FPAC Meeting Agenda

1. Introductions
2. Rail Plan Status
3. Freight Plan Background
4. Freight Needs Assessment
5. Potential Initiatives
6. Wrap-up and next steps
Introductions

- Name
- Affiliation
Freight Plan & Rail Plan Overlaps

UNDERWAY
- Freight Forum/Industry Focus Groups
- Highway/Air/Water Existing Conditions
- Highway/Air/Water Future Conditions
- Highway/Air/Water Recommendations & Investment Plan
- Final Vermont Freight Plan

COMPLETED
- Public Engagement Meetings
- Stakeholder Outreach
- Freight Rail Existing Conditions
- Freight Rail Future Conditions
- Update Vision & Goals
- Freight Rail Recommendations & Investment Plan
- Final Vermont Rail Plan

Although two separate planning efforts, the Freight and Rail Plans share common tasks and work products.
Rail Plan Update

• Rail Plan Update has been completed (under FRA review)
• Website has all final materials:
  • Plan Document
  • Executive Summary
  • Tech memos (appendices)
  • GHG memo
  • And more
  • https://vtrans.vermont.gov/rail/reports
Vermont Freight Plan Update Overview
Vermont Freight Plan

Background

• Good planning and follow-through makes for an efficient freight system for Vermont
• FHWA requires a State Freight Plan every five years in order to obligate Freight Formula funds
• State Freight Plans must include:
  • Freight trends, needs, and issues
  • Freight policies, strategies and performance measures
  • How innovative technologies are being considered
  • Congestion, delay, mobility, and deterioration issues (if applicable);
  • Freight Investment Plan;
  • Engage stakeholders and Freight Plan Advisory Committee
Additional Information on Web Page

• Newsletters
• Data Trends Summaries
• Technical memoranda
• Meeting presentations
• Online map with information and feedback tool

Freight Plan Web Page:
https://vtrans.vermont.gov/planning/freight
Freight Plan Elements

**Existing Conditions**
- State of the multi-modal Freight System
- Economic and commodity flows

**Vision and Goals**
- Review vision and specific goals for the multi-modal freight system

**Trends Analysis**
- Overall socio-economic conditions
- Commodity flows
- Technological and logistics trends

**Initiative Ideas**
- Outstanding from 2017 Freight Plan
- New initiatives

**Investment Plan**
- Prioritizing initiatives
- How will Vermont leverage state and federal funds?

*Initiatives can be projects, but also policy initiatives, improved coordination, etc. that address freight needs.
These operational and policy initiatives are particularly important given limited funding.
Freight Needs Assessment
Components of the Needs Assessment

