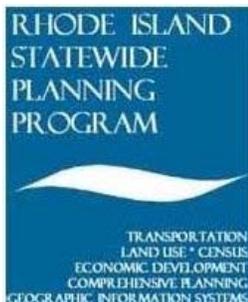


# STATEWIDE PLANNING PROGRAM TECHNICAL PAPER

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Number: 158  
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## Freight Planning Needs Assessment (2006)



**Statewide Planning Program**  
Rhode Island Department of Administration  
Division of Planning  
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The objectives of the Program are: (1) to prepare strategic and systems plans for the state; (2) to coordinate activities of the public and private sectors within this framework of policies and programs; (3) to assist local governments in management, finance, and planning.

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## ABSTRACT

**TITLE:** Freight Planning Needs Assessment

**SUBJECT:** Freight facilities in the state, freight planning efforts, and freight planning needs for the Statewide Planning Program

**DATE:** August 2006

**AGENCY:** Rhode Island Statewide Planning Program

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**ABSTRACT:** Freight planning has re-emerged as an area of concern based on the 20-year forecasts of freight volumes at the national level. The recently passed Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) mandates that freight planning be incorporated into the overall planning process. This technical paper presents background information on freight movement in the state by mode, current freight planning efforts on both the state and regional level, and freight planning needs for the Statewide Planning Program.

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## **PREFACE**

Freight planning has re-emerged as an area of concern based on the 20-year forecasts of freight volumes at the national level. The recently passed Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) mandates that freight planning be incorporated into the overall planning process. Freight planning is somewhat different than what is thought of as transportation planning in that freight planning and movements take place in both the private and public domain and there needs to be cooperation and coordination between private and public sectors to ensure that the freight delivery system operates smoothly.

This technical paper was compiled in cooperation with the Rhode Island Department of Transportation (RIDOT); Federal Highway Administration (FHWA); Rhode Island Division Office; and Federal Motor Carrier Safety Administration (FMCSA). This paper was written by Walter A. Slocumb, Principal Planner, working under the supervision of John P. O'Brien, Chief (retired June, 2006); George W. Johnson, Assistant Chief; and Katherine R. Trapani, Transportation Section Supervising Planner. Vincent Flood, Principal Research Technician also contributed to this paper.

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### Introduction

The topic of freight planning has re-emerged in Rhode Island as an area of concern based on 20-year forecasts of freight volumes at the national level. This is not to give the impression that freight planning has been ignored in the past. Freight planning has been addressed as parts of several papers and reports, and freight rail is the subject of Element Number 661 of the State Guide Plan. Nonetheless, freight planning has not been treated as a whole or as a unified subject. The 2005 reauthorization of the Intermodal Surface Transportation Efficiency Act (ISTEA) and Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21) transportation funding acts, known as Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), mandates that freight planning be incorporated in the overall planning process to increase accessibility and mobility, and to enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.

Freight planning, at least in one sense, is different than what is thought of as transportation planning. Highway planning considers what happens in the public sector, what can be thought of as “outside the fence”. Freight planning not only needs to consider activities “outside the fence” in the public sector, but activities “inside the fence”, in the private sector, as well. The “fence” is often a real fence line that demarcates the private and the public side of freight movements. The decisions made inside the fence have a financial impact on the companies that move the freight and the companies that entrust the freight to be moved. These decisions can include: what can be moved, how it can be moved, what rolling stock to buy, how much can be moved, where it can be moved to or from, what facts and figures will be circulated, and countless other decisions. Outside the “fence” are the public decisions such as: airport master plans, whether and where to build a new highway or link, dredging a shipping channel, freight rail improvement programs, and the Transportation Improvement Program. All these, and myriad other decisions, work together to enable the system that moves freight to operate.

Because freight planning needs to consider both sides of the fence as well as a multitude of freight modes, it is important that the two work together, have a general knowledge of each others needs, and are comfortable working together. Decisions made on one side of the fence can impact decisions made on the other side.

This paper examines the freight activities in the state including freight facilities and carriers grouped by major modes; the current freight planning efforts in Rhode Island, focusing on Statewide Planning but also covering other state agencies; regional planning activities that impact Rhode Island; and the freight planning needs for the Statewide Planning Program.

## **Part 1.1**

### **HIGHWAY FREIGHT**

#### **Overview**

Highways facilities in the state fall under a number of classifications. These include National Highway System (NHS), Surface Transportation Assistance Act of 1982 (STAA) and Strategic Highway Network (STRAHNET). Some of these systems also have sub-systems, or corridors, within them. For example there is a set of High Priority Corridors (Section 1105) on National Highway System. In Rhode Island this corridor is called the 'Providence Beltline Corridor' and begins at Interstate Route 95 in the vicinity of Hope Valley, Rhode Island, traverses eastwardly intersecting and merging into Interstate Route 295, continuing northeastwardly along Interstate Route 95, and terminating at the Massachusetts border, and including the western bypass of Providence, from Interstate Route 295 to the Massachusetts border. A listing of major highways in RI is shown in Table 1.

In addition to these classifications most highways serving freight needs are functionally classified by Rhode Island as interstate, freeway/expressway, principal arterial, or minor arterial. Streets to specific sites may also be classified as collector, or they may be unclassified depending on the area they serve. For additional information on the Rhode Island highway classification see: [Highway Functional Classification: 2005-2015](http://www.planning.ri.gov/transportation/155/index.htm) (Technical Paper 155) at <http://www.planning.ri.gov/transportation/155/index.htm>

Intermodal connections for both freight and passenger connections are a large part of the NHS. The listing of these connections is displayed in Table 2.

#### **Semitrailer and Trailer Truck Types**

Rhode Island currently limits semitrailer lengths to 48 feet 6 inches<sup>1</sup>. The state also limits the combination of vehicles coupled together to no more than 3 units, a truck tractor, semitrailer and a trailer<sup>2</sup>. Combinations that are allowed in other states or permitted by turnpike authorities such as the Rocky Mountain Double, the Turnpike Double, or the triple trailer are not allowed in Rhode Island<sup>3</sup>. The maximum overall gross weight on a group of two or more consecutive axles of a vehicle or combination of vehicles is determined by a gross weight formula that incorporates the number of axles and the axle spacing. The gross weight of any vehicle or combination of vehicles may not exceed 80,000 pounds.

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<sup>1</sup> Federal Highway Administration, Freight Facts and Figures 2005. Washington DC, 2005.

<sup>2</sup> RIGL 31-25-6. The section also limits the use of semitrailers between 48 foot 6 inches and 53 feet in length to the interstate highway system and on those highways, streets and roads designated by the director of the department of administration. The difference between a trailer and a semitrailer is that a trailer has none of its weight resting on the towing vehicle while a semitrailer has some of its weight and load rests upon or is carried by another vehicle (RIGL 31-1-5).

<sup>3</sup> RMD: one 48-foot semitrailer and one 28-foot trailer; TPD: one 48-foot semitrailer and one 48-foot trailer; TT one 28-foot semitrailer and two 28-foot trailers.

**Table 1**

<b>National Highway System (NHS) in Rhode Island</b>			
<b>Route</b>	<b>From</b>	<b>To</b>	<b>Length</b>
I-95	CT state line	MA state line	45.7
I-195	I-95 Providence	MA state line	4.2
I-295	I-95 Warwick	MA state line	23.7
US-1	RI-78 westerly	RI-4 North Kingstown	24.4
US-1	I-95 Providence	Port of Providence	1.0
US-1	I-95 Warwick	TF Green State Airport	1.3
US-6	CT state line	RI-10	26.8
US-44	I-195 East Providence	MA state line	1.7
RI-4	US-1 North Kingstown	I-95	9.4
RI-10	I-95 Cranston	I-95 Providence	3.6
RI-24	RI-114 Portsmouth	MA state line	7.7
RI-37	I-295 Cranston	US-1 Warwick	3.3
RI-78	CT state line	US-1	4.2
RI-102	I-95 West Greenwich	RI-146 North Smithfield	38.5
RI-103	RI-136 Warren	RI-114 Barrington	2.1
RI 114	RI-103 Barrington	I-195	3.85
RI-136	RI-114 Bristol	MA state line	8.3
RI-138	CT state line	MA state line	42.7
RI-146	I-95 Providence	MA state line	17.9
RI-403	RI-4	Quonset	2.5
Airport Connector	I-95 Warwick	TF Green State Airport	1.7
<b>Surface Transportation Assistance Act of 1982 (STAA) Highways in Rhode Island</b>			
<b>Route</b>	<b>From</b>	<b>To</b>	<b>Length</b>
RI-6 (listed as RI-195 in the legislation)	I-295 Johnston	RI-10 Providence	5.25
RI-10	RI-195 Providence	I-95 Cranston	3.60
RI-37	I-295 Cranston	I-95 Warwick/Cranston	1.90
RI-146	I-95 Providence	I-295 N. of Lime Rock	9.50
<b>Strategic Highway Network (STRAHNET) in Rhode Island</b> (Higher clearance standards for military vehicles)			
<b>Route</b>	<b>From</b>	<b>To</b>	<b>Length</b>
I-95	CT state line	MA state line	45.7
I-195	I-95 Providence	MA state line	4.2
I-295	I-95 Warwick	MA state line	23.7
Ernest Street	I-95 Providence	Port of Providence	1.0

<b>Table 2</b>			
<b>NHS Intermodal Connector Listing for Rhode Island</b>			
<b>FACILITY</b>	<b>TYPE</b>	<b>CONNECTOR DESCRIPTION</b>	<b>CONNECTOR LENGTH</b>
AMTRAK & Public Transit Stations, Providence	Multipurpose Passenger Facility	Served by an existing NHS Route	0
AMTRAK Station, Kingston	AMTRAK Station	Served by an existing NHS Route	0
Galilee Ferry Terminal	Ferry Terminal	Directly accessible from NHS	0
Port of Providence	Port Terminal	From I-95: E on Thurbers Ave 0.1 mile, S on Allens Ave 1.70 mile, E on Ernest St 0.30 mile to terminal	2.10
Quonset Point/Davisville Industrial Park	Port Terminal	From RI 4: SE 2.65 mile on RI 403 to Post Rd (US 1)	2.65
T.F. Green State Airport, Warwick	Airport	From I-95 (exit 13): E 1.60 mile on Airport Connector to passenger terminal	1.60
<b>TOTAL</b>			<b>6.35</b>

### **Truck Rest Areas**

Rest areas are an important and necessary part of the highway freight network, providing more than just a place where drivers can stop and get out and stretch after a few hours drive. The Federal Motor Carrier Safety Administration regulates the number of hours a person can drive a commercial motor vehicle and the number of off duty and sleeper berth hours in-between driving sessions. Because long distance drivers are often away from home or other sleeping accommodations it is necessary, when the allowable driving time is up, to pull into a rest area. This is safer for both the driver and the motoring public from two perspectives. First, the rest areas allow the driver to exit and clear the highway system, removing the vehicle from the highway lanes. Second, driver rest is important: the Federal Motor Carrier Safety Administration has tentatively estimated that driver fatigue is a primary factor in 4.5 percent of truck-involved fatal crashes and is a secondary factor in an additional 10.5 percent of such crashes<sup>4,5</sup>. A 1995 study conducted by the National Transportation Safety Board asserts that the most important factors in predicting a fatigue-related accident are the duration of the last sleep period, the time slept in the past 24 hours, and interruptions in sleep periods<sup>6</sup>. The availability of parking for commercial vehicles can affect all of these factors.

<sup>4</sup> Department of Transportation, Federal Motor Carrier Safety Administration. 49 CFR Parts 350, et al. Hours of Service of Drivers; Driver Rest and Sleep for Safe Operations; Proposed Rule. Federal Register, May 2, 2000.

<sup>5</sup> Quon Kwan, Program Manager FMSCA. Talking Freight Seminar: Truck Parking Issues and Programs, "Park Smart – Real time Truck Parking Information". July 19, 2006.

<sup>6</sup> National Transportation Safety Board. Factors that Affect Fatigue in Heavy Truck Accidents. Safety Study NTSB/SS-95/01, 1995.

Because there is not a clear definition of what constitutes a truck rest area and because of a difference in the count in available reports, there are somewhere between five and eleven public truck rest areas and between one and three commercial truck rest areas, making a total of between six and thirteen truck rest areas in the state. Rest areas can have a range of facilities and services available to truckers that span from a bare parking space to full services including: fuel, food, phone, ATM, laundry, showers, motel, and computer terminals. There is also a wide range in how parking spaces are counted, or at least in how the numbers are reported or interpreted and presented. A Federal Highway Administration (FHWA) 2002 report to Congress on the adequacy of parking facilities<sup>7</sup> lists five public areas and three commercial areas in Rhode Island with a total of 687 parking spaces; a 2001 report on truck rest stops in Rhode Island<sup>8</sup> lists ten truck rest stops and one commercial rest area with a total of 439 parking spaces. The locations of the truck rest areas was not given in the 2002 report, but were listed in the 2001 report. Given the information from the two reports, it is possible to construct Table 3, which displays the truck parking facilities reported in the state. In looking at the information in the table it can be seen that there is a difference of 222 parking spaces between the reports. About half of the difference can be explained by the two private rest areas that are not included in the 2001 report, but the difference in public spaces cannot be easily explained.

A new visitors' center with additional truck parking spaces and services opened in late 2005 on I-295 north between exits 10 and 11, near the Massachusetts state line. It is not clear, however, if these parking spaces are intended to replace existing spaces at nearby truck rest stop to the south on I-295 north. Currently the older I-295 northbound rest area is open and newly placed signs indicate that services and truck parking are available at the new rest stop. It is not clear, however, whether these new signs are to indicate that additional parking is available or a notice that the area will be closed. The rest area across the highway on I-295 southbound side is currently closed. A visitor center with truck parking spaces and services is planned for I-295 southbound in that area.

To help address the concerns that states are considering closing or privatizing rest areas on Interstate highways because of the costs of maintenance and operation, security issues, and potential liability the FHWA is currently soliciting comments on a proposed Interstate Oasis Program. The program would be developed under section 1310 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). The Oasis would '...as a minimum, offer products and services to the public including 24-hour access to restrooms, and parking for automobiles and heavy trucks. The notice and request for comments was published in the Federal Register on February 27, with comments due by April 28, 2006<sup>9</sup>. Comments have been published, but no additional information on the program has been reported.

