



Level crossings

1. Executive summary

Level crossing safety remains a priority risk area for ORR. It is the area where many members of the public interact with the railway and level crossing use gives rise to significant potential for injury and harm. Although Britain's mainline railway is among the safest in Europe, level crossings remain one of the greatest risks to public and passenger safety, and a single major incident could result in significant human and economic loss.

There are just under 5,500 level crossings on the mainline rail network and an estimated 1,500 on heritage and minor railways. Responsibility for managing level crossing risk rests primarily with railway infrastructure managers, working with train operators, local authorities, highways authorities and users. Effective cooperation between these parties is essential, as level crossings operate within a wider system beyond the railway and have both safety and economic impacts.

Level crossing risk is evolving as conditions change and must be actively managed. Trains are generally more frequent, quieter and operate at higher speeds than in the past; road traffic volumes have increased; farm machinery is larger and better soundproofed; and pedestrian behaviour has changed, including increased distraction from electronic devices. Level crossings operate within a system that goes beyond the railway and they have an economic as well as safety impact.

ORR's strategy for regulating level crossing safety is informed by analysis of current risk and our judgement of what needs to be achieved. Central to this approach is continued improvement in risk management through the consistent application of high-quality level crossing risk assessment. ORR expects its guidance to be embedded in risk assessments across all sectors, with assessments undertaken by competent people who understand level crossing risks, control measures, and user behaviour and perception of risk.

ORR encourages research, innovation and the use of new technologies to improve risk control and widen the range of reasonably practicable options available. We will target our regulatory activity on the highest-risk areas, particularly on the mainline railway, including passive footpath crossings, user-worked crossings and automatic half-barrier crossings, and will drive the consistent application of Network Rail's level crossing strategy for 2019 to 2029.

Closure of level crossings should be the first option considered in a risk-control strategy, in line with the principles of prevention. We recognise that closure decisions require careful consideration of alternative routes, legal rights of way and the potential transfer of risk, and that others are best placed to make these judgements. Where closure is not reasonably practicable, alternatives to level crossings and improved protection must be fully explored.

ORR does not support the creation of new level crossings where there is a reasonably practicable alternative, as new crossings introduce additional risk to the railway and its users. We will continue to provide assurance that dutyholders are managing level crossing risk effectively and will intervene where necessary to secure sustained improvements in safety.

ORR's strategic intent for level crossings



- ✓ Ensure continuous improvement in risk management
- ✓ Promote competent, behaviour-informed risk assessment to support decision-making
- ✓ Encourage research, innovation and new technologies to improve risk control
- ✓ Target ORR interventions on the highest risk areas
- ✓ Drive consistent application of Network Rail's level crossing strategy (2019–2029)
- ✓ Expect closure, or a reasonably practicable alternative, to be considered first in risk-control strategies
- ✓ Discourage new level crossings where a reasonably practicable alternative exists

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2. Our view of the risk

What the risk is and who it affects

Level crossings are locations where the railway intersects with public routes and where members of the public, road users and railway operations interact directly. Their use gives rise to significant potential for injury and harm, particularly to non-railway users. While Britain's mainline railway is among the safest in Europe, level crossings remain one of the greatest sources of risk to public and passenger safety on the rail network.

Responsibility for controlling level crossing risk rests primarily with railway infrastructure managers (such as Network Rail), working with train operators, local authorities, highways authorities and users of the crossing. Effective cooperation and collaboration between these parties is critical, as each plays a role in managing risk and the contribution of each varies depending on the type and context of the crossing.

The majority of risk at level crossings is borne by members of the public using them, with pedestrians and occupants of road vehicles most frequently involved in incidents. Level crossing incidents also have the potential to affect train occupants and railway operations, particularly where collisions or near misses occur.

How harm can occur at level crossings

At level crossings, users are assisted to cross safely by the layout of the crossing and by equipment such as gates, barriers, warning lights, alarms and signs. The level of protection provided varies significantly between crossing types. Some crossings rely on active warnings and physical barriers, while others rely more heavily on users making their own judgement about whether it is safe to cross.

Risk increases where users misjudge the approach of a train, ignore or misunderstand warnings, or deliberately misuse the crossing. Behavioural factors are therefore a significant contributor to risk, particularly at crossings that rely on users' vigilance or compliance.

