Oversized Trucks using the VT-9 Corridor from Bennington to Brattleboro
Memo compiled as part of the Route 9 Corridor Management Plan (2021)

Last amended 6/15/2021

Background

On October 4, 2019, VTrans staff met with locals to hear about concerns for the VT Route 9 corridor. Secretary Joe Flynn, Wayne Symonds (Chief Engineer), Jesse Devlin (Project Delivery Bureau) and Jake Elovirta (DMV) represented AOT. The meeting discussion focused on truck traffic, including oversized loads, and included concerns about safety (especially curves and sight distances) as well as non-car modes.

During outreach to partners and stakeholders for the VT Route 9 Corridor Management Plan in 2020 concerns about truck traffic and oversized loads were re-iterated. Transportation of modular homes is perceived to be particularly high along Route 9. Given the width of these loads there are concerns for safety as Route 9 can be narrow and steep in places, with some sharp curves. Sometimes two oversized loads can meet in these narrow areas which causes complications. In addition to the wide loads, there are also extra-long loads carrying bridge beams and other similar items.

In early 2021 VTrans and DMV staff met with Representative Mollie Burke to discuss the issues further. One outcome of the meeting was that DMV would track mobile home oversized permits issued in February 2021. This report summarizes some key information from those meetings, the outcome of the permit tracking and some potential next steps.

Permits issued

According to the DMV, in 2020 24,437 permits were issued for oversized and overweight trucks in Vermont (1/29/2020 – 1/29/2021, including single trip permits). This generated a total revenue of $3,603,347. It is unknown what proportion of these vehicles used Route 9 as there is no automatic reporting of routing information in the current permit database.

More information about oversized and overweight loads can be found on the DMV Permit page - https://dmv.vermont.gov/CVO/permits

Travel patterns in New England

The following is key travel information for highways in nearby states that affect southern Vermont and usage of VT-9:

- The Mass Pike (I-90) is closed to thru-traffic to all oversized and overweight loads due to bridge work between I-87 (NY Thruway) and I-91.
- Massachusetts Routes 23 and 20 have a width limitation of 12ft, although a 14ft width is allowed for some sections (Vermont's limit for supersized loads is 15ft)
- A roundabout in Nashua NH prevents oversized vehicles from using Route 9 in New Hampshire
- Oversized vehicles cannot use I-93 in New Hampshire

- New York has no restrictions for oversized vehicles

Mobile/ Manufactured Home Permit Study – February – May 2021

The following analysis uses mobile/ manufactured home oversized truck permits issued for use of VT-9 from Bennington to Brattleboro in February thru May 2021. There is no automatic reporting for this information so the origins and destinations of trips were recorded manually and collated by the DMV Commercial Vehicle Permitting Unit. The purpose of this analysis was to look for patterns in travel of oversized loads over VT-9 to help inform next steps.

Given the relatively small sample size from February –May 2021 data (543 permits issued) and the time of year, these results cannot be extrapolated for the entirety of 2021. It does, however, show sufficient information to formulate some next steps.

From February 1 – May 31, 2021 a total of 543 permits were issued for oversized loads for mobile/ manufactured homes to travel over Route 9 (see tables 1, 2 and 3)

- Trucks primarily came from three states – Pennsylvania (66% of loads), New York (28%) and Indianna (5%).
- The top 5 origin towns were Shippenville PA (15%), Sangerfield NY (13%), Unadilla NY (12%), Ephrata PA (11%) and Leola PA (9%)
- Trucks were primarily travelling to three states – Maine (55% of loads), New Hampshire (38%) and Massachusetts (6%).
- The top 5 destination towns were Rochester NH (15%), Chesterfield NH (5%), Holden ME (5%), Warren ME (5%), and Saco ME (4%).

Table 1: Origins and Destinations by State		Which state is the truck from?							
		IA	IL	IN	NH	NY	PA	Total	Percentage
Which state is the truck heading to?	MA			3		15	17	35	6%
	ME			22		51	225	298	55%
	NH	1	1	1	1	85	116	205	38%
	NY				1			1	0.2%
	PA				1		2	3	0.6%
	VT					1		1	0.2%
	Total	1	1	26	3	152	360	543	
	Percentage	0.2%	0.2%	5%	0.6%	28%	66%		

Table 2: Top 10 Origins by Town

Rank	Origin town	Count	Percent
	Grand Total	543	
1	Shippenville, PA	81	15%
2	Sangerfield, NY	68	13%
3	Unadilla, NY	65	12%
4	Ephrata, PA	62	11%
5	Leola, PA	48	9%
6	Pine Grove, PA	43	8%
7	Claysburg, PA	29	5%
8	Emlenton, PA	22	4%
9	Goshen, IN	22	4%
10	Strattanville, PA	21	4%

