

Fiscal Estimate Narratives
DOT 4/20/2010

LRB Number 09-4328/1	Introduction Number AB-0761	Estimate Type Updated
Description annual or consecutive month permits for vehicles or combinations of vehicles transporting loads near the Wisconsin-Michigan border.		

Assumptions Used in Arriving at Fiscal Estimate

The bill increases from 80,000 pounds to 169,000 pounds the gross vehicle weight limit applicable to trucks transporting specified forest product commodities when properly configured for axle weight and spacing along portions of USH 2.

The department finds the bill would expand the types of trips eligible for Michigan-configured trucks, but cannot quantify the number of additional trips generated as a result of this legislation. At this time, the bill would affect one known, existing hauler on USH 2, allowing for intrastate use of the heavier, longer trucks along with the current allowance for interstate travel with these vehicles. Operators with trucks configured consistently with this legislation would have an advantage over those trucks only configured to meet the broader Wisconsin laws for vehicle weight. This may influence other Wisconsin operators to make choices to invest in equipment with limited use under Wisconsin law. New business opportunities envisioned related to this bill are speculative at this point and therefore forecasts of trips and truck configurations generated by the bill cannot be determined.

The department's structures engineers have determined to the extend this change generates additional trips the additional stresses on state bridges on USH 2 will diminish the service life of bridges. The Department assumes the current weight limit of 154,000 gross vehicle weight (GVW) will not change. Furthermore, it is assumed existing bridge weight restrictions will continue to apply as a condition of any operating permit. These effects are described in more detail below.

The pavement impacts of this bill are dependent upon the axle spacing and total loading of the truck and of each axle. The exact layout, spacing, and number of proposed axles for the heavier loads are not known. A more definitive analysis requires more information about the specific configurations of the heavier trucks and the total expected number of trips. Therefore only general pavement comparison could be made at this time. Based on the described basic assumptions of the proposed truck axle configurations and finite amount of total load transported, the impacts of this bill to the state pavements are considered to be neutral.

Bridges

The bill allows trucks configured to carry 169,000 gross vehicle weight transporting specified forest product commodities when properly configured for axle weight and spacing along portions of USH 2. This vehicle configuration for 169,000 GVW exceeds the acceptable load rating on three bridges on USH 2. The department's bridge engineers reach this determination based on the information the department maintains about the condition and load ratings of its highway bridges. These bridges, their respective maximum vehicle weights (MVW) and costs to replace them are enumerated the following table:

SEE ATTACHMENT

The permits issued for these heavy trucks do not limit the speed of these trucks, nor limit the number of vehicles on a bridge at one time. Under permit, these vehicles would be subject to the specific weight limits identified for each bridge above.

More trips of the heavier Michigan truck configurations could expand the number of weight restricted bridges on USH 2. There may be other local bridges adversely affected as well if local authority grant approval.

An amendment offered on AB-761, if passed, would remove department concern over these three bridges.

Pavements

The pavement impacts of this bill are dependent upon the axle spacing and total loading of the truck and of

each axle. The exact layout, spacing, and number of proposed axles for the heavier loads are not known. Because of this, the department's analysis assumed there were no single axles other than the steering axle. This legally loaded truck configuration yields greater pavement impacts per load. However, the net impact on affected state highway pavement is negligible if there is a resultant decrease in the number of currently permitted trucks.

Pavement life is finite and related to the number of trips and loadings of each trip. Reducing axle loadings and using vehicles requiring fewer trips could provide a benefit. Conversely, increased axle loadings and a greater number of trips will result in a net loss of pavement life.

A more definitive analysis requires more information about the specific configurations of the heavier trucks and the total expected number of trips. No conclusive data was available to determine the change in the number of trucks or loads possible at the heavier gross weights authorized under this legislation. Therefore, only a general pavement comparison could be made at this time. Based on the described basic assumptions of the proposed truck axle configurations and a finite amount of total load transported, the impacts of this bill to the state pavements are considered to be neutral.