Factors influencing level crossing risk

Risk at level crossings is not static and can change over time. It is influenced by a range of factors, including:

- changes in train frequency, speed and quietness;
- increases in road traffic volumes;
- changes in pedestrian behaviour, including distraction from electronic devices;
- larger and quieter farm machinery;
- changes in the local environment, such as new housing or schools; and
- the mix and volume of users at the crossing.

Level crossings also operate within a wider system beyond the railway. For example, barrier downtime on public road crossings can affect traffic flow and influence user behaviour, with potential safety and economic consequences.

Differences in risk by crossing type and sector

Different types of level crossing present different risk profiles. On the mainline railway, the level of protection afforded to users varies between passive, user-worked, manually controlled and automatic crossings. Crossings that rely more heavily on user judgement generally present higher risk than those with active warnings or barriers.

Evidence from the RSSB Safety Risk Model, and incident data shows that:


- the risk of collisions between trains and road vehicles is greatest at automatic half-barrier (AHB) crossings and variations of user-worked crossings (UWC), user-worked crossings with telephone (UWC-T) and user-worked crossings with miniature stop lights (UWC-MSL);
- the greatest proportion of the risk to pedestrians is at footpath crossings rather than from pedestrian use of any other type of crossing.

Given the relative risks to users at different types of level crossings on the mainline railway, ORR will target its efforts on promoting improved risk control at footpath crossings, user-worked crossings and automatic half-barrier crossings.

Risk profiles also vary between sectors:

Mainline railways

account for most level crossings and the highest overall risk exposure. RSSB estimates that level crossings account for ~6% of total mainline system risk. The majority of this risk is borne by members of the public using the crossings, with most casualties being pedestrians and road vehicle occupants.




Heritage Railways

typically operate at lower speeds, which affects risk severity, but level crossings remain a significant safety concern and are subject to the same legal principles.



Tramways

generally manage road crossings using highway principles rather than traditional railway level-crossing arrangements, with responsibilities shared with highway authorities.



Refer to the Appendix for a detailed sector breakdown.

Why risk must be actively reviewed

Since risk at level crossings can change over time, regular reassessment is essential.

Reassessment should consider whether existing controls remain effective and whether changes are needed, including closure, alternative crossings arrangements or enhanced protection.

Technological developments continue to expand the range of options available to manage risk, making ongoing review a critical part of effective level crossing management.

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3. Risk management expectations

Level crossings remain one of the greatest risks to public and passenger safety on the rail network. They are locations where members of the public interact directly with the railway, and failures in design, management or operation can result in serious injury or fatality. While Britain's mainline railway performs well by international comparison, this position could change with a single major incident, and every incident carries the potential for significant human and economic loss.

Why does effective risk management matter?



- ✓ Level crossings expose the public directly to railway risk
- ✓ Failures can result in serious injury or fatality
- ✓ The law requires risks to be reduced so far as is reasonably practicable
- ✓ Effective management depends on continual review and assurance

The legal and regulatory basis

Network Rail, operators of heritage and light railways and those who control rail depots, have an explicit legal duty under the Health and Safety at Work etc. Act 1974 (HSWA) to minimise risks arising on their networks, so far as is reasonably practicable.

The law requires railway dutyholders to manage level crossing risk effectively through their own safety management systems. ORR's role is to provide assurance that this is being done and, where necessary, to promote and enforce the safe design, management and operation of level crossings in order to reduce the likelihood of people being harmed and the number of 'close calls'.

ORR supports dutyholders through its guidance, Principles for managing level crossing safety, which is intended to aid the design and management of crossings and to support consistent, risk-based decision-making across the industry. Risk assessments should be undertaken by competent people with a proper knowledge of level crossing risks, control measures, and the behaviour and risk perception of users.

We support the closure of level crossings, and this should be the first option considered in a risk-control strategy by the dutyholder, in line with the principles of prevention set out in the Management of Health and Safety at Work Regulations 1999. The closure of level crossings requires attention to many factors, including:

- the practicalities of replacing them with bridges or underpasses;
- the legal arrangements for closing rights of way;
- the need to minimise the possible transfer of risk to other crossings; and
- the possibility of importing new dangers, such as increasing the likelihood of trespass.

We recognise the need to balance the risk of alternative routes against the safety benefits to the railway of closing crossings, and that others are best placed to make these judgments.