- Vermont’s Freight System Performance
- Emerging Trends, Issues, and Gaps

Vermont’s Freight Needs
# Vermont’s Freight System Performance

<table>
<thead>
<tr>
<th>Category</th>
<th>Mode</th>
<th>Measure</th>
<th>Status/Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freight and Overall System Performance</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-Modal</td>
<td>Gross State Product</td>
<td>Steady-to-Declining</td>
<td></td>
</tr>
<tr>
<td>Multi-Modal</td>
<td>Freight demand (by tons and value of goods)</td>
<td>Steady</td>
<td></td>
</tr>
<tr>
<td>Multi-Modal</td>
<td>Stakeholder outreach and communications</td>
<td>Being met</td>
<td></td>
</tr>
<tr>
<td>Rail</td>
<td>Number of businesses using rail</td>
<td>Steady</td>
<td></td>
</tr>
<tr>
<td>Rail</td>
<td>Percent of Vermont within 100 miles of a transload facility</td>
<td>Steady</td>
<td></td>
</tr>
<tr>
<td>Rail</td>
<td>Percent of Vermont within 100 miles of an intermodal terminal</td>
<td>Steady</td>
<td></td>
</tr>
<tr>
<td>Air</td>
<td>Number of airports served by overnight carriers</td>
<td>Steady</td>
<td></td>
</tr>
<tr>
<td><strong>Infrastructure Performance - State of Good Repair</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Highway</td>
<td>Pavement condition</td>
<td>Improving</td>
<td></td>
</tr>
<tr>
<td>Highway</td>
<td>Bridge condition</td>
<td>Improving</td>
<td></td>
</tr>
<tr>
<td>Rail</td>
<td>Bridges meeting 263,000-pound standard*</td>
<td>Improving</td>
<td></td>
</tr>
<tr>
<td>Rail</td>
<td>Bridges meeting 286,000-pound standard*</td>
<td>Improving</td>
<td></td>
</tr>
<tr>
<td>Rail</td>
<td>Rehabilitate and upgrade rail crossings*</td>
<td>Improving</td>
<td></td>
</tr>
<tr>
<td>Rail</td>
<td>115-pound rail*</td>
<td>Improving</td>
<td></td>
</tr>
<tr>
<td>Rail</td>
<td>Vertical clearances*</td>
<td>Steady</td>
<td></td>
</tr>
<tr>
<td>Air</td>
<td>Runway conditions, adequacy for current operations</td>
<td>Steady</td>
<td></td>
</tr>
<tr>
<td><strong>Travel Time and Reliability</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Highway</td>
<td>Truck Travel Time and Reliability (TTTR)</td>
<td>Steady</td>
<td></td>
</tr>
<tr>
<td><strong>U.S.-Canada Border Crossing Delays</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highway</td>
<td>Border Wait Times</td>
<td>No trend</td>
<td></td>
</tr>
<tr>
<td>Rail</td>
<td>Border Wait Times</td>
<td>No trend</td>
<td></td>
</tr>
<tr>
<td><strong>Hazardous Materials</strong></td>
<td></td>
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</tr>
<tr>
<td>Highway</td>
<td>HAZMAT Incidents</td>
<td>Steady</td>
<td></td>
</tr>
<tr>
<td>Rail</td>
<td>HAZMAT Incidents</td>
<td>Steady</td>
<td></td>
</tr>
<tr>
<td><strong>Truck-Involved Crashes</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Highway</td>
<td>Truck-Involved Crashes</td>
<td>Steady</td>
<td></td>
</tr>
</tbody>
</table>
Key Trends and Issues

- Post-COVID-19 Economic Recovery
- E-Commerce and Last-Mile Delivery
- Climate Change and Resiliency
- Technological Innovation
- Truck Size and Weight Permitting and Harmonization
- Cross-Border Issues
- Freight Workforce
- Freight as a “Good Neighbor”
- Infrastructure Maintenance and Condition
- Broadband Access
Post-COVID-19 Economic Recovery

Percent Change in Vermont Employment by Industry Sector, January 15, 2020 through April 1, 2021

Source: https://tracktherecovery.org/
NEED: Monitor trends and develop more advanced modeling and forecasting capabilities in order to anticipate the potential effects of various future scenarios on freight demand in the state.
E-Commerce and Last-Mile Delivery

- E-Commerce demand growing
- Stress on consumer product supply chains and parcel delivery
- Fulfillment center and delivery station development near consumers
- Concerns about emissions and climate effects

**NEED:** Acquire data and estimate the potential effects of deliveries on highways, emissions, and the economy

**E-Commerce Sales as a Percent of Total Retail Sales, 2012-2021**

*Source: U.S. Census Bureau, 2021*
Climate Change and Resiliency

- Emissions
  - Technological innovations in each mode
  - More conscious consumer behavior
- Infrastructure Resiliency
  - Vermont TRPT for roads and bridges (wrapping up), rail forthcoming
  - Strategies to mitigate risk

NEED: Support initiatives to reduce GHG emissions, and identify/harden vulnerable freight infrastructure

https://vtrans.vermont.gov/planning/transportation-resilience/statewide
Technological Innovation

• Alternative fuel and propulsion technologies
• Connected and autonomous vehicles
• Autonomous delivery technologies
• Logistics data and information

NEED: Anticipate the development and deployment of technological innovations, & partner with innovators

Source: BETA Technologies
Source: Washington Post
Intelligent Transportation Systems (ITS)

- VTrans ITS Plan underway
- 1st Virtual WIM in Williston
- Integrated Corridor Management (I-89 and other corridors)
- Upgrades to online permitting system underway
- 511VT and Road Weather Information System
Truck Size and Weight Permitting Harmonization

- Vermont’s size/weight limits are similar to neighboring states
- New England Transportation Consortium permitting
  - New York State is not a member

