

Good afternoon, Chairperson, and members of the Committee. I'm Wayde Swenson, Director of Operations for the North Dakota Department of Transportation (NDDOT). I'm here to provide testimony in opposition to HB 1407.

The bill proposes to amend and reenact subsection 2 of section 39-12-05 and subsection 2 of section 39-12-05.3 of the North Dakota Century Code, relating to weight limitations for vehicles on the interstate system and weight limitations for vehicles on highways other than the interstate system. The bill raises several concerns for the NDDOT which I hope to outline here today. But, before I do that, I'd like to provide some background on weight and length limits in ND.

Background

There are several weight and length limits in ND, defined by federal and state law.

Interstate

In 1991, Federal Highway froze gross vehicle weight (GVW) limits on the interstate at 80,000 lbs., with the ability to permit to 105,500 lbs. This also included weight distribution limits of 20K lbs. per single axle and 34K lbs. per tandem axle. Groups of 3 or more axles are determined by weight formula. Tires cannot exceed 550 lbs. per square inch. The Federal Bridge Formula governs axle spacing to help protect highway infrastructure and measures the interior and exterior axle spacings when calculating maximum weight limits.

National Network

Our National Network includes the interstates, several US highways and some selected state highways meeting federal definitions for access to commercial facilities. These roads were specifically designated to ensure smooth freight transportation. Length limits were frozen on the National Network at a 100' – 103' cargo carrying length, depending on truck configuration (e.g. single trailer vs. double trailers).

US and ND State Highways

Our US and state highway network gross vehicle weight limit is 105,500 lbs., with an overall length restriction of 75', 95', or 110', depending on roadway. This also included weight distribution limits of 20K lbs. per single axle, 34K lbs. per tandem axle and for grouping of 3 or more axles the weight is limited to the lesser of 48K lbs. or the weight as determined by the Federal Bridge Formula using the exterior bridge length only. Tires cannot exceed 550 lbs. per square inch.

ND Large Truck Network

After a harmonization study and a study on the 129,000 lbs. Large Truck Network, legislation was passed in 2017 to add the Large Truck Network. The network allows 129,000 lbs., by permit, if trucks meet legal tire and axle weights and the Federal Bridge Formula. Several roads were included in the network and a process for adding additional roads was included with an identified business need, public involvement and a review and recommendation to our director by an advisory committee. Later that year Congress passed a bill that increased the Interstate system to the 129,000 lbs. Large Truck Network by special permit. Part of the discussion when the network was developed was if it should be done by registration fees or by permit. It was agreed that permitting would be better because it allowed these loads to be tracked. In addition, the \$700 annual fee was cheaper than increasing registration fees. This is not only beneficial to industry but enables ND Highway Patrol and the NDDOT to track overweight loads and monitor infrastructure on heavy freight corridors.

Truck Configurations

Truck size and weight come down to several factors.

- Overall Length – 75', 95' and 110' depending on highway.
- Cargo Carrying Length – National Network is 100' – 103' depending on truck configuration.
- Trailer Length - The longest legal trailer length in North Dakota on all highways is 53 feet.
- Gross Vehicle Weight – 80,000 lbs. to 129,000 lbs. depending on highway and/or permit.
- Axle Weights
- Axle Grouping Weights
- Federal Inner – Outer Bridge Formula – Interstate & Large Truck Network
- Outer Bridge Formula – US and State Highways

The standard 53' trailer with a single steer axle, triple drive and triple trailer axle and taking into consideration of all the factors would be limited to 105,500 lbs.

For a 113,000 lbs. truck configuration with a single steer axle, triple drive and triple trailer axle, the spacing from the steering axle to the rear axle on the trailer would need to be 91' long. To get to the 113,000 lbs., the configuration would require two trailers.

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If the legal weight were increased to 113,000 lbs., there are several Sections of the NDCC, other than 39-12-05, that would need to be updated. Several reference sections are included at the end of the testimony.

Currently our US and State Highways use the Outer Bridge Formula in determining if they are legal. The Interstate and Large Truck Network use the Federal Bridge Formula to determine if a load is legal. If the US and State highway load limit is increased from the 105,500 lbs., the department would request that the Federal Bridge Formula be used for the US and State highways. The federal bridge formula allows for a better distribution of the load. This would require a change to the Century Code. The affected sections are included at the end of the testimony.

Bridge Load Rating

In 2022, NDDOT completed a Plan of Corrective Action (PCA), issued by FHWA, for failure to meet Metric 13 of the Metrics for the Oversight of the National Bridge Inspection Program. This included the re-load rating of all NBI length structures. This was a multi-year effort which included load rating experts both from within the NDDOT and through our consultant partners. If this bill were passed, the NDDOT would again need to re-load all NBI length structures (4,076, excluding closed bridges) to remain fully compliant with Metric 13. Failure to do so, may result in another PCA which may also result in loss of federal funding if not completed within the prescribed timeframe. The cost of this effort would be significant.

Motor Vehicle

To change the current vehicle registration fee schedule (for up to 105,500 lbs. GVW) and to allow GVW more than 105,500 lbs. would require legislative approval.

Roadway and Bridge Impacts

All of the factors listed under the Truck Configuration are there to protect the infrastructure. Increasing the legal weight on our highways can result in several impacts to the system of highways. From potential diminished service life to needing to increase our pavement design thicknesses. For bridges the increase in gross vehicle weight can impact the long-term accumulation of fatigue damage.

Programs Needing Updating

Several programs would need to be updated if the legal weight is increased to 113,000 lb. Those are included at the end of the testimony.

Conclusion

There is already an avenue to get to a weight over 105,500 lbs. up to 129,000 lbs., on our state's highway system, and that is our Large Truck Network. Some roadways may not be selected for inclusion, but this determination is made after a thorough evaluation. The process includes a detailed study of the segment, input gathered during a public hearing, and a review by the Large Network Committee, which provides a recommendation to our director for the final decision.

This concludes my testimony. Thank you.

Supplemental Information

Sections of Century Code dealing with the Federal Bridge Formula on US and State highways.

- 39-12-05: Change to allow for 113,000 lbs. and following Federal Bridge Formula on US and State highways.
- 39-12-05.3: Eliminate most of Subsection 2 except for local authority language.

Sections of Century Code that may need to be updated include, but are not limited to, the following:

- 39-15-05.3: 10% permits are limited to 105,500 pounds. The department would have concerns if the 10% were allowed on a 113,000-pound load.
- 39-12-05.3: Number 6 – Will need a wording change on the 129,000 portion -105,500 to 113,000.
- 39-12-05.3: Number 7. seasonal permits fertilizer spreaders to increase from 105,500 lbs. to 113,000 lbs.
- 24-18-06: This chapter does not modify or authorize any change to the existing weight limitations for trucks with gross vehicle weight up to one hundred five thousand five hundred pounds [47854 kilograms] excluding the interstate system.

Programs needing updating:

- The Truck Weight Calculator will need to be reprogrammed.
- NDHP Permitting System, and the Ton Mile Fees for Non-Divisible loads would also need to be updated.