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<sup>7</sup> Federal Highway Administration, Report to Congress: Study of Adequacy of Parking Facilities. Washington, DC, 2002

<sup>8</sup> Federal Highway Administration, Rhode Island Division, Report on Truck rest Areas: Rhode Island, Providence, 2001

<sup>9</sup> Federal Register: February 27, 2006, Volume 71, Number 38, Page 9855-9857

### Table 3

#### Truck Parking Facilities in Rhode Island

Facility		Report		Parking Spaces		Facilities as noted in 2001 report
		2001	2002	2001	2002	
<b>Public Rest Areas</b>						
	Visitor Center I-95 N	x	x	15		Lighting, Attendant (24 hour), Phones, Rest rooms, Vending machines (24 hour access).
	I-95 N	x	x	20		Weigh Station and Rest Area. Lighting, Phones.
	I-95 S	x	x	20		
	I-295N	x	x	12		Weigh Station and Rest Area. Lighting, Phones.
	I-295S	x	x	12		
	US-6E	x	x	12		Weigh Station and Rest Area. Lighting. No physical separation from travel way.
	US-6W	x	x	12		
	RI-146 N	x	x	12		Weigh Station and Rest Area. Lighting. No physical separation from travel way.
	RI-146S	x	x	12		
	RI-24N	x	x	24		Weigh Station and Rest Area. Lighting. No physical separation from travel way.
	RI-24S	x	x	14		
	<b>Sub total</b>			<b>165</b>	<b>267</b>	
<b>Private Rest Areas</b>						
	I-95 exit 5	x	x	300		Fuel, repairs, scales, motel, restaurant, variety store, ATM, showers, laundry, computer terminals, security.
	Ashaway		x			
	Coventry		x			
	<b>Sub total</b>			<b>300</b>	<b>420</b>	
	<b>TOTAL</b>			<b>465</b>	<b>687</b>	
Source: Federal Highway Administration, Report to Congress: <u>Study of Adequacy of Parking Facilities</u> , Washington, DC, 2002 Federal Highway Administration, <u>Report On Truck Rest Areas: Rhode Island</u> , Providence, 2001						

## Freight and Traffic Volumes

A summary of FHWA data for the highway facilities in Rhode Island including mileage, total daily volumes and daily truck volumes by type is presented in Table 4. As would be expected there is a larger number of trucks on urban than on rural highways and there is more truck traffic on interstate and other freeways and expressways than on lower classified highways. A review of the Rhode Island Department of Transportation Truck flow maps show a wide range in truck volume percentages on the state's highways. I-95 and other higher classified highways shows as much as a 13 percent truck volume. In general over fifty percent of the truck volumes on these highways are classified as heavy trucks (FHWA class 8 and above). Lower classified highways show lower percentages of truck traffic, ranging from 8 percent down to 1 percent, the percentages declining as the highway classification declines. As a rule the percentage of heavy trucks is less than half the truck percentage and can be as low as zero.

Highway freight bottlenecks cause congestion and delay in the nation and in Rhode Island. One report<sup>10</sup> identified four major highway bottleneck types: highway interchanges, steep grades, signalized intersections and, highway lane drops. Rhode Island has two locations on a national ranked highway interchange listing: I-95 at I-195 in Providence and I-95 at RI-4. The ranking is by annual hours of delay for all trucks, for reference the number 1 location had 1,661,900 hours of delay while the last location (number 226) had 4,300 hours of delay<sup>11</sup>. In another table, the I-95 at I-195 interchange was ranked 14 of the 24 worst physical bottlenecks based on hours of delay by the American Highway Users Alliance Study<sup>12</sup>.

<b>Highway Interchange Bottlenecks for Trucks</b>				
Ranked by Annual Hours of Delay for All Trucks				
Rank	Location	All Vehicle AADT	All Truck AADT	Annual Hours of Delay: All Trucks
115	I-95 at I-195	267,200	11,100	455,300
159	I-95 at RI Route 4	181,100	16,400	292,300

Additionally Rhode Island is displayed as a bottleneck location in this report on three national maps. These are large scale maps that show Highway Performance Monitoring System (HPMS) sample sections as general locations with a scale of hours of delay. The maps display "Capacity Bottlenecks on Freeways Used As Intercity Truck Corridors"<sup>13</sup>, "Capacity Bottlenecks on Freeways Used As Intercity Truck Corridors"<sup>14</sup>, and "Capacity Bottlenecks on Arterials Used As Intercity Truck Corridors"<sup>15</sup>.

The US Department of Transportation, recognizing that the freight system underpins the nation's continued economic growth and that congestion is one of the single largest threats to economic prosperity, issued two documents in early 2006 addressing the freight system. The first document, "Framework for a National Freight Policy", issued in January (revised in April) outlined 7 objectives with the overarching themes of a national freight policy (not federal), importance of investment, public-private collaboration, and the policy as a living document.<sup>16</sup>

<sup>10</sup> Cambridge Systematics, Inc. An Initial Assessment of Freight Bottlenecks on Highways, Cambridge, MA, 2005

<sup>11</sup> Cambridge Systematics, Inc. Table A-5

<sup>12</sup> Cambridge Systematics, Inc. Table A-6

<sup>13</sup> Cambridge Systematics, Inc. Figure 5.7

<sup>14</sup> Cambridge Systematics, Inc. Figure D-1

<sup>15</sup> Cambridge Systematics, Inc. Figure D-2

<sup>16</sup> US Department of Transportation, Framework for a National Freight Policy, Draft: April 2006.

[http://ostpxweb.dot.gov/freight\\_policy\\_framework.html](http://ostpxweb.dot.gov/freight_policy_framework.html)

The second document, “National Strategy to Reduce Congestion on America’s Transportation Network”, issued in May, discussed congestion and its impacts and established a “Corridors of the Future” competition.<sup>17</sup>

<b>Table 4</b>						
<b>Rhode Island Highway System and Daily Truck Travel</b>						
<b>Highway System</b>			<b>Daily truck travel</b>			
<b>Highway Type</b>	<b>Length (miles)</b>	<b>Daily Travel</b>	<b>Average Daily Single Unit</b>	<b>Average Daily Combination Unit</b>	<b>Total Units</b>	
<b>Rural</b>						
Interstate	21	1,158,000	37,000	70,000	107,000	
Other Principal Arterials	48	334,000	8,000	6,000	14,000	
Minor Arterial	66	327,000	8,000	6,000	14,000	
Major collector	145	426,000	9,000	4,000	13,000	
Minor collector	125	103,000	----	----	----	
Local	821	58,000	----	----	----	
<b>total</b>	<b>1,226</b>	<b>2,406,000</b>	<b>62,000</b>	<b>86,000</b>	<b>148,000</b>	
<b>Small Urban</b>						
Interstate	0	0	----	----	----	
Other Freeways and Expressways	4	62,000	----	----	----	
Other Principal Arterials	10	172,000	----	----	----	
Minor Arterial	31	216,000	----	----	----	
Collector	26	95,000	----	----	----	
Local	174	35,000	----	----	----	
<b>total</b>	<b>245</b>	<b>580,000</b>	----	----	----	
<b>Urbanized</b>						
Interstate	50	5,346,000	----	----	----	
Other Freeways and Expressways	81	3,065,000	----	----	----	
Other Principal Arterials	347	5,966,000	----	----	----	
Minor Arterial	331	3,013,000	----	----	----	
Collector	584	2,045,000	----	----	----	
Local	3,556	726,000	----	----	----	
<b>total</b>	<b>4,949</b>	<b>20,161,000</b>	----	----	----	
<b>Total Urban</b>						
Interstate	50	5,346,000	197,000	164,000	361,000	
Other Freeways and Expressways	85	3,126,000	93,000	67,000	160,000	
Other Principal Arterials	357	6,239,000	109,000	64,000	173,000	
Minor Arterial	362	3,229,000	36,000	11,000	47,000	
Collector	610	2,139,000	7,000	3,000	10,000	
Local	3,729	751,000	----	----	----	
<b>total</b>	<b>5,193</b>	<b>20,830,000</b>	<b>442,000</b>	<b>309,000</b>	<b>751,000</b>	
<b>Statewide total</b>	<b>6,420</b>	<b>23,147,000</b>	<b>504,000</b>	<b>395,000</b>	<b>899,000</b>	
Source: 2004 HPMS 6.0 (Rhode Island)						

<sup>17</sup> US Department of Transportation, National Strategy to Reduce Congestion on America’s Transportation Network, May 2006. <http://isddc.dot.gov/OLPFiles/OST/012988.pdf>

## **Carriers**

There are some 358 *interstate* carriers domiciled in Rhode Island with fleets ranging in size from 1 to 813 vehicles. The term 'carrier' should be thought of as a company that moves a product or a commodity by truck as part of its' business as well as a company that moves freight as its primary business. Rhode Island based furniture stores (that make their own deliveries), pharmacies (that deliver to their stores), and kayak rental companies are all listed as part of the 358 interstate carriers having trucks. This list of interstate carriers, however, is not a total count of all carriers operating in Rhode Island. Not included in the count are *intrastate* carriers; nor does it include carriers who operate in but are not domiciled in Rhode Island. For example neither a local florist (presumably only delivering in Rhode Island) nor United Parcel Service (domiciled in another state) are on the list. The list also does not include carriers only passing through the state or stopping only to make a delivery before passing on to another state.

## **Integrated Parcel Delivery**

Integrated parcel delivery (IPD), or integrated express package delivery services, are firms that collect, transship and deliver packages and envelopes. There are three major IPD companies in Rhode Island: DHL, Federal Express and United Parcel Service. These companies have sorting facilities in Warwick and while some of their deliveries are in the local area, they most commonly fly their cargo into and out of T.F. Green airport daily on their cargo aircraft.

Other businesses exist in the state that provide similar types of operations. On a large scale is the United States Postal Service with multiple offices in all thirty-nine Rhode Island cities and towns. The bulk of their collection, transshipment and delivery are envelopes although packages also make up a portion of the service. On a smaller scale are couriers such as Mr. Messenger; these companies focus on local business-to-business pickup and delivery and handle both envelopes and packages.

## **Part 1.2**

### **RAIL FREIGHT**

#### **Overview**

The amount of active railroad track and the number of rail lines in the state has declined since the goods movement survey on rail shipments was written in 1974<sup>18</sup>. Based on information in the 1993 Rail Plan<sup>19</sup> nine rail lines had been abandoned prior to 1974; since that time an additional five lines have been abandoned. There are still 13 lines in the state that are considered active.

It should be kept in mind that in general, railroad companies are different in one respect than other freight companies. While trucking companies do not own the highways they operate on, and airline companies do not own the airport or the sky they fly in, railroads often own the rights of way they operate on. If a railroad company does not own the track or right of way they wish to operate on they must secure the "freight operating rights" from the owner. Rhode Island presents a mixed case, however, when it comes to freight rail. The Seaview Transportation Company owns the track it operates on in the Quonset Business Park. Amtrak owns the majority of the remaining track mileage in the state (about 52 miles), the Rhode Island Department of Transportation owns the second longest amount (about 25 miles) with the remaining track (about 28 miles) ownership split between railroads, cities and towns.

The Freight Rail Improvement Project (FRIP) is being constructed along and parallel to the Amtrak Main Line to serve freight movements between Central Falls and Quonset. The goals of the FRIP are: 1) to preserve and expand the capabilities of the rail system to accommodate tri-level automobile carrier rail cars through increased vertical clearances, and 2) to add capacity through the construction of additional tracks in response to the anticipated restrictions on freight operations expected as a result of an increase in frequency of Amtrak's passenger operations. The project length is twenty-two miles; seventeen miles of track will be available for freight operations and approximately five miles will be shared by freight and passenger operations. Due to new Amtrak policy regarding stopping passenger trains on the mainline, the third track constructed as part of the FRIP should be considered for possible use as a siding at Warwick Station and for commuter rail use to Providence. Additional vertical clearance on some bridges would be necessary to accommodate double-stacked containers. The state is no longer pursuing a container port at Davisville that would necessitate the additional clearance.

#### **Rail Lines**

The 1993 Rhode Island Freight Rail Plan is the most recent of several rail plans in the state. Chapter 4 details the operators, description and physical features, signalization, grade crossings, freight use and demand, and in some cases a history of the line. A summary of the currently operating track systems in the state is provided in Table 5. These summaries are based on information in Part 4 the 1993 Rhode Island Freight Rail Plan.

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<sup>18</sup> Rhode Island Statewide Planning Program, Rhode Island Department of Administration, Goods Movement Survey Report on Rail Shipments, Technical Paper Number 44. September 1974

<sup>19</sup> Division of Planning, Rhode Island department of Administration, Rhode Island Freight Rail Plan. Report Number 82. June 1993

### **Providence and Worcester Railroad**

The Providence and Worcester Railroad Company is a regional freight railroad operating in Massachusetts, Rhode Island, Connecticut and New York. The Company is the only interstate freight carrier serving Rhode Island and possesses the exclusive and perpetual right to conduct freight operations over the Northeast Corridor between New Haven, Connecticut and the Massachusetts/Rhode Island border in Woonsocket. The Company transports a wide variety of commodities for its customers, including construction aggregate, iron, and steel products, lumber, coal, chemicals, scrap metals, plastic resins, cement, and food and beverage products.

### **Seaview Transportation Company**

The Seaview Transportation Company is the sole rail operator at the Quonset Business Park, the former Quonset Point/Davisville naval base, and operates on the track the Navy installed as part of the base. The Seaview operations cover the three main sections of the park: West Davisville, Quonset and Davisville. The rail system consists of about 7 miles of main track and several spurs and sidings. All of the rail system is rated at Federal Rail Administration (FRA) Class I, the lowest acceptable rating. While this rating places operational limits such as the makeup of the trains, excluding passenger operations, and limits on the speed of the trains, Seaview does not see these as problems. The operations at the park are not impacted by the restricted train makeup regulations and Seaview does not move passengers. Additionally the company limits the speed of its operations to “yard speed”, which is 10 MPH. They feel this is a prudent speed given the short run nature of the operations. The Seaview track connects to the Shore Line at milepost 168.4 in North Kingstown.

The company operates five days a week. Although there is a schedule they usually run on an “as needed” basis in order to meet the needs of their customers. In 2004 Seaview moved 2,550 cars of products. These movements were divided among nine companies and involved seven product categories. By far, the forest products category accounted for the bulk of the movements at 54 percent of the total. Plastic components and plastic products accounted for an additional 35 percent. The remaining five products range from less than 5 percent to less than 1 percent each.

