the major concepts that emerged from a series of public workshops conducted as part of Cranston's Comprehensive Plan outreach process.

East Greenwich

The Town of East Greenwich proposed a station bounded by Rocky Hollow Road to the north, the Maskerchugg River to the south, Greenwich Boulevard to the west, and the Amtrak Northeast Corridor

to the east. Town officials believe that providing better transit connections to Boston and Providence would help support smart growth within the town.

West Davisville

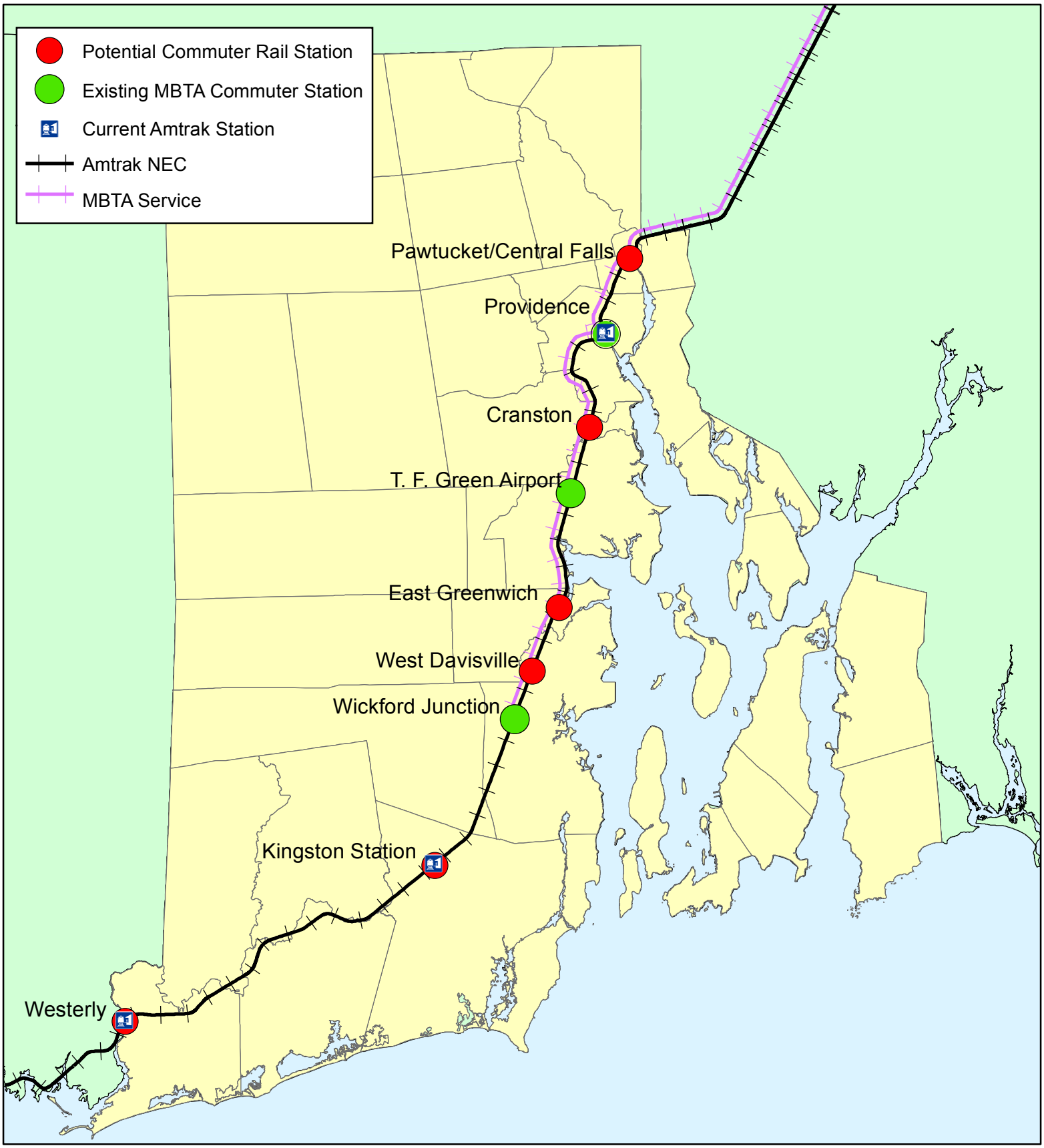
A potential station has been proposed for West Davisville in North Kingstown by the Quonset Development Corporation. This area is part of the Quonset Business Park, the state's largest industrial park, with 164 companies and more than 8,800 employees.

State of Rhode Island

Figure 6-1

Potential Northeast Corridor (NEC) Commuter Rail Stations Under Study

Created December 11, 2013



RHODE ISLAND STATEWIDE PLANNING PROGRAM

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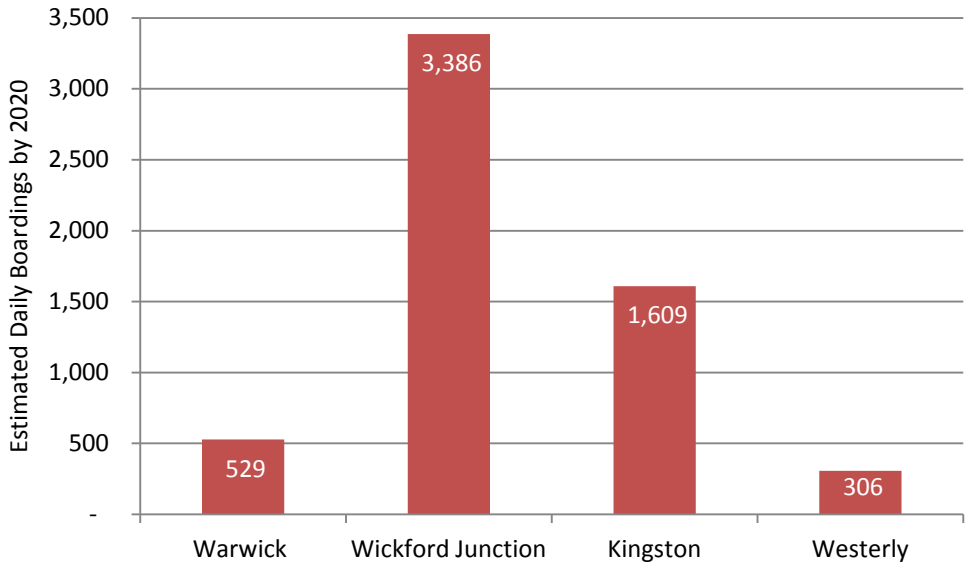
6.1.4 SOUTH COUNTY RIDERSHIP

Ridership forecasts have been conducted for both phases of the SCCR project. As part of the SCCR environmental assessment, RIDOT submitted ridership forecasts for the Warwick and Wickford Junction stations which were used as the basis of the project design and environmental assessment. These projections were done by RIDOT's consultant using the Rhode Island Travel Demand Model, which does not have a dedicated rail component.

Statewide Planning is in the process of updating the Rhode Island Travel Demand Model to include a commuter rail component. It is anticipated the updated model will be complete and available for use by the end of 2014. The State will not advance a new commuter rail station project without having the more accurate ridership projections afforded by an updated model with a commuter rail component.

Figure 6-2 presents ridership estimates for SCCR Phase II for the Warwick, Wickford Junction, Kingston, and Westerly stations which were developed in ~~2005~~2003. Ridership at Wickford Junction is expected to comprise 58 percent of the projected ridership for both phases of the SCCR project.

Figure 6-2: Estimated Daily Boardings and Alightings for South County Commuter Rail Phase II by 2020



Source: South County Commuter Rail Service Operations Plan, ~~2005~~2003

6.1.5 SOUTH COUNTY COMMUTER RAIL REPORTS

The following studies have been prepared with regard to the South County Commuter Rail project:

- *South County Commuter Rail Environmental Assessment*, Rhode Island Department of Transportation, February 2003
- *South County Commuter Rail Service Operations Plan,* Rhode Island Department of Transportation, July 2001
- *Rhode Island Rail Corridor Feasibility Study,* Rhode Island Department of Transportation, 1994

6.2 INTERLINK AT T.F. GREEN AIRPORT

Although Amtrak's Northeast Corridor (NEC) line passes in the proximity of T.F. Green Airport, Amtrak does not provide service to the existing Interlink Station facility. Direct Amtrak service to T.F. Green would expand the airport's southern New England market reach significantly.

The Interlink facility is served via a third track located east of the double track NEC mainline. This third track, served by MBTA diesel equipment, is not electrified. Overhead (catenary wire) electrification of the track would be required to accommodate Amtrak equipment. An additional track and high level platforms would also likely be necessary to accommodate efficient Amtrak service at the station.

The additional levels of capital investment and operating changes required to implement direct Amtrak service to T. F. Green ~~likely~~ will likely require additional study to determine the market for such a service and design and capital cost estimates to determine station access needs.

RIDOT will continue to work closely with the MBTA to evaluate and refine the service and scheduling of trains at the InterLink to ensure adequate and efficient commuter options for Rhode Islanders.

6.3 PROVIDENCE STREETCAR SYSTEM

In 2009, RIPTA, together with the City of Providence, completed a Metropolitan Transit Enhancement Study. This Study put forth a number of recommendations including the further exploration of reestablishing a streetcar system in Providence. To further explore that recommendation, RIPTA led an effort to complete the Providence Core Connector Study, A Final Locally Preferred Alternative Report. That Report proposed a streetcar system for a 2.5-mile corridor in Providence connecting major activity centers, the state's main bus hub, and nearly three million square feet of vacant or redevelopable land. The proposed alignment would connect Downtown Providence with College Hill, the Jewelry District, and the Hospital District. The proposed streetcar project would provide circulation for the increasing number of employees traveling to downtown Providence via commuter rail. The proposed alignment includes points of connection to potential future extensions into adjacent neighborhoods and is depicted in Figure 6-3.

The streetcar is forecasted to attract 3,600 daily riders by 2030. The proposed route would generate near-term economic stimulus from construction activity, as well as sustained mixed-use development opportunities in areas the City has targeted for economic growth. Development projections indicate that the proposed streetcar project could generate over 5,700 jobs and nearly 1,900 new residents in the project area by 2033 (at full build-out). In addition, 3.6 million square feet of real estate is estimated to be developed, equating to nearly $1.1 billion in additional property values by 2033.

6.3.1 PROVIDENCE STREETCAR REPORTS

The following studies have been undertaken with regard to the Providence Streetcar System:

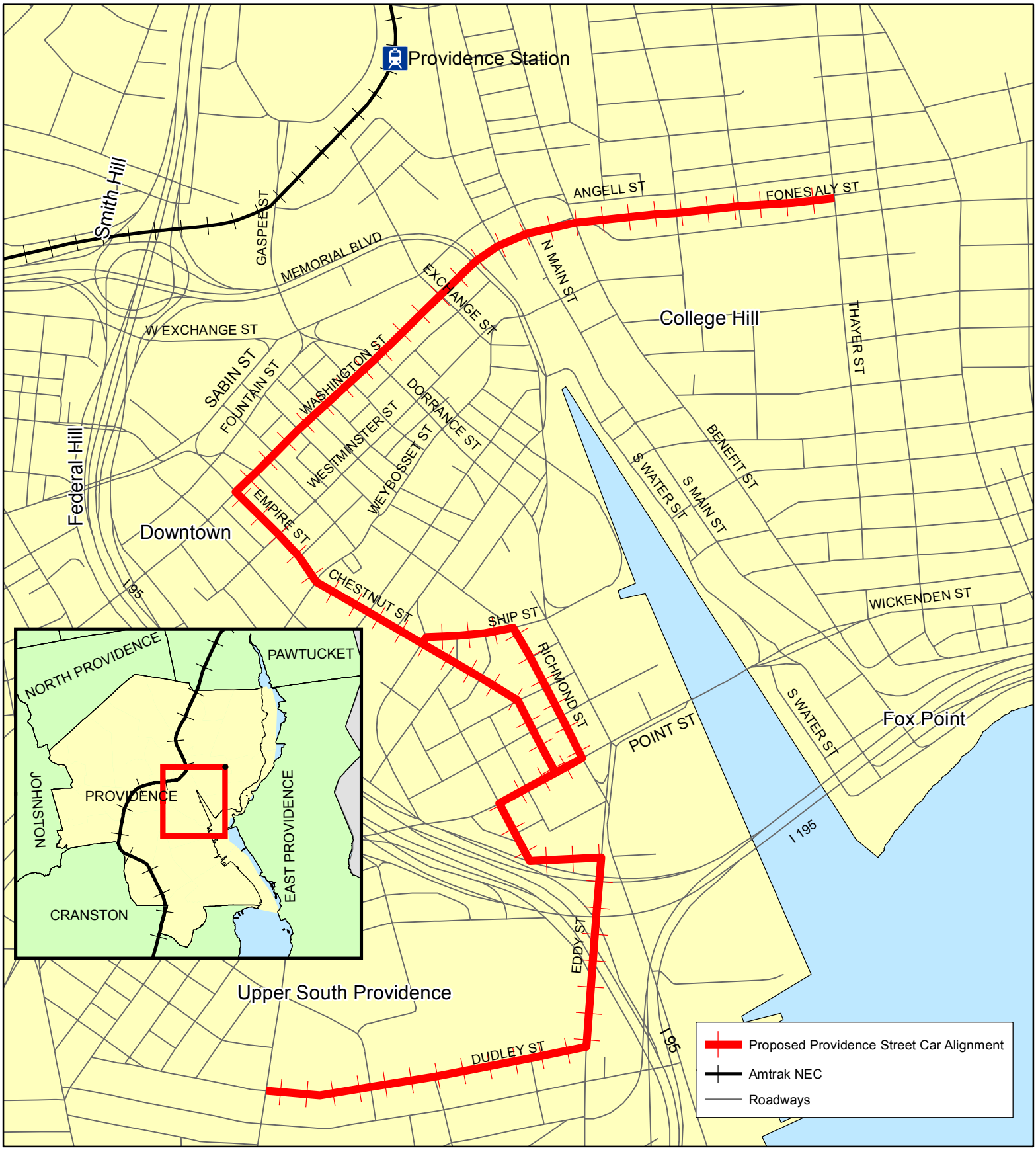
- *Providence Core Connector Study, Final Locally Preferred Alternative Report*, Rhode Island Public Transit Authority, April 2012
- *Providence Metropolitan Transit Enhancement Study*, Rhode Island Public Transit Authority, December 2009

State of Rhode Island

Figure 6-3

Proposed Providence Street Car Alignment

Created November 7, 2013



RHODE ISLAND STATEWIDE PLANNING PROGRAM

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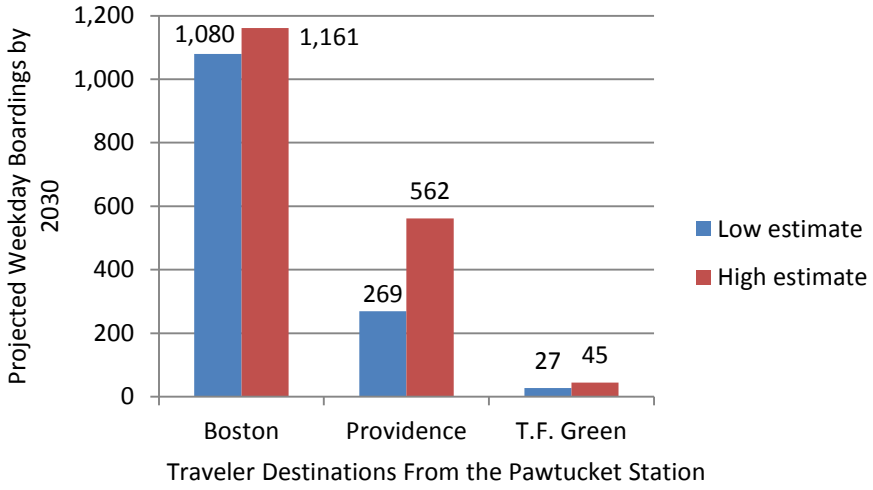
6.4 PAWTUCKET/CENTRAL FALLS COMMUTER RAIL

RIDOT and the City of Pawtucket are studying the feasibility of restoring commuter rail service to the City by building a new station on the Boston-Providence MBTA line. Pawtucket and Central Falls officials believe that commuter rail service will increase mobility and access to economic activities for residents, while improving environmental conditions and supporting economic growth in both cities.

Figure 6-4 displays projected daily boardings at a Pawtucket commuter rail station for 2030 as developed by the City's consultant from the 2007 Rail Feasibility Study. As the figure shows, travel to Boston is expected to account for 78 percent of the average weekday boardings in the low estimate and 66 percent of boardings in the high estimate.

After reviewing several station location alternatives, the City of Pawtucket selected two potential sites along Barton Street between Dexter and Conant streets and the P&W rail yard in Pawtucket as depicted in Figure 6-5. In 2010, the Federal Transit Administration released $1.9 million in New Starts program funding for preliminary engineering and environmental review as part of the next phase of development for the station.

