• At the March 5th TAC meeting, NHDOT provided an introductory presentation on the development of the State Freight Plan
• We’ll be talking about an aspect of the plan which is to designate Critical Rural Freight Corridors (CRFCs) in the State
The establishment of the National Highway Freight Network (NHFN) ensures federal resources and policies are strategically directed towards improved performance to most critical freight highways.

NHFN includes:
1) primary highway freight system,
2) those portions of the Interstate System not part of the PHFS,
3) critical urban freight corridors (CUFC),
4) critical rural freight corridors (CRFC).

CUFCs and CRFCs are important freight corridors that provide critical connectivity to the NHFN.

Any public road is eligible, but must be in State borders.

CRFCs are part of a larger National Highway Freight Network (NHFN) that Federal Highway Administration (FHWA), the State DOTs and metropolitan planning organizations (MPOs) are establishing.

The NHFN represents the key highway infrastructure for moving freight.

There are 4 categories of highway in the NHFN (see slide above).

Any public road is eligible to be a Critical Urban or Rural Freight Corridor, not just federal aid highways.
This map shows that I-95 is the only highway in New Hampshire that is part of the Primary Highway Freight System (PHFS).

In addition to I-95, FHWA has elected to also include the Interstate System not part of the PHFS (see category #2 on the previous slide), as part of the PHFS (I-89 and I-93).

Finally, there is about a mile of road (.87 mi) that has been determined by FHWA to be an important intermodal connector. It’s the road that connects the Port of Portsmouth to I-95.

The rest of the NHFN will consist of Critical Urban Freight Corridors (CUFCs) and Critical Rural Freight Corridors (CRFCs), which the State of New Hampshire is in the process of evaluating. The State will designate these CUFCs and CRFCs in the NH State Freight Plan.

No highways in the SWRPC planning district can be designated as CUFCs because the district lacks census designated urbanized areas (only urban clusters). However, highways in the SWRPC district could be designated as parts of New Hampshire’s CRFC system.
As part of the most recent transportation law, the FAST Act, the National Highway Freight Program, is funding that is set aside to invest in highway improvements for freight transportation. Approximately $4.5 million is apportioned to New Hampshire annually through the FAST Act. This funding can only be spent on the 1) Primary Highway Freight System (I-95), 2) I-89, I-93 and the identified connector to the Port of Portsmouth, and/or in the yet to be determined CUFCs and CRFCs.

New Hampshire must complete it’s State Freight Plan to receive funding from this program.
Goals of National Highway Freight Program

1. To invest in infrastructure improvements and operational improvements on highways in the US that:
   a) strengthen the contribution of the NHFCN to the economic competitiveness of the U.S.;
   b) reduce congestion and bottlenecks on the NHFN;
   c) reduce the cost of freight transportation;
   d) improve the year-round reliability of freight transportation; and
   e) increase productivity, particularly for domestic industries and businesses that create high-value jobs;

2. To improve the safety, security, efficiency, and resilience of freight transportation in rural and urban areas;

On these next two slides, I have included the FAST Act’s goals for the National Highway Freight Program. In making recommendations for CRFCs, please keep in mind the goals of the program.
Goals of National Highway Freight Program

2. To use innovation and advanced technology to improve the safety, efficiency, and reliability of the NHFN;
3. To improve the efficiency and productivity of the NHFN;
4. To improve the flexibility of States to support multi-State corridor planning and creation of multi-State organizations to increase the ability of States to address highway freight connectivity; and
5. To reduce the environmental impacts of freight movement on the NHFN.
This slide shows the criteria that are used for designating CRFCs. Notice that all criteria do not need to be met. Only one criterion needs to be met, the most flexible of which is (G).

New Hampshire is eligible to designate 150 miles of highway as CRFCs (which is more than 20% of the PHFS mileage in the State).
FHWA Guidance on CRFCs

“FHWA encourages States, when making CRFC designations, to consider first or last mile connector routes from high-volume freight corridors to key rural freight facilities, including manufacturing centers, agricultural processing centers, farms, intermodal, and military facilities.”

• I’ve included this quote from FHWA’s guidance on CRFCs. FHWA encourages States to think about first and last mile connector routes as appropriate for CRFC designation.
What Southwest Connects Says About Freight

- No interstate highways in region, therefore must protect and preserve mobility on our regional corridors for truck freight.
- Recognizes freight traffic to programmed upcoming RTIP projects: Jaffrey dog leg, Hinsdale-Brattleboro bridge
  - Would probably add Keene Winchester St to Swanzey TL and Keene NH 101 to Marlboro TL
- Recognizes freight challenges with potential projects: NH 9 purchase of access rights, replacement of NECR bridge in Westminster, N. Walpole NECR crossing
- Recognizes New England Central Railroad and Milford-Bennington Railroad as opportunities.