**Table 5**  
**Rhode Island Freight Rail Lines**

Rail Line Name	Owner	Freight Operator	Length	Location	Trackage Rights
East Junction Secondary Track	P&W Railroad (in RI) MBTA (in MA)	P&W Railroad	6.9 miles (3.85 in RI)	East Providence	P&W (in RI) P&W in MA (from MBTA)
East Providence Secondary Track	RIDOT	P&W Railroad	7 miles	Cumberland, Pawtucket, East Providence	
Harbor Junction Wharf Industrial Track	City of Providence	P&W Railroad	About 5 miles overall.	Providence	P&W Railroad
Moshassuck Industrial Track	City of Pawtucket	P&W Railroad	0.96 miles	Pawtucket	P&W Railroad
Newport Secondary	RIDOT	None	16.3 miles	Newport, Middletown, Portsmouth	Newport Dinner Train
Pascoag Stub	P&W Railroad	P&W Railroad	0.5 miles	Providence	P&W Railroad
Providence & Worcester Main Line	P&W Railroad	P&W Railroad	12.5 miles	Woonsocket, North Smithfield, Cumberland, Lincoln, Central Falls	P&W Railroad
Quonset Point/Davisville Industrial Track	RI Port Authority and Economic Development Corporation	Seaview Transportation Company	7 route miles 14 miles of track	North Kingstown	Seaview Transportation Company
Shore Line	Amtrak	P&W Railroad	49.7 miles	Westerly, Charlestown, Hopkinton, Richmond, South Kingstown, North Kingstown, Exeter, East Greenwich, Warwick, Cranston, Providence, Pawtucket, Central Falls	State of Rhode Island (inter-city commuter service). P&W Railroad (freight service easements)
Slatersville Secondary Track	P&W Railroad and Town of North Smithfield	P&W Railroad	4.5 miles	Woonsocket, North Smithfield, MA.	P&W Railroad
Warwick Industrial Track	P&W Railroad	P&W Railroad	0.9 miles	Cranston	P&W Railroad

Source: Division of Planning, Department of Administration. Rhode Island Freight Rail Plan, Report Number 82, June 1993  
Updated by Statewide Planning and Department of Transportation to reflect 2006 conditions

## Part 1.3

### PORT FREIGHT

#### Overview

Rhode Island has several port facilities, most of which are on Narragansett Bay. All the Narragansett Bay ports, in Providence, East Providence, Newport, North Kingstown, and Tiverton, have direct access to the Block Island Sound and the Atlantic Ocean through a deep-water channel in Narragansett Bay. The channel enters Narragansett Bay from the south and follows the East Passage proceeding to the east of Prudence Island and on to Providence Harbor. This channel varies between 600 and 1000 feet wide and, in 2005, was dredged to its current depth of 40 feet. There are two branch channels off the main channel; the first is north of Jamestown and proceeds to the Carrier and Davisville Piers at the Quonset Business Park in North Kingstown. This channel is 1000 feet wide leading to the Carrier Pier and 600 feet wide leading to the Davisville Piers; the depth of both sections is between 30 and 35 feet. The second branch passes through Mount Hope Bay and proceeds to the Port of Fall River in Massachusetts. This channel varies between 400 and 600 feet wide and between 25 and 30 feet in depth. Currently there is a liquefied natural gas facility that is being proposed for Fall River. As part of the project a section of Mount Hope Bay will be need to be dredged to 37 feet so the tankers can pass through that branch of the bay. Permits for the dredging are needed from Costal Resources Management Council and the Army Corps of Engineers. The remaining ports, in Narragansett (Port of Galilee) and New Shoreham, are on Block Island Sound. While these are active freight areas, it should not be forgotten that these are waterfront areas and that there is completion from other uses for the space. Current and proposed non-freight uses are noted in the following sections: Allens Avenue Area, East Providence, Northern Bay Region, and Newport Harbor sections.

#### Providence Harbor

Providence Harbor extends south from the Hurricane Barrier in Providence and Bold Point in East Providence to an imaginary east-west line between the Providence - Cranston city line on the west and Pomham Rock Light House on the east. This area can be roughly divided into three major areas plus one large planning area. The three major areas are: the Port of Providence, comprising the southern part of the Providence side of the harbor; the Allens Avenue Area, north of the Port of Providence to the Hurricane Barrier; the East Providence side. The planning area is the Northern Bay Region, encompassing East Providence, Pawtucket and Providence. Each of these areas will be discussed below.

#### Port of Providence

The Port of Providence can divided into two general areas: ProvPort, and the remaining area. ProvPort is located on an enclosed 105-acre site on the west side of Narragansett Bay in Providence. On the water side the port has six (6) berths ranging in length from 450 feet to 688 feet, totaling about 3,500 lineal feet in length. All the berths have a maximum depth of 40' at mean low water (MLW). On the landside, the port has facilities in order to meet the needs and requirements for the transshipment of various cargos:

- Three warehouses totaling 300,000 square feet with ten loading bay doors, over 20 acres of paved open storage area and on-dock rail access with three rail spurs;

- A petroleum tank farm totaling 335,000 barrels with storage capacity in thirteen above ground storage tanks, a fuel depot station consisting of an eight bay loading rack system along with an operating scale and a secured scale house and operation center;
- Two on-dock cement storage facilities with a storage capacity of over 55,000 tons of cement and an available 10,000 square feet of office space.

ProvPort can handle dry, liquid, and break bulk commodities for both imports and exports. Some of the commodities the port handles are: cement, chemicals, coal, cobblestone, heavy machinery, liquid petroleum products, lumber, pearlite, salt, scrap metal, project cargo, and steel products. The cargo carriers that serve the port follow a schedule that meets the needs of the ports customers, therefore they do not operate on a fixed timetable.

Currently ProvPort is evaluating the Port Inland Distribution Network (PIDN), a new system designed to distribute containers moving through the Port of New York and New Jersey by barge to ProvPort in Providence, Rhode Island for its final destination in the greater New England area.

The remaining area in the Port of Providence is comprised of individual companies and agencies operating in the area. Some of these operators are involved with freight, some are located at the port because they were placed in an out of the way location, and others are located there because the space was available. Examples of the first group would include KeySpan, LNG, LP, and Hudson Companies; the second group would include the Narragansett Bay Commission sewerage treatment plant; while the third group would include Johnson and Wales University and the new Save the Bay Center.

The port has intermodal connections to both rail and highway links. The port works with the Providence and Worcester Railroad Company to offer intermodal on-dock rail service with connections to major national lines providing rail service anywhere in the contiguous U.S. and Canada. Additionally the three warehouses have adjacent rail spurs for convenient loading dock accessibility. The port in conjunction with a partner stevedoring company works with a majority of the local trucking companies within New England. Tankers, dump trucks, tri-axes, quads, and flat beds are the types of trucks available to move bulk and break bulk commodities through the port area for loading directly to vessel for export or trucking imported cargo to final destination.

### **Allens Avenue Area**

The Allens Avenue area extends from the northern side of the Port of Providence to the Hurricane Barrier across the Providence River. The area had been served by the Harbor Junction Industrial track, the main line running in Allens Avenue with multiple spurs to various locations on the waterfront. Currently the track between a point south of Thurbers Avenue and its' northern extreme at Globe Street is either torn up, paved over or partially paved over. The Allens Avenue area is an active area with services ranging from marine repair and service, to a truck tire repair shop, to the home of a Russian Submarine Museum. There are also petroleum storage and distribution facilities that receive products on as needed basis from both tankers and barges. A project known as 'Providence Piers' is in planning for the area at the foot of Public Street. This development project will include an artist's consortium, a function center and restaurant, an extended stay hotel, and the reconstruction of a 414-foot section of an existing 754-foot long wharf. Currently the American Cruise Lines, who are signed under a five year agreement, is using part of the Providence Piers area, including the "Dock Conley" dock and some parking areas as the official embarking point for some of the cruises.

### **East Providence**

The East Providence side of Providence Harbor extends from Bold Point (currently Bold Point Park) south about 3.5 miles (as the crow flies) to the Pomham Rock Light House. Previously the Bristol Secondary line served this area, however, the track has been abandoned and most of it has been torn up. There are two active facilities in this area: Wilkes Barre Pier area near Bold Point, and the Mobil Oil Corporation facility at the south end of the area. A third area, the pier at Kettle Point, has been inactive for several years. The Wilkes Barre facility services several companies as petroleum off loading point supplying diesel and home heating fuel. The Mobil facility serves as a sea to shore link for the petroleum pipeline that connects to Mobil facilities in Massachusetts. Deliveries of petroleum products to both facilities arrive by both barge and tanker on an as-needed basis. The Mobil pipeline is discussed in further detail in the pipeline section (Part 1.5) of this report. The City of East Providence plans to convert most of the waterfront area, both north and south of Bold Point, to mixed, non water-dependent uses.

### **Northern Bay Region**

In August 2005 representatives from East Providence, Pawtucket, Providence, RI Economic Development Corporation, RI Department of Transportation, Coastal Resources Management Council, and others met to come up with a “plan of action” for addressing waterfront issues of common concern. Among the key issues are: mass transportation; bike and walking paths; regional approaches to such things as water, sewer, and electricity; and finding ways to improve public access and to restore the quality of the upper bay. All of these issues and the mixed use (residential, office, shops, and marina facilities) development plans the communities have for the waterfront have for have the potential to impact freight port activities particularly in the Allens Avenue Area and East Providence side where current freight activities facilities exist.

### **Port of Davisville**

The Port of Davisville, at the Quonset Business Park, in North Kingstown consists of two 1,200-foot long piers with a total usable space of 6,800 lineal feet of berthing space. Pier 1 is 250 feet wide while Pier 2 is 500 feet wide; both piers are dredged to a MLW depth of 35 feet. The Seaview railroad has rail service on the piers, throughout the business park and connects to the AMTRAK main line. Additionally there is also an adjacent 70-acre laydown area. In addition to the Davisville Piers there is also the “Carrier Pier”, south of both the Davisville Piers and the airport. This pier is currently used for a high-speed passenger ferry to Martha’s Vineyard.

There are two main products that arrive at the port: automobiles and frozen fish. In 2004, 84 ships arrived carrying about 94,000 automobiles. The vehicles are processed in facilities in the port area and then trucked to dealers in the northeast. The second product is frozen fish. Seafreeze Ltd. deals in public cold storage and sea frozen fish and has a 23 million pound cold storage facility at the port. The fish they catch are processed and frozen at sea. When the fish arrive at the port they are loaded into refrigerated rail cars and are shipped to the west coast. The number of ships arriving at the port varies depending on the catch and the ship size, but each year the company loads 40 to 90 rail cars.

No future use of the carrier pier for freight operations is planned; although the passenger ferry carries light freight (primarily household goods) and offers a commercial goods service. One of the constraints to regular freight operations is the piers’ close proximity to the south end of runway 16-34 at the airport where height restrictions would preclude the docking of some vessels.

### **Tiverton Shipping Area**

This area was noted in a previous technical paper<sup>20</sup> and comprised four shipping facilities in the towns of Portsmouth and Tiverton. Facilities were available for handling petroleum products and lumber at those privately owned docks. The facility in Tiverton encompassed the area from about the Massachusetts State line south and west to about the current Bismarck Avenue area. The facility in Portsmouth covered the area from about the base of the Mount Hope Bridge south and west to about Arnold Point.

There are currently two active facilities in the area. The facility at the foot of Terminal Road in Portsmouth is not used for freight; rather it is used as a commercial marine pier and dockage facility. The second facility is at the northern portion of the area in Tiverton and is used as a distribution point for petroleum products. These petroleum products including fuel oil, diesel, and kerosene are delivered to the facility by barge and tanker on an as needed basis and are moved by truck off the site.

### **Port of Galilee**

The Port of Galilee is made up of two ports, one on each side of Point Judith Pond. Galilee is on the east side and Jerusalem is on the west side, and together they make up a single fishing port, known as the Port of Galilee. This port is one of the largest commercial fishing ports on the East Coast and is homeport to over 230 commercial fishing vessels. Additionally the Galilee side of the port serves as the mainland end of a sea link to New Shoreham. Interstate Navigation, also known as the Block Island Ferry, moves both passengers and freight between Galilee and Old Harbor on Block Island. Freight can be transported on either pallets or in trucks, ranging from pick up trucks to large tractor-trailers. The freight is as varied as the island's needs, and is moved as the island's needs demand it. The Block Island Ferry also operates a seasonal passenger ferry out of Fort Adams State Park in Newport.

### **Newport Harbor**

The Newport Harbor extends from south of the Goat Island causeway in a backwards "C" shape to Fort Adams State Park. The bulk of the wharfs and piers are on the north (top or Long Wharf Mall side) and the east (back or Thames Street side) of the harbor. State Pier #9 is the only state owned facility for commercial fishing in Newport Harbor and provides dockage for approximately 60 full-time fishing vessels. The wharfs and piers along Thames Street, while providing dockage for some commercial fishing vessels, are mostly used as dockage for recreational craft and for retail stores and restaurants. The Ida Lewis Yacht Club and Fort Adams State Park complete the rest of the backwards "C" shaped harbor. Although ocean-going cruise ships call at Newport they do not tie up at a wharf or a pier. Tenders, usually the ships' lifeboats, move passengers and supplies between the ship and shore.

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<sup>20</sup> Rhode Island Statewide Planning Program, Rhode Island Department of Administration, Goods Movement Survey Report on Waterborne Shipments, Technical Paper Number 41, October 1974.

## Part 1.4

### AIRPORT FREIGHT

#### Overview

The Rhode Island State Airport System is composed of six airports, which for the purposes of this freight discussion can be loosely grouped as 'general aviation' (Block Island, Newport, North Central, Quonset, and Westerly), and 'air carrier' (Green); with most of the freight handled through Green. For this reason the discussion of airport freight will be grouped into "Green" and "General Aviation". The airport system uses the terms 'mail', "freight" and "total cargo" or "total mail and freight" in describing freight volumes; to keep this report consistent "cargo" is used to describe non-mail and "freight" is the total amount.

#### Green

As noted above there is only one 'air carrier' airport in the state, that being Green. Because of its unique position in the system, the facilities associated with the airport, and its geographic location, Green is the pass-through point for most of the air freight in the state. The table below displays the volume of freight for 2001 through 2004.

<b>Year</b>	<b>Mail (lbs)</b>	<b>Cargo (lbs)</b>	<b>Freight (lbs)</b>
2001	10,740,507	26,943,454	37,683,961
2002	7,466,908	29,502,349	36,969,257
2003	7,201,726	30,375,445	37,577,171
2004	8,210,165	30,209,953	38,420,118

The volume of enplaned and deplaned mail is split about 50/50 while the volume of enplaned and deplaned cargo is split 43/57. Most of the mail (95 percent) is handled by one operator while most of the cargo is split between two operators (43 to 44 percent each). Each of these three operators is based on the general aviation side of the field. Mail and cargo are moved by one of two types of operators: all cargo airline or passenger airline. Freight (either mail or other cargo) moved by a passenger airline is called 'belly cargo' since it is moved in the belly of the aircraft, along with passenger luggage, under the passenger compartment.

In 2004 there were seventeen airlines that moved either mail or other cargo at some time in the year. Nine of the airlines moved at least 1 percent of the freight; these are listed below:

<b><u>All Cargo Airline</u></b>	<b><u>Cargo (lbs)</u></b>	<b><u>Air Carrier</u></b>	<b><u>Cargo (lbs)</u></b>
Airborne Express (now DHL)	13,100,695	Continental Airlines	60,348
		Delta Airlines	351,621
Federal Express	13,791,582	Northwest Airlines	180,415
		Southwest Airlines	1,695,456
United Parcel Service	8,471,961	United Airlines	155,270
		US Airways	602,669

The three all cargo airlines serve the airport with one daily departure during non-holiday periods and increased service to meet increased demand for the shipment of packages during holiday

periods. The passenger airlines have multiple flights per day; the frequency of the flights is a function of passenger, not cargo, demands. There are two cargo facilities at Green. The facility used by the all cargo airlines is located on the general aviation side (Airport Road) of the airfield. The air carrier airlines use the facility on the passenger terminal side (Post Road) of the field.

