Figure ES.17 Existing East-West Intermodal Connections from West Coast Ports

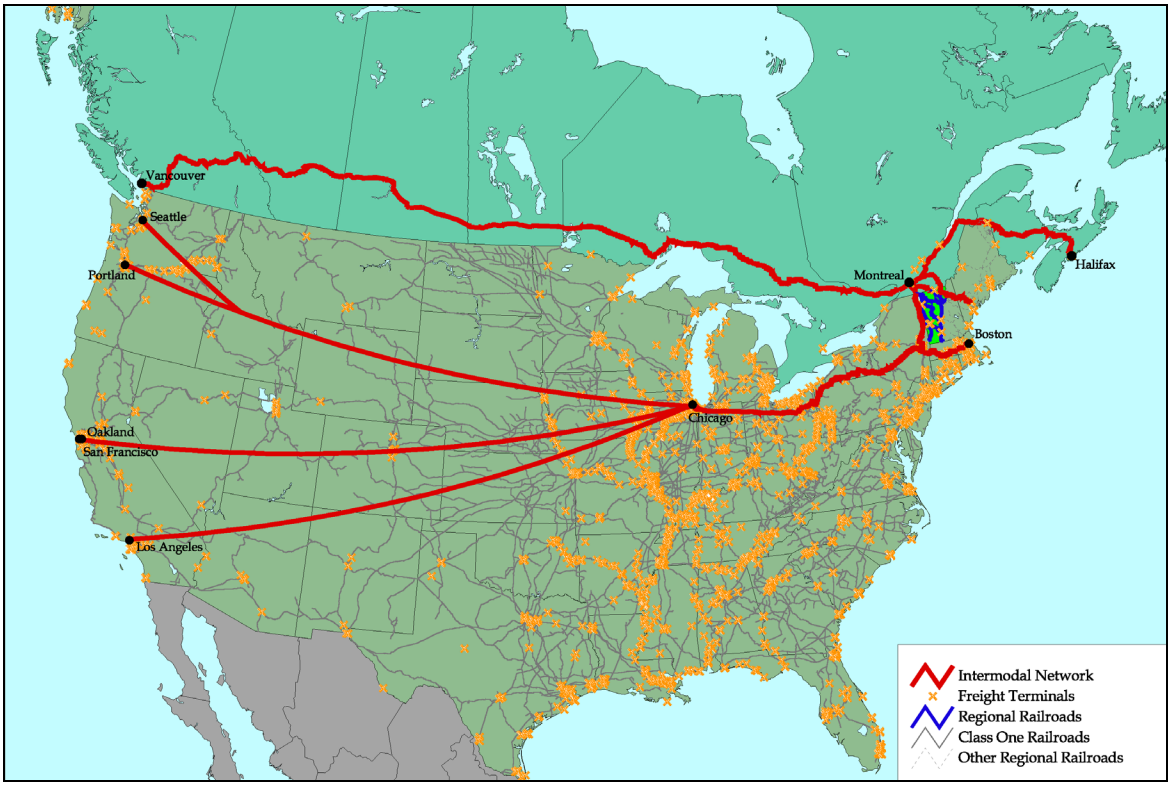


