

Freight Rail Connections

One of the most critical elements that differentiate small to medium niche ports from each other in the competitive regional market is their ability to offer a wide range of cost effective and efficient land based transportation services. This includes competitive truck and rail service providers, efficient road access and freight rail with efficient connections to the national rail system. Larger ports because of higher volume throughputs, and subsequent higher revenues, are able to maintain and improve these services because of the capability to handle large amounts of cargo cost effectively to and from waterfront facilities. Smaller ports face pressure to redevelop rail properties as communities abandon port activities in favor of less-industrial economic development. Many ports have seen the erosion of freight rail infrastructure in favor of commercial development, recreational use of right of ways for trails or the development of commuter services. This erosion of freight rail infrastructure has contributed to the loss of port activity and opened the door to increased gentrification around marine facilities. This has reduced the competitive opportunities for several commercially viable seaports.

New Bedford has freight rail access and a pending rail improvement project that should benefit the local economy. The New Bedford Freight Rail Yard and proposed Transportation Center collectively constitute the primary rail facilities in the Port district of New Bedford. The Massachusetts Bay Transportation Agency (MBTA) has plans to develop the western side of the current New Bedford Rail Yard site as a passenger station and layover yard for MBTA commuter trains as part of the MBTA's South Coast Rail project, which entails the extension of commuter rail to New Bedford and Fall River. The passenger facility is sometimes referred to as the "Whales Tooth" facility. In addition to the station, the MBTA intends to create an adjacent parking lot.

The Commonwealth recently completed the "First Taking" segment of a transaction between the Commonwealth of Massachusetts and freight railroad CSX. In that transaction, certain property along the eastern side of the current yard has been designated for freight purposes. The designated properties include serving yard tracks and connections to:

- The Team Track site owned by the City of New Bedford,
- The Environmental Protection Agency's (EPA) dredged material handling site along Herman Melville Blvd.,
- Rail access to the former Revere Copper facility,
- Rail access to the Maritime Terminals, and
- Developable property along Herman Melville Blvd, retained by CSX.

In addition to the designated freight only facilities in New Bedford Yard, the serving freight railroad (Massachusetts Coastal Railroad, or "Mass Coastal") can access customers at and around Nash Road, and the New Bedford Industrial Park off Braley Road. While the New Bedford Yard site is key to assessing port development potential, the other sites mentioned above may provide additional opportunity for freight rail traffic. In aggregate, New Bedford has access to more rail facilities than many similar sized ports.

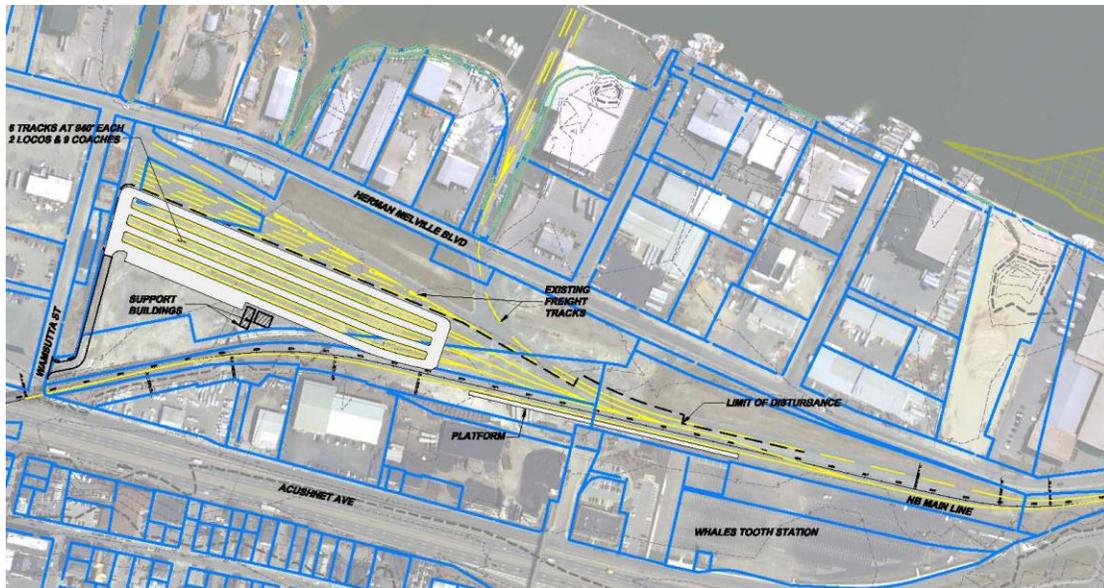


Figure 1 Proposed New Bedford Freight and Commuter Rail Facility

Role of Rail in Development of Small to Medium Size Ports

Rail is increasingly becoming a critical component of port development in small to medium sized ports throughout the United States and Canada. Ports that have allowed this infrastructure to erode have seen decreased port capacity for handling freight, shifting cargo moves to higher cost, lower volume methods, such as truck, making some ports less competitive.

