6 Freight Transport

2024 Regional Transportation Plan
6 Freight Transport

Freight transportation is an important issue for Franklin County. The accessibility and efficiency of freight transport plays a vital role in the economy and viability of the region. Most of the freight and goods coming to and from Franklin County are being transported by truck; however, a significant amount of freight that travels through the County is being hauled over its three main rail lines. This chapter will discuss freight transport to, from, and through the region by truck, rail, and air. This chapter will consider opportunities to improve the safety and efficiency of freight movement in the region and will also discuss the transport of hazardous materials in Franklin County.

Current Plans
MassDOT completed the *Massachusetts Freight Plan* in April 2018 that comprehensively examines the state’s freight transportation system. This Plan addresses all modes of freight transportation and presents a plan for future improvements. The Plan proposes strategies to improve infrastructure assets, reduce congestions and bottlenecks, improve safety, and mitigate climate change impacts to and from the freight system; as well as performance measures to track success. MassDOT is currently in the process of updating this plan for 2023.

MassDOT also completed the *Highway-Rail Grade Crossing Safety Action Plan* in February 2022. This plan addresses safety at both highway-rail grade crossing as well as pathway grade crossings, which are the primary places operating rail/freight equipment comes in close proximity to motor vehicles, bicyclists, and pedestrians. This builds on existing plans that guide the development and safety of rail/freight crossings across the state. Also completed in 2022 by MassDOT was the *Truck Bottleneck Analysis*. This study was aimed at providing Regional Planning Agencies with key truck bottleneck locations across the freight network including possible causes and potential solutions. This study will help inform the 2023 Massachusetts Freight Plan update.

In 2013, the FRCOG conducted an assessment of the movement of goods in the region. This, *Overview of Freight Movement in Franklin County*, examined the current state of freight movement in the region and outlined the potential challenges and opportunities faced by freight in Franklin County. It found that as freight shipping increases in the future, special attention should be paid to the impacts of that on adjoining land uses with respect to potential negative effects from emissions, noise, and the transport of hazardous materials. These impacts apply to both roadway and rail freight shipping.
Existing Conditions
Corridors
MassDOT collaborated with Metropolitan Planning Organizations, including the Franklin County Transportation Planning Organization, in 2017 to identify the critical urban freight corridors (CUFC) and critical rural freight corridors (CRFC) to include in the National Highway Freight network. The National Freight Network roadways in Massachusetts, including CUFCs and CRFCs, are shown in Figure 6-1 and the identified CUFC and CRFC in Franklin County are listed in Table 6-1.

Figure 6-1
Massachusetts Freight Corridors

![Massachusetts Freight Corridors](image)
### Table 6-1: Critical Rural and Urban Freight Corridors in Franklin County

<table>
<thead>
<tr>
<th>Town</th>
<th>Roadway</th>
<th>Start</th>
<th>End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charlemont / Shelburne / Greenfield</td>
<td>Route 2</td>
<td>Florida / Charlemont Town Line</td>
<td>Shelburne Road, Greenfield</td>
</tr>
<tr>
<td>Erving / Wendell / Orange</td>
<td>Route 2</td>
<td>Old State Road, Erving</td>
<td>Wendell / Orange Town Line</td>
</tr>
<tr>
<td>Deerfield</td>
<td>Greenfield Road</td>
<td>North Hillside Road</td>
<td>Wapping Road</td>
</tr>
<tr>
<td>Deerfield</td>
<td>River Road</td>
<td>0.21 mi west of McClelland Farm Road</td>
<td>McClelland Farm Road</td>
</tr>
<tr>
<td>Deerfield</td>
<td>McClelland Farm Road</td>
<td>River Road</td>
<td>Gardner Freight Yard</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Town</th>
<th>Roadway</th>
<th>Start</th>
<th>End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenfield</td>
<td>Route 2</td>
<td>Shelburne Road, Greenfield</td>
<td>I-91 (Interchange 26)</td>
</tr>
<tr>
<td>Greenfield</td>
<td>Greenfield Rotary</td>
<td>SR2 WB Off-ramp</td>
<td>I-91 SB On-ramp</td>
</tr>
<tr>
<td>Orange</td>
<td>Route 2</td>
<td>Wendell / Orange Town Line</td>
<td>Mile Marker 66.24</td>
</tr>
</tbody>
</table>

