



A Better,  
Safer  
Railway

# Leading Health and Safety on Britain's Railway

A strategy for working together Issue 3: April 2020



# Foreword

Passenger journeys on Britain's rail network have doubled over the last 20 years. While that rise has been interrupted by the outbreak of COVID-19, a worldwide pandemic, the opportunity remains in the future to demonstrate how vital the railway is to the nation as we continue to transport vital workers and distribute essential freight. The challenge that this brings is made more acute by the current restrictions on daily life, as well as by our usual challenges: complex timetables and limited maintenance windows, compounded by limited resources and public pressure to deliver. To overcome these challenges, and maintain our value to the nation, our industry must work collaboratively.

Britain's railway is one of the safest in the world and has continued to improve over the past 10 years. This bears testament to the great efforts made across the industry—2018/19 saw the fewest ever fatalities at level crossings and a significant fall in public fatalities, from 42 in 2017/18 to 25.

However, in some risk areas performance has deteriorated. Thirteen passengers died in 2018/19 compared to six the previous year. Seven of the 13 were fatalities at the platform-train interface. Of the public fatalities, 22 of the 25 were a result of trespassing. These remain areas of concern in which individual organisations need to collaborate to improve their, and the industry's, maturity and performance in health and safety management.

Two railway workers were killed in 2018/19 and two more in 2019/20. So, there is still much work to do in the area of workforce safety. The number of signals passed at danger without authority has also increased, with the number of incidents

ranked 'potentially severe' rising from 10 to 16, and the overall severity of events rising by some 30 percentage points in the year to September 2018 against the 2006 baseline.

The rail industry has a long history of reporting and sharing information about safety events and has benefitted from the risk and evidence-based approach to safety management that this enables. There is now a need now to take a similar approach focusing on the management of health.

Resources like the Safety Risk Model, which provides an objective understanding of residual safety risk across the network, help to set strategic priorities and make sure resources are focused on the right things. System-wide safety monitoring draws attention to potential issues and provides assurance that improvement initiatives are working. This includes measures like the Precursor Indicator Model (PIM), which tracks the underlying risk from train accidents. Some of these measures—including the PIM—show that the rate of safety improvement has started to slow and, in some cases, gone into reverse in recent years. This strengthens the case for re focusing collaborative effort on those areas.

When Leading Health and Safety on Britain's Railway (LHSBR) was first produced, in 2016, it identified 12 specific risk areas. These were areas where collaboration between duty holders, and others, would be essential to deliver continued improvements in our health and safety management maturity and performance. That challenge remains. Organisations from across the industry, suppliers and buyers, must work together to design out hazards in the planning stages of all projects, from component design to infrastructure

maintenance and rebuild. Each risk group needs to create and implement its own plans to address the strategic risk areas that it can control. Working together to meet challenges not only improves health and safety, but also enhances the industry's reputation as a trusted, respected, and essential service provider to the nation.

Leadership is at the heart of all this and is vital to develop the capabilities needed to meet the challenges outlined herein. Employees at all levels need to be empowered to collaborate and deliver results more effectively and efficiently. The purpose of this strategy is to encourage leaders to make a commitment to collaborate and align their organisations' business plans to support achieving the vision in LHSBR. As leaders and suppliers of the rail industry, we're committed to improve health and safety performance.

We know there are challenges ahead-with more change coming to our climate and demands on the system. Yet while there are increasing expectations to demonstrate value for money, our awareness of the importance of the health and wellbeing of rail colleagues must grow.



I welcome this strategy and the industry doing what it does best: coming together to innovate and improve, and drive health and safety management and risk control, particularly in these challenging times.

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**Steve Murphy MD MTREL and Chair of SSRG**

Lastly, for rail to be the mode of choice for passengers and an efficient way of moving freight, industry needs to have a common focus on collaboration. It is a key enabler for rail to have an essential positive impact on the environment and for the industry to thrive. However, although collaboration is vital, the underpinning requirements for collaboration must be explicit, the commitments articulated clearly, and benefits expressed in measurable terms.

With this in mind I welcome the endorsement of leading members of our industry and their commitment to collaboration, and providing leadership that will make its vision a reality.

A handwritten signature in dark blue ink, reading "Mark Phillips".

Mark Phillips,  
Chief Executive Officer



As Chair of the System Safety Risk Group (SSRG), I am privileged to see the hugely impressive work carried out by teams of volunteers from right across the wider industry, to lead groups focused on the key industry risks with the sole objective of making our railway healthier and safer for everyone.

However, we need to remain attentive to the risks, especially those that are increasing, and ensure we continue to tackle them diligently, and contribute to the railway's performance and long-term achievements.

I want to see new dedicated, full time teams in place to support all the excellent volunteers in the risk management groups and working groups across the railway. This will ensure their excellent work can move at the pace the industry needs, allowing us to keep up with the evolving, changing nature of our key risks.

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**Steve Murphy, MD MTREL and Chair of SSRG**



I am looking to industry to go further in its understanding and management of health and safety, by understanding the risk, committing to probing investigations of health and safety incidents, and adopting and applying RM3 within businesses and the supply chain.

ORR's challenge to duty holders aligns well with this Strategy: to support our people, manage increasing pressure on the system, and harness the opportunities of new technology and its safe design, change management and introduction.

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**Ian Prosser, Chief Inspector of Railways and Director, Railway Safety, ORR**



Every one of us who work in Britain's rail industry should be rightly proud of our safety record. This is in part because we are free to collaborate effectively despite the complexity of our structure and its commercial and competitive pressures.

By working together we can marshal data, research and expertise to understand the changes in the profile of the risk we're facing. This means tackling risks to health such as fatigue, physical and mental health as much as traditional safety risks on the operational railway.

This refreshed strategy highlights areas where we can get the industry to make a significant step forward in both health and safety management, and it's a step we are actively choosing to take together.

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**John Halsall, Managing Director Southern Region and chair of HWPG**

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# Achieving results by working together

Leading Health and Safety on Britain's Railway (LHSBR) is about cross-industry collaboration. It is about how working better together can deliver continual improvement in health and safety risk management and achieve the vision set out in this strategy. When LHSBR was first issued in 2016 it focused on leadership and how health and safety issues were managed at the time. Having consulted the industry during 2019, this issue includes a succinct industry vision for each strategic risk area. It sets out the current state, and the challenges that must be addressed to achieve that vision.

RSSB has delivered this third issue of Leading Health and Safety on Britain's Railway to give a high-level view of the next steps the industry can take to make progress. Not necessarily to achieve the ultimate objective, but to take significant steps towards medium-term, measurable and achievable goals. Significant steps that will increase the maturity of how both health and safety cultures are embedded, how decisions are taken, and how safety management systems operate. The recording, analysis and use of health data lag behind that of safety data. The current pandemic, and its effects on both physical and mental health, reinforce the need for this to be addressed urgently.

Collaboration is essential to reap the greatest benefit from this strategy. For example, while road risk may seem to be an area on its own, it is not. There are crossovers with the workforce health and wellbeing, fatigue, workforce safety, and freight areas. The industry has established national, sector and regional arrangements as part of a collaboration framework to facilitate the understanding and improvement of health and safety risk across the 12 risk and 5 capability areas identified in this strategy. At the national level there are a number of industry risk groups established to support collaboration. Details of the collaboration arrangements and the governance of this structure are detailed in the LHSBR Implementation Document.

The maturity of collaboration varies across the 12 risk areas. Figures 1 and 2 demonstrate the perceived maturity in 2017 and an update for 2020, against the potential industry gains in performance through collaboration. This assessment takes a system-wide view of maturity and, as such does not consider local variations in the extent of collaborative working. In some of the less mature areas the focus is still on establishing an improved understanding of the risk.

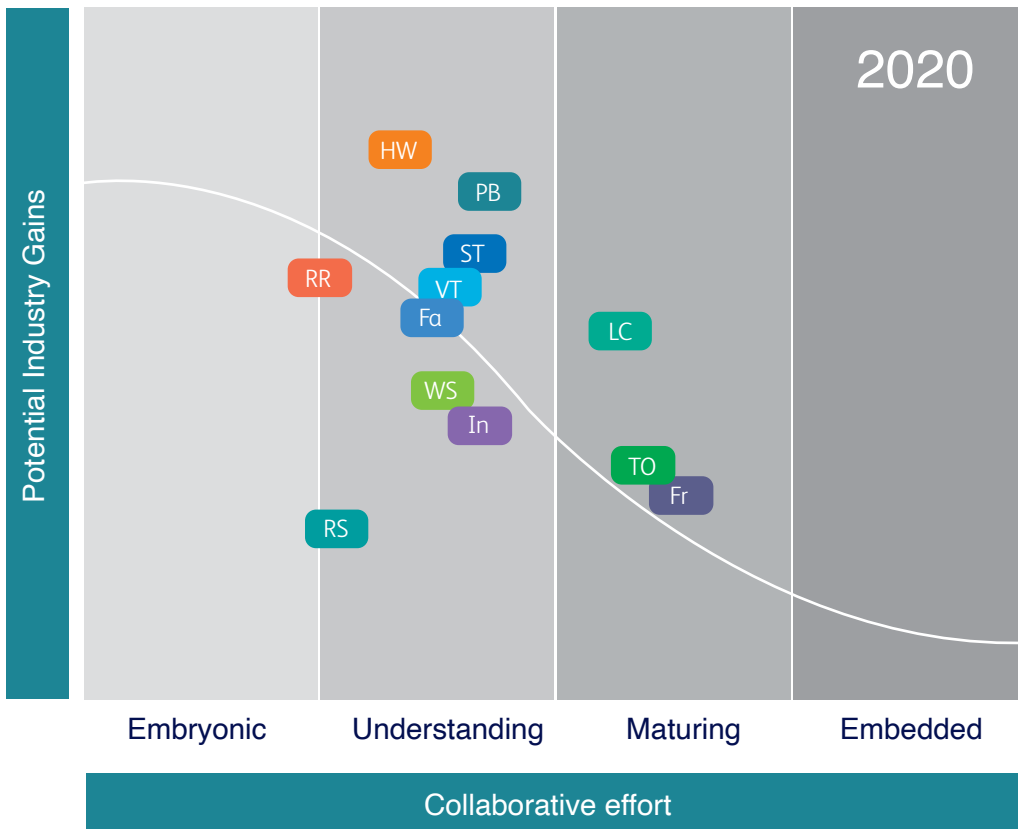


# 1: Maturity of collaboration and potential gains



- HW Health and Wellbeing
- PB Public Behaviour
- ST Station Operations
- RR Occupational Road Risk Management
- LC Level Crossings
- Fa Fatigue Risk Management
- WS Workforce Safety
- In Infrastructure asset integrity
- VT Work-related violence and trauma
- TO Train Operations
- Fr Freight Derailment
- RS Rolling stock asset integrity

# 2: Maturity of collaboration and potential gains



## This updated strategy:

- identifies specific areas where cross-industry collaboration and action will deliver improved health and safety performance benefits
- provides a clear vision to improve health and safety in these risk areas
- sets out strategic activities to reduce harm and improve performance in each identified risk area
- provides a common view of priorities for improving capability in the industry
- gives guidance on where to find out more and how to get involved.

