A Profile of Freight Transportation in Southwest New Hampshire

A Report Summarizing Results for Tasks 307 and 405 for the FY 2014-2015 SWRPC Unified Planning Work Program

Final Report June 30, 2015

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Acknowledgements

Southwest Region Planning Commission staff would like to thank all of the business representatives that participated in personal interviews, phone interviews or responded to surveys to provide information about freight transportation in Southwest New Hampshire. Though the project’s scope and budget was small, and the information represents feedback from a small sample of freight transportation stakeholders in the Region, it also provides new information that the Planning Commission did not previously have. The information that interviewees shared will be valuable for future transportation planning efforts by the Planning Commission and its Transportation Advisory Committee, and it will assist NH DOT as it proceeds on its larger, more ambitious statewide Freight Transportation Plan.
Introduction

Every two years the Federal Highway Administration (FHWA) provides guidance to metropolitan planning organizations (MPO) and rural regional planning commissions (RPC) on themes it would like the organizations to focus on in their federally funded Unified Planning Work Programs (UPWP). The UPWP describes the transportation planning activities Southwest Region Planning Commission (SWRPC) and other agencies propose to undertake during two consecutive fiscal years. Congress’ 2012 passage of MAP-21 (Moving Ahead for Progress in the 21st Century), identified some new areas that it felt were important to focus on. One of these areas—freight transportation—was an important focus of the legislation, even identifying it as one of seven areas in which communities should improve their performance if using federal transportation funding. Their guidance, which follows, specifically points to the need for rural areas to strengthen access to freight in order to sustain economic development.

**Freight movement and economic vitality—To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.**

As a follow up to the federal transportation bill, FHWA made freight transportation one of the planning emphasis areas in which UPWP’s should focus for the FY 2014-2015 UPWP. SWRPC responded to this guidance by adopting two new tasks in the SWRPC UPWP to gain a better understanding of freight transportation in the Southwest NH region. The objectives of these tasks were:

- To provide the Southwest Region with input and information about existing freight patterns and needs from freight stakeholders (Task 306); and
- To collect and analyze freight traffic volume/vehicle classification data at selected locations on arterial roads in the Southwest New Hampshire Region to understand proportion and direction of truck traffic moving through Region. This task also involved collecting and analyzing rail freight and air freight commodity data at Dillant Hopkins airport in Keene and Silver Ranch airport in Jaffrey transloaded to surface transportation modes in the SW Region (Task 405).

Task 306 was designed as a qualitative analysis, in which various freight transportation stakeholders were interviewed or surveyed to help SWRPC transportation planners better understand freight transportation in Southwest NH. Task 405 was a more quantitative analysis, exploring how different highways in Southwest NH are used by freight trucks. This report summarizes information and data that SWRPC collected to meet its two UPWP objectives. Before exploring SWRPC findings, a brief overview of freight transportation in New Hampshire is provided.

Overview of Freight Transportation in New Hampshire

One of the reasons why regional freight research is needed is because presently most freight transportation data sources are represented at national or state scales which is often too coarse of a data set to understand actual freight trends in Southwest New Hampshire. From a national perspective, New Hampshire is not expected to host as much freight transportation activity as other parts of the country, because of its peripheral geographic position in the National Highway System and because of its rural nature and the relatively small economies that it supports. As the FHWA’s Freight Analysis Framework data shows in Figure 1, even by 2040, interstate highways near the Southwest Region, such as I-89, I-90,
and I-91 are not expected to exceed 8,500 trucks a day on any section of highway, nor is truck traffic expected to rise above 25% of the total traffic using the highways. Meanwhile, many highways in the United States already exceed these measures (Figure 2).

Figure 1: Major Truck Routes on the National Highway System: 2040

Figure 2: Major Truck Routes on the National Highway System: 2017
Nevertheless, freight transportation and the infrastructure that supports it are important to New Hampshire’s economy. This economy, from a freight transportation perspective, relies on buying, selling and transporting products with businesses located in nearby states. Most freight transported commodity flows to and from New Hampshire tend to be localized to New England and New York, with Massachusetts being the largest origin/destination outside of the state. Still, there are some commodity flow patterns that reach outside of New England. In 2010, FHWA data suggested that there were at least twenty-five daily trucks with origins or destinations as far away as Illinois, Tennessee and North Carolina (Figure 3).

