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FISCAL IMPACT REPORT

ORIGINAL DATE 02/12/13

SPONSOR White LAST UPDATED _____ HB 124

SHORT TITLE Modify Vehicle Gross Weight Limits SB _____

ANALYST Soderquist

ESTIMATED ADDITIONAL OPERATING BUDGET IMPACT (dollars in thousands)

	FY13	FY14	FY15	3 Year Total Cost	Recurring or Nonrecurring	Fund Affected
Total		~\$8.4 million	~\$8.4 million	~\$16.8 million	Recurring	State Road Fund

(Parenthesis () Indicate Expenditure Decreases)

Relates to Appropriation in the General Appropriation Act
Relates to House Bill 4

SOURCES OF INFORMATION

LFC Files

Responses Received From

New Mexico Department of Transportation (NMDOT)
Taxation and Revenue Department (TRD)
Department of Public Safety (DPS)

SUMMARY

Synopsis of Bill

House Bill 124 proposes to modify Section 66-7-410 NMSA 1978, which pertains to vehicle gross weight limitations. The bill adds a section (“Subsection D”) which specifies weight limits for vehicles that are less than forty feet in total length, contain four to seven axles and for which the spacing between first and last axles is between twenty and thirty-six feet, hereafter referred to as “SHV vehicles” (Specialized Haul Vehicles). The new section also specifies that the gross weight of these vehicles must comply with a gross weight formula included in this section - the formula is commonly known as the “Federal Bridge Gross Weight Formula” or “Formula B.”

According to the Department of Transportation (NMDOT), the proposed legislation will allow an increase of allowable weights up to 28 percent from existing State statute.

FISCAL IMPLICATIONS

Based on an analysis provided by the State Bridge Engineer, the NMDOT estimates the replacement of older bridges due to a reduction in their service life caused by SHVs would have a cost of \$4 million a year. Further, NMDOT estimates an additional \$4 million for additional bridges becoming damaged from SHVs and requiring immediate replacement.

The NMDOT and local governments currently spend an average of approximately \$30 million dollars per year on highway bridge replacement, rehabilitation and maintenance. The NMDOT Bridge Bureau estimates that allowing SHVs on New Mexico's highway system will result in an increase of approximately 12 percent to 15 percent additional spending per year (or \$4 million) due to reduction in the service life of older bridges. However, this does not factor in the possibility of a structure or structures becoming damaged from these loads and requiring immediate replacement. The cost from such events could possibly double the expected increase in yearly expenditures (an additional \$4 million).

NMDOT states that should the proposed legislation be enacted a significant amount of engineering analysis will be required to identify the structures that do not have the load capacity to safely accommodate heavier loads. Further, new postings will be required to ensure that trucks with heavier loads do not cross bridges with specifications insufficient to handle the additional weight. The additional cost for these activities is not included in the Additional Operating Budget chart above.

The response from the Department of Public Safety (DPS) states that the statutory changes in the proposed legislation will require significant modifications in their axle scales, including the retrofitting of their static (permanent) scales, weigh-in motion equipment, and portable axle scales. Major construction at all facilities would be required, and the DPS provides a conservative estimate of these construction and maintenance costs of \$400.0 thousand. This cost is included in the Additional Operating Budget chart above. Construction costs would not be recurring, but would likely extend at least through two fiscal years.

SIGNIFICANT ISSUES

HB 124 will revise the allowable gross weights of vehicles and loads in the state of New Mexico. Current allowable gross weights were grandfathered in as described in 23 USCA 127 (66-7-413.4). A change to Formula B criteria will significantly increase the allowable weights on short length vehicles with multiple axles (4 to 7 axles).

According to the NMDOT, a number of engineering studies have shown that trucks produce minor to significant damage to highway bridges. Admittedly, the task of computing additional costs is complex. Material type, material quality and bridge age are significant factors, as is the amount of truck traffic crossing bridges. The latter issue is of particular concern in New Mexico as truck traffic varies greatly and weight capacity postings are frequently ignored.

However, the costs associated with increased truck weights defined in terms of accelerated maintenance, rehabilitation or replacement work required to keep structures at an acceptable level of service is well-documented. The NMDOT cites in particular: 1) the American Association of State Highway and Transportation Officials (AASHTO) Manual for Bridge Evaluation, which concludes that Formula B weight loads increase stress on bridges up to 50

percent compared to typical loads and; 2) a study by the Minnesota Department of Transportation that indicates an increase of 20 percent in allowable truck weights results in a reduction in the service life of older bridges by as much as 42 percent. Short span bridges and timber bridges in New Mexico will be most affected by the changes in the proposed legislation. The NMDOT response states that any statutory change that allows increased loads of any kind on these bridges will significantly shorten their usable service life.

Research indicates that structures built after the 1970's are capable of safely handling additional loads as design specifications were upgraded. However, bridges built prior to 1970 are of most concern to NMDOT's Bridge Bureau as they do not currently have the capacity to handle the loads prescribed under Formula B. Currently there are 471 concrete bridges, 217 steel bridges and 145 timber bridges in the state built before 1970.

As a specific example, in July 2011, NMDOT District 4 employees discovered damage to several timber bridges on NM 419 caused by legal weight concrete trucks. Bridges on NM 419 had not been analyzed for load capacity. In 2011, NMDOT replaced a bridge on NM 419 over the Canadian River. At about the same time, a private land owner in the vicinity was constructing an airport runway that required large amounts of concrete to be trucked in. During the construction of this private project, a NMDOT maintenance worker noticed a large deflection on the roadway at one of the timber bridges. Further investigation revealed the bridge was severely damaged. All bridges on NM 419 were inspected, further resulting in the closure and replacement of 3 bridges and the need to replace 3 more bridges in FY 2013. The response from NMDOT states that similar damage from allowing SHVs can be expected due to the increase in their allowable weight.

ADMINISTRATIVE IMPLICATIONS

According to the responses from the NMDOT and the DPS, the proposed legislation would require at a minimum: 1) an analysis of the effects of additional loads on all bridges in the State's inventory (i.e. 2050 plus structures); 2) the documentation and installation of weight limit postings on all structurally at risk bridges in the state; 3) more frequent analysis and repairs to bridges damaged by additional loads; 4) more frequent analysis and repair to weight scales and facilities, and; 5) additional efforts at enforcement of appropriate weight loads on bridges.

ALTERNATIVES

According to the NMDOT response, a potentially more cost-effective alternative would be to allow SHV vehicles to operate at the additional weight limits but only on certain designated routes in the State. Certain sub-systems, such as the Interstate system or the National Highway System provide means of access to many locations within the State and provide a number of through-state routes that would likely meet many of the economic needs of SHV haulers. Moreover, restricting the movement of these vehicles to one of these sub-systems will alleviate and/or reduce the severity of many negative impacts described in other sections of this analysis. As a specific example, limiting additional loads on timber and other under-capacity bridges could mitigate potential costs for maintenance and repair and ensure longer bridge life.