Ports that retain good rail and highway connections have found success in attracting freight and cargo from larger ports that have, in many instances, become more specialized and expensive. Smaller ports often have the ability to be more aggressive in labor costs and terminal pricing but must retain the flexibility to handle a wide range of cargos and adapt to changing market conditions. Essential to this is the ability to handle cargo movements between various transportation modes (vessels, rail and trucks). Terminal and freight yards must be maintained and operated in an efficient manner. In addition, value added services such as Customs port of entry designation, free trade zones, cargo processing and warehousing all contribute to port competitiveness in regard to providing for a full range of services.

There are certain elements that are necessary for freight rail infrastructure to provide proper support to a port. These elements include a local serving yard, transloading capabilities and warehouse and/or cross-dock capabilities. While on dock rail capabilities make movement of certain materials easier, on dock rail is not an essential element. Additionally, specific operating capabilities and clearance restrictions play heavily into the mix.

Rail access allows a port to carve a niche not available to non-rail-served ports. The universe of ports on the East Coast with active rail connections is limited. The Port of New York and New Jersey, Halifax, Norfolk, Savannah, Jacksonville and Miami have developed extensive rail-port infrastructure which has allowed them to develop as significant container ports. Smaller less specialized ports with rail infrastructure have developed as neo-bulk, break bulk or bulk handling ports. The commodities moved through these ports vary. Some examples include Norfolk, which also handles large volumes of coal;

Philadelphia, which moves significant amounts of steel and ingots; and New London, which handles large volumes of lumber. The lumber moving through the port of New London is almost exclusively brought in by rail, stored at the port for distribution and then distributed to local retailers by truck. Other ports handle and process frozen fish as well as pulp and paper which can be brought into port areas in larger shipments by rail that exceed over the road transportation limits.

Rail Components Required for Efficient Marine/Rail Interface

Having a local serving rail yard of adequate size is critical to a port's freight handling capability. The serving yard needs to have sufficient tracks to switch inbound trains and build outbound trains while holding cars, both loaded and empty, for local customers. The yard tracks and switching leads should be of such length to support the longest train contemplated. The current yard at New Bedford meets this requirement. In addition to the existing infrastructure, New Bedford contains a property adjacent to the rail line (shown in red hash-marks in the figure below) that was retained by CSX and is available for development as a transload (or related) facility.



Figure 2 MBTA Sale Exclusion Sites

Rail-served ports also need to have transload capabilities which are critical to the intermodal supply chain. This provides the port with the capability to unload product from, or load product onto railcars. This includes facilities such as the team track facility which was constructed by the City near the corner of Wamsutta and Herman Melville Blvd. This facility, with the paved area between tracks allowing trucks, forklifts and cranes as needed to access rail cars in loading and unloading operations. This transload infrastructure and capability allows the New Bedford to support both the surrounding port area, and the general Southeast Massachusetts region. Additionally, the EPA funded site on Herman Melville Blvd, currently utilized in connection with the New Bedford Harbor clean-up project, provides an additional transload capability, including direct rail to barge, or barge to rail capability. As discussed below, having both near dock and on dock capabilities provide a competitive advantage to New Bedford.

Another element to consider in assessing rail served capabilities is rail-served warehouse and transfer facilities. The EPA funded site offers a number of future capabilities once the New Bedford Harbor clean-up project is completed. The Maritime Terminals facilities also were historically rail served and served as a transfer point or in-transit facility between rail and ship. To be able to compete in certain markets such as in the handling of food and beverage products, finished goods, seafood or project cargoes, having warehouse and in-transit capacity capability is critical.

