

Dr. KEESE. Right.

Mr. WRIGHT. Thank you, Mr. Chairman.

Mr. BLATNIK. Do you have a film to show now, Professor?

Dr. HIRSCH. Yes, I do. Before I start, I might make one comment on this film.

Initially our research on the breakaway sign was sponsored by the Texas Highway Department and the Bureau of Public Roads and this research was conducted from September 1963 to August 1965. And before this, the first signs that were developed, the breakaway concept, were being installed on Texas highways, beginning in August 1965. At present there are something like 1,500 breakaway signs installed in the State of Texas, and 69 collisions with these have resulted. Mr. Keese will comment on this later.

At the present time, we are working on a project sponsored by 13 States and the District of Columbia, and this film has resulted from this further study of this problem, which is a study in depth to determine more specific design criteria. The theory has been developed through mathematical simulation, so that we can extrapolate this to different sizes of signs, different materials, aluminum or wood, and different concepts. I just wanted to clear this up because this film will indicate the 13 States to which I have referred. Unfortunately the District of Columbia has been omitted from this filmstrip.

Mr. BLATNIK. May we have the lights out?

(The subcommittee requested the text of the film be transcribed, as follows:)

FILM ENTITLED "SAFE ROADSIDE SIGNS," PRODUCED BY THE TEXAS TRANSPORTATION INSTITUTE IN COOPERATION WITH THE U.S. DEPARTMENT OF COMMERCE, BUREAU OF PUBLIC ROADS, SPONSORED BY ALABAMA, CALIFORNIA, ILLINOIS, KANSAS, LOUISIANA, MINNESOTA, MISSISSIPPI, NEBRASKA, NORTH DAKOTA, OKLAHOMA, SOUTH DAKOTA, TENNESSEE, AND TEXAS

(The opinions, findings and conclusions expressed in this film are not necessarily those of the Bureau of Public Roads.)

VOICE. This is a roadside sign typical of those used along our Interstate highways. Many factors have been considered in the design of the sign and its supports.

The supports generally consist of two vertical wide flange beams which are strong and stable when subjected to wind forces.

The posts have aesthetic quality, support a readable sign, are easily maintained, and are located adjacent to the roadway.

In short, the sign supports are excellent—(crash)—but lethal.

It is this last characteristic that has motivated research engineers to develop safer sign support designs.

There is no doubt that rigid nonyielding sign supports constitute a safety hazard.

Pictorial evidence is readily available from accident files. In Texas, two dead.

In Louisiana, one dead.

In Kansas, one dead.

Highway sign accidents have increased significantly as Interstate highways have been completed. Recognizing this problem as early as 1963, The Texas Highway Department sponsored research conducted by the Texas Transportation Institute to develop safer sign supports.

The Texas breakaway design evolved from that research. In 1965, the research effort was increased and several state highway departments joined in sponsoring the research in cooperation with the Bureau of Public Roads.

As a result of the research conducted by the Texas Transportation Institute, the Project Policy Committee has recommended that certain roadside sign support design concepts be considered for use in providing a safer roadside environment.