



New Hampshire
DOT
Department of Transportation

STATEWIDE
**FREIGHT
PLAN**

Rockingham TAC
4/26/2018



Today's Topics

- Freight- Includes the roadways, railroads, ports, airports, pipelines and the connectivity of this multimodal network.
- Freight Goals and Objectives- National and draft State goals and objectives. Relationship to implementing National Performance Management Measures- Freight reliability targets, safety, etc.
- Why is Freight Planning Important?
 - ✓ Quality of Life- jobs, products and goods
 - ✓ Economy
 - ✓ Providing well operating infrastructure for ports, airports, railroads, pipelines, and roadways help businesses thrive and compete.
 - ✓ Connecting NH to the World
- National Highway Freight Network (NHFN) in NH- Critical Rural Freight Corridors (CRFC) 150 miles allowed and Critical Urban Freight Corridors (CUFC) 75 miles allowed.
- Next Steps

Why Do We Need a Freight Plan?

Funding

- Each state required to develop State Freight Plan in order to access National Highway Freight Program (NHFP) funding and obligate freight formula funds

Freight Investment Plan

- If obligating NHFP funds for a freight intermodal or freight rail project, project must be included in fiscally constrained freight investment plan

SUMMARY OF APPORTIONMENTS AUTHORIZED FOR FISCAL YEAR (FY) 2017

FEDERAL-AID HIGHWAY PROGRAM APPORTIONMENTS UNDER THE FIXING AMERICA'S SURFACE TRANSPORTATION (FAST) ACT BEFORE SEQUESTRATION; BEFORE PENALTIES; BEFORE POST-APPORTIONMENT SET-ASIDES (Last Updated February 8, 2017)

STATE	NATIONAL HIGHWAY PERFORMANCE PROGRAM	SURFACE TRANSPORTATION BLOCK GRANT PROGRAM	HIGHWAY SAFETY IMPROVEMENT PROGRAM *	RAILWAY-HIGHWAY CROSSINGS PROGRAM	CONGESTION MITIGATION & AIR QUALITY IMPROVEMENT PROGRAM	METROPOLITAN PLANNING PROGRAM	NATIONAL HIGHWAY FREIGHT PROGRAM	TOTAL
NEW HAMPSHIRE	95,206,408	47,666,376	9,297,647	1,150,000	10,469,878	1,595,826	4,566,653	169,952,788

*Note: Reflects \$3,300,000 takedown for certain safety-related activities

Source: <https://www.nhwa.dot.gov/fastact/comptables/table11p1.cfm>



State Freight Advisory Committee (SFAC)

Members

1. Manchester Airport Authority
2. Associated General Contractors of NH
3. Associated Grocers of New England
4. Eagle Warehousing
5. Federal Highway Administration (FHWA) – NH Division
6. NH Motor Transport Association
7. NH Municipal Association
8. NHDOT Division of Aeronautics, Rail & Transit
9. NH Port Authority
10. Pan Am Railways
11. Rockingham Planning Commission
12. Southwest Regional Planning Commission
13. State Police Commercial Vehicle Enforcement (Troop G)

Public Outreach Efforts

State Freight Advisory Committee (SFAC)

- SFAC #1 – June 8, 2017
- SFAC #2 – Nov 14, 2017
- SFAC # 3- March 21, 2018

Public Open House

- #1 – Nov 15, 2017 20 people in attendance
- # 2- March 22, 2018 in Claremont
- #3- Spring 2018 in the Berlin area
- # 4- Late Spring/Summer 2018 in the Portsmouth area

State Freight Summit (FS)

- Freight Summit # 1- March 22, 2018 in Claremont
- Freight Summit # 2- Late Spring/Summer in the Portsmouth area

Online Freight Survey

- Poll closed on Dec 11, 2017

Stakeholder Interviews

- Conducted by WRA (consultant)

DRAFT NH Freight Plan Goals & Objectives

National Multimodal Freight Policy Goal Areas	New Hampshire Long Range Transportation Plan Goal Areas	DRAFT Goals & Objectives
<p>Infrastructure & Operational Improvements</p> <p>Reliability</p>	<ul style="list-style-type: none"> • System Preservation & Maintenance 	<p>Maintain and improve existing infrastructure to provide safe, convenient, and reliable operations along the freight transportation network</p>
<p>Safety, Security, Efficiency, Resiliency</p>	<ul style="list-style-type: none"> • Safety • Security 	<p>Promote the safety and security of freight infrastructure for all transportation modes</p>
<p>State of Good Repair</p>	<ul style="list-style-type: none"> • System Preservation & Maintenance 	<p>Achieve and maintain a state of good repair on priority freight corridors</p>
<p>Innovation & Advanced Technology</p>	<ul style="list-style-type: none"> • Land Use – Transportation Integration • Stewardship of Public Resources & the Transportation System 	<p>Determine innovative and advanced technologies along with improved land use planning practices to meet future freight demands</p>
<p>Economic Efficiency</p>	<ul style="list-style-type: none"> • Stewardship of Public Resources & the Transportation System 	<p>Support freight transportation improvements that encourage economic vitality</p>
<p>Movement of Goods</p>	<ul style="list-style-type: none"> • Mobility & Modal Choice 	<p>Improve system reliability and resiliency for the connections between New Hampshire and the National and International freight system</p>
<p>Multi-Jurisdictional Planning</p>	<ul style="list-style-type: none"> • Coordination & Collaboration 	<p>Encourage multi-jurisdictional coordination to create partnerships and develop funding opportunities for the freight transportation network</p>
<p>Environmental</p>	<ul style="list-style-type: none"> • Environment & Public Health 	<p>Increase the energy efficiency of freight transportation and seek investments that reduce the impacts of the movement of freight on the</p>