Ongoing risk management

Ongoing management of risk must be demonstrated throughout the lifecycle of the crossing and whenever circumstances change. This includes:

- the design, management and operation of existing level crossings;
- regular reassessment of risk by the crossing operator;
- situations where traffic levels, user profiles or train services change;
- local developments such as new housing, schools or land use changes; and
- after incidents, near misses or evidence of unsafe user behaviour.

Risk reassessment should also revisit whether closure of the crossing, or replacement with an alternative means of crossing the railway, is now justified. Where closure is not reasonably practicable, options for improved protection and additional controls must be considered, particularly as technological developments increase the range of available solutions.

ORR's expectations of dutyholders

Dutyholders are expected to manage level crossing risks in a structured and proportionate way, working in cooperation with other parties such as train operators, local authorities and highway agencies. They should ensure that:

- level crossing risks are identified and assessed;
- assessments are undertaken and reviewed by competent persons;
- reasonably practicable control measures are identified and implemented;
- closure or alternatives are considered first, in line with the principles of prevention; and
- the layout of the crossing and equipment, such as gates, barriers, warning lights, alarms, and signs are kept under review to reflect changing risk profiles.


ORR does not approve or grant permission for new or reinstated level crossings. Where proposals arise, ORR may submit an opinion as part of the Transport and Works Act or Transport and Works (Scotland) Act processes and will encourage early engagement so that reasonably practicable alternatives are fully explored. In principle, ORR does not support the creation of new level crossings where alternatives exist, as they introduce new risks to the railway and its users.

ORR also makes Level Crossing Orders on behalf of the Secretary of State for Transport, usually

for public vehicular road crossings, and inspects crossings to ensure that the measures set out in those Orders are implemented and complied with. Refer to the Level Crossing Orders guidance here: Level Crossing Order Process.

Core compliance expectation

Level crossing risks must be actively managed, regularly reassessed and demonstrably controlled in practice, not only documented.



ORR has established key regulatory activities and intended outcomes described in more detail in the Appendix.

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4. Continuous improvement

How level crossing risk is reduced over time

Continuous improvement in level crossing safety depends on the effective application of risk assessment, regular review of control measures, and the adoption of improved solutions as risks, usage and technology change. Dutyholders are expected to manage level crossings as dynamic risk environments rather than static assets, recognising that risk profiles can evolve over time.



Maintaining effective risk assessment and review

Risk at level crossings should be reduced so far as is reasonably practicable. This requires dutyholders to understand the risk profile of each crossing through the production of suitable and sufficient risk assessments, identifying control measures and ensuring those measures are implemented effectively.

Risk assessments must be:

- drawn up and reviewed by suitably competent persons;
- informed by knowledge of crossing risks, controls and user behaviour; and
- reviewed regularly, after incidents, or where significant change is likely or has occurred.

Changes that should trigger reassessment include:

- changes in train operation or frequency;
- changes in user profile or behaviour;
- local developments such as housing or schools; and
- infrastructure enhancement or renewal.

Where reassessment indicates that risks are no longer adequately controlled, changes to control measures may be justified, including closure, alternative crossing arrangements, or enhanced protection.

Using innovation and technology to strengthen control

Technological developments are increasing the range and affordability of options available to manage level crossing risk. Continuous improvement requires dutyholders to consider whether new or improved technologies can reduce reliance on user judgement or improve the conspicuity and effectiveness of warnings.

ORR encourages research, innovation and the use of new technologies where these can deliver improved risk control, particularly at crossings with higher risk profiles or restricted sighting. When risks are reassessed, new controls may have become available or existing controls may have

become more practical or cost-effective to install.

Applying consistent approaches across the network

For the mainline railway, continuous improvement depends on the consistent application of Network Rail's level crossing strategy for 2019–2029, ensuring that improvements are targeted in accordance with risk. Decision-making should be risk-based and proportionate, with reasonably practicable measures adopted to reduce harm to users and railway operations.

ORR will continue to monitor the implementation of this strategy and expects consistent application across routes and regions, supported by effective governance and assurance arrangements.