### **All Cargo Airlines**

All cargo operations are centered in the 49,700 square foot Hangar 2 and the apron on the general aviation (Airport Road) side of the airfield. The building is occupied by three cargo operators (DHL, Federal Express and United Parcel Service), a maintenance fixed base operator, and airport weather services. The freight carriers have off airport sorting facilities and as a result most cargo and mail is loaded directly between trucks and the aircraft. Most of the loading is done in the late afternoon or at night. Cargo consists largely of overnight packages and envelopes, mail order shipping, and just in time deliveries for industrial operations.

There are plans to construct a new cargo building on the parcel behind the airport tower. This raised floor facility will replace the at grade cargo operations in Hangar 2. As part of the work needed on runway 16-34, Hangar 1 will be demolished and the operators there will be relocated to Hangar 2.

### **Air Carrier Airlines**

Air cargo (belly freight and mail) is handled in the airline Ground Support Equipment (GSE) maintenance and operations building. This is an 18,000-square foot (300 feet x 60 feet) metal-sided, prefabricated building located south of the passenger terminal building. The building is made up of twelve 24-foot wide bays occupied by airlines and maintenance operators. The United States Postal Service (USPS) used to sort mail in a separate building to the south of the GSE building, but now all USPS operations are in the GSE building.

### **General Aviation Airports**

The Rhode Island State Airport System also has five general aviation airports. Of the five, North Central is the only airport with a somewhat consistent freight service. This consists of a limited amount of just in time deliveries for local industries and amounts to only a few packages a week. The other general aviation airports (Block Island, Newport, Quonset, and Westerly) have sporadic freight deliveries but no consistent operations. While the possibility of moving freight operations from Green to Quonset has been raised several times in the past, this is not a likely scenario. While facilities at Quonset (notably Landplane Hangar 1) are being upgraded and improved, the cargo operators are reluctant to relocate to Quonset primarily because most of their customers are north of Green and the additional time and mileage required to get to Quonset is unacceptable.

## **Part 1.5**

### **PIPELINE FREIGHT**

#### **Overview**

Pipelines run throughout the state, carry a variety of products or by-products, and range in size from 1 inch or smaller gas and water lines that bring these services to homes and businesses to 100 inch and larger mains distributing water throughout the state. Because pipelines are generally underground and out of sight they are not usually given much thought. They are, however, critical to our lives and the economy, and were it not for pipelines, these products would be transported by rail or truck. For the purposes of this paper we will consider only two products passing through these pipelines and through the state: natural gas pipelines and petroleum products pipelines.

#### **Natural Gas Pipelines**

Natural gas is supplied to Rhode Island through pipelines owned and operated by the Tennessee Gas Pipeline Company and the Duke Energy's Algonquin Gas Transmission Company. The main pipelines enter the state at several locations along the southwest, northern and eastern borders and terminate at natural gas gate stations located within the state. These gate stations mark the point at which the natural gas leaves the transmission company main pipeline and enters the distribution system of the local natural gas company. Due to security considerations a map of the system cannot be shown.

There is currently enough capacity to supply the current service area and the growth in that area. If service were warranted in the western part of the state additional transmission lines and gate stations may need to be built in that area, consistent with state growth policies. The low density typical of this area will likely preclude the economic provision of service. National Grid provides local natural gas service to individual customers within the state.

#### **Petroleum Product Pipelines**

There is only one petroleum product pipeline in Rhode Island; this pipeline is owned and operated by the Mobil Pipe Line Company. Products are delivered to the pipeline from barges or tankers and are then distributed to Hartford, CT and Springfield, MA. The primary product is gasoline although other products could be shipped if the line is cleaned to avoid cross contamination. The pipeline originates in East Providence, and loops through parts of southeastern Massachusetts and northwest Rhode Island before exiting the state and continuing on to its final distribution points. Due to security considerations a map of the system cannot be shown.

## Part 1.6

### CROSSCUTTING FREIGHT ISSUES

#### Overview

The previous five subparts have discussed freight modes as individual areas. In reality these modes do not work in isolation and there are broad areas common to all of them. Freight generally moves on a variety of modes: ship to rail, ship to truck, rail to truck, truck to airplane, and the list can be read in reverse order to complete the transshipment possibilities. Additionally there are broad subject areas that crosscut the freight modes, although the operations and impacts will vary from mode to mode. Some of these crossing cutting freight issues will be discussed below.

#### Intermodal Freight Connections

As noted above freight does not generally move on a single transportation mode<sup>21</sup>. In the vast majority of cases freight goes through an intermodal connection whether at a port, a railroad yard, or an airport. Freight may also go through an intramodal connection: rail cars may be moved from one train to another; trailers on multi-trailer rigs may be moved to a single trailer unit; or packages go through a sorting process and are moved from one truck to another to get to the final destination.

Generally these inter and intramodal connections take place “inside the fence” on a company’s private property, rather than “outside the fence” on public property. This does not mean, however, that “inside the fence” operations should be forgotten or ignored. It is important that these connections be efficient to ensure a smooth and timely delivery system. Should a company approach the state and ask for assistance, the state should not reject the request out of hand but should investigate the request and help as appropriate. Additionally if the state learns of available assistance, whether financial, educational, or another type, the state should disseminate the information.

Instances of intramodal connections on public highways most often occur at the intersection of highways where; for example, triple trailers are allowed on one highway but not on the intersecting highway. There will often be a parking area where trailers can be dropped off and the tractor with the remaining trailers can continue to other destinations. The waiting trailer can then be picked up at another time, probably by a different tractor and driver. These areas could also be used as drop-off points by double or triple trailer rigs moving individual trailers to a series of destinations. In Rhode Island there are no such designated trailer drop-off areas. Multi-unit trucks, as discussed in Part 1.1, are allowed in Rhode Island on a network that includes the Interstates and roadways five miles adjacent to either side of these Interstates.

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<sup>21</sup> An exception to this would be the movement of sub-parts of a product being moved to the final assemble point: automobile body panels stamped in one location are loaded directly from the stamping line into special railroad boxcars and transported to the final assembly facility where the boxcars are moved inside the assembly plant and the panels are directly loaded on the final assembly line

## **Safety**

The terms safety and security are often wrongly used interchangeably, while they both have the goal of keeping personnel and property safe they have different starting points. Safety is concerned with protection from unintentional hazards; a fire caused by an electrical short, an explosion caused by a leaking gas tank, or weather related incidences. Safety is concerned with accidents: preventing them and preventing harm from them.

Safety planning and safety response need to be of concern to both sides the fence. Safety needs to cover pre-, ongoing, and post-incident time frames and to be concerned with freight, freight movements between destinations or connection points and, at the connection points. Safety concerns range from route planning and guidance for hazardous or over-size loads, to accident prevention, to regulating hours worked by truck drivers, to prompt incident response and continuing personnel safety. While these safety concerns are the responsibility of different levels of government, all are important in maintaining a safe state, safe communities and safe freight facilities. The agencies that are responsible for safety on both sides of the fence need to cooperate and be aware of what is happening with each other and on each side of the fence. This includes knowing what type of material is stored or used at a facility, what types of materials are moved or moving through a facility and what types of protection are available to combat potential incidences: different products require different types of equipment and response for fire or spill incidences. Cooperative agreements and mutual aid go a long way to coordinating efforts to maintain a safe freight operating area.

## **Security**

Security is concerned with protection from intentional acts; a fire set by an arsonist, or an explosion caused by a bomb. Security is concerned with deliberate acts of violence; preventing them and preventing harm caused by these acts. Security is both an inside and outside the fence issue. Like safety, security needs to be concerned with freight, freight movements between connection points and at the connection points themselves. Unlike safety, security falls heavier on the federal government and those with a direct responsibility for the cargo than the local and state agencies.

Security responsibilities for local and state agencies are generally limited to police powers, ensuring that the areas "outside the fence" are secure, and that the freight and freight transporters are proper and protected while in the state and in local communities. At the local and state level security, like safety, includes a range of time frames and steps at each time frame. Security should be part of route planning and protection, part of the facility protection, part of the response to any incident, and part of any post-incident activity. This would include, although part of state safety checks, the checking of drivers and freight at truck stops, appropriate response to ongoing incidents, and ensuring that the cleanup and restoration process does not cause breaches in the security network.

Security at the federal level is concerned with protecting the borders of the country and the security of the general population. These activities are centered around the importation of cargo from foreign countries, the movement of freight by air, and the movement of hazardous cargo on waterways. While local and state governments are not responsible for the policies, they may be called on to enact and enforce the policies.

To that end it is important that all levels of government work together to reach a common security goal. The agencies responsible for planning and carrying out safety and security procedures need to work together through all phases of the process. There should be a wide range of individuals and professions involved in the process. The responders to an automobile crash on the highway may well be the responders to freight train crash involving unknown or hazardous substances; the firefighters responding to a house fire one day may be fighting a fire involving potentially dangerous chemicals the next day; police responding to domestic dispute may next be called to a potential bomb threat. In all cases the responders need to know what is expected of them, how to do it and how to do it without conflicts from other agencies.

## **Regional Infrastructure**

Because freight movements often take place across multiple political jurisdictions, whether city, state, region or country the infrastructure across and within these governmental units needs to be coordinated and able to support the freight movements. Restrictions in the ability of infrastructure to handle smooth freight movements can be described in three distinct sizes: constriction points (specific and localized physical or bureaucratic restrictions), capacity (the ability of a link or node in a system to handle a load), and congestion (delay of movements across a wide area). While these will be addressed as separate issues, they all present problems for, and need to be addressed as part of, the regional infrastructure.

### **Constriction Points**

All freight handlers face problems caused by constriction points. These points can be physical: low overpasses, narrow tunnels, or shallow channels; or they can be bureaucratic: truck weights or configurations that are allowed by the originating government but not by other governments along the route. A constriction point can cause capacity or congestion problems by either limiting movements or shifting traffic to other routes. A low overpass or a narrow tunnel can limit the size of a vehicle or load; changes in allowable truck configurations can limit routes or force loads to be broken at one location and then reassembled at another. While constriction points limit capacity and cause congestion, the constriction point is not usually the site of the problem. The problem is usually somewhere else because traffic has to be sent on another route in the system, overloading that part. Addressing a constriction issue is often seen as a local (state or province) issue because the constriction point has a local geographic location. But addressing the issue needs to be done with a regional, national or international perspective so that the constriction point solution, whether physical or bureaucratic, allows the smooth and safe passage of freight throughout the area.

### **Capacity Limitations**

Every transportation system has capacity limitations – capacity is finite and when the demand exceeds capacity the normally uninterrupted flow becomes interrupted – systems are built to handle the majority of the load the majority of the time. One problem in discussing capacity is that there is no generally accepted measure or even definition of capacity in transportation systems<sup>22</sup>. There are, however, measures and definitions for segment or link capacity including ‘volume to capacity ratio’ and ‘level of service’. So it is more meaningful to think of capacity and capacity limitations as segments or places (links or nodes) in the system. Capacity limitations can be either “inside” or “outside” a facility’s fence and are usually caused by an increased demand for the “products” passing through that facility. At other times the capacity of one facility may be limited by capacity limitations on other parts of the system: highway capacity can

<sup>22</sup> Transportation Research Board, Special Report 271: Freight Capacity for the 21<sup>st</sup> Century, Washington D.C., 2003 pg 26.

cause limitations on intermodal facilities by limiting the timing or volume of “products” entering or leaving their gate. Increasing capacity often depends on the physical space available for more storage space or additional equipment. In other cases technology can be used to improve capacity without a physical expansion through the use of improved operations or scheduling changes. In either case the increase in capacity takes planning, time, coordination, and money. Increasing capacity is often a private sector decision based on market decisions, but the increased capacity can have impacts on public sector facilities. Both private and public sectors need to work together as impacts in one part of a system have the potential for causing problems, including congestion, in other parts of the system.

### **Congestion**

While a constriction point is a specific location (or policy), and capacity is the load an area or system can handle, congestion is the result of constrictions or capacity limitations and can cover wide spatial and time frames. Congestion is usually caused by too many users trying to access the same facilities at the same time. The I-95/I-195 interchange mentioned in Part 1.1 is a good example of both these ideas: this constriction point can cause backups (congestion) to the north and south on I-95 and east on I-195 that can reach for miles and last for hours. Congestion is not a cause but rather a result.

Congestion can be recurring (caused by peak hour volumes) or non-recurring (caused by weather, work zones, or crashes). Recurring congestion can be planned for, but non-recurring congestion oftentimes cannot and it reduces capacity and the reliability of the transportation system. Shippers are especially sensitive to unanticipated disruptions to tightly scheduled manufacturing and distribution procedures.<sup>23</sup>

The removal of a constriction point may eliminate congestion if it opens up routes to traffic that had previously been unusable to use it. Similarly the removal of a capacity limitation may open up traffic flow at that location. In either case, however, the action may cause congestion downstream if the new traffic overloads another part of the system. All parts of the system are interrelated and although there is no measure or definition of system capacity it is easy to see where the system slows down, but it is not always easy to see what the solution is. While the freight transportation system may, at times, seem to be a series of unrelated parts, it in fact is one system and needs to be treated as a whole while solving problems that the various parts may have. A breakdown or slowdown in any of the parts can slow down the whole system.

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<sup>23</sup> Federal Highway Administration, Focus on Congestion. <http://www.fhwa.dot.gov/congestion/>



## Part 2

### CURRENT FREIGHT PLANNING EFFORTS IN RHODE ISLAND

#### **Overview**

Currently freight planning efforts, or organizations that should be interested in freight planning, are scattered throughout several state agencies. This section will look at the individual agencies and the efforts within the agencies.

#### **Statewide Planning**

While freight planning has been and is a part of the state's long range transportation plan<sup>24</sup>, the subject of Rhode Island Freight Rail Plan<sup>25</sup>, as well parts of other plans, more could be done to coordinate efforts within Statewide Planning and with the various state plans. This section will look at freight related reports and plans that Statewide Planning has in effect now.

#### **Staff Capacity**

Currently there are five planners that make up the Transportation Section of the Rhode Island Statewide Planning Program (RISPP). Although all have specialties in transportation planning, no one is considered to be an expert in freight planning, nor is anyone designated as a freight planner. The field of freight planning has been growing in importance in other areas of the country for a few years, and it is now emerging in Rhode Island and Statewide Planning as an area of concern. There is a similar situation at RIDOT: there is no designated freight coordinator, although there are two staff members who have developed expertise in rail. To date there has been no formal training in freight planning for staff at either RISPP or at RIDOT other than the occasional freight related conferences or seminars, or the Talking Freight seminars offered by FHWA. Several opportunities in freight related training will be offered by FHWA and other agencies in the future and staff from both agencies will take the opportunity to attend these.

As part of the normal transportation function staff at Statewide Planning and RIDOT are involved in varying degrees with professional transportation associations. Through the affiliation with these organizations we maintain contact with other transportation planners and strive to keep up with the ever-changing transportation industry. These organizations provide a forum for interacting with our peers in other states in planning as well as in operations. The activities of these groups are discussed in the next section.

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<sup>24</sup> RI Statewide Planning Program, Department of Administration, Transportation 2025, State Guide Plan Element 611. August 2004. <http://www.planning.ri.gov/transportation/cover.pdf>

<sup>25</sup> Division of Planning, Department of Administration, Rhode Island Freight Rail Plan, Report Number 82. June 1993

### Transportation 2025 – Surface Transportation Plan

Freight and freight operations are intertwined in several sections of the Transportation Plan as outlined below. Additionally, other sections of the plan, including Design and Safety, have impacts on freight transportation.