New Bedford Connections to the National Rail Network

The Mass Coastal Railroad is a short-line railroad based in Hyannis, Massachusetts that serves the city of New Bedford for freight rail purposes. Mass Coastal took over the New Bedford switching operations in early 2010, replacing CSXT, which had served New Bedford since the purchase of Conrail. Mass Coastal in turn interchanges with CSXT, one of two major (Class One) railroads on the US East Coast. Interchange between Mass Coastal and CSXT occurs at Cotley Junction in East Taunton, Massachusetts near the intersection of Route 140 with Route 24. CSX has a rail network that operates from Florida to the northern border of the US, as shown in Figure 20 below. The company, which is headquartered in Jacksonville, Florida, owns approximately 22,000 route miles in the United States. It is one of the three Class I railroads serving most of the U.S. East Coast, along with Norfolk Southern Railway and Canadian Pacific Railway. From Cotley junction CSXT can also access other Class One railroads (such as Norfolk Southern, Canadian Pacific and Union Pacific) across the U.S. as well as regional/short line rail operations in New England. Several short-line railroads in Massachusetts have existing bulk transload and commodity distribution facilities (or have proposed these facilities) that could potentially be linked to New Bedford for import and export of cargoes. In addition, the Free Trade Zone in New Bedford is an attractive feature for developing partnerships with inland rail and facility operators. Figure 19 below shows the freight rail network in Massachusetts and surrounding states.