### Major Freight Modes

**Trucking**

Currently, 90% of all freight movement by weight and 75% of all freight by value in Massachusetts occurs by truck. Although there is no County-specific data available, this statistic is most likely higher for the Franklin County region which is more rural and as a result relies more heavily on trucking, especially for the “last mile” of delivery. The major trucking corridors in Franklin County are: Interstate 91 (which runs north-south) and Route 2 (which runs east-west). These two highways also represent the busiest travel corridors in the region for non-commercial traffic. Other active truck routes in the region include Routes 5/10, Route 47, Route 116, Route 63, and Route 112. There are several truck parking facilities on most of the major routes in Franklin County. There are parking facilities located on Route 2 West (Charlemont, MassDOT Park & Ride), Route 2A (Greenfield, MassDOT Visitors Center), Route 116 (Sunderland), I-91 (Bernardston and Whately), and Route 5/10 (Whately). The Whately facility is located at the Whately Diner on Rt. 5/10, which is a full amenity truck rest stop with parking, refueling, showers, and food available.

**Freight Rail**

Franklin County has approximately 93 route miles of railroad, which are broken down into two north-south routes, one east-west route, and an east-west connector at the East
Deerfield Rail Yard. This rail yard is one of the largest rail yards in New England. The map at the end of the chapter shows the location of the East Deerfield Rail Yard and the different railroad lines in Franklin County. There are three other active minor rail yards in the County in South Deerfield, Shelburne Falls, and Millers Falls.

**Air Transport**
There are two public airports in Franklin County, located in the Towns of Orange and Montague; however, neither of these airports provide air freight service. The closest locations for freight transport are Bradley International Airport, located near Hartford, CT, the Worcester Regional Airport in Worcester, MA, and Logan International Airport in Boston, MA. New York City’s major airports – LaGuardia Airport, J.F.K. Airport, and Newark Airport – also provide air freight services and are used by some shippers in the Franklin County region.

**Freight Trucking**
In order to provide safe and efficient transportation routes for trucks to and through the region, it is important that the region’s infrastructure and systems are continually evaluated for possible deficiencies or constraints. The following projects are major improvements that have been planned or have been recently completed with the goal of advancing the safety and efficiency for both general and freight highway transport.

**Route 2 East Improvements**
Several major improvements have taken place or have been planned for Route 2, the major east-west trucking corridor in Franklin County. Route 2 East refers to the stretch of Route 2 from Greenfield to Phillipston. Several projects along this section have been recently constructed, are underway, or are under development. These improvements focus on overall traffic safety and efficiency, as well as the relationship between freight trucking and non-commercial traffic.

A recent improvement on Route 2 East is the reconstruction of the intersection of Route 2 and Route 2A in Erving. The intersection was realigned to improve sight distance and turning lanes were added to improve traffic flow. Rumble strips were installed in the roadway to reduce traffic speeding. Other Route 2 East improvement projects are planned in the Erving Center and Farley sections of Erving, which are detailed in Chapter 13 – Safety and Security.

**Route 2 West Improvements**
Improvement projects have also been completed, designed, or explored for Route 2 West, which in Franklin County spans from Greenfield through Charlemont. A number of issues related to the safe and efficient movement of freight by trucks on Route 2 West were
identified, particularly that heavy loaded trucks travel up the mountain at much slower speed than other vehicles. This, combined with a lack of a wide shoulder or breakdown lane, lead to faster vehicles passing trucks by crossing the roadway centerline. Improvements have taken place to address some of these issues, including revised pavement markings to widen the shoulder and allowing trucks to use the shoulder as a climbing lane, but further exploration and funding is needed to address all of the identified problems.

Successful past improvements on Route 2 West include the redesign of the Greenfield Rotary at Interstate 91, the implementation of a shoulder climbing lane on Greenfield Mountain, and the reconstruction of the intersection of Route 2 and Colrain/Shelburne Road in Shelburne, and reconstruction of Route 2 in Charlemont Village Center. Future improvements currently programmed include signal improvements on Route 2 at Colrain Road and Big Y in Greenfield. These improvements are expected to improve safety for all travel modes, including the accommodation of freight.

### Challenges to Freight Trucking

Aside from Route 2, there are other locations in Franklin County that present challenges to freight trucking and may need improvements. Listed below are a few specific constraints associated with freight trucking in the region:

- **Bank Row, Greenfield**: The roadway clearance height of this railroad underpass is 12 ft. - 4 in., forcing freight trucks to avoid this central artery to downtown Greenfield. At least once a year, trucks have struck this bridge despite warning signage. An over-height vehicle detection system could alert truck drivers to take an alternate route before they reach the overpass. This site has not yet been identified as a priority bridge improvement.