Functional Area	Type of Recommendation	Summary
Economic Development	Policies	Support regional freight rail
		Provide full transportation services at Quonset/Davisville
		Recognize that Narragansett Bay is a critical waterway
	Strategies	Construct full interchange at RI-4/I-95
		Complete Freight Rail Improvement Project
Highway	Strategies	Improve access to ProvPort
		Construct full interchange at RI-4/I-95
	Performance Measures	Strengthen enforcement of truck weight laws
		Maintain NHS pavement at “good” or better condition
		Decrease NHS bridge structural deficiencies
Intermodal	Objectives	Reduce interstate incident clearance time
		Interstate operating at posted speeds 80 percent of the time.
		Provide convenient seamless connections
		Expand use of freight rail
	Strategies	Facilitate movements between modes
Planning	Strategies	Provide infrastructure for intermodal movement of freight
		Improve coordination with private sector in freight planning
		Study improved access to ProvPort
Planning	Strategies	Work through congressional and professional groups to participate in transportation deliberations
		Continue addressing regional transportation issues
		Provide adequate transportation staff training to conduct federally mandated planning processes

### Freight Rail Plan

The 1993 Freight Rail Plan updated the 1990 rail plan (which itself was an update of the 1985 rail plan) and provides a general policy framework for the state’s freight rail system. The plan also prioritizes rail rehabilitation projects for funding by the Local Freight Rail Assistance (LFRA) program of the Federal Rail Administration (FRA). In part 661-06, Project Description and Analysis, a total of twelve projects that were eligible for LFRA funding were recommended. It should be noted that LFRA funding is no longer available, there are, however, several limited freight financial assistance programs; some programs overlap the passenger rail financial assistance programs and some are freight only programs. These include: Railroad Rehabilitation & Improvement Financing (RRIF) available for intermodal or rail equipment or facilities, refinancing outstanding debt incurred for the purposes listed above; and the develop or establish new intermodal or railroad facilities; Section 303 funding<sup>26</sup>: the Conference Report accompanying the appropriation identified 55 transportation projects, FRA administered six projects; three broad areas of research and development financial assistance are available, these are the Innovations Deserving Exploratory Analysis (IDEA) programs, the Small Business Innovation

<sup>26</sup> The Transportation and Related Agencies Appropriation Act for FY 2002 (Public Law 107-87, December 18, 2001).

Research (SBIR) Program, and the University Grants program. Additional information on these programs can be found on the FRA website.

Additionally in Part 661-07 a series of policy recommendations, program recommendations and administrative recommendations were made:

***State Rail Policies***

- Development of high/wide freight clearances is critical to the development of an inter-state or through rail capability in Rhode Island. The development of ports to move marine containers is also important in developing the capability.
- Retention of a branch line system is based on the need to service rail dependent businesses. Rail dependent industries contribute substantially to the state's employment and economic welfare.

***Policy Recommendations***

- Preserve rail links to areas with natural or economic resources.
- Ensure the preservation of railroad right-of-ways and abandoned lines as transportation corridors through state ownership.
- Discourage the use of rail rate surcharges and line embargos as a method of subsidizing rail service.
- Future rail acquisitions by the state should preserve the option to operate or lease rail lines to a private operator.
- Encourage private matching funds from shippers in combination with the railroads.

***Program Recommendations***

- Department of Economic Development should promote rail freight transportation as an overall freight policy.
- Rhode Island Department of Transportation (RIDOT) should designate a rail coordinator.
- The state should equalize taxation on rail property with other limited use industrial properties.
- Rhode Island Department of Administration – Division of Planning (RIDOA-DOP) should evaluate the feasibility of instituting a gross revenue tax program for railroads similar to one that was in place in Connecticut.
- The state should pursue the reduction of at grade rail/highway crossings.
- The state should create a state funded rail assistance program.
- The state and congressional delegation should promote a balanced shared use by different rail modes on the Shore Line including development of a third track for freight.

***Administrative Recommendations***

- RIDOT should be the lead agency for project level rail planning and implementation actions.
- RIDOA-DOP should continue as the agency responsible for the update and maintenance of the Freight Rail Plan as an element of the State Guide Plan.
- RIDOT should require railroads to submit annual operating summaries in order to remain eligible for rail assistance programs.
- State law should be amended to allow the state at least 180 days to respond to a railroad offer to sell abandoned right-of-way or other property.
- State statutes that are antiquated or detrimental to efficient service should be repealed or revised.
- Acceptable levels of service performance should be tied to state assistance offered to railroads.

- Analysis of economic impact should be included in large-scale rail improvement projects.

#### **Transportation Improvement Program**

- Rail rehabilitation projects receiving funding assistance should be included in the TIP.

#### **Financing**

- A 'pay as you go method' program of rail assistance should be created by the state.

#### **Further Study**

- A third rail project on the Shore Line should be explored.
- RIDOA-DOP should undertake a study of the taxation and regulatory requirement imposed on railroads and study the feasibility of imposing a gross revenue tax on railroads to be applied toward maintenance and improvement of rail infrastructure.

It should be noted that LFRA program no longer exists, and RIDOT has expended all of the funds it received under that program.

#### **Transportation Improvement Program Project Selection Criteria<sup>27</sup>**

The Transportation Improvement Program (TIP) process is often thought of in terms of passenger vehicle highway projects. Fortunately for transportation and the general population this is not solely the case. Freight related projects, as well as projects in other transportation areas including bicycle and pedestrian projects, are part of the TIP process. Freight projects can fall into two broad categories; those that directly impact the general public, and those that have a freight transportation only impact. Whether a project impacts the public, such as improving the geometry of a highway for better freight access, or is a freight rail project, with the right scoring criteria for all projects public infrastructure will be made better.

The Rhode Island TIP process is designed so that a wide variety of projects can be evaluated. Projects are actively sought through an outreach program to all geographic areas of the state. Submitted projects do not need to be sponsored by a community; they can be submitted by any agency, entity, or individual; by the private sector or an industry, the general public, any local government, or an agency of state government. All projects are scored and ranked within a framework of six major categories: mobility benefits; cost-effectiveness; economic development; environmental impact; degree of support to local and state goals and plans; and safety/security/technology. Additionally each of the categories has specific qualitative and quantitative measures that have been developed for it. This framework ensures that all projects compete on an equal footing. The TAC (see next section TAC Representatives) has freight representatives that can provide background and expertise in freight matters.

#### **Transportation Advisory Committee Representatives**

The Transportation Advisory Committee (TAC) advises the State Planning Council on transportation planning and encourages public involvement in the process. The TAC reviews and provides input into the transportation planning documents that are the responsibility of the State Planning Council. There are 27 members on the TAC including local officials, state agencies, organizations representing a variety of transportation interests, and citizens from different areas of the state. Currently there is only one member (from the Rhode Island Trucking Association) who directly represents the freight community. There are three members

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<sup>27</sup> Draft NCHRP 8-53 Integrating Freight into Transportation Planning and Project Selection Process: Best Practices Case Study Rhode Island Department of Transportation TIP Development Process & Freight Rail Improvement Program. 2005

who have direct interest in freight operations and movement in the state, from the Rhode Island Economic Development Corporation, Rhode Island Department of Transportation and Construction Industries of Rhode Island.

### **Data and Modeling**

Currently the state highway model does not have a freight component; freight, water, and rail links and economic data are not incorporated (except as retail or non-retail employment), nor are highway freight economic components. The highway freight links are in place as these are the same as passenger car links. Adding the freight links and nodes to represent the traffic flow patterns is relatively simple. The location of rail lines, rail depots, freight sorting centers, and ports are known and many of these locations can be, or all ready have been, plotted in the GIS system that is the basis of the state transportation model. RIDOT has already produced a map of the active, inactive and abandoned rail lines in the state. The assignment of data to the model will prove to be a more challenging task.

Some freight data is available for a wide area such as a statewide level, and is available from sources including the Freight Analysis Framework Commodity Origin – Destination Database<sup>28</sup>. Data, however, can be difficult to obtain on the level needed for modeling at the traffic analysis zone level. Carriers are reluctant to share proprietary information on the number of movements and the location of the origins and destinations of these movements. The lack of this information limits the reliability of vehicle miles of travel in the model.

Vehicle miles of travel (VMT) is a cornerstone of any traffic modeling system. The main discussion around freight VMT is whether its growth will be higher or lower than passenger car VMT growth. Cases can be made for higher growth rates (shifts from rail to truck, less than full truck loads, just in time delivery) and lower growth rates (increasing area densities, and increasing fuel costs driving more efficient deliveries), but the overall thought, which is borne out by some FHWA statistics, is that freight growth rates will out pace passenger car VMT by 10 – 25 percent. If passenger car VMT increases by 2 percent per year, freight VMT would be in the 2.2 – 2.5 percent per year. At that rate freight VMT would double every 28 to 33 years while passenger car VMT would double every 36 years.

Other current modeling issues include:

- Truck classifications: How many categories can or should be included (the range could be between 3 and 21 categories);
- Passenger car equivalencies (PCE): A truck occupies more highway lane space than a passenger car and could throw the volume to capacity (V/C) ratio off, thus a PCE factor of between 1.2 and 2.0 needs to be applied to a truck. The truck category would partially determine the factor to be used;
- Shortage of truck drivers: How would this labor issue impact freight VMT? Time spent away from home makes it hard to recruit new drivers.
- Passenger car VMT: Is there a possibility of decreased VMT due to working at home, four day work weeks, or increased density and smart growth, and more internet or telephone shopping at home?
- The evolution of models: The City of Calgary has a commercial vehicle model component that works simultaneously with the personal auto model. Output includes five trip tables, and a V/C ratio in PCE. The Southern California Association of

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<sup>28</sup> Federal Highway Administration, U.S. Department of Transportation, Freight Analysis Framework Commodity Origin-Destination Database, 2002

Governments and California Department of Transportation use a heavy-duty truck model using three weight classifications.

The Federal Highway Administration is part of a group of government agencies involved in the freight modeling arena. The Department of Transportation along with the Department of Agriculture, the Department of Energy, and the Army Corps of Engineers has initiated the Freight Model Improvement Program (FMIP), which can be found on the web at <http://www.fmip.gov/>. The FMIP is managed by the Office of Freight Management and Operations of the Federal Highway Administration and seeks to:

- Improve the state-of-practice and state-of-art in freight forecasting and analysis models;
- Monitor the state-of-practice and state-of-art in freight demand models and the application of those models to transportation policy and planning at national, multi-state corridor, state, metropolitan, and local levels;
- Provide best-practice assessments, training, tool development, and other short-term improvements to local estimation and forecasting methods;
- Support research to develop a new generation of innovative, multidisciplinary freight models and tools for national, regional, and local transportation analyses;
- Promote consensus building among all freight stakeholders as to needed model improvements and data requirements, and encourage vendors and others to meet those needs.

In addition to the FMIP, FHWA is also involved in a program to improve the overall transportation model program to meet state department of transportation and metropolitan planning organization needs for more accurate and sensitive travel forecasts for transportation planning and emissions analysis. This is the TRAnspOrtation ANalysis and SIMulation System (TRANSIMS) program. There are some significant pieces that need to be put in place prior to deployment. As a result most implementations to date have been limited to development and academic purposes. SAFETEA-LU makes funds available for TRANSIMS deployment in Section 5512. The use of TRANSIMS, of course, would impact not only freight modeling but also all highway modeling.

### **Airport System Plan<sup>29</sup>**

Freight planning was not a consideration in the 1984 Airport System Plan. At the time (1983) freight was not a booming industry at the airport(s) as shown below:

<b>Airport</b>	<b>Freight (lbs)</b>	<b>Notes</b>
Green	11,000,000	4,000,000 lbs by the freight operator, the rest by belly cargo
Block Island	81,000	
Newport	0	
North Central	3,400	
Quonset	203,000	
Westerly	88,000	

In the draft T.F. Green Master Plan (currently under development by the Rhode Island Airport Corporation) there are three “existing airport role” levels of forecasts, a low, a medium, and a high case. There is also an “Augmented Market Share” and “Capacity Constrained Scenario” set of forecasts but neither of these specifically discusses cargo. As a result the current discussion will be limited to the “existing airport role” forecasts. The forecasts for cargo (both belly cargo and all cargo) and all cargo operations are shown below. It should be noted that

<sup>29</sup> Rhode Island Statewide Planning Program, State Airport System Plan, Report Number 47. March 1984

there is no low, medium or high case for the volume of cargo in the “all cargo” category; the amount of cargo is held constant in all three instances. There is a discussion in the draft Master Plan about relocating the all cargo operation from the current Airport Road site to a site abutting the air traffic control tower with access to Industrial Drive. The discussion on belly cargo notes that there will be a projected shortfall of floor space to process both belly freight and mail, indicating that additional space will be needed. The location of the additional space is being explored in the ongoing Environmental Impact Statement for airport improvements.

Year	Belly Cargo (tons)	All Cargo (tons)	Total Cargo (tons)	Cargo Operations
2000	1,750	16,811	18,562	3,433
2020 (Low Case)	2,920	40,380	43,300	6,200
2020 (Medium Case)	8,770	40,380	49,150	6,200
2020 (High Case)	12,170	40,380	52,550	6,200

### **Rhode Island Department of Transportation**

#### **RI Congestion Management Study Technical Appendix 5<sup>30</sup>**

Technical Appendix 5, “Motor Carrier & Freight Survey – Methodology and Results” is one of eighteen appendices to the 1996 RI Congestion Management Study. It is a listing of information derived from a survey mailed to 170 private and for-hire motor carriers in and around Rhode Island, to which 38 responded. The survey focused on operational characteristics, routes of travel, impediments to freight flows, distribution of daily traffic, technology use, congestion impacts and intermodal facility use and freight activities.

Some of the information is still useful including: routes of travel, general structural and regulatory impediments, and difficulties with downtown city pick-ups and deliveries. Other information, given the ten-year gap between the time of the report and now, is probably out of date. This would include: current and future use of technology and specific structural impediment locations (although most to of the congestion locations are probably still congested).

There are no recommendations or conclusions in the appendix, it is a snapshot of how thing are at that point in time. It contains useful and valuable information and should continue to be used as a resource.

#### **RIDOT Commercial Vehicle Operation/Intelligent Transportation System (CVO/ITS) Business Plan<sup>31</sup>**

In 1998 Rhode Island, along with the Rhode Island Trucking Association and The American Trucking Association (ATA) Foundation’s Northeast Transportation Institute began work on a statewide effort to improve highway safety, reduce the costs of complying with regulations and travel delays due to congestion and roadside inspections. The end result of that survey and other work was the RIDOT CVO/ITS Business Plan. The CVO/ITS mission statement: is to *“Improve roadway safety and enhance motor carrier and agency operational efficiency through regulatory reengineering and deployment of advanced technology systems”*.