Figure 6-4 Projected Weekday Daily Boardings at Pawtucket Commuter Rail Station, 2030



Source: Pawtucket/Central Falls Commuter Rail Facility Feasibility Study and Site Analysis

6.4.1 PAWTUCKET/CENTRAL FALLS COMMUTER RAIL FACILITY REPORTS

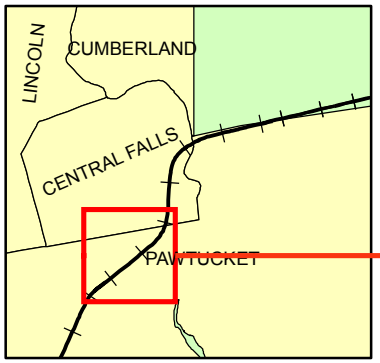
The following reports were prepared with regard to commuter service to Pawtucket:

- *Planning for commuter rail and transit oriented development, Policy White Paper,* Thomas A. Mann, Jr., The Pawtucket Foundation, August 19, 2010
- *Pawtucket/Central Falls Commuter Rail Facility Feasibility Study and Site Analysis,* City of Pawtucket Department of Planning and Development, July 14, 2006
- *Proposal for a Central Falls/Pawtucket Multi-Modal Transportation Center: An Economic Revitalization Strategy for Northern Rhode Island*, The Pawtucket Foundation, February 2003

State of Rhode Island

Pawtucket / Central Falls Potential Commuter Rail Station Sites

Figure 6-5
October 10, 2013



Providence & Worcester RR
FRIP Track
Amtrak NEC
Roads

0 0.5 1 Miles

RHODE ISLAND STATEWIDE PLANNING PROGRAM

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Historic Depot Site
Barton Street - Alternative #1
P&W Railyard Site - Alternative #2
Central Falls
Pawtucket
FRIP Track
Amtrak - NEC
Providence & Worcester RR
PARKER ST
MOWRY ST
RAND ST
WATSON ST
CENTRAL ST
KNIGHT ST
CROSS ST
CONGRESS ST
HOLLIE ST
MARY ST
EVALEEN ST
CLINTON ST
CLAY ST
HAWES ST
NICKERSON ST
OLIVE ST
CHERRY ST
DEXTER CT
DEXTER ST
PINE ST
LILY POND ST
BARTON ST
WEEDEN ST
LLOYD ST
SUMNER ST
CARPENTER ST
COLEMAN ST
CENTRE ST
MARTIN CT
STAR ST
FENNER ST
MINERAL SPRING AVE
GARDEN ST
CHURCH ST
S UNION ST
MAIN ST
HILL ST
BAYLEY ST
WAVERLY PL
PINE ST
GEORGE ST
PARK PL W
PARK PL
PARK PL E
EAST AVE
PLEASANT ST
ROOSEVELT AVE EXT
BROAD ST
MASON ST
GOFF AVE
BEATTY ST
HUMES ST
MANCHESTER ST
MILLER ST
GRANT ST
MONTGOMERY ST
N UNION ST
SUMMER ST
MAPLE ST
RAILROAD ST
JENKS ST

6.5 BLACKSTONE VALLEY PASSENGER SERVICE

The City of Woonsocket studied the potential for a passenger rail link to connect the City with Boston and Providence. The study focused on four rail segments: Boston & Willimantic (B&W), Boston and Pascoag (B&P), Providence and Worcester (P&W), and Amtrak Northeast Corridor (NEC). Eight scenarios were studied: six to Boston, one to Worcester, and one to Providence. All but one of the Boston options would require passengers to transfer to existing MBTA commuter rail service at the Franklin, MA station or the proposed Pawtucket station. The remaining scenario would extend rail service from the MBTA Forge Park station to Woonsocket.

Several of these alternatives have substantial implementation challenges, particularly the options that involve use of the B&W and B&P rights-of-way. The Massachusetts Department of Conservation Resources owns the majority of the B&W right-of-way between Blackstone and Franklin, MA for use as a trail, and critical portions of the B&P right-of-way are privately owned or no longer exist.

For these reasons, the study recommended focusing on four scenarios:

1. Franklin Transfer which would extend existing MBTA Forge Park service to Woonsocket via B&P with an estimated 272-287 weekday boardings.
2. Franklin Direct which would provide a semi-express service from Woonsocket to Boston via Franklin with an estimated 266-283 weekday boardings.
3. Via Blackstone which consists of service from Woonsocket to Blackstone via P&W and transfer to MBTA with an estimated 260-282 weekday boardings.
4. Providence via Pawtucket which consists of service from Woonsocket to Pawtucket via P&W and transfer to MBTA with an estimated 196 to 212 weekday boardings.

After the feasibility report was completed, a more detailed look at intrastate service between Woonsocket and the InterLink in Warwick was examined by the Providence Foundation. The study found that intrastate commuter rail would serve two-thirds of Rhode Island's population and most major employment centers by operating on Amtrak's Northeast Corridor and the Providence & Worcester Railroad's main line.

The proposed intrastate commuter rail service dovetails with several projects already underway, in the planning stages, or previously studied, including a Pawtucket station on the MBTA commuter rail line. The proposed service would traverse 25 miles: 11 miles on the P&W line between Woonsocket and Pawtucket and 14 miles on Amtrak’s NEC from Pawtucket to Warwick as depicted in Figure 6-6.

Four service options were reviewed. Option 1 provides 17 daily round trips between Woonsocket and Warwick with 17 connections to MBTA commuter rail at Pawtucket. Option 2 includes adjustments to allow 14 South County trains to make direct connections between Cranston and Boston. Options 1A and 2A assume a 100 percent increase in freight service along the shared portions of the corridor, which would require dropping one midday passenger rail trip.

The study, conducted in 2009, identified the following requirements for moving forward:

- Complete South County Commuter Rail Phase I to T.F. Green Airport and associated improvements to NEC infrastructure (opened in 2010).
- Establish a Pawtucket Station for commuter rail service to Boston.
- Continue discussion with Providence & Worcester Railroad regarding support for passenger service between Woonsocket and Pawtucket.

In addition, several potential station locations were also reviewed.

6.5.1 BLACKSTONE VALLEY RAIL REPORTS

The following report was developed to analyze rail commuter service to Woonsocket:

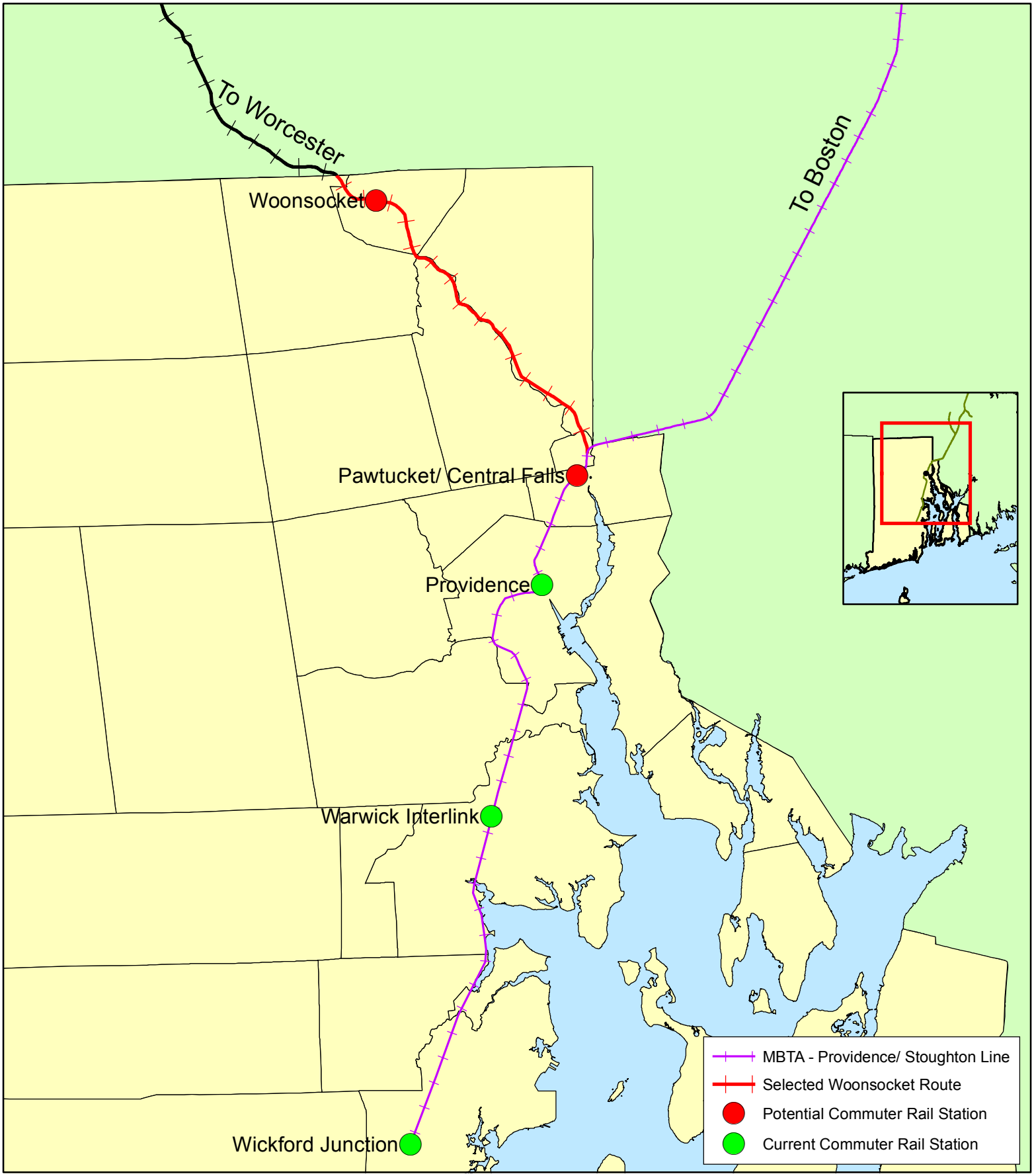
- *City of Woonsocket, Rhode Island, Commuter Rail Feasibility Study*, City of Woonsocket, 2007
- *Rhode Island Intrastate Commuter Rail: Feasibility Study*, The Providence Foundation, June 2009

State of Rhode Island

Figure 6-6

Potential Woonsocket Rail Service

Created October 10, 2013



RHODE ISLAND STATEWIDE PLANNING PROGRAM

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6.6 RAIL SHUTTLE SERVICE

In addition to the Intrastate Commuter Rail Service noted above, a rail shuttle service connecting Providence to T.F. Green Airport's InterLink facility in Warwick and to Wickford Junction in North Kingstown is being discussed. This service would augment the current MBTA service between these two stations and Providence, and would be an asset to both the State's transportation and economic development strategies. Providing a frequent and reliable rail shuttle service between these three communities is key to realizing the potential success of the transportation-oriented development (TOD) potential of these station districts.

Commuter passengers, airport travelers, and track demand for this service should be carefully determined in advance of scheduling; while half hour service would be ideal, the frequency depends on ridership projections and the window of operations available based on current and forecast track demand from Amtrak, P&W, and MBTA service. In addition to scheduling, a careful investigation should be made in order to determine the best way to initiate this shuttle service: purchase, lease, or contracting and the best vehicle to use for shuttle service: commuter train, diesel multiple unit (DMU) or electric multiple unit (EMU). As this may be a costly service, careful analysis of both capital and operating expenses, as well as the securing of funding sources, should be a factor in making a final determination. Environmental issues including air quality, noise, and vibration should be evaluated to determine if an environmental assessment may be triggered.

Despite these issues that warrant further analysis, this commuter shuttle service would be beneficial to the long-term success of both the Warwick and Wickford stations. The master planning and progressive zoning in Warwick around the InterLink facility marks significant cooperation between the city, state, and federal agencies to create jobs and attract businesses to the Warwick Station Development District. This mixed-use district offers office, hotel, residential, and retail development opportunities with convenient access to plane, rail, bus, and car transportation via the InterLink. Capitalizing on the InterLink's intermodal infrastructure to develop a mixed-use, transit-oriented development and growth center ideally situated along the busy Northeast ~~c~~Corridor will serve as a center of opportunity and a gateway to Rhode Island. In addition, the objectives of the Warwick Station Development District and the shuttle service to Providence provide added benefits of having fewer cars on the roadways, less parking, and more private investment. The Warwick Station Development District's development potential is increasing, considering the award of two Transportation Community System Preservation (TCSP) grants to RIDOT. ~~$1~~One million was awarded for infrastructure improvements and $400,000 was awarded for marketing and economic development planning. The Warwick InterLink stands ready to serve as a national model for intermodal transportation and a boon to the traveling public.

The other commuter rail station that would benefit from this shuttle service is Wickford Junction, which is located within a 10 acre mixed-use plaza. The Wickford Junction Plaza is anchored by a major chain store and also offers banking, health, personal services, and restaurants. The plaza also offers a 250-seat community pavilion and is close to the major tourist areas of Wickford Village, Newport, and southern Rhode Island beaches. In 2013, the Town was awarded a planning grant from RIDOT to draft a Transit Oriented Development ordinance, including incentives and design requirements, conduct a real

estate analysis to increase commerce and residential density in the area, examine wastewater solutions for the Wickford Junction site, and to identify a viable connection between Wickford Junction and the Quonset Business Park.

6.7 AQUIDNECK ISLAND PASSENGER RAIL

RIDOT explored opportunities to use the Newport Secondary Rail right-of-way to serve the City of Newport and the Towns of Middletown, Portsmouth, and Tiverton. The goal of the project is to utilize the rail corridor to help reduce traffic congestion on Aquidneck Island.

The project area extends for 16.3 miles along the Newport Secondary Rail corridor from the Gateway Visitor Center in Newport to just short of the Massachusetts border in Tiverton. The State of Rhode Island acquired the Aquidneck Island segment of the right-of-way in 1977 and the Tiverton portion in 1983. The Newport Secondary Rail corridor also extends through the Newport Naval Station, which requires special security precautions to separate railroad and naval operations (see Figure 6-7).

Regular passenger service along the Newport Secondary Rail was discontinued in 1938, but the route is used for specialized on-island excursion rail service~~ year-round~~. Freight service was discontinued in 1975 when passage over the Sakonnet River Bridge was determined to be unsafe. The bridge was subsequently damaged in 1988. The superstructure was removed in 2006, and the piers were demolished in 2007. Because of the demolition of the bridge there is no rail connection between Aquidneck Island and the mainland. The Sakonnet River Bridge (provides vehicular service only) has recently been replaced; however the ability to accommodate a rail line ~~has not been~~was not included in the replacement highway bridge on account of the added costs and uncertainty of the Aquidneck Island rail connection.

Rail alternatives studied for this corridor include an on-island rail shuttle, MBTA commuter rail connections to Fall River, MA, and the existing excursion shuttle service. The Fall River option assumes that the MBTA will extend commuter rail service to that city and that a bridge supporting the rail line would be constructed over the Sakonnet River. The Newport Dinner Train received a $500,000 CMAQ grant for track upgrades. This project is under construction and is scheduled for completion in mid-2014. The track upgrades are necessary precursors to any proposed seasonal, on-island passenger shuttle service.

