The dangers of TPWS

Train Protection and Warning System. Automatic Train Protection. European Train Management System. Peter Rayner looks at the reality behind the jargon.

Rayner's review

I am heartily fed up with the varying and confusing reports on train protection systems. The hypocrisy is what maddens me.

Although the Clapham crash killed 35 people it resulted in the Hidden inquiry which recommended Automatic Train Protection. The government of the day accepted the report in full.

Trial sites were set up in Britain while other developed countries quietly got on with fitting it.

What did we do? While we at the practical level in BR did our best with the trial sites, the civil servants and the British Railways board produced a risk and cost benefit analysis which "proved" to their satisfaction that ATP was not worth the money.

A group of us challenged those figures and put the criticism of the cost benefit analysis to Lord Cullen's inquiry, which was accepted.

Indeed both Lord Cullen and Professor Uff of the Southall inquiry used words like "The Train Protection and Warning System is the dead end of technology" and also that "proper Automatic Train Protection should be developed as a matter of priority".

Even though we have had a change of government, we as a nation have continued with the madness and allowed Railtrack to proceed with TPWS.

I am also becoming increasingly concerned about the way in which TPWS is performing.

As the number of trains fitted with it increases, there is a real risk that at best TPWS will become a severe constraint on operational performance and at worst make the railway less safe than it was before.

I believe that the only proper train protection system is ATP or its successors. However, within the industry we often have to make the best of whatever equipment the authorities allow us to have. TPWS is currently the only show in town.

We cannot expect good performance from old technology, or technology that has not been properly developed for the railway environment.

The real strength that TPWS possesses is to act as a train stop at signals where trains approach relatively slowly.

It has the advantage, of course, which the older Automatic Warning System does not have, in that TPWS cannot be cancelled.

But, in my view, because of the in-built inaccuracy of the whole system and the AWS equipment itself, which has been around a long time, it cannot accurately provide speed traps.

If drivers are to retain confidence in the system it must only intervene when they are driving unsafely.

One of the prime objectives of ATP systems worldwide is that they are invisible to drivers who are driving responsibly and interventions are very rare.

If I was still operating the railway, I would take the speed traps out of commission before someone gets seriously hurt, either by a sudden stop at a London terminal with slam-door stock or a buffer stop collision caused by a driver having to reapply power after TPWS had stopped the train short of the platform.

There is, in my view, a real problem and the delays caused by TPWS which we are seeing at the moment are a disastrous tip of an iceberg.

We have equipment which is not set correctly in the cab causing interventions where there is no TPWS equipment on the ground. And we have equipment on the ground that is incorrectly set and causing interventions which should not take place.

If you consider that only 20% of the national network is fitted, and only 20% of the trains are fitted and probably only 20% of the staff are trained, and we are getting disruptions at this level, what on earth is going to happen if the industry continues to put this equipment in?

It is, I have heard, a maintainer's harvest because there is more money to be made out of correcting TPWS equipment than should be made from maintaining accurate equipment.

Eight hundred minutes lost in 19 days, an example from evidence that reached me recently, is an average of 45 minutes per day up to a maximum of 266 minutes on some days.

The ironic thing in this rail world of lawyers, statistics and confrontation is, I suspect, that many train operating companies do not realise that for many of these delays which are infuriating their customers, they are not receiving recompense.

The reason is that because the intervention will have occurred after the track circuit but just before the platform, the train will have been shown to have arrived on time and yet then been delayed!

The thing that really annoys me is the timidity of those who advise ministers.

We were specifically told in 1987 which way to go, and here in 2002 we are still behind the Swiss who are moving to the next stage of the technology.

Our excuse, if we listen to such offerings as the Begg report and the Commission for Integrated Transport report, is that we must wait for another 10 years so that we do not reduce line capacity.

Do we really believe that? I certainly do not. TPWS is going to reduce line capacity anyway and this government, although not guilty of causing the muddle, are as guilty themselves of continuing to allow the wrong course of action.

Do you put a cost on the life of your son or daughter? I have held the view for some years and can find no reason to change my mind that it matters not what government you have got. It is money that is driving this forward.

The Treasury still has too much influence on policy.

We who are still active in the railway industry have to stand up and be counted. The high costs attributed to ATP are based on theoretically fitting to the whole network.

Do we want ATP, ERTMS, ECTMS, TPWS nationwide all at once? Of course we don't.

We want it put in on a piecemeal basis in the same way as our European partners have done it.

We need to put in the measures that do the most good at the appropriate time.

I put in, for example, a secure radio system suitable for the level of traffic that existed on the Cumbrian Coast. That did not and still does not need TPWS or ATP. It is an internally secure system.

We do not want a sophisticated train protection system on high-speed lines when they need re-equipping.

The mandarins' approach is to do a nationwide calculation and then throw up their hands in horror and say we can't afford it. OK, we'd better carry on with this cheap and nasty TPWS. But even this is going awry.

What was originally intended as a train stop at about 30% of the signals has become a speed trap device at 65% of signals.

All the acronyms only serve to confuse people and are beloved by journalists and politicians.

In essence, the European Train Management System is basically the same as Automatic Train Protection which was recommended after the Clapham Junction crash.

Without a massive outlay of money, it could be implemented on an incremental basis starting where it is most needed. It doe not need to be put in nationwide.

If we have another accident that could have been prevented by ATP we shall once again see contrite politicians wringing their hands and promising no expense spared.

But we do not want to see advisers undermining a good recommendation by saying it is "too costly".

Implementing ATP on lines where it is needed and as part of a sensible, carefully planned programme would not be too expensive.

Trying to do without it condemns us to third world railway status which no one in Britain really wants.

■ *Peter Rayner is a former BR operations and safety officer.*