![Figure 3: Major Flows by Truck To, From and Within New Hampshire: 2010](image)

Although freight transportation includes a variety of transportation modes, including truck, rail, air, marine and pipeline transport, trucking is the dominant freight transportation mode in New Hampshire. Freight is currently measured in a variety of ways including the value of the freight, the weight of the freight, and the ton miles of freight (which is a measure that combines the length of the trip with the weight of the freight). Lighter value-added commodities, such as electronics, tend to have high value and lower weight, while raw materials such as gravel have a low value and high weight. More expensive freight modes such as air tend to be used for light, high value products that need speedy delivery time, while less expensive freight modes such as rail tend to be used for heavier, low value products that do not require next day delivery service. Trucks can carry light and heavy materials, although very heavy materials require state and local permits and specific routing where highway and bridge infrastructure is better suited for heavy loads.

According to the FHWA’s 2012 Freight Analytic Framework data, approximately 94% of cargo transported intrastate (from one New Hampshire destination to another) was transported by truck (measured by value of freight in dollars). About 57% of all cargo leaving New Hampshire for other destinations in the United States was also transported by truck, followed by cargo passing through a combination of transport modes such as truck, rail, air and/or water (31%). Meanwhile, cargo originating
in other parts of the country but having a destination in New Hampshire was 69% truck and 24% a combination of modes. Rail, water and air freight transport were fairly insignificant individually, however almost 10% of freight arriving in New Hampshire from other US origins is transported by air (includes truck-air). New Hampshire trade with overseas destinations was much less significant than its domestic trading (about a 1 to 8 ratio). In the case of overseas trade, truck was also the dominant mode of transport, with a great deal of traffic heading north to neighboring Canada.

Local Freight Data

From July 1, 2013 to June 30, 2015, SWRPC conducted a data collection effort to better describe freight truck use of highways throughout the Region. The effort involved counting 65 different locations on the highway network. A summary of this information is provided in this section.

In the pages that follow, data is analyzed by the corridors that were identified in Southwest Connects, the Southwest New Hampshire Regional Transportation Plan. This includes the NH 9 East, NH 9 West, NH 10 South, NH 12 North, NH 12 South, NH 101 East, US 202 North and US 202 South Corridors shown below in Figure 4. Freight data was collected on different parts of each Corridor including on some of the collector roads associated with each Corridor.

![Figure 4: SWRPC Corridors]
The NH 9 East Corridor has substantial truck traffic, although other corridors in the Region carry more trucks. The ratio of trucks to other vehicles is among the highest among all arterial roads in Southwest New Hampshire reaching up to 8.7% and 8.6% of the traffic mix in two count locations. Also noteworthy is the relatively steady number of tractor trailer trucks passing from one end of the corridor to the other suggesting there could be about 350 tractor trailer trucks passing through the corridor each day. Since there are few destinations on the corridor, it is likely that the majority of these are pass-through trucks. It is not clear why the number of single unit trucks drops sharply at the Antrim/Hillsborough town line, but remain at a steady 320 vehicles at the Sullivan/Nelson town line. Among the NH 9 East Corridor collector roads that were analyzed, none showed significant truck traffic.

The Route 9 West Corridor had the highest volume of truck traffic of any Corridor in the Region, with one location experiencing almost 1,400 trucks a day. This is not surprising because it is the road that links the Keene area with I-91. It also would capture several freight destinations outside of Keene including Chesterfield’s Industrial Park. Of note is the relatively high number of tractor trailer trucks using the corridor compared to other corridors—up to 600 per day in some locations. West Street, an important collector for the Route 9 West Corridor, experiences almost 400 trucks a day.
Truck traffic volumes, especially single unit truck volumes, are high in Keene and Swanzey on NH 10, but for traffic near the Massachusetts state line, the single unit truck numbers drop off sharply. This may indicate that a lot of the single unit truck traffic is either local, and/or more heavily using the northern portion of the corridor near the Keene bypass system to go on to use NH 9, NH 12 or NH 101. Two companies that have large fleets of single unit trucks—Clark Distributors and UPS—have facilities located on lower Winchester Street in Keene and are likely to influence the single unit truck volume numbers. In addition, Market Basket and Hamshaw Lumber are located near the Keene and Swanzey town line, and are expected to attract a number of trucks. Not surprisingly, the Island Street bridge does not have much tractor trailer traffic as it has a weight restriction of only 15 tons and some tractor trailers are twice that weight when empty.

The NH 12 North Corridor from Walpole to Westmoreland has a fairly equal distribution of single unit and tractor trailer trucks totaling about 600 trucks a day. The number increases to over 1200 trucks a day in Keene on NH 9/10/12 South of West Street. Interestingly, the number of tractor trailer trucks using NH 12 North collector roads to reach I-91 is relatively small, with only 47 tractor trailers on average using the Arch Bridge in North Walpole near I-91’s Exit 6, and only

Figure 7: Weekday Daily Truck Traffic, NH 10 South Corridor

Figure 8: Weekday Daily Truck Traffic, NH 12 North Corridor
33 using NH 123 near I-91’s Exit 5 (compared to 600 or more tractor trailers near I-91’s Exit 3 via the NH 9 West Corridor). Both roads are likely to be challenging for large trucks due to the geometric constraints associated with each route. Park Ave experiences almost as much truck traffic as West Street.

