Railways: level crossings

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This note sets out the responsibilities of relevant bodies for the safety management of level crossings. It also gives information on government policy and regulation and some of the more notable accidents that have occurred on level crossings in recent years.

In the last year for which there are figures, there were 6,652 level crossings on the National Rail Controlled Infrastructure (NRCI). This was a decrease from 2003-04 when there were 7,937 level crossings on the NRCI.

The ORR publishes information about railway safety in the annual *National Rail Trends Yearbook*. The most recent, for 2010/11, found that incidents of fatalities and serious injuries at level crossings had declined sharply between 2007/08 and 2010/11 (from 9 fatalities and 8 serious injuries to 4 fatalities and 5 serious injuries); minor injuries were also down on 2007/08 but have been at a pretty constant level since 2008/09 (between 18 and 24).

Information on railway safety can be found in HC Library note SN605, available on the Railways topical page of the Parliament website.

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1 Responsibility for safety

The Office of Rail Regulation (ORR) is the independent health and safety regulator for the railway industry, including metros, light rail and heritage, following implementation of the *Railways Act 2005*. It covers the safety of the travelling public as well as workers on the railways. As the independent economic and safety regulator, ORR can take enforcement action to ensure that those who have duties under the law are held to account for failures to safeguard health and safety.

ORR's health and safety strategy is to secure the proper control by duty holders of risks to the health and safety of employees, passengers and others who might be affected by the operation of Britain's railways. HM Railway Inspectorate (HMRI) sits within the ORR and they have Inspectors and policy advisors who work together to develop and deliver the strategy.

The term 'duty holders' means railway operators such as Network Rail, the freight and train operating companies and contractors who have responsibilities under health and safety law. The organisations which manage the business of the railways have the direct responsibility for health and safety but HMRI aims to work with the rail industry to help them in identifying common problems and to agree actions and priorities.

The *Railways Act 1993* brought all railway safety legislation within the framework created by the *Health and Safety at Work Act 1974*, as amended, and confirmed the Health and Safety Commission (HSC) as the principal provider of policy advice to Ministers on railway safety issues. The duties of the ORR with respect to railway safety for the most part replicate those of the HSC as set out in sections 11 and 50 of the 1974 Act. A Memorandum of Understanding exists between the HSE and ORR in order to ensure effective coordination and cooperation between these organisations in relation to the regulation of health and safety, including policy matters and the enforcement of health and safety law, on railways, tramways and other guided transport systems in Great Britain.

HMRI carries out inspections and audits to check that the rail industry has management systems in place and that they are effective in controlling the health and safety risks as set out in the safety cases. HMRI also targets risk areas of particular concern under what is called mandatory inspection programmes.

HMRI is responsible for the investigation of breaches of criminal law and health and safety legislation on the railways while the ORR and the Rail Accident Investigation Branch (RAIB), investigate accidents on the railways. RAIB carries out investigations into the most serious rail accidents and incidents without apportioning blame or liability with a view to enabling lessons to be learned, improving safety on railways and preventing similar accidents and incidents. HMRI is responsible for implementing any recommendation made by RAIB following the completion of their investigations.

2 Legislation and standards

Almost all level crossing works require some form of approval either in accordance with the *Level Crossings Act 1983*, as amended by the *Level Crossings Regulations 1997* (SI 1997/487), or under the *Railways and Other Guided Transport Systems (Safety) Regulations 2006* (SI 2006/599) New level crossings are only normally permitted in exceptional circumstances, and may require authorisation under other legislation (such as by an Order made under the *Transport and Works Act 1992*). The 1983 Act enables the Secretary of State to make Orders to specify the protective equipment provided at new or modified level

crossings, where any roads or other highways to which the public has access cross a railway. Draft Orders to change the protection at existing and new level crossings require a statutory minimum two-month consultation period with the local planning and highway authorities.

In July 2010 the Law Commission launched a consultation on a review of the legislative framework governing the use, management and, where appropriate, closure of level crossings. The Commission is drafting instructions to Parliamentary Counsel for work on a draft Bill and expects to report its recommendations in autumn 2012.[1]

The primary function of Railway Group Standards (RGS) is to create an industry framework for safe operation and interworking. These standards provide high-level requirements, but do not go into the detail of how these requirements are to be achieved. The implementation of the control is left to the duty holder, which in the case of level crossings is Network Rail.

In the past, references to level crossings, their design, construction, and operation could be found in any of up to 12 RGS, which may have been a source of confusion for the industry. The Railways Safety and Standards Board (RSSB) replaced these 12 documents with just two (GI/RT7011 and GI/RT7012 from February 2003 and October 2004 respectively). These in turn were superseded by *GK/RT0192: Level Crossing Interface Requirements* as of 3 April 2010. This mandates the control, command and signalling requirements for level crossing equipment, so that level crossing functionality is compatible with infrastructure manager operations at stations and railway undertaking operations.