**The strategy is primarily aimed at leaders and senior managers of railway duty holders, safety professionals, and those who participate in the collaborative group framework. Leaders and senior managers from all organisations in GB Rail should:**

- understand, endorse, champion and communicate the strategy within their companies and the wider industry
- use the strategy to inform business, joint and sector-level strategic plans
- actively support the establishment of cross-industry arrangements to facilitate delivery of the strategy
- empower their teams to engage with and support cross-industry collaboration arrangements to address risk and improvement opportunities
- explain the purpose of the strategy to their teams, and how their work impacts on it.

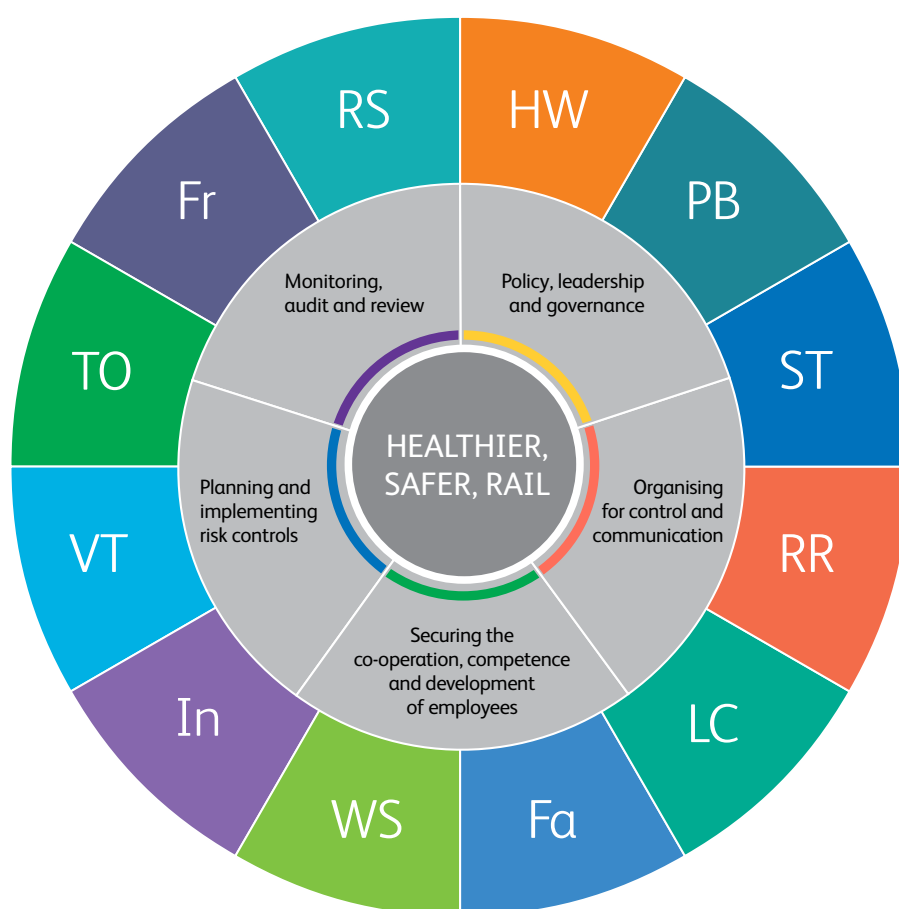


# Our priority risk areas

LHSBR sets out 12 priority risk areas to manage, and 5 capability areas for development. The industry has agreed that each will deliver a railway that is healthier and safer, and provides a best-in-class service to customers.

Some of the priority areas cover risk that is wholly generated by rail activity and is the responsibility of the relevant rail duty holder(s). Others cover risk that is subject to societal or individual behaviours (for example, at level crossings). While we cannot control all risks, we can try to influence and manage them.

## The 12 priority risk areas are:



- |   |  |
|---|--|
| <b>HW</b> Health and Wellbeing              | <b>WS</b> Workforce Safety                 |
| <b>PB</b> Public Behaviour                  | <b>In</b> Infrastructure asset integrity   |
| <b>ST</b> Station Operations                | <b>VT</b> Work-related violence and trauma |
| <b>RR</b> Occupational Road Risk Management | <b>TO</b> Train Operations                 |
| <b>LC</b> Level Crossings                   | <b>Fr</b> Freight Derailment               |
| <b>Fa</b> Fatigue Risk Management           | <b>RS</b> Rolling stock asset integrity    |

# 1

# Health and Wellbeing

## Vision

The railway will become an industry in which 'everybody takes responsibility for Health and Wellbeing and benefits from it'.

## Where are we now?

**In the three years since the LHSBR health and wellbeing section was published, the rail industry has seen these developments:**

- RSSB has established an operating model and centre of excellence to deliver a roadmap of industry agreed H&W projects.
- Awareness of the social and financial impacts of wellbeing has been raised using conferences, policy and good practice information, and a cost-benefit tool.
- Support has been provided to manage health and wellbeing risks, including creation of a Health by Design knowledge hub, research into the effects of work-related violence and trauma, and risk assessments of work associated with ballast dust.
- A greater focus has been placed on the understanding and management of mental health. Research has provided an evidence base for mental health training for line managers, guidance is available for managing those affected by trauma, and the 'Time to Change' campaign has started to change attitudes towards mental health.

To achieve the vision, industry now needs to focus effort on these strategic challenges:

**Strategic Challenge 1: There is inconsistent health and wellbeing engagement from railway leadership which impacts the industry's ability to implement the H&W roadmap at pace.**

**Strategic Activity:** Provide a forum to support industry to come together to share good practice.

**Strategic Activity:** Industry leaders shall introduce sustainable health and wellbeing initiatives, frameworks, guidance and tools to their companies and to their supply chain.

**Measures of success:** Rail industry companies can demonstrate sharing of practices and embedding findings from initiatives.

**Strategic Challenge 2: H&W initiatives are not consistently aligned to business needs or seamlessly integrated into the company activities.**

**Strategic Activity:** Identify the business case criteria needed by industry leaders to make greater investment in workforce health and wellbeing.

**Measures of success:** Industry-wide investment in health and wellbeing management increases, and individual company management maturity levels rise.

**Strategic Challenge 3: The rail industry lacks an occupational health (OH) capability that is fit for the future.**

**Strategic Activity:** Re-design the industry's OH assurance Framework so that it delivers better assurance of employee health for rail companies.



**Measures of success:** The OH assurance Framework is enhanced and embedded within operators' and their OH providers' practices.

**Strategic Challenge 4: We do not fully understand the occupational hygiene risk within the rail industry, which is particularly problematic considering increasingly stringent legal exposure requirements.**

**Strategic Activity:** Collaborate to provide a clearer picture of the industry's occupational hygiene risk profile and develop strategies to tackle the key risks.

**Measures of success:** A clear industry profile of occupational hygiene risk is developed, and companies put management systems in place to manage the key risks.

**Strategic Challenge 5: Companies do not have good quality data, or consistent evidence-based, approaches to support employee mental wellbeing.**

**Strategic Activity:** Collect data on the prevalence of mental health conditions to inform company strategies and prioritise resources.

**Strategic Activity:** Provide and help embed consistent, evidence-based approaches to support the mental health priorities of industry.

**Measures of success:** Good quality data on mental wellbeing is available, interventions are evaluated, and good practice is embedded.

**Strategic Challenge 6: Unhealthy railway environments and practices make it difficult for individuals to make healthy lifestyle choices.**

**Strategic Activity:** Introduce a health behaviour change programme to support individuals to make healthier choices.

**Strategic Activity:** Communicate health behaviour change techniques to support organisations to create healthier environments for employees.

**Measures of success:** Companies sign up to a healthy lifestyle programme.

**Strategic Challenge 7: MSDs are one of the biggest contributors to absence in the rail industry.**

**Strategic Activity:** Design out musculoskeletal disorder (MSD) hazards in the workplace.

**Strategic Activity:** Develop understanding of the links between mental health and MSDs and consider the levers to reduce the incidence of these within rail.

**Measures of success:** Reduce work related MSD absence within rail companies.

## Where to get support

To find out more about the HWPG and get involved:  
<https://www.rssb.co.uk/Insights-and-News/Industry-Topics/Health-and-Wellbeing/Rail-industry-collaboration-on-health-and-wellbeing>

# 2

# Public Behaviour

## Vision

To achieve a continuous, sustainable reduction in suicide and trespass incidents on Britain's railway.

## Where are we now?

**In the three years since the LHSBR public behaviour section was published, the rail industry has seen the introduction of the following improvements in suicide and trespass risk management:**

### Suicide

- Relationships with partners such as Samaritans have matured
- Training of staff in managing suicidal contacts has resulted in an increase in staff interventions
- Launch of Small Talk Saves Lives and Brew Monday campaigns to promote interventions in suicide attempts by the public
- Launch of a rail suicide prevention website
- Innovative academic research extending our understanding of suicide and the societal complexity of suicides
- Consolidation of the process to address suicide clusters
- Introduction of resources to support suicide prevention and trauma management

### Trespass

- Over four million children reached through the online learning platform Learn Live
- You Vs Train Campaign, community outreach partnerships with the English Football league and Street Games
- Formation of the Trespass Risk Group and the Trespass Improvement Programme
- Launch of the industry trespass website to facilitate the sharing of good practice
- The industry Trespass risk conference has been established

To achieve the vision, industry will now need to focus effort on addressing the following strategic challenges:

### Suicide

**Strategic Challenge 1: Suicide is a societal problem that cannot be fully addressed by any one organisation within or outside the rail industry.**

**Strategic Activity:** Collaboration between railway and non-railway organisations to harmonise prevention activities and develop common suicide prevention plans.

