

Submission No. LC/1
Received
Road Safety Committee

June 11, 2007

The Office in Charge
Kerang Train/Truck Collision Enquiry
c/- Victoria Police
Kerang

Dear Sir

I was involved in a fatal truck/ train collision many years ago.

I was summonsed to appear on behalf of the Victorian Railways in a civil case at the Supreme Court of Victoria. The matter was settled out of court.

Since then I have maintained an interest in such collisions and am writing this letter in case any of my comments may be relevant to the current matter or of use in preventing future collisions..

1. Position of boom gates

Boom gates have traditionally been positioned parallel to the railway tracks and within a couple of metres of the tracks.

I suggest placing supplementary boom gates at the approach to level crossings. They should be placed on rural highways and roads at such a distance that should a vehicle hit them they give the driver sufficient time and space for the driver to react and apply the brakes and stop before the tracks.

2. a Supplementary green flashing lights

I would place a supplementary set of green flashing lights above the red flashing lights to indicate when the crossing **was** clear. These would remind drivers of the presence of the crossing as they would be flashing all the time when the level crossing was clear. They would be particularly visible at night on country roads.

3. Angle of View

Two vehicles, a train and a truck, enter a common field of vision. At the point of entry the train may be in the blind spot of the truck driver. If the train remains in the blind spot of the truck then a collision is likely to occur. The truck driver does not see the train until it is too late.

The collision would only occur if the angle of view of the truck driver of the train remains as constant.

The key factor is that the angle remains constant.

The speed of vehicles is irrelevant unless it changes the angle of view.

Remedies for this problem may involve changing the angles of approach to the level crossing or supplementing the visual sensors with audible devices.

If the view of the train driver is such that the train remains in blind spot then only realizes that the collision is inevitable when it is too late to take preventative action.

4. Visibility.

I suggest more research is needed as to why drivers do not "see" trains in conditions of clear visibility. Do tests involving cameras provide enough insight into the view as seen by the human eye and interpreted by the brain?

5. Warning lights.

I believe the wig wag signal was invented decades ago in the USA and was imported into Australia.

I believe that the intensity of illumination and the frequency of the flashing light should be tested and possibly be improved.

Possibly a strobe or flashing LED could be a better alternative.

6. Use of Audible Aids

The modern truck cabin is enclosed with windows with little or no outside noise penetration.

I suggest that the electronic device that activates at a level crossing could be used to activate a sound r message in the truck's cabin. For example by means of a low powered CB radio transmission on the "road channel" used by many truck drivers.

There could be a verbal message such as train approaching or an appropriate sound.

On our road warning signs we use as a symbol for a train, a symbol of a steam locomotive even though steam locomotives are hardly used.

The reason that we use the outline of a steam locomotive is that it is universally recognized.

I suggest the sound of a steam train is also universally recognized and could be used with the understanding for the Doppler Effect.

"Doppler Effect, in physics, the apparent variation in frequency of my emitted wave, such as a wave of light or sound, as the source of the wave approaches or moves away from an observer, The effect takes its name from the Austrian physicist Christian Johann Doppler, who f i t stated the physical principle in 1842. Doppler's principle explains why, if a source of sound of a constant pitch is moving towards an observer, the sound seems higher in pitch, whereas if the source is moving away it seems lower. This change in pitch cm be heard by an observer listening to the whistle of an express train from a station platform or another train."

7. The modern GPS navigation aid

The new GPS systems gaining popularity among drivers does nor mention the location of kvel crossings or low level bridges clearances and thus is not so popular among truck drivers as the general driving population. Therefore we should legislate to add these items to these aids.

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8. Interlocked boom gates and rail signals

If a vehicle cashes **into** boom gates and/or remains blocking the tracks then railway signals should automatically go to stop to alert approaching trains.

9. Other Measures

Other measures may include supplementing the wig wag signal by ridges **in** the road **approaching** the level crossing. We can also use flashing lights imbedded **in** the road surface and are activated with the approach of a train.

I am available to give further information should you *so* require.

Yours faithfully

Mark Plummer, LLB,B,JURIS,TPTC

Retired Solicitor
