

Arresting disaster drivers

Ten level crossing "accidents" are believed to take place every day in America.

Some experts in the US reckon a car is hit by a train every hour of every day.

In just one incident, 11 people were killed and more than 100 injured when an Amtrak train crashed into a lorry at Bourbonnais, Illinois, four years ago.

Road authorities have a legal responsibility to ensure that car and lorry drivers do not cross the track in front of a train which sometimes needs more than a mile to stop if it is travelling at 60-70mph.

It is known that many level crossing crashes are caused by car and lorry drivers who try to weave round half gates or "jump" closing gates. In other cases, car drivers just do not pay enough attention.

In America, it is estimated that there is at least one road traffic violation every time a level crossing gate is operated.

The situation is probably the same if not worse in Britain.

In Nottingham, the introduction of trams has been delayed because cars are taking unauthorised short cuts across the construction route and crossing tracks illegally.

In rural areas, there are regular crashes, with three people being killed in Worcestershire in July when a minibus drove in front of a train.

In America, the potential for a major disaster was recognised when a new ethanol factory opened last year less than a mile from a level crossing on Route 69, near Monroe, Wisconsin.

Train traffic increased eightfold - to 16 trains a day - and the trains were carrying volatile material, so officials realised they had to be more aware of the dangers.

The 11,000 residents of Monroe were also extremely worried as the crossing had only flashing lights to stop road traffic. There was also a residential caravan site nearby.

The answer came in the form of the new StopGate Vehicle Arresting System.

The gate is made by Energy Absorption Systems, a subsidiary of Quixote Transportation Safety of Chicago.

The StopGate is designed to stop road vehicles even if they are out of control.

StopGate is said to provide "positive, crashworthy protection". The design has two key



The new StopGate: It can stop a three-ton lorry travelling at 46mph by absorbing impact, below



factors. When the gate comes down, it does not hang loose like many European crossing arms, but locates securely in a strengthened gate post.

The gate itself is designed to absorb much of the force of a runaway vehicle. It can even stop a three-ton lorry travelling at 45mph.

Even though there was a 35mph speed limit on the road, most drivers broke the law.

"There is also a crest of a hill as you approach this crossing from the north. You can't see the crossing until you are right on top of it," said Rodney Kreunen, Commissioner of Railroads for the State of Wisconsin.

"When we put all this together - much more train volume, speed, content and a hidden crossing - we had a recipe for potential disaster."

Monroe police chief Fred Kelley said: "The trains carry gas into the plant and ethanol out, and without more protection at the crossing, this could be a very dangerous situation for motorists, the railroad and people living nearby."

Fire Chief Tom Casey said: "120,000 gallons of ethanol moving over this crossing every day creates an obvious potential hazard. In winter, a motorist can easily slide into the crossing. And you always have those who simply try to beat the train.

We needed to do something at that crossing to avert a potential disaster."

The StopGate gate arm has a positive locking device at each end of the arm to secure the gate across the roadway.

The StopGate includes energy absorbing steel cables set inside aluminium tubes, connected by rectangular aluminium.

The makers say the need for positive protection at railway crossings was obvious with 316 people being killed in 2001.

Energy Absorption Systems say there has not been one incident of a vehicle protruding through a StopGate arm.

In America, the Office of the Commissioner of Railroads can order extra safety measures at level crossings and allocate funds.

Usually a combination of federal, state and municipal funds is necessary.

Wisconsin safety engineer Mark Morrison said: "Since the StopGate System went in, everyone seems to be very pleased with it."

He said the Wisconsin and Southern Railroad, which transports in and out of the ethanol factory, has also taken a very positive attitude to the StopGate System.

Local government officials are "ecstatic".

He said that prior to the StopGate System, the only absolute remedy to a dangerous crossing was a bridge or tunnel, which could cost millions of dollars.

"We don't have time or money to do this kind of positive protection everywhere, so this new StopGate System fits the bill."

Commissioner Kreunen said: "As we look ahead and plan, we also find there are more and more corridors with hazardous materials being transported, plus higher speed trains.

"We simply cannot allow the motorist to penetrate into the crossing.

"StopGate is the only practical and economical approach to keeping vehicles from going under or around gate arms.

"With the StopGate System, we've jumped leaps ahead in railroad safety protection.

"We have introduced a product to the grade crossing industry that completely separates the vehicle from the train. This isn't a safety fix for the next year or two. It's something that solves a problem for the next 20 to 30 years or more."

But he added: "It's a very, very difficult decision as to where to allocate funds for safety upgrades at railroad crossings because of the great many locations that can use them across the state. This office is charged with making those decisions, which we certainly don't take lightly."

Scott Ellrich of StopGate said: "The expanded use of high speed passenger rail and whistle bans in the future will require railroads and local road authorities to work together to provide safer conditions at these crossings for both the motorists and the trains."

■ More information:

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