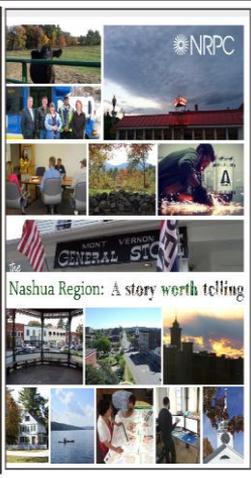
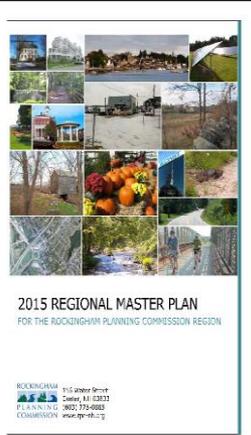
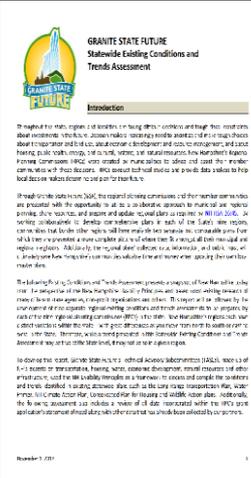
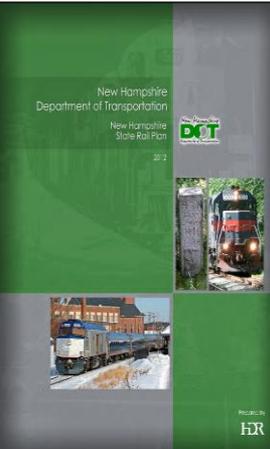
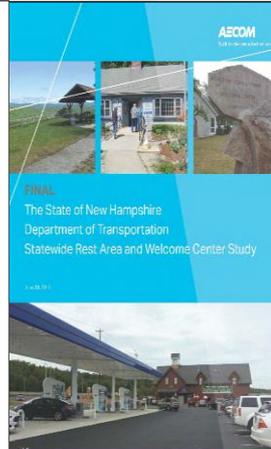
Information Gathering

- RPC Plans and data
- Other Plans and Studies- Rest Area Study, Granite State Futures
- Existing Deficiencies and Restrictions – Weight limits, limited clearance, steep grades, truck prohibitions, bottlenecks, red list bridges, pavement conditions
- Trends
- Commodities Flow data (TRANSEARCH, STB Waybill, other)
- Public Involvement- On-line survey, 2 Open Houses, Freight Summit, 3 SFAC meetings, Stakeholder Interviews
- NHDOT Plans and data- State Rail Plan, State Airport Plan, Traffic Data, Pavement conditions, bridges conditions, etc.

Project Background

Documents Reviewed

- *NH Long Range Transportation Plan (2010)*
- *NH State Rail Plan (2012)*
- *Granite State Future: Statewide Existing Conditions and Trends Assessment (2013)*
- (9) *RPC Regional Plans (2014-2015)*
- *A Profile of Freight Transportation in Southwest New Hampshire (2015)*
- *NH State Airport System Plan (2015)*
- *Statewide Rest Area and Welcome Center Study (2016)*
- Past TIGER / FASTLANE Grant Applications (2009-2016)