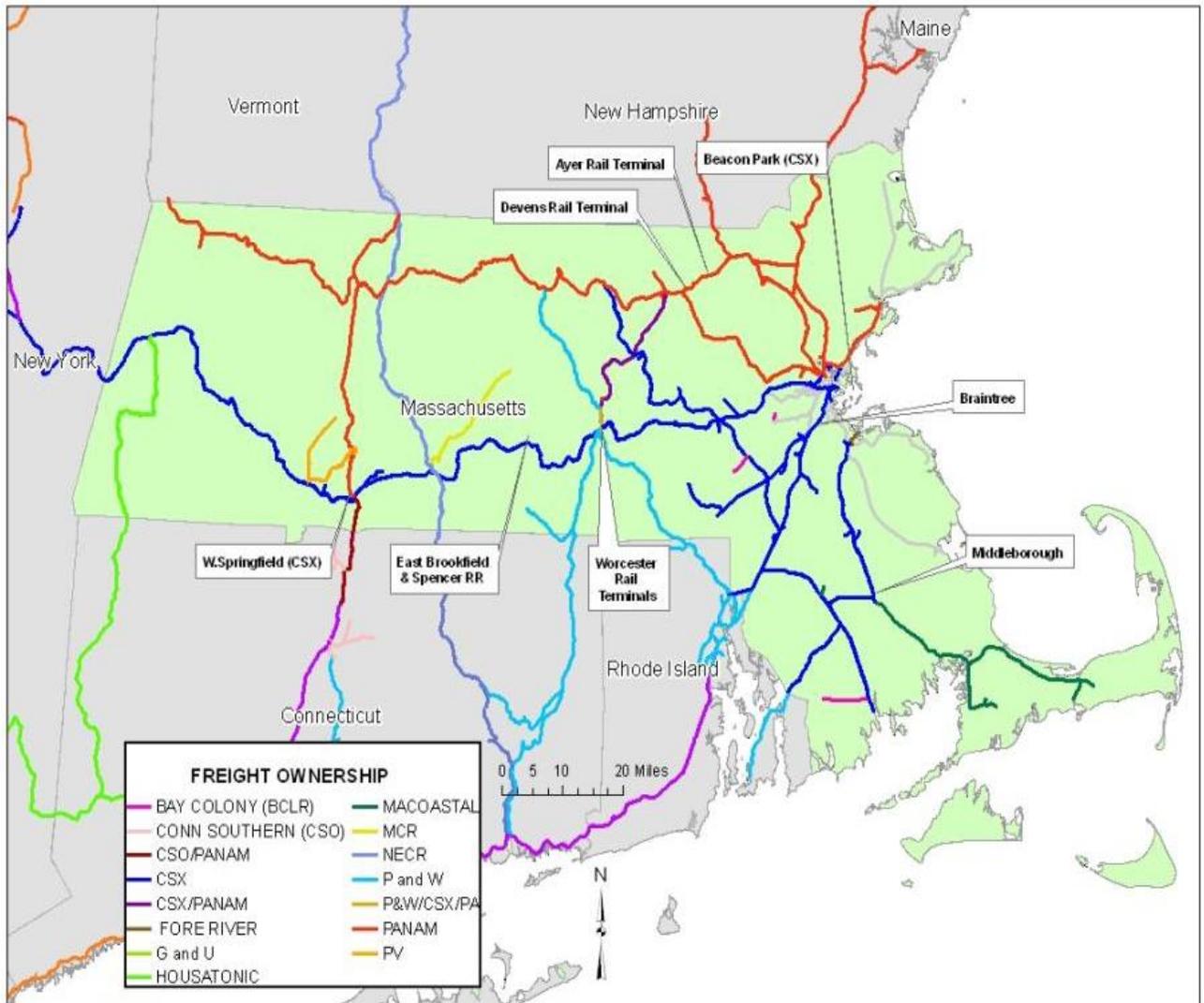


Figure 19 Freight Rail Ownership in Massachusetts



Figure 20 CSX System Map

The actual rail right of way into New Bedford is owned by the Commonwealth of Massachusetts and upon completion of the South Coast Rail passenger project, will be maintained and controlled by the MBTA. Impacts of the MBTA project on potential freight rail in the area are generally positive. While commuter trains will occupy rush hour windows, currently anticipated passenger train operations will

still allow daylight operations and daylight switching at New Bedford. The South Coast Rail project will also result in improved track conditions allowing for the safe and efficient handling of rail cars into the port.

The Port of New Bedford has the potential to service several inland areas through rail connections that currently handle bulk, neo-bulk, and container cargo. This provides the port with the opportunity to develop an inland port connection. Inland ports are successful when they have a variety of transportation options including connections to seaports. Several smaller ports in New England have developed niche markets which have been enhanced through effective rail connections, such as Portland, ME and Quonset Point- Davisville, RI.

The study identified at least one short line railroad, the Mass Central Railroad that expressed interest in working with the port to develop marine transportation connections and take advantage of a foreign trade zone. The Mass Central Railroad (MCER) is a 26 mile railroad that connects with the CSX Railroad in Palmer and extends rail service as far as South Barre, MA. The railroad handles both domestic and international cargo, including commodities shipped to and from Canada and Mexico as well as overseas shipments originating in South America that pass through the Port of New York.

In 2009 the railroad moved 2,032 railcars handling approximately 200,000 tons, equivalent to 8,000 truck loads outbound. In 2010 as of June 30, the railroad moved 3,000 railcars handling 300,000 tons equivalent to 12,000 truck loads outbound. The railroad has a capacity to handle 10,000 railcars or 1 million tons equivalent to 40,000 truck loads outbound. There is also a large amount of available outdoor and indoor storage located in various facilities including 20 acres of outside storage with an additional 100 acres under option. The railroad has 100,000 square feet of indoor storage.

The primary commodities that are handled by Mass Central includes lumber, laminated veneer wood products, plastic, steel including large unit sizes for bridge construction, structural steel parts, rebar, pipe, paper including large rolls of news print, boxed consumer products, paper products, utility poles, electrical parts including transformers, bagged agricultural products, bagged animal feed products, large consumer products including appliances, railroad ties, fencing materials,, construction materials including bagged sand, cement and cement mixes, plumbing and electrical parts, marble, granite, limestone panels, bulk aggregate stone and or sand, auto parts including engines, transaxles and auto body and trim parts, truck parts including stackable truck bodies, engines and transmissions. The railroad also handles rock salt in bulk for use on municipal roadways.

In addition to bulk products, the railroad also handles a variety of packaged food items including canned vegetables, canned specialty products such as ketchup, milk products, spices, herbs, coffee flavorings (Domestic and International), specialty pastas, canned cookies, bulk candies, bulk nuts, canned and bottled olive oil and vegetable oil, beverages including water, beer, formulated drinks, bagged flour, sugar and salt. Commercial and consumer goods include furniture, office equipment, janitorial products including 55 gallon packaged cleaning products, lawn mowers, snow blowers, lawn tractors, recreational equipment including recreational ski vehicles, water craft, consumer products including clothing, shoes, boots and kitchen wares.

Most commodities handled by the railroad move domestically with origin and destination points throughout the United States however they also handle a number of products with O/D points in Canada and Mexico. Overseas bulk, neo-bulk and containerized freight is transshipped though U.S., Canadian and Mexican ports and includes specialty wood products shipped via container and originating in South America.



Figure 21 New Mass Central Salt Shed Near Palmer MA.