- This slide notes some of the main findings in the SWRPC Long Range Transportation Plan that are related to freight. There are other references in the plan, but these stand out as the most important.
- Although the Plan recognizes railroads, please note that railroads cannot be designated as CRFCs.
Findings from *A Profile of Freight Transportation in Southwest New Hampshire (2015)*

- Spot truck traffic volume counts on 8 backbone corridors range from 224 trucks daily (US 202 at Mass SL) to 1,362 (US 9 W of Ash Brook Road).
- Truck proportion of traffic on 8 backbone corridors range from 3.7% (NH 101 @ Marlborough/Dublin TL) to 9% (NH 12 N of Woodward Rd, Westmoreland).

- In 2015, SWRPC conducted 65 truck classification counts throughout the Region on backbone arterials recognized in Southwest Connects (NH 9 East, NH 9 West, NH 10 South, NH 12 North, NH 12 South, NH 101 East, US 202 North and US 202 North) and other arterial and collector roads. The highest amount of truck traffic observed was just west of Ash Brook road on NH 9 in Keene. The road observed with the highest proportion of trucks was on NH 12 north of Woodward Road in Westmoreland.
- We will be showing additional maps indicating truck volumes later on in the presentation.
In SWRPC’s 2015 freight study, we spoke with 11 freight businesses and 17 businesses that use freight. This slide shows some of the areas where business representatives cited problematic congestion, load weight restrictions, load height/width restrictions, and pavement conditions.

Generally speaking, however, congestion didn’t emerge as big of an issue as load weight restricted roads and bridges. As part of SWRPC’s research it found that roughly 1 in 5 bridges on state roads are weight restricted in some way (47 out of 215 bridges). 39% of all bridges are weight restricted.
• These two maps show estimated daily truck volumes for routes where data is available.
• On the left, figures represent single unit and combination truck volumes. On the right, figures represent combination vehicles or tractor trailer truck volumes only.
This slide shows estimated daily truck volumes (single and combination) are highest on NH 9 west of Keene.
• This slide shows estimated daily truck volumes (tractor trailers only) are also highest on NH 9 west of Keene.
The map above depicts “motor carriers” identified as being involved with a crash. Motor carriers, by definition, transport goods or people for compensation. This distinction is made on motor vehicle accident reports.

It is not clear if the relative “hot spots” shown are different than other vehicles involved with crashes.

These areas that appeared to have higher densities of crashes with motor carriers included “Chesterfield Hill” on NH 9, Keene (see inset), Peterborough, Marlborough, and Jaffrey.

An interactive version of the data is available by clicking the graphic in the upper right corner.
• This is the most recent pavement condition data available from NHDOT. However, pavement condition is changing very rapidly with NHDOT’s new policy of repaving Tier 3 and 4 highways.
- This slide shows all bridges (state and local) in the SWRPC regional district.
- Red list bridges on major backbone corridors include:
  - NH 9 East, E. Sullivan Bridge over Otter Brook in Keene (which will be addressed in a current TYP project)
  - NH 10 South over Ash Swamp Brook in Keene, Metal pipe near NH 12/101 intersection for Beaver Brook (which is being addressed by the City of Keene)
  - NH 12 North, Concrete Arch over Mill Brook in East Westmoreland ( Ranked #47 bridge on Bureau of Bridge Design’s priority list)
  - NH 12 North, Concrete Box over Aldrich Brook near Westmoreland/Walpole TL (Ranked #22 bridge on Bureau of Bridge Design’s priority list)
  - NH 12 South, Two bridges in Troy, one over S. Branch of Ashuelot River and one over Cheshire Rail Trail (which are being addressed in the TYP)
  - NH 101 East, Peterborough bridge over Contoocook River (which is being addressed in the TYP)
  - US 202 North, Peterborough bridge over Contoocook River (North Village) (which is also being addressed in the TYP)
- E2 bridges on major backbone corridors
  - NH 10 South, Ash Swamp Brook in Keene (Again this is a bridge being addressed by the City of Keene)
  - NH 12 North, Concrete Slab or Mill Brook in E. Westmoreland Village
• NH 101 East, Two bridges over Blood Brook in Temple
• NH 119, Two bridges over Connecticut River in Hinsdale (these bridges are being addressed as part of a TYP project)
• The bridges noted above in bold are not currently programmed for replacement based on latest report from the Bureau of Bridge Design.
Commodity Flows
Inbound Tonnage

- NH 9 and NH 101 carry the most tonnage of any corridors in the SWRPC planning district for inbound freight (freight with a destination in NH).