6.7.1 AQUIDNECK ISLAND PASSENGER RAIL REPORTS

The following reports have been prepared with regard to Aquidneck Island passenger rail service:

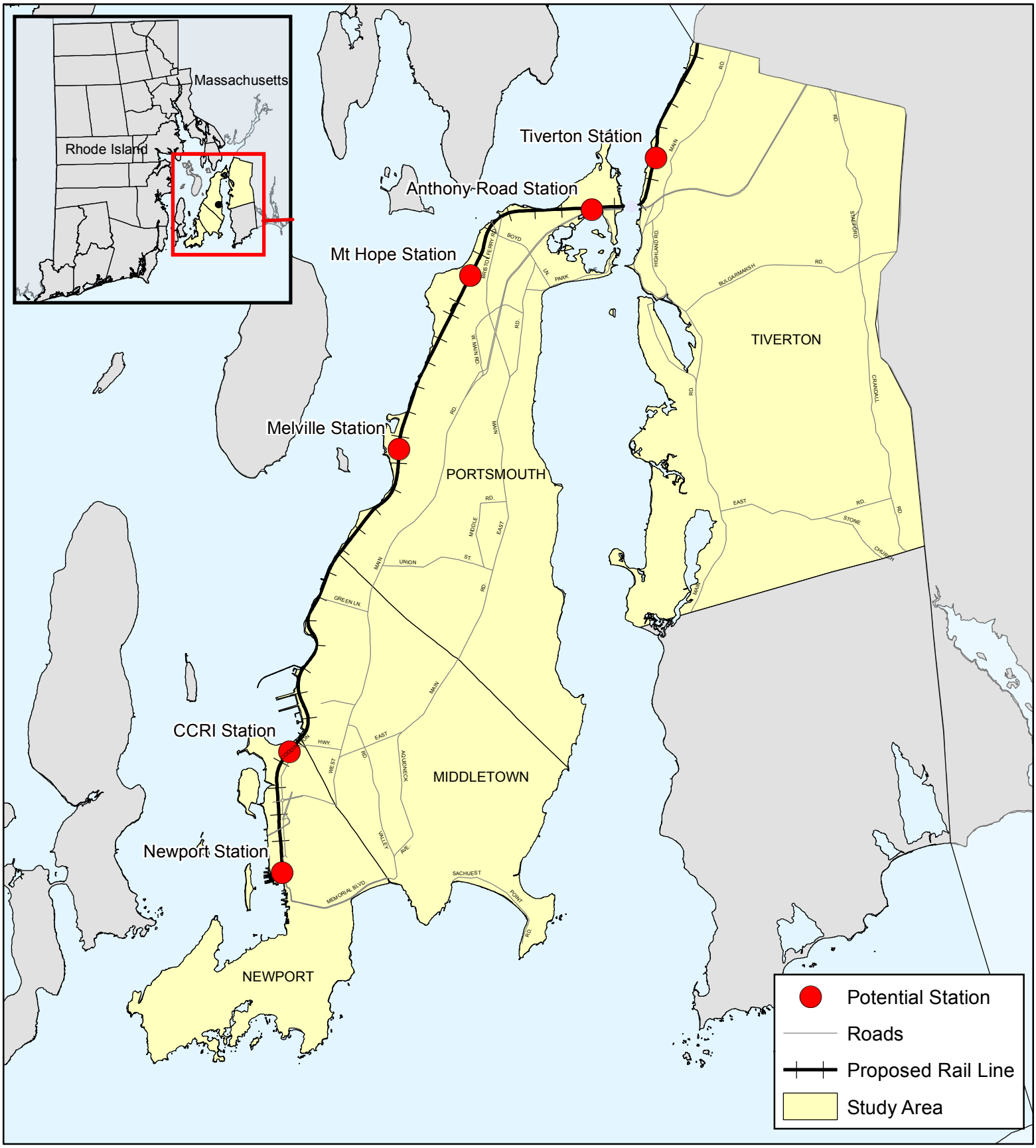
- *Aquidneck Island Passenger Rail/Bicycle Path Project: Task I Railroad Operations Report*, Rhode Island Department of Transportation, September 2002
- *Aquidneck Island Transportation Study,* Aquidneck Island Planning Commission, April 2011

State of Rhode Island

Figure 6-7

Newport Secondary Rail Corridor & Potential Station Locations

Created October 7, 2013



RHODE ISLAND STATEWIDE PLANNING PROGRAM

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RIGIS

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6.8 ADDITIONAL STATE RAIL CORRIDORS

As outlined in previous sections of this chapter, there have been a number of ongoing planning efforts looking at new passenger rail services on emerging corridors off the Amtrak Northeast Corridor, including the Blackstone Valley and Aquidneck Island. This section includes other longer term opportunities that the State should also consider.

The State of Rhode Island has been very active in acquiring abandoned or under-utilized rail corridors since the 1970's. Many of these rail corridors were investigated by RIDOT for potential reuse for rail or bus transit purposes in the *1994 Rhode Island Rail Corridor Feasibility Study*. At that time, many of these corridors were not deemed feasible for transit services due to population, density and size of employment centers to be served. However, it is important today, 20 years later, to keep a continuous corridor planning process in place where these rail corridors can be re-examined from time-to-time based on changing population and economic conditions.

With the adoption of *Land Use 2025,* the State's Land Use Plan, the policy direction of the state became very clear – direct growth to areas that are equipped to handle it based on location and infrastructure. Many of the existing rail corridors begin and end in the more urbanized areas of the State. These corridors have been acquired and preserved for future transportation purposes and it is recommended that the State continuously explore transit opportunities along these corridors as part of the statewide transportation planning efforts.

In addition to those previously outlined in this chapter, other non-Northeast Corridor rail corridors that should continuously be reviewed for transit feasibility are:

- Worcester MA - Providence
- Newport-Fall River MA (with connection to proposed MBTA South Coast Rail)
- Providence-East Providence (including East Side Rail Tunnel)
- Providence-Pastore Center, Cranston (including use of Pontiac Secondary)

6.8.1 ADDITIONAL RAIL CORRIDOR REPORTS

The following report has been prepared with regard to additional passenger rail opportunities in the state:

- *Rhode Island Rail Corridor Feasibility Study*, Rhode Island Department of Transportation, 1994.

Chapter 7

Analysis of Rail Transportation Impacts

CHAPTER 7 – ANALYSIS OF RAIL TRANSPORTATION IMPACTS

Both passenger and freight rail service have a large impact on the competitive position of Rhode Island businesses, the quality of life within the state, and its connection to other regions. These impacts apply within the state and beyond. This chapter describes and attempts to quantify passenger and freight rail impacts in terms of their benefits and challenges to the state's economy, environment, energy consumption, and land use.

7.1 ECONOMIC IMPACTS

In Rhode Island, the vision for long-term sustainable economic expansion is built upon our State's assets by developing and marketing the State's resources and amenities for strategic expansion and investment. Transportation infrastructure is a key part of implementing this strategy. Transportation investments can boost economic development by providing enhanced access to existing businesses, and by improving access and mobility to attract new business. While transportation is not the only consideration in retaining or attracting businesses, an efficient transportation system can greatly reduce business costs, provide access to new customers and markets, and enhance business competitiveness.

Rail has an important influence on trade and economic development within Rhode Island. A number of industries rely upon freight rail as a cost effective transportation option. Today, these include plastic manufacturing, lumber distribution, seafood, automobile distribution operations, and metal recycling. Rail helps to attract and retain employers within the state, as well as maintain the viability of Rhode Island's ports, including ProvPort and the Port of Davisville. Primary outbound exports by value moving from Rhode Island include medical equipment, sporting goods, and primary metals with an export value of $140 million.

Passenger and freight rail transportation represents a key factor of competitiveness for Rhode Island's economic development. Today's businesses compete not only on the basis of product or service costs; but on the ease of access for employees, reliable connections to customers, and access to a multitude of markets. An effective and efficient transportation network is essential for competing in national and global markets.

Rail transportation is important to Rhode Island's economic development because:

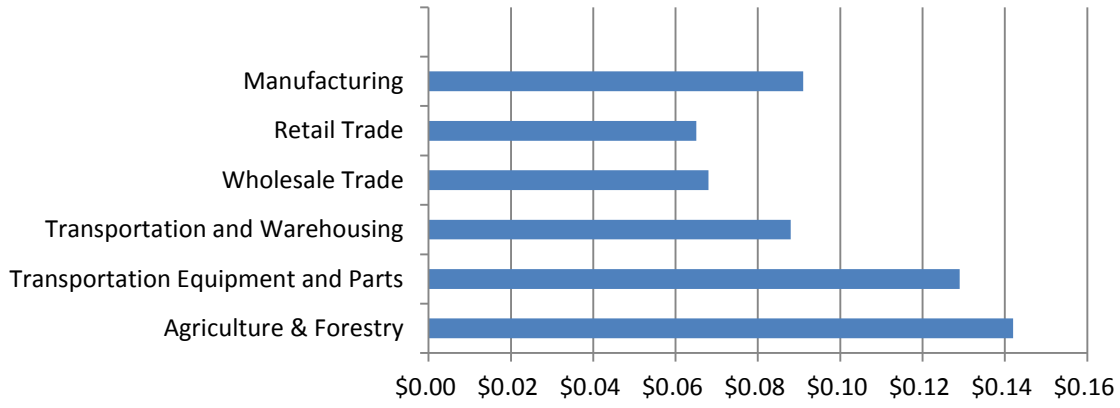
- Employees need access to business and industries for jobs, and these employers need access to a qualified workforce
- Manufacturers must be able to receive raw materials and ship finished products to markets nationally and internationally
- Retailers need to receive consumer goods and consumers must be able to easily access area retail stores
- Tourists and business travelers need to be able to access area lodging, meeting centers, regional attractions, and local businesses

To retain and expand employment and investment in existing and emerging businesses, the rail transportation systems must address each of these needs in a way that promotes the most competitive economic environment. The importance of passenger and goods movement to the ongoing prosperity of Rhode Island businesses, both the existing businesses that are the backbone of the state's economy and the emerging and targeted industries, varies by sector.

The dependence of various businesses on transportation can be measured by the amount spent on transportation as a share of the total output of each sector. Transportation Satellite Accounts provide national data about the amount spent on transportation per dollar of output for various sectors. This data is only available at the national level, but it provides valuable information about the transportation dependence of various sectors. Figure 7-1 shows the transportation cost per dollar of product output for several important existing industry sectors in Rhode Island. Transportation needs may vary by industry, but virtually every business and industry is dependent in some way on the movement of goods and people.

Figure 7-1 Transportation Cost as a Share of Sector Output in the United States

(Transport Costs per $ of Product Value)



Source: Transportation Satellite Accounts Database, Bureau of Transportation Statistics, Research and Innovation

Improvements in transportation costs and services have a significant effect on a company's profitability. Lower transportation costs and reliable service help to reduce the cost of materials and thus overall production costs, expand access to a skilled workforce, improve reliable delivery of materials and services, and reduce distribution costs to customers.

In an economy which is becoming more innovation-focused and export-driven, a seamless intermodal transportation network is essential. Exports by their very nature are transportation dependent, often relying on multiple modes to reach primary markets. Key export industries in Rhode Island include medical equipment, business services, primary metals, and chemicals. In 2010, 8.3 percent of the state's gross domestic product was generated by exports. The state's key export markets are Canada, Mexico, Hong Kong, the United Kingdom, and India. The efficient movement of goods is vitally important to the state's export business, which grew by 13.1 percent between 2009 and 2010.

The Rhode Island Freight Rail Improvement Project (FRIP) provided for significant rail improvements along 22 miles of track on the Northeast Corridor. This project supports economic growth at the Quonset Business Park and improves existing freight rail services. By improving clearances and providing for double stack container clearances from Quonset to Pawtucket and tri-level auto rack carriers from Pawtucket to the Boston Switch, businesses utilizing these services will realize improved delivery times and potentially reduced costs.

In 2008, research conducted by the American Trucking Association estimated that the marginal cost of operating a truck per mile is $1.73.[1] Work for the Federal Highway Administration (FHWA) has estimated that the average 18-wheel, five-axle truck has a payload of about 18 tons.[2] Therefore, the average cost per ton mile for trucking would be about $0.096. Based upon data by the Association of American Railroads for the same year, the average operating expense per ton-mile for rail was $0.027. Even if this cost differential does not hold in all cases, using rail offers significant potential savings.

Rhode Island's passenger rail services also promote economic development. Intercity Amtrak services connect Rhode Island to other states, providing alternatives to customers, employees, or vendors traveling to and from Rhode Island businesses. Passenger rail supports Rhode Island's tourist economy, providing easy access to Rhode Island vacation spots. The MBTA commuter service enables Rhode Islanders to work in Massachusetts but bring their paychecks back home to Rhode Island. On June 17, 2008, RIDOT performed a survey of commuters using the MBTA service at Providence Station.[3] The survey found that about 90 percent of passengers were traveling on work-related business and that about 84 percent of respondents were traveling either to Boston's Back Bay or South Station. Services to the new commuter rail terminals at T. F. Green Airport and Wickford Junction also provide for more transit options for Rhode Island residents.

Rhode Island's passenger rail service also provides travel efficiency benefits. For example, according to the MBTA, the average revenue per mile for the service was roughly $0.17 per passenger mile in FY 2010.[4] Data from the American Automobile Association suggests that the operating costs of driving a car is somewhere between $0.1483 and $0.2018 per mile, depending upon the type of car.[5] However, when depreciation and all other costs of owning a vehicle are accounted for total vehicle costs are significantly higher, depending upon how many miles per year the vehicle is driven. The out-of-pocket cost of paying for a commuter rail ticket is much less than the gas, insurance, and vehicle depreciation associated with driving. Therefore, by providing residents with viable transit options for commuting, they would experience a decline in their overall transportation costs.

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[1] American Transportation Research Institute, *An Analysis of the Operational Costs of Trucking*, December 2008.
[2] Battelle, *Development of Truck Payload Equivalent Factor*, June 15, 2007.
[3] Gregory Bern, Intern, Intermodal Planning Section of RIDOT, *Providence Station Passenger Survey and Ridership Analysis,* August 2008.
[4] MBTA FY 2010 budget, Summary of Performance Statistics
[5] American Automobile Association, *Your Driving Cost,* 2011 Edition.

Passenger rail services in Rhode Island also enhance travel time savings. Interstate 95 provides the primary highway alternative to travel along the Northeast Corridor. It is one of the most congested roadways in the nation and is predicted to be over capacity by 2040. Rail service enables passengers to avoid this congestion. Amtrak's Acela Express between Washington, DC and Boston averages 68 miles per hour over the entire route and 82 miles per hour on the segment between Washington and New York. These speeds are favorable compared to drive times on the frequently congested Northeast Corridor highways. The flight distances between Rhode Island and a number of Northeast Corridor travel destinations are relatively short, and while flights are available the total travel time by rail is sometimes less when transportation time to and from each airport is considered.

The InterLink passenger rail service connects T.F. Green Airport and the City of Providence. This $267 million project provides access to multimodal transportation facilities including the airport, MBTA commuter trains, a consolidated rental car facility, and RIPTA bus service. It also offers tremendous potential for Transit Oriented Development.

Transit-oriented development, or TOD, provides walkable, smart growth development opportunities that attract jobs, new investments, and new residents. A recent study by the Center for Transit Oriented Development found that properties located near transit experience a pricing premium of 2 to 20 percent when transit facilities open. New developments can optimize the value of access to transit by capturing the growing demand for pedestrian-friendly development, creating mixed-use development and enhancing the livability of communities by attracting new commercial and retail developments as well as new residential space.

The City of Warwick has adopted ~~*The*~~ the *Warwick Station Development District Master Plan* to capitalize on the intermodal transportation resources to foster high-quality, mixed use growth. According to the Master Plan, which provides a framework for development in the district, up to 1.5 million square feet of office, retail, hotel and residential development is possible in the core of the intermodal area with 1-2 million square feet of additional development possible over the long term in surrounding areas within convenient walking distance[6]. In addition, RIDOT has received two FHWA Transportation Community System Preservation (TCSP) grants totaling $1.4 million for investment in the Warwick Station district. ~~$1~~ One million will be used for infrastructure improvements in the district including traffic, pedestrian, and intersection upgrades along Coronado Road and portions of Jefferson Boulevard and $400,000 will be used for marketing and economic development planning. A portion of the construction budget for the ~~Interlink~~ InterLink was reserved for public art. The Rhode Island Council on the Arts will oversee the implementation of a light installation that will be placed along the outside façade of the Interlink structure.

There is also significant TOD potential in the vicinity of the Wickford Junction Rail station. The Wickford Junction Commuter Rail Station in North Kingstown opened in 2012 and is located within a 10-acre commercial and mixed-use development with restaurants, retail, and other services including medical

[6] Warwick Station Development District Master Plan, Goody, Clancy & Associates, 2012.

and dental offices. In 2013, the Town was awarded a planning grant from RIDOT to draft a Transit Oriented Development ordinance, including incentives and design requirements, conduct a real estate analysis to increase commerce and residential density in the area, examine wastewater solutions for the Wickford Junction site, and to identify a viable connection between Wickford Junction and the Quonset Business Park.

Downtown Providence is also uniquely positioned to capitalize on Transit Oriented Development. Downtown Providence is centered around Kennedy Plaza, the major transportation node for RIPTA bus service and is served by the Providence Train Station, which includes MBTA and Amtrak service. In addition, the downtown includes a variety of land uses including residential, retail, cultural, and culinary. It is also considered very walkable with wide sidewalks lining its street network. The City continues to work to further the development of mixed uses to maximize its accessibility to transit and other transportation modes.

In addition to the economic development benefits previously outlined, the rail industry also supports economic development within Rhode Island by direct employment. Both freight and passenger rail industries employ Rhode Islanders. According to the Association of American Railroads, the freight rail industry employed 62 Rhode Island residents in 2009 with average wages and benefits of $87,720 per employee.[7] The industry also supported 500 railroad retirement beneficiaries, paying $9 million annually in retirement benefits. In Fiscal Year 2010 Amtrak employed 324 Rhode Island residents with a total payroll of $23,212,197.[8] Amtrak also placed orders for goods and services in Rhode Island valued at $2,688,330 in FY 2010.

The tourist and excursion rail services operating on Aquidneck Island and in the Blackstone Valley contribute to the tourism and hospitality sector of the State's economy. The popularity of these excursion services (as described in Section 5.5) are important in attracting tourists, including bus tours, to Rhode Island. The Newport Dinner Train's operation on the Newport Secondary Track also provide a highly visible active use of the rail line within the community, which will be beneficial should more intensive use of the line be desired in the future.