Sector-specific approaches to improvement

Approaches to continuous improvement reflect the operating context of different sectors:

- **Mainline railways** are expected to prioritise risk reduction at higher-risk crossing types and adopt improved techniques and digital technologies to manage and maintain their crossings more effectively.
- **Heritage railways**, while generally operating at lower speeds, are subject to the same legal principles and are expected to achieve the same legal standard. Operators should regularly inspect crossings, review risk assessments and implement improvements where justified.
- **Tramways** generally manage road crossings using highway principles rather than traditional railway level crossing arrangements. Responsibilities for control and enforcement sit primarily with highway authorities and the police. Refer to ORR's Strategy for regulation of health and safety risks – chapter 14: Tramways for further information.

The mainline and heritage sectors are currently the focus for ORR's targeted proactive activity. Work in other parts of the industry will primarily be reactive.

Embedding improvement as normal practice

Sustained improvement in level crossing safety relies on embedding these arrangements into routine planning, operation and review activities. Early engagement on new or reinstated

crossings, regular reassessment of existing crossings, and the adoption of improved controls where reasonably practicable are essential to maintaining effective risk control.

Continuous improvement is therefore an ongoing requirement, supporting the long-term reduction of risk to users, communities and the railway.

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5. Appendix

Detailed sector breakdown

Mainline railway

The Railway Safety and Standards Board (RSSB) estimates that 6% of the total mainline system risk is from level crossings. The majority of this risk is borne by members of the public using the crossings, with most casualties being pedestrians and road vehicle occupants.

There are several types of level crossing in use on the mainline network. The table below shows level crossing numbers by type:

Table 5.1: level crossing types

Crossing type	Acronym	Crossing name	Number
Passive	UWC-T	User-worked crossing with telephone	1,514
Passive	UWC	User-worked crossing	286

Crossing type	Acronym	Crossing name	Number
Passive	OC	Open crossing	33
Passive	FP	Footpath crossing	1,798
Active Manual	MCG	Manually controlled gate	108
Active Manual	MCB	Manually controlled barrier	156
Active Manual	MCB-OD	Manually controlled barrier with obstacle detection	136
Active Manual	MCB-CCTV	MCB monitored by closed-circuit television	44
Active Automatic	AHB	Automatic half-barrier	404
Active Automatic	AFBCL	Automatic full barrier crossing locally monitored	3

Crossing type	Acronym	Crossing name	Number
Active Automatic	ABCL	Automatic half barrier crossing locally monitored	63
Active Automatic	AOCL+B	Automatic open crossing locally monitored with barrier	60
Active Automatic	AOCL/R	Automatic open crossing locally or remotely monitored	22
Active Automatic	UWC-MSL	User-worked crossing with miniature stop lights	259
Active Automatic	FP-MSL	Footpath crossing with miniature stop lights	167
Total	-	-	5,453

Source: Network Rail (ALCRM), May 2025

The level of protection afforded to users of the level crossing varies with the type of crossing. Those that provide a higher level of protection do not rely on the user to assess whether it is safe to cross, such as by looking for an approaching train. Instead warning(s) of an approaching train and/ or barriers are provided. Other factors such as the number of crossing barriers and whether the crossing has railway signals protecting it are also important.

The different types of level crossings can be classified in various ways. The previous table used

'Active, Automatic, Manual and Passive'

Looking at data for the last 10 years (April 2013 to March 2023) there were 61 fatalities to level crossing users (excluding suicides). The table below shows the types of crossing where they occurred.

Table 5.2: level crossing fatalities

Crossing type	Number of fatalities	Percentage
Footpath	34	56
AHB	11	18
UWC-T	7	11
MCB-CCTV	4	7
Footpath-MSL	3	5
UWC-MSL	1	2
MCB	1	2

Source: RSSB, February 2024

The data illustrates that the greatest proportion of fatalities occurred at passive footpath crossings, followed by automatic half-barrier and user-worked crossings with a telephone.

Footpath crossings account for 34% of the level crossing estate.

The last level crossing incident resulting in train occupant fatalities (as of March 2026) occurred at Ufton Nervet in 2004, when a passenger train derailed after striking a car that had been deliberately parked on the crossing by its driver, as a suicidal act. The train driver and five passengers were killed, in addition to the car driver.

Data for the last 10 years (April 2013-March 2023) shows there were 67 vehicular collisions. As the table below shows, AHB crossings were the greatest contributor but account for just 7% of Network Rail's level crossing estate. AHB crossings are very convenient for the user due to their short barrier down time. However, we provide guidance on situations where we consider their application is inappropriate and Network Rail are trialling the use of additional equipment to deter unsafe use (such as weaving around the barriers) of these crossings.

