

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 its 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.

Transportation Infrastructure

The transportation infrastructure in Vermont has met the needs of the businesses based here, but not without creating some inefficiencies, additional costs to shippers and receivers, and restricted modal selection.

Due to the rural character and mountainous topography of Vermont, the highway system does not provide trucks with efficient access to all parts of the state. Specifically, there are no east/west limited access highways. Industry representatives agree that there should be improvements to the existing east/west highway corridors in Vermont. These consist of U.S. 2 in the north, U.S. 4 in central Vermont, and VT 9 in the south. There is a related problem for the north/south corridor along the western border. This corridor consists of U.S. 7 and VT 22A. These highways pass through small community centers, have narrow segments, and steep inclines. VAOT has been working with local communities and industry stakeholders to balance the desire of businesses for better access to plants and markets with citizens concerns about diminishing quality of life resulting from noise and air pollution from increased truck traffic. In addition to in-state efforts, VAOT has been working with the states of Maine, New Hampshire, and New York to improve multi-state east/west corridors.

The expanded truck network defined by the Legislature in 2000 improved the system by designating a statewide truck network with overall truck lengths less than 72 feet (including 53' tractor trailer combinations) can travel without permits. The only exception is the segment of U.S. 4 through Woodstock where a permit is required. Major successes for the business community included the elimination of permits for specific vehicles on the designated network and the opening of key highway segments to larger trucks, such as U.S. 4. Another key issue for truck movements is the variations in local road postings. To access some areas a trucking company must acquire multiple permits, which can be an extremely time consuming and costly activity.

The rail system provides good geographic coverage. This was recently improved upon by the reactivation of the Wells River section along the eastern border. However, the rail system has weight and clearance limits that impact its ability to function effectively in the regional, national, and North American rail system. The maximum weight limit for almost all of the system is 263,000 pounds per car. This is an issue as Class I railroads are typically operating at 286,000 pounds or above. This creates operational problems for interline traffic destined for or moving through Vermont from other railroads. In addition, there are no routes in the state that are double-stack cleared. There are no TOFC/COFC terminals in Vermont, however, there are through train moves currently carrying trailers and containers on flat car. A double-stack cleared route could create a niche market for Vermont railroads.

Another factor impacting rail service in Vermont is the reduced number of direct rail sidings and the limited number of transload facilities. The railroads downsized their systems over the years in response to reduced traffic. In a time of limited capital, these sidings cannot realistically be put back. As a result, there is a demand today for a greater number of transload facilities for the transfer of bulk commodities between truck and rail. This is a market still served by the short lines in Vermont and represents an area the state should consider in future investment decisions.

The airport system consists primarily of state and municipality-owned airports. A limited amount of freight is moved into and out of Vermont by air. It represents less than 0.1 percent by weight. There are three major airports currently involved in freight operations. They consist of the airports in Burlington, Rutland, and Montpelier. These airports serve a critical link in the overnight parcel and mail network. The courier companies must transport their goods by air to ensure next-day service. In fact, VAOT has been looking at the possibility of improving an airport in the Northeast Kingdom for just this reason. In addition, Federal Express is looking to expand its operation in Burlington. Future use of the airport system in Vermont will continue to be for niche markets like overnight service and some limited use by high-tech companies and companies shipping light, perishable products.

The water system in Vermont consists of ferry service across Lake Champlain. There are multiple locations where truck can access this service, although not all facilities accommodate trucks. This service exists to address the geographic barrier created by Lake Champlain. It provides carriers with the opportunity to take more direct routes for some corridors. The other component of the water system that needs to be recognized is the location of major ports in proximity to Vermont shippers and receivers. There are several ports that provide Vermont shippers and receivers with service. They include Montreal, Quebec, Halifax, Boston, and New York/New Jersey. Each of these facilities involves a dray move by truck. West Coast ports can be accessed via intermodal rail for Pacific markets. This port infrastructure consists of multiple competing facilities and provides Vermont with good access to international markets.

Freight Flows

In 1997 there were about 23 million tons of freight moving on the Vermont transportation infrastructure. About 90 percent of this tonnage moved by truck. Rail consisted of about seven percent. These two modes basically carry the freight into, out of, within, and through the state. Through moves are the single largest type of movement representing 35 percent of all tons moved. This is characterized by moves to/from Quebec, New Hampshire, and Massachusetts. Also, Vermont receives significantly more freight than it ships (7.1 versus 2.9 million tons annually). Within Vermont, Chittenden County is by far the largest receiver of freight. Chittenden and Rutland counties are the largest shippers of freight. The freight flow patterns closely follow the economic and population centers.

The commodity flow analysis was originally intended to include data gathered during the Canadian National (Truck) Roadside Survey (NRS) conducted during 1999 and 2000. The Vermont Agency of Transportation, as a member of the Eastern Border Transportation Coalition (EBTC), contributed funds to this effort to capture additional data specific to U.S./Canadian border crossings. This data was not available prior to the analysis and preparation of the freight flows completed as part of this study. However, it will be made available in the spring of 2001 and an addendum to this report will be prepared to summarize the cross-border data that impacts the Vermont transportation infrastructure.

Intermodal Rail Transportation

The intermodal analysis completed for this study was originally intended to explicitly explore the potential for developing traditional truck/rail terminals to serve TOFC/COFC markets. The data collected early in the project suggested that the effort should also address other truck/rail transfer services, such as transload facilities for the transfer of bulk commodities between truck and rail. This was an important component because, as described above, many direct rail sidings have been eliminated over the years resulting in the need for additional transload facilities. In addition, this could potentially represent a shorter-term improvement opportunity.