7.2 ENVIRONMENTAL IMPACTS

Rail transportation does have negative environmental impacts. Diesel locomotives produce air pollution; derailments can result in spillage of environmentally damaging products; and rail operations can result in high levels of noise in some residential areas. These negative impacts must be compared to air quality and noise impacts of other transportation modes, and most closely to the movement of autos and trucks.

[7] Association of American Railroads, *Freight Railroads in Rhode Island*
[8] Amtrak, *Amtrak Fact Sheet, Fiscal Year 2010: State of Rhode Island.*

According to the Association of American Railroads, railroads, on average, are three or more times more fuel efficient than trucks on a ton-mile transported basis. Greenhouse gas emissions are directly related to fuel consumption; every ton-mile of freight moved by rail instead of truck reduces greenhouse gas emissions by two thirds or more. The U.S. Environmental Protection Agency (EPA) continues to work toward reductions in rail locomotive emissions.

The first emissions regulations for railroad locomotives were established in December 1997 and published in 1998 by the EPA. These regulations established tiers, based on when locomotives were manufactured, to guide the industry. Tier 0 standards were established for locomotives originally manufactured between 1973 and 2001. Tier 1 standards addressed new locomotives manufactured in 2002 through 2004. Tier 2 standards were established for new locomotives manufactured in 2005 and later. The Tier 0 and 1 standards were intended to reduce nitrous oxide (NOx) emissions by 33 percent and 50 percent respectively, while preventing increases in other emissions such as particulate matter (PM). Tier 2 standards reduced NOx by 67 percent from pre-control levels and reduced PM by 50 percent.

For the new requirements as of March 2008, the EPA introduced Tier 3 standards to be met by engine design methods for locomotives manufactured in 2012. These standards maintain Tier 2 NOx standards while reducing PM emissions an additional 50 percent. Tier 4 standards, which are expected to require after-treatment technologies, become effective in 2015. Tier 4 standards require a 90 percent reduction in NOx and a 93 percent reduction in PM from uncontrolled levels.

These regulations include new idle reduction requirements for newly built and remanufactured locomotives and adopt provisions to encourage a new generation of clean switcher locomotives based on clean, non-road diesel engine standards. The rule is designed to cut emissions from all types of diesel locomotives including line haul, switcher, and passenger rail.

These diesel emissions standards apply to freight and MBTA locomotives but not to Amtrak, which operates electric locomotives within the state. By their nature, electric locomotives do not generate emissions directly, but they do increase emissions associated with electric generation. It is likely that the electrification of the Northeast Corridor through Rhode Island has decreased emissions. The FRA estimated in 1994 that improvements to the Northeast Corridor, including electrification, would reduce volatile organic compounds (VOC) by 158 pounds per day, nitrous oxides (NOx) by 2,132 pounds per day, and carbon monoxide (CO) by 229 pounds per day by 2010.[9]

In addition, full electrification of the catenary on the FRIP would enable MBTA to run electric multiple unit (EMU) trains on the Providence Line thereby emitting less emissions than the currently employed diesel engine locomotives. Manufacturers are also rolling out a more efficient and affordable EMUs and diesel multiple unit trains (DMUs), which are self-propelled trains that do not rely on locomotive

[9] U.S. Federal Railroad Administration, *The Northeast Corridor Transportation Plan: New York City to Boston, Report to Congress,* Vol. 1, July 1994

engines, making them ideal for short distances and frequent stops. DMUs or EMUs could potentially be employed in Rhode Island if intra-state commuter rail service is expanded south of Providence.

Noise pollution related to railroad operations due to locomotive horns at Rhode Island's 67 grade crossings and other rail operating factors also constitutes an environmental impact. Train horns must be utilized, by law, as trains approach at-grade crossings as a means of warning motorists and pedestrians. Railroad employees also consider noise impacts as their largest occupational health hazard.

The Federal Railroad Administration has provided localities nationwide with the opportunity to establish quiet zones at these crossing locations. A quiet zone is a grade crossing at which trains are prohibited from sounding their horns in order to decrease the noise level for nearby residential communities. Communities wishing to establish quiet zones must equip proposed grade crossings with adequate safety measures to overcome the decrease in safety created by silencing the train horns. The additional safety measures must be constructed at the community's expense and must meet federal specifications.

In addition to the impact of rail transportation on the environment, it is also important to discuss the effect the environment will have on rail transportation. Rhode Island faces increasing extreme weather events, rising tides, and warmer temperatures due to climate change. The Newport Tide Gauge measures a change of over ten inches between 1930 and 2011. The average air temperature in Rhode Island rose 1.7 degrees Fahrenheit during the last century, and is expected to continue to rise at a quicker pace in the coming decades. The 2010 floods and Superstorm Sandy in 2012 provided ample evidence of the destructive power of a stormier, warmer, and wetter future. It will be critical for Rhode Island to limit the vulnerability of its residents, economy, and infrastructure to climate change while advancing efforts to reduce greenhouse gas emissions.

Climate change is expected to impact the state's transportation network and rail is no exception. Flooding is a prime concern to the State, where infrastructure will be exposed to long-term inundation due to sea level rise and short-term inundation due to both increased intensity of storms and increased frequency of rain events. Our coastal rail segments and those located in low-lying areas are vulnerable to flooding.

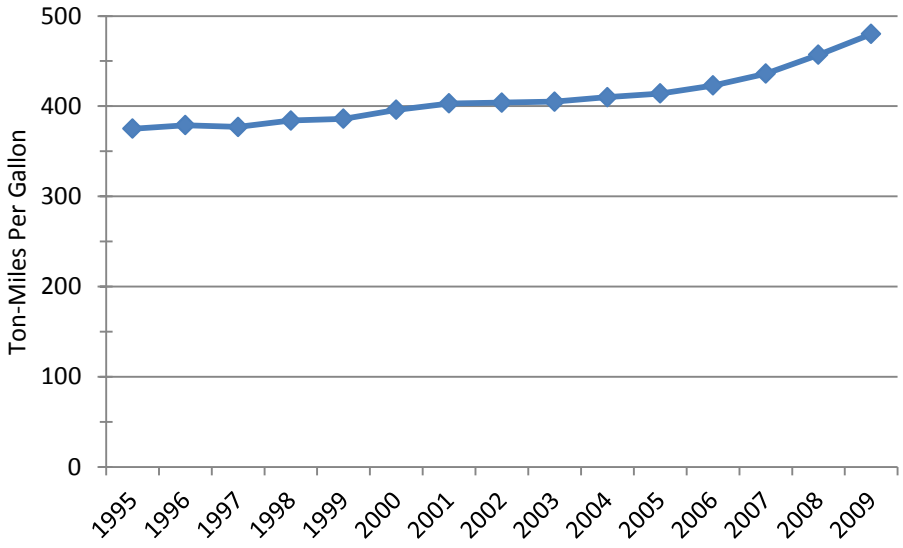
Climate change is especially important to incorporate into rail planning because rail infrastructure is not very flexible. Rail right-of-ways established 150 years ago are still in use. Rail infrastructure is costly to upgrade and in a densely populated state like Rhode Island, it is very difficult and expensive to build from scratch. Decisions made today about rail infrastructure have a lasting impact on the rail system for decades to come. Therefore, it is important to consider how climate change will affect the rail system and determine the wisest course of action for limiting these effects on the rail transportation system in the State.

7.3 ENERGY IMPACTS

Passenger and freight rail reduce fuel consumption within Rhode Island. Rail transportation is relatively fuel efficient compared to highway transportation. Nationally, in 2009 one gallon of fuel moved one ton

of freight by rail 480 miles.[10] By contrast, the Texas Transportation Institute calculated that in 2007 truck freight moved one ton of cargo 155 miles per gallon of fuel.[11] A recent study for the Federal Railroad Administration estimated that the average long haul truck could transport one ton of freight 120 miles per gallon of fuel in 2002.[12] Moving more freight by rail is a straightforward way to meaningfully reduce both energy use and greenhouse gas emissions without harming the economy. Furthermore, the fuel efficiency of rail has steadily improved over time. The rail mode's fuel efficiency superiority over other surface transportation modes is primarily based on the fact that it can move long and heavy loads over steel rails which result in much lower friction, and the resulting loss of energy, than trucks' rubber tires on pavement. Also contributing to their efficiency, trains normally run at steady state speeds with limited inefficiency due to acceleration and low driven wheel traction loading. Figure 7-2 illustrates the average increase in the number of miles a ton of freight moves per gallon of fuel, which has increased from 375 miles in 1995 to 480 miles in 2009, an improvement of about 1.8 percent per year. This rate of improvement compares favorably to improvements in truck fuel efficiency. For example, a recent analysis for the FRA found that annual improvements in fuel efficiency for trucking averaged between 0.76 percent and 1 percent.[13]

Figure 7-2 Number of Miles A Ton of Freight Moves per Gallon of Fuel by Rail, 1995 – 2009



Source: Association of American Railroads

[10] Association of American Railroads, *Railroad Facts, 2010 Edition*
[11] Texas Transportation Institute, *A Modal Comparison of Domestic Freight Transportation Effects on the General Public,* Amended March 2009
[12] ICF International, *Final Report: Comparative Evaluation of Rail and Truck Fuel Efficiency on Competitive Corridors*, November 19, 2009
[13] Ibid.

Passenger rail is also more energy efficient than automobile travel. Estimates by the U.S. Department of Energy show an energy consumption of 2,435 Btu per passenger-mile for intercity passenger rail and 2,812 Btu per passenger-mile for commuter rail, compared to 2,901 Btu per passenger mile for air travel and 3,538 Btu per passenger mile for automobile travel.[14]

Passenger and freight rail help to increase personal mobility and relieve congestion on Rhode Island's roadways, which has positive energy impacts. Rhode Island's 16,000 annual rail carloads would translate to as many as 64,000 truckloads over the state's highways and local roadways. Much of the MBTA commuter rail ridership occurs during peak traffic hours, which could relieve highway congestion. The reduction of truckloads on the State's highway network would not only reduce congestion, but would result in a positive impact to the condition of the roadway and bridge infrastructure. Heavy volumes of trucks hauling freight have an adverse and damaging impact on the State's highways and bridges. By reducing heavy truck volumes and diverting the movement of freight to rail, the impact and damage to roadway pavement and bridges will be reduced with cost savings realized in energy, resources, and redirection of funds to other transportation needs.

7.4 LAND USE IMPACTS

Land use issues associated with rail often concern the compatibility of freight activities with surrounding land uses. Although land use planning authority generally resides with local governments, the State is charged with providing a transportation system that effectively serves the transportation needs of its communities, businesses, industries, and citizens. The coordination of land use planning and transportation planning is necessary to provide an efficient and effective coordinated system.

Rhode Island is unique in the relationship that it maintains between statewide and municipal planning. Rhode Island has a reciprocal system of land use planning whereby the State sets broad goals and policies through State Guide Plan Elements, like the Long Range Transportation Plan, and municipalities express local desires and conditions through the development of community comprehensive plans. These local comprehensive plans serve as the basis for land use regulation and establish an implementation program for achieving each community's stated goals. The local comprehensive plans are reviewed by the State for consistency with the State Guide Plan, and when approved, become binding on State agencies by requiring conformance of their programs and projects to the comprehensive plan. This built in system of coordination is very helpful in trying to coordinate all aspects of planning including economic development, housing and transportation.

Noise and air pollution often concern residents in the vicinity of rail lines and rail yards. Also, high volume rail operations in urban areas can create congestion and safety concerns at grade crossings and can separate neighborhoods. These land use decisions, however, must be balanced with their impact on the rail industry's ability to meet increasing freight and passenger demand in urban areas. One way the

[14] Oak Ridge National Laboratory for the U.S. Department of Energy, *Transportation Energy Data Book, Edition 30*, June 2011.

State is partnering with municipalities to maximize the positive impacts of rail access is through the creation of Transit Oriented Developments (TOD). Well planned TODs can unite a community around mixed-use, pedestrian scale development, which supports seamless intermodal activity in a vibrant and attractive setting. The TODs that are currently in the planning stages within Rhode Island are detailed in Section 7.1.

Chapter 8

Rail Safety & Security

CHAPTER 8 – RAIL SAFETY AND SECURITY

Railroads and public agencies have long emphasized rail safety due to the potential impacts on the general public and the efficiency of rail operations. This emphasis continues and has resulted in a steady decrease of railroad-related fatalities and injuries nationally over the years. The focus on rail security, however, has come about only during the past decade as the possible threat of using the rail system to disrupt transportation in general or harm large numbers of people has made increased security a priority of the industry and of government agencies.

This chapter will describe the state of rail and grade crossing safety, hazardous materials, positive train control, rail security and the Strategic Rail Corridor Network.

8.1 RAIL SAFETY IN RHODE ISLAND

Rail safety requirements are provided through a combination of federal and state laws. Most safety-related rules and regulations fall under the jurisdiction of the Federal Railroad Administration (FRA), as outlined in the Rail Safety Act of 1970 and other legislation such as the recent Rail Safety Improvement Act of 2008.

Rail safety issues generally include train accidents, highway/rail crossing safety, rail safety inspection, and other issues regarding the movement of hazardous materials and the implementation of new technologies. Although the above issues fall under the Federal Railroad Administration's jurisdiction, state agencies have various oversight responsibilities and involvement in efforts to improve the safety of their respective rail networks.

The FRA maintains a database of all accidents and incidents that are associated with railroad transportation, based on monthly reports submitted by rail carriers. As shown in Table 8-1, the total number of fatalities in Rhode Island has remained level while the numbers of injuries and accidents/incidents has declined. This data includes reported accidents by all railroads operating in the state, including the P&W, Seaview RR, Amtrak, MBTA, and the Newport Dinner Train (NPDX).

Table 8-1 Rail-Related Fatalities, Nonfatal Conditions, and Accidents/Incidents within Rhode Island, 2003-2012

Category Total	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Fatalities	1	1	0	2	2	1	3	0	1	1
Nonfatal Conditions (Injuries)	29	22	13	18	12	16	6	17	17	18
Accidents/Incidents	33	30	15	21	15	19	12	19	21	21

Source: FRA Office of Safety Analysis

Total rail train accidents and incidents are the sum of train accidents and grade crossing incidents occurring in Rhode Island and reported to the FRA. There is no direct correlation between the number of

fatalities and injuries to the total number of accidents and incidents, as a reported accident or incident may not involve a fatality or injury.

Table 8-2 below distinguishes between the types of train-related accidents and incidents occurring in Rhode Island. Train accidents include derailments, collisions, and any accident involving railroad employees or trespassers that occurs on railroad property and results in fatalities, injuries or property damage which exceeds a reporting threshold dollar figure established by FRA for that year. A highway-rail incident is considered to be "any impact between a rail and a highway user at a crossing site, regardless of severity." Other incidents are "events other than train accidents or crossing incidents that caused a death or nonfatal condition to any person." Most accidents and incidents fall into the "Other" category and are associated with on-duty passenger rail employees. These are caused by a variety of factors, such as employees slipping and falling, overexertion, noise, and employees struck by equipment or objects.

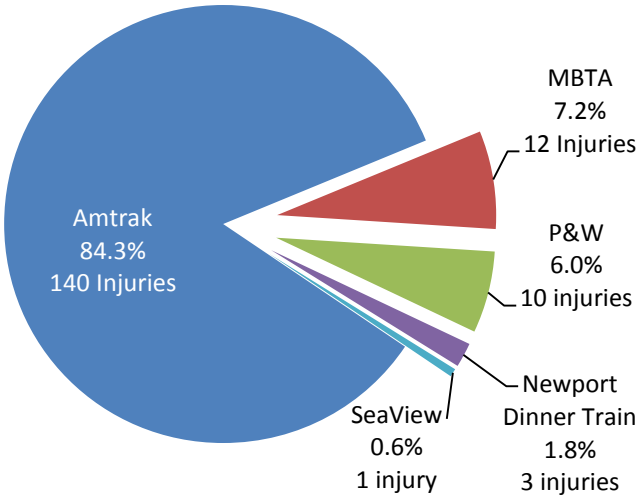
Table 8-2 Rail-Related Accidents/Incidents within Rhode Island by Type, 2003-2012

Category Total	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Train Accidents	1	8	1	3	1	5	3	2	3	2
Highway-Rail Incidents	2	0	1	0	0	0	0	0	1	0
Other Accidents/Incidents	30	22	13	18	14	14	9	17	17	19
Total Accidents/Incidents	33	30	15	21	15	19	12	19	21	21

Source: FRA Office of Safety Analysis

As shown in Figure 8-1, Amtrak trains have accounted for the largest share of injuries in Rhode Island over the past decade.