Table 5.3: level crossing vehicular collisions

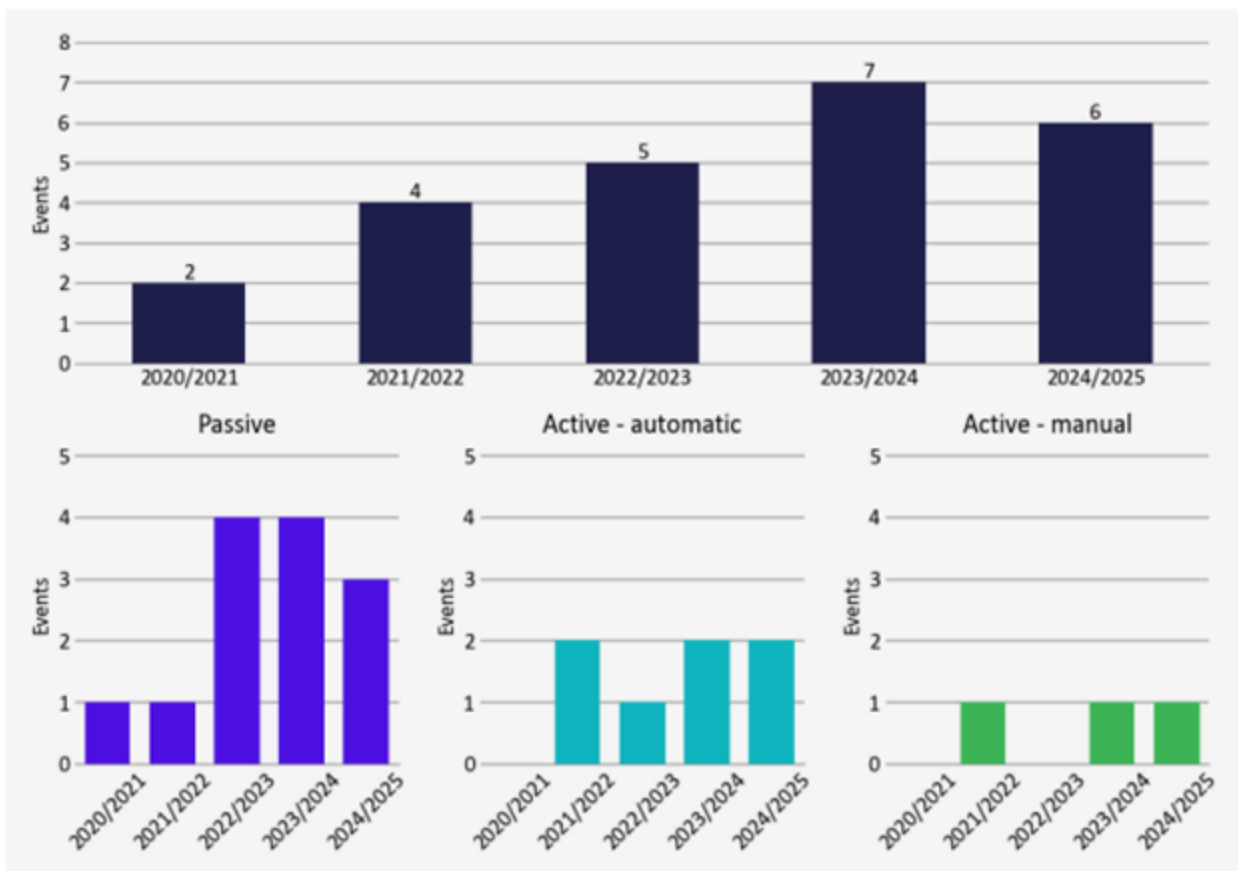
Crossing type	Number of strikes	Percentage
AHB	23	34
UWC-T	18	27
OC	9	13
UWC-MSL	5	7
MCB-CCTV	4	6
AOCL	4	6

Crossing type	Number of strikes	Percentage
UWC	3	4
Footpath-MSL	1	1

Source: RSSB, February 2024

As the graphs below illustrate there was a general increase in the number of collisions between road vehicles and trains at level crossings between 2020/2021 and 2023/2024, followed by a small decrease in 2024/2025. As mentioned above, passive crossings are the greatest contributor followed by active-automatic crossings. We are encouraging industry to explore new technologies to improve risk control at these crossings.

