

Introduction

J. W. HALL, Chairman, Symposium Planning Committee

The Surface Transportation Assistance Act (STAA) of 1982 was a landmark piece of federal legislation intended to improve the quality of the nation's deteriorating highway system. One provision of this legislation, which is of great concern to highway engineers, introduced new truck size regulations. They required all states to allow tractors with 48-ft semitrailers, double-trailer combinations with 28-ft trailers, and 8.5-ft-wide vehicles. The 1982 STAA vehicle size provisions apply to a designated National Network that consists of the entire Interstate system and portions of the Federal-Aid Primary system designated by the Secretary of Transportation. The states were also required to provide access routes for the federally authorized vehicles between the National Network and terminals and fuel and rest stops. At the time this legislation was enacted, several states, primarily in the East, prohibited 48-ft semitrailers and double trailers, and most states prohibited trucks wider than 8 ft.

Some segments of the highway engineering community did not have in place the appropriate practices and procedures to design and operate roadways for these vehicles. Larger trucks can create problems because of their physical size and their potentially poorer operational characteristics. Several critical aspects of accommodating the 1982 STAA trucks are not addressed in AASHTO's "Policy on Geometric Design of Highways and Streets." The geometric design and operational factors of principal concern appear to be

- Sight distance and no-passing zones,
- Grades and climbing lanes,
- Intersection design and operation,
- Interchange and ramp design,
- Roadside design and traffic barriers,

- Traffic control device usage, and
- Safety.

In response to the perceived gap in existing highway design standards, four TRB committees with interest in this subject planned and sponsored a Symposium on Geometric Design for Large Trucks in August 1985. The intent of this meeting was to document the state of the art in design and operational practices for these vehicles.

The symposium relied heavily on the expertise of designers in several states who had experience in accommodating large trucks on their highway systems and on researchers who had thoroughly studied selected aspects of the problem. The 24 papers presented at the symposium and included in this Record highlight many of the unusual demands that 1982 STAA vehicles place on the geometric design of highways. It is not possible to state with certainty which of the design and operational issues discussed in this Record are the most critical; however, highway engineers should be cognizant of the special problems posed by the 1982 STAA vehicles and attempt to ameliorate them in the design or redesign of roadways on the National Network.

Appreciation is expressed to the members of the Symposium Planning Committee whose work and dedication made the symposium possible:

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