On the NH 12 South Corridor, which starts in Keene and leads to Massachusetts, truck volumes drop the further south one is for both single unit and tractor trailer trucks. Near the Massachusetts state line, there are approximately 380 truck trips associated with daily interstate commerce based on traffic data collected at the southern end of the NH 12 South Corridor. The percentage of truck traffic is equivalent to 8.5% of the total traffic near the Massachusetts state line.

Data from the NH 101 East Corridor shows the influence of truck-related commerce along the two job centers of the Corridor, Keene and Peterborough. Notice the sharp drop off in trucks in Dublin. While NH 101 is an important highway for east-west travel, it includes a number of delay points along the route including the traffic lights and roundabouts in Keene, Marlborough village, Dublin village, a traffic light in Peterborough, and then additional delay points east of the Southwest Region towards Bedford. A moderate level of truck activity occurs on many of the NH 101 East Corridor collector roads.
Compared to other corridors in the Southwest Region, US 202 North Corridor truck volumes are small. Much of the truck traffic is probably influenced by Peterborough area industry and commerce. Collector roads, such as Antrim Road, which is used to access Monadnock Paper Mill in Bennington, carries a moderate amount of truck traffic as do other collector roads such as NH 136, a collector road to Greenfield which has some industry and services that attract truck traffic including American Steel Fabricators and Crotched Mountain Rehabilitation Center.

The US 202 South Corridor, which links Peterborough to Massachusetts, also has minimal traffic. Like the Route 10 South Corridor, the highway is not a booming corridor for interstate commerce, carrying about 120 daily truck trips a day between the two states. The US 202 South Corridor has several significant collector roads including NH 124 East, NH 119 West and NH 119 East. NH 124 East is an important route for local industry such as Millipore and Teleflex Medical.
Freight Stakeholder Feedback

In 2015, SWRPC began reaching out to local experts to learn about the freight industry in Southwest New Hampshire and to begin to develop a SWOT (Strengths, Weaknesses, Opportunities and Threats) understanding of how the transportation system accommodates freight transportation needs in the region. The pool of experts that were contacted generally fell into two groups. First were the freight service providers—those immersed in the freight industry—including truck drivers, freight transportation business owners and freight distribution service companies or facilities. Second were freight users such as companies reliant on freight transportation services. In both cases, feedback was collected from a combination of interviews, surveys, and follow up questions on survey answers. An interview was also conducted with the Airport Director for the Dillant-Hopkins Airport in Keene.

Freight Industry Stakeholders

Among the freight industry stakeholders, a total of 28 locally active businesses were identified after researching companies listed on www.quicktransportsolutions.com, truck hauling companies registered on the federal motor carrier safety administration’s Safety Measurement System database, and taking advantage of in-house knowledge about freight-oriented companies in the area. SWRPC searched companies that were expected to have roles in hauling freight, warehousing, logistics, packaging or fueling freight transportation. The search of area freight industry stakeholders found that much of the freight industry, including companies that haul freight, or provide warehousing, logistics and fueling services are run by large multi-state or national companies outside of the Monadnock Region. For instance large retail companies with stores in the area, but with freight operations conducted at locations outside of the region, such as Walmart, Hannaford, Shaw’s and Marketbasket supermarkets, operate freight services outside of the area. In these cases, companies were not contacted as it is unlikely SWRPC would locate a contact person with specific knowledge about Southwest NH freight transportation needs. During the course of SWRPC’s research, a number of local haulers listed in the Region were found to be inactive or no longer in existence. Of the 28 active companies identified through research, 11 individual companies responded to SWRPC’s outreach, a response rate of 39%.

Among the freight service companies that responded, each company reported hauling freight, however three companies hauled freight for their company only. Goods that they described hauling ranged from raw materials such as logs, wood in the rough, natural sands, gravel, stone, structural steel and metals to finished products such as wood pellets, excavation and heavy equipment, miscellaneous manufactured products, food and grocery products, alcoholic beverages, and general freight. Hauler service areas ranged from making deliveries only in Southwest New Hampshire to making deliveries throughout New

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1 SWRPC’s original vision for collecting freight stakeholder feedback was to recruit a group of freight companies and freight reliant industry representatives from Southwest New Hampshire and discuss freight in a focus group setting. However, SWRPC’s initial communication with representatives led to a change of approach in which representatives could be individually interviewed and/or surveyed. This approach worked better for the representatives busy schedules, and allowed SWRPC to engage a larger number and broader cross section of stakeholders.