3 Views of government and industry

The Conservative-Liberal Democrat Coalition Government's view was set out in response to a couple of Parliamentary questions in January 2012:

> Safety at level crossings is a matter for the relevant railway safety duty holder. These duty holders such as Network Rail have a legal obligation to reduce risks at level crossings so far as is reasonably practicable.
>
> It is the responsibility of the Office of Rail Regulation to monitor that railway duty holders meet those obligations, and to take enforcement action to secure improvements as necessary. Additionally, the Rail Accident Investigation Branch has also investigated a number of previous level crossing incidents and directed recommendations to improve safety to Network Rail.
>
> The current level safety crossing record is consistently one of the best in Europe and 2010-11 saw the least fatalities at level crossings in the last decade. In view of that record and the robust industry safety framework under which level cross risk is managed, we do not consider additional intervention from the Department is needed.[2]

The ORR published its policy on level crossings in February 2007. Amongst other things, this states that:

- Except in exceptional circumstances, there should be no new level crossings on any railway.

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1 for details, see: Law Commission, H*Level Crossings*H [accessed 26 January 2012]

2 HHC Deb 10 January 2012, cc196-97W

- Rail companies should adopt a consistent approach, based on risk, to inspecting and assessing level crossings, and reviewing the safety measures in place and have effective procedures for tackling safety risks at level crossings.

- The ORR will use current laws on creating and using level crossings to support good practice and, where appropriate, use its powers to make sure rail companies and other relevant organisations keep to their legal obligations concerning level crossings.

- The ORR will also try to make sure any guidance on managing safety at level crossings is appropriate and reflects current good practice; work with government to simplify the law on level crossings and make it more accessible; and target its inspections at those level crossings with the highest safety risk and the greatest opportunity for improvement.[3]

Within the context of the ORR's policy statement, HMRI set out its strategy for securing adequate control of safety risks at railway level crossings to 2009-2010.[4] In December 2011 ORR published a guide for managers, designers and operators of level crossings.[5] The 2009-14 *Railway Strategic Safety Plan* called on the industry to undertake the following actions:

- Pursue ways of facilitating the closure of level crossings or their conversion to lower-risk types

- Campaigns to raise public and workforce awareness of level crossing risks

- Adoption of new technologies where these prove successful in trials

- Work to secure convictions and appropriate sentences for those who misuse level crossings

- Implementation of a new design of level crossing phone that will be easier to use in emergencies[6]

The National Level Crossing Safety Group (NLXSG) was set up in 2002 on the initiative of Railway Safety (now RSSB), HMRI and Network Rail along the lines of Operation Lifesaver, in the USA and Canada. The purpose of the group is to raise the awareness of safety matters among those who use level crossings. A number of technical reports in the area of level crossings are available on the RSSB website.

4 Accidents

In the last year for which there are figures, there were 6,652 level crossings on the National Rail Controlled Infrastructure (NRCI). This was a decrease from 2003-04 when there were 7,937 level crossings on the NRCI.[7]

The ORR publishes information about railway safety in the annual *National Rail Trends Yearbook*. The most recent, for 2010/11, found that incidents of fatalities and serious injuries at level crossings had declined sharply between 2007/08 and 2010/11 (from 9 fatalities and 8

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3 ORR, H*Policy on level crossings*H, 28 February 2007

4 HMRI, H*Risk Profile Topic Strategy for Level Crossings 2008-09 to 2009-10*H, 2008

5 ORR, H*Level crossings: A guide for managers, designers and operators*H (Railway Safety Publication 7), December 2011

6 RSSB, H*The Railway Strategic Safety Plan 2009 – 2014*H, p31

7 ORR, H*2007 Railway safety statistical report*H, June 2008, tables B6 and B7

serious injuries to 4 fatalities and 5 serious injuries); minor injuries were also down on 2007/08 but have been at a pretty constant level since 2008/09 (between 18 and 24).[8]

In 2009 Network Rail stated that over 55 days of delays to trains and passengers were caused by level crossing misuse, costing the company around £1.8 million;[9] and in 2010 NR called on the government to do more to curb unsafe driving by motorists at level crossings after figures revealed that there were over 3,200 incidents of misuse at level crossings in 2009, including 14 collisions between vehicles and trains and 13 deaths.[10]

Two of the most serious accidents involving level crossings – at Selby in 2001 and Ufton Nervet in 2004 – are outlined in more detail below. However, in recent years there has been some focus on single fatalities and their causes, in particular the liability of Network Rail. For example, in November 2011 the ORR announced its intention to lodge charges with the court for alleged health and safety breaches that led to the deaths of two girls in Elsenham, Essex in 2005.[11]

By way of comparison, figures for the annual number of deaths and collisions at level crossings for a selection of European countries are available. The data was collected as part of a European Union (EU) study into the number of incidents occurring at level crossings in its Member States between 1996 and 2002. It should be borne in mind that there are major differences between the various rail networks in the world and in how incidents may be recorded. The data were summarised in the RSSB's 2004 special topic report.[12] Further information is available from the European Railway Agency.