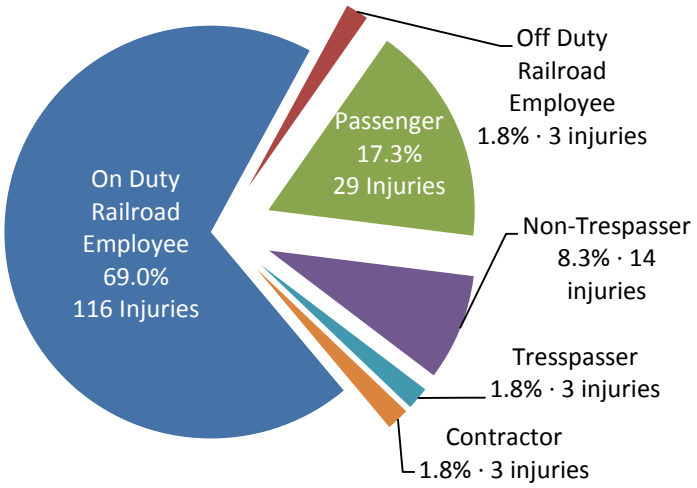
Figure 8-1 Rail-Related Injuries in Rhode Island by Railroad Operator: 2003- 2012



Source: FRA Office of Safety Analysis

As shown in Figure 8-2, the majority of injuries are to on-duty railroad employees, followed by passengers.

Figure 8-2 Rail-Related Injuries in Rhode Island by Type of Person: 2003 – 2012



Source: FRA Office of Safety Analysis

Twelve rail-related fatalities have occurred in Rhode Island over the past decade. Of these fatalities, ten were associated with trespassers struck by trains on the Northeast Corridor. The remaining fatalities involved a contractor and a non-trespasser struck by trains on the Northeast Corridor.

The Federal Railroad Administration enforces national regulations and standards which apply to track, signal, train control, motive power, equipment, operating practices, and hazardous materials. The Rail Safety Act of 1970 authorized states to work with FRA to enforce railroad regulations at their expense. Certified FRA rail inspectors carry out inspections of all aspects of rail operations. States have the option of supplementing federal inspections with their own federally certified inspectors at their own expense. Rhode Island does not its own federally certified inspectors.

8.2 GRADE CROSSING SAFETY IN RHODE ISLAND

Nationally, the aspect of rail safety most visible to the public is generally the interface between the rail and highway systems at grade crossings. Rhode Island has relatively few public at-grade crossings, with a total of 67 crossings. Rhode Island also has fewer at-grade crossings per mile of highway (comprising all types of public roadways) with approximately one crossing per hundred miles of highway versus the national average of 3.4 crossings per hundred miles of highway. Rhode Island's low level of rail and highway system crossings is largely due to the fact that Amtrak's Northeast Corridor rail line is completely grade separated. This also contributes to the state's low rate of grade crossing incidents and casualties, when compared against the national average.

8.2.1 RHODE ISLAND'S GRADE CROSSING SYSTEM AND SAFETY STATISTICS

Rhode Island's public at-grade crossings are equipped with a variety of typical grade crossing warning devices as shown in Table 8-3.

Table 8-3 Warning Devices Available at Rhode Island's At-Grade Crossings

	No Warning Devices	Cross Bucks Only	Special Warning Devices	Highway Signals, Bells	Flashing Lights	Gates	Total Devices
Public At-Grade Crossing	6	4	9	17	15	16	61

Source: RIDOT

Cross bucks and special warning devices, which entail traffic control devices that are not train activated such as crossings being flagged by a member of the train crew, are considered passive warning devices. Active traffic control devices, comprised of signals, lights, and gates, are activated by an approaching train and provide a greater level of warning to highway drivers.

Four rail crossing incidents have occurred in Rhode Island over the past decade, three of which occurred at public crossings. No fatalities and one injury, which occurred at a private crossing, resulted from these incidents.

8.2.2 RHODE ISLAND'S GRADE CROSSING IMPROVEMENT PROGRAM

Rhode Island's Grade Crossing Improvement Program is administered by the Intermodal Planning Division of RIDOT and funded through the state's Traffic Safety Program with federal Highway Safety Improvement Program (HSIP) funds. Rhode Island allots approximately $1.1 million annually to two grade crossing improvement categories – grade crossing surface projects and grade crossing signal projects.

RIDOT maintains an internal grade crossing improvement plan to guide their program decision making. The prioritize projects in the grade crossing improvement plan, which is updated approximately every 2 years, RIDOT coordinates with the rail freight carriers to identify potential projects, conduct site visits, and assess and prioritizes crossings on the basis of traffic volumes, accident reports, and increased business and other activity in the vicinity of the crossing. Based on available funding, RIDOT authorizes approximately two grade crossing improvement projects annually for funding.

8.3 HAZARDOUS MATERIALS

Federal common carrier obligations mandate that railroads are required to transport hazardous materials. The U.S. Department of Transportation received the authority to regulate the transportation of hazardous materials through the Hazardous Materials Act. Federal hazardous material regulations

apply to all interstate, intrastate, and foreign carriers by rail, air, motor vehicle, and vessel. Hazardous materials carried by rail within Rhode Island are generally comprised of chemicals and liquid fuel.

At the state level, the Rhode Island Department of Environmental Management (RIDEM) oversees the registration and regulation of transporters of hazardous waste. RIDEM emergency responders are trained to handle and limit the risks of any hazardous material releases and work with responsible parties, including railroads, to assess, contain, and remediate environmental incidents.

In the past decade, only one rail hazardous material incident in Rhode Island has been reported to FRA. In 2004, a collision involving a hazardous material rail car in the Valley Falls Yard was reported but no hazardous materials were released.

As noted earlier, potential solutions to lift the current restriction of freight trains carrying hazardous materials through the Providence Station while passengers occupy the platforms are being considered by RIDOT, Amtrak, and the Providence Fire Department.

P&W Railroad, a common carrier of hazardous materials, has developed a Hazardous Material Security Plan in compliance with applicable federal hazardous materials regulations and employee training requirements. P&W's Hazardous Material Security Plan has been reviewed and accepted by the FRA and the Transportation Security Administration (TSA). The Plan is intended to accurately assess potential security risks regarding the transportation of certain hazardous commodities and ensure the continued safe and secure transportation of these materials by rail. In the event of an emergency, local and state public safety departments are typically the first to respond. P& W Railroad also maintains emergency response contacts with various entities, including environmental and hazardous response organizations, to provide timely responses to critical incidents.

8.4 POSITIVE TRAIN CONTROL

Positive train control (PTC) refers to technologies designed to automatically stop or slow a train before certain accidents occur. PTC is designed to prevent collisions between trains and derailments caused by excessive speed, incursions by trains on tracks under repair, and by trains moving over switches left in the wrong position. PTC systems are designed to determine the location and speed of trains, warn train operators of potential problems, and take action if operators do not respond to a warning.

The Rail Safety Improvement Act of 2008 required railroads to place PTC systems in service by December 31, 2015 under the following circumstances:

- On all rail mainlines over which regularly-scheduled commuter or intercity passenger trains operate
- On all Class I railroad mainlines with over 5 million gross ton miles per mile annually over which any amount of toxic/poison-by-inhalation hazardous material is handled

The mandate for positive train control excludes all Class II and III railroads regardless of tonnage or number of toxic/poison cars handled if no passenger trains travel over the lines.

Under these conditions, all rail operators, including the P&W, would need to be equipped with positive train control for operations over the Northeast Corridor line. Operations over P&W's mainline, however, would not require positive train control technology. As the rail industry has shown significant concern over the cost of implementing this technology within the period of time specified, discussion on this issue is sure to continue.

8.5 RAIL SECURITY

The primary agencies responsible for security related to transportation modes in Rhode Island are the U.S. Department of Homeland Security and the Rhode Island Emergency Management Agency. These agencies have addressed transportation security largely through identifying critical infrastructure assets, developing protection strategies for these assets, and developing emergency management plans.

The Department of Homeland Security addresses rail system security through the following means:

- Training and deploying manpower and assets for high risk areas
- Developing and testing new security technologies
- Performing security assessments of systems across the country
- Providing funding to state and local partners

The Department of Homeland Security provides security grants to rail freight carriers and mass transit and rail passenger systems.

The Association of American Railroads, working with Homeland Security and other federal agencies, has organized the Rail Security Task Force. This task force developed a comprehensive risk analysis and security plan for the rail system that includes:

- A database of critical railroad assets
- Assessments of railroad vulnerabilities
- Analysis of the terrorism threat
- Calculation of risks and identification of countermeasures

The railroad sector maintains communications with the U.S. Department of Defense, the U.S. Department of Homeland Security, the U.S. Department of Transportation, the Federal Bureau of Investigation, and state and local law enforcement agencies on all aspects of rail security.

The lead state agency for rail security is the Rhode Island Emergency Management Agency (RIEMA). RIEMA is the coordinating agency for multi-jurisdictional and multi-agency response in the state for all emergencies. Responsibilities include:

- Developing, reviewing, and enhancing the state's disaster preparedness and recovery plans for all hazards

- Operating, maintaining, and enhancing the state's Emergency Operations Center and Mobile Command Center
- Serving as the state's liaison to the U.S. Department of Homeland Security
- Planning and conducting exercises that test and improve preparedness

As a railroad operator transporting hazardous materials, P&W Railroad has developed a plan implementing guidelines and instructions that govern the attendance and securement of trains carrying certain hazardous materials in accordance with the requirements of FRA Emergency Order No. 28 (Vol. 28, No. 152, Page 48218 (August 7, 2013)). P&W's plan to comply with FRA Emergency Order No. 28 took effect on September 1, 2013 and was recently reviewed by the FRA as part of P&W's overall Hazardous Material Security Plan. As a result, P&W trains containing hazardous materials cannot be left unattended until the operator has developed a process for the securement of unattended trains or vehicles transporting hazardous materials.

8.6 STRATEGIC RAIL CORRIDOR NETWORK

The U.S. Military Surface Deployment and Distribution Command's Transportation Engineering Agency has identified the national Strategic Rail Corridor Network (STRACNET). STRACNET is comprised of a 32,000 mile interconnected network of rail corridors and associated connector lines most important to national defense. No rail lines within Rhode Island are currently on the STRACNET system.

Chapter 9

Implementation Program

CHAPTER 9 – IMPLEMENTATION PROGRAM

This Chapter will present the vision for rail in Rhode Island, a summary of the needs presented in the previous chapters, goals, objectives, policies, implementation actions, and performance measures for the 2013 Rhode Island State Rail Plan, and a program of projects that the State will strive to undertake in the short and long term to implement the rail vision. All information, which is closely aligned with *Transportation 2035*, the State's Long Range Transportation Plan, will be presented within the framework of the goals outlined in MAP-21, Moving Ahead for Progress in the 21st Century, the current Federal transportation funding bill. More information on the MAP-21 goals can be found in Section 1.4.

The State Rail Plan Advisory Committee meetings provided important insights for developing a rail vision for Rhode Island. Understanding the desired role of the rail system in Rhode Island and how that rail system should perform in the future led to the development of the goals, objectives, policies, implementation actions and performance measures, as well as the program of projects, outlined below.

9.1 VISION

The rail philosophy as articulated in the 1993 Freight Rail Plan is:

1. *To provide for the continued (and improved) availability of rail freight service adequate to service existing industry; to attract new industry and jobs; to serve extractive industries; and to deliver finished goods, foodstuffs, and other commodities to the state's citizens in a manner most appropriate under present and future economic, energy, and environmental conditions; and*
2. *To provide for the continued and improved availability of rail passenger service to the state's citizens and to businesses that are located in (or may decide to locate in) Rhode Island, where such rail passenger travel is appropriate under present and future economic, energy, and environmental conditions.*

The vision statement from *Transportation 2035* states:

> *Our common vision recognizes transportation as a core function that threads through other elements of society. Transportation connects the state with the global and regional economies, the home with the workplace, the individual with the community, and all of us with one another. It must equitably benefit all communities, and must be reconciled with quality of life issues as vital as the air we breathe, the water we drink, and the preservation of our national and historic heritage and beauty of the natural and built environments. It cannot exist independently of these concerns.*

The vision statement for the 2013 Rhode Island State Rail Plan incorporates elements of *Transportation 2035* and reflects the evolving role that freight and passenger rail play in the state's future. The vision statement describes the desired future:

The Rhode Island rail system provides safe, reliable, efficient, and effective mobility for people and goods. It contributes to a more balanced transportation system, contributes to economic development, and enhances environmental quality. It efficiently links Rhode Island passengers and goods to national and global markets to cost effectively meet freight and passenger market demands.

9.2 PASSENGER AND FREIGHT RAIL NEEDS ASSESSMENT

To identify potential passenger and freight rail projects, an assessment of rail needs was conducted as a part of the State Rail Plan process. Additional detail on these needs is included in the previous chapters of the State Rail Plan. Table 9-1 categorizes these needs according to MAP-21 goal and incorporates potential project based solutions, which are further detailed later in this chapter in Table 9-2, Short Range Investment Program and Table 9-3, Long Range Investment Program.

Table 9-1, Passenger and Freight Rail Needs Assessment

Identified Issues	Potential Solutions
Safety & Security	
Freight trains carrying hazardous materials through Providence Station are restricted when passenger trains are in the station	Providence Station & Tunnel Configuration Improvements
Several at grade crossings are in need of safety improvements	Grade Crossing Rehabilitation - Newport, Poplar and Elm Streets
	Grade Crossing Rehabilitation - Newport, Admiral Kalbus Road
	Grade Crossing Rehabilitation – East Providence, Pawtucket Avenue
	Grade Crossing Rehabilitation – Portsmouth, Stringham Road
Infrastructure Condition	
Next generation auto rack freight cars require increased clearance heights of 21' 6"	Increase the clearances on bridge structures in Rhode Island to 21' 6"
P&W bridges over Blackstone River in Massachusetts do not accommodate 286,000 lbs. weights; this negatively impacts rail service to RI shippers	Work with the Massachusetts Department of Transportation to replace the five (5) bridges that do not accommodate 286,000 lb. weights
Improvements to exterior and pedestrian access areas at stations are necessary	Providence Station - Exterior Improvements including ADA facilities, bus facility connections, and landscaping
	South Attleboro, MA Station - Replacement of deteriorated stairways and pedestrian bridge over NEC at popular MBTA station, located in MA, just over RI Stateline. Project includes bus facilities for intermodal connections for bus service from RI and Attleboro, MA area.
System Reliability	
New stations and service options are needed to attract new ridership	Continue to investigate the feasibility and ridership of a new station and service in Pawtucket
	Study the feasibility and ridership potential of new stations and service, including shuttle service south of Providence
	Study the feasibility and ridership potential of new stations and service on Aquidneck Island
	Study the feasibility and ridership potential of new stations and service in the Blackstone Valley
	Continuously review other statewide rail corridors to assess the feasibility of new transit services including Providence-East Providence, Providence-Cranston, Providence-Worcester, MA, & Newport-Fall River, MA
Additional passenger service to TF Green Airport	Investigate the feasibility of establishing an Amtrak passenger stop at TF Green
Enhance lay over and maintenance capabilities for MBTA	Pawtucket Layover Facility Improvements including construction of inspection pits, structures to carry the lines to a sanding facility, the installation of fueling and sanding facility, and open air building.
	Quonset Maintenance/Layover Facility

Identified Issues	Potential Solutions
Congestion Reduction	
Freight trains operating on Amtrak tracks between Central Falls and Quonset are limited to windows between passenger rail	Initiate a study to investigate the feasibility and costs of adding a third track along the Northeast Corridor to increase the operational flexibility of commuter and freight rail service
Improvements to increase capacity and reduce Amtrak train travel time by allowing trains to pass slower-speed trains (including those stopped at Kingston Station) at high speeds.	Kingston Station Area Track & Capacity Improvements
Economic Vitality	
Greater access and better efficiency for freight rail cars at Port of Providence	Port of Providence Internal Rail lines
	Car unloading system at Port of Providence
Greater access and better efficiency for freight rail cars at the Quonset Business Park	Seaview railroad sidings in the Quonset Business Park
	Quonset Business Park Northeast Corridor Turnout
Look for opportunities to use new or expanded rail service to spur economic development	Providence Streetcar, Additional commuter rail stations as feasible
	Freight Service on Newport Secondary Track
Transit Oriented Development (TOD) concepts should to be implemented in areas with existing commuter rail stations	Partner with North Kingstown to develop TOD plans and implementation strategies for the area surrounding Wickford Junction
	Partner with Warwick to implement TOD plans and identified strategies for the area surrounding the Interlink
It is important to be proactive in assessing TOD potential when considering new stations and service	Partner with the City of Providence to assess the TOD potential for the area adjacent to the proposed core connector
	Partner with the City of Pawtucket to assess the TOD potential for the area adjacent to any proposed new rail station
Environmental Sustainability	
MBTA and freight locomotives operate diesel fuel; Amtrak operates electric locomotives	Continue to cooperate with MBTA in any initiatives to convert to electric locomotives, diesel multiple units (DMUs), and electric multiple units (EMUs)

9.3 GOALS, OBJECTIVES, POLICIES, AND IMPLEMENTATION ACTIONS

Based upon the vision previously described, the goals articulated in the *1993 State Freight Rail Plan* and in *Transportation 2035*, and the needs assessment outlined above, the proposed goals, objectives, policies, implementation actions and performance measures are outlined below. Goals, objectives, policies, and implementation actions are defined according to the following:

- Goals: The end or ideal that is desired; a state or value toward which an effort is directed even though it may not be perfectly attainable. Goal statements are broad in scope and long-term in nature but should not be vague.
- Objectives: Like a goal, an objective is an end toward which an effort is directed. An objective, however, should be measurable and attainable. Objectives are stated in more narrow and specific terms than goals and may be set within definite time periods and establish performance measures.
- Policies: Policies are intended to guide decisions and courses of action toward implementing a plan. Policies are not an endpoint but set forth the acceptable and recommended procedures for attaining goals and objectives.
- Implementation Action: A specific action suggested as a recommendation that will further the advancement toward a goal or objective.
- Performance Measure: A metric for assessing progress toward achieving goals. Performance measures can be quantitative or qualitative targets tied to specific implementation actions or overall goals.