Figure ES.18 Regional View of Existing East-West Intermodal Connections

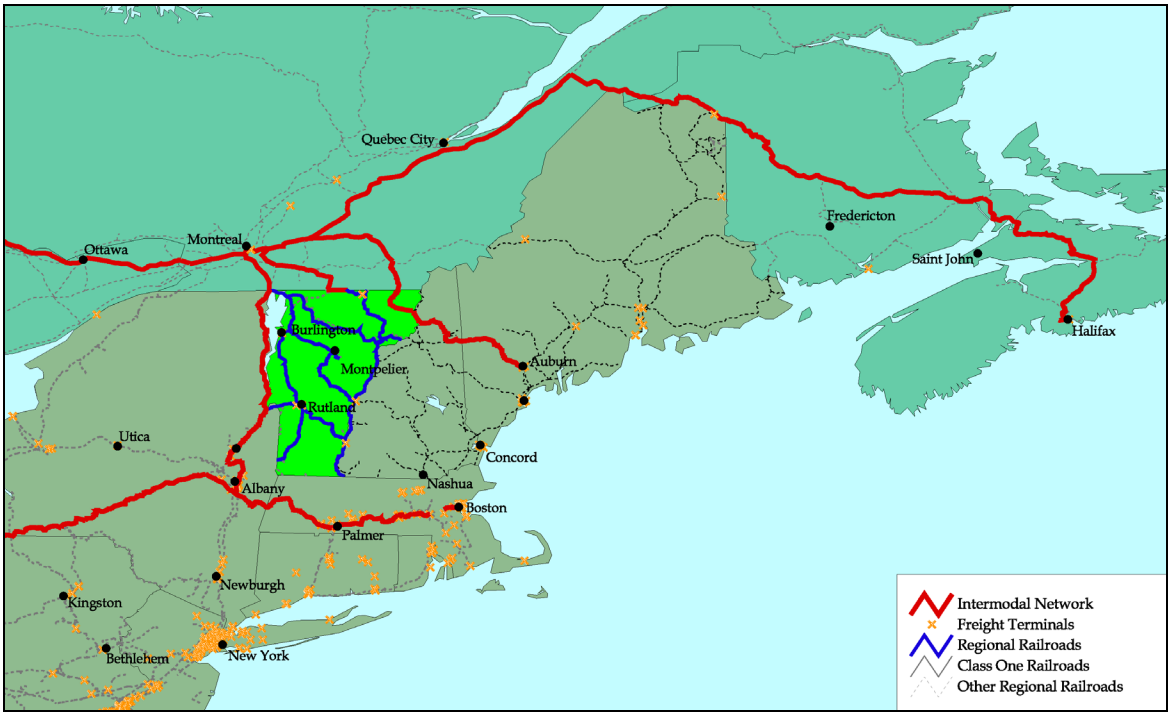
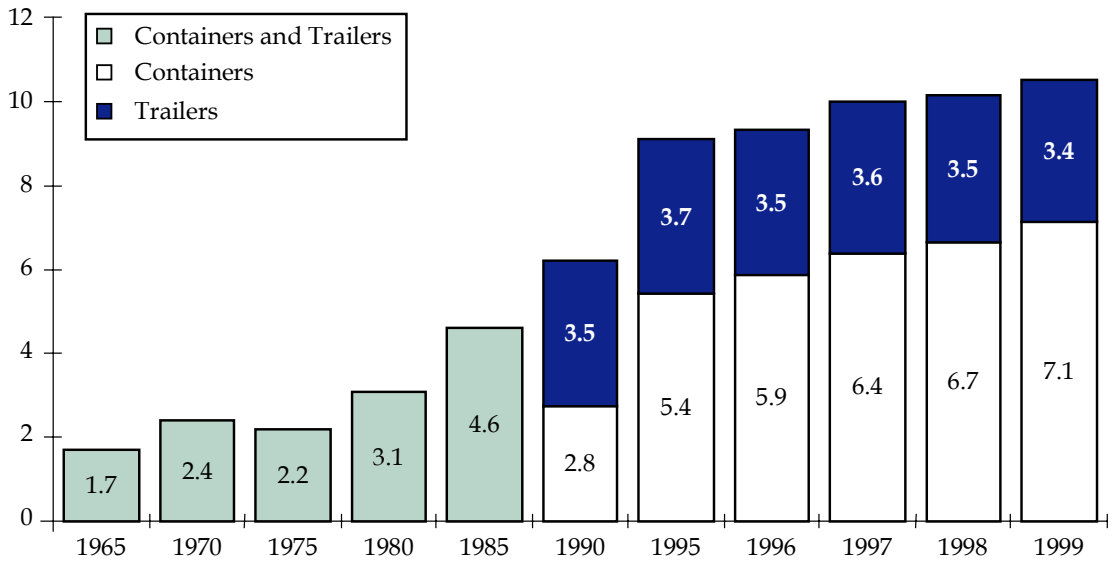


