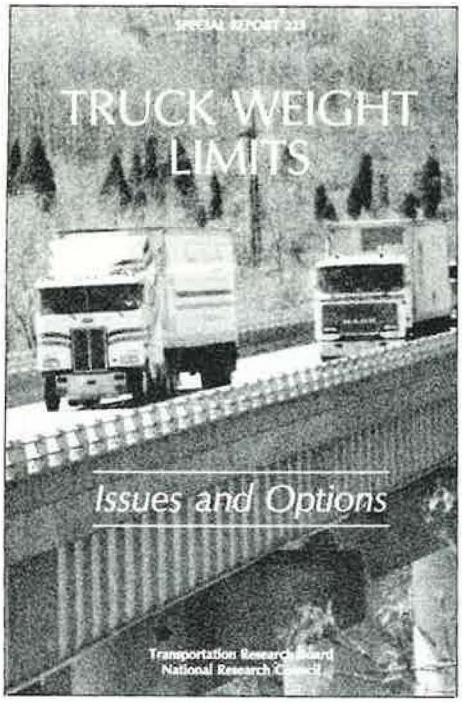

Special Report 225: Truck Weight Limits: Issues and Options **is available from the Transportation Research Board, 2101 Constitution Avenue, N.W., Washington, D.C. 20418 ($25.00).**

New TRB Report Presents Findings of Study on Setting Truck Weight Limits

Truck Weight Limits: Issues and Options

In 1913, Maine, Massachusetts, Pennsylvania, and Washington became the first states to place limits on truck weight to protect highway pavements and bridges. By 1933 all states had adopted truck weight limits. The federal government entered the regulatory arena in 1956 by setting national truck weight limits for the Interstate highway system, then in its infancy.

Truck weight limits always have been controversial. They involve sensitive trade-offs between the costs to build and maintain highways and the costs to transport goods by truck, and they have implications for highway safety, traffic flow, highway finance, and railroad revenues. Although improvements in highway design and vehicle performance have allowed truck weight limits to be periodically revised and generally adjusted upward, proposals for further revisions are inevitable.

Current Federal Restrictions

The federal government currently restricts truck weight on Interstate highways through (a) a gross vehicle weight limit of 80,000 pounds, (b) limits on axle loads of 20,000 pounds for single axles and 34,000 pounds for tandem axles, and (c) a bridge formula that specifies the maximum allowable weight on any group of consecutive axles based on the number of axles in the group and the distance between the front and rear axles. Grandfather provisions in federal statutes allow states to retain higher limits if such limits were in effect when the applicable federal statutes were enacted.

Proposals for Change

In Section 158 of the Surface Transportation and Uniform Relocation Assistance Act of 1987, Congress requested that TRB assess the following four proposals for changes in federal weight limits:

- Elimination of existing grandfather provisions,
- Alternative methods for determining gross vehicle weight and axle loadings,
- Adequacy of the current federal bridge formula, and
- Treatment of specialized hauling vehicles (SHVs) such as garbage trucks, dump trucks, and other trucks with short wheelbases that have difficulty complying with the current federal bridge formula.

TRB Recommendations

The results of the study conducted by TRB have been published in *Special Report 225: Truck Weight Limits: Issues and Options*, a report on one of four recently completed TRB studies addressing national truck policy issues. The TRB study committee, chaired by Lester A. Hoel, Hamilton Professor of Engineering at the University of Virginia, was composed of experts in pavements, bridges, highway safety, freight transportation economics, motor vehicle design, highway administration, motor carrier operations, and enforcement of motor vehicle regulations. The committee made five recommendations, the first of which calls for a new, less restrictive formula to replace the current federal bridge formula. The committee found that truck costs could be reduced by more than $2 billion per year if all states adopted the

formula and that congestion and accidents involving heavy trucks could be reduced. The proposed formula provides greater incentive for operators of three-axle trucks to use four-axle trucks, which result in less pavement wear per ton of freight carried. Operators of SHVs would be the principal beneficiaries of this change.

Although grandfather exemptions provide substantial benefits to the economies of states by allowing the use of more productive vehicles, the study committee found the grandfather test to be an arbitrary and inequitable means for determining exemptions. In a second recommendation, the committee urged that all states be allowed to establish permit programs for vehicles weighing more than the federal gross limit of 80,000 pounds, provided that such programs include measures to control the characteristics and operations of permit vehicles. Key features of the programs would be designated routes, maximum weights, fee structures, and safety restrictions for permit vehicles.

Although the proposed bridge formula and permit program for vehicles weighing more than 80,000 pounds would reduce many grandfather issues, some would remain, particularly with respect to grandfathered axle limits. Elimination or restriction of existing grandfather rights could present a hardship to truck operators who have purchased equipment to take advantage of these rights and could boost transport costs of commodities crucial to state economies. The third recommendation is that no action be taken to restrict grandfather rights already granted, but that Congress act to prevent future expansion of these clauses.

The fourth recommendation is that a portion of revenues from permits for overweight vehicles should be used to increase efforts to enforce truck weight laws, particularly on non-Interstate highways, which are more susceptible to damage by illegally overweight trucks. These efforts should include more weight enforcement personnel in the field, greater use of portable scales, use of weigh-in-motion scales to screen potentially overweight trucks, and higher fines and penalties for repeated offenses, the committee reported. Increased enforcement would benefit highway agencies and users by decreasing the cost of repairing damaged pavements and bridges and would benefit truckers and shippers who operate within weight limits by eliminating the competitive edge of those who operate illegally. The number of accidents caused by dangerously overweight trucks also would be reduced.

Finally, the committee encouraged states to pursue opportunities for standardizing limits and permit practices at the regional level because more uniform weight limits and permit practices could simplify the problem of designing, selecting, and loading trucks for use in interstate commerce.

Tractor-semitrailer.

COURTESY RUBY/MARYLAND STATE POLICE

Committee for Truck Weight Study

Lester A. Hoel, University of Virginia, Charlottesville, *Chairman*

David C. Berry, Kaibab Transportation, Inc., Glendale, Arizona

Thomas M. Corsi, University of Maryland, College Park

Raymond A. Forsyth, Consulting Civil and Geotechnical Engineer, Sacramento, California

Michael Ghosn, City College of New York, New York

R. G. Hicks, Transportation Research Institute, Corvallis, Oregon

Clellon L. Loveall, Tennessee Department of Transportation, Nashville

Michael J. Markow, Massachusetts Institute of Technology, Cambridge

Stephen H. Monson, Division of Criminal Justice, Trenton, New Jersey

Louis G. Nappi, N & W Concrete, Inc., White Plains, New York

Andrzej S. Nowak, University of Michigan, Ann Arbor

J. Michael Rice, Transystems, Inc., Great Falls, Montana

H. Douglas Robertson, University of North Carolina at Charlotte

Leonard Segel, University of Michigan, Ann Arbor

James E. Siebels, Colorado Department of Highways, Denver

John T. Sullivan, Navistar International Transportation Corporation, Fort Wayne, Indiana