- **Turners Falls Road, Montague**: Trucks traveling north on Turners Falls Road have difficulty turning onto Turnpike Road, encroaching on other travel lanes. This intersection has not yet been planned for improvements.

- **Montague City Road and Cheapside Street intersection, Greenfield**: There is a low railroad bridge at the curve where Montague City Road and Cheapside Street intersect. The low bridge limits truck access to the nearby industrial area, and as a result, trucks often need to use long alternative routes. Options such as raising the bridge or lowering the road would pose significant challenges. Another option is widening the sharp curve. This intersection needs further study before improvements can be planned.
• **General Pierce Bridge, Greenfield:** Local trucking companies have expressed concern with the current weight limit on this bridge, which is 36 tons. For larger trucks that exceed this, they must use an alternate route on Mountain Road, which was not designed for large trucks. To resolve this conflict, there are two options. The first is to raise the railroad bridge on Cheapside Street to 13 ft - 6 in. The other option is to increase the weight limit on the General Pierce Bridge, when it is reconstructed, to 49 tons. The bridge substructure and deck were rehabilitated in a construction project that was completes in 2023, and a complete bridge replacement is under development by MassDOT.

• **Iron Bridge, Shelburne Falls:** The bridge separating the Towns of Shelburne and Buckland in Shelburne Falls is an historic iron bridge that was rehabilitated in 1997. Its low clearance prevents larger trucks from accessing the Buckland side of Shelburne Falls from Route 2/Maple Street. Trucks must travel further west on Route 2 and enter Buckland via State Street to avoid being stuck at the Iron Bridge. An over-height vehicle detection system, supplemented by better signage and better information provided by GPS companies are needed to help freight trucks access the correct side of Shelburne Falls by the correct exit from Route 2.

**Scenic Byways**

Another issue related to freight transport involves the region’s many scenic byways and the fact that these scenic byways are located on roadways that also serve as major trucking routes. There are five designated scenic byways that run through the County. Scenic byways represent travel corridors with unique scenic, cultural, and tourism value. Although no significant changes in freight trucking routes are recommended at this time, the special characteristics of scenic byways needs to be taken into consideration when planning improvements for these roadways. For more information on Franklin County’s scenic byways, please refer to Chapter 11: Scenic Byways and Tourism.

**Freight Rail Transport**

While the vast majority of freight is shipped by truck in New England, MassDOT has projected that the amount of rail freight shipments will double over the next 20-30 years. This increase could have a significant impact on Franklin County as two major New England rail lines pass through the region.

**Rail Lines**

As highlighted earlier, Franklin County has 93 route miles of railroad, including two north-south routes and one east-west route. There is a map of the rail lines at the end of this
chapter. The north-south routes are the Connecticut River Main Line (owned by the Commonwealth of Massachusetts) and NECR Main Line (owned by New England Central Railroad). The east-west line is the Patriot Corridor route for Pan Am Southern. This route runs along Route 2 and follows the Deerfield and Millers Rivers. A small east-west/north-south connector, the East Deerfield Route, is also owned by Pan Am Railways.

**Patriot Corridor:** (also known as the Freight Main Line) is an important rail line in the Commonwealth of Massachusetts – serving up to 5 million tons annually of freight between eastern Massachusetts and eastern New York (near Albany) at Rotterdam Junction. It provides an important link for the paper and lumber industries in northern New England and Canada. There are two east-west rail lines in Massachusetts (the other roughly follows the Massachusetts Turnpike), but this route has less severe grades because of the 4.75 mile long Hoosac Tunnel that runs through, rather than over, the Berkshire Mountains. While the Hoosac Tunnel is an important advantage for this line, it does limit the freight capacity that can be hauled due to tunnel height restrictions (19’6”).

This rail line is owned by Pan Am Southern (PAS), which is a joint venture between Norfolk Southern and CSX Transportation that was formed in 2008. A part of this joint venture included the rehabilitation of 138 miles of track, replacement of ties, and the addition of over 35 miles of new rail between Ayer, MA and Mechanicville, NY. These improvements, which began construction in 2009, allow for increased freight capacity to be transported with a higher 286,000 pound weight limit and first generation double-stack capability. The improvements also increased track speeds.