Figure ES.19 Rail Intermodal Growth



In 1997 the state of Vermont completed a study of railroad clearance restrictions for double-stacked trains. The report concluded that there are 30 obstructions within the state. The obstructions included 24 roadway bridges, two tunnels, and four thru-truss railroad bridges. To effectively expand the TOFC/COFC movements on Vermont rail lines, double-stacked clearance improvements must be made. The principle opportunity for double-stacked container movements is from the Vermont rail system connection to the Canadian rail lines. The main lines of both Canadian National and Canadian Pacific have double-stacked clearances connecting to the Midwest and the Canadian Ports on east and west coasts. The Vermont rail system connects to both of these carriers. The possible routes include the lines of New England Central, Clarendon and Pittsford with Green Mountain Railroad, and the Northern Vermont. Each of these potential routes converge in the Bellows Falls area, north of the Bellows Falls Tunnel, located on the New England Central line. The tunnel's existing clearance is 17-6". The structure has been deemed the most critical restriction to developing double-stack intermodal service. Currently, as part of the Vermont Rail Capital Policy Plan, Vermont is evaluating clearance improvements for the Bellows Falls Tunnel.

Expansion of the TOFC/COFC intermodal rail service in Vermont is prevented by the current overhead clearance restrictions. It is therefore recommended that the state implement a clearance improvement program. To provide a complete double-stack clearance route will require bridge improvements in Vermont, as well as in New Hampshire and Massachusetts. Therefore, a multistate, regional approach is critical to this improvement program. With the establishment of a high volume overhead TOFC/COFC route, there could be an opportunity to establish a "satellite" intermodal terminal in Vermont. A terminal of this type would initially attract existing intermodal business using out-of-state

ramps. Longer term, the goal would be to build new business. The Class I railroads usually resist opening small terminals due to small load centers and schedule penalties. However, VAOT may decide to support such a development to better manage truck vehicle-miles of travel from a policy perspective.

Transload Intermodal

There are a number of facilities in Vermont that provide transload services from rail to truck and truck to rail. The facilities are principally related to the handling of bulk material. Significant commodities include lumber, fuel oil, gasoline, propane, steel products, bricks, plastics, and chemicals. The types of facilities are generally classified by their functions: bulk transfers, transload, and warehousing.

Bulk transfers are generally movements of a single product to a terminal. The product, such as fuel oil, is unloaded either into storage facilities or transferred directly from one mode to another.

Transload facilities are consolidation and distribution points for outbound and inbound commodities. A typical transload facility will include rail tracks for spotting rail cars for loading and unloading, laydown areas for storage of commodities, covered storage areas, warehousing for maximum weather protection, security fencing, and office facilities. Additional facility features may include cranes, forklifts undertrack unloading equipment, conveyors, truck and rail car scales, and rail moving equipment to expedite placement of rail cars for loading and unloading.

The principle advantage of a transfer facility is that it can be used by customers who have neither direct access to a rail siding nor the storage capacity to handle the larger rail cars. The warehousing function of the transfer facility also allows shippers or receivers to consolidate material at a single point for distribution as their business requirements dictate. This can enable a local business supplier to purchase a rail car load of product with a price advantage. It also can be used by several customers to split "car load" deliveries. The local placement of the transload facility also reduces the need for a shipper or receiver to move product to or from a distant site via truck, thus reducing the number and distance of truck trips within the state

Warehousing is the third type of non-TOFC/COFC multimodal movement. Warehousing refers simply to commodities that are stored at a warehouse facility for continued movement via rail or truck. A warehouse can be used for inbound or outbound activities, and the building may be heated, unheated, or refrigerated. The principle difference between a warehouse and a transfer site is that the latter includes open storage and indoor facilities that may be limited and less secure. Warehousing can be used for a variety of commodities. Most warehousing is done for finished products requiring specific weather protection and higher security. Typical products include consumer goods, manufactured building materials, food and beverages, and parts and equipment.

One of the principle reasons that shippers utilize trucks is that all business can be accessed by trucks via the highway system. This does not apply to railroads. Therefore, greater access to the rail system is needed to encourage expanded use of rail. The means to accomplish this can generally be viewed as implementing policies that support

connections to the rail system. An example would be to encourage industrial park development to be located adjacent to rail lines and include track design, and possibly construction, in the implementation of industrial park development. Encouragement of rail siding construction to existing or future development sites will increase the use of rail facilities. Currently, there is a state program that provides matching funds for construction of sidetracks for business. This program could be expanded and promoted to support increased rail usage. Specific programs include highway-rail grade crossing improvements, bridge improvements to support newer 286,000 car weights, and a double-stack clearance program.