### Vermont

<table>
<thead>
<tr>
<th>STATE</th>
<th>NON-INTERSTATE</th>
<th>INTERSTATE</th>
<th>COMMODITY EXEMPTIONS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SINGLE AXLE WEIGHT</td>
<td>TANDEM AXLE WEIGHT</td>
<td>OTHER SPECIFICATIONS</td>
<td></td>
</tr>
<tr>
<td>Vermont</td>
<td>22,400</td>
<td>36,000</td>
<td>600 lbs per inch of tire width</td>
<td>Milk (up to 90,000 lbs)</td>
</tr>
<tr>
<td></td>
<td>20,000</td>
<td>34,000</td>
<td></td>
<td>Federal pilot program allows up to 99,000 lbs;</td>
</tr>
</tbody>
</table>

### New Hampshire

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<thead>
<tr>
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<td>SINGLE AXLE WEIGHT</td>
<td>TANDEM AXLE WEIGHT</td>
<td>OTHER SPECIFICATIONS</td>
<td></td>
</tr>
<tr>
<td>New Hampshire</td>
<td>22,400</td>
<td>36,000</td>
<td>99,000 lbs GVW on non-interstate highways</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>20,000</td>
<td>34,000</td>
<td></td>
<td>Higher weight limit (99,000) on some grandfathered routes (89, 93, 95)</td>
</tr>
</tbody>
</table>

### New York

<table>
<thead>
<tr>
<th>STATE</th>
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<td>SINGLE AXLE WEIGHT</td>
<td>TANDEM AXLE WEIGHT</td>
<td>OTHER SPECIFICATIONS</td>
<td></td>
</tr>
<tr>
<td>New York</td>
<td>22,400</td>
<td>36,000</td>
<td>800 lbs per inch of tire width</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>20,000</td>
<td>34,000</td>
<td></td>
<td>Some special rules on NYS Thruway</td>
</tr>
</tbody>
</table>

### Massachusetts

<table>
<thead>
<tr>
<th>STATE</th>
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<tr>
<td></td>
<td>SINGLE AXLE WEIGHT</td>
<td>TANDEM AXLE WEIGHT</td>
<td>OTHER SPECIFICATIONS</td>
<td></td>
</tr>
<tr>
<td>Massachusetts</td>
<td>22,400 (if axles are more than 6ft apart)</td>
<td>34,000</td>
<td>800 lbs per inch of tire width</td>
<td>Construction materials, bulk feed, liquid petroleum, refuse</td>
</tr>
<tr>
<td></td>
<td>20,000</td>
<td>34,000</td>
<td></td>
<td>Different (higher) limits on Mass Pike</td>
</tr>
</tbody>
</table>

### Maine

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<thead>
<tr>
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<td>SINGLE AXLE WEIGHT</td>
<td>TANDEM AXLE WEIGHT</td>
<td>OTHER SPECIFICATIONS</td>
<td></td>
</tr>
<tr>
<td>Maine</td>
<td>22,400</td>
<td>38,000</td>
<td>600 lbs per inch of tire width</td>
<td>Potatoes, forest products, raw ore</td>
</tr>
<tr>
<td></td>
<td>20,000</td>
<td>34,000</td>
<td></td>
<td>Pilot-Program for Canadian Weight Limit Access from Calais to Baileyville</td>
</tr>
</tbody>
</table>

**NEED:** Consider talks with New York to join NETC or otherwise streamline permitting for trips between VT and NY
Cross-Border Issues

• Congestion expected, associated with construction projects
• VTrans coordinating with agencies and stakeholders in U.S. and Canada

NEED: Continue coordinating activities among stakeholders, and undertake mitigating actions, if/as needed
Freight Workforce

- Pandemic recovery = demand for workforce
- Workforce shortage in key freight sectors
- Key factors:
  - Aging workforce
  - Work-life balance
  - Pay
  - Training
  - Compliance/surveillance

NEED: Support the development of workforce capabilities that improve freight system performance

Freight as a “Good Neighbor”

• Freight supports Vermont’s economy, but there are community concerns:
  • Truck traffic in town centers and urban areas
  • Rail quiet zones
  • Construction activities and traffic
• Communication, coordination