The railroad has planned a series of new infrastructure improvements over the next several years for the handling of various commodities. This includes additional inside storage which will be planned to be added in 2011 design to provide 40,000 square feet of storage capable of 3 pallet stacking under open span roof structures. Also planned for 2012, is an additional 40,000 square feet also designed for 3 pallet stacking under open span structures. The railroad is promoting the development of an intermodal container facility with the capacity to handle 9,000 inbound and outbound trucks per week planned for construction for servicing several retail firms in 2012.

In relation to the Port of New Bedford, the combined capabilities of CSX, Mass Coastal and the Mass Central, in addition to the other inland rail connections through Palmer, provide the port with a reasonable inland port capability that can provide efficient and cost effective connections for higher volume cargos. This would make the port comparable to other New England ports such as New Haven and New London, CT; Providence or Quonset Point-Davisville, RI. The ability to connect to outlying facilities provides both the railroad and the port a wide variety of price competitive services with potential Marine Highway connections to ports such as Norfolk, New York/New Jersey, and Halifax.

Rail Right of Way Clearances

The route from the general US rail network to New Bedford has certain restrictions both in terms of the dimensions of a railcar that can be moved over the route and the weight of the cars and lading that can be handled. Rail clearances are primarily dictated by geometry and geography, and are further impacted by structures adjacent to or above the railroad. In that regard it should be noted that certain main line tracks will have a larger clearance envelopes than secondary lines. The lines in southeastern Massachusetts connect ultimately to the CSX main line running between Boston MA and Albany NY. Commodities traveling on this main line are varied, and the railcars carrying these commodities cannot exceed 19'6" above the rail and have a maximum weight restriction of 315,000 pounds per railcar.

The railcars that traverse the lines into and out of New Bedford cannot exceed 15'6" above the rail and are restricted to no more than 263,000 pounds per railcar. These clearance restrictions are primarily dictated by physical impediments related to Amtrak and MBTA operations. Amtrak operates over the line between New York City and Boston known as the North East Corridor. This line is electrified and the overhead wires, called catenary wires, restrict the allowed height of rail cars along this corridor. Cars moving between Mansfield, MA and Attleboro, MA are therefore restricted to a height that will fit below the catenary wires. Additionally, over dimensioned railcars cannot clear the

various station platforms between Mansfield, MA and New Bedford which includes current platforms or proposed platforms. The clearance restrictions may impact the ability to attract extreme over-dimensioned loads to this location, however most typical “high and wide” commodities, such as power production equipment, heavy machinery and wind turbine components will be able to move through this corridor safely and efficiently.

The restriction on these lines to loads not exceeding 263,000 pounds is primarily a restriction dictated by two elements, track condition on CSX owned lines between Framingham, MA and Mansfield, MA and timetable restrictions over MBTA and Amtrak controlled properties. While the lines from Taunton, MA to New Bedford are in poor condition, it is anticipated that the MBTA South Coast Rail project will make these line on par with other MBTA owned and operated properties. When that occurs, the restrictions, other than the portion on CSX owned property between Framingham and Mansfield as noted will be restricted only “by timetable”. This means that while the track structure may indeed be capable of handling heavier cars, there is an administrative restriction precluding such movement. This issue, and a path towards addressing it, is discussed in depth in the Massachusetts State Rail Plan.

Beyond capacity constraints, there are operating restrictions that impact freight movements to and from New Bedford. These are primarily related to passenger rail movements over the various lines between Framingham and New Bedford. The net result of these restrictions is that movements into and out of southeast Massachusetts occurs in the overnight timeframe, and that therefore movements into and out of New Bedford would likely occur during daylight hours, after the morning commute time and before the afternoon commuter window. While current freight service patterns result in 2 to 3 day a week service to New Bedford, there are no operating restrictions that would preclude 5 day a week service for this area (the 2-3 days per week is driven by demand) . Such service would be Monday through Friday, as the CSX trains to and from southeast Massachusetts operate on such schedule.

Economic Impacts of Freight Rail Yard Operations in New Bedford

Maintaining and improving the current rail yard, between Route 18 and Herman Melville Boulevard and south of Wamsutta Street in New Bedford, will benefit the City of New Bedford and improve intermodal freight connections throughout the region. The location of the existing rail yard, adjacent to the port of New Bedford will allow for heavy bulk commodity shipments to travel to and from the port via rail, reducing the number of trucks on such arterials as I-195 and Routes 140 and 24.