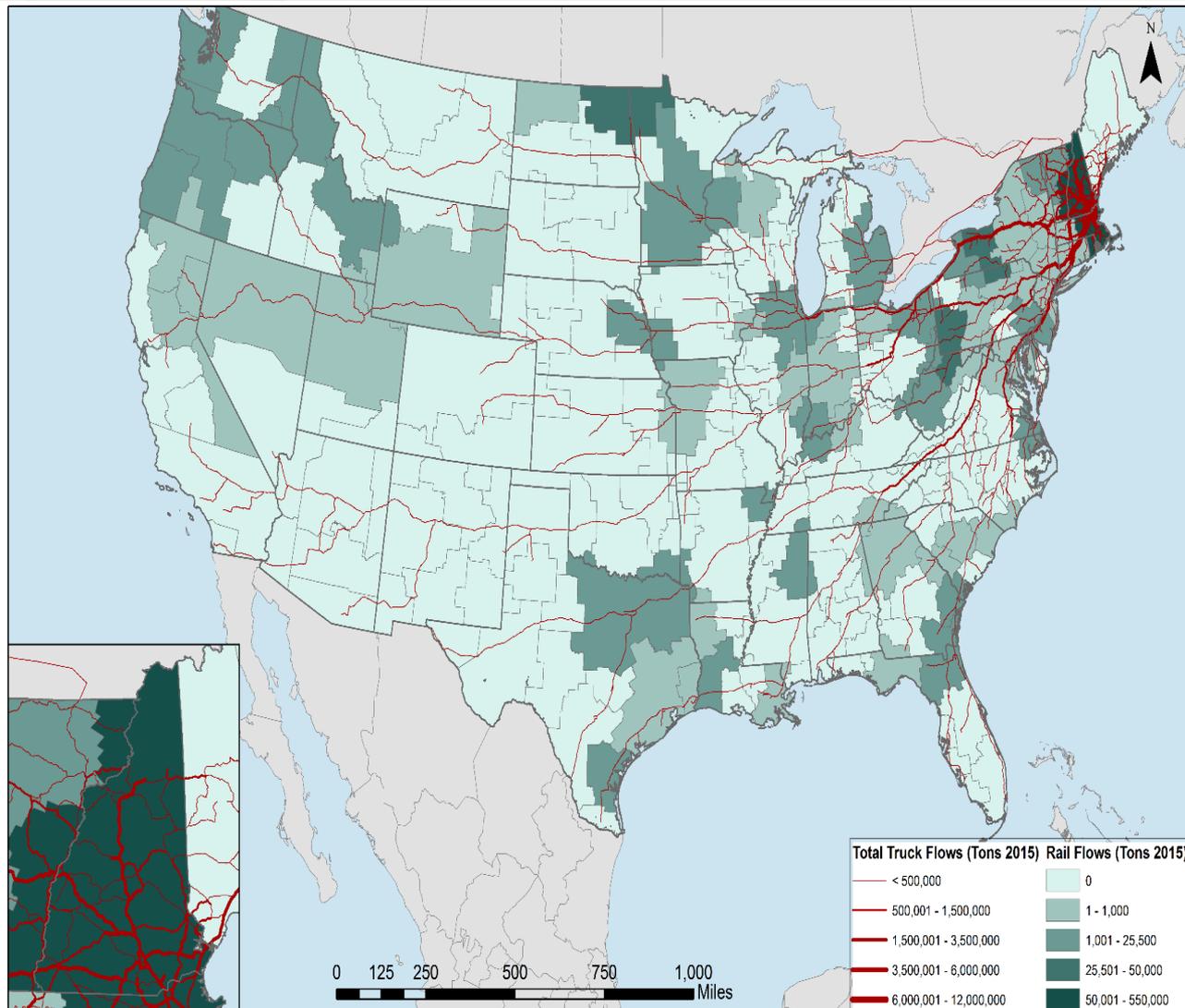
Freight Plan will develop an understanding of:

- The types and routes of freight travel within, out and through NH;
- Commodity/economics data;
- Congestion/ travel delay data;
- Improved mode-share details;
- The role of NH's freight system within the larger regional/national and international freight system;
- Multimodal Freight Areas of Need
- Identify routes for the National Highway Freight Network (NHFH), Critical Urban Freight Network (CUFN) and Critical Rural Freight Network (CRFN)
- Projects and policies to improve freight access and mobility
- Areas of prioritize freight investments

Freight Facts

- Product delivery from where arrived/produced to consumers. Supply chain graphics.
- Trucks are used to ship more than 95% of the goods in NH. Total truck tonnage anticipated to grow at an average annual growth rate of 2.6%. Regional truck traffic- MA, ME, VT, & NY
- Transportation accounts for approximately 10% of the cost of products.
- Overall, freight transportation, logistics, and distribution contributes – 14,000 jobs to NH’s workforce.
- The average annual salary is \$52,000 for Transportation, Warehousing & Utilities jobs in NH.
- Economy outlook (2017-2021)- Primary growth: construction (10%), leisure and hospitality (92.7%), professional & business service (2.6%) and education & health (2.1%).
- Economy driven primarily by high-tech manufacturing, retail trade, healthcare and financial services. Key industries include computers, electrical equipment, industrial machinery, plastics and paper products. Decrease/decline of manufacturing in US.
- Proximity to Boston and favorable tax environment contribute to the economy.
- NH’s economy exports \$4.1 billion of goods and imports \$8.6 billion of good internationally (2016).
- NH’s economy exports \$18.9 billion of goods and imports \$24.3 billion of goods domestically (2015).
- Panama Canal widening

