

operation. Where you use a sturdy post, you must block the rail away from it.

Mr. CONSTANDY. Of what material are the posts made, Mr. Prisk?

Mr. PRISK. Posts are usually wood or steel. Usually I-beam sections in the case of steel. There has been some use of aluminum, although this is not widespread.

Mr. CONSTANDY. How about the block, what is that made out of?

Mr. PRISK. The block is normally made of the same material as the post. If the post is a wood post, you will find a wood block behind the rail frequently. A steel post will have a piece of steel. Actually, these sections that block the rail out are just exactly like the post itself.

Mr. CONSTANDY. Sometimes the block is made of wood and the post is made of steel; is that correct?

Mr. PRISK. This is on some occasions; yes, sir.

There is a feeling that the wood block tends to absorb energy and this by itself is a desirable consideration.

Mr. CONSTANDY. There is apt to be an advantage in using wood for a block?

Mr. PRISK. There is some advantage to be gained; yes.

Mr. CONSTANDY. Do you want to say something about the length of the guard rail sections, Mr. Prisk?

Mr. PRISK. Yes; this is a very important thing about its application. If it is to be effective at grade separations and bridges and on embankments and hazards on the roadside, it necessarily must be in a position, not directly opposite the hazard, but in line with the normal path of a vehicle that would leave the roadway. And as the vehicle leaves the roadway, it frequently will go off on a very flat angle and the rail must then be long enough to cover that approach path.

In addition to that, of course, you do have the very practical matter of avoiding a series of short sections of rail, each one of which presents a hazard by itself, with the exposed end of the rail.

So commonly, I think, we find rather too often sections of guardrail that are altogether too short.

At the same time there are other places where a guardrail is in, where it is not warranted. I would not for a moment suggest that we put guardrail everywhere.

Another point of great importance is that the end of the rail, this rail faced by blocked-up posts here, as you run into the end of this, it has quite a lethal effect on a vehicle and its occupants, and it has been found through research that it is appropriate and highly desirable to flare the end of this rail into the approach alignment so that you have a smooth transition.

Mr. Linko testified here several weeks ago about some of the rough transitions on highways that he had looked at and which were in his own pictures. I think it is a principle that must be recognized, that as you approach a section where a rail is used, that that rail, as you introduce it in the cross section, must be flared into the approach so as to present a smooth surface.

Mr. CONSTANDY. Do you have some slides that illustrate these points? Perhaps it would be appropriate to look at those now.

Mr. PRISK. We are set to go on the slides. If we may have the lights out, please—