Strategic investments to the freight rail system connections in New Bedford are underway, as funding has been awarded through the first round of competitive transportation stimulus funds, or Transportation Investment Generating Economic Recovery (TIGER) grants, for the Fast Track New Bedford Project. This \$20 million transportation grant allows the Commonwealth to rehabilitate five rail bridges (along with station improvements) in New Bedford enabling rail freight flows to continue throughout the region, increasing train speeds, and reducing travel time. According to the application, these improvements will enable future freight flows of up to 1,800 carloads per year, including shipments of PCB dredge material to be moved out of the New Bedford harbor superfund site.

The existence of the rail yard is crucial as an economic driver. Access to the rail yard can leverage additional investment at the port and provide economic development opportunities resulting in additional job growth. The rail yard's close proximity to the port can enable operations at the south terminal to utilize rail, expanding operations, and create up to 51 direct new jobs, and up to 76 indirect

and induced new jobs – see Figure 22 below. Transload and distribution facilities will also benefit from additional rail infrastructure and freight diversion to rail. For example, a new warehousing and transload facility of 20,000 square feet could have as many as 18 to 22 new direct jobs.

	Facility	Direct Jobs	Indirect & Induced Jobs
	Rail yard	5	11
Potential	Transload	18	30
	Marine terminal - containers	16	20
	Marine terminal	12	15
	Total	51	76

*Based on IMPLAN model and job multiplier analysis

Figure 22 Potential Job Creation

In addition to these economic benefits, an additional benefit is the reduction of trucks on Massachusetts highways. Fewer trucks will in turn reduce highway maintenance costs, accidents, greenhouse gas emissions, roadway congestion, and shipper costs. According to the TIGER Grant analysis for Fast Track New Bedford the rail improvements will reduce truck traffic significantly saving as much as 292,000 gallons of diesel fuel per year. This could reduce GHG emissions by an average of 110 tons per year. Therefore the benefits of preserving and maintaining freight rail connections will have significant long lasting impacts statewide by driving down costs, reducing congestion, and providing several positive social and economic impacts.

Development Potential

Freight rail service to southeast Massachusetts will improve due to the improvements in track structure resulting from the MBTA South Coast passenger rail project, and from the introduction of a new, local, freight rail provider, Mass Coastal Railroad. Within the restrictions discussed above, there is significant opportunity to develop rail business to the port of New Bedford and to develop distribution type traffic to and from locations throughout southeastern Massachusetts, including at the New Bedford Industrial Park.

Both port rail development and distribution development will have some of the characteristics of what are sometimes referred to as “freight villages” which are areas where freight can move easily and efficiently between transportation modes and out to the end-users. A “freight village” is composed of a broadly defined intermodal facility at its core. In this context “intermodal” means any commodity that transfers from one mode of transportation to another, whether that would be rail to ship, ship (or barge) to rail, or ship to truck, rail to truck or truck to ship or rail. There is also a potential for the transfer of containerized freight if coastal feeder services as part of the Marine Highway can be developed. The intermodal facility is the catalyst for economic development by companies that store, distribute or provide services in the logistics chain moving consumer products. A typical freight village consists of freight production and distribution facilities and related infrastructure, such as manufacturing facilities, warehousing, cross-dock facilities, repair facilities and office space.

A freight village serves two primary goals:

- It brings together the flow of freight transport managed by transportation and logistics companies to reduce costs and increase productivity; and
- It draws transportation and distribution-related activity to the area because of the consumer-related nature of intermodal freight.

The intermodal terminal within a freight village serves as a magnet, spurring economic development by companies that store, distribute or offer services in the logistics chain movement of consumer products. One such service is the, so-called “stuffing” of containers for the export market. Heavy loads, such as paper and pulp products, could be transloaded into containers in New Bedford and then put on coastal feeder services to larger ports for international export. Performing this service in a designated port area would allow the containers to be loaded to a heavier tare than containers that would have to be transported over State roads. New Bedford is in a position to handle the transload from rail cars to containers much more cost effectively than similar facilities in larger ports where labor and overhead costs are often more expensive. New Bedford is also closer to major export centers such as the Port of New York and New Jersey, Delaware River Ports and the Ports of Norfolk and Baltimore than ports further north such as Portland, Maine which until recently had a successful pulp and paper export feeder service operation. All-water services can also be less expensive to the shipper as they avoid labor assessments for over the road containers in major ports, the terms of which are included in master union labor contracts. Additionally, New Bedford is not subject to the Harbor Maintenance Tax because of its designation as an EPA cleanup site