1. SAFETY AND SECURITY

GOAL

The rail system will be a safe and secure means of transporting people and goods.

OBJECTIVES

1. Reduce fatalities and serious injuries on the overall rail system.
2. Increase passenger safety.
3. Reduce illegal trespassing and enhance security of rail rights-of-way.
4. Improve security of rail passengers on railcars and at stations consistent with federal policy.

POLICIES

1. Support educational efforts directed toward all population groups regarding the safe use of the rail system.

IMPLEMENTATION ACTIONS

1. Continue RIDOT's program to eliminate or improve at-grade rail crossings.
2. Partner with rail owners/operators to examine safety and security issues around the rail system and develop an action plan to address the issues.
3. Partner with the law enforcement community to identify and prioritize enforcement security measures to reduce injuries and deaths from rail trespassing.
4. Partner with passenger rail operators to provide educational materials regarding rider safety at rail stations, on trains and, as appropriate, in public schools.
5. Partner with rail operators to expand and enhance existing positive train control technology in the state and encourage rail operators to implement new technology in the future.
6. Develop an incident response protocol for train derailments and other rail related incidents.
7. Work with rail right of way owners to install protective barriers between operating rail lines and public access points, especially in locations with previous incidents reported.
8. Support the Operation Lifesaver program to help educate schools, drivers, and the general public about the dangers of trespassing on the rail right-of-way.
9. Continue the efforts of Amtrak, RIDOT and others to increase ADA accessibility.
10. Develop a Transit Safety Plan as required by MAP-21.

PERFORMANCE MEASURES

1. Reduce the 5-year rolling average of serious injuries and fatalities throughout rail operations by 4 percent annually. The 4 percent represents the Toward Zero fatalities goal to halve serious injuries and fatalities by 2030 as adopted by the RI Strategic Highway Safety Plan.
2. Reduce the 5-year rolling average of grade-crossing serious injuries and fatalities by 50% by 2030.

2. INFRASTRUCTURE CONDITION

GOAL

The rail system will efficiently serve the long-term needs of Rhode Island businesses and residents.

OBJECTIVES

1. Maintain rail infrastructure in a state of good repair.
2. Improve or enhance infrastructure, service, and capacity in the regional rail network, particularly those measures which increase bridge clearances, remove weight restrictions, increase yard capacity, and increase track capacity.
3. Improve user comfort, convenience, and information at rail stations and on railcars.

POLICIES

1. Preserve rail rights-of-way for rail use or to use as part of the overall transportation network.

2. Ensure that the maintenance and expansion of the rail system and facilities are adequately and reliably funded.
3. Support programs to increase investment in Rhode Island's rail system, including public-private partnerships that result in rail system enhancement.
4. Support regional projects that remedy clearance and weight restrictions affecting freight movements in and out of Rhode Island.

IMPLEMENTATION ACTIONS

1. Develop a Transit Asset Management Plan to assist in programming capital and state of good repair improvements for the rail system and station facilities as required by MAP-21.
2. Continue participation in the congressionally mandated Northeast Corridor Infrastructure and Operations Commission, which establishes Northeast Corridor priority capital projects and user cost allocation methodology.
3. Develop a mechanism to fund the routine and long-term maintenance of RIDOT rail stations, including landscaping, cleaning, and improved pedestrian accessibility.
4. Continue to improve on station amenities including convenient drop off and pick up areas for passengers, cars, and bus~~s~~es, self-service ticket kiosks, canopies to protect riders, real time train information, secure bike parking, and security cameras and emergency phones.
~~4.~~5. Incorporate a commuter rail component into the Rhode Island Travel Demand Model for more accurate ridership projections for proposed commuter rail stations.

PERFORMANCE MEASURES

1. Reduction in the bridges in Rhode Island that do not meet the clearance of 21 feet, 6 inches to accommodate the next generation of auto racks.
2. Reduction in the 5 bridges in Massachusetts that cannot accommodate 286,000 lb. rail cars.
3. Implement recommended improvements to rail facilities, including rail stations, as outlined in the Transit Asset Management Plan.

3. SYSTEM RELIABILITY

GOAL

The rail system will provide for the effective and efficient mobility of goods and people as an element of an integrated multi-modal transportation system.

OBJECTIVES

1. Balance multimodal passenger service alternatives with reliable freight service.
2. Increase speed and on-time performance of freight and passenger service.

POLICIES

1. Promote seamless connections between rail and other modes of transportation.
2. Support initiatives to increase reliable and timely access to passenger commuter rail service, including connections to complementary rail service in ~~neighboring states~~Massachusetts and Connecticut.
3. Consider new stations and expanded service options to encourage new ridership.
4. Promote more efficient utilization of shared freight and passenger rail lines to improve reliability.
5. Ensure that the operation of the rail system is adequately and reliably funded.
6. Explore the feasibility of public financing options, including value capture, when considering system expansion and new stations.

IMPLEMENTATION ACTIONS

1. Regularly meet with MBTA and future alternate operators to review system operation and discuss opportunities for increased reliable and timely commuter rail service.
2. Work together with all transit operators in the State to look for ways to create an integrated fare system.
3. Lead a group of relevant stakeholders in state government and quasi-public agencies to review the long-term needs of commuter rail operations. The group should make recommendations for a transportation organizational structure that coordinates the ongoing planning, marketing, and operation of existing and future commuter rail and ensures that any future expansion meets customer demand.
4. Work with the Northeast Corridor Commission to establish reasonable access fees, freight charges, and projects on Amtrak's Northeast Corridor.
5. Coordinate with passenger rail providers and track owners to identify opportunities for freight rail access, in order to improve freight reliability.

PERFORMANCE MEASURES

1. Increase the number of riders on commuter rail service by 2 percent per year.
2. Improve on-time performance of MBTA commuter rail service to 95%.
3. Improve on-time performance of Amtrak Acela service to 90%
4. Improve on-time performance of Amtrak Northeast Regional service to 85%
5. Improve on-time performance of freight service by 10 percent by 2023.
6. Establish MBTA weekend service south of Providence.
7. Increase the number of peak hour commuter trains serving Rhode Island stations.

4. CONGESTION REDUCTION

GOAL

The rail system will provide a vital transportation mode that accommodates travel and commerce and reduces congestion within the overall transportation system.

OBJECTIVES

1. Reduce vehicular (passenger) or truck (freight) miles traveled.
2. Improve overall traffic flow in Rhode Island's transportation network.
3. Increase capacity along congested rail routes.

POLICIES

1. Encourage the use of passenger and freight rail to reduce roadway congestion, energy use, and greenhouse gas emissions.
2. Promote commuter rail service as a commuting option.
3. Support initiatives that will relieve operational conflicts along congested rail lines.

IMPLEMENTATION ACTIONS

1. Identify operational conflicts and bottlenecks on shared use tracks and work closely with freight and passenger operators to eliminate them.
2. Partner with employers to create incentives for workers to use commuter rail.
3. Use electronic highway signage to promote commuter rail service.
4. Work with freight rail operators to develop a system to track freight service delays.

PERFORMANCE MEASURES

1. Compare travel time index of highway travel time and commuter rail travel time between origination commuter rail station points.

5. ECONOMIC VITALITY

GOAL 5A

The rail system will support a vigorous economy by facilitating the movement of people and freight within Rhode Island and the region.

GOAL 5B

Maintain a well-integrated and sustainable rail system that operates as an integral and coordinated component of the multimodal transportation system and has the supporting land use designations that provide access to intermodal facilities and to compact, mixed use centers to accommodate Rhode Island's growing population and economy.

OBJECTIVES

1. Move people and goods efficiently to, from, and within Rhode Island.
2. Increase opportunities for economic development adjacent to rail service.
3. Become a catalyst for smart growth community planning by providing for multi-modal connections and transportation mode choices, enabling transit oriented development, and fostering economic growth opportunities.
4. Reduce transportation costs and increase access to raw materials, good, services, and world markets as a means for increasing Rhode Island's competitiveness in the region.

POLICIES

1. Provide rail options that meet the needs of employers, employees, visitors, students, and residents.
2. Support economic development opportunities and appropriate land use designations for parcels adjacent to freight rail that maximize the use of the rail connection for production and goods movement.
3. Encourage rail investments that support the creation and retention of high quality jobs and the generation of additional tax revenues.
4. Utilize rail investments to support community economic development, including downtown and village revitalization, tourism, and the creation of new, appropriately scaled growth centers.
5. Encourage state agencies and local governments to coordinate rail transportation, land use, and economic development planning.
6. Encourage the use of creative land use tools, like Transfer of Development Rights, as a means of implementing Transit Oriented Development.

IMPLEMENTATION ACTIONS

1. Partner with Rhode Island Commerce Corporation to develop ways to market Rhode Island's rail system as a means of attracting new businesses and jobs to the State.
2. Work with local communities to encourage transit oriented development (TOD) planning and zoning early the process of planning new rail stations and at existing stations.
3. Research successful models of public/private partnerships related to TOD.
4. Survey and engage freight rail operators and businesses that import and export goods and materials to understand their needs related to rail shipping including barriers, costs, inefficiencies, and other limitations.
5. As part of the comprehensive planning process, encourage municipalities to consult with freight operators, warehouses, and/or distribution facilities on opportunities for freight industry related growth along the freight rail lines.
6. Explore possible incentives for businesses to locate within designated TOD areas.
7. Explore opportunities to assist freight railroad providers with siding implementation.
8. Complete a Freight and Good Movements Plan for the State of Rhode Island.

PERFORMANCE MEASURES

1. Increase the number of rail served businesses in the state over the next 5 years.
2. Increase the number of local comprehensive plans that address the connection between rail access and land use.

6. ENVIRONMENTAL SUSTAINABILITY

GOAL

The rail system will protect and enhance the quality of the State's environmental resources and the livability of its communities through well-designed rail projects and operations.

OBJECTIVES

1. Better quantify and market the positive environmental impacts of rail based development and transportation.

POLICIES

1. Avoid degradation of existing environmental resources, including air quality and water quality, when considering new or expanded rail service.
2. Carefully weigh the impacts of the rail system on neighborhoods and residents as service or infrastructure expansion is considered.
3. Consider the effects of climate change when planning for rail facilities including sea level rise, riverine flooding, and increased storm intensity and frequency.

IMPLEMENTATION ACTIONS

1. In partnership with operators, pursue funding for low emissions locomotives and other technology to reduce locomotive idling for operators that do not currently have this equipment.
2. Identify specific rail infrastructure likely to be impacted by climate change and sea level rise, assess the vulnerability of the facilities, and prioritize long term adaptation strategies for addressing these impacts.
3. Actively pursue the input of local municipalities when studying the feasibility of rail system expansion.

PERFORMANCE MEASURES

1. Continue to meet the air quality standards of the Federal Clean Air Act.

9.4 RAIL INVESTMENT PROGRAM

To complete the Implementation Program, the State has also identified and evaluated specific project-based passenger and freight rail investments needed to achieve the State's vision for rail service in the future.

9.4.1 PRIIA REQUIREMENTS

The federal Passenger Rail Investment and Improvement Act of 2008 (PRIIA) requires state rail plans to include a Rail Investment Program, which includes a short range list of capital projects supported or under consideration for advancement by the state within the next five years and a long range list of rail capital projects under consideration for advancement within the next 6 to 20 years. The proposed short and long range Rail Investment Programs are required to include a project title, short project description, the needs or benefits addressed by the project, estimated total capital costs, and a proposed funding source if such has been determined.

The investment program of projects in this chapter contains projects that have been evaluated with regard to transportation and other benefits. Projects were evaluated using the project evaluation process described in detail below. Based on that evaluation, projects were given higher or lower priority. The short range and long range program of projects may change over time as additional projects are proposed and evaluated and new funding sources are made available. Project priorities may also change over time as needs and conditions evolve.

9.4.2 PROJECT EVALUATION PROCESS

As part of the state rail plan development process, the Rhode Island Statewide Planning Program and the Rhode Island Department of Transportation, in conjunction with the Rail Advisory Committee developed project evaluation criteria for scoring individual rail projects. These evaluation criteria are built around Rhode Island's goals and priorities for passenger and freight rail and correspond with the goals of MAP-21. A copy of the evaluation criteria can be found in Appendix B.

The projects currently under consideration as a part of this rail plan vary widely in the level of data available and analysis conducted. Therefore, the evaluation process that was undertaken is for policy and planning purposes only, and not actual allocation of resources. For projects to move forward into full construction, they will be further evaluated and selected for inclusion in the Transportation Improvement Program (TIP) as more detailed project information becomes available. In addition, the cost estimates were derived based upon the best available information at this time and are not intended to prescribe absolute funding amounts for their execution and/or completion.

Passenger and freight rail projects have separate evaluation criteria. In some instances where projects provide improvements and benefits to both passenger and freight services, projects receive a score from

both sets of criteria. The criteria are consistent with the goals of MAP-21, the most recent federal transportation authorization legislation, AASHTO's *State Rail Planning Best Practices*, and the State of Rhode Island's Long Range Transportation Plan, *Transportation 2035*. The major evaluation categories, along with a description of the rail passenger and freight criteria considered within each, are as follows:

- **Safety –** This category considers the project's impact on the safety and security of rail operations in the state. Both passenger and freight projects are scored on whether the project corrects a significant safety or security problem, improves highway-rail crossing safety, and contributes to passenger or rail employee safety.
- **Infrastructure Condition –** This category considers the project's contribution to the long term preservation of the state's rail system and its impact on the physical condition and future operating and maintenance cost responsibilities of the railroad. For rail passenger projects improved user comfort, convenience, or information is also considered.
- **System Reliability –** This category considers the project's ability to enhance connectivity to the national or regional rail network, and evaluates the operational improvements resulting from the project.

  For passenger projects, emphasis is placed on the potential to enhance multimodal service alternatives and complement existing transit service. The potential for increased speed, decreased overall transit time, improved on-time performance, and effectiveness in attracting new riders is also considered.

  Freight projects are also evaluated on their ability to enhance connectivity to ports and intermodal facilities and increase operating speed and on-time performance.
- **Congestion Reduction –** This category includes criteria to evaluate a project's potential effectiveness in relieving highway or rail congestion and increasing the capacity to carry additional rail passengers or freight. Specific evaluation criteria include the project's potential to reduce auto or truck vehicle miles of travel, improve overall transportation traffic flow, and, for passenger projects, to increase capacity on congested transit routes.
- **Economic Vitality –** This category addresses the project's potential to contribute to the state's economy through a number of factors. Common criteria for passenger and freight projects include whether the project lies within a state-designated enterprise zone, results in direct or indirect job creation, increases state or local tax revenue, and has the potential to spur new investment or redevelopment within one-quarter mile of the project.

  Passenger project criteria also include whether adequate population density exists within one-quarter mile of the project, and if the project encourages tourism in the state. Freight project criteria include the project's potential to increase the number of carloads of freight handled, whether it contributes to increasing rail vertical clearances to 21 feet 6 inches to accommodate double stack container trains, or if it increases the weight capacity of a rail line to 286,000 lbs. to accommodate modern rail car loading.

- **Environmental Sustainability –** This category includes criteria that evaluate the socio-environmental impacts of the project. These criteria include whether the project improves air quality, minimizes environmental impacts, minimizes social impacts and impacts to neighborhoods and supports environmental justice populations.
- **Financial Feasibility and Public Support** – This category includes criteria that evaluate the cost-effectiveness, cost-sharing, and funding availability of proposed projects, as well as support from various levels of government and the public. Criteria include right-of-way availability and risk minimization, demonstration of funding support from federal, state, local, and private sources or partnerships, the project's inclusion in the state's long range transportation plan, other state guide plan elements, and/or local comprehensive plans.