**Connecticut River Main Line:** This rail line is owned by the Commonwealth of Massachusetts. The Commonwealth (MassDOT) purchased the rail line in 2014 from Pan Am Railways (PAR). The Line has connections to the NECR rail line in Northfield. This line is now carrying Amtrak passenger service with a stop in Greenfield at the John W. Olver Transit Center. This service was made possible due to funding received from the 2010 American Recovery and Reinvestment Act (ARRA), which funded track improvements and passenger platform construction along the line. The track improvements also allow for greatly increased speeds along this line for freight traffic.

**NECR Main Line:** This rail line is owned by New England Central Railroad (NECR), which is a Class III railroad. The line is composed of 53 miles of right-of-way between Monson and Northfield. It has a major rail facility located in Palmer in Hampden County, where it interchanges with CSX. The line also interchanges with the Connecticut River Main Line in Northfield and Montague in Franklin County. These large numbers of connections makes
this line competitive with the national rail system. This line is also a major north-south corridor for the New England region, connecting Canada with Connecticut and New York. Average annual freight rail tonnages is 1.3 million tons, much of it composed of lumber products and lime slurry shipped from Canada.

**Rail Yards**

There are limited public railroad loading areas suitable for transloading in Franklin County. A transloading facility refers to a terminal where freight is transferred from one mode to another. Transloading facilities enable companies that are not located along rail lines to combine lower cost rail hauling with truck delivery. Typical goods that move through transloading terminals include: lumber, sheetrock, plastic pellets, bulk paper rolls, pipes, and bulk liquids such as fuel oil.\(^1\) Modern transloading facilities are accessible to major highways, have many tracks, covered warehousing, and room for storing and moving tractor-trailers. While Franklin County does not have a transloading facility, following is an inventory of the rail facilities in Franklin County and a general evaluation of each facility’s potential for transloading freight.

- **East Deerfield Rail Yard:** The East Deerfield Rail Yard, located off River Road, is partially owned by the Commonwealth (MassDOT), but is subject to permanent easement for railroad uses by Pan Am Southern. The rail yard is located on the Patriot Corridor that travels east-west and is connected to the Connecticut River Main Line that travels north-south. The yard is approximately one and a half miles long and a half-mile wide. It has the capacity to sort and hold up to 900 rail cars per day. Approximately 600 to 900 cars pass through the yard on a daily basis. The rail yard is used primarily as a classification yard for trains coming from the Pan Am north-south and east-west main rail lines. There are several public unloading tracks, and other tracks with the potential for public unloading. Only one track appears to be used for unloading now, primarily for unloading sodium chloride. The East Deerfield Rail Yard is located between two rivers (the Connecticut and Deerfield) on the east and west, wetlands on the north, and a residential neighborhood on the south. The road access to the rail yard was improved in 2003 as a result of a project that increased bridge clearance at the River Road bridge. This helped immensely in providing direct road access from the facility to the Route 5/10 corridor and Greenfield. The Deerfield Master Plan (2000) suggested that the rail yard could be an appropriate location for a future

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The rail yard was used for some transloading of freight historically. A modern transloading facility would require additional storage space and equipment at the rail yard, but is feasible for the site. One result of a new transloading facility would be increased traffic in and out of the rail yard. Another concern of expanding the facility is the potential for contamination and adverse impacts on the natural resources in the vicinity, including the Deerfield River (located ¼ mile west from the rail yard) and the Connecticut River (located ¼ mile east and ½ mile to the north of the yard).

- **South Deerfield:** There is a small rail facility in South Deerfield, off of Elm Street and Tina Drive. The facility has two public unloading tracks and a small amount of use. The access is poor to both tracks and there are no storage capabilities. The site was used for small-scale transloading historically, but would likely not be suitable for a larger-scale facility now.

- **Millers Falls:** The Millers Falls rail yard is located off of East Main Street, at the junction of two major railroad lines, the NECR and the PAR. The yard includes a disconnected facility with a dock and ample trailer storage on the PAR side. NECR has three public railroad tracks used for unloading sodium chloride with poor track access and limited trailer storage.

**Rail Sidings**

In 2013, the FRCOG conducted an inventory of rail sidings in Franklin County. Rail was once historically very important to the local economy. As a result, the County has a number of rail sidings that have been constructed along the currently active rail lines in the region. Prior to this project, the FRCOG did not know how many sidings existed or where they were located. For the Inventory, the FRCOG compiled a table of all existing sidings by rail line and direction with accompanying map. The FRCOG also created a second table with a list of all properties that have the potential for either accessing adjacent rail sidings or developing new sidings. Both of these tables can be used for understanding the potential of freight movement by rail in the County and also to promote economic development in the region.