<sup>30</sup> Vanasse Hangen Brustlin, Inc., Rhode Island Congestion Management Study, Prepared for the Rhode Island Department of Transportation. January 1997

<sup>31</sup> The ATA Foundation, Rhode Island ITS/CVO Business Plan, 1998

The plan has three main goals:

1. Reduce the number and severity of accidents involving commercial vehicles and promote efficiencies in CVO enforcement and motor carrier safety compliance;
2. Promote efficiencies in CVO administrative functions, and;
3. Improve highway operations and motor carrier mobility.

Each of these goals has a series of objectives to provide a framework for CVO/ITS deployments in Rhode Island. The document also outlines the Structures, Roles, Responsibilities, and Procedures; Potential Process Changes; Commercial Vehicle Operation in Rhode Island and; Benefits and Costs of CVO/ITS and ITS in Rhode Island. The final section outlines the linkages of Current and Proposed Rhode Island Initiatives to CVO/ITS Objectives and outlines the required steps needed to qualify for participation in the Commercial Vehicle Information System Network (CVISN) program. Currently the focus of the CVO activities is on the second goal, administrative functions, with the main push in the area of standardizing commercial driver licenses within the state and roadside truck inspections using computers to check truck tags, permits and registrations. The third goal, improving highway operations and mobility, can have specific CVO actions; but also it benefits from any ITS actions to improve highway operations. Actions of this type include advance-warning systems, faster clearing of crashes, and the implementation and use of the 511 highway information system.

### **Coastal Resources Management Council**

The Coastal Resources Management Council (CRMC) has regulatory responsibilities that impact the ports and shipping on Narragansett Bay. These include: the Marine Resources Development Plan, the Special Area Management Planning, the Harbor Management Plans, and dredging projects in Narragansett Bay.

#### **Water "Types"**

The regulations, procedures, and policies of the CRMC are laid out in the Coastal Resources Management Program (CRMP), also known as the "Red Book"<sup>32</sup>. The CRMP was adopted in 1978 and was substantially revised to its current format in 1983. The CRMP identifies six categories of water "types" and designates tidal waters and coastlines of the state accordingly. The water types are shown below.

<b>Coastal Resources Management Council Coastal Resources Management Program Water Types</b>	
<b>Water Type</b>	<b>Description</b>
Type 1	Conservation Areas
Type 2	Low-Intensity Use
Type 3	High-Intensity Recreational Boating
Type 4	Multipurpose Waters
Type 5	Commercial and Recreational Harbors
Type 6	Industrial Waterfronts and Commercial Navigation Channels

<sup>32</sup> Coastal Resources Management Council, Coastal Resources Management Program, As Amended. <http://www.crmc.state.ri.us/regulations/index.html>

Goals, policies and regulatory standards are established for each of these areas and the activities taking place within them. Adjacent shoreline features are also considered as part of the overall determination of activities that are allowed. In sum, the Water Type classifications and Shoreline Features, as well as other regulations, direct what uses may be made of an area and how these uses may be carried out. The channels leading to the ports at Providence and at Quonset/ Davisville are both appropriately classified as Type 6. Maps and descriptions of these and all waters under CRMC purview can be found in their “Red Book”.

**Marine Resources Development Plan<sup>33</sup> (MRDP)** This plan was designed to guide the fuller use by the CRMC of its authority under Chapter 46-23 of the Rhode Island General Laws and under the Federal Coastal Zone Management Act. The vision of the MRDP includes: properly functioning bay and lagoon ecosystems; abundant and sustained fishing and fisheries resources; successful coastal places; and marine-based economic development. The plan outlines strategies for improving the health and functionality of the state’s marine ecosystem, and for providing appropriate marine-based economic development. The MRDP lists strategies for CRMC to promote the public’s use and enjoyment of the state’s marine resources, as well as Council program leadership and coordination roles, responsibilities and capabilities. The plan also outlines implementation activities for the next five years. While there are no specific references to any of the ports or any shipping on Narragansett Bay, other CRMC documents address ports.

#### **Metro Bay Special Area Management Plan<sup>34</sup>**

The Metro Bay Special Area Management Plan (SAMP) aims to accomplish the goals of making the Metro Region of Narragansett Bay a more appealing place to live and work by improving the economic, social and environmental resources of the working waterfront; attracting major developers with more predictable and efficient permitting; providing recreation and access to the water; and providing a functional framework for future environmentally and economically sensitive redevelopment of the SAMP boundary encompassing most of the waterfront in the four cities (Cranston, East Providence, Providence and Pawtucket). The Providence River and Harbor Dredging Project was one of the planning initiatives under the Metro Bay SAMP.

#### **Special Area Management Planning<sup>35</sup>**

The Providence Harbor Special Area Management Plan is an outcome of the Rhode Island Coastal Resources Management Program’s continuing commitment to the problems of the urban waterfront surrounding the Seekonk and Providence Rivers and Upper Narragansett Bay. While the plan addresses the overall Providence Harbor, Section 3 specifically addresses the port development. This section includes a description of the boundaries, port facilities; areas for expansion, policies for the Providence Harbor line, and policies on port expansion. Also included are problems facing the port industry, and recommendations.

#### **University of Rhode Island Transportation Center**

The University of Rhode Island Transportation Center (URITC) was established in 1999 at the University of Rhode Island to conduct multidisciplinary education, research, technology transfer and outreach for surface transportation systems and advanced transportation infrastructure. The

<sup>33</sup> Coastal Resources Management Council, Marine Resources Development Plan, Final Draft. January, 2006 <http://www.crmc.state.ri.us/projects/mrdp.html>

<sup>34</sup> Coastal Resources Management Program, Metro Bay Special Area Management Plan. 2005 <http://www.crmc.state.ri.us/samp/metrobay.html>

<sup>35</sup> Coastal Resources Management Program, 2005 <http://www.crmc.state.ri.us/samp/index.html>

Center is one of 33 national centers supported by the US Department of Transportation through the University Transportation Centers Program. Much of the research over the past six years has been focused on 'surface transportation systems and advanced transportation infrastructure with special reference to the marine environment'; additionally URITC has adopted a focus of 'sustainability'. Research topics of relevance to the freight community over the past three years include:

- Intermodal Transportation Hub at T. F. Green;
- Developing Intermodal Transportation Station Projects;
- Quonset Point Mixed-use Multi Modal Ferry;
- The Impact of Truck Driver Hours-of-Service Regulations;
- Enhancing Driving Safety through Proper Message Design on Variable Message Signs and;
- Determining the Effectiveness of New Technology Data Collection Devices for Real-Time Transportation System Management.

## Part 3

### CURRENT REGIONAL FREIGHT PLANNING EFFORTS

#### Overview

Several regional organizations, both public and private, are concerned with freight and freight movements within the region. The goal of each of these organizations and their various studies and activities is to improve the movement of freight within and through the region and at the same time ease the congestion on the highway and rail systems in the region. In this part we will look at specific freight studies that have been completed or are ongoing, and regional organizations concerned with freight issues.

#### I-95 Corridor Coalition

The I-95 Corridor Coalition is an alliance of transportation agencies, toll authorities, and related organizations, including law enforcement, from the State of Maine to the State of Florida, with affiliate members in Canada. The Coalition provides a forum for key decision and policy makers to address transportation management and operation issues of common interest. The Coalition works to improve multimodal transportation services in the region through information sharing and coordinated management and operations. The Coalition currently has several freight related projects including: a short sea and coastal options; northeast rail operations; expanded roadside and e-screening models; and a regional electronic oversize/overweight permit system.

#### Northeast Rail Operations Study<sup>36</sup>

The Northeast Rail Operations Study (NEROPS) is one of three such studies being done under the I-95 Corridor Coalition to improve rail transportation throughout the region. The objective of the NEROPS project is to lay the groundwork for the development of a regional rail improvement program that will identify and make recommendations to eliminate key rail choke-points, thereby increasing freight rail and passenger rail service capacity and relieving congestion on the rail, highway and air systems in the New England states and New York.

This is seen as a two phase process: 1) describing the trends, issues, and policies that affect rail transportation in the region; 2) providing a neutral forum through which regional rail stakeholders can work together to identify and address regional issues. There are three anticipated outcomes: Two short-term outcomes are: a regional profile, and an initial identification of regional chokepoints; the third, a long-term outcome, should be a continued dialogue among the regional stakeholders.

Three key issues affecting the region are: 1) transportation issues (congestion, infrastructure, productivity, and competitiveness); 2) socioeconomic and industry issues (changing bases and increasing intermodal services); and 3) policy (limits of rail improvement financing). Statewide Planning and RIDOT have participated in the information gathering and data collection phase of this project.

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<sup>36</sup> Cambridge Systematics Inc., Northeast Rail Operations Study (NEROPS), prepared for the I-95 Corridor Coalition

The current NEROPS study (Phase I) will be completed in 2006. Phase II will provide an opportunity to more fully understand rail freight and passenger flows and how those flows are impacted by the chokepoints, constraints, and issues identified in Phase I. It will also lead to the development of a more detailed regional rail improvement program for the Northeast region and identify potential institutional methods that could be used to implement it.

The other two studies sponsored by the I-95 Corridor Coalition are the Mid-Atlantic Rail Operations Study (MAROPS) and the Southeast Rail Operations Studies (SEROPS). MAROPS is now in phase II and will continue the groundbreaking work undertaken under the original Phase I MAROPS, which was completed in 2004. SEROPS is an ongoing project. Together with NEROPS, these three studies combined cover the states in the I-95 Corridor Coalition.

### **Long Island Sound Waterborne Transportation Plan**<sup>37</sup>

The Long Island Sound Waterborne Transportation Plan is a jointly sponsored project by the New York Metropolitan Transportation Council, the Greater Bridgeport Regional Planning Agency (Connecticut) and the Southwestern Regional Planning Agency (Connecticut). A multi-disciplinary consultant team led by Cambridge Systematics, Inc. performed the plan. The purpose is to explore the potential for expanded use of Long Island Sound and its tributaries for waterborne passenger and freight transportation, and to develop a plan for waterborne transportation for Long Island Sound for the 2002-2025-time period. This comprehensive planning study focuses on maritime services in and around the Long Island Sound and includes a number of coastal communities in Connecticut, New York, and Rhode Island, although there were no recommendations for service enhancements to or from Rhode Island.

The following sites and services were culled from a more comprehensive and are recommended for more detailed assessment:

#### Enhancements to Existing Operations:

- Bridgeport-Port Jefferson (facility and connectivity improvements);
- New London-Orient Point (facility and connectivity improvements); and
- New London-Montauk (service and connectivity improvements).

#### Services Currently in the Planning Stage:

- Container barge between Bridgeport and the Port of New York and New Jersey;
- Bridgeport-Stamford-LaGuardia Airport/Mid-Lower Manhattan fast ferry; and
- Glen Cove LaGuardia Airport /Lower Manhattan fast ferry.

#### Potential New Services:

- PIDN extensions and potential truck ferry from Bridgeport to New Haven and New London;
- New Haven-Long Island North Shore generic assessment, conventional/fast ferry;
- Rye and/or New Rochelle- LaGuardia Airport/Mid-Lower Manhattan fast ferry;
- Westchester/Fairfield Coastal water taxi;
- "Inner Forks" peak season water taxi (Orient-Greenport-Riverhead-Shinnecock-Sag Harbor Village-Montauk); and
- Services recommended for further consideration in the draft Hunts Point Waterborne Freight Assessment.

<sup>37</sup> New York Metropolitan Transportation Council, Greater Bridgeport Regional Planning Agency, Southwestern Regional Planning Agency, Long Island Sound Waterborne Transportation Plan, 2002.  
[http://www.nymtc.org/waterborne\\_plan/index.htm](http://www.nymtc.org/waterborne_plan/index.htm)

## **NASTO Freight Service and Investment Study**<sup>38</sup>

Recognizing the link between efficient freight transportation and economic vitality, the Northeast Association of State Transportation Officials (NASTO), in cooperation with the New England Governors/Eastern Canada Premiers Trade and Globalization Committee, initiated a study to investigate the freight transportation and economic characteristics of the NASTO region. Because the NASTO region is made up of areas with diverse economic/demographic and freight transportation characteristics, the interviews and surveys were grouped and analyzed by subregional areas; Rhode Island is included in the Southern New England sub region (along with Connecticut and Massachusetts). The project relied to a large extent upon existing data and information provided by individual NASTO members. Existing statewide, provincial, and regional freight plans and studies, existing statewide, regional, and national datasets, and other recent freight planning efforts of NASTO members were collected and reviewed. These data were supplemented by interviews and surveys with state and provincial departments of transportation and ministry of transport personnel, interest groups, and private sector freight stakeholders.

An analysis of the interviews and surveys conducted in the data collection task resulted in a set of key issues, constraints, and concerns affecting freight transportation within the NASTO region. These issues were divided into four categories:

1. Infrastructure issues: the physical condition of the region's transportation infrastructure;
2. Operational issues: the existing capacity and level of service provided by the region's transportation network;
3. Regulatory/Policy issues: governmental regulations, incentives or disincentives that affect freight movements on the region's existing transportation network; and
4. Institutional issues: the mandate and resource constraints that prevent transportation planning agencies from conducting effective freight planning on a regional level.

The final report is divided into six sections: Section Six contains the Findings and Conclusions organized by the categories above. The infrastructure recommendations are specific to local areas, the recommendations presented here are for Rhode Island; the operational, regulatory, and institutional recommendations are area-wide.

### ***Infrastructure***

- Consider constructing rest areas along major trade corridors;
- Investigate the feasibility of increasing highway capacity along major trade corridors;
- Continue to support the development of the Quonset/Davisville Port and Commerce Park; and
- Continue the Rhode Island Freight Rail Improvement Program.

### ***Operational***

- Support the implementation of the Port Inland Distribution Network (PIDN);
- Encourage NASTO members to participate in the Commercial Vehicle Information Systems and Networks (CVISN);
- Investigate the use of technology to improve border-crossing operations; and
- Encourage ports and terminals in the NASTO region to utilize intelligent transportation systems and information technology systems.

### ***Regulatory/Policy***

- Investigate the feasibility of harmonizing truck size and weight limits;
- Investigate the feasibility of harmonizing truck-permitting processes;

<sup>38</sup> Cambridge Systematics Inc., *NASTO Freight Service and Investment Study*, Final Report. August 2002.  
<http://www.dot.state.ny.us/nasto/fr.pdf>

- Continue to focus attention and resources on the issue of transportation security; and
- Continue to investigate projects that improve the redundancy of the transportation system.

#### ***Institutional***

- Investigate the feasibility of purchasing regional commodity flow data for use by NASTO members;
- Encourage private sector participation in transportation planning processes;
- Encourage NASTO members to actively participate in multi-state/multi-jurisdictional coalitions;
- Encourage Ontario to play a more active role in the NASTO organization; and
- Establish a freight transportation subcommittee within the NASTO organization.