Freight villages are often Public-Private Partnerships that, when located appropriately, provide significant benefits to the local community, regional economy, transportation providers, shippers and support service providers. New Bedford could develop this type of facility which would provide the port with a full service cargo capability. Companies involved in the transportation and distribution of goods often find many benefits in locating within a freight village, including:

- The presence of existing or shared infrastructure, which minimizes the need for an individual company to expend its capital to develop costly, capital-intensive infrastructure;
- The potential to share resources such as security, maintenance, management and other support services;
- The potential for cost-savings for shipment of goods, due to the opportunity for companies to combine shipments with others in the freight village, and therefore to ship products in highly efficient and lower-cost units;
- Synergistic business opportunities with other companies located within the freight village; and
- The existence of the latest support technologies (software, radio frequency identification systems, real time communication network) and management skills that can be shared among multiple companies.

Freight villages also benefit the public in a variety of ways, including:

- Supporting and enabling trade;
- Environmental benefits (including congestion relief, reduced Vehicle Miles Traveled, and lower energy use);
- Job creation; and
- Restoration of lands to tax roles.

By sharing or consolidating resources and infrastructure, a freight village also minimizes the potential for redundant and or under-utilized infrastructure to be built by either the public or the private sector.

In addition to the direct benefits to the public and private companies directly involved in the supply chain, freight villages also spur long-term indirect and induced economic development in vehicle service, repair, leasing facilities, hotels, restaurants, training facilities, employment agencies, insurance companies and communications companies located throughout the local community.

Demand for Rail Freight Infrastructure in New Bedford

There are several commodities that are described in this Report that are currently transported to/from the Port via truck; there may be opportunities in the future to transport these commodities via rail. One example of this is the fresh fruit that arrives from North Africa on vessels that require approximately 100 to 150 truckloads to transport the fruit from New Bedford to their final destinations in the US or Canada. There is a potential to transport fresh fruit by rail from the Port of New Bedford to inland destinations. Given that these vessels transport an average of approximately 135 truckloads, or approximately 45 railcar loads, there may be a need in the future for staging approximately 50 railcars in New Bedford in order to have the capability of transporting the fruit, or other commodities, via rail.

In addition to the existing commodities and cargo being transported through the Port, there are future potential opportunities that need to be taken into consideration when contemplating the rail freight needs of the Port. These include:

- **Wind Energy Components:** Given that the Port of New Bedford has been identified as the port that will provide infrastructure to support the construction of the Cape Wind project in Nantucket Sound, consideration must be given to the potential for some of the wind energy components to be transported to the Port via rail. If this were to occur, the Port would benefit from having the capability to receive and stage railcars as well as additional areas for transloading and storage of these wind energy components
- **Containerized Refuse and Related Materials:** There is a potential to receive containerized refuse and related materials from Martha's Vineyard. Currently, the waste generated on Martha's Vineyard is primarily transported via trucks which travel on the Steamship Authority ferries. The waste is then trucked to an Energy-from-Waste facility in Rochester, MA. There may be significant cost savings to Martha's Vineyard if this waste could be transported via container through New Bedford and on to railcars for disposal at landfills or Energy-from-Waste facilities.
- **Short Sea Shipping:** There is a potential for New Bedford to attract Short Sea Shipping opportunities. One such proposed opportunity, Jersey Harborside Railroad, would involve

transload of containers from barges to railcars and/or trucks at the Port of New Bedford. In discussions with Jersey Harborside Railroad, there is the potential for 1,000 to 3,000 containers per week. Assuming four containers per railcar, this equates to approximately 250 to 750 railcars per week. However, assuming that this service did become operational, the rail haul would have to be competitive against a truck haul of these containers. At current transportation costs, truck transportation is typically more cost effective than rail transportation for hauls under approximately 300-400 miles.

- **Restoration of Waterfront Sidings:** There is the potential to restore the rail sidings that historically had served the waterfront facilities at the Port. There is the potential for rail freight needs from facilities such as the seafood processing facilities, sand and gravel facilities and the Maritime Terminal. If these rail sidings were to be restored, these facilities could generate several railcar loads (inbound and outbound) per week.