- This data comes from the Commodity Flow Survey. The Commodity Flow Survey (CFS) data are used by policy makers and transportation planners in various federal, state, and local agencies for assessing the demand for transportation facilities and services, energy use, and safety risk and environmental concerns. Additionally, business owners, private researchers, and analysts use the CFS data for analyzing trends in the movement of goods, mapping spatial patterns of commodity and vehicle flows, forecasting demands for the movement of goods, and determining needs for associated infrastructure and equipment.

- The CFS covers business establishments in the following industries: Mining, Manufacturing, Wholesale trade, and select Retail and Services. The survey also covers selected auxiliary establishments (e.g., warehouses) of in-scope, multi-unit, and retail companies. Industries not covered by CFS include transportation, construction, most retail and services industries, farms, fisheries, foreign establishments, and most government-owned establishments.
• Whereas NH 9 and NH 101 were identified as the primarily routes for goods coming into the State, NH 9, NH 10, and possibly NH 12 were identified as primary routes for goods leaving the State.
• Unlike other routes, NH 10 and portions on NH 12 south of Keene had higher outbound volumes than inbound volumes.
• The data for NH 12 is suspect, however, according to one TAC member, there is a large pulp company operating out of Fitzwilliam.
• This slide shows inbound freight based on the value of the freight.
• Like the slide on inbound tonnage, NH 9 and NH 101 carry higher value of freight than other corridors.
• The same can be said with outbound commodities.
To understand where our region’s economy may be reliant on freight routes, jobs in the manufacturing, wholesale trade, and retail trade sectors were mapped. While not an exact representation of demand, it shows potential areas where there could be higher demand for freight origins and destinations. The data depicted shows the number of jobs in each sector. Manufacturing jobs are most strongly concentrated in Keene and on US 202 between Jaffrey and Peterborough.
• Businesses in the wholesale trade sector are shown on the map above and are most concentrated in Keene and Chesterfield.
• Businesses in the retail trade sector are most concentrated in Keene and along the US 202 corridor (Peterborough, Jaffrey, and Rindge)
And this map shows project numbers for existing and proposed projects included in the SWRPC Regional Transportation Improvement Program, as well as a number of other TYP projects already programmed in the region. This map does not include repaving or maintenance type projects.
This slide compares the FAST Act’s National Multimodal Freight Policy Goal areas with New Hampshire’s Current Long Range Transportation Plan Goal areas in the first two columns.

The third slide is wording that NHDOT’s freight consultant has proposed as draft goals and objectives for the State Freight Plan that aligns with the two sets of goals. Do you have any feedback on these Draft goals and objectives for the Freight Plan?
These last two slides show Draft “NH Freight Plan Project Ranking Criteria.” In other words, if projects are identified in the State Freight Plan, these criteria would be used to help prioritize those projects funded by the National Highway Freight Program (including projects identified on Critical Rural Freight Corridors). What do you think of these criteria? Would you recommend any changes?
## Interactive Exercise #2 – Decision Lens Process

### NH Freight Plan Project Ranking Criteria (DRAFT) - (Part 2 of 2)

<table>
<thead>
<tr>
<th>NH Freight Plan Goal/Objective</th>
<th>Project Ranking Criteria</th>
<th>Definition</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliability and Modal Choice</td>
<td>Does the project connect to an intermodal terminal which allows transfer of freight from one mode to another?</td>
<td>Yes/No</td>
<td>1</td>
</tr>
<tr>
<td>Coordination and Collaboration</td>
<td>Encourage multi-jurisdictional coordination to create partnerships and develop opportunities for the freight transportation network</td>
<td>1-5</td>
<td>0.25, 0.50, 0.75, 1.00, 1.25</td>
</tr>
<tr>
<td>Environmental Impacts</td>
<td>Level of Impact</td>
<td>Major Impact (Likely EA or EIS)</td>
<td>0.5</td>
</tr>
<tr>
<td>Feasibility</td>
<td>Project Readiness - at what stage is the project in the planning process?</td>
<td>Project Not Started</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Right of Way (ROW) and utility - is significant ROW, utility, or railroad coordination anticipated?</td>
<td>Significant Coordination</td>
<td>0.5</td>
</tr>
<tr>
<td>Potential for Success</td>
<td>(Category from &quot;Draft for Discussion - NHDOT Project Evaluation Criteria&quot; dated 1/30/01)</td>
<td>One Condition Exists</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>Planning Consistency - is the project consistent with local comprehensive plans, completed transportation plans, and federal/state planning direction?</td>
<td>Good Condition/None</td>
<td>0.5</td>
</tr>
</tbody>
</table>

**Note:** Scale values are approximate and subject to further refinement.