**Challenges to Freight Movement on Rail**

**Idling Issues Next to Residential Uses**

Train locomotive idling is a recent issue that Franklin County has encountered, particularly in the Millers Falls rail yard where residential land uses closely abuts the rail yard. Train locomotive idling occurs when trains are stationary, either at railyards or on the tracks or
track sidings, and do not turn off their engines. Locomotive idling is necessary to some extent for a variety of reasons including weather conditions, safety testing, and car checks in which power is needed. The state of Massachusetts has a 30 minute locomotive idling limit. While a locomotive idles, air and noise pollution occur, which can be harmful and disruptive to neighboring land uses. There are ways to minimize the idling and its effects, such as using cleaner diesel fuel or various locomotive technologies, such as Auxiliary Power Units (APUs) which are small diesel-powered generators that maintain many locomotive systems within required parameters when the engines are turned off. These technologies are not always applicable and locomotives must sometimes idle for longer periods of time.

Safety of At-Grade Crossings

The upgrades to the Connecticut River Main Line to accommodate the return of Amtrak have allowed speeds to increase from an average 10 miles per hour to as high as 79 mph for passenger trains. As a result of these dramatically increased speeds, MassDOT conducted evaluations of all of the at-grade road-rail crossings to ensure that they are properly equipped with warning devices that will provide adequate safety for crossing vehicles with the higher train speeds. The FRCOG also provided recommendations at specific crossings where there may be pedestrian and bicycle activity. Because there is such a large increase in speed, the performance of these warning devices should be continually monitored. Maintenance and repair of grade crossing warning device equipment is the responsibility of the railroad owner. The Federal Railroad Administration has established minimum inspection requirements for railroad maintenance of the warning systems, and each operating railroad is responsible for inspecting crossing system signals and equipment. There are a number of private road crossings in Franklin County that are not required to have any warning devices. The much higher speeds on this line may warrant attention to this gap. Current improvements to the Freight Main Line by Pan Am Southern should also include an evaluation of safety measures at the at-grade crossings. The speeds on this line are not expected to increase as fast as the Connecticut River Main Line, but any changes should be assessed for safety.

Safety of Freight Movement

Transport of Hazardous Materials

In September 2021, the Franklin County Regional Emergency Planning Committee (REPC) updated the Regional Hazardous Materials Emergency Plan (HMEP) with support from the FRCOG. The plan was originally completed in 2010. The HMEP serves several purposes, including compliance with the statutory requirements that all regional Emergency Planning Committees develop, exercise, and annually review a Hazardous Materials Emergency Plan.
Also, no regionally focused planning tool had previously existed to describe and analyze hazardous threats in Franklin County. Third, a regional plan was needed to standardize Hazardous Materials release reporting, notification, and response.

The HMEP is updated annually. Among the HMEP’s priorities is addressing the potential issues associated with the freight transport of hazardous materials and having an emergency plan for hazardous material spills. The HMEP assumes that virtually all railway and road corridors transport hazardous materials at some times and that, consequently, any rail line or roadway can be a potential hazardous material spill site.

A significant transportation change since the original 2010 HMEP report is the increase in ethanol transport by rail through the County. The Patriot Corridor has been identified by the Massachusetts Emergency Management Agency (MEMA) as a potential primary rail route to carry Ethanol-85, which requires different fire suppression equipment and methods for extinguishing than for gasoline-fueled fires.

In July and August of 2018, the FRCOG conducted an observational study of the transport of hazardous materials by rail and by truck. The number of vehicles carrying hazardous materials, and the placards that identify the types of hazardous materials transported by each vehicle, were recorded and summarized. The results of the study are shown in Table 6-2 and Table 6-3.

**Hazardous Materials Transported by Rail**

A total of 34% of all rail cars observed during the study period were carrying hazardous materials. Most of them were traveling southbound on the Connecticut River Main Line or eastbound on the Patriot Corridor.

A majority (82 rail cars or 65%) of the hazardous materials being transported were classified as “1075”, which is liquefied petroleum and is extremely flammable. An evacuation area of at least a half-mile downwind of an accident is recommended for this type of material. The other most common hazardous material being transported (although only observed on the Patriot Corridor) is “3257,” which is an elevated temperature liquid at or above 100 degrees Celsius or above its flash point. A total of 38 cars or 29% were carrying this during the study period. In Franklin County, this is typically hot asphalt, but could include other materials that fall under this classification. A “3257” material is considered highly flammable and an evacuation area of at least a half-mile is recommended.