**Strategic Activity:** Identify locations that are particularly vulnerable to suicide and implement targeted actions to mitigate against those risks.

**Measures of success:** Duty holders' prevention plans are shared, that identify and include local third parties, and coherent plans are developed at a Network Rail route level.



**Strategic Challenge 2: Suicide can happen anywhere on the network and few people who take their lives are known to us.**

**Strategic Activity:** Increase the capability of front line staff and members of the public to recognise people in crisis and intervene across the network.

**Strategic Activity:** Progress methodologies that allow a picture of real time pre-suicidal activity on the rail network to be assessed.

**Measures of success:** Increasing numbers of employees trained in intervention techniques and using data captured through analysis of pre-suicidal data to influence prevention activities.

**Strategic Challenge 3: Lack of awareness of support communities and the mechanisms that can help those in crisis.**

**Strategic Activity:** Building on the success of previous campaigns such as Small Talk Saves Lives, the industry will come together to promote messages that address mental health and suicide and encourage help-seeking behaviour, among men in particular.

**Measures of success:** Successful campaign penetration within the key populations.

**Strategic Challenge 4: Trauma after witnessing or being involved in a suicide event can be long lasting and debilitating.**

**Strategic Activity:** Actively promote support to help individuals become psychologically resilient to these events before they occur, awareness of support mechanisms for those affected, and consideration of the impact of such events on customers is necessary.<sup>1</sup>

**Measures of success:** Front line staff awareness and take up of support increases.

**Strategic Challenge 5: Approaches to reducing the appeal of the railway as a means of suicide are not fully understood.**

**Strategic Activity:** Identify ways to reduce the appeal of the railway as a means of suicide.

**Measures of success:** Greater understanding of the appeal of the railway as a means of suicide allows more targeted mitigation measures to be devised and implemented at high-incidence and high-likelihood locations.

**Strategic Challenge 6: Achieve a better understanding of the factors that drive individuals to take their lives on the rail network.**

**Strategic Activity:** Undertake research that allows the profiles of those taking their lives on the rail network to be established.

**Measures of success:** A greater understanding of the characteristics that lead individuals to take their lives on the railway and consider how the findings may influence prevention activities.

**Strategic Challenge 7: The funding structure for suicide prevention activities impacts delivery.**

**Strategic Activity:** If suicide numbers are to reduce further on the network it is imperative that appropriate funding mechanisms are put in place to allow this to be achieved.

**Measures of success:** Adequate funding is agreed to support the implementation of the action plan.

<sup>1</sup>The Work-Related Violence and Trauma Chapter identifies key strategic activities for managing the impact of traumatic events.



## Trespass

**Strategic Challenge 1: There is no single, easily accessible source of trespass data, which makes it difficult to predict where trespass is most likely.**

**Strategic Activity:** There is a need to draw together various trespass data sources into one easily accessible location, to support informed decision making around measures and action plans to mitigate trespass risks.

**Measures of success:** Trespass data recording is standardised and is recorded in one database that is easily accessible to those who need it. Training materials, standards and guidance are updated based on this improved understanding.

**Strategic Challenge 2: Public awareness raising of the dangers of trespassing has, to date, mainly targeted youth trespassers who account for 20% of the events.**

**Strategic Activity:** Increase awareness of the dangers of trespass to the general public, ensuring the widest possible reach through thematic campaigns to alter attitudes and behaviours, with a particular focus on hotspots.

**Measures of success:** Innovative methods of engaging with the general public are identified and messages are focused at and communicated

to the relevant target audiences leading to behavioural and attitudinal change.

**Strategic Challenge 3: There is lack of consistency in the approaches used to understand, mitigate, and respond to trespass.**

**Strategic Activity:** Enhanced risk assessment and data analysis processes and tools to improve decision making and support the creation of more informed interventions around trespass.

**Strategic Activity:** Having implemented trespass mitigations, continually assess their effectiveness; and review risk assessment after later trespass events.

**Measures of success:** Trespass interventions are identified and prioritised using a common framework.

**Strategic Challenge 4: There has been little or no major investment in innovation or technology to manage the challenge of trespass over recent years.**

**Strategic Activity:** New technologies and processes should be investigated to predict, prevent, or deter trespass.

**Measures of success:** New technologies and processes that predict, prevent, or deter trespass are implemented, that do not add risk to the live operational environment.





**Strategic Challenge 5: There is inconsistent co-ordination between industry and stakeholders in response to the challenges posed by trespass.**

**Strategic Activity:** Co-operation and alignment between the rail industry and external stakeholders are increased to maximise the impact of responses to the national challenges presented by trespass.

**Measures of success:** A culture of co-operation is created, which has the buy-in and sustained engagement of industry and external stakeholders at all levels.

**Strategic Challenge 6: Trespass is a problem that can occur anywhere on the network, or in sidings and depots.**

**Strategic Activity:** Increase the capability of front line staff to recognise the potential for trespass and engage them in preventing trespass, including by changing societal attitudes.

**Measures of success:** Increase in reporting of trespass, fewer trespass related deaths, injuries and delay minutes.

## Where to get support

### Suicide

The industry has a number of approaches to address suicides on the network. More information can be found here:

<https://railsuicideprevention.co.uk/>

<https://www.rssb.co.uk/Standards-and-Safety/Improving-Safety-Health--Wellbeing/Enhancing-Safety-Health--Wellbeing-Through-Collaboration/Suicide-Prevention>

For advice on rail related suicide issues contact the rail industry's national suicide prevention team at [suicideprevention@raildeliverygroup.com](mailto:suicideprevention@raildeliverygroup.com).

### Trespass

The Trespass Risk Group monitors the effectiveness of control arrangements. It identifies and sponsors improvement opportunities, including research and relevant products and services. It learns from and promotes good practice and facilitates cooperation.

The Trespass Improvement Programme has been formed with input from BTP, ORR and other industry bodies. It provides a framework, guidance and best practice to address trespass sites, and publicity to change public behaviour.

The industry trespass website shares good practice, case studies and resources aimed at preventing trespass. It hosts resources such as the 'You vs Train' Campaign.



<https://www.rssb.co.uk/Standards-and-Safety/Improving-Safety-Health--Wellbeing/Enhancing-Safety-Health--Wellbeing-Through-Collaboration/Trespass>

# 3

# Station Operations

## Vision

Our focus will be on the customer's end to end journey, where collaboration increases efficiency and safe movement and reduces harm at stations, and on platforms and trains.

## Where are we now?

In the three years since the LHSBR station operations section was published, the rail industry has seen these developments:

- Research projects developing guidance and solutions on train doors, dispatch, crowding, step/gaps, platform markings, and staff behaviours. Innovation in areas such as customer communication, unsafe behaviour detection in dispatch and kneeling trains.
  - Enhancements to existing rail industry standards in train dispatch, platform safety, On-Train Camera Monitors for Driver Controlled Operation, and design and maintenance of station platforms.
  - Implementation of tools and new approaches to understanding station operations risk. This includes the RSSB PTI Risk Assessment Tool; and the use of bowties to understand slip, trips, and falls in stations, as well as passenger risk at the platform edge.
  - Safety by Design principles used on Mersey Rail and developments in simulated modelling to inform platform and station design. For example, the Siemens Sheffield Advanced Multi-model Simulator (S2AM) and the Ratesetter modelling.
- Professionalism of station management using VR (LNER and Transport for Wales) and game-based approaches (Aston University, Chiltern Railways & RSSB) to training.

To achieve the vision, industry now needs to focus effort on addressing these strategic challenges:

**Strategic Challenge 1: Non-technical skills are not integrated into training for all staff who can positively influence passenger behaviour and improve operational safety performance.**

**Strategic Activity:** Enhance the non-technical skills and knowledge of employees (on and off the train) to reduce harm and improve safe performance at stations and on platforms.

**Measures of success:** Duty holders demonstrate training provided to employees (on and off the train) has an increased focus on passenger and staff interactions, and use of NTS.

**Strategic Challenge 2: There is an overreliance on using posters for safety messaging and less consistency in approaches to communication.**

**Strategic Activity:** Enhance customer communications, especially safety messaging, by increasing the consistency and range of communication methods used.

**Measures of success:** Industry implements consistent approaches to safety messaging, using different communication methods which have a proven impact on behavioural change.



### Strategic Challenge 3: Change that affects station operations is not always managed in a collaborative manner.

**Strategic Activity:** Improve collaboration between DfT, Network Rail, rolling stock operating companies, duty holders, train manufacturers, and other transport authorities when station operation changes are proposed.

**Measures of success:** Increased use of the RSSB Taking Safe Decisions model to facilitate collaboration.

### Strategic Challenge 4: Only 7% of platforms conform with the platform position set out in RIS-7016-INS.<sup>2</sup>

**Strategic Activity:** Develop and implement a programme of work to reduce the size of steps and gaps across the network, which encompasses the step and gap between the train and the platform, train bodyside gaps, and intervehicle gaps.

**Measures of success:** DfT, Network Rail, rolling stock operating companies, duty holders, train manufacturers, and other transport authorities develop and implement a programme of work.

### Strategic Challenge 5: Industry is not fully using and realising the benefits technology can bring to station operations.

**Strategic Activity:** Introduce new technology to improve safety and customer service in station operations.

**Measures of success:** Duty holders can demonstrate an increased uptake of new technology to improve safety and customer service in station operations.

## Where to get support

There are many groups that support improvements to station operations. Industry is particularly encouraged to work with, or join, these groups:

- People on Trains and Stations Risk Group (PTSRG): aims to create and facilitate implementation of an industry delivery plan to achieve the station operations strategic activities:  
<https://www.rssb.co.uk/Learn-and-Connect/Groups-and-Committees/Safety/SSRG/PTSRG>
- RDG Passenger Operations Safety Group (POSG): aims to bring all TOCs together to improve safety across the industry. This includes station operations:  
<https://www.raildeliverygroup.com/>
- Platform-Train Interface Working Group (PTIWG): supports the PTSRG-developed delivery plan. It focusses on existing and emerging risk at the platform-train interface and ways to reduce this risk:  
<https://www.rssb.co.uk/Learn-and-Connect/Groups-and-Committees/Safety/SSRG/PTSRG/PTI-WG>
- PTI Good Practice Group (PTIGPG): supports the PTSRG-developed delivery plan by sharing good practice to reduce risk at the PTI, on the platform, and in the station.