NEED: Coordinate stakeholder discussions around “good neighbor” strategies and practices
Infrastructure Maintenance and Condition

- Vermont Asset Management Information System (VAMIS) Implementation
- New Transportation Asset Management Plan (TAMP) forthcoming
- Funding
Broadband Internet Access

- Businesses and entrepreneurs need reliable, fast internet access
- Many rural areas across the country lack access to >25 mbps internet

NEED: Expand the reach of broadband internet access statewide
# Needs Assessment

<table>
<thead>
<tr>
<th>Performance Measures</th>
<th>Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Performance</td>
<td>Help shippers find freight solutions</td>
</tr>
<tr>
<td>Infrastructure Performance</td>
<td>Continue funding State of Good Repair projects</td>
</tr>
<tr>
<td>Travel Time, Border Delays</td>
<td>Manage weather response and Support US and Canadian efforts to improve border operations</td>
</tr>
<tr>
<td>Safety (HAZMAT &amp; Truck-Involved Crashes)</td>
<td>Advance safety improvements, particularly on state highways with truck-involved or HAZMAT crashes</td>
</tr>
<tr>
<td>Technological Innovation</td>
<td>Anticipate the development and deployment of technological innovations, &amp; partner with innovators</td>
</tr>
<tr>
<td>Post-COVID-19 Economic Recovery</td>
<td>Monitor trends and develop more advanced modeling and forecasting capabilities in order to anticipate the potential effects of various future scenarios on freight demand in the state</td>
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<td>Support initiatives to reduce GHG emissions, and identify/harden vulnerable freight infrastructure</td>
</tr>
<tr>
<td>Freight as a “Good Neighbor”</td>
<td>Coordinate stakeholder discussions around “good neighbor” strategies and practices</td>
</tr>
<tr>
<td>Asset Management</td>
<td>Continue VAMIS implementation</td>
</tr>
<tr>
<td>Broadband Access</td>
<td>Expand the reach of broadband internet access statewide</td>
</tr>
</tbody>
</table>
Questions and Discussion

• Are there other potential effects of the trends/issues discussed?

• Are there any other emerging issues or trends to consider?
Potential Initiatives
Potential Initiatives

• Assemble a “long list” of programmed and planned projects and other initiatives that could address the needs

• Preliminary list includes 40+ initiatives in 8 packages
  • (note: some initiatives list capital projects that support the initiative)
Packages of Initiatives

Freight Planning and Policy
- Implementing the Freight Plan
- Advancing VTrans’ tools and relationships

Climate Change and Resiliency
- Expanding alternative fuel infrastructure for freight
- Adapting to climate change impacts

Technological Innovation
- Supporting innovation in Vermont
- Expanding information and ITS deployment

Trade Corridors and Economic Development
- Streamlining cross-border and inter-state trade
- Facilitating economic and workforce development

Highway Operations
- Maintaining and improving highways (safety, resilience)
- Assessing and expanding truck parking capacity

Rail Development
- Maintaining and upgrading rail infrastructure
- Educating shippers and the public about freight rail

Air Freight
- Maintaining infrastructure
- Monitoring ongoing studies and plans

Performance Measures
- Developing performance-based freight monitoring and planning
Questions and Discussion

• Are there any thoughts or recommendations on the packages of initiatives?
Proposed Evaluation Process

- Team scores initiatives using evaluation criteria and weights
- Vermont’s process for prioritizing investments will help to rank projects in some categories
- Proposed fiscally-constrained Investment Program
- Other draft recommendations
- Input from stakeholders on what considerations may need more/less weight
- Fiscally-constrained Investment Program
- Other recommendations
Questions and Discussion

- Are there recommendations on the evaluation process?
Next Steps

Freight Plan Advisory Committee Input Throughout the Process

Evaluate Initiatives

Second Freight Forum

Develop Investment Plan

Distribute Draft Freight Plan for Comment

6/9/2021
Thank You

For more information on the Vermont Freight Plan Update, visit vtrans.vermont.gov/planning/freight or contact Dave Pelletier at Dave.Pelletier@vermont.gov or (802) 595-9675.

For more information on the Vermont Rail Plan Update, visit vtrans.vermont.gov/rail/reports or contact Zoe Neaderland at Zoe.Neaderland@vermont.gov or (802) 793-2778.