



## Impact and Analysis of Higher Vehicle Weight Limits on Minnesota's Interstate System – March 2011

Mn/DOT's **Minnesota Truck Size and Weight Project** (June, 2006) established Mn/DOT's position with regard to heavier trucks. The study views the topic from a standpoint of balancing infrastructure preservation, safety and economic benefits. Several neighboring states in the upper Midwest and Canada have higher vehicle weight limits than Minnesota. Many agricultural industries in Minnesota are impacted competitively by lower vehicle productivity in Minnesota. Current Truck Size and Weight limits (80,000 pounds on Interstate system) control the amount of payload that can be carried in a truck. An increase in vehicle weight limits would increase the allowable weight per trip, so fewer truck trips would be necessary to carry the same weight. Freight transportation cost savings due to increases in vehicle weight limits would benefit not only shippers and carriers but all consumers.

There are two current bills in Congress (HR 763 and HR 801) that propose increasing vehicle weight limits of vehicles using the national interstate system. These bills both display "opt-in" language, meaning that enabling State legislation is a requirement of the proposed law.

**Pavement Perspective:** The key point on the impact of increased gross vehicle weight to the preservation of infrastructure is the weight load per axle. The current weight limit (80,000 lbs) on the interstate system is spread over five axles. The new weight limits in the two bills (97,000 and 99,000 lbs) are spread over six axles, which MnDOT deems acceptable, but would prefer if the weight limits were spread over seven axles since adding axles to a heavy vehicle is the best way to compensate for its higher weight and to reduce any negative impacts on pavement. The Interstate system is built on a higher standard so having large trucks use that system rather than the local road system makes sense from the perspective of infrastructure, industry and local communities. From an infrastructure standpoint, the risks are relatively low. We already allow this type of truck (by annual permit) on our non-interstate trunk highways, and the bridges on our interstate system are in equal or better condition than the TH bridges.

**Safety Perspective:** The key point on safety is a vehicle's gross axle weight rating (GAWR) and its impact on surplus brake capacity. Axles that are added to a vehicle are rated for GAWR. The brakes fitted to the axle are sized in compliance with Federal Motor Vehicle Safety Standards for braking systems on vehicles equipped with air brake systems. The more axles on a vehicle, the more brakes are added, providing more braking capacity. The requirement for more axles, wheels and brakes ensures that stopping distance continues to meet legal requirements.

We believe there would not be a decrease in safety with respect to the number of commercial truck crashes resulting from increases in truck weight. Enhanced education of drivers about truck safety and outreach on the importance of highly skilled drivers to operate these larger and heavier vehicles would further minimize the potential for a negative impact on roadway safety in Minnesota.

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**Bridge Perspective:** Under Minnesota law there is a table of maximum weights for truck axle groups. Compliance with this law protects bridges from overstress. If one of the two current bills was passed, we would need to perform load ratings on about 20 bridges, and possibly do some minor strengthening to a few of them. The cost to “get ready” would be negligible. Repetitive loading by heavier trucks will theoretically shorten the service life of a bridge (material fatigue and deck wear), but it’s difficult to quantify this cost. There also could be an increase in annual bridge maintenance costs. According to the 2006 Truck Size and Weight Project, these costs might be on the order of \$50,000 annually. HR 763 provides a revenue source for maintenance, while HR 801 does not.

**Conclusion:** Minnesota supports the authorization of vehicles with a gross weight of either 97,000 or 99,000 pounds on six axles to operate on the Interstate System routes in the state, provided that adequate enabling State legislation is passed.