<sup>2</sup>Rail Industry Standard (RIS-7016-INS) *Interface between station platforms, track, trains and buffer stops*

# 4

# Occupational Road Risk

## Vision

The industry working together to reduce work related road risk exposure to the workforce, passengers and the public

## Where are we now?

**In the three years since the LHSBR road risk section was published, the rail industry has seen the introduction of these improvements in occupational road risk management (ORRM):**

- The formation of the RSSB Road Risk Group (RRG) with representatives from each of the sector/region groups, with additional representation from: ORR, Highways England, RoSPA, TfL, HS2 and Trade Unions
- A collaborative partnership between RSSB and Highways England that has delivered a 'Driving for Better Business' (DfBB) programme developed specifically for the rail industry and supply chain
- The introduction of the RSSB rail industry road risk resource centre promoting:
  - The 10 steps to effective road risk collaboration
  - The introduction of three monthly RSSB road risk safety performance reports
  - Access to the DfBB programme, with tools, guidance and case studies to help rail companies effectively manage occupational road risk

To achieve the vision industry will now need to focus effort on addressing these strategic challenges:

**Strategic Challenge 1: There is not a consistent understanding of the benefits from effective occupational road risk management**

**Strategic Activity:** Introduce a common approach to managing road risk by delivering the Driving for Better Business programme across the rail industry and supply chain.

**Measures of success:** The rail industry and supply chain adopt the 'Driving for Better Business' programme.

**Strategic Challenge 2: There is a lack of consistency in how rail companies assure that the supply chain is able to demonstrate legal compliance in occupational road risk management.**

**Strategic Activity:** Development and introduction of a National Supply Chain Road Risk Accreditation scheme for the procurement of transport services.

**Measures of success:** Industry adoption of the scheme.

**Strategic Challenge 3: The road risk safety performance data is unreliable and cannot be used to fully inform business and collaborative management decisions.**

**Strategic Activity:** To increase the quality and completeness of reporting road traffic accident (RTA) event data into SMIS.

**Strategic Activity:** Research and develop processes for capturing key telematic data; to inform journey management, vehicle selection, driver behaviour, and sustainability improvement decisions.

# Management



**Measures of success:** Increase in RTA event data reported into SMIS, Close-Call & CIRAS, and closed out by an appropriate investigation.

**Strategic Challenge 4: There are currently no consistent or robust collaboration arrangements that enable sector and regional collaboration groups to share and promote road risk good practices with their rail company members.**

**Strategic Activity:** Introduce a national network of rail company road risk champions, to work in conjunction with Highways England's DfBB representatives to support the implementation of the DfBB programme.

**Strategic Activity:** Introduction of sector and region collaboration arrangements to deliver LHSBR road risk collaboration improvement initiatives.

**Measures of success:** Rail company business plans identify resources to implement LHSBR road risk collaboration improvement initiatives.

**Strategic Challenge 5: There are no existing tools to assist rail companies and collaboration groups to measure increased effectiveness in occupational road risk management.**

**Strategic Activity:** Introduction of an approach to measure rail company compliance with legal requirements.

**Strategic Activity:** Introduction of an approach to assess increased effectiveness of occupational road risk management.

**Measures of success:** Published rail industry ORRM maturity evaluation.

## Where to get support

- The Road Risk Group (RRG) is a cross-industry collaboration group with representatives from each industry sector. The RRG group monitors road risk safety performance, highlights emerging issues and, with support from RSSB, sponsors LHSBR road risk collaboration improvement programmes: <https://www.rssb.co.uk/Learn-and-Connect/Groups-and-Committees/Safety/SSRG/RRG>
- RSSB rail industry road risk resource centre provides information on how to get involved with road risk collaboration, and access to RSSB road risk safety performance reports and the DfBB 7 steps to excellence: <https://www.rssb.co.uk/Standards-and-Safety/Improving-Safety-Health--Wellbeing/Enhancing-Safety-Health--Wellbeing-Through-Collaboration/Rail-Industry-Road-Risk-Resource-Centre>
- Highways England's Driving for Better Business website provides a range of work related road risk tools, guidance and case studies, including an 'occupational road risk management assessment process': <https://www.drivingforbetterbusiness.com>
- Royal Society for the Prevention of Accidents (RoSPA) provides a range of guidance and tools specifically designed to help rail companies with the 'management of occupational road risk': <https://www.rosipa.com/Occupational-Safety/Our-Projects/MoRR>

# 5

# Level Crossings

## Vision

The industry working together to continually improve level crossing risk management.

## Where are we now?

Level crossings are sited where roads and paths cross the railway. So, the potential for collisions between users and trains is ever present. While Network Rail leads on level crossing management for the railway, there is a large community of public highway owners and users that has an influence on level crossing risk. Over recent years significant effort has been put into reducing the risk arising from level crossing use, and we have one of the best safety records in Europe. This has included closures, upgrades, implementation of new technologies such as automated full barrier crossings, improvements to the risk assessment process and educational campaigns like *Stay Safe with Thomas*.

Network Rail is committed to making the railway a safer place and has developed its own long-term strategy '*Enhancing Level Crossing Safety 2019-2029*'. The principles set out in the strategy reflect a vision of continuous improvement and ultimately zero harm from level crossings by removal, enhancement, education, and enforcement.

Level crossing incorrect use is addressed through education and enforcement. BTP leads enforcement and there is a need for Network Rail and BTP to continue to work together to deploy resources in the most cost-effective way.

To achieve the vision industry will now need to focus effort on addressing these strategic challenges:

**Strategic Challenge 1: There are around 6000 level crossings on GB railways and no two are the same. Each needs a unique risk assessment to inform decisions around its management.**

**Strategic Activity:** Improve the quality of risk assessments undertaken by level crossing managers.

**Strategic Activity:** Improve the number and quality of reports of near miss and close call incidents at level crossings.

**Measure of success:** Provision of improved evidence in decision making in the deployment of risk reduction measures.

**Strategic Challenge 2: Closing and upgrading level crossings has the most impact on the underlying risk however there are many obstacles in achieving this.**

**Strategic Activity:** Improve stakeholder management to make better and more informed cases for crossing closures.

**Strategic Activity:** Research and develop emerging technologies that will lead to cost effective level crossing upgrades.

**Measure of success:** Level crossing closures and approval of new level crossing technologies.

**Strategic Challenge 3: Many level crossing users are unaware of the risks associated with level crossings and how to use them properly.**

**Strategic Activity:** Collaborate to deliver consistent messages to the public in relation to level crossings and related topics such as trespass and security.



**Strategic Activity:** Design and implement educational material that targets ‘last mile’ delivery drivers.

**Measure of success:** Reduction in public behaviour related incidents around level crossings.

**Strategic Challenge 4: Incorrect use of level crossings is a significant risk contributor; so, enforcement and publicity of enforcement action can act as a deterrent.**

**Strategic Activity:** Improve provision of information to BTP to enable more targeted enforcement.

**Strategic Activity:** Publicise successful prosecutions.

**Measure of success:** Increased enforcement, prosecutions and a reduction in incorrect use by road vehicles.

## Where to get support

- The Level Crossing Strategy Group oversees the delivery of this chapter of the strategy and is a cross-industry group dedicated to discussing the topic.
- The RSSB Level Crossing Digest (available to members only), provides a history of level crossings and uses rail accidents to explain developments in level crossing safety:  
[https://www.sparkrail.org/Lists/Records\\_StaffMembers/DispForm.aspx?ID=950](https://www.sparkrail.org/Lists/Records_StaffMembers/DispForm.aspx?ID=950)
- Network Rail provides information relating to its management of level crossings here:  
<https://www.networkrail.co.uk/running-the-railway/looking-after-the-railway/level-crossings/>



# 6 Fatigue Risk Management

## Vision

Work practices that manage fatigue and reduce the associated health and safety risk are embedded in the industry. All aspects of work, including travel, are designed so that fatigue risk is minimised, and everyone understands their role in managing fatigue.

## Where are we now?

**In the three years since the LHSBR fatigue chapter was published, the rail industry has seen these improvements:**

- Sector-based (passenger, freight and infrastructure) fatigue working groups have been formed to develop and share good practices in fatigue risk management, coordinated and supported by an industry Champion and Sponsor.
- The Freight Fatigue Code of Practice has been published.
- Network Rail has established a Fatigue Reduction Programme.
- The Rail Industry Fatigue Survey results have been published, giving a snapshot of staff perceptions and experiences of fatigue and fatigue risk management.
- The Fatigue and Alertness topic area on [rssb.co.uk](https://www.rssb.co.uk) has been launched as a one-stop shop for resources on fatigue risk management and to share good practices.

This has built understanding and put in place a framework which will enable the industry's approach to fatigue to mature in the coming years.

To fully achieve its vision, the industry will now need to focus effort on addressing the following strategic challenges:

**Strategic Challenge 1: The industry is progressing its use of high-level principles (fatigue factors) and tools to risk assess rosters for fatigue. But there is still considerable reliance on the out-dated 'Hidden' requirements to manage fatigue. New good practices are often not applied to actual working patterns, overtime and on-call work.**

**Strategic Activity:** Duty holders, contractors, trades unions and researchers will collaborate to enable companies to develop work patterns that minimise fatigue risk and give appropriate consideration to needs such as sleep and rest.

**Strategic Activity:** Duty holders will, in contracting and planning processes, adopt good practice principles for the design of working patterns. These will include the consideration of fatigue risk from work-related road driving, overtime and 'on-call' arrangements.

**Strategic Activity:** Work specifications and local 'terms and conditions' will be reviewed with the objective of aligning them with fatigue risk management good practice principles.

**Measure of success:** Fatigue risk management is integrated into contracting, planning, scheduling and real time operations. Base and actual working patterns are developed to minimise fatigue and meet needs for sleep and rest.





**Strategic Challenge 2: Working hours aren't always accurately recorded, particularly for those who work across multiple companies or industries. As a result, it is difficult to assess and control fatigue risk associated with excessive working hours.**

**Strategic Activity:** The industry will develop mechanisms to reliably review and, where it affects fatigue, control actual hours worked. It will take reasonably practicable steps to understand and consider the work that staff may carry out for other organisations and in other industries.

**Strategic Activity:** Cross-industry collaboration will reduce, and where possible remove, practices that incentivise or tolerate excessive working hours.

**Measure of success:** The industry has confidence in the accuracy of its data on working hours. Organisations have plans to control the risk indicated by data; an educated workforce participates to control working hours.