2015 Total Truck and Rail Flows*

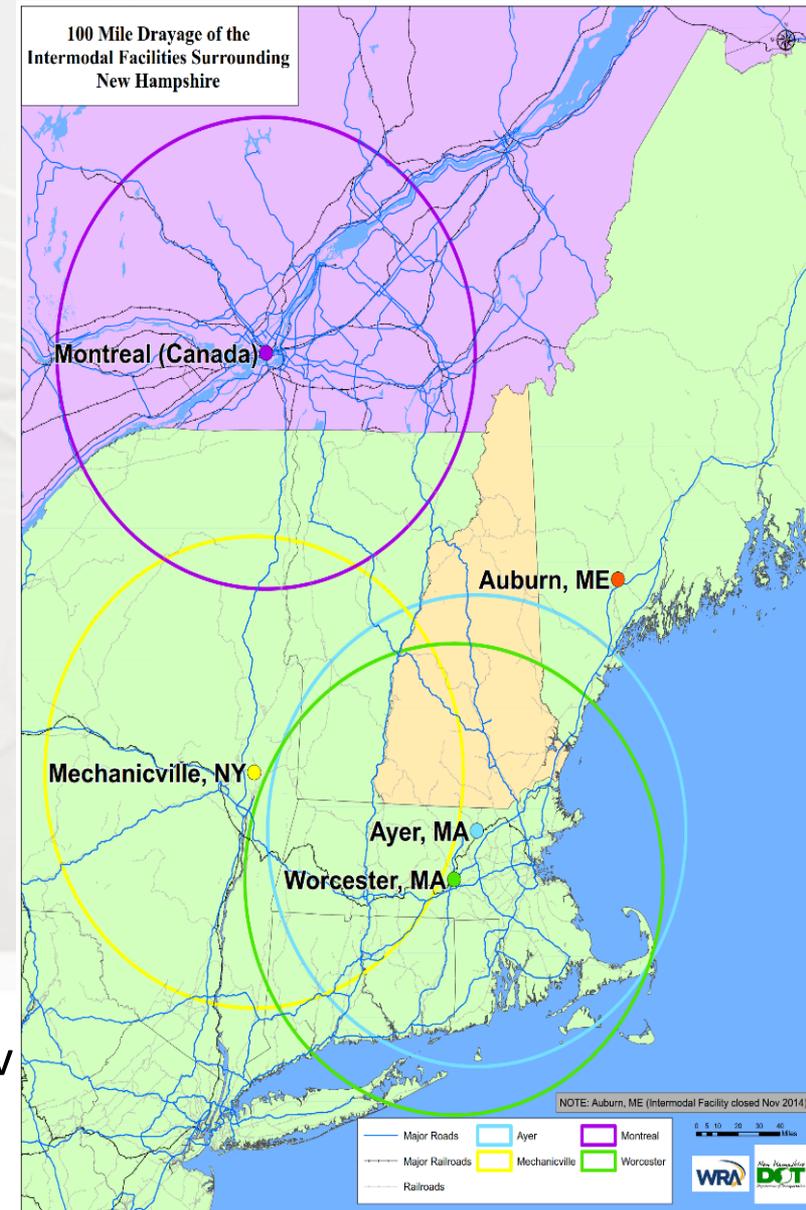


*Flows represent to / from / through the state of NH

The Importance of Good Infrastructure - *RAIL*

Freight Rail Trends

- Heavier Rail Cars (263K vs 286K)
- Vertical Clearance for Double Stack Service
- Rail Line Access / Abandonment
- Freight and Rail System Changes
 - Fuel Prices & Truck Driver Shortages
 - Panama Canal Widening & US Port Diversification
 - Decline in paper & other manufacturing
- Need for Intermodal Facilities
 - Drayage - Movement of loaded or empty trailers or containers between railyards, ports, or shipping terminals
 - Auburn, ME – Intermodal facility closed Nov 2014