Figure 1:



Source: RSSB annual Health and Safety Report, 2024/25

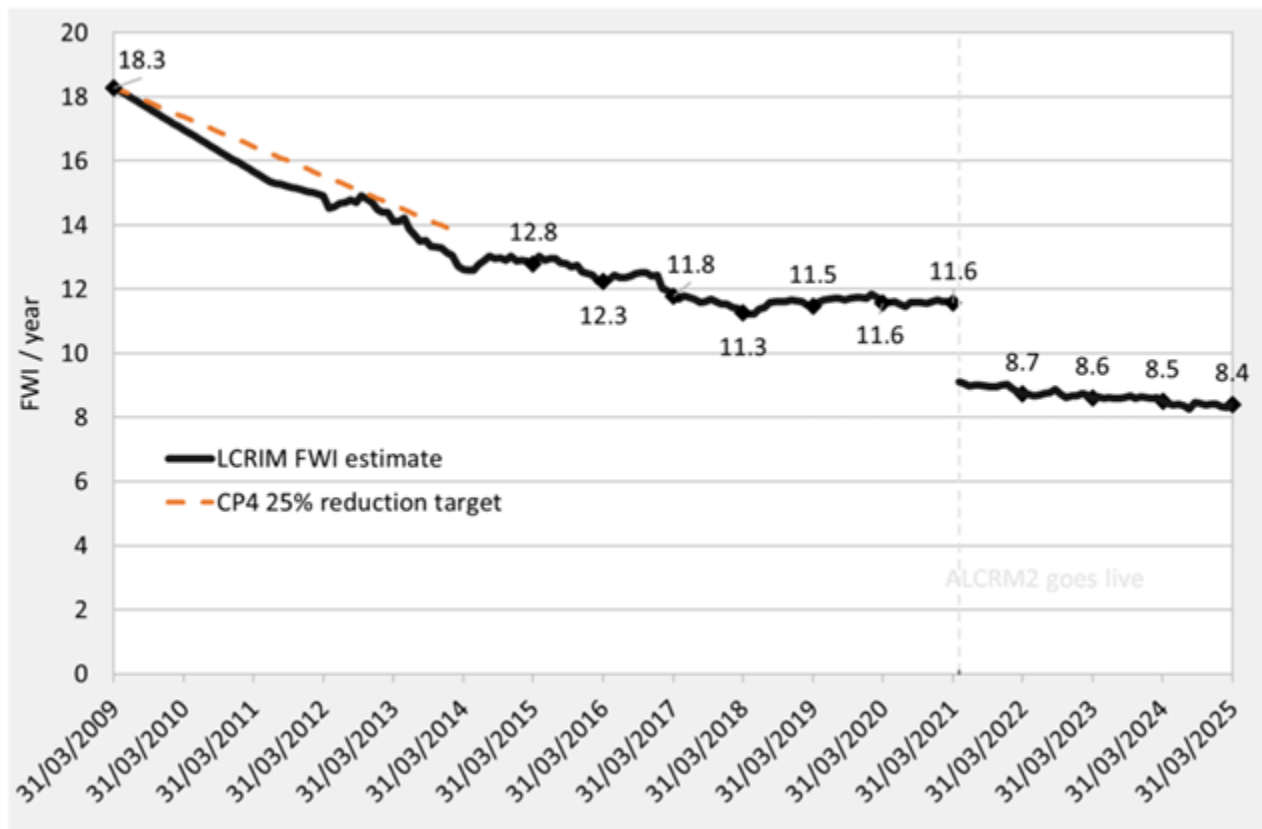
Network Rail

Network Rail has achieved considerable success in reducing risk at level crossings during Control Period 4 (CP4) and Control Period 5 (CP5). This was largely attributable to dedicated risk-reduction funds, which was strongly managed and directed from their Head Office.

In Control Period 6 (CP6), Network Rail did not have additional ring-fenced funds [PA1.1] to improve level crossing safety, and decision making was devolved to the routes and regions. In line with statutory requirements, it adopted reasonably practicable improvements in risk control. Network Rail focused on using better techniques and digital technologies to improve the way they maintain and manage their infrastructure and take steps to further reduce risk to the public at their level crossings. This approach has continued into Control Period 7 (CP7).