**Strategic Challenge 3: Fatigue and sleep are not always fully integrated into fitness for duty checks or declarations. Reporting systems are under-used and principles for responding to fatigue reports are not established.**

**Strategic Activity:** The industry will collaborate to develop common guidance for considering fatigue within processes to assess and declare fitness for duty at the beginning of, and during, each duty period (including travel). Organisations will use this guidance to develop easy, accessible, and fair processes.

**Measure of success:** Staff who are educated and trained in fatigue management proactively report fatigue concerns within a transparent and fair

culture. They are supported by their organisation and its senior management to consider fatigue in fitness for duty decisions. Actual reports of fatigue increase to align more closely with the findings of industry surveys.

**Strategic Challenge 4: Information on fatigue is available to staff but it is under-used.**

**Strategic Activity:** The industry will share good practice and agree the best approaches to training and development on fatigue.

**Strategic Activity:** Duty holders will deliver training and education that supports employees to fulfil their personal responsibility to manage fatigue. Tailored training will be developed and delivered to those who have responsibilities under a fatigue risk management system, notably rostering personnel.

**Measure of success:** Employees have received the training and education they need to understand fatigue risks and to support them to fulfil their responsibilities under a fatigue risk management system. They participate to manage fatigue risk because they believe it is the right thing to do and are fully supported by their organisation.

**Strategic Challenge 5: Fatigue-related data has quality problems and does not give a clear indication of the health of a Fatigue Risk Management System. There is no cross-industry agreement on what data should be collected and shared, or how.**

**Strategic Activity:** The industry will collaborate to develop and share good practices on gathering and using data from day-to-day activities—such as sleep disorders, the role of fatigue in incidents; and from fatigue reports.



**Strategic Activity:** The industry will explore technologies that aid fatigue data collection and collaborate to develop appropriate leading and lagging indicators of fatigue risk at company and industry levels.

**Strategic Activity:** Duty holders will develop and implement fatigue risk management systems. These will be underpinned by fatigue risk management plans which promote continuous improvement.

**Measure of success:** Organisations in the rail industry gather reliable data from their operations. They use this to measure their fatigue risk management maturity and improve risk controls. A core set of leading and lagging indicators is shared at an industry forum and used to define collaborative activities.

## Where to get support

- Health and Wellbeing Policy Group oversees the delivery of this chapter of the strategy:  
<https://www.rssb.co.uk/Learn-and-Connect/Groups-and-Committees/Health-and-Wellbeing/HWPG>
- The industry's Fatigue Champion co-ordinates the activities of the Train Operating Companies Fatigue Working Group, the ISLG Fatigue Working Group and the NFSG Fatigue Subgroup:  
<https://www.rssb.co.uk/Learn-and-Connect/Groups-and-Committees/Safety/SSRG/ISLG>  
<https://www.rssb.co.uk/Learn-and-Connect/Groups-and-Committees/Safety/SSRG/NFSG>

- RSSB Fatigue and alertness webpages bring together a wide range of guidance and tools on managing fatigue. The resources are displayed by role, covering those that are relevant to all staff, those for planners and rostering staff, supervisors and line managers, incident investigators, and those who are setting up and running Fatigue Risk Management Systems:  
<https://www.rssb.co.uk/Insights-and-News/Industry-Topics/Fatigue--Alertness>
- You can find the ORR guidance on managing fatigue, including the legal requirements, on its Working patterns-fatigue webpage:  
<https://orr.gov.uk/rail/health-and-safety/health-and-safety-strategy/working-patterns-fatigue>



# 7

# Workforce Safety

## Vision

To achieve full collaboration to reduce workforce harm on Britain's railway.

Workforce safety is a wide term for a wide topic. Many aspects of it are covered elsewhere, for example in the workforce assaults and trauma, station operations and road risk chapters. This chapter, however, focuses on two significant areas of workforce safety not covered elsewhere: infrastructure worker safety, and yards, depots and sidings safety.

## Where are we now?

### Infrastructure worker safety

**In the three years since the LHSBR workforce safety section was published, the rail industry has seen the introduction of these improvements in infrastructure safety management:**

- A Network Rail Workforce Safety Task Force has been formed to target track worker safety. This will be a partnership with all key industry players and will accelerate the associated Near Miss Reduction Programme (NMRP).
- A sector-wide survey on pressure in the workplace was undertaken, which highlighted that pressure made some exert more effort, ask questions and think on their feet. But it also had a detrimental effect and made others lose focus, cut corners and make mistakes. It also related sleepless nights, headaches and sickness, which made some more aggressive, impatient and irritable.

- A study of the protection of staff in line blockages was sponsored by Infrastructure Strategy Leadership Group. The resulting report was fed into both the NMRP and RAIB's class investigation into factors affecting safety-critical human performance in signalling.
- Introduction of new technology that provides additional or alternative warning and protection for those working on the track.
- Roll-out of Network Rail's Safety Hour programme and Think RISK initiative to encourage front line workers to discuss safety issues and identify and manage risk more effectively.

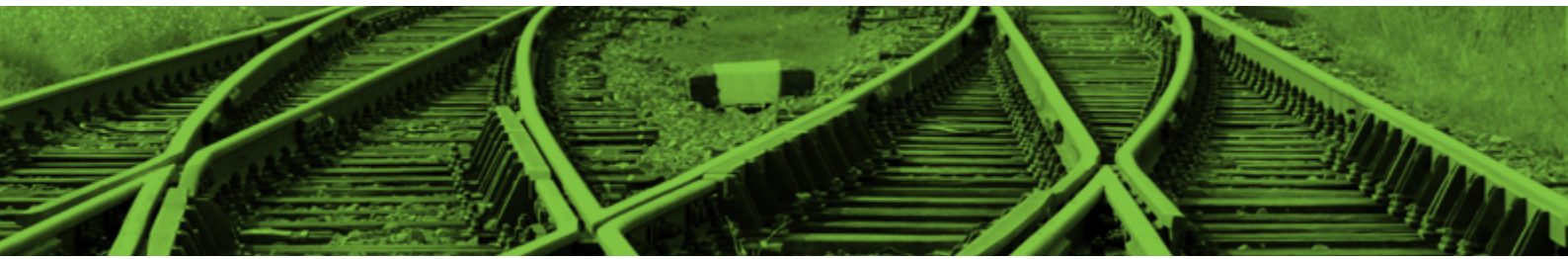
To achieve the vision, industry will now need to focus effort on addressing these strategic challenges:

**Strategic Challenge 1: There is a lack of clarity in roles and responsibilities, developing and maintaining competence, and safety culture among trackside workers and managers.**

**Strategic Activity:** Develop evidence-based competence management systems and improve clarity on roles and responsibilities.

**Measure of success:** Successful introduction of the new Person in Charge role. Fewer incidents with culture, competence or clarity of roles and responsibilities in the causal chain.

**Measure of success:** An enhanced Sentinel system that better tracks competence and supports an evidence-based approach for matching supply to demand.



**Strategic Challenge 2: There is inconsistency around planning and implementing safe systems of work with a high level of protection.**

**Strategic Activity:** Support planners by providing better information to improve protection system design.

**Strategic Activity:** Enhance safe work packs to be risk-based and easier to use.

**Strategic Activity:** Consider maintenance and maintainability in a more integrated approach to franchising and timetabling and continue move to predict-and-prevent rather than reactive maintenance.

**Measure of success:** More usable systems for planning and a more intelligent process for understanding where and when to grant line blocks and possessions. A more transparent and effective system for planning track access and safe systems of work.

**Strategic Challenge 3: Insufficient use is being made of digital technology in reducing the risk to those working on or about the track.**

**Strategic Activity:** Design and develop new protection and warning systems to warn workers of approaching trains and provide additional protection in line blockages.

**Strategic Activity:** Improve how site access is planned and monitored by enabling digital sign-in at access points.

**Measure of success:** Risk-based roll-out of new technology to improve track worker safety. Reduction in near misses between trains and track

workers. Fewer incidents in which access point issues result in a loss of safety or productivity.

**Strategic Challenge 4: Management has limited visibility of the risk to infrastructure workers because of deficiencies in monitoring, supervision, and assurance.**

**Strategic Activity:** Improve the consistency of investigations and how learning from them is recorded, valued and shared.

**Strategic Activity:** Develop better track worker safety metrics, including close calls, with better information on losses of controlled separation.

**Strategic Activity:** Introduce leading indicators, including exposure metrics such as the level of protection achieved, to track and influence behaviours and drive a sustained approach to improving safety and productivity.

**Measure of success:** Richer information on infrastructure worker safety helps to prioritise improvement effort, make the business case for improvement initiatives, and track their impact. Measurable progress in phasing out the use of unassisted lookouts where other options exist.

**Strategic Challenge 5: Collaboration in this sector has often been found to be wanting.**

**Strategic Activity:** Strike the right balance between sharing local innovation and adopting industry best practice.

**Measure of success:** Industry sharing and take-up of best practices demonstrably increases.





## Depot safety

Operators and maintainers of passenger trains manage risk in their depots. Accidents in depots are reported and shared via SMIS by train operators but not by other organisations that carry out train care and maintenance.

To achieve the overall vision, industry will now need to focus effort on addressing these strategic challenges:

**Strategic Challenge 1: There is no clear industry-wide picture of risk and safety performance in depots.**

**Strategic Activity:** Improve industry-wide understanding of risk in depots by improving the quality of accident and incident information.

**Strategic Activity:** Improve the sharing of experience and best practice to understand and manage the operational risks and mitigation measures in depots.

**Measure of success:** Improvements in reporting levels and increased understanding and activity on depot safety.

## Where to get support

### Infrastructure worker safety

- ISLG is an RSSB-supported cross-industry collaboration group with representatives from the contractor community. Part of its remit is to establish and implement arrangements to address the 'duty of cooperation' across the mainline and non-mainline rail networks:  
<https://www.rssb.co.uk/Learn-and-Connect/Groups-and-Committees/Safety/SSRG/ISLG>

- RSSB rail industry workforce safety resource centre provides information on the strategies, tools, and other resources pertinent to workforce safety: <https://www.rssb.co.uk/RSSB-and-the-rail-industry/Products-and-Services/Workforce-safety>
- Network Rail's Safety Central website provides a range of health and safety materials, including safety alerts, briefing notes and videos:  
<https://safety.networkrail.co.uk/>

### Yards, depots and sidings safety

- TARG is an RSSB-supported cross-industry collaboration group with representatives from passenger train operators:  
<https://www.rssb.co.uk/en/Learn-and-Connect/Groups-and-Committees/Safety/SSRG/TARG>

# 8

# Infrastructure asset integrity

## Vision

Stakeholders in the industry and supply chain work effectively together to minimise the incidence of unsafe failures of infrastructure assets, and provide transparent assurance that this has been achieved across integrated systems.

