

More broadly, however, is the basic fallacy in the idea that any pavement, no matter how strong, is damaged by an 18,000 pound axle load, and that consequently, some heavier axle load causes more "damage." It is also incorrectly implied that the AASHO Road Test provided a basis for the valid estimation of pavement life, and for a change in pavement life if axle loads are changed.

We know that the AASHO Road Test equations *do not* provide a valid estimate of pavement life, and hence *do not* provide a valid basis for an estimate of changes in pavement life. This is documented by the more than 1 million dollars spent in 1968 in attempts to "adapt" the road test to become a satisfactory design method for conditions in the various states. If the Road Test equations satisfactorily predicted pavement life, then there would be no need for further research on the subject. There is much additional documentation of this fact, including a research project in Alabama which concluded that the Road Test equations could not be used directly or indirectly in Alabama without gross error possibility for both underdesign and overdesign.

Thus, it must be concluded that the question of relative pavement damage, as outlined in the questions, is meaningless. The only question is the question of pavement life, and it is well established that the AASHO Road Test equations do not provide a valid estimate of this.

Of course, in any circumstance, any actual increase in axle load to the 20,000 pound single or 34,000 pound tandem rests with the states, who have the knowledge about their highways. It should be remembered that at the AASHO Road Test, however, that concrete pavements 9½ inches thick carried over 1,114,000 axle loads of both 22,400 pounds single and 40,000 pounds tandem with no significant wear.

Since concrete pavements of 9' and 10' are common on the highway systems, it is clear that the axle loads in S. 2658 are completely reasonable and are well within the capability of modern highway systems.

*Question 18. Do you feel the proposed 20,000 lb. single axle and the 34,000 lb. tandem axle maximum weight for the Interstate System would automatically have to be applied to other highway and street systems?*

Answer. The new Federal limits of 20,000 lbs. on a single axle and 34,000 lbs. on a tandem axle, as provided in S. 2658, apply only to operations on the Interstate System, which is the case with the present limits of 18,000 lbs. on a single axle and 32,000 lbs. on a tandem.

The states retain complete size and weight control on roads other than the Interstate System. A state that decides to increase its axle weights to the levels permitted by S. 2658 would do so at its own discretion and by the same procedure would decide whether or not the increases should be allowed on its other roads.

There is nothing automatic in the provisions of S. 2658. It is purely permissive and would merely give the states the freedom to make the modest adjustments possible if they wished to make them.

It should be kept in mind that even at the levels of 20,000 lbs. on a single axle and 34,000 lbs. on a tandem there still would be 15 states with higher single axle loads than 20,000 lbs. and 16 states with tandem axle loads higher than 34,000 lbs.

*Question 19. Testimony has been given by AASHO that the proposed 36,000 lb. tandem axle on the revised formula provided by the bill will not have the detrimental effects on those bridges designed for H S 20-44 loadings, but cannot be tolerated on bridges designed for lesser standards. Do you know what percentage of bridges on the interstate system and the ABC system are not designed to the high H S 20-44 loading?*

Answer. The first part of the question refers to testimony by AASHO that the proposed 36,000 pound tandem axle load and the formula provided by the bill could not be tolerated on bridges of lesser standards than these of H S 20-44 loadings.

It should be pointed out that this testimony referred to the *original* tandem axle limits in S. 2658 as introduced, i.e., 36,000 pounds, in *combination* with a gross weight formula which did not specify further axle spacing restrictions to control weight concentration.

Whatever the merits of this concern may be, S. 2658, *as passed* by the Senate and endorsed by the trucking industry before the House Roads Subcommittee, was modified to a maximum tandem axle load of 34,000 pounds and a much more restrictive gross weight formula which incorporated the application of the formula to the interior axles so that *all* weight concentrations were controlled by the formula.