  The criteria for rail passenger projects also includes an evaluation of whether the project's cost per passenger and fare box recovery rate meet regional system averages, and if the project has the commitment of adjacent transit providers.

Projects that will have positive impacts to both passenger and freight rail scored the highest. Those projects include preliminary engineering and environmental analysis of the Providence Station and Tunnel to address operational and safety concerns regarding the movement of hazardous materials and a planning level analysis of adding a third track from TF Green Airport south to add capacity to accommodate commuter rail and freight rail movements. The highest scoring passenger projects include preliminary engineering and environmental analysis of the Providence Street Car project, planning level analysis of added Amtrak intercity service at the Warwick Interlink, final engineering design and construction of exterior improvements at the Providence Station and preliminary engineering and environmental analysis of the proposed Pawtucket commuter rail station. The highest scoring freight projects include final engineering design and construction of five (5) bridges over the Blackstone River in Massachusetts to accommodate 286,000 pound rail cars, preliminary engineering and environmental analysis of new sidings for the Seaview Railroad in the Quonset Business Park, preliminary engineering and environmental analysis of bridge structures in Rhode Island to increase the vertical clearance to 21' 6", and construction of internal rail lines within the Port of Providence. More detail on these projects is provided in Table 9-2 Short Range Investment Program and Table 9-3 Long Range Investment Program.

This scoring will help prioritize which projects the State will move into the next phase of development appropriate for that specific project. Moving into the next phase of development does not guarantee project construction. The following short range and long range investment programs divides projects into four project development phases which are outlined below:

- **Planning Level Analysis –** These projects are in conceptual development and need significant analysis and detail to ascertain whether the project is feasible from a financial, ridership, geographical or operational standpoint. Projects in this phase are not guaranteed to advance into construction.

- **Preliminary Engineering/Environmental Analysis** – These projects are further advancing previous planning analysis into conceptual design, up to 30% engineering plans. This phase also includes National Environmental Policy Act (NEPA) documentation and approval. Projects in this phase are not guaranteed to advance into construction.
- **Final Engineering Design** – These projects advance from 30% engineering plans to 100% engineering plans. During this phase, projects will complete all required permitting, have full cost estimates, and be ready for advertising to advance to construction.
- **Construction** – Physical construction of the project.

The projects in the following tables represent the current planning and funding situation. As circumstances change, projects are expected and permitted to advance through the project development process without a revision to this State Guide Plan element.

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9.4.3 RHODE ISLAND'S SHORT RANGE INVESTMENT PROGRAM

The Short Range Rail Investment Program includes proposed projects involving shared rail freight and passenger services, rail intercity and commuter rail passenger projects, freight rail projects, and grade crossing improvement projects. Freight and passenger rail projects have been evaluated based on the evaluation methodology described above, and are described as high priority or lower priority based on the evaluation rating results. Grade crossing projects have been selected on the basis of RIDOT's analysis of proposed projects' accident exposure and other factors.

Short Range projects include projects for the named project development phase can be completed within the next five years. Rail projects included in Rhode Island's Short-Range Investment Program are listed in Table 9-2.

Table 9-2: Short Range Investment Program

Project	Project Development Phase	Project Description	Project Benefits	Phase Priority	Phase Estimated Cost (Millions)	Potential Funding Source(s)
FREIGHT & PASSENGER RAIL PROJECTS						
Providence Station & Tunnel Configuration Improvements	Preliminary Engineering / Environmental Analysis	Investigate, and if necessary, design structural mitigation measures to separate the movement of rail hazardous materials through the Providence Station and tunnel. This project will also examine station enhancements including station expansion, intermodal/bus connections, additional access/egress, parking, etc.	Addresses operating restrictions, capacity, and safety concerns regarding the movement of hazardous materials through the Station and improves the efficiency, reliability, and safety of both passenger and freight operations. Enhancements to the station to increase user comfort and convenience as well as multi-modal connections.	High	$0.25	FRA, RIDOT
~~3rd~~ Additional Track Capacity - ~~TF Green~~Providence to Kingston	Planning Level Analysis	Planning analysis of additional track capacity between Providence and ~~potential extension of the existing FRIP track south of TF Green Airport to~~ URI/Kingston Station and possible upgrades such as electrification.	To create ~~a continuous~~additional capacity (3rd or 4th track ~~(the FRIP) from Providence~~ to Kingston to support the potential expansion of commuter rail service south of Providence, as well as support additional freight and Amtrak passenger service.	High	$1.00	FHWA, FTA, RIDOT
PASSENGER RAIL PROJECTS						
Commuter Rail Expansion South of Providence	Planning Level Analysis (ongoing)	Conceptual planning analysis of implementing commuter service, including in-state rail shuttle service, diesel multiple units (DMUs), and electric multiple units (EMUs), at additional stations South of Providence. Development of the new stations is directly tied to the 3rd Track Capacity - TF Green to Kingston project listed above. A second phase of this project to include study of additional station areas at the University of Rhode Island and at Quonset Business Park should be considered.	To support the potential expansion of commuter rail service south of Providence with added stations.	High	$1.50	FHWA, FTA, RIDOT

Project	Project Development Phase	Project Description	Project Benefits	Phase Priority	Phase Estimated Cost (Millions)	Potential Funding Source(s)
Intercity Amtrak Passenger Service at Warwick InterLink (TF Green Airport)	Planning Level Analysis	Conduct planning level analysis necessary to determine the feasibility of modifying access to the Warwick InterLink to accommodate an Amtrak passenger stop.	Enhances Amtrak intercity rail passenger use, commuter rail use, and intermodal connections between rail and air service at TF Green Airport.	High	$1.00	FHWA, FTA
Pawtucket Commuter Rail Station	Preliminary Engineering/ Environmental Analysis (ongoing)	Preliminary engineering and environmental review for a new in-fill commuter rail station at the proposed Barton St. or P&W Yard in Pawtucket.	Expands MBTA commuter rail service in RI, and associated transportation, economic development, and environmental benefits.	High	$2.00	FTA, Local
Providence Street Car	Preliminary Engineering/ Environmental Analysis (ongoing)	Construct a 2.1 mile fixed-rail streetcar local transportation circulator system in downtown Providence	Provides connectivity between Downtown districts and businesses, enhances economic development, and provides a connection to other transit services	High	$2.00	FTA, Local, TBD
Providence Station - Exterior Improvements	Final Engineering Design & Construction (ongoing)	Improvements to exterior and pedestrian access areas at Providence Station, including ADA facilities, bus facility connections, streetscape/landscaping, and pedestrian connections to RIPTA buses in Kennedy Plaza.	Improvement to the passenger experience and ensure ADA compliance. Improvements to the bus facilities will facilitate intermodal connections. Investments in streetscape and pedestrian connections will support economic development around the Station.	High	$6.00	FHWA, FTA, RIDOT
Kingston Station Area Track & Capacity Improvements	Final Engineering Design & Construction (ongoing)	Final engineering design for the construction of an additional 1.5 miles of an electrified third track in Kingston on a heavily used portion of the NEC. Project also includes a high-speed rail interlocking related upgrades to the existing infrastructure and high level passenger platforms.	The improvements will increase capacity and reduce Amtrak train travel time by allowing trains to pass slower-speed trains (including those stopped at Kingston Station) at high speeds. The two new passenger platforms will ensure ADA compliance, reduce dwell time, and improve passenger experience.	High	$~~41~~39.00	FRA, Amtrak

Project	Project Development Phase	Project Description	Project Benefits	Phase Priority	Phase Estimated Cost (Millions)	Potential Funding Source(s)
Pawtucket Layover Facility Improvements - Phase 1 & 2	Construction	Improvements to the existing Pawtucket Layover Facility including construction of inspection pits, structures to carry the lines to a sanding facility, and the installation of fueling and sanding facility.	The project will enhance the layover and maintenance capabilities for MBTA operating on the Providence/Stoughton Line, which has the highest ridership and longest line in the MBTA system. Also will enable lighter maintenance work on coaches and locomotives in Pawtucket, thereby freeing up capacity at Boston's area facility.	High	$3.20	FTA, MBTA
Pawtucket Layover Facility Improvements - Phase 3	Construction	Construction of a 300 ft., open air building over inspection pits.	The project would provide cover and security for train safety inspections and light maintenance work.	High	$0.75	FTA, MBTA
Quonset Layover / Maintenance Facility	Planning Level Analysis	Planning level analysis for a layover and maintenance facility in the Quonset Business Park for MBTA commuter rail equipment serving RI.	The facility would augment the current Pawtucket Layover Facility by providing much-needed capacity for MBTA's equipment maintenance operation.	Low	$0.50	FTA, RIDOT
South Attleboro, MA Station Improvements	Final Engineering Design & Construction	Project includes replacement of deteriorated stairways and pedestrian bridge over NEC at MBTA station, located in MA, just over RI state line. Project includes bus facilities for intermodal connections bus and commuter rail connections from RI and Attleboro, MA area.	Improves the pedestrian and RIPTA bus connections at the South Attleboro MBTA Station. Rhode Island residents constitute nearly 90% of the South Attleboro Station users.	High	$2.50	MBTA, RIDOT
FREIGHT RAIL PROJECTS						
Five (5) P&W Rail Bridges over the Blackstone River	Final Engineering Design & Construction	Support the replacement of 5 bridges on the P&W mainline in Massachusetts required to accommodate and increase 286,000 lb. car loadings to/from Rhode Island shippers, especially in the Port of Providence and Port of Davisville.	Allows RI shippers to utilize higher-weight, modern rail cars to decrease shipper costs.	High	$35.00	MassDOT, P&W RR

Project	Project Development Phase	Project Description	Project Benefits	Phase Priority	Phase Estimated Cost (Millions)	Potential Funding Source(s)
Seaview railroad sidings in the Quonset Business Park	Preliminary Engineering / Environmental Analysis	Conduct design and possible implementation of three (3) new sidings (7,000 linear feet of track) to provide storage space for 95 rail cars along the Quonset Main Line.	Provides additional storage space to accommodate increasing rail traffic and enhance efficiency of operations.	High	$2.70	TBD
Quonset Business Park Northeast Corridor Turnout	Preliminary Engineering / Environmental Analysis	After assessing rail layover maintenance needs, conduct design and possible construction to relocate the main turnout into Quonset Business Park to provide rail access to 16 acres of industrial land for development.	Expands property available for development with related lease revenue, employment, and tax benefits.	Low	$4.50	TBD
Rail Car Unloading System at the Port of Providence	Construction	Construct a rail car unloading system within the Port of Providence to facilitate P&W RR bulk transfer operations.	Increases the speed and efficiency of transfer operations to the benefit of the railroad and rail users.	High	$3.00	ProvPort
GRADE CROSSING IMPROVEMENT PROJECTS						
Grade Crossing Rehabilitation – Newport	Construction	Upgrade crossing warning systems to the RIDOT-owned line at Poplar and Elm Streets in Newport - Estimated completion date is 2014	Upgrade the level of positive warning devices and roadway pavement surface	High	$0.25	FHWA HSIP
Grade Crossing Rehabilitation – Newport	Construction	Upgrade crossing warning systems to RIDOT-owned line at Admiral Kalbfus Rd. in Newport - Estimated completion date is 2015	Upgrade the level of active warning devices	High	$0.35	FHWA HSIP
Grade Crossing Rehabilitation – East Providence	Construction	Upgrade crossing warning systems on the P&W line at Pawtucket Ave. in East Providence - Estimated completion date is 2015	Upgrade the level of active warning devices	High	$0.51	FHWA HSIP
Grade Crossing Rehabilitation - Portsmouth	Construction	Upgrade crossing warning systems on the RIDOT-owned line at Stringham Rd. in Portsmouth - Estimated completion date is 2015	Upgrade the level of active warning devices	High	$0.20	FHWA HSIP

Funding Sources Key - Federal Highway Administration (FHWA), Federal Highway Administration's Highway Safety Improvement Program (FHWA HSIP), Federal Transit Administration (FTA), National Railroad Passenger Corporation (Amtrak), Rhode Island Department of Transportation (RIDOT), Port of Providence (ProvPort), Rhode Island Commerce Corporation (RICC), Massachusetts Bay Transportation Authority (MBTA), Providence & Worcester Railroad (P&W RR), Massachusetts Department of Transportation (MassDOT), Municipal and/or other private sources (Local)

9.4.4 RHODE ISLAND'S LONG RANGE INVESTMENT PROGRAM

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Similar to the short range projects, these projects have been evaluated based on the evaluation methodology and are described as high priority or lower priority based on the rating results. The named project development phase for these projects is not expected to be implemented within the next five years. Projects included in the long range investment program will be revised as necessary based on the identification of new projects, further project evaluation, and funding availability. Rail projects included in Rhode Island's Long Range Investment Program are listed in Table 9-3.

Table 9-3: Long Range Investment Program

Project	Project Development Phase	Project Description	Project Benefits	Phase Priority	Phase Estimated Cost (Millions)	Potential Funding Source(s)
PASSENGER RAIL PROJECTS						
Passenger Service Aquidneck Island/Tiverton	Planning Level Analysis	Rehabilitate existing rail infrastructure and establish rail commuter shuttle service between Newport and Fall River, MA	Provides a new transit alternative and potential connectivity to MBTA commuter rail service once established to Fall River, MA.	Low	TBD	TBD
Passenger Service from Woonsocket to Pawtucket/Providence	Planning Level Analysis	A planning level analysis of the re-establishment of intrastate passenger rail services in the Blackstone Valley.	Provides transit alternatives, increased mobility, and economic development opportunities.	Low	TBD	TBD
Statewide Rail Corridors	Planning Level Analysis	Continuous review and update (every 10 years at a minimum) of other corridors for potential transit services including Providence-East Providence, Providence-Cranston, Providence-Worcester, MA, Newport-Fall River, MA	Provides a new transportation alternative along other potential emerging transit corridors within urbanized areas.	Low	TBD	FHWA, FTA
FREIGHT RAIL PROJECTS						
Port of Providence Internal Rail Lines	Construction	Construct rail line extensions and a loop track within the Port of Providence to provide additional space and speed the process of loading/unloading ships.	Provides improved capacity and efficiency to rail users within the Port of Providence.	High	$1.50	RICC, ProvPort, City of Providence
~~**Rail Car Unloading System at the Port of Providence**~~	~~Construction~~	~~Construct a rail car unloading system within the Port of Providence to facilitate P&W RR bulk transfer operations.~~	~~Increases the speed and efficiency of transfer operations to the benefit of the railroad and rail users.~~	~~Low~~	~~$3.00~~	~~RICC, ProvPort, City of Providence~~
Freight Service on Newport Secondary Track	Planning Level Analysis	Rehabilitate the Newport Secondary Track for the purpose of re-establishing freight service and connecting to the national network at Fall River, MA	Provides potential freight rail service for shippers on Aquidneck Island/Tiverton	Low	TBD	TBD
Vertical Clearance Restrictions between Pawtucket and Quonset	Preliminary Engineering / Environmental Analysis	Conduct preliminary engineering and design to provide 21'6" rail clearances between Pawtucket and Quonset to accommodate double stack container and potentially larger auto-rack movements.	Provides full double stack vertical clearances between both ports and the national rail network to accommodate new business and equipment technology.	High	TBD	TBD
Key - To Be Determined (TBD), Port of Providence (ProvPort), Rhode Island Commerce Corporation (RICC)						