The existing TOFC/COFC service operating in Vermont consists of through trains. There is no intermodal ramp located in Vermont. The Vermont Railway tested an intermodal service several years ago, but was unable to make it profitable. This is due to two key variables. First, Vermont does not have a single base load shipper. For any intermodal ramp, there needs to be a single customer providing the majority of loads required to make the service profitable. Second, Vermont is surrounded by several large, successful intermodal ramps that can be accessed with a relatively short dray by Vermont shippers/receivers. These consist of Albany, NY, Syracuse, NY, Palmer, MA, and Montreal. The major network of terminals located in Northern New Jersey is also accessible. Therefore, any terminal based in Vermont will need to compete with these established facilities. It is unlikely that a new ramp will be able to attract enough freight from the existing sites to be efficient.

The existing transload service operating in Vermont consists of a network of terminals and yards operated by the railroads serving Vermont. The service has grown in importance as the rail system has been consolidated over the years, resulting in the elimination of rail spurs and direct rail sidings. This service is heavily marketed by the railroads today. Transload facilities provide shippers/receivers with access to rail transportation and storage capacities that otherwise would be unavailable. This enables a local business to purchase a rail car load of product at a lower price per unit, and it provides opportunities for several shippers/receivers to consolidate their freight to take advantage of the economies offered by rail. This translates into lower costs and reduced dependence on trucks.

Institutional Issues

Vermont is a state characterized by beautiful landscapes, quaint old towns and villages, and a quality of life that attracts many. This environment is not conducive for the development of large industrial operations or large trucks moving on substandard highways through small villages. However, in order for Vermont residents to earn a living and serve the tourism industry, it is necessary to have an adequate transportation system. These conflicting goals have been the center of conflicts between the public and private industry. VAOT and the Legislature has been left to mediate these conflicts and work to create a system that addresses the concerns of both groups. The practices of retention and attraction of businesses in and to Vermont are impacted by the desire throughout the state to maintain the quality of life while working to create a strong base of employment opportunities.

This Statewide Freight Study is an important first step for Vermont. It provides data and analyses that explain what is moving, how much is moving, why it is moving the way it is, and what can be done to facilitate future movements. The 2000 truck network created by the Legislature has already addressed some of industry's concerns.

6.2 Recommendations and Next Steps

A series of recommendations and next steps have been developed to assist VAOT in improving the freight transportation system in Vermont in the coming years. These recommendations and next steps address policy decisions, outreach activities, educational exercises, and development and use of new freight planning and modeling tools. The following recommendations and next steps have not been prioritized.

Recommendations

- **Continued monitoring of the designated truck highway network in Vermont.** The existing truck highway network is a very positive advancement in the infrastructure, however, this will need to continuously be reviewed to match economic development, as well as citizen's concerns regarding safety, and noise and air pollution.
- **Continued emphasis on key freight highway corridors, specifically east/west and north/south corridors.** The issue of north/south routes on the western border of Vermont, as well as east/west highways throughout the state continue to be significant factors for efficient freight transportation. VAOT should continue to work towards a viable solution for these corridors.
- **Development of freight-specific projects.** Freight-specific projects should be developed, prioritized, and included in the State Transportation Improvement Plan (STIP). This is the funding mechanism for transportation projects, so the inclusion of freight-specific projects will be critical for addressing improvements to meet the needs outlined in the report.
- **Use of the methodology for prioritizing projects.** The methodology for evaluating freight transportation projects developed as part of this study should be incorporated into the VAOT's planning activities. This will require buy in from VAOT staff and acceptance of the importance freight transportation as a separate goal.
- **Investigation of possible modal diversion analyses.** This study outlines the data needs and methodology for conducting modal diversion analyses. This material should be reviewed and VAOT should consider possible applications of this approach.
- **Develop an outreach program that communicates the findings of this study to the general public to build consensus for freight system improvements.** It is critical to educate the public about the importance of freight transportation in Vermont. The goal of this outreach should be to educate the public as well as provide opportunities for comments with the ultimate objective being the building of consensus regarding freight planning initiatives and project development and implementation.
- **Prepare an action plan to develop double-stack-cleared routes in Vermont.** The future of intermodal rail service in Vermont is directly related to the ability of Vermont to provide double-stack capabilities through the state. A critical element of this plan should be coordination with the surrounding states in the development of cleared routes serving the Northeast.

Next Steps

- **Develop action plan for development of expanded intermodal network.** Regardless of the decision regarding modal diversion opportunities, VAOT should continue to work to improve the intermodal infrastructure serving Vermont. Within the state this would likely include transload facilities in the short term. Regionally, this would likely include consideration of joint efforts with surrounding states and provinces regarding TOFC/COFC terminals. Questions to be addressed would be things like what can improvements to weight and clearance limits to Vermont's rail system do for the regional intermodal opportunities.
- **Incorporate the recommendations developed as part of the Vermont Rail Capital Investment Policy Plan and the Long-Range Transportation Plan.** These plans will be completed in early 2001. These findings should be incorporated into the freight planning activities.
- **Incorporate the Canadian National (Truck) Roadside Survey data.** This data will be incorporated as an addendum to this study. The results of this subsequent analysis should be incorporated into these recommendations.
- **Develop a stakeholders forum for industry representatives to provide input and expertise to freight projects.** Data collected from the industries in Vermont were a critical part of this study. An ongoing forum should be developed that provides VAOT staff with access to the freight industry, as well as the industry representatives access to the transportation planning staff. This should also include involvement of the general public.