At CP6 exit, level crossing risk, as modelled by Network Rail's All Level Crossing Risk Model (ALCRM), was at 8.5 Fatalities and Weighted Injuries (FWI). For the first year of CP7, FWI declined slightly to 8.4.

Figure 2:



As of February 2026, Network Rail level crossing risk reduction CP7 safety benefits stood at 0.541 FWI. The scorecard target for CP7 is 0.471 FWI.

Network Rail produced a level crossings strategy for 2019-2029, which was adopted soon after the start of CP6. It sets out Network Rail's strategy to manage the safety and reliability of level crossings for the next 10 years.

We will continue to monitor Network Rail's progress against its targets and encourage Network Rail to continue implementing its level crossing strategy for 2019-2029 to reduce risk across the whole crossing population.

Heritage railway

The majority of heritage railways have level crossings as part of their operation; around half have level crossings that cross public carriageways. Our 2014 survey of level crossing types in the heritage sector found that around 16% of these public carriageway crossings were public open level crossings; half being automatic with lights (Automatic Open Crossings Locally Monitored)

(AOCL) and half being crossings with signage only, where the train driver is required to observe that the crossing is clear (Open Crossings) (OC).

RIDDOR reportable incidents for the heritage sector show that there have been 9 collisions between trains and vehicles between April 2013 to March 2023[PA2.1]. None of these resulted in reported injuries to the vehicle or train occupants.

Heritage railways generally operate at lower speeds not exceeding 25mph (40kmph). When compared to the mainline sector, the lower speed profile changes the level of risk associated with level crossings. However, the risk remains significant and our level crossing strategy remains relevant to the heritage sector. The same legislation applies, and we expect the sector to achieve the same legal standard as the mainline sector.

As the heritage sector expands and realises ambitions to extend or reinstate old railway lines, the level of interest in opening new, or reinstating level crossings is increasing. In line with the general principles of prevention, we expect operators to demonstrate that there is no reasonably practicable alternative to the provision of a new or reinstated level crossing; with the analysis based upon a proportionate, but suitable and sufficient, risk assessment. Whilst ORR does not approve or grant permission for new or reinstated level crossings, we may submit an opinion on the level crossing proposal as part of the Transport and Works Act 1992 (TWA) or the Transport and Works (Scotland) Act 2007 (TWAS) Order process.

ORR activity

ORR activity	The outcome we seek from this activity
Targeting inspection activity for Network Rail on particular aspects of risk management. In CP7 we are prioritising scrutinising arrangements for safer management of crossings that rely on users to decide for themselves when it is safe to cross or where the only information to aid	Dutyholders demonstrate targeted, risk-based improvements to protect the safety of level crossing users. Increased adoption of technology

ORR activity	The outcome we seek from this activity
<p>decision-making is from telephoning a signaller. We expect the adoption of new technology to make a significant difference in controlling these risks.</p>	<p>to inform crossing users when it is safe to cross.</p>
<p>Monitoring Network Rail's delivery of its new level crossing strategy. We will be ensuring that routes and regions of Network Rail exercise devolved decision-making powers to introduce reasonably practicable improvements.</p>	<p>Evidence of consistent and effective application of the Network Rail level crossing strategy and increasing use of technical solutions leading to improved risk control.</p>
<p>We will support and encourage dutyholders to take a structured approach to level crossing risk assessment, in line with our guidance on level crossings to ensure it encourages a sound risk-based approach.</p>	<p>Improvements in level crossing risk assessment supported by appropriate guidance.</p>
<p>Encouraging Network Rail to be innovative in developing new technologies that will reduce risks at crossings with restricted sighting and AHB crossings.</p>	<p>Improved safety for users and train occupants at crossings that rely presently on the users' vigilance alone, or warning from drivers sounding the train horn, by adding a layer of engineered protection from new technologies. Preserving the convenience of AHB crossings but improving risk</p>