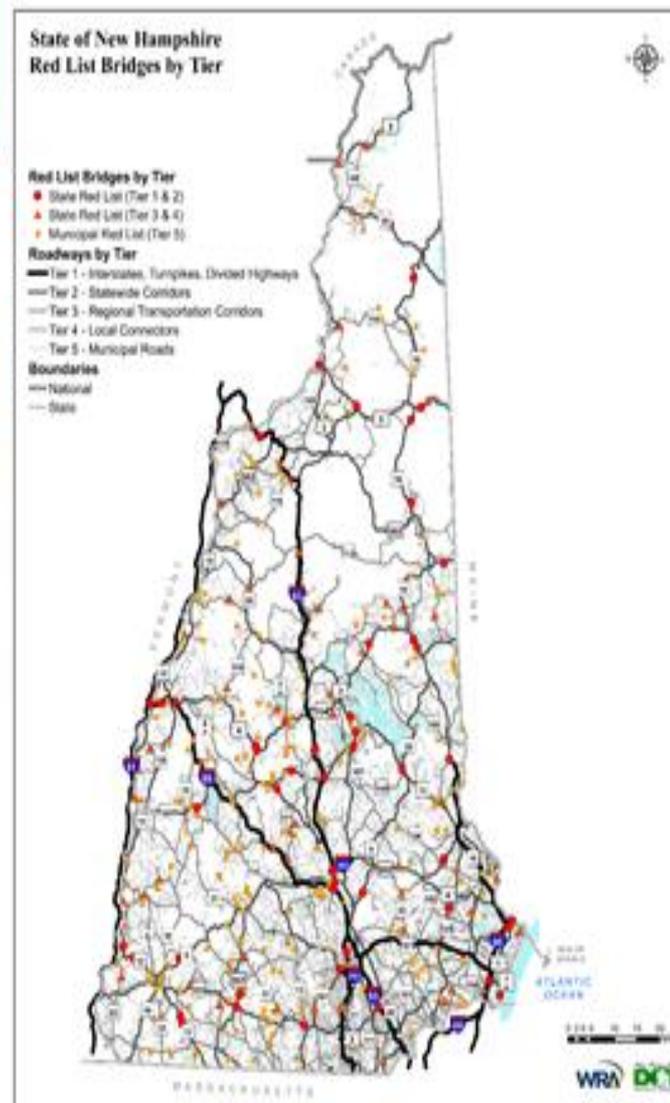


2016 Bridge Conditions

- 140 State Red List Bridges

Tiers	Roadways	Red List Bridges	%
1	Interstates, Turnpikes, Divided Highways	17	12%
2	Statewide Corridors	45	32%
3	Regional Transportation Corridors	37	26%
4	Local Connectors	33	24%
	Other	8	6%
	TOTAL	140	100%

- 254 Municipal Red List Bridges (Tier 5)



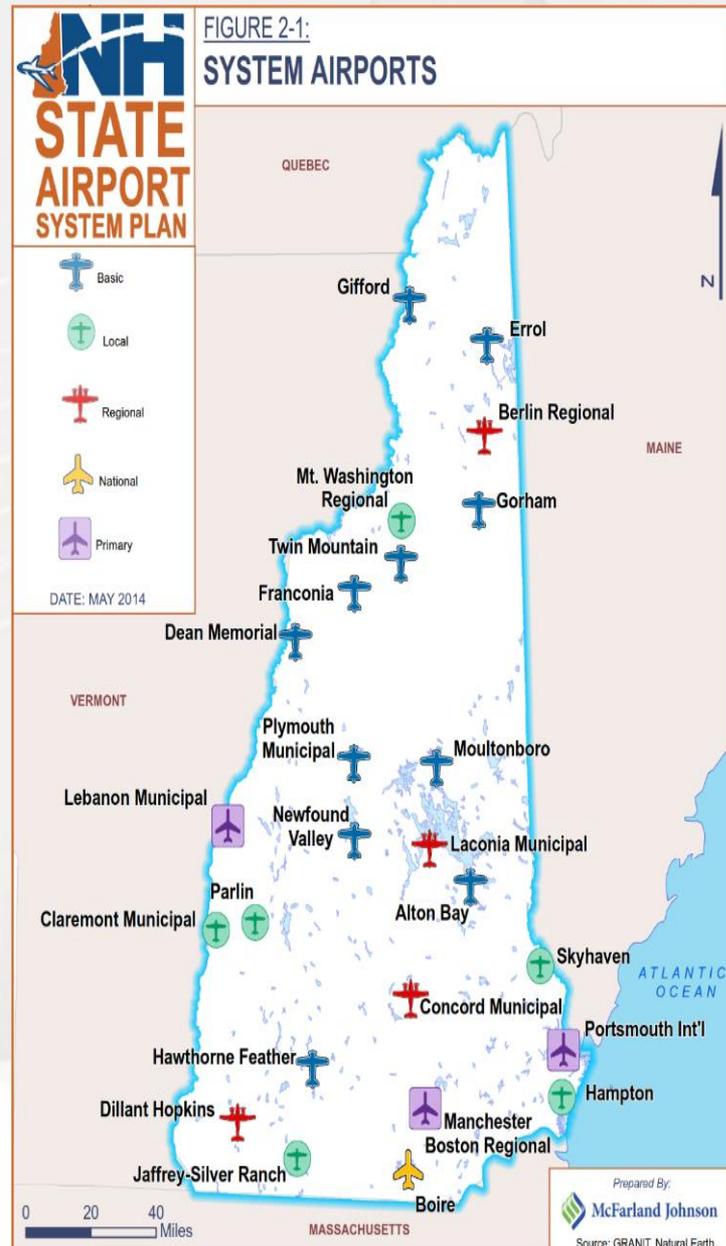
The Importance of Good Infrastructure - *AIRPORT*

Cargo Service

- Manchester – Boston Regional Airport
 - Regional cargo hub for FedEx & UPS
 - Regional truck warehouses nearby
- Portsmouth International Airport
 - Handles / clears international cargo

Rail Service

- No rail service (cargo or passenger) with stops at any of the 25 public airports
- NH general aviation airports meet current cargo demands – no recommendations for cargo rail service at this time



