

Vermont Agency of Transportation

Report on Increasing Gross Weight Limits on Highways (Act 41, Sec 40, 2023)

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PRESENTATION TO THE HOUSE COMMITTEE ON TRANSPORTATION



Background

- **Act 41, Sec 40 (2023)**

- (a) The Secretary of Transportation or designee, in collaboration with the Commissioner of Forests, Parks and Recreation or designee; the Executive Director of the Vermont League of Cities and Towns or designee; and the President of the Vermont Forest Products Association or designee and with the assistance of the Commissioner of Motor Vehicles or designee, shall examine adding one or more additional special annual permits to 23 V.S.A. § 1392 to allow for the operation of motor vehicles at a gross vehicle weight over 99,000 pounds and shall file a written report on the examination and any recommendations with the House and Senate Committees on Transportation on or before January 15, 2024.

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- 1) allowing for a truck trailer combination or truck tractor, semi-trailer combination transporting cargo of legal dimensions that can be separated into units of legal weight without affecting the physical integrity of the load to bear a maximum of 107,000 pounds on six axles or a maximum of 117,000 pounds on seven axles by special annual permit;
- 2) limitations for any additional special annual gross vehicle weight permits based on highway type, including limited access State highway, nonlimited access State highway, class 1 town highway, and class 2 town highway;
- 3) limitations for any additional special annual gross vehicle weight permits based on axle spacing and axle-weight provisions;
- 4) reciprocity treatment for foreign trucks from a state or province that recognizes Vermont vehicles permitted at increased gross weights;

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- 5) permit fees for any additional special annual gross vehicle weight permits;
- 6) additional penalties, including civil penalties and permit revocation, for gross vehicle weight violations; and
- 7) impacts of any additional special annual gross vehicle permits on the forest economy and on the management and forest cover of Vermont's landscape.

Except for infrastructure, report topics were analyzed in a qualitative manner due to lack of data or the need to more comprehensively model / forecast truck trips.

Major Findings

- **Vermont's Infrastructure was not designed to accommodate heavier loads.**
 - The vast majority of the state and Class II Town Highway System consists of non-engineered highways. Adding heavier trucks will require more frequent paving and associated maintenance and rehabilitation improvements.
 - There are 184 structures with operating ratings of less than 99,000 pounds that could not handle current legal loads, and 1,051 structures that can carry current legal loads but would be unable to carry heavier vehicles. An additional 1,143 structures could support higher weight limits but would experience accelerated deterioration.
 - Vermont currently designs its full-depth reconstruction projects and structures to handle 117,000lbs vehicles but the legacy system is vast and could take decades to fully replace.
 - The design of town highway systems is determined by municipalities.
 - Few states allow higher weight limits.
 - Federal transportation policy has not been supportive of higher weight limits.

Scenarios Examined

Scenarios for State Highway Network

Scenario 1 – Single route	(NOT ANALYZED) Bi-directional travel authorized on specific State highways between a specific state border crossing and a specific authorized destination within 30 miles of that border
Scenario 2 – Border-radius	Travel authorized on all State, US, and Interstate highways within 30 air miles of the borders of Vermont with either New York or Quebec, including both limited-access and non-limited access highways
Scenario 3 – Limited High Truck Traffic Highways	Travel authorized on a specified set of State, US, and Interstate highways already serving higher volumes of Vermont’s daily truck traffic, including both limited-access and non-limited access highways
Scenario 4 – All State Highways	Travel authorized on all State, US, and Interstate highways within Vermont currently authorized by the 99,000-pound permit, including both limited-access and non-limited access highways

Scenarios Examined

Scenarios for Local Roads

Scenario NULL – no local routes	No travel authorized on any class 1 or class 2 town highway
Scenario A – Limited Distance of 1 air mile	Travel authorized on all class 1 and class 2 town highways located within one (1) air mile of an authorized state highway
Scenario B – Town Decision	Travel authorized on any class 1 and class 2 town highway where the town has “opted-in” and included the highway in the operating authorization
Scenario C – All Class 1 and 2 Local Roads	Travel authorized on all class 1 and class 2 town highways

Scenarios Examined

Summary of Scenario Combinations

State (column) and local (row) scenario matrix	Scenario 2 Border-radius	Scenario 3 Limited High Truck Traffic Highways	Scenario 4 All State Highways
Scenario NULL No local routes	Calculations use only Scenario 2	Calculations use only Scenario 3	Calculations use only Scenario 4
Scenario A Limited Distance of 1 air mile	All state highways within 30 air miles of the NY or QC border, plus all class 1 and class 2 local roads located within 1 air mile of those state roads	Selected state highways with either high daily truck traffic or connectivity to a state border, plus all class 1 and class 2 local roads located within 1 air mile of those state roads	All state highways plus all class 1 and class 2 local roads located within 1 air mile of those state roads
Scenario B Town Decision	All state highways within 30 air miles of the NY or QC border, plus all class 1 and class 2 local roads within 30 air miles where the town has opted into including the road	Selected state highways with either high daily truck traffic or connectivity to a state border, plus all class 1 and class 2 local roads where the town has opted into including the road	All state highways, plus all class 1 and class 2 local roads where the town has opted into including the road
Scenario C All Class 1 and 2 Local Roads	All state highways, class 1 town highways, and class 2 town highways, within 30 air miles of the NY or QC border	<i>NOTE: This scenario is counter-intuitive and is omitted in calculations.</i> Selected state highways with either high daily truck traffic or connectivity to a state border, plus all class 1 and class 2 town highways in the state	All state highways, class 1 town highways, and class 2 town highways

Scenarios Examined

Estimated Costs (\$2023)

	Structures	Pavements	Total
Full Buildout – Getting to 99,000 lbs	\$3.3 billion	\$1 billion	\$4.3 billion
Full Buildout – Incremental to 107,000 lbs	\$1.32 billion	\$8.55 billion	\$9.9 billion
Total	\$4.6 billion	\$9.5 billion	14.2 billion

	Structures	Pavements	Total
High Truck Volume State Highways Only – Getting to 99,000 lbs	\$0.45 billion	\$0.33 billion	\$0.78 billion
High Truck Volume State Highways Only – Incremental to 107,000 lbs	\$0.47 billion	\$2.1 billion	\$2.6 billion
Total	\$0.92 billion	\$2.43 billion	\$3.4 billion

How we Got Here

- The New England highway network was one of the first to be developed in the United States and was not designed for heavy loads.
- Vermont, New Hampshire, Massachusetts and Maine do not generally allow divisible loads over 100k (Maine does allow Canadian weight limits to apply to three highways bordering Canada).
- Until about a decade ago, Vermont's interstate highway weight limits were capped at 80k while the state highway system allowed up to 99k. Maine and New Hampshire's were also capped but federal laws were changes to increase weight limits to 99-100k lbs. Most of the nation still operates at the 80k interstate weight limit.
- New York is a regional outlier in allowing 117+lbs.
- Canada allows much heavier weights.
- Attempts to change federal laws to allow higher weight limits nationally have failed.

The Challenge and Dilemma

- There is an inherent policy conflict between transportation systems' need to grow organically and aged infrastructure on the scale of highways.
- Higher weight truck movements generally occur regionally.
- Modern design standards for full-depth reconstruction projects and structures can handle 117,000lbs vehicles but the legacy system is vast and could take decades to fully replace.
- Federal transportation funding policy complicates the prospects of accelerating highways infrastructure upgrades.
- Realistic path forward involves a regional, or preferably, national approach to ensure consistency.