Highway Operations and Safety

The Michigan/Wisconsin Border Permit, s. 348.27(9), has two provisions. The first provision allows operation of heavier vehicles in an 11 air-mile zone on the Wisconsin side of the Michigan Upper Peninsula border, with no restriction as to the point of origin or destination. This provision is valid for transport of any commodity and limits the maximum gross vehicle weight to 154,000 pounds. The second provision, created by subsequent legislation, added an allowance for travel on portions of US 2 within and beyond the 11 air-mile zone for trips involving interstate movement of only specified forest product commodities, extending west to a point in Bayfield County. This provision also allows use of some local roads subject to agreement of the local agency. Without permit restrictions, the maximum gross vehicle weight for this provision is 169,000 pounds.

The bill would eliminate the interstate travel requirement for movement of certain forest products authorized by the second provision of existing law. In dropping the interstate travel requirement, the bill will allow for new intrastate trips on the USH 2 corridor – “in Iron County, Ashland County, and Bayfield County from the Ashland County line through Hart Lake Road” per Chapter 348.27(9)(a) – using the maximum 169,000 pound gross vehicle weight truck configuration referenced above.

Therefore, the bill will allow for increased opportunities for trucks and combination vehicles to operate with heavier load configurations. When loads increase in weight, the operational characteristics of these vehicle types change. These changes include longer times to reach highway speeds, longer distances to safely stop and reduced maneuverability. These operational characteristics increase the potential for conflicts with other vehicles.

In addition, other operational constraints may arise for these heavier vehicles including where they may safely stop or move to the roadway shoulder to allow overtaking traffic to safely pass, or for the heavier vehicle to maintain a safe following distance of 500 feet between the vehicle and any preceding vehicle. These changes in vehicle characteristics become increasingly important as traffic volumes increase and the potential for traffic operational conflicts increase.

Conversely, allowing intrastate transport on USH 2 of heavier loads on a single truck or vehicle combination may generate a positive effect of reducing the number of these vehicle types operating on the highway system, if it is assumed the volume of material to be transported is constant. However, this positive effect on highway safety may be negated if instead the volume of material to be transported increases due to positive economic factors resulting from the increased weight allowance for intrastate trips. Therefore, the net impact of the bill on highway safety, including law enforcement and emergency vehicle response costs and costs associated with road closures and temporary detours cannot be fully evaluated without knowing the bill's potential effect on the frequency of intrastate trips.

Long-Range Fiscal Implications

The impacts to pavements, structures (bridges) and highway safety are largely unknown since no definitive estimates of new trips generated by the bill or their specific truck configurations can be developed. But the impacts to the infrastructure are assumed to be minimal unless some new market force creates a substantial increase in the commodity flow along the USH 2 corridor.

Any additional stresses on state bridges on USH 2 will diminish the service life of bridges. Currently 3 bridges have load limits ranging from 130,000 to 150,000 pounds. The pavement impacts of this bill are dependent upon the axle spacing and total loading of the truck and of each axle. The exact layout, spacing, and number of proposed axles for the heavier loads are not known. A more definitive analysis requires more information about the specific configurations of the heavier trucks and the total expected number of trips. Therefore only general pavement comparison could be made at this time. Based on the described basic assumptions of the proposed truck axle configurations and finite amount of total load transported, the impacts of this bill to the state pavements are considered to be neutral.

The bill allows intrastate travel of 169,000 pound gross vehicle weight trucks transporting specified forest product commodities when properly configured for axle weight and spacing, modifying the current law that limits only interstate trips on portions of USH 2 at that gross weight. This vehicle configuration exceeds the acceptable rating on three bridges on USH 2. Any additional stresses on state bridges on USH 2 will diminish the service life of bridges and permit weight restrictions already exist for three existing USH 2 bridges. The additional affect resulting from this bill on these bridges is more trips of the heavier Michigan truck configurations on these bridges. There may be local bridges adversely affected as well where local authority grants its approval. An amendment offered on AB-761, if passed, would remove department concern over the three referenced bridges.

Bridge No.	Feature	Max. Vehicle Wt.	Replacement Cost
B020005	Bad River	150,000 pounds	\$1,299,000
B020006	Kakagon Slough	130,000 pounds	\$ 255,000
B040015	Iron River	140,000 pounds	\$ 283,000
		TOTAL	\$1,837,000