## Where are we now?

**The integrity of infrastructure assets is the responsibility infrastructure managers (IM) and the relevant parts of the supply chain. Cross-industry collaboration on matters related to infrastructure asset risk had been assigned to the Train Accident Risk Group (TARG) but will now be driven by the Asset Integrity Group (AIG).**

**In the three years since the LHSBR infrastructure asset integrity section was first published, the rail industry has seen the introduction of some improvements in the collaborative management of infrastructure asset risk, including:**

- New rules for Emergency Special Working which allow trains to be moved more quickly and more safely following a major signalling failure.
- Introduction of passenger fleets equipped with unattended asset monitoring equipment. These include Crossrail and Thameslink EMUs (electric multiple-unit) in London and Inter City Express Trains for the Great Western and East Coast main lines.
- Formation of the Vehicle Introduction forum which enables collaborative discussions between the infrastructure manager and parties introducing new trains.

To achieve the vision industry will now need to focus effort on addressing these strategic challenges:

**Strategic Challenge 1: There is inconsistent understanding about the key safety requirements for infrastructure assets in an integrated operational system.**

**Strategic Activity:** Promote understanding of the key safety requirements of infrastructure assets as part of an integrated operational system.

**Measure of success:** Demonstrable improvement in levels of understanding of key stakeholders. Enhanced processes and plans to develop appropriate competence for all stakeholders to enable effective and safe procurement, build, operation and maintenance of infrastructure assets.

**Strategic Challenge 2: There is insufficient collaboration across industry to report and address emergent hazards and risks associated with infrastructure resilience and integrity at the interfaces with rolling stock assets.**

**Strategic Activity:** Enhance collaboration across the supply chain to reduce the risks associated with the failure of infrastructure assets and their impact on interfacing systems and subsystems; improve operational performance.

**Strategic Activity:** AIG to identify the key activities and areas for collaboration on infrastructure asset risk which have the potential to deliver the most benefit to industry.





**Measure of success:** Define and deliver a fit for purpose integrated defect reporting and corrective action system. Information on asset condition is shared with operators and other infrastructure managers, ensuring that key safety functions and interfaces are covered.

**Measure of success:** Develop a prioritised roadmap of collaborative activities for industry stakeholders to manage infrastructure asset risk.

**Measure of success:** Significantly improved behaviours and supporting collaborative processes for assuring a high level of asset integrity and resilience, including for software-based, safety critical and safety related trackside systems.

**Strategic Challenge 3: The processes for providing safety assurance on critical infrastructure assets, their fitness for use, and their limit-state conditions are poorly understood and/or inconsistently applied.**

**Strategic Activity:** Develop standardised and common methods and capabilities to provide better assurance for the safe use and continued performance of infrastructure assets, including at interfaces with low-high integrity systems.

**Measure of success:** Introduce suitable and cost-effective processes and/or tools to increase transparency and sharing of safety assurance cases for infrastructure assets and applications. There is evidence of greater visibility, assurance and trust among all stakeholders.

**Measure of success:** Clear descriptions are published of key assurance roles and activities in the infrastructure asset approvals process. Especially the key statutory assurance role played by the infrastructure manager.

**Measure of success:** The industry skills base is enhanced to enable the safe interrogation of integrated trackside and train software systems. To include root-cause analysis and decision support for executing corrective actions across the supply chain.

**Strategic Challenge 4: Operators and suppliers need continued and ongoing assurance that consistent collaboration will be maintained at the route and regional levels, including for the recording and reporting of safety and performance data.**

**Strategic Activity:** Advance and closely monitor the effectiveness of collaboration in implementing the requirements published in railway industry standards and guidance.

**Measure of success:** OPSRAM and TOSG are established and working to ensure industry conformance, and to report on the effectiveness of collaboration during the transition and following devolution.



## Where to get support

**The Asset Integrity Group (AIG) will become the group to oversee the development of this area, and the cross-industry group dedicated to leading collaborative activity on the topic.**

- Network Rail has an asset management policy and an asset management strategy. These define the key principles and requirements Network Rail applies to assets and set out the key areas of improvement needed to support excellence in asset management:  
<https://www.networkrail.co.uk/running-the-railway/looking-after-the-railway/asset-management/>
- Network Rail has a geotechnical strategy which articulates its priorities and key activities for long-term safety improvement:  
<https://cdn.networkrail.co.uk/wp-content/uploads/2018/07/Earthworks-Technical-Strategy.pdf>

- Network Rail's delivery plan for CP6 includes details of the Intelligent Infrastructure programme of work:  
<https://www.networkrail.co.uk/who-we-are/publications-and-resources/our-delivery-plan-for-2019-2024/#downloadall>
- RSSB publishes the Precursor Indicator Model each reporting period. This includes data-driven indications of how the train accident risk associated with track, earthworks signalling, and structures might be changing:  
<https://www.rssb.co.uk/en/Standards-and-Safety/Tools--Resources/Rail-Risk-Toolkit/Precursor-Indicator-Model>
- RSSB has published resources designed to help understand Emergency Special Working:  
<https://www.rssb.co.uk/en/Insights-and-News/Industry-Topics/Performance/Emergency-Special-Working>





# 9

# Work-related violence and

## Vision

Work-related violence continually reduces as a result of staff training, and appropriate aftercare is consistent and available to all who need it.

## Where are we now?

**In the three years since the LHSBR work-related violence and trauma chapter was published, the rail industry has seen these improvements:**

- A cross-industry strategic police and partners group has been established to set out national best practice and lead decision making body in work-related violence (WRV).
- A standardised definition of WRV has been agreed and is being adopted by industry.
- A standardised pledge to staff affected by WRV has been developed.
- BTP provide quarterly reports to industry on reported WRV.
- RSSB's survey on WRV has been published, giving a snapshot of its prevalence.
- RSSB has published guidance and a supporting toolbox on responding to potentially traumatic incidents.
- An evaluation of body worn cameras has been undertaken.

To fully achieve its vision, the industry will now need to focus effort on addressing these strategic challenges:

**Strategic Challenge 1: Data on WRV and trauma are inconsistently gathered and reported; this undermines their capacity to support risk management and interventions.**

**Strategic Activity:** Stakeholders will develop mechanisms to improve reporting, data sharing, and data quality.

**Strategic Activity:** New technologies to improve reporting will be researched.

**Strategic Activity:** Companies will use data to complete risk assessments that identify hotspots and inform interventions.

**Measures of success:** Incidents of WRV and trauma are reliably recoded with data quality assured across the industry. Companies use data to assess and manage risk.

**Strategic Challenge 2: While work-related violence and other traumatic events should never be 'part of the job', recruitment and onboarding processes do not adequately equip and prepare staff to manage risk.**

**Strategic Activity:** Recruitment processes will outline the nature of the work to prospective employees, including the potential for physical and psychological hazards that may be foreseeable.

**Strategic Activity:** Competency management systems will include evidence-based training for managing foreseeable WRV and other traumatic events.

**Measures of success:** Staff are aware of the nature of their work and prepared using training that is evaluated and embedded in competency management systems.



**Strategic Challenge 3: The physical environment influences emotional states and behaviour.**

**Good workplace design plays a key role in preventing and reducing the impact of incidents. Insufficient evidenced-based environmental controls have been identified and adopted.**

**Strategic Activity:** Platform planning, design and management will consider people-environment factors and psychosocial impact.

**Strategic Activity:** Strategies for improving passenger information, especially during disruption, will be considered as a mechanism for reducing work-related violence.

**Strategic Activity:** Body-worn cameras will be rolled out along with associated training, following consideration of local operational requirements and risk assessments.

**Measures of success:** Psychosocial factors and environmental controls for WRV and trauma are evaluated and considered as part of the design process.

**Measures of success:** Strategies to improve passenger information during disruption are developed and implemented to reduce WRV and trauma.

**Measures of success:** Body-worn cameras and associated training are rolled out strategically across industry.

**Strategic Challenge 4: Workplace policies and practices can increase the risk of work-related violence and other traumatic events.**

**The effectiveness of organisational policies and practices are not systematically evaluated, and good practice shared.**

**Strategic Activity:** The effectiveness of company policies and supporting procedural documents in managing WRV and trauma are evaluated. Good practice for mitigating the impact of work-related violence and trauma before, during and after incidents is shared.

**Strategic Activity:** Policies and procedures for managing psychosocial risk will dovetail with other crisis management and business continuity policies, lone working policies, and other care and support systems.

**Measures of success:** Company policies and procedures align with good practice guidance, including RSSB's Guidance on Responding to Potentially Traumatic Incidents.

**Strategic Challenge 5: Chain-of-care and post-event support is inconsistent with industry guidance at an individual and organisational level.**

**Strategic Activity:** Companies to review chain-of-care and post-event support to ensure alignment with RSSB's Guidance for Responding to Potentially Traumatic Incidents.

**Strategic Activity:** Managers and peer supporters will be trained to provide post-event support.





**Strategic Activity:** Companies will develop accessible referral pathways for specialist psychological intervention post-event.

**Strategic Activity:** Staff affected by work-related violence to be given reasonable release to provide statements to BTP and, if required, to attend court.

**Measures of success:** There is evidence that chain-of-care and post-event support has been reviewed and updated appropriately. Managers and peer supporters are competent in post-event support, and there is an increase in staff providing statements.

## Where to get support

RSSB's website provides a range of resources on trauma support, including guidance, templates, and other materials:

<https://www.rssb.co.uk/Insights-and-News/Industry-Topics/Health-and-Wellbeing/Mental-wellbeing/Responding-to-traumatic-incidents-in-rail>

These groups collaboratively identify and disseminate good practice relevant to work-related violence and trauma:

- The Work-Related Violence Strategic Group sets out the desired national best practice and is the lead decision making body in the area of work-related violence. The group reports to the RDG Policing and Security Group.
- The Mental Wellbeing Subgroup manages the mental wellbeing components in the health and wellbeing roadmap. This includes the psychosocial consequences of work-related violence and other traumatic events. The group reports into the Health and Wellbeing Policy Group:  
<https://www.rssb.co.uk/Learn-and-Connect/Groups-and-Committees/Health-and-Wellbeing/HWPG>
- The People on Trains and Stations Risk Group looks for new ways to reduce the risk associated with station operations:  
<https://www.rssb.co.uk/Learn-and-Connect/Groups-and-Committees/Safety/SSRG/PTSRG>
- The Suicide Prevention Duty Holders' Group aims to reduce the potential for suicide on the rail network, the impact of suicide events on staff and customers. These efforts are driven through trauma management and support, and disruption and delay caused by fatalities:  
<https://www.rssb.co.uk/Standards-and-Safety/Improving-Safety-Health--Wellbeing/Enhancing-Safety-Health--Wellbeing-Through-Collaboration>

# 10

# Train Operations

## Vision

The operation of trains sees a continuous, sustainable reduction in risk.

