

split traffic. It is not going to split quite all of it, and it should be an unfavorable area to drive on, but still not be a lethal area to drive on.

If you have a low roll curb there and maybe some gravel in there or rumble strips, this produces this effect.

One gore type which has not been solved is the one on the elevated structure, and perhaps this would get back into a real look at the design of the structure to provide room enough to get a proper gore in when you do have to have an elevated structure with the gore.

Mr. CONSTANDY. Thank you. Mr. Huff?

Mr. HUFF. I have been very interested in listening to the details of this subject. I would defer to Mr. Ricker on the subject of signs; if he thinks they should be in there, I am sure that he must be right, but I would urge him to get all of them out of there that he can. Perhaps only in isolated instances would he need a sign in a gore. As a matter of fact, I thoroughly agree with Mr. Wilson, the gore area should be as clean as possible.

I do not believe we can emphasize too strongly the matter of curbs on the approach to the gore, because the curb, anything more than $1\frac{1}{2}$ and 2 inches in slope—12 inches in my opinion is hazardous. It is also my opinion slopes of that kind will provide ample drainage.

Now, the gores on the elevated stretches do present a problem. I have not personally run into that problem. From what I have heard here, I certainly can agree it would be a problem.

One or two details that have not been mentioned: The angle of departure of an exit was touched upon. I do not know whether that is part of this subject or not, but I would like to talk about it just a moment.

An automobile going on a freeway is going, say, 80 miles an hour. That is almost 120 feet a second, which is pretty fast.

We are transitioning him in the gore area down to a city street or local road system, which may not be over 30 miles an hour. So he has to make a quick transition, we will say, from an operating speed of 80 miles an hour down to 30 miles an hour. That is a point of extreme turbulence. You can liken it to a water pipe; where you are turning water out of a pipe, you have extreme turbulence at that point.

Now, in order to accomplish this transition, you need as flat an angle of departure from the freeway as you can get.

I subscribe to the practices in Los Angeles, which I believe is about a 5-to-1 angle of departure, which is—oh, roughly speaking, that is about 2° , I suppose, something like that.

Is that correct, Mr. Wilson?

Mr. WILSON. No, it is 4° and 46 minutes, Mr. Huff.

Mr. HUFF. I was just half off. Anyhow it is a very flat angle. It is extremely necessary in order to transition him from the high speed to the low speed. And it is my opinion that our standards for this transition link probably are not enough—this is some operation—on the freeways.

Now, there is another thing that was not mentioned except he showed a picture of one, I do not believe he called attention to the dangers and hazards of left-hand exits. It is a place where traffic is unaccustomed to leaving the freeway. They are used to leaving it on the right. And in my opinion a left-hand exit should never be built.