### **Short Sea Shipping** **Port Inland Distribution Network**

#### **Short Sea Shipping**

Short Sea Shipping is a generic name for a number of alternatives that involve moving freight or passengers from one port to another, not involving trans-oceanic movements. This type of movement can be traced to early shipping movements in the Mediterranean and other inland seas where coastal port-to-port routes were followed. The U.S. Department of Transportation's Maritime Administration defines Short Sea Shipping as: "...commercial waterborne transportation that does not transit an ocean. It is an alternative form of commercial transportation that utilizes inland and coastal waterways to move commercial freight from major domestic ports to its destination"<sup>39</sup>. This concept has the attention of freight planners because of its potential to divert freight from congested highways.

The US Maritime Administration (MARAD), in the fall of 2003, was instrumental in creating a partnership between government and industry, the "Short Sea Shipping Cooperative Program", dubbed "SCOOP", for short. SCOOP will be administered by MARAD and is meant initially to provide a forum for industry stakeholders and government to exchange ideas. SCOOP's near term objectives are: to educate the public, agencies, and politicians on short sea shipping; to improve the quality of life through less congestion and pollution; to identify new opportunities for short sea projects; and to make sure that any solutions contemplated will be compatible with requirements of the shippers who will pay the freight.

There are several short sea shipping alternatives already in operation or being explored around the country. These include: a container on barge project linking Baton Rouge, New Orleans, and Houston, along with ports along the way; the Columbia Coastal Transport currently servicing ports between Boston and Miami; the Detroit-Windsor Truck Ferry; the Totem Ocean Trailer Express which has served Alaska for nearly three decades; and the Port Inland Distribution Network (PIDN).

#### **Port Inland Distribution Network (PIDN)**

In 2001 the Port Authority of New York & New Jersey approved a five-part master plan that was part of an analysis of future investments that would be needed to prepare the harbor to meet the demand for international trade in the 21<sup>st</sup> century. Under the heading of improving inland transportation they developed a series of projects designed to improve connections to and from

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<sup>39</sup> Short Sea Shipping Initiative, Maritime Administration, US Department of Transportation, [http://www.marad.dot.gov/Programs/Shortsea/05/Brochure\\_05.pdf](http://www.marad.dot.gov/Programs/Shortsea/05/Brochure_05.pdf).

the port. These include improved rail and truck access from Bayonne and Port Jersey to the New Jersey Turnpike; improved rail and truck access from South Brooklyn to the Gowanus Expressway; and a concept called the "Port Inland Distribution Network" (PIDN). PIDN is a system of distributing containers moving through the Port of New York and New Jersey by barge and rail -- in addition to trucks. This hub-and-spoke system is designed to move containers by barge to water-accessible points, such as Albany, Camden, Bridgeport, Providence, Wilmington, and Boston. Rail connections could be used to access terminals in New York, New Jersey, Pennsylvania, and Worcester, MA. Rhode Island, both Quonset/Davisville and ProvPort, are part of an inner ring of feeder ports in the PIDN plan. An outer ring includes Massport and extends as far west as Buffalo and Pittsburgh.

There are several problems facing any short sea shipping operation including: the Jones Act<sup>40</sup> (which restricts coastal shipping to US flag vessels); port infrastructure; and port inefficiencies. An additional problem facing the PIDN is the harbor maintenance tax<sup>41</sup>. The harbor maintenance tax (HMT) is an *ad valorem* fee assessed on international cargo and passengers arriving at U.S. ports. A strict reading of the tax requires it to be paid each time cargo passes through a federally maintained channel. This could mean that a tax would have to be paid twice: once on arrival at the hub port and again upon arrival in the feeder port. Should that happen, Quonset Point – where there is no federal maintenance and thus no HMT - would have an advantage over other ports<sup>42</sup>.

As noted above, Providence (ProvPort), Quonset (Port of Davisville), and Boston (Massport) have all been mentioned as connections in the PIDN hub and spoke system. ProvPort is currently evaluating the PIDN proposal; Massport is working closely with the Port of New York/New Jersey to be included in the PIDN program; and the issue is being discussed within the Quonset Development Corporation, which manages the Port of Davisville.

The I-95 Coalition, in November 2005 completed a study of short sea and coastal shipping options<sup>43</sup>. The aims of the project were to:

- Identify and engage the full range of domestic short-sea shipping stakeholders, including state DOTs and MPOs;
- Identify the specific commodity types and traffic lanes that would be amenable to domestic short-sea shipping operations;
- Identify existing domestic short-sea operations, market share, and lessons learned to better understand why these services may not be used to their full potential;
- Conduct a baseline travel-time/cost analysis, to better assess the competitiveness of short-sea shipping compared to the truck and rail modes; and
- Develop recommendations, to guide further development of MARAD's short-sea shipping initiative, help determine the role of the I-95 Corridor Coalition and its member agencies in addressing domestic short-sea shipping issues, and develop criteria for use in selecting potential sites for domestic short-sea shipping demonstration projects.

<sup>40</sup> Jones Act (Section 27 of the Merchant Marine Act of 1920); 46USC 27:1195.

<sup>41</sup> Mclouth, Malcom C., Public Tracking Form for the 2005 Florida Transportation Plan.  
<http://www.ftp2025.com/sc/062905/mclouth.pdf>

<sup>42</sup> Mottley, Robert, "New York-New Jersey's Inland Alternative", *American Shipper*, June 2001.  
[http://www.americanshipper.com/paid/JUN01/toc\\_JUN01.asp](http://www.americanshipper.com/paid/JUN01/toc_JUN01.asp)

<sup>43</sup> I-95 Corridor Coalition, Short-Sea and Coastal Shipping Options Study: Final Report, November 2005.  
<http://144.202.240.28/pman/ViewProject.asp?pid=185>

In the recommendations section the report noted that there were several opportunities for increased short-sea shipping-related and possible next action steps for MARAD and the I-95 Corridor Coalition to consider. These included:

- Enhance existing short-sea shipping education and outreach efforts;
- Continue to engage all the short-sea shipping stake holders;
- Conduct a more detailed market assessment of short-sea shipping;
- Develop detailed case studies of existing short-sea shipping activities;
- Develop a list of desirable characteristics for ports interested in attracting or enhancing short-sea shipping activities and;
- Develop a GIS program to support short-sea shipping activities.

The Coalition is proposing a Phase II to their short-sea shipping project, which would build upon Phase I and other studies to determine the feasibility of advancing short-sea shipping as a viable concept within the region and to define ports where short-sea shipping could become a more attractive option for shippers. It is proposed that phase II would be done in two parts: Part A would consist of outreach events involving short-sea shipping stakeholders including state DOT and MPO staff, ports and port authorities, the marine industry, and key regional shippers and associations. The end product of this part would be a recommendation about whether or not to continue with the second part effort. Part B, if recommended, would be built around data gathered in Part A and could involve a detailed market feasibility assessment and study of cost and performance factors to see where coastal marine services could be a serious competitor in the marketplace. Part B could also involve an assessment of landside infrastructure and port requirements for such services and identification of actions that would need to be taken to encourage new or expanded short-sea operations.

### **New England Regional Aviation System Plan**

In the early and mid-1990s, the FAA, Massport, the Massachusetts Aeronautics Commission and other airports and state DOT's commissioned several studies to examine the growing aviation demand in New England, and the need to provide facilities to meet this demand, notably the 1995 New England Regional Air Service Study. That Study identified the need for increased airline services at regional airports. The Study findings provided regional airports with the information to help market themselves to the airlines.

Since that time, regional airports such as Manchester (NH), T.F. Green (RI), and Bradley (CT) have experienced significant growth. Given this initial success, it was seen as important to examine the potential for these trends to continue, to identify what new issues may develop, and to uncover what opportunities may exist to further enhance the operation of New England's regional system of airports. This includes an examination of the potential of other transportation modes to either provide alternative services or to improve the ability of passengers to reach a wider choice of airports.

Accordingly, the FAA, the New England States, Massport, and other aviation agencies have initiated this comprehensive update to the New England Regional Airport System Plan. The purposes of this update are:

- To identify the region's air transportation demand;
- To examine airport issues from a regional perspective;
- To identify potential actions or policies to meet New England's long-term aviation needs; and
- To prepare a scope of work for Phase II, which will evaluate public policy and strategy.

Freight planning is a small part of the overall plan; passenger demand being the driving factor. Cargo and cargo operations are, however, a part of the plan. The following is a summary of the air cargo forecast principals and assumptions presented in Technical Paper Number 1<sup>44</sup>

- Air cargo is a necessary ingredient to the New England and local economies. However, constraints on air cargo operations at a regional level could affect the competitive position of area economies. Conversely, air cargo activities can support economic development objectives.
- Where airport space is increasingly constrained, passenger activities will take precedence over cargo activities and development.
- Facilities for integrated carriers do not have to be at hub airports. The key considerations for these carriers include availability of sufficient runways, airside facilities, the ability to operate during night hours, space for facilities, and travel times to key concentrations of customers.
- The air cargo projections will be in-line with US projections but will reflect conditions unique to the New England region and its airports.
- The substitution of trucks for domestic air cargo will continue after the current economic downturn recedes.
- The financial condition of the passenger airlines can affect the shape of cargo activities.

The Louis Berger Group, Inc. is the prime consultant, project partners include the eleven air carrier airports in New England, and project agencies include the Federal Aviation Administration, the Volpe National Transportation Center, and state DOT's or aviation authorities from all six New England states. Currently, the completion date for the study is the summer of 2006.

### **The New England Governors' Conference** **The New England Governors and the Eastern Canadian Premiers**

The Conference of New England Governors and Eastern Canadian Premiers was established in 1973. At the annual conferences, the governors and premiers discuss issues of common interest and concern, and enact policy resolutions that call on actions by the state and provincial governments, as well as actions by the two national governments. During the year, the Conference convenes meetings of state and provincial officials, organizes roundtables and workshops, and prepares reports and studies of issues of regional import.

The Standing Committee on Trade and Globalization was established in 2000 to examine, address, and make recommendations regarding issues, opportunities, and constraints to international trade and globalization in the New England and Eastern Canadian regions. In 2003 the committee reported that transportation topics being engaged in by the Committee included: Intelligent Transportation Systems, truck weight harmonization, air service, and the I-95 Corridor Coalition. The committee is now an affiliate member of the I-95 Corridor Coalition and the committee was working with Cambridge Systematics to develop strategies for building upon the NASTO Freight Service and Investment Study, which was presented to the governors and premiers at the previous year's conference. The most recent conference was held in 2005

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<sup>44</sup> The Louis Berger Group, Inc., New England Regional Aviation System Plan, Technical Paper #1, 2002

at St. John's, Newfoundland and Labrador at which Governor Carcieri was co-chair. The conference addressed such topics as trade, energy, oceans management, and the environment.

### **Coalition of Northeastern Governors**

The Coalition of Northeastern Governors (CONEG) is a non-partisan association of the Governors of eight northeastern states (Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont). The coalition encourages intergovernmental cooperation in the northeast on shared issues relating to the economic, environmental, and social well being of the northeast states. The Governors identify priority interests in transportation and the economy, and in the environment and energy that set the framework for CONEG's agenda. Working through CONEG, the Governors share information and experiences on common interests and, where appropriate, forge agreements and undertake cooperative actions on a wide range of regional and state-federal issues.

Transportation and rail issues are two of the current focus points for CONEG's regional initiative. The northeast's transportation system has unique characteristics and an impact on the region's economy. While both freight and passenger policies and initiatives are part of this set, the focus is on the freight side of the issues:

- The region is the most truck-dependent in the nation, with profound implications for freight movement and its related impacts on the region's economy and environment;
- The change in ownership of the region's only Class 1 railroad will have a significant effect on regional railroads as well as the northeast's short-line railroads. The northeast has more short-line rails serving communities than any other part of the nation;
- The regions' transportation infrastructure is heavily used and experiences pronounced seasonal weather variations, contributing to the need for substantial funding for maintenance and construction; and
- While the region is heavily urbanized, it is also very rural. The rural transportation system affects many small communities' ability to generate economic development and provide access to social services.

Fundamental transportation principles underlie CONEG's interests and activities in transportation:

- Safety remains a fundamental cornerstone of the regional and national transportation systems;
- A well-connected, national transportation system is an economic necessity;
- Intermodal networks and new technologies are key to economically competitive and environmentally sound transportation systems;
- The federal/state/local partnership in transportation must be preserved and strengthened;
- Implementation of federal transportation policy should rely on incentives to achieve goals rather than mandates; and
- Continued strong investment in transportation infrastructure, with maximum utilization of federal transportation user fees, is essential to the economic well being of the region and the nation.

### **North Atlantic Transportation Planning Officials**

The purpose of North Atlantic Transportation Planning Officials (NATPO) is to facilitate the exchange of ideas and concepts relative to transportation planning among its membership. The primary focus is on highway planning activities and border crossing issues, but all transportation modes are considered. The NATPO membership consists primarily of the northeastern United States (Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Puerto Rico, Rhode Island, Vermont) and Canadian Provinces east of Manitoba (Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland). NATPO holds an annual conference that rotates among the states and provinces.

### **Summary**

There is a significant amount of freight planning activity at the regional and multi-state level, but often, implementation of strategies falls to groups that are not properly funded or staffed, or that lack jurisdictional authority. Nonetheless, Rhode Island should continue to participate in these discussions to the extent possible and maintain contact with other states and MPO's



## Part 4

### FREIGHT PLANNING NEEDS

#### Overview

The previous parts of this report have looked at the current freight planning situation in the state and in the region. This section of the report will look at the future of and for freight planning within Statewide Planning and interactions with Rhode Island Department of Transportation (RIDOT) and other agencies, consistent with the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) planning provisions.

#### Long-Range Transportation Plan

Historically, dating back to at least 1983, state rail plans and ground transportation plans have been two separate documents. This began because there were separate funding sources for the two plans: Federal Rail Administration (FRA) funded rail plans and Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) funded ground transportation plans. Additionally the RIDOT Division of Planning wrote the earliest rail plans while Statewide Planning wrote the transportation plan. This plan separation continued with the 1993 rail plan, although Statewide Planning wrote the plan. Additionally the 1993 plan was re-titled as a freight rail plan. Then, as now, much of the rail infrastructure in the state served freight needs. The long-range transportation plan was focused more on the movement of people via highways, transit, and bike paths as opposed to freight movements.

The current surface transportation plan<sup>45</sup> incorporates freight planning and activities in several sections including Economic Development, Land Use and Travel Corridors, and Safety. Additionally members of the freight community ranging from freight shippers to Federal Motor Carrier Safety Administration participated in the preparation and writing of the plan.

Given the coordination and cooperation that is needed to maintain a fully functional transportation system it would seem that incorporating freight planning, rail planning, and the traditional surface transportation plan into one document is needed. In addition, the one document would help to ensure that the three areas work together toward a common end of a safe, environmentally friendly and less congested transportation system. Ports and waterways should also be given more attention in the long-range plan.

#### Statewide Planning Point of Contact

It was noted in Part 2 that while the planners in the Statewide Planning Transportation Section have modal specialties in transportation planning, no one is designated as a freight planner or point of contact. Because highway, rail, and air freight are all embedded in the planning process already, there is a basic framework and understanding. Port freight planning, of all the freight planning activities, may be the one area that is least covered or studied in the Statewide

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<sup>45</sup> Rhode Island Statewide Planning Program, Department of Administration, Transportation 2025, State Guide Element 611. August 2004

Planning scope, in part because it is not required by the federal government as part of a funding program. Statewide Planning should designate one individual as the freight point of contact.