## Where are we now?

**In the three years since the LHSBR train operations section was published, the rail industry has seen the introduction of these improvements in train operations risk management:**

- Launch of the Signals Passed at Danger (SPADs) Risk Reduction Strategy
- New requirements for defective on-train equipment, that reduce early train termination with no significant effect on safety risk
- Launch of the Red Aspect Approach to Signals Toolkit (RAATS)
- Publication of the sixth edition of the Low Adhesion Manual
- Improved collaboration at the route and national level
- Publication of tools to help manage train driver cognitive underload
- Publication of the Safety Critical Communications Manual
- Improved functionality in SMIS for reporting the causes of safety events

To achieve the vision, industry will now need to focus effort on addressing these strategic challenges:

**Strategic Challenge 1: There is inconsistency across the industry in how SPAD risk is managed.**

**Strategic Activity:** Share cross-industry good practice, initiatives and activities that have positively impacted on SPAD risk management.

**Measure of success:** An effective SPAD strategy is developed, embedded and used within the industry to manage and reduce the risk from SPADs.

**Strategic Challenge 2: The industry doesn't fully understand the context in which signals are approached at danger and where the likelihood of a SPAD is greatest.**

**Strategic Activity:** Maintain and develop the Red Aspect Approaches to Signals (RAATS) toolkit.

**Strategic Activity:** Develop the Red Aspect Approaches by Train Service (RABYTS) extension to RAATS.

**Measure of success:** The industry is using RAATS and RABYTS information to normalise SPADs and better understand which signals are most at risk from a SPAD. More targeted intervention measures are being put in place.

**Strategic Challenge 3: Currently the industry doesn't have a detailed migration strategy for how existing and novel train protection solutions should be implemented over the next 50 years.**

**Strategic Activity:** Novel train protection solutions will be evaluated along with a review of how the existing Train Protection and Warning System (TPWS) is applied, to determine an optimal train protection strategy that facilitates the roll-out of European Train Control System (ETCS).

**Measure of success:** An industry train protection strategy is developed and there is a clear implementation path to fitting ETCS where applicable, and alternative solutions where not.





#### **Strategic Challenge 4: The risk from overspeeding and the effectiveness of controls and mitigations are not fully understood.**

**Strategic Activity:** Understand the hazard of trains 'going too fast', the associated risks, and the effectiveness of related controls.

**Measure of success:** Production of an industry-wide strategy to improve the management of trains overspeeding.

#### **Strategic Challenge 5: Safety critical communications continue to be a significant factor in incidents.**

**Strategic Activity:** Develop, promote, and monitor the uptake of an industry-wide safety critical communications strategy, based on the Safety Critical Communications Manual.

**Measure of success:** Launch and embedding of a safety critical communications strategy.

#### **Strategic Challenge 6: There is inconsistent collaboration in managing train accident risk at the route and regional levels.**

**Strategic Activity:** Encourage and monitor collaboration and implementation of the requirements published in RIS 3704 TOM.

**Measure of success:** Local operation safety groups are established and working in line with RIS 3704 TOM.

## **Where to get support**

- TARG is an RSSB-supported cross-industry collaboration group overseeing activity relating to train accident risk: <https://www.rssb.co.uk/en/Learn-and-Connect/Groups-and-Committees/Safety/SSRG/TARG>

- The Adhesion Working Group has published a low adhesion manual. It documents best practice for managing adhesion on the mainline railway. It is available from the Rail Delivery Group's website: <https://www.raildeliverygroup.com/component/arkhive/file/39-publications/469773735-2018-01-managing-low-adhesion-ed6-0-pdf.html?Itemid=101>
- RSSB has launched the SPAD management good practice guide, designed to make the next step change in reducing and managing SPAD risk: <https://www.rssb.co.uk/Insights-and-News/Industry-Topics/SPAD-Good-practice-guide>
- The Precursor Indicator Model, published each period, provides data-driven indications of how train accident risk might be changing: <https://www.rssb.co.uk/en/Standards-and-Safety/Tools--Resources/Rail-Risk-Toolkit/Precursor-Indicator-Model>
- The Red Aspect Approaches to Signals (RAATS) toolkit is designed to estimate the number of times a signal is approached at red. It provides a breakdown of the different types of approaches and considers factors such as the train type, the time of day and day of week: <https://catalogues.rssb.co.uk/safety-risk-model/raats-toolkit>
- The Cognitive Underload Toolbox, to help drivers manage the risks of cognitive underload: <https://www.rssb.co.uk/en/Standards-and-Safety/Improving-Safety-Health--Wellbeing/Understanding-Human-Factors/The-underload-toolbox>

# 11

# Freight Derailment

## Vision

The risk relating to freight derailments will continue to reduce.

## Where are we now?

**Freight is a wide term for a wide topic. This risk area focusses on freight derailment. Many aspects of freight risk are covered elsewhere in priority areas such as the Fatigue, Trespass, Workforce Safety and Road Risk chapters.**

**In the three years since the LHSBR freight chapter was published, the freight sector has implemented these improvements:**

- There is improved collaboration between infrastructure manager, freight operating companies and their customers.
- A rail freight project charter and integrated freight safety plan have been developed and its progress is regularly reviewed.
- Development of a freight derailment bowtie analysis and quantified risk analysis.
- Wheel Impact Load Detection (WILD) reports on offset loads are being used in collaboration between Network Rail, freight operating companies, and major bulk loading customers, to reduce the risk of freight derailment.
- In collaboration with other stakeholders, the Cross-Industry Group on Preventing Freight Derailment Prevention (XIFDPG) has published a code of practice on bulk loading.

- Sharing best practice in loading scrap metal containers has virtually eliminated end-to-end offset loads.

To achieve the vision industry will now need to focus effort on addressing these strategic challenges:

**Strategic Challenge 1: The railway doesn't always have control over the loading of wagons that it transports.**

**Strategic Activity:** With our customers, develop approaches to ensure vehicles and wagons are loaded in compliance with loading standards.

**Measure of success:** A reduction in the number of vehicles and wagons that are not loaded in compliance with the loading standards.

**Strategic Challenge 2: There is no single, easily accessible or reliable source of data that allows easy identification of wagons that are unevenly loaded.**

**Strategic Activity:** Development of an approach to link WILD activations with specific vehicles and wagons, to reduce offset load risks relative to derailment.

**Measure of success:** A single source of data that reliably identifies unevenly loaded wagons.

**Strategic Challenge 3: Currently industry has difficulty in measuring track twist at low speed, particularly at crossovers.**

**Strategic Activity:** Develop more effective approaches to monitoring dynamic track twist.

**Measure of success:** An efficient way to identify track twist at crossovers has been developed.



**Strategic Challenge 4: There is lack of understanding concerning the risk of vehicles entering the network in an unsafe condition and the associated potential for freight train derailment.**

**Strategic Activity:** Quantify risk and identify emerging trends of vehicles entering the network in an unsafe condition and develop a risk management plan that identifies immediate risk reduction initiatives and long-term mitigation objectives.

**Strategic Activity:** Standardise and embed best practices and suitable control measures within the safety management systems of all operators, to mitigate the emerging trends identified and prevent future recurrences.

**Measure of success:** A reduction in the number and frequency of freight trains being stopped due to an unsafe condition.

**Strategic Challenge 5: There is a lack of visibility of how freight risk is changing across the sector as a whole.**

**Strategic Activity:** Monitor the profile of freight risk and prioritise collaborative activities to address key and emerging risks.

**Strategic Activity:** Develop better metrics for tracking trends in freight train accident risk.

**Measure of success:** More consistent reporting across the freight sector.

## Where to get support

The RSSB website hosts a topic hub to help duty holders and XIFDPG members enhance their understanding of, and engagement with, how to reduce freight derailment risk:

**<https://www.rssb.co.uk/Standards-and-Safety/Improving-Safety-Health--Wellbeing/Enhancing-Safety-Health--Wellbeing-Through-Collaboration/Tackling-Freight-Derailment>**

Freight industry groups are in place to work together to identify and disseminate good practice relative to freight. All parties across industry are encouraged to engage with these groups:

- National Freight Safety Group: the collaborative group overseeing rail freight safety: **<https://www.rssb.co.uk/Learn-and-Connect/Groups-and-Committees/Safety/SSRG/NFSG>**
- Freight Technical Committee: the engineering focused group: **<https://www.rssb.co.uk/Learn-and-Connect/Groups-and-Committees/Standards/ISCC/RST-SC/FTC>**
- Rail Freight Operations Group: **<https://www.rssb.co.uk/Learn-and-Connect/Groups-and-Committees/Safety/SSRG/NFSG/RFOG>**
- Cross-Industry Group on Preventing Freight Derailment: reports to NFSG, and focuses on reducing the risks of freight derailment due to combinations of dynamic track faults, wagon faults, and offset loads: **<https://www.rssb.co.uk/Learn-and-Connect/Groups-and-Committees/Safety/SSRG/NFSG/XIFDPG>**

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# Rolling stock asset integrity

## Vision

Stakeholders in the industry and its supply chain work together to minimise the incidence of unsafe failures of rolling stock assets, and to provide transparent assurance that this has been achieved.

## Where are we now?

**In the three years since the LHSBR rolling stock asset integrity section was published, the extent and pace of increased collaborative activity in risk management across the industry has been minimal. Significant work remains to fully achieve the vision.**

To achieve the vision industry will now need to focus effort on addressing these strategic challenges:

**Strategic Challenge 1: Funders, owners, manufacturers, supply chain, operators, maintainers and the regulator do not have a consistent, shared understanding of the safety requirements of the most recent design configurations of rolling stock. They are unable to fully assure each other that these requirements have been met throughout the asset lifecycle.**

**Strategic Activity:** Close coordination is needed between relevant industry parties to identify and promote understanding of the key safety requirements, especially of modern rolling stock, where local application requires variation of approach.