Other materials observed in smaller quantities include:
• “1760” – is a corrosive liquid or compound and is toxic if inhaled, ingested, or contacted causing potential severe injury or death.
• “1830” – is sulfuric acid and is considered corrosive and/or toxic inhaled, ingested, or contacted causing potential severe injury or death.
• “2187” – is refrigerated liquid carbon dioxide and is classified as a non-flammable gas.

Table 6-2: Hazardous Material Transported by Rail in Franklin County, July-August 2018

<table>
<thead>
<tr>
<th>Rail Line</th>
<th>Direction</th>
<th>Total Rail Cars</th>
<th>Total Cars Carrying Hazardous Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connecticut River Main Line</td>
<td>Southbound</td>
<td>67</td>
<td>65 (97%)</td>
</tr>
<tr>
<td></td>
<td>Northbound*</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Freight Main Line/</td>
<td>Westbound</td>
<td>56</td>
<td>7 (13%)</td>
</tr>
<tr>
<td>Patriot Corridor</td>
<td>Eastbound</td>
<td>245</td>
<td>55 (22%)</td>
</tr>
<tr>
<td>NECR Main Line</td>
<td>Northbound</td>
<td>19</td>
<td>3 (16%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>387</strong></td>
<td><strong>130 (34%)</strong></td>
</tr>
</tbody>
</table>

*No trains were observed traveling north on Connecticut River Main Line during the study period.

Hazardous Materials Transported by Truck

The observational study of trucks was conducted on Interstate 91 and Route 2, as these are the primary trucking routes in the region. Specifically, the observation sites were the northbound and southbound Interstate 91 MassDOT weigh stations in Deerfield, at the Gill-Montague Bridge on Route 2 in Gill, and on Route 2 in Erving Center.

A total of 7% of trucks were carrying hazardous materials through Franklin County during the study period. Route 2 carried a slightly higher percentage of hazardous materials, 15%, compared to 5% on Interstate 91 northbound and southbound. Almost half of the hazardous materials that are transported on the highways by truck are composed of four types of materials, which are described below. The remaining materials varied widely.

The largest category of observed hazardous materials is classified as “1203.” Approximately 15% of trucks were carrying this on both Interstate 91 and Route 2. This
material is gasoline and is highly flammable, with a recommended evacuation area of at least a half-mile downwind of an accident.

FRCOG staff observed 11% of trucks carrying “3257” materials, which is an elevated temperature liquid at or above 100 degrees Celsius or above its flash point. In Franklin County, this is typically hot asphalt, but could include other materials that fall under this classification. A “3257” material is considered highly flammable and an evacuation area of at least a half-mile is recommended.

Nine percent of trucks were observed carrying “3082” materials, which is classified as an environmentally hazardous liquid. It may burn, but not ignite readily and is harmful if inhaled or contacted. An evacuation area of at least a half-mile is recommended if it is involved with a fire. The other materials that were being hauled on Franklin County roads include substances that are flammable, nonflammable gases, explosive, and/or corrosive.

<table>
<thead>
<tr>
<th>Roadway</th>
<th>Direction</th>
<th>Total Trucks</th>
<th>Total Trucks Carrying Hazardous Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interstate 91</td>
<td>Southbound</td>
<td>153</td>
<td>8 (5%)</td>
</tr>
<tr>
<td></td>
<td>Northbound</td>
<td>395</td>
<td>24 (6%)</td>
</tr>
<tr>
<td>Route 2</td>
<td>Both directions</td>
<td>97</td>
<td>15 (15%)</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>645</td>
<td>47 (7%)</td>
</tr>
</tbody>
</table>

**Recommendations for Freight Transport**

➢ Continue to assist with the current and planned improvement projects on Route 2 East and to monitor how they impact freight trucking.

➢ Continue to work with local communities and highway officials to address safety concerns related to trucks transporting wide loads through Franklin County.

➢ Continue to monitor and assess the transport of hazardous materials in the region and to develop, update, and coordinate plans with the Regional Emergency Planning Committee and appropriate agencies for responding to a hazardous materials spill.
- Conduct a study to assess which roadway crossings of rail lines are potentially hazardous, and to recommend changes to improve the safety of these locations.

- Evaluate the options of improving the low-clearance overpasses on Bank Row in Greenfield, at the Montague City Road and Cheapside Street intersection in Greenfield, and the Iron Bridge in Buckland ad Shelburne, including installation of overheight vehicle detection system