ORR activity	The outcome we seek from this activity
	control by additional measures.
<p>ORR will encourage early engagement with proposers of new level crossings, so that we can work with the proposer and encourage alternatives to crossings to be fully explored and delivered where reasonably practicable.</p>	<p>ORR will comment as necessary on proposals for a new level crossing as part of the Transport and Works Act 1992 (TWA) or Transport and Works (Scotland) Act 2007 (TWAS) Order process. ORR will not support the introduction of new level crossings where there are reasonably practicable alternatives.</p>
<p>Working with heritage operators to improve their Safety Management System by applying Heritage Railway Association guidance.</p>	<p>Improved consistency and maturity in safety management, resulting in improved risk control.</p>
<p>Promoting, within the heritage sector, the installation of LED road traffic light signals where appropriate to control risk, in accordance with dutyholders' risk assessment of crossing use and consideration of the current conspicuity of the crossing lights.</p>	<p>More widespread adoption of LED lights and other enhancements to conspicuity of warnings, making it easier to see the lights in a variety of environmental conditions.</p>
<p>Encouraging within the heritage sector, the conversion of open crossings and AOCLs to</p>	<p>Improved risk control by increase in numbers of crossings protected</p>

ORR activity	The outcome we seek from this activity
barrier or gated types where appropriate.	by barriers or gates.
<p>Encouraging the heritage sector to adopt the innovative technological solutions being brought into operation in the mainline sector, where this is appropriate, to better control risk. For example, through the use of 'overlay' miniature stop light systems in the conversion of passive crossings to active.</p>	<p>Improved risk control arising from increased adoption of innovative active warning techniques at passive crossings.</p>

Acronyms and abbreviations

Acronym or abbreviation	Full name
ALCRM	All Level Crossing Risk Model
CP	Control Period
FWI	Fatalities and Weighted Injuries
HSA	Health and Safety at Work etc Act 1974

Acronym or abbreviation	Full name
LED	Light Emitting Diode
ORR	Office of Rail and Road
ORV	Occupants of Road Vehicle
RAIB	Rail Accident Investigation Branch
RIDBOR	Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013
RSSB	Rail Safety and Standards Board
TWA	Transport and Works Act 1992
TWAS	Transport and Works (Scotland) Act 2007

Glossary of terms

Term	Definition
Accidental mainline risk	Risk arising from railway operations or maintenance activities, excluding suicides.
Active crossings	Where the level crossing user is warned of the approach of the train through closure of gates or barriers and/or by warning lights and/or alarms.
Automatic crossings	The approaching train activates the closure sequence for the level crossing automatically. There are no protecting signals and the crossing area is not checked to ensure it is clear prior to the arrival of the train (see also manual crossing).
Control Periods	These are the five-year timespans to which Network Rail works for financial and other planning purposes. Each Control Period begins on the 1st April and ends on 31st March to coincide with the financial year. Control Period 4: 2009 to 2014 Control Period 5: 2014 to 2019 Control Period 6: 2019 to 2024 Control period 7: 2024 to 2029
Fatalities and Weighted Injuries	The aggregate amount of safety harm. One FWI is equivalent to: one fatality, or 10 major injuries, or 200 Class 1 minor injuries, or

Term	Definition
	<p>200 Class 1 shock/trauma events, or 1,000 Class 2 minor injuries, or 1,000 Class 2 shock/trauma events.</p>
Manual crossing	<p>These crossings can also be termed railway-controlled. The crossing area is checked by a signaller/crossing keeper to ensure it is free of people/vehicles etc. before the protecting signals are cleared to allow the train through. This can also be done using technology, which scans the crossing, mimicking the action of the signaller/crossing keeper.</p>
Passive crossings	<p>The onus is on the level crossing user to determine if it is safe to cross. This can be based on sighting alone, or the sound of a train horn in some circumstances or, where a phone is provided, by telephoning the signaller.</p>
Precursor Indicator Model	<p>An RSSB-devised model that measures the underlying risk from train accidents by tracking changes in the occurrence of accident precursors.</p>
Principles of prevention	<p>The Management of Health and Safety at Work Regulations 1999, Schedule 1 sets out the general principles of prevention. Where an employer implements preventative and protective measures he shall do so on the basis of these principles.</p>
Reporting of Injuries,	<p>These Regulations require employers, the self-employed and those in control of premises to report specified workplace incidents.</p>

Term	Definition
Diseases and Dangerous Occurrences Regulations 2013	
Safety Risk Model	A quantitative representation of the safety risk that can result from the operation and maintenance of the GB rail network.

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