2 Some companies fell into both categories where they were in the business of manufacturing products or supplying raw materials and machinery, but also delivering those products through their in-house freight services.

3 Research regarding local airports found that the other regional airport, Silver Ranch in Jaffrey, did not warrant further investigation as an intermodal freight facility.

4 One of these companies worked with other providers for some deliveries including shipments overseas and one company reported doing some backhauling for other companies on occasion.
England and upstate New York. One company specialized in air to truck freight transfers from Boston Logan Airport and delivering anywhere in New Hampshire. The company truck fleets ranged from one vehicle to tens of vehicles including various FHWA Class 5, 6, 7, 8, 9 and 10 trucks.

Figure 13: FHWA Vehicle Class Examples

In addition to hauling goods, some companies reported also providing some short term warehousing, freight delivery logistics, packaging, and one company reported having on-site fueling. Freight industry respondents came from various parts of Southwest New Hampshire including Chesterfield, Greenfield, Jaffrey, Keene, Langdon, Rindge, Sullivan, Walpole and Winchester.

**Freight Customer Stakeholders**

Freight customers were identified by first scanning the NH Department of Employment Security’s NNetwork database of companies and then further researching companies via the internet to determine if those companies were likely to be frequent users of freight transportation. A total of 38 freight user companies were contacted, of whom 17 responded, resulting in a response rate of 45%. These companies were also scattered around Southwest New Hampshire including companies represented in Bennington, Chesterfield, Gilsum, Harrisville, Hinsdale, Jaffrey, Marlow, Walpole and Winchester.

In the pool of respondents represented in the study, survey respondents reported shipping or hauling a wide variety of freight materials.

<table>
<thead>
<tr>
<th>Shipped Products</th>
<th>Received Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acrylic, laminate and plywood displays</td>
<td>Sheets of plywood, acrylic and laminate.</td>
</tr>
<tr>
<td>Textile mill products. Wooden hand weaving materials and yarns</td>
<td>Dyed wool, raw lumber, dimension lumber, metal products.</td>
</tr>
<tr>
<td>Structural Steel and Miscellaneous Metals</td>
<td>Steel, paint</td>
</tr>
<tr>
<td>Wire rope and cable assemblies</td>
<td>Strand wire rope, steel</td>
</tr>
<tr>
<td>Structural insulated panels</td>
<td>Wood products and foam cores</td>
</tr>
<tr>
<td>Audio-video equipment parts</td>
<td>Bakelite</td>
</tr>
<tr>
<td>Paper, unprinted in rolls or sheets</td>
<td>Pulp and chemicals to make the paper</td>
</tr>
<tr>
<td>Wood pellets</td>
<td>Sawdust, Wood chips, Packaging materials (plastic bags, shrink wrap) pallets</td>
</tr>
<tr>
<td>Large industrial rolls, large propeller shafts, machinery, etc.</td>
<td>Steel tubing, heat treat material, hot rolled steel, plate, lumber for our crates</td>
</tr>
</tbody>
</table>

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5 Fueling off-site on long haul overnight trips was arranged through a fuel contract with Mansfield Oil.
Natural body care products
Vegetable oils (ie olive, soybean, castor) and essential oils, cardboard boxes and packaging

Fabric-backed 54” wide commercial grade wallcoverings
Rolls of vinyl film, fabric backing, totes of coatings, buckets of ink

Plumbing piping, valves and assemblies
Cardboard, imported finish goods such as valves

Timber frames, wall & roof systems, floor & ceiling systems, custom millwork and turnkey buildings
Lumber and hardware, plus windows, doors, and some bathroom fixtures and finishes.

Groceries and household goods
Logs, rough wood

Medical supplies

Miniature pumps, blowers, motors

None of the freight companies that were interviewed for the study were identified as providing services to the freight customer interviewees. Specific freight-oriented companies that were mentioned by freight users included a mix of companies with global, national and regional service areas.

