EFFECTS OF AUTO-UTILITY TRAILERS

by

B. S. Siria
Research Engineer
Division of Research
Kentucky Department of Highways

The highway engineer is constantly striving to enhance the validity of methodologies used in his work. Highway design has countless procedures to properly delineate those features of the roadway which enable and encourage safer and more economical transportation of people and goods. Among the many inputs of a highway design are the traffic characteristics which describe the magnitude and composition of the vehicles desiring to use the facility. It is the goal of the design engineer to create a highway facility consistent with the traffic flow to be expected.

Present methods used to classify vehicle types in manual traffic counts consider an auto-utility trailer combination (a car pulling a house trailer, boat trailer, etc.) as an automobile only. Cursory observations of the prevalence of this vehicle combination indicated as high as ten percent of the traffic stream may be composed of this vehicle type during peak periods. Kentucky's fine system of parks and recreation areas, plus through traffic on the interstate system, are probably the chief attractors of auto-utility trailer (A-UT) combinations.

Several possible ramifications of lumping this vehicle combination with automobiles are to be noted. If a high percentage of this vehicle type, coupled with lower running speeds than automobiles, produced an automobile equivalency factor for A-UT combinations significantly greater than 1.00, the effects of these combinations on highway capacity could be markedly similar to the effects of truck traffic. The additional loads imposed by the A-UT combinations on the highway pavement could result in a more rapid accumulation of equivalent axleloads, thus reducing the fatigue life of the pavement structure.

The concern for highway safety is shared by the highway engineer, law enforcement officials, and by the motoring public. Cursory accident tallies have indicated that the accident involvement of the A-UT combinations far exceeds their relative presence on the road. Should operation restrictions, such as a special driving permit, be placed on this vehicle type?

Extensive analysis of special traffic counts, spot-speed studies, random vehicle weighing, and accident records involving auto-utility trailer combinations may provide a sounder basis for answering the questions posed above.