### **Department of Transportation Point of Contact**

There is a similar situation at RIDOT: individuals may have rail or other expertise but there is neither an office of freight, nor a designated contact person. Two of the recommendations in the 1993 Freight Rail Plan were: 1) the Rhode Island Department of Transportation should be the lead agency for project level rail planning and implementation actions; and 2) it should designate a rail coordinator. In fact, RIDOT has been the lead agency in much of the planning and actions that are rail related in the state: from the Pilgrim Partnership with Massachusetts Bay Transportation Authority (MBTA); to bike paths on former rail lines; to the state point of contact for the recent rail abandonment of part of the East Providence secondary, East Junction Secondary, and Bristol Secondary by the Providence and Worcester Railroad. What is now needed is a designated freight coordinator with broad modal expertise as well as knowledge of regulatory issues, ITS, CVO, and “inside the fence” activities.

### **Training Opportunities**

While there is an understanding of freight transportation there is clearly a need for additional training in freight planning for both RIDOT and Statewide Planning staff. Most of the training that is available is focused on the public side of freight movements. However an understanding of the private side of freight would also be helpful. FHWA offers a variety of freight training courses of various lengths and topics. Some of the training opportunities are adjustable from one hour to one day depending on the subject and the training need, while other courses are of a fixed length of between 1 to 3 days. Additional training should be sought in the areas of waterborne freight and pipeline transportation (if it becomes available). Staff members should also continue to participate in the Talking Freight seminars offered by FHWA.

### **Data and Modeling**

While modeling is not new to Statewide Planning, the freight component of modeling is new. Statewide Planning should continue to investigate the planning programs and models that are available including the Freight Model Improvement Program (FMIP), and the Transportation Analysis and Simulation System (TRANSIMS) program. It should also investigate the current model to see if a freight component can be added in and run as either part of the overall model or as a separate part of the model. As part of the model selection process decisions will have to be made about model attributes including the number of truck types in the model and the passenger car equivalencies to be used. The availability of data sources, including the Freight Analysis Framework (FAF), and the ability to directly import the data, should be investigated as this may have a part in model selection. Staff should avail itself of all opportunities for freight modeling training offered by FHWA and other agencies.

## Publications and Professional Organizations

In order to keep up with the changing world of freight and freight regulations it is necessary to maintain contact with the various aspects of freight through a variety of means. These can range from passive participation such as subscriptions to freight related publications to active participation in local, regional and national organizations that have freight activities or components.

Professional publications that focus on or at least have freight sections, operations sections, or transportation sections would be of most use in planning and keeping up with ever-changing freight issues. Magazines that have a driver or crew focus might be of less value for planning but could be of some interest. Some of the freight planning related magazines would include:

Rail	<u>Railway Age</u>	<a href="http://www.railwayage.com/">http://www.railwayage.com/</a>
Cargo	<u>World Cargo News</u>	<a href="http://www.worldcargonews.com">http://www.worldcargonews.com</a>
Coastal and inland waters	<u>Work Boat</u>	<a href="http://www.workboat.com">http://www.workboat.com</a>

Additionally there are a variety of web sites that have freight related interests, and on-line newsletters that are available. Generally there is no cost for these although some have sign-up requirements. These include:

### Web sites:

Port Technology	<a href="http://www.port-technology.com/">http://www.port-technology.com/</a>
Metropolitan Water Front Alliance (NY)	<a href="http://waterwire.net/">http://waterwire.net/</a>
Bulk Cargo	<a href="http://bulktransporter.com/">http://bulktransporter.com/</a>

### e-mail newsletters

Bulk freight	<a href="http://www.pbm3.com/plqi/pbmm/nl.aspx?x=25.0.0.0.0">http://www.pbm3.com/plqi/pbmm/nl.aspx?x=25.0.0.0.0</a>
Drivers	"Bulk Logistics Trends"
Trucking	"Drivers Newsline"
Trucking IT	"American Trucker Weekly"
	"InfoTech Newsletter"

Maintaining close contact with professional organizations, both those that have a planning focus as well as those that have an operations focus, are important to the understanding and planning for freight in the state. These include:

### Government

FHWA, Freight management and Operations <http://www.ops.fhwa.dot.gov/freight/>;  
 FHWA, National Corridor Planning & Development Program Coordinated Border Infrastructure Program (CORBOR Program) <http://www.fhwa.dot.gov/hep10/corbor/>  
 The program was not continued for FY 2006-2009 under SAFETEA-LU, however, should a similar program reemerge the opportunity to participate should be examined.

### Planning

American Association of State Highway and Transportation Officials (AASHTO)  
<http://www.transportation.org>  
 Association of Metropolitan Planning Organizations <http://www.ampo.org/>  
 National Association of Regional Councils <http://www.narc.org/>

American Planning Association <http://www.planning.org/>  
Eno Transportation Foundation <http://www.enotrans.com/>  
I-95 Corridor Coalition <http://www.i95coalition.com/>  
ITS America <http://www.itsa.org/>  
North Atlantic Transportation Planning Officials

#### Trade Associations

Coalition for America's Gateway and Trade Corridors  
<http://www.tradecorridors.org/pages/523495/index.htm>  
Council of Supply Chain Management Professionals <http://www.cscmp.org/>  
European Intermodal Association <http://www.eia-ngo.com/>  
Intermodal Association of North America (IANA) <http://www.intermodal.org/>  
The IANA Web site has a page that includes links to organizations and institutions that have a bearing on the intermodal industry; as well as relevant regulatory documents <http://www.intermodal.org/other.html>

It is also important to maintain contact with in-state shippers and in-state freight handlers. Examples of in-state shippers would include Providence and Worcester Railroad and freight organizations such as the Rhode Island Trucking Association; examples of in-state freight handlers would include ProvPort and the Quonset Development Corporation. Outreach to the freight community will be discussed in the following section.

#### **Outreach to Freight Community**

In order for there to be an interactive freight planning process that meets the needs of the state, freight users (customers) and freight shippers, there needs to be a clear line of communication between all parties involved. The line of communication does not have to be either a single line or a single format, nor involve everyone at once. But all parties need to be actively involved. There have been several inroads to open communication between various parties with in the state including the Freight and the Northeast Corridor focus groups involved with Transportation 2025, and the ongoing freight community representation on the Transportation Advisory Committee.

The outreach needs to be a dialogue in which all sides contribute and gain equally. Because of the wide ranging needs and modes of transportation not all parties would necessarily need to sit down together at all times, but all parties need to be aware of what is happening with the other parties. One of the outcomes of the outreach should be that the different parties feel comfortable contacting one another.

A good starting point would be the FHWA course: "Engaging the Private Sector in Freight Planning". The course includes topics such as:

- o How Freight Advisory Committees can help;
- o Who should be included in a Freight Advisory Committee;
- o How do you start a Freight Advisory Committee; and
- o How do you keep the private sector involved?

A full description of the course can be found on the FHWA web site at <http://www.ops.fhwa.dot.gov/freight/fpd/Docs/sector.htm>

Freight representation from the private side (RI Trucking Association) on the TAC should continue and periodic outreach to the freight community as part of plan updates should continue.

### **Guidance to Local Governments**

Freight impacts all of the municipalities in Rhode Island, some more than others. Urban and business areas can suffer from traffic delays caused by smaller delivery vehicles that are double-parked, or from trailer trucks trying to negotiate tight turns. A facility that has a lot of freight traffic and is poorly located in a community with respect to the road system can tie up traffic at times. A traffic accident almost anywhere involving a freight vehicle can tie up traffic for hours. Thanks to on-line and catalog shopping; during a normal week the number of freight delivery vehicles has increased on local streets.

A 2003 NCHRP report<sup>46</sup> listed seven key issues that communities commonly raise regarding freight operations and facilities: communication, traffic flow and congestion, safety and security, economic development, air quality, noise and vibrations, and land use and value. Statewide Planning is in a position where it can inform and guide communities with many of these freight issues. Guidance can be provided for communities in their development of the Comprehensive Community Plan Updates in the areas of land use, economic development, services and facilities, and circulation. Streamlined freight planning at the state level will also be helpful to the communities.

### **University of Rhode Island Transportation Center**

One of the critical needs for freight planning is data. While there is broad data available on national, regional, and state level it is not specific enough for transportation planning. Additional information including frequency of movements, type of vehicle, origin or destination, intermodal transfers, and possibly type of product would all be important in planning for freight transportation needs. The University of Rhode Island Transportation Center through its Transportation Systems Analysis Lab, research capabilities, and staff could be both a source of data, through research projects and origin-destination studies, and a repository for the information. The information could be used for both modeling and as a base for additional freight research projects.

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<sup>46</sup> National Cooperative Highway Research Program, Synthesis 320: Integrating Freight Facilities and Operations with Community Goals, Transportation Research Board of the National Academies, Washington, D.C., 2003

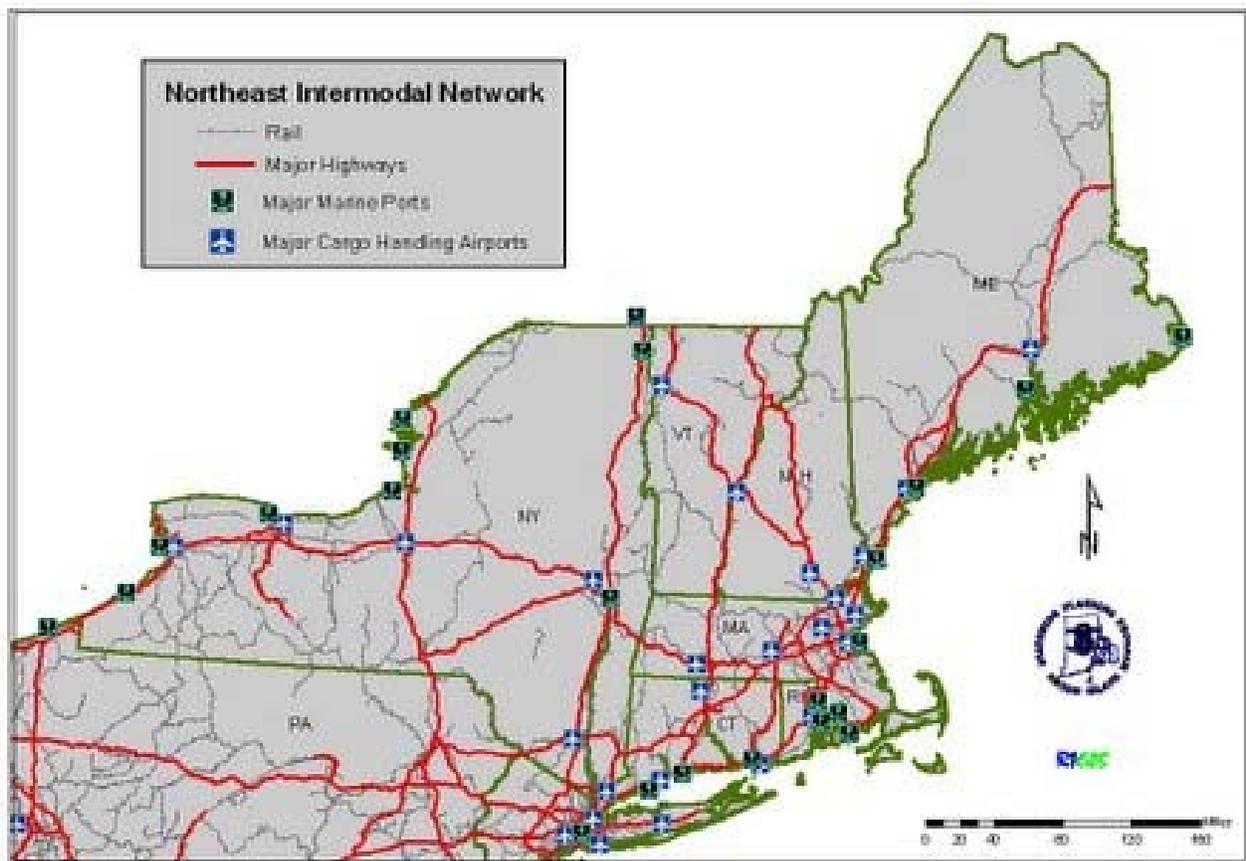
## ACRONYMS USED IN THIS REPORT

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<b>ATA</b>	American Trucking Association
<b>CDL</b>	Commercial Drivers License
<b>CONEG</b>	Coalition of Northeastern Governors
<b>CRMC</b>	Coastal Resources Management Council
<b>CRMP</b>	Coastal Resources Management Program
<b>CVISN</b>	Commercial Vehicle Information Systems and Networks
<b>CVO</b>	Commercial Vehicle Operation(s)
<b>FAF</b>	Freight Analysis Framework
<b>FHWA</b>	Federal Highway Administration
<b>FMIP</b>	Freight Model Improvement Program
<b>FRA</b>	Federal Railroad Administration
<b>FRIP</b>	Freight Rail Improvement Program
<b>HMT</b>	Harbor Maintenance Tax
<b>HPMS</b>	Highway Performance Monitoring System
<b>ITS</b>	Intelligent transportation System(s)
<b>LFRA</b>	Local Freight Rail Assistance
<b>MARAD</b>	Maritime Administration
<b>MAROPS</b>	Mid-Atlantic Rail Operations Study
<b>Massport</b>	Massachusetts Port Authority
<b>MBTA</b>	Massachusetts Bay Transportation Authority
<b>MLW</b>	Mean Low Water
<b>MRDP</b>	Marine Resources Development Plan
<b>NASTO</b>	Northeast Association of State Transportation Officials
<b>NATPO</b>	North Atlantic Transportation Planning Officials
<b>NEROPS</b>	Northeast Rail Operations Study
<b>NHS</b>	National Highway System
<b>PCE</b>	Passenger Car Equivalent
<b>PIDN</b>	Port Inland Distribution Network
<b>ProvPort</b>	Port of Providence
<b>RIDOA-DOP</b>	Rhode Island Department of Administration – Division of Planning
<b>RIDOT</b>	Rhode Island Department of Transportation
<b>RISPP</b>	Rhode Island Statewide Planning Program
<b>SAFETEA-LU</b>	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
<b>SAMP</b>	Special Area Management Program
<b>SCOOP</b>	Short Sea Shipping Cooperative Program
<b>SEROPS</b>	Southeast Rail Operations Study
<b>STAA</b>	Surface Transportation Assistance Act
<b>STRAHNET</b>	Strategic Highway Network
<b>TAC</b>	Transportation Advisory Committee
<b>TIP</b>	Transportation Improvement Program
<b>TMIP</b>	Transportation Modeling Improvement Program
<b>TRANSIMS</b>	Transportation Analysis and Simulation Model
<b>USPS</b>	United States Postal Service
<b>V/C</b>	Volume to Capacity
<b>VMT</b>	Vehicle Miles of Travel

**Figure 1**

**Northeast Intermodal Freight Network**



**Figure 2**