Table 2: Sample of Freight Companies Used By Freight Customers

<table>
<thead>
<tr>
<th>Hauling</th>
<th>Logistics</th>
<th>Packaging</th>
<th>Warehousing</th>
</tr>
</thead>
<tbody>
<tr>
<td>UPS</td>
<td>KMT Freight</td>
<td>Brown Packaging</td>
<td>Alternative Logistics</td>
</tr>
<tr>
<td>Federal Express</td>
<td>Echo Logistics</td>
<td>Rand Whitney</td>
<td></td>
</tr>
<tr>
<td>Ross Express</td>
<td>Freightquote</td>
<td>Robbins Container Corp.</td>
<td></td>
</tr>
<tr>
<td>Old Dominion</td>
<td>Unishippers</td>
<td>Uline</td>
<td></td>
</tr>
<tr>
<td>YRC Freight</td>
<td>Nationwide Transport</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ABF Freight</td>
<td>DLS Worldwide</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Con-way</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jewell Trucking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bellavance Trucking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KMT Freight</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Cardinal</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Prime Inc.</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Among all the freight customer stakeholders, only two of the companies had market areas that did not require freight services beyond the New England and Mid-Atlantic State area. All other companies required national market reach and most required international market reach. When the same companies were asked where they tended to get their raw materials to develop their products, demand was mostly for global suppliers. However, three companies reported getting supplies from the New England and Mid-Atlantic area. Although trucking was the dominant mode of transport, most companies reported either involving air, marine or rail modes of transportation to receive or ship freight. All but one company reported that they were shipping or receiving freight on a daily basis.

Summary of Findings

Freight industry and freight customer stakeholders were each asked what transportation infrastructure they depended on to move freight. The Southwest Region’s main arterials, such as NH 9, 10, 12, 101 and US 202 were the most often cited highways used by freight. However, several highways outside of the region were also cited as being very important.

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6 The study did not request a breakdown of the quantity or frequency in which market goods are distributed in the national or international markets. It simply requested information about the “reach” of freight using companies.
Table 3: Important Freight Routes Cited by Freight Stakeholders

<table>
<thead>
<tr>
<th>Inside SW NH Region</th>
<th>Outside Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>NH 9</td>
<td>I-89</td>
</tr>
<tr>
<td>NH 10</td>
<td>I-91</td>
</tr>
<tr>
<td>NH 12</td>
<td>I-93</td>
</tr>
<tr>
<td>NH 101</td>
<td>I-95</td>
</tr>
<tr>
<td>US 202</td>
<td>I-293</td>
</tr>
<tr>
<td>NH 12A</td>
<td>MA 2</td>
</tr>
<tr>
<td>NH 123</td>
<td></td>
</tr>
<tr>
<td>NH 123A</td>
<td></td>
</tr>
</tbody>
</table>

Regional airports such as Dillant-Hopkins Airport and Jaffrey Silver Ranch were not mentioned as having a role in the movement of area freight\(^7\) by freight stakeholders, but Boston Logan was cited as an important nearby airport. Although many companies explained that many of their raw materials and finished products are transported on rail infrastructure, rail infrastructure in or nearby the region was used very infrequently by only two of the companies. One company reported receiving a few deliveries of timbers from the West Coast via the New England Central Railroad (NECR) connection in Bellows Falls, VT. Another company reported receiving wood products from the West Coast via White River Junction, VT.\(^8\)

Freight stakeholders were asked to provide feedback as to whether there are any specific challenges relating to the provision of infrastructure for freight movement that should be analyzed further or addressed. The following question was used to elicit their responses: “Based on the themes below, please indicate if you are aware of any transportation challenges that your company or your freight partners face when trying to ship or receive cargo.” Actual stakeholder responses are provided below after various themes.

**Congestion**

- Brattleboro-Hinsdale Bridge.
- PM peak NH 10 around Keene/Swanzey, PM peak NH 101.
- 101-A heavy traffic and lots of lights. 101 Heavy traffic, These are the worst ones in the State that affect us.
- Coming up from Boston through Manchester and Nashua especially during inclement weather.
- NH 101 to Manchester has always been slow, coming on lower main street \[sic\] into Keene can be a real drag at times.
- There are currently no challenges with the road network in the Monadnock region or in any other sections of NH. We maintain an awareness of things like seasonal construction, race events at the speedway, winter road closures, etc. From our end, there are no issues to call out.

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\(^7\) The Airport Director for the Dillant-Hopkins airport stated that currently freight did not have a role at the airport, however, Troy Mills and Hubbard Farms used to use the airport for moving freight. The airport is equipped to meet small cargo needs.

\(^8\) Interestingly, maps from the New England Central Railroad do not identify Bellows Falls or White River Junction as transload facilities at this time.
Load Weight Restrictions

- The largest issue is when roads are posted in the spring, particularly for local roads. If detours are not available, we need to petition to use the road with an overweight permit, which sometimes results in calling each week for permission. We have approximately 25 customers in which this was an issue, 7 of which are in New Hampshire.
- Finding routes around deficient bridges can be very costly to our customers. A 15 mile trip may end up being 30 or 40 miles due to a bridge that cannot be crossed.
- E2 law change in '04/05? made it so have to take long detours, eg. going East on NH 101, need to turn on Sharon Road, get on NH 30 back into Wilton, Milford. Businesses not willing to pay for additional mileage required by truckers [sic].
- No bridge issues at this time.
- Island Street Bridge in Keene.