Amtrak Freight Service

The active use of Vermont rail lines for passenger service provides additional revenue that can be complementary with freight service. This commitment to passenger rail service has provided a means to obtain substantial federal funds for capital rail improvements. Shared freight and passenger operations allows the freight operations on the lines an opportunity to lower fixed costs which in turn has allowed the railroads to market freight operations more successfully. The corresponding revenues increases the ability of the railroad to maintain the track structure to a level that supports efficient passenger and freight operations.

In Vermont, Amtrak has two routes that provide interstate service connections to the Amtrak Rail system. One service is known as the "*Vermonter*." This service originates in St. Albans, Vermont and travels on the NECR line to Palmer, MA. It continues to Springfield, MA, New Haven, CT, and New York City. The second service is the *Ethan Allen* train that operates from Rutland to Whitehall on the CLP then over the existing *Adirondack* train route from Saratoga, Schenectady, Albany, and New York City.

To develop additional services of revenue to assist with their mandate to become self-sufficient, Amtrak began to evaluate adding freight service. Using existing passenger routes, Amtrak developed a business plan to move time sensitive and high value freight traffic with its passenger trains. The targeted commodities are principally those that move by truck. Having obtained concurrence from the Surface Transportation Board to provide this specific freight-related business, Amtrak is seeking to expand its freight-related business. The available Amtrak routes serving Vermont present possible opportunities to provide freight service to specific business interests in Vermont.

Amtrak is developing a national business plan that targets movements of freight across the continental U.S. The significant item to note for Vermont is the main connections to Albany and Springfield/Boston. This provides connection opportunities to both of Vermont's Amtrak trains.

If the impact to Vermont for Amtrak freight service is only viewed in terms of freight diverted from truck to rail, it would be easy to conclude that the benefits will be negligible. However, as discussed above the vitality of the railroad system is largely dependent on the total volume of traffic moved. For the Vermont railroads, increased Amtrak revenue resulting from freight traffic will result in decreased operating costs to the railroads, increased service opportunities for rail served customers, and greater utilization of the railroad infrastructure. A second benefit would be the increased viability of Amtrak passenger services.

The development potential for the Amtrak freight business in Vermont will depend significantly on the success of Amtrak to create a national traffic base. Amtrak has confirmed that freight business is a priority. While specific Vermont business opportunities for Amtrak are currently undefined, areas of potential freight business include rail services, perishable food products, high value shipments such as electronic components, and U.S. mail and courier materials. Amtrak officials noted that excellent relations with Vermont will greatly enhance their ability to market this service.

6.0 Findings, Conclusions, and Recommendations

This section presents the key findings, conclusions, and recommendations of the Vermont Statewide Freight Study. The findings and conclusions are based on the analyses completed for each task. The recommendations have been developed in support of the findings and conclusions.

6.1 Findings and Conclusions

The findings and conclusions are organized around five areas. These areas consist of the economy, the transportation infrastructure, freight flows, intermodal transportation, and institutional issues.

Economy

The Vermont economic trends are favorable compared to national and regional trends.

- Unemployment rates have continued to decline over the last decade, following the national trend, although unemployment rates in Vermont are lower than the U.S. average. These rates fluctuate by county. With the exception of the Northeast Kingdom, the state is at four percent or less.
- Vermont's population is growing slower than the U.S., but faster than the Northeast.
- Manufacturing employment as a percent of total employment has continued to decline and is lower than the U.S. as a whole. Chittenden County and the western and southern counties in general have the highest density of manufacturing employment.
- In addition, Vermont's average wage is one of the lowest in the Northeast.
- Although the relative importance of manufacturing in Vermont has decreased, total manufacturing contributions to GSP have grown.

Based on these trends, Vermont is well positioned to maintain it's position as a positive contributor to the regional, national, and international economy. These will be dependent to a certain degree on its ability to maintain and improve the transportation infrastructure. This will be necessary to support continued economic prosperity and growth.