Source: 2015 NH State Airport System Plan

New Hampshire Totals for Truck, Air, Rail and Water – 2015 and 2040

	2015 Tons (000's)	2040 Tons (000's)	2015 Share of Total Tons	CAGR** 2015-2040	2015 Value (Million \$)	2040 Value (Million \$)	2015 Share of Total Value	CAGR** 2015-2040
Truck	82,443	137,953	95.39%	1.10%	75,859	145,712	90%	2.65%
Rail	3,367	4,507	3.12%	1.20%	3,338	3,427	2%	0.11%
Water	1,451	2,025	1.4%	1.30%	791	861	1%	0.34%
Air	85	136	0.09%	1.90%	6,646	11,894	7%	2.36%
Total	87,346	144,621		2.04%	86,634	161,894		2.53%

**Compound Annual Growth Rate – mean annual growth rate from 2015 to 2040

Source: IHS Markit Transearch

Freight & New Hampshire's Quality of Life

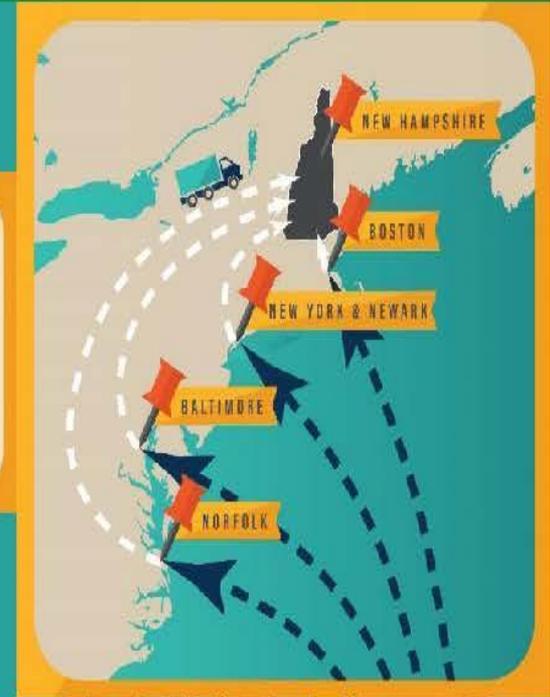
ONLINE CONSUMER PRODUCTS SUPPLY CHAIN

FUN FACTS

- NH imported **\$1.9 billion** of goods from Asia in 2016
- For imported goods traveling into North Atlantic ports, top Asian trading partners include China, India, Vietnam, & Indonesia
- From China to the eastern US coast traveling through the Panama Canal, shipment times are ~27-33 days to New York

Source:

- (1) IHS World Trade Service Data & Internal Resources
- (2) <https://www.searates.com/reference/portdistance/>



Freight & New Hampshire's Quality of Life

LUMBER PRODUCTS SUPPLY CHAIN

FUN FACTS FOR CHARLESTOWN, SULLIVAN COUNTY

- Home to Cushman Lumber Company and Charlestown Transfer Reload & Distribution Services
- Charlestown Transfer Facility Details
 - Lumber shipments include 71k tons via rail and 120k tons via truck
 - 22 acres
 - 63k sq. ft. of covered storage
 - Two (2) warehouses
 - Two (2) rail spurs
 - Four (4) Class I railroad connections:
 - Canadian National (CN)
 - Canadian Pacific (CP)
 - Norfolk Southern (CS)
 - CSX (CSXT)

Source:

(1) NH Private Waybill Data

(2) Transearch Data

(3) <http://www.cushmanlumber.com/Charlestown.html>



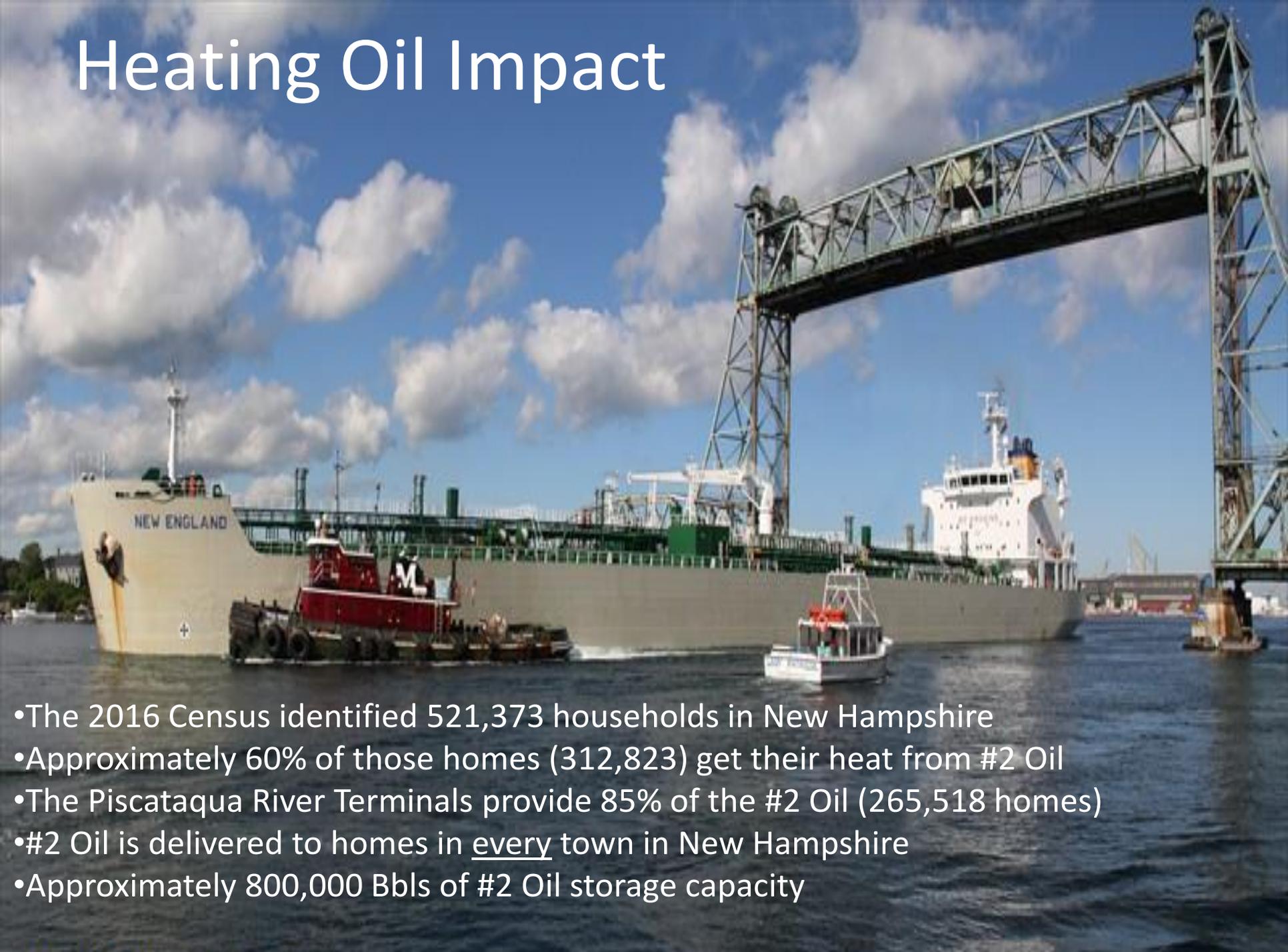
FUN FACTS

- The Sprague and Irving Piscataqua River Terminals provide **85%** of the heating oil used in NH
- Regarding barrels (bbls) of #2 Oil Storage:
 - Sprague (~460,000 bbls)
 - Irving (~340,000 bbls)
- Approximately **60%** of all homes in NH get their heat from #2 Oil (~284,000 homes)

Source: Port of Portsmouth



Heating Oil Impact



- The 2016 Census identified 521,373 households in New Hampshire
- Approximately 60% of those homes (312,823) get their heat from #2 Oil
- The Piscataqua River Terminals provide 85% of the #2 Oil (265,518 homes)
- #2 Oil is delivered to homes in every town in New Hampshire
- Approximately 800,000 Bbls of #2 Oil storage capacity

LIQUID ASPHALT

2017 - 24 Petrochemical Tankers entered Portsmouth Harbor

211,900 Tons of Liquid Asphalt landed

Liquid Asphalt makes up 5% of pavement – 95% aggregate

Landings produce 4,283,000 tons of pavement

Equates to - 3,567 MILES OF ROAD LANE PAVED (12' wide - 3" thick)



Petrochemical Tanker

ROAD DE-ICING SALT



2017

- **14 Dry Bulk Carriers discharged 509,500 tons**
- **NH-DOT used 225,000 tons**
- **189,980 tons (85%) came from terminals on the Piscataqua River**

National Highway Freight Network (NHFN)



Source: https://ops.fhwa.dot.gov/freight/infrastructure/inf/maps/nhfn_map.htm (Last Update: February 01, 2017)

Connecting New Hampshire to the World

National Highway Freight Network (NHFN)



Source: https://ops.fhwa.dot.gov/freight/infrastructure/info/maps/nhfn_map.htm (Last Update: February 01, 2017)

Interim National Multimodal Freight Network (NMFN)

Highways

- PHFS (I-95)
- Non-PHFS
(I-89, I-93, I-293, I-393)