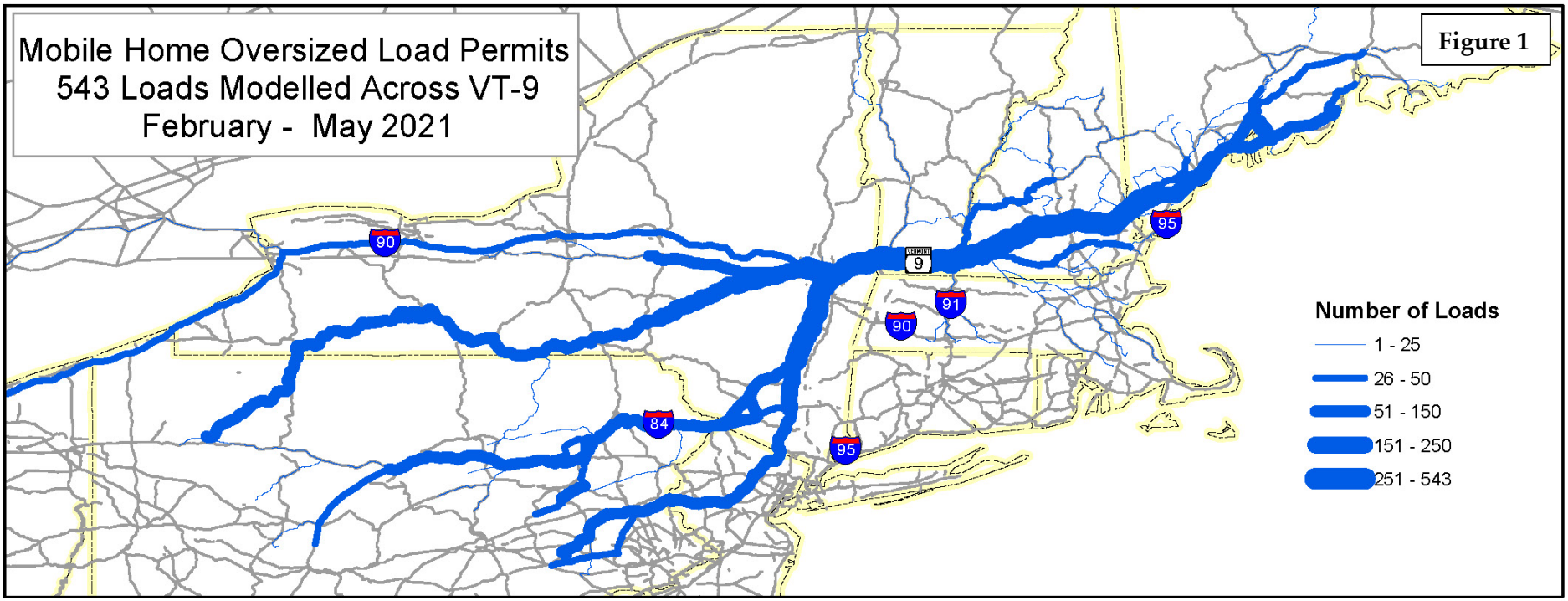
Table 3: Top 10 Destinations by Town

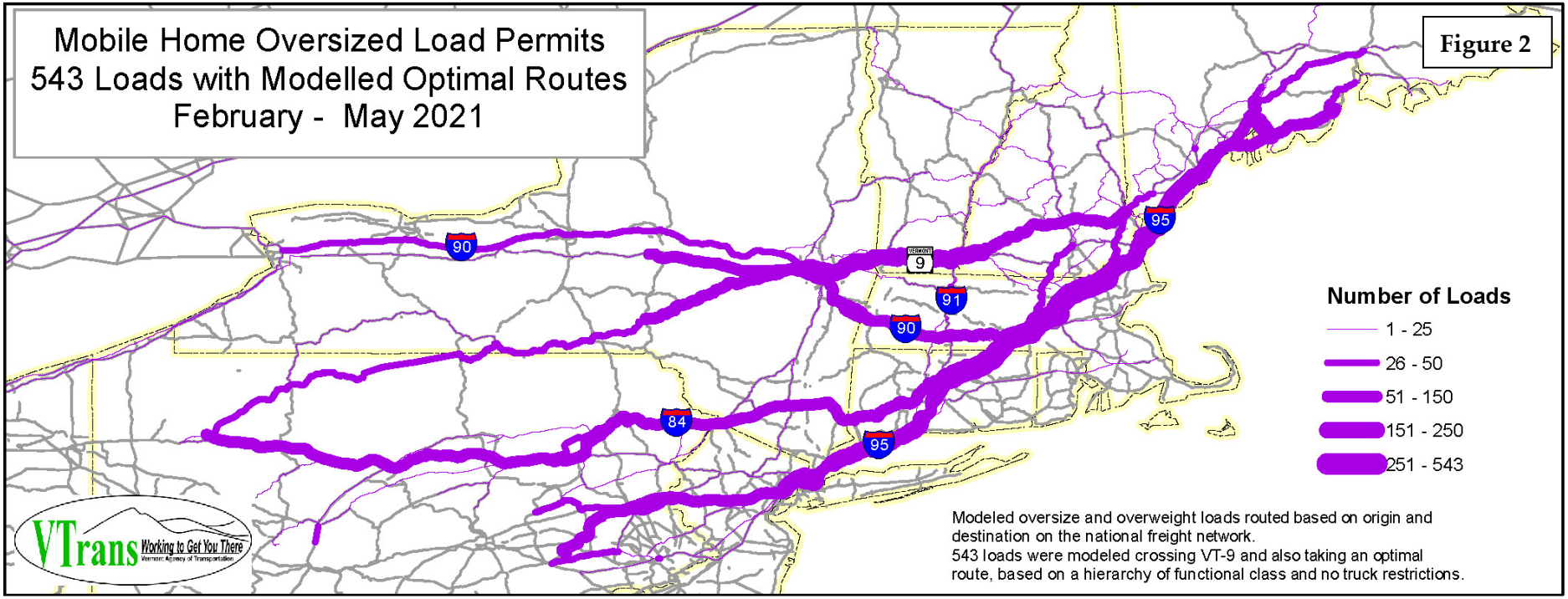
Rank	Destination town	Count	Percent
	Grand Total	543	
1	Rochester, NH	79	15%
2	Chesterfield, NH	25	5%
3	Holden, ME	25	5%
4	Warren, ME	25	5%
5	Saco, ME	20	4%
6	Waldoboro, ME	18	3%
7	Winslow, ME	18	3%
8	Brewer, ME	16	3%
9	Kittery, ME	16	3%
10	Woodstock, NH	16	3%