Load Height or Width Restrictions or Challenges

- Few routes offer issues with height and widths, although we do find many utility lines lower that they are supposed to be.
- Have to use back roads often to get around E2 bridges which are often very narrow for trucks.
- Not generally a problem for us.
- Brattleboro-Hinsdale Bridge.
- Pearl and Wood Street in Keene.

Limited Transport Modal Options

- No issues were reported by any respondent.

Pavement Condition

- NH 10 Gilsum to Newport really bad.
- Rough roads especially in the spring.
- NH 123, NH 12A, Some parts of NH 12, NH 123A, beats up the truck good.
- Route 119.

Lack of Freight Partner Choices

- Carriers not in our rural area daily.
- Not enough business in our area to attract enough freight service providers.
- New England ships less than we import, so it's difficult to import. Truckers do not want to be stuck in N.E.

Other Challenges

- There are limited backhaul opportunities.
- Carriers do not want to come into New England because freight out of this area does not pay very good.
- All trucks to and from must be dock high!
- Our location 15 min north of Keene puts us at the end of the line for many carriers. This means missed deliveries and pick ups because the truck arrives after the warehouse has closed or can't make it at all.
- For contract truckers fuel and insurance have gone up, but trucking rates haven't lifted very much.

**SWOT (Strengths, Weaknesses, Opportunities, and Threats) Evaluation**

Based on interview and survey information from freight stakeholders, SWRPC was able to develop a preliminary SWOT assessment of how the transportation system in Southwest New Hampshire is doing with respect to accommodating freight movement. These issues may need further investigation or should be considered for future transportation policy and planning activities relating to the Southwest Region.

**Strengths**

**Arterial Roads and Bridges in Good Condition**

Freight stakeholders reported that the pavement and infrastructure on the major arterial roads in the Southwest New Hampshire are in very good condition. Freight carriers are witnessing the benefits of NHDOT’s current pavement policy, which focuses on keeping Tier 1 interstate highways and Tier 2 arterial highways in good condition using various pavement preservation strategies.\(^9\) Although there are no Tier 1 highways in the Region, several interstate highways are nearby and were consistently reported as being frequent trucking routes used by survey respondents.\(^10\) There are several Tier 2 highways in the Region, however. These include NH 9, NH 10 south of Keene, NH 12, NH 101, US 202 and NH 119 East of US 202. Figure 14 on the following page shows the entire Tiered system as it applies to Southwest NH. In addition to good highway infrastructure, SWRPC found that there were a relatively smaller proportion of red list bridges on its Tier 2 highways when compared to Tier 3 and 4 highways.\(^11\)

<table>
<thead>
<tr>
<th>Pavement Strategies</th>
<th>Tier 1 Description</th>
<th>Tier 2 Description</th>
<th>Tier 3 Description</th>
<th>Tier 4 Description</th>
<th>Tier 5 Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preservation</td>
<td>High</td>
<td>High</td>
<td>Moderate</td>
<td>Moderate</td>
<td>N/A</td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Reconstruction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintenance Paving</td>
<td></td>
<td>Moderate</td>
<td>Moderate</td>
<td>Moderate</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Little Congestion**

Lack of congestion was also clearly a strength of the highway system in Southwest New Hampshire. Although survey respondents did point to a few chokepoint areas in the Southwest Region, (areas around

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\(^10\) Vermont, like New Hampshire, maintains I-91 in very good condition, which is one of the important interstate highway systems that Southwest NH relies on.

\(^11\) See Southwest Connects, the regional transportation plan [http://www.swrpc.org/files/Southwest%20Connects%20Southwest%20Region%20Transportation%20Plan%20FINAL.pdf](http://www.swrpc.org/files/Southwest%20Connects%20Southwest%20Region%20Transportation%20Plan%20FINAL.pdf)
Keene and at the Hinsdale/Brattleboro, VT Town Line) most freight stakeholders did not view congestion as a major issue for freight at all.

Figure 14: NHDOT Highway Tiers in Southwest NH

Weaknesses

Many Collector and Local Roads in Poor Condition

While NHDOT’s pavement policy was seen as a positive for the Region’s arterial highways, lower tier roads were seen as weak links of the regional transportation system. Survey respondents cited NH 10, NH 12A, NH 119 and 123A as examples of important freight routes with very poor pavement. Many roads in the region experience excessive water infiltration, freezing and thawing, resulting in a great many roads with frost heaves and pavement cracking in the winter and spring. Town owned roads were pointed out frequently as being in substandard condition, often the “last mile” for delivering or picking up freight.