Railroads

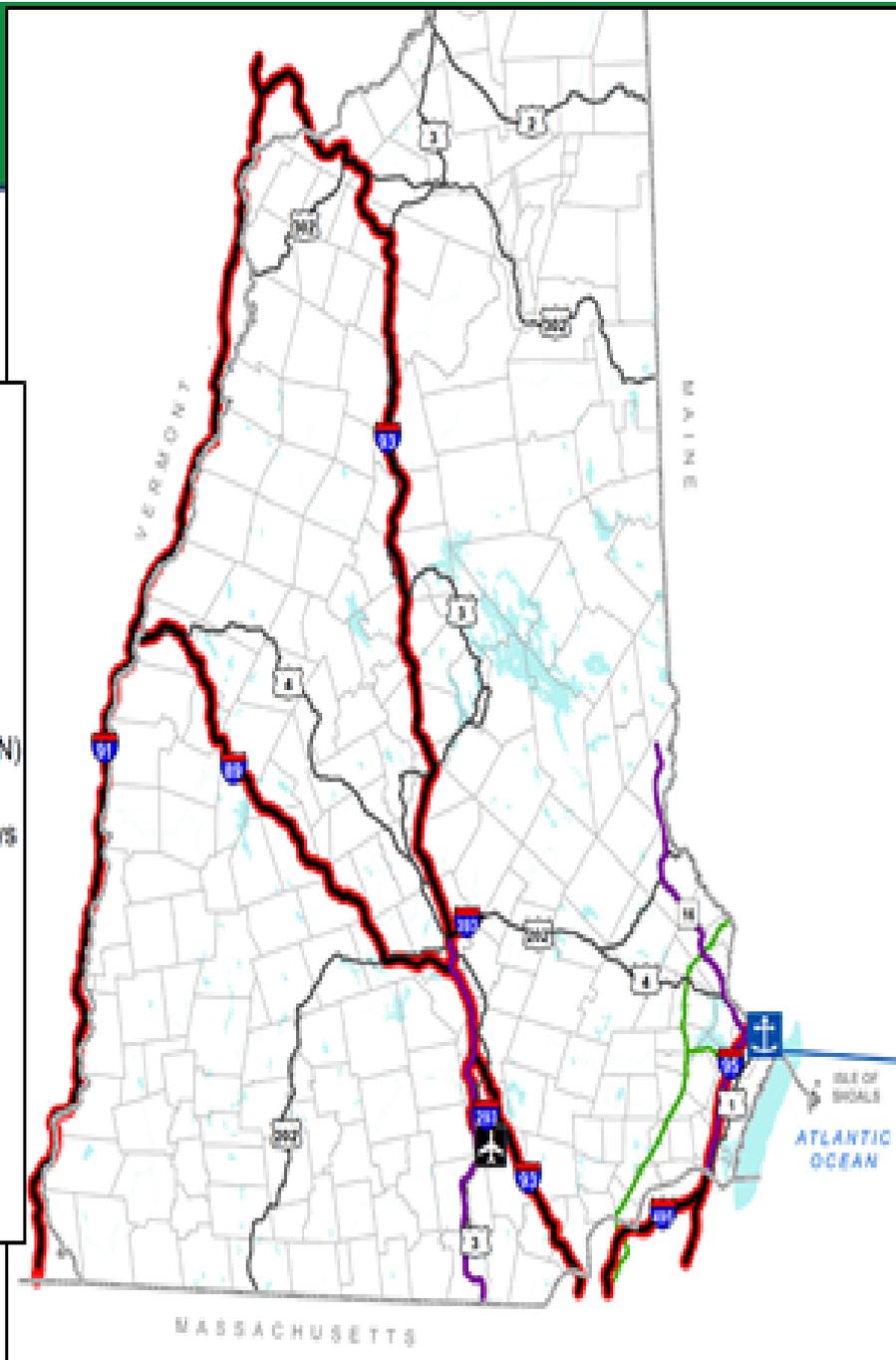
- Pan Am Railroad
(approx. 45 miles)

Ports

- Port of Portsmouth

Airports

- Manchester-Boston
Regional Airport



Source: <https://www.transportation.gov/freight/us-interim-nmf-n-map>

Last Update : April 28, 2016

(Establishment of Interim NMFN Guidance Publication 06/06/16)

Next Steps

What roads in your region and in the State should be considered for including in the National Highway Freight Network (NHFN), including urban and rural roads?

- ✓ National Highway Freight Network (NHFN) in NH- Critical Rural Freight Corridors (CRFC) 150 miles allowed and Critical Urban Freight Corridors (CUFC) 75 miles allowed.

Consider the following and the discussion with the RPCs on April 12, 2018. Comments due to NHDOT by June 30, 2018.

- ❖ Commodity Flows- Top Highways (I-93, I-293, US 3, NH 13, NH 125, NH 101)
- ❖ Pavement Conditions
- ❖ Bridge Conditions (red list, bridge restrictions, low clearance)
- ❖ General need for east-west corridors
- ❖ Bottlenecks and congested areas (I-95, I-93, Everett Turnpike, Route 101 east of Manchester)
- ❖ Roadway upgrades
- ❖ Various rail upgrade needs
- ❖ Public comments related to congestion, safety, infrastructure, intermodal issues, and other freight concerns
- ❖ On-line survey comments- traffic congestion & safety, intermodal connections, infrastructure, and other freight concerns
- ❖ Data layers- crashes, truck volumes, MPO Identified projects, NHDOT identified project, UZA boundaries, Ten Year project locations and etc.

Questions? Comments?

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