The following page shows maps which have modelled routes connecting the origins and destinations. Modelling made several assumptions about road preferences (for example interstates being preferred to state routes). Modelling is not perfect but does give some good indications of patterns. Figure 1 shows how VT-9 is used as a primary connection between places in the west (PA, IN, NY) and New England based on the origins and destination data from the permits. Because Figure 1 is based on actual oversize trucks travelling on VT-9, it accounts for the effect on route choice of restrictions on I-90 and other highways as described above. Figure 2 shows the optimal routes assuming there are no restrictions on other highways. All three major interstates carry significant trips between the west and New England, with more on I-95, and then relatively evenly split between I-84 across Connecticut and I-90 (Mass Pike). In addition to restrictions on the east-west interstates (I-84, I-90 and I-95), Figure 2 suggests that limitations on other interstates and major routes in eastern Connecticut (eg I-395) and eastern Massachusetts (I-95 and I-495) may also be affecting route choice.

When comparing the modelled optimal routes to the modelled routes using VT-9 it was found that miles travelled increased by an average of 13 miles (see Table 4 for more details). In some cases an increase in miles travelled may not result in an increase in travel time due to speed limits, travel conditions and traffic congestion.

Table 4: Modelled Trip Lengths in Miles	Total Miles	Average Trip	Median Trip	Shortest Trip	Longest Trip	Number of trips
Using modelled optimal route	266,996.9	491.7	480.1	55	1,218.5	543
Using Vermont Route 9	274,430.6	505.3	488.0	56	1,210.9	543
Difference	-7,433.7	-13.6	-7.9	-1.4	8	0


Mobile Home Oversized Load Permits
543 Loads Modelled Across VT-9
February - May 2021
Figure 1
Number of Loads
1 - 25
26 - 50
51 - 150
151 - 250
251 - 543
90
9
91
95
84


Mobile Home Oversized Load Permits
543 Loads with Modelled Optimal Routes
February - May 2021
Figure 2
Number of Loads
1 - 25
26 - 50
51 - 150
151 - 250
251 - 543
90
9
91
95
84
VTrans Working to Get You There
Modeled oversize and overweight loads routed based on origin and destination on the national freight network.
543 loads were modeled crossing VT-9 and also taking an optimal route, based on a hierarchy of functional class and no truck restrictions.

Potential next steps

The analysis summarized in the memorandum has improved our understanding of the travel patterns of oversize trucks on VT-9. It has also identified some opportunities that may help reduce the number of oversize trucks that are choosing to travel on VT-9 over what appear to be more efficient routes.

The following are potential next steps for VTrans and DMV to pursue to verify the results and to explore possible strategies:

1. Contact Massachusetts DOT about current and future work on the Mass Pike (I-90) that currently prevent oversized and overweight loads from using the Mass Pike from I-87 in New York to I-91 in Massachusetts. Focus on when they expect the Mass Pike to be open to oversized and overweight loads to be re-opened. After re-opening, monitor oversize permits issued for VT 9 to help infer whether the opening of the Mass Pike provided any relief.

2. Follow up with Massachusetts DOT about their planned changes within their "Pro-miles" program (automatic permitting system) so more oversized loads are routed via I-91 (and therefore away from VT-9).

3. Research neighboring states (MA, NH, NY, CT, NJ) fees for oversized and overweight permits to explore whether Vermont's permit fees are comparable.

4. Contact manufactured home companies and their transportation companies to find out why they choose particular routes in general and VT 9 specifically. Focus on the top 6 manufactured home companies that are used VT 9 from the February – May analysis.

A copy of this memo will be posted on the Route 9 Corridor Management Plan webpage. An update to this memo is expected within a year (i.e. early summer 2022) and will be shared with partners and stakeholders involved in the Corridor Management Plan.