Many Weight Limit Restricted bridges

There are weight limited bridges in every Southwest New Hampshire community. E1 and E2 posted bridges were mentioned specifically as a challenge for area haulers. E1 and E2 bridges are bridges that
exclude single unit and combination trucks from using bridges because of their weight load, although haulers can purchase additional registration to exceed weight limits up to certain amounts on E2 bridges. Currently, there are E1 bridges located on NH 32, NH 123, and NH 12A as well as Water Street in Marlborough and Harrisville Road in Nelson. E2 bridges are located on Tier 1 highways such as NH 10, NH 12, NH 101 and US 202 as well as Tier 2 highways including but not limited to NH 31, NH 63, NH 119, NH 123, NH 124 and NH 136. Most E2, other weight limited and closed bridges are found on town roads (also known as Tier 5 highways). These weight restrictions require some freight haulers to take detours. One survey respondent stated that companies are often unwilling to pay for extra route mileage and time associated with detours.

Table 5: Number of Weight Restricted Bridges by Highway Tier

<table>
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<tr>
<th></th>
<th>Tier 2</th>
<th>Tier 3 and 4</th>
<th>Tier 5</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>E1 Bridges</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>E2 Bridges</td>
<td>8</td>
<td>22</td>
<td>100</td>
<td>130</td>
</tr>
<tr>
<td>Other Weight Limited Bridges</td>
<td>1</td>
<td>8</td>
<td>29</td>
<td>38</td>
</tr>
<tr>
<td>Bridge Closed</td>
<td>0</td>
<td>1</td>
<td>11</td>
<td>12</td>
</tr>
</tbody>
</table>

Figure 15: Bridges with Restrictions in Southwest NH

Small Market

Many survey respondents indicated that the small economy in rural Southwest New Hampshire puts it at a disadvantage in relying on freight services. Freight destinations are often out of the way for haulers, and a lack of companies that ship or receive large volumes of general freight make it more difficult to move their products. Smaller markets like Southwest New Hampshire predominantly have “Less-Than-Truckload” (LTL) freight customers. Although LTL freight volume rates may remain competitive with full truckload rates, logistics companies like to combine one companies LTL need with other companies LTL need, often resulting in longer waiting times for deliveries and pick ups. One freight customer indicated that freight haulers sometimes arrive to pick up or drop off product after their facility has closed due to their remote location. Freight haulers also have fewer opportunities for doing backhauls—cargo carried on a return journey—which can be a disincentive for serving smaller markets. Freight users indicated that for these reasons, the small market can be unattractive to freight haulers, resulting in a small pool of haulers to choose from to meet area freight hauling needs.

Opportunities

Rail and Intermodal Facilities

Truck freight was far and away the most significant mode of transport used to haul freight in and out of Southwest New Hampshire. Only one local company reported offloading timber in Bellows Falls off the New England Central Railroad (NECR). However, the NECR, and the Milford-Bennington Railroad (MBRR) represent some freight hauling opportunities for the Region. The NECR line operates at Federal Railroad Administration Class 3 which allows freight to move at up to 40 mph and the MBRR is maintained to FRA Class 2 standards, which allow freight to move at speeds up to 25 mph. Both lines connect to other regional railroads that can plausibly connect to other North American destinations. The NECR line was recently upgraded in Vermont and Massachusetts, which has significantly cut down freight travel time and increased weight limits allowed on the rail. The currently state-owned Fort Hill Branch in Hinsdale may represent an important opportunity for connecting with the NECR and developing a transload or intermodal facility option for the region in the future. As stated earlier in the report, rail works well for heavy products that do not need fast delivery time. Gravel and timber are examples of commodities that work well for rail. However, it is not clear if there is enough demand or supply of the commodities markets that utilize rail in the Region.

Dillant-Hopkins Airport also represents an opportunity for transloading freight as it has in the past. NHDOT is pursuing with Dillant-Hopkins the possibility of upgrading the status of Dillant-Hopkins airport which would allow it to access additional Federal Aviation Administration funds that could improve infrastructure for freight purposes. Historically, Dillant-Hopkins has served some freight customers (former customers have included Fed Ex, Hubbard Farms, Troy Mills), but today no one is using it for that purpose.

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13 North Walpole is currently one of only nine areas in New Hampshire that are set up to function as a transload facility. However, the sidings are scheduled to be removed from the North Walpole area, which is located in a highly dense residential commercial area, and moved to another location in Vermont. The impetus for removing the sidings was the need for railroad land for project #14747, a highway improvement project for NH 12 in North Walpole and Charlestown.
Rest Areas and Fuel Station Analysis

Although no freight providers mentioned the need for rest areas or fueling station options, a weakness of the research project’s design is that none of the very large national or regional carriers were interviewed as part of this project’s research. These are the haulers that are more likely to travel long distances and find themselves in Southwest New Hampshire en route to their long distance destination. Currently there are no dedicated rest areas for trucks in Southwest New Hampshire. Truckers options are limited to commercial parking lots. An exception is the Park and Ride Lot in Chesterfield at Granite Gorge, a rest area on US 202 in Antrim, and a former option was the now closed rest area in Antrim on NH 9. There is a large shoulder/extra lane on NH 9/10/12 in Keene, but this is used temporarily by truckers or used by State Police to enforce truck weight load limits. Additional study of rest area and fueling station availability may be warranted, but this research should probably occur at the State level, since truck volumes are relatively small in Southwest New Hampshire.