4.1 Selby, February 2001

On 28 February 2001 ten people died in the accident at Great Heck, near Selby in Yorkshire, in which a Land Rover towing another vehicle left the M62 motorway, obstructed the railway line, and caused a serious train accident. A Working Group was set up by the HSC to look at the circumstances of incidents where road vehicles have blocked railway lines and whether there were features in common that might have been preventable.

The Working Group concluded that preventing road vehicles getting onto the railway, rather than preventing trains hitting them once they are there, was likely to be the best approach to reducing the risk. Its recommendations called for action in the following areas:

> Development of tools and data to help road and railway professionals determine which locations where the road runs near the railway are higher, and which are lower, risk.
>
> Making sure both road and rail characteristics of relevant accidents and incidents are collected in accident reports.
>
> Adaptation of railway safety management information systems to permit this accident information to be stored and analysed.
>
> A programme of risk assessment work to cover all locations where road vehicles can get onto railways, whether by accident or through vandalism, and to classify such locations into higher risk, where an assessment of improvement measures should be

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8 ORR, H*National Rail Trends Yearbook 2010-11*H, July 2011, p210, table 10.4a

9 NR press notice, "HTough sentences needed as level crossing law breaking reaches five year highH", 9 February 2009

10 NR press notice, "HCurtail crazy driving at level crossings or risk more lives, says rail chiefH", 10 March 2010

11 see, e.g.: "Rail firm prosecuted over deaths of two girls", *The Times*, 25 November 2011

12 RSSB, H*Road vehicle level crossings: special topic report*H, January 2004, chapter 9, tables 16 and 17

made, and lower risk, where no further action is needed; and action based on the risk assessment.

Development of guidance on good practice as to the best measures to take at higher risk locations, depending on the circumstances of each location.

Development of a protocol for apportioning responsibility for and costs of improvements between rail and road organisations.

Longer term, once this protocol is in place, a review of progress and of the arrangements for governance and management of safety risks at all interfaces between roads and railways.[13]

The RSSB made their formal inquiry report to industry bodies in December 2001. Although it remained confidential, the RSSB quoted selected recommendations from the report in its 2004 special topic report. Amongst other things, it called for Railtrack (now Network Rail) to work with the Highways Agency and local highway authorities to establish clear responsibilities for controlling risks on the railway, roads and across interfaces; and Railway Safety (now the RSSB) to establish a memorandum of understanding with the Highways Agency.[14]

The Department for Transport took all of these documents into consideration when drawing up its strategy to manage the accidental obstruction of the railway by road vehicles, published in February 2003.[15]

4.2 Ufton Nervet, November 2004

On 6 November 2004 the First Great Western service to Plymouth collided with a car on a level crossing near Ufton Nervet between Reading and Newbury in Berkshire. The derailment left seven people dead and 37 people hospitalised. Travelling at 100mph, the train would have needed nearly a mile to brake to a standstill. British Transport Police (BTP), Thames Valley Police and HSE investigators attended the scene.

The then Secretary of State for Transport pledged a full investigation by the HSE and it published an interim report on 10 November 2004.[16] The HSC decided not to launch a formal investigation and the RSSB organised a rail industry Formal Inquiry by a three-person panel independent of any of the organisations involved. The preliminary report was published in January 2005[17] and the final report in June 2005. It concluded that the underlying cause of the accident was the behaviour of the driver of the car, which was outside the scope of the remit of the inquiry.[18]

The Coroner's Inquest into the accident at Ufton was postponed in October 2005, to take place after the conclusion of considerations of legal representations from the families of some of those who died.[19] The Inquest began in October 2007 and closed approximately a

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13 HSC, H*Obstruction of the railway by road vehicles*H, February 2002, pp2-3
14 op cit., H*Road vehicle level crossings: special topic report*H, paras 16.2.1-16.2.2, appendix E
15 DfT, H*Managing the accidental obstruction of the railway by road vehicles*H, February 2003
16 HSE, H*Train derailment at Ufton level crossing, near Ufton Nervet, Berkshire: HSE interim report*H, 10 November 2004
17 RSSB, H*Formal Inquiry: Collision with a Road Vehicle and Subsequent Derailment of Passenger Train ... at Ufton Automatic Half Barrier (AHB) Level Crossing ...: Preliminary Report*H, 25 January 2005
18 RSSB, H*Formal inquiry final report: Ufton level crossing*H, June 2005, para 14.2.2
19 ORR, H*Annual Report on Railway Safety 2005*H, July 2006, p38

month later. The Coroner gave a verdict of unlawful killing by a motorist who chose to commit suicide by parking his car on a railway line.[20]

[20] "Victims were unlawfully killed", *Central Somerset Gazette*, 8 November 2007