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Appendix

State of Rhode Island Rail Line Inventory

February 14, 2014

Active Rail										
Name	**Alias**	**Current Owner**	**Current Use**	**Operator**	**Length (Miles)**	**Completed**	**FRA Class**	**Limits - North or West**	**Limits - South or East**	**Municipality**
Amtrak NEC	Shore Line	Amtrak	Freight/ Passenger	Amtrak	49.70	1837	-	MA border near Dickens St and Broadway in Pawtucket	CT border near Canal St and Railroad Ave in Westerly	Cranston, Warwick, East Greenwich, North Kingstown, South Kingstown, Exeter, Charlestown, Richmond, Hopkinton, Westerly, Central Falls, Pawtucket, Providence
East Junction Secondary		Providence & Worcester RR, RIDOT	Freight	Providence & Worcester RR	3.55	1835	1	Dexter Rd, East Providence	MA Border near Naushon Ct and Naushon Rd in Pawtucket	Pawtucket, East Providence, Cumberland
East Providence Branch		Providence & Worcester RR, RIDOT	Freight	Providence & Worcester RR	9.33	1835	1	Junction with Providence & Worcester RR Main Line near Mill St and Smith St in Cumberland	Dexter Rd, East Providence	Pawtucket, East Providence, Cumberland
FRIP Track North		Amtrak/ RIDOT	Freight/ Passenger	Providence & Worcester RR, MBTA	14.06	2006	-	Boston Switch, near Sacred Heart Ave and Railroad St in Central Falls	Just South of Main Ave in Warwick	Central Falls, Pawtucket, Providence, Cranston, Warwick
FRIP Track South		Amtrak/ RIDOT	Freight	Providence & Worcester RR	2.01	2006	-	Just North of Post Rd. and Austin Rd intersection	West Davisville Switch on Amtrak's NEC, near Old Baptist Rd and Devils Foot Rd in North Kingstown	North Kingstown
Harbor Junction Industrial Track	South Providence Branch	City of Providence	Freight	Providence & Worcester RR	2.04	1837	1	Junction with Amtrak NEC, near Beckwith St and Station St	Allens Ave near Thurbers Ave	Cranston, Providence
Moshassuck - Saylesville Industrial Track	Moshassuck St. RR	Providence & Worcester RR, City of Pawtucket	Freight ROW	Rail	2.36	1877	1	Between Bleachery Pond Dam and Moshassuck Rd in Lincoln	Amtrak NEC Junction near Grotto Ave and Hurley Ave in Pawtucket	Pawtucket, Lincoln
New York and Boston - Slatersville Secondary Track	Former Woonsocket & Pascoag RR	Providence & Worcester RR	Freight	Providence & Worcester RR	4.62	1891	1	Near Providence Pike and Charon Rd in North Smithfield	Prospect St and W School St in Woonsocket	Woonsocket, North Smithfield
Newport Secondary Track	Newport Secondary Track	RIDOT	Freight/ Tourist	Old Colony and Newport Railway, Newport Dinner Train	17.27	1864	-	MA border near Foote St and State Ave in Tiverton	America's Cup and Bridge St	Newport, Portsmouth, Middletown, Tiverton

Active Rail										
Name	**Alias**	**Current Owner**	**Current Use**	**Operator**	**Length (Miles)**	**Completed**	**FRA Class**	**Limits - North or West**	**Limits - South or East**	**Municipality**
Providence & Worcester RR Main Line	Providence & Worcester Main Line	Providence & Worcester RR	Freight	Providence & Worcester RR	16.94	1847	3	MA border near Collerik St and Elizabeth Ave in Woonsocket	Junction with Amtrak NEC at Boston Switch, near Sacred Heart Ave and Railroad St in Central Falls	Woonsocket, North Smithfield, Lincoln, Cumberland, Central Falls
Quonset Point / Davisville Industrial Track	Seaview RR	QDC	Freight	Seaview Transportation	20.36	-	2	West Davisville Switch on Amtrak's NEC, near Old Baptist Rd and Devil's Foot Rd	North Spur: Port of Davisville - Pier 2. South Spur: Quonset Waterfront & Ferry Terminal	North Kingstown
South Harbor	Harbor Junction Industrial Track (P&W)	City of Providence	Freight	Providence & Worcester RR	3.76	-	1	Junction with Harbor Junction Track near Eddy St and Aldrich St in Providence	3 Spurs all terminate in ProvPort	Providence

Inactive Rail										
Name	**Alias**	**Current Owner**	**Current Use**	**Type**	**Length (Miles)**	**Completed**	**Year Inactive**	**Limits - North or West**	**Limits - South or East**	**Municipality**
North Harbor Track	Harbor Junction Warf (Allens Avenue)	RIDOT, Providence & Worcester RR has Operating Rights	Inactive Freight ROW	Rail	2.68	1837	-	Currently Terminates on Allens Ave near Public St	Junction of Harbor Junction Track near Eddy St and Aldrich St	Providence
Warwick - Warwick Industrial Track	Warwick Industrial Track (P&W)	Providence & Worcester RR	Inactive Freight ROW	Rail	2.31	-	-	Junction with Amtrak NEC at I-95 and RI-10 interchange	Terminus of abandoned Warwick - Bellefont/ Oakland Beach Track, Pawtuxet River, Warwick/ Cranston border	Cranston

Abandoned ROW										
Name	**Alias**	**Current Owner**	**Current Use**	**Type**	**Length (Miles)**	**Completed**	**Year Abandoned**	**Limits - North or West**	**Limits - South or East**	**Municipality**
Bradford Branch		Private Property	Private Parcels	Rail	1.12	-	-	Terminates on the grounds of Bradford Printing and Finishing LLC, between main building and Pawcatuck River	Junction with Amtrak NEC, southwest of Bradford Rd Bridge	Westerly
Bristol Secondary Track	Providence, Warren, & Bristol Secondary Track	RIDOT	Bikeway, ROW	Rail	15.09	1855	1986	Junction with East Side Tunnel and Rail Bridge, East Junction Secondary Track, and East Providence Secondary Track, near Waterfront Dr and Waterman Ave, in East Providence	Terminates at Independence Park, near Thames St and Oliver St in Bristol	East Providence, Barrington, Warren, Bristol
East Junction Secondary Track (segment)	Providence & Worcester RR	Providence & Worcester RR	Abandoned Freight ROW	Rail	0.95	-	2005	Terminates at junction with Providence, Warren, & Bristol Secondary Track, East Side Rail Bridge Tunnel, and East Providence Secondary Track, near Waterfront Dr and Waterman Ave	Junction with East Providence Branch between King Philip Rd and Ten Mile River	East Providence
East Providence Secondary Track (segment)	Providence & Worcester RR	RIDOT	Abandoned Freight ROW	Rail	1.41	-	-	Junction with East Providence Branch between Dexter Rd and Seekonk River	Terminates at junction with Providence, Warren, & Bristol Secondary Track, East Side Rail Bridge Tunnel, and East Junction Secondary Track, near Waterfront Dr and Waterman Ave	East Providence
East Side Tunnel and Rail Bridge	Former Providence, Warren, & Bristol RR	RI Public Rail Corporation	Abandoned Freight ROW	Rail	1.91	1908	1981	Western Terminus of Tunnel near Elizabeth St and N Main St	Junction with Providence, Warren, & Bristol Secondary Track, East Junction Secondary Track, and East Providence Secondary Track, near Waterfront Dr and Waterman Ave	Providence, East Providence
Former Providence & Springfield RR	Pascoag / Providence Line	Private Property	Utility ROW	Rail	26.01	1890	1967	South Shore Rd at the MA state line in Burrillville	Woonasquatucket Bikeway at Lyman Ave in Johnston	Burrillville, North Smithfield, Smithfield, Johnston, North Providence, Cranston, Providence

Abandoned ROW										
Name	**Alias**	**Current Owner**	**Current Use**	**Type**	**Length (Miles)**	**Completed**	**Year Abandoned**	**Limits - North or West**	**Limits - South or East**	**Municipality**
Narragansett Pier Line	Narragansett Pier RR Line	Private Property, RIDOT	Bikeway, Walking Path, Utility Easement, Private	Rail	8.26	1876	1981	Junction with Amtrak NEC at Kingston Station	State Pier No. 5 - Monahan's Dock at Ocean Rd and South Pier Rd	South Kingstown, Narragansett
New York and Boston - Woonsocket Track	Former New York & Boston RR Franklin Line	Providence & Worcester RR	Abandoned Freight ROW	Rail	0.74	1891	2007	MA border, between Harris Pond Dam and Priviledge St	Terminus of active portion of New York and Boston - Slatersville Secondary Track, near Prospect St and W School St	Woonsocket
Pawtuxet Valley - Hope Track	Former Pontiac Branch RR (Hope Branch)	Private Property	Being examined as Bikeway	Rail	3.48	-	-	North Road in Scituate	Junction with Hartford, Providence & Fishkill - Washington Secondary Track near Junior St and Hay St in West Warwick	Scituate, Coventry, West Warwick
Pontiac Secondary Branch	Former Pontiac Branch RR (Hope Branch)	RIDOT	Abandoned Freight ROW	Rail	6.53	-	-	Junction with Amtrak NEC near Wellington Ave and Well Ave in Cranston	Pontiac Ave and Knight St at Cranston/ Warwick line	Cranston
Providence, Warren, & Bristol - Warren / Fall River Track	Former Providence, Warren, & Bristol RR (RIDOT)	Private and Municipal	Bikeway, Private Parcels	Rail	1.80	1865	-	Junction with Providence, Warren, & Bristol Secondary Track near Croade St and Railroad Ave	MA border near Long Ln and Katie Dr	Warren
Seaview RR	Former Seaview RR (Trolley)	National Grid	Bikeway, Utility Easement, Private Property	Trolley	23.08	1900	1920	Post Rd and Centerville Rd in Warwick	Narragansett Spur: Caswell St Wakefield Spur: Main St	South Kingstown, Narragansett, North Kingstown, East Greenwich, Warwick
Washington Secondary Stub	Former Hartford, Providence & Fishkill RR	Amtrak	Industrial Properties	Rail	0.16	1849	1988	Terminates between Eastern end of Sterling Ave and Pilsudski St	Junction with Amtrak NEC, near Atwood St and Wallace St	Providence
Washington Secondary Track	Former Hartford, Providence & Fishkill RR	RIDOT, RIDEM, Town of Coventry	Bikeway, Portions under design	Rail	23.91	1849	1988	CT border terminus of Trestle Trail, between Plainfield Pike and Roaring Brook in Coventry	Depot Ave terminus of Washington Secondary Trail in Cranston/ Providence	Providence, Cranston, Warwick, West Warwick, Coventry

Abandoned ROW										
Name	**Alias**	**Current Owner**	**Current Use**	**Type**	**Length (Miles)**	**Completed**	**Year Abandoned**	**Limits - North or West**	**Limits - South or East**	**Municipality**
Wickford Junction/ Wickford Landing Branch	Former Newport & Wickford RR + Steamboat Co.	Amtrak, North Kingstown, Private Property	Street ROW, Private Property	Rail	3.01	1870	1963	Amtrak NEC Junction just south of Wickford Junction Plaza at Roberts Way at Ten Rod Rd	Terminus at Wickford Shipyard, near Steamboat Ave	North Kingstown
Wood River Branch	Wood River Junction Branch	Private Property	Street ROW and Private Parcels	Rail	5.60	-	1947	Line terminus near the intersection of Mechanic St at Brushy Brook and Main St Hopkinton	Wood River Junction Amtrak NEC near the intersection of Church St and Switch Rd, Richmond	Hopkinton, Richmond
Wrentham Industrial Track	Former Rhode Island & Massachusetts RR	Providence & Worcester RR	Abandoned Freight ROW	Rail	0.96	-	-	Terminus of the Valley Falls - Franklin MA Track near Dexter St and Curran Rd	Junction with Providence & Worcester RR Main Line near School St and Smith St	Cumberland

Future Potential Alignments										
Name	**Alias**	**Type**	**Current Owner**	**Current Use**	**Estimated Miles**	**Operator**	**Estimated Completion**	**Limits - North or West**	**Limits - South or East**	**Municipality**
Amtrak Next Generation High Speed Rail	NextGen HSR	Rail	ROW undetermined	ROW undetermined	26	Amtrak	2040	Boston, MA	Washington, DC	Undetermined
Intrastate Rail		Rail	City of Woonsocket	Freight & Commuter Rail	35	Unknown	TBD	Downtown Woonsocket, Pawtucket, potential spur	Warwick Interlink Station	Woonsocket, Cumberland, Central Falls, Pawtucket, Providence, Cranston, Warwick, East Greenwich, North Kingstown, South Kingstown, Charlestown, Westerly
Providence Core Connector		Street Car	Various	Street ROW	3	RIPTA	TBD	Intersection of Fones Alley and Thayer St in Providence	Intersection of Prarie Ave and Dudley St in Providence	Providence

APPENDIX B

Rhode Island Rail Project Evaluation Scoresheet

Instructions: Projects may be scored separately as either passenger or freight rail projects. In some instances, a projects may provide improvements to both passenger and freight rail criteria, in which case the project could receive points on both sets of criteria. If a project addresses a specific criteria, insert a "Y" in the Y/N column, if a project does not address the specific criteria, insert a "n" in this column. The score weight is derived from the Rhode Island Rail Priorities, priority criteria receive a weight of 2.

	Rail Passenger Scoring Criteria	Score Wt.	Y/N	Score		Rail Freight Scoring Criteria	Score Wt.	Y/N	Score
	Safety					**Safety**			
1	Corrects a significant safety or security problem	2		0	1	Corrects a significant safety or security problem	2		0
2	Upgrades or improves at-grade crossing safety	2		0	2	Upgrades or improves at-grade crossing safety	2		0
3	Increases passenger safety	2		0					
	Infrastructure Condition					**Infrastructure Condition**			
1	Addresses long-term preservation of the rail system	2		0	1	Addresses long-term preservation of the rail system	2		0
2	Utilization of design standards that extend life cycle	1		0	2	Utilization of design standards that extend life cycle	1		0
3	Upgrade needed to maintain line segment FRA Class	1		0	3	Upgrade needed to maintain line segment FRA Class	1		0
4	Provides a long term reduction in operating/maint cost	1		0	4	Provides long term reduction in oper/maint cost	1		0
5	Reduces incremental oper/maint costs thru shared use	1		0	5	Reduces incremental oper/maint cost thru shared use	1		0
6	Does not add additional maintenance burden to State	1		0	6	Does not add additional maintenance burden to State	1		0
7	Improves user comfort, convenience or information	1		0					
	System Reliability					**System Reliability**			
1	Enhances multimodal service alternatives	2		0					
					2	Enhances connectivity to ports/intermodal facilities	1		0
3	Increases speed and on-time performance	1		0	3	Increases speed and on-time performance	1		0
4	Improves connectivity to natl/regional rail network	1		0	4	Improves connectivity to natl/regional network	1		0
5	Attracts new riders	1		0					
6	Decreases overall transit time	1		0					
7	Complements existing transit service	2		0					
	Congestion Reduction					**Congestion Reduction**			
1	Relieves highway/rail congestion or rail bottleneck	2		0	1	Relieves highway/rail congestion or rail bottleneck	2		0
2	Reduces vehicular VMT	1		0	2	Reduces truck VMT	1		0
3	Improves overall transportation traffic flow	1		0	3	Improves overall transportation traffic flow	1		0
4	Increases capacity in congested transit routes	1		0					
5	Increases capacity of track to carry increased traffic	2		0	5	Increases capacity of track to carry increased traffic	2		0
	Economic Vitality					**Economic Vitality**			
1	Project is located in a state-designated enterprise zone	1		0	1	Project is located in a state-designated enterprise zone	1		0
					2	Increases carloads/tons handled	2		0
					3	Increases vertical clearances to 21'6" or higher	2		0
					4	Increases maximum weight capacity to 286k or greater	2		0
					5	Enhances/develops new intermodal/transfer facilities	1		0
6	Results in direct job creation	2		0	6	Results in direct job creation	2		0
7	Results in indirect job creation	2		0	7	Results in indirect job creation	2		0
8	Increases local or state tax revenue	2		0	8	Increases local or state tax revenue	2		0
9	Spurs new investment or redevelopment within 1/4 mi	2		0	9	Spurs new investment or redevelopment within 1/4 mi	2		0
10	Has adequate population density within 1/4 mi	2		0					
11	Has local regs to support mixed use development	2		0	11	Has local regs to support industrial development	2		0
12	Encourages tourism	1		0					
	Environmental Sustainability					**Environmental Sustainability**			
1	Improves air quality	1		0	1	Improves a air quality	1		0
2	Minimizes environmental impacts	1		0	2	Minimizes environmental impacts	1		0
3	Minimizes social impacts	1		0	3	Minimizes social impacts	1		0
4	Minimizes neighborhood impacts (noise, etc.)	1		0	4	Minimizes neighborhood impacts (noise, etc.)	1		0
5	Supports environmental justice populations	1		0	5	Supports environmental justice populations	1		0
6	Project does not require an EIS	1		0	6	Project does not require an EIS	1		0

APPENDIX B

Financial Feasibility and Public Support			
1	Right of way available for expansion	1	0
2	Project minimizes risk to operator and cost to state	1	0
3	Project has demonstrated private investment	2	0
4	Project has demonstrated local investment	2	0
5	Project has demonstrated support of row/track owner	1	0
6	Project has federal investment secured	1	0
7	Project has state investment secured	1	0
8	Cost/pass and fare box recovery meet regional avg	2	0
9	Identified in State Long Range Transportation Plan	1	0
10	Identified in local comprehensive plan	2	0
11	Project has committed partnerships	1	0
12	Project has demonstrated local support	2	0
13	Has commitment of adjacent transit providers	2	0
14	Has commitment of adjacent states	2	0
	PASSENGER PROJECT TOTAL	70	0

Financial Feasibility and Public Support			
1	Right of way available for expansion	1	0
2	Project minimizes risk to operator and cost to state	1	0
3	Project has demonstrated private investment	2	0
5	Project has demonstrated support or row/track owner	1	0
6	Project has federal investment secured	1	0
7	Project has state investment secured	1	0
9	Identified in State Long Range Transportation Plan	1	0
11	Project has committed partnerships	1	0
	FREIGHT PROJECT TOTAL	53	0

PASSENGER AND FREIGHT PROJECT TOTAL = 0