As mentioned previously, there is an existing rail-served facility at the Port of New Bedford which is currently dedicated to the staging of railcars for the transport of dredge materials removed from the Harbor. According to the EPA, as of November of 2010, it is expected that this dredging activity will continue for over 40 years. This is based on EPA's current operation of hydraulic dredging, de-sanding, dewatering and off-site disposal and assumes an annual funding amount of \$15 million per year. Additionally, the railroad stores empty cars awaiting dredge material at the city owned railyard on Wamsutta Street. Given that the EPA facility and a significant portion of the city owned railyard will be dedicated to the EPA dredging project for the foreseeable future, we believe that it would be beneficial to the Port to identify an additional area that would be able to accommodate additional staging capacity for to support potential growth in rail activity at the Port.

There are freight rail operations constraints inherent in the current configuration of the main line track and yard leads at New Bedford. The length of the tail track (the track south of the switch into the freight yard) is the controlling length for outbound freight trains. Additionally, the run-around track which is located on the freight lead, acts as a control or limit to train length. Both the tail-track and the run-around track are fully adequate to meet current rail demands in New Bedford, and collectively accommodate a train length of approximately 16 railcars. However, if the city wishes to position itself to encourage growth beyond that which a 16 car train can handle, some accommodation must be made. Potential engineering solutions to the above constraint are discussed below.

Based on our analysis of potential rail freight opportunities and rail/maritime operations in the Port, the Port of New Bedford would be well served in addressing several elements to ensure an ability to grow rail business, as discussed above. The elements are:

1. Restoring rail connections to former rail served customers (for example Maritime Terminal or American Seafood)
2. Restoring the track south of the currently proposed end of track in order to reach the State Pier with rail, and
3. Reconfigure the main line tracks at and north of the proposed station to accommodate a second track. The reason for this recommendation is two-fold and explained further below.

Extending a second main track from below the station north towards the Wye Track at Nash Road would have three effects, as follows:

- a. This additional track would relieve the train length constraint caused by the short tail track and short run-around track at the Yard in New Bedford (as discussed above),
- b. If designed with a mid-point crossover, could provide an alternative location to store empty cars for the EPA project, freeing up a significant portion of the rail yard for other business opportunities, and
- c. This track would simplify serving the State Pier, obviating the need to move pier traffic into the rail yard and then out again before moving to or from the pier.

If for operating or engineering reasons a second track between the station and Nash Road were deemed not acceptable, adding an additional track(s) at a suitable location north of Nash Road, while creating certain other inefficiencies, could relieve a majority of the concerns raised above. If neither approach described above is feasible, some accommodations at the layover facility could be considered, but at this time we do not think this will be necessary given that it appears likely that at least one, if not both, of the approaches described above should be feasible.

Commodity Handling Potential

A review of common cargoes handled in New England that utilize rail for intermodal moves present a wide range of potential handling opportunities for the Port of New Bedford. The list below summarizes the range of commodities that could be handled on an intermodal basis through the port:

- Manufactured goods
- Minerals, including sand and gravel
- Equipment and machinery
- Chemicals

- Fuels
- Automobiles
- Pulp and paper
- Agricultural products
- Seafood
- Lumber
- Metals, including copper and steel

In addition, the port has the capability to handle project cargo and specialty cargo such as wind turbine components. Most of the commodities can be handled by rail in large quantities. Commodities are more often handled by truck in smaller quantities or if the origin/destination point is near the port. The higher the volume, and the further the O/D point is from the port, the more rail becomes a viable and cost effective option.

Linking port and rail infrastructure improvements will give New Bedford a differentiating element compared to other regional ports of similar size. Such linked improvements allow the port to offer services and achieve market reach that few small to medium sized ports can offer. Harbor improvements such as continued dredging, proposed and existing terminal improvements, and bridge work will make New Bedford more attractive to shippers and receivers. Such land-side improvements undertaken at the same time will leverage the improvements and give New Bedford an infrastructure based competitive advantage in the region. The analysis summarized previously in this report identified a positive economic impact based on job creation related to rail yard development. It also identified a number of commodities which can be handled by rail allowing the port to access areas outside of its immediate service area. For the port to remain successful and sustainable, it must be able to reach beyond the local service area.

An effective rail connection allows the port to develop higher cargo volumes and optimizes terminal utilization, which will reduce per unit or per ton handling costs. In addition, it provides the port with a diverse cargo base which compensates for market cycles that affect revenue. This provides shippers with multiple service options and cost competitive transportation alternatives.