Threats

Access to Interstates and Other Limited Access Highways

SWRPC was surprised to see the low truck volumes on collector roads accessing I-91 as well as the relatively low volumes on NH 10 South, NH 12 South and US 202 South highways leading to MA 2 and interstate highways in Massachusetts. This is probably an indicator of the current size of Southwest New Hampshire’s regional economy, as well as the relative ease of using some of the Region’s east-west corridors to reach destinations in all directions. Nevertheless, these connections to interstates and other limited access highways will continue to be important for sustaining growth and economic activity in the Region. Difficult crossings, like the Arch Bridge in North Walpole, the NECR bridge over VT 123 in Westminster, VT and the NECR at-grade crossing in Brattleboro, VT will likely need to be confronted at some point to address freight traffic using I-91. Access management and good site plan and subdivision planning will be required in order to keep mobility free flowing on NH 10 South, NH 12 South and US 202 South as these are the Region’s main links to Massachusetts interstate highways and beyond. A recently completed NH 12 South corridor study provides some ideas and guidance on how to manage NH 12 South. Previous corridor studies for NH 9, NH 101 and US 202 provide similar guidance.

Funding for Infrastructure and Pavement

Existing pavement data as well as responses from freight stakeholders suggest that more investment is required for Tier 3 through Tier 5 roads, as well as investments in bridges to accommodate truck traffic. This is an ongoing issue that will require participation from the freight industry to explain the impacts poor roads are having on their economic viability, in addition to an acknowledgement of the construction standards that are necessary for accommodating freight on area roads and bridges. Currently, there are 190 bridges in the Region that are restricted in some way to truck traffic because they cannot accommodate various truck weights. Although many of these bridges are not on the Southwest Region’s all important Tier 2 highways, this represents 39% of all bridges in the Southwest Region. Roughly 1 in 5

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14 Project #12210 in Hinsdale and Brattleboro, VT proposes separating vehicle from railway traffic and is currently scheduled to be constructed by 2022 in New Hampshire’s FY2015-2024 Ten Year Transportation Improvement Plan.
bridges located on state roads in the Region are currently weight restricted in some way (47 out of 215 bridges).

**East West Corridor Preservation**

In addition to accommodating important intrastate commerce, the Southwest Region’s NH 9 and NH 101 are important links to interstate highways outside of the region that connect the region to other parts of New England and the Northeast. Like the report’s recommendation for NH 10 South, NH 12 South and US 202 South, access management and good site plan and subdivision planning will be required in order to keep mobility free flowing on NH 9 and NH 101. Many recommendations by previous SWRPC corridor studies for NH 9 and NH 101 provide ideas and guidance on how to manage those arterial highways. Though it carries less traffic, NH 119 will remain an important east-west mobility option as well.

**Conclusion**

This report represented a preliminary analysis of freight needs and issues in Southwest New Hampshire, and should not be considered a comprehensive analysis on the subject. As stated in the introduction, very little data has been available to illustrate regional freight transportation. Therefore the report is intended to introduce freight stakeholders, as well as transportation and economic development policymakers and planners with some preliminary regional information about freight transportation. A great deal of the information introduced in this report will likely require more detailed research or longitudinal-oriented research to help understand freight transportation needs and trends over time.

SWRPC intends to utilize this information to better inform its long range transportation planning as well as inform its transportation project development process. This will require that SWRPC staff and the SWRPC Transportation Advisory Committee consult with the document, as it plans for the Southwest Region’s transportation future. For fiscal years 2016 and 2017, SWRPC has set aside part of its planning budget to meet with freight stakeholders, peer review the findings of the document, and potentially develop a list of specific recommendations for municipalities, NHDOT and others to consider. The project will depend on whether there is sufficient interest and time available among the freight stakeholder community to work on some common issues together.

Currently, NHDOT has plans to begin a statewide freight plan. MAP-21, mentioned in the introduction, encourages each State to develop a freight advisory committee and create a comprehensive plan for its immediate and long-range freight-related planning and investment. This report will be submitted to the Bureau of Community and Planning Assistance, which is responsible for implementing the study, in an effort to provide input and data towards that effort.