**Measure of success:** Directory of key safety requirements, and the risk analysis underpinning them, to be made available as a sharing resource across specifiers, procurers, designers, suppliers, operators, and others.

**Strategic Challenge 2: Funders, owners, manufacturers, supply chain, operators, and maintainers do not collaborate adequately, or in a fully integrated manner across whole-system interfaces.**

**Strategic Activity:** Enhance collaboration across and within the supply chain to reduce the risks associated with systematic and random faults and failures of rolling stock and interfacing infrastructure systems.

**Strategic Activity:** Develop a process for all relevant industry parties to collaborate and better understand, monitor, and manage the risks from safety critical and safety related defects.

**Strategic Activity:** Define requirements, seek industry funding and buy-in for an integrated, system-wide safety defect reporting and corrective actions system.

**Strategic Activity:** Reporting processes and associated data quality initiatives to be updated to ensure raised awareness of any train-side failures of systems that lead to failure of the defined safety critical railway functions.

**Measure of success:** Fewer rolling stock and infrastructure interface faults and failures are recorded, and operational performance improves.

**Measure of success:** There are fewer safety critical and safety related defects in rolling stock, and performance improves across the asset lifecycle.

**Measure of success:** Improved root-cause analysis and decision support for executing corrective actions across the supply chain. This should include an asset management system for rolling stock and infrastructure assets. In doing this, ensure that all key safety functions are covered.



**Measure of success:** Updated reporting processes and data quality initiatives to ensure raised awareness of any train-side failures of electrical, electronic and programmable electronic systems that lead to failure of the defined safety critical railway functions. Improved root-cause analysis and decision support for executing corrective actions across the supply chain.

**Strategic Challenge 3: The functionality of modern rolling stock is increasingly delivered through an international and multi-tiered supply chain. It is also increasingly complex, and software driven. As a result, there is the potential for a growing gap in safety assurance particularly as new hazards and threats evolve.**

**Strategic Activity:** Develop standardised and common methods to provide improved assurance for the safe use and continued performance of rolling stock assets to a high level of safety integrity.

**Measure of success:** Introduce suitable and cost-effective processes and/or tools to increase transparency and sharing of safety assurance cases for rolling stock platforms and applications between all stakeholders to build greater visibility, assurance and trust.

**Measure of success:** Production of key materials, for example: a clear list of railway safety functions and their required safety integrity level (SIL); reference functional architectures of rolling stock showing how these functions are typically implemented.

**Measure of success:** Clear descriptions of key assurance roles and activities in the rolling stock approvals process, especially the key statutory assurance role played by Assessment Bodies, with the aim of producing effective guidance on good practice for this assurance activity.

**Strategic Challenge 4: There is an uneven base level of skills and competencies in industry to manage the risks from EEPE (electrical/electronic/programmable electronic) system failures.**

**Strategic Activity:** Develop and run an educational campaign to demystify the key concepts around safety assurance of complex, integrated electrical, electronic and programmable electronic systems, including root-cause analysis of defects; providing industry a common understanding of how to realize these capabilities in their various roles.

**Measure of success:** Demonstrable improvement in levels of understanding and capability of key stakeholders. Enhanced processes and plans for development of competences for all stakeholders to enable effective and safe procurement (build, test, commission, operate and maintain), and enhanced awareness of cyber security as it affects software safety.

**Measure of success:** Improved behaviours and competencies in response to, for example, the RAIB Cambrian Line investigation recommendations on the development of collaborative processes for assuring high integrity, software-based safety critical and safety related train-side systems.

## Where to get support

- RSSB provides the industry with a range of products and services designed to help buyers in the GB rail market ensure their suppliers have the right competence and resources to consistently deliver to the right specification: <https://www.rssb.co.uk/Standards-and-Safety/Tools--Resources/Supplier-assurance>
- The Asset Integrity Group (AIG) will become the group to oversee the development of this area, and the cross-industry group dedicated to leading collaborative activity on the topic.

# Improving our Capability

## Vision

The GB railway is an industry where everyone takes responsibility for improving health and safety and benefits from it.

Rail companies see health and safety as an integral part of an effective and efficient business. They take risk-based decisions in the interests of passengers, staff and other stakeholders and work together to develop the people, processes, tools and information needed to deliver world class health and safety management.

## Where are we now?

**GB rail has benefitted from a well-established risk and evidence-based approach to safety management. It has begun to build the foundations for a similar capability for health and wellbeing risk but there is further to go.**

**In the three years since the LHSBR Improving our Capability chapter was published, the rail industry has seen these improvements:**

- Widespread use of the Risk Management Maturity Model (RM3), with ORR launching a new version in 2019 to push the boundaries of excellence.
- Update and relaunch of Taking Safe Decisions and a programme to embed its principles.
- The Connected Leaders programme has been established to bring senior figures together to solve industry problems.
- An increased focus on health and wellbeing, and a start on developing the competences, processes, tools and information required to manage it.

- Launch of the new Safety Management Intelligence System (SMIS).
- Increased adoption of close call reporting systems to bring about culture change and improve understanding of health and safety risk.
- Improved use of non-technical skills, through training and integration of non-technical skills into company competence management systems.
- Greater application of risk bowties to understand threats to safety, the risk controls in place to manage them, and their effectiveness.
- An improved Rail Industry Supplier Qualification Scheme (RISQS), run by the industry for the industry, and the capability for suppliers to benchmark performance against their peers.
- Revision and reissue of the Rail Industry Standard for Accident and Incident Investigation supported by training and other resources.
- More use of data from operational and engineering systems to deliver safety insights and target risk reduction activities.

## Strategic Challenges

This section identifies strategic capability improvement challenges structured around the five criteria groups from RM3.

### Policy, leadership and governance

**Strategic Challenge A1: Good practice in health and safety management systems is not applied consistently across activities and organisations.**

**Strategic Activity:** Continuously improve risk management capability through widespread and effective application of RM3.

**Measure of success:** High levels of engagement with RM3 and sustained improvement in assessment results.

**Strategic Challenge A2: Organisations need to take decisions that protect people's safety, satisfy the law, respect the interests of stakeholders, and meet wider business objectives. Lack of clarity over legal requirements can create unnecessary cost.**

**Strategic Activity:** Embed the principles in Taking Safe Decisions.

**Measure of success:** Relevant aspects of Taking Safe Decisions are understood and applied by senior leaders, engineers, project managers and planners, as well as health and safety professionals.

**Strategic Challenge A3: Rail operations increasingly rely on digital technology. This brings security threats that can lead to safety risk.**

**Strategic Activity:** Build capability in security and cyber security risk management.

**Measure of success:** The principles for managing safety-related security and cyber security risk have been agreed and embedded.

**Strategic Challenge A4: Many of the big health and safety challenges facing the industry can only be addressed effectively by taking a systems approach and working across organisational boundaries.**

**Strategic Activity:** Work together through the Connected Leaders programme to improve health and safety culture.

**Strategic Activity:** Maintain effective structures and delivery mechanisms for realising the vision set out in Leading Health and Safety on Britain's Railway.

**Measure of success:** Strong commitment to, and effective delivery of, the activities in this strategy results in health and safety improvements.

## Organising for control and communication

**Strategic Challenge B1: Different organisations and projects have different ways of describing hazards and controls. This inhibits the efficient sharing and re-use of information about how risk is managed.**

**Strategic Activity:** Establish and embed a common structure and language for hazards and risk controls.

**Measure of success:** Widespread use of a common structure and language supports efficient and effective hazard identification and provides a recognised way to map between requirements in standards and the hazards they manage.

**Strategic Challenge B2: Trusted information on safety performance and risk is needed to support local and national decisions.**

**Strategic Activity:** Make the industry's Safety Management Intelligence System (SMIS) easier to use and provide assurance on the data it contains.

**Strategic Activity:** Evolve the models and tools that industry uses to support risk management activity, such as the Safety Risk Model and Precursor Indicator Model, to meet the needs of a devolved railway.

**Measure of success:** SMIS is the trusted single source of the truth for system-wide event data that industry has agreed to share. Common risk models and tools are used to support decisions at a system, company, region and route level.

**Strategic Challenge B3: Management of health and wellbeing risk is less mature than the management of safety risk. The foundations for a risk and evidence-based approach are still being built.**

**Strategic Activity:** Develop a more structured approach to understanding threats to health and wellbeing and the controls available to manage them.

**Strategic Activity:** Improve how health and wellbeing data is recorded, shared and used.

**Measure of success:** Decisions that affect health and wellbeing are risk-based and supported by evidence.

### Securing the co-operation, competence and development of employees

**Strategic Challenge C1: Front line workers and managers need to take timely risk-based decisions, adapt quickly when circumstances change and know when to bring in professional health and safety expertise.**

**Strategic Activity:** Create resources that support the development of basic risk assessment skills.

**Strategic Activity:** Integrate non-technical skills into company competence management systems.

**Measure of success:** Good uptake of resources by rail companies and their workforce. Front line staff have the competence and confidence to take sound decisions that affect health and safety.

**Strategic Challenge C2: Learning opportunities are missed if information about accidents, incidents, unsafe acts and unsafe conditions is not reported and shared. Sometimes this is because those involved believe they will be unjustly blamed; sometimes it is because reporting channels are unclear or difficult to use.**

**Strategic Activity:** Develop a culture in which people and organisations report, share and learn from accidents, near misses and close calls.

**Strategic Activity:** Establish widespread adoption and use of close call reporting systems.

**Measure of success:** Increased reporting of health and safety related events, acts and conditions results in better understanding and management of risk.

### Planning and implementing risk controls

**Strategic Challenge D1: Effective health and safety management needs to be built on a good understanding of risk controls and their effectiveness.**

**Strategic Activity:** Increase use of risk bowties based on good practice from within GB rail and from other sectors.

**Measure of success:** New bowtie guidance is produced and adopted, resulting in greater use and more consistent application of the bowtie method within rail companies. An agreed set of industry-level bowties is available to support the collaborative activity of cross-industry risk groups.

**Strategic Challenge D2: The rail industry is going through a period of change. Effective change management exploits opportunities to improve health and safety and manages threats to health and safety.**

**Strategic Activity:** Promote industry guidance and develop supporting case studies to raise awareness and improve application of the risk management process from the Common Safety Method on Risk Evaluation and Assessment, which is mandatory for significant change.

**Measure of success:** Proposers of change use an effective risk management process and adopt health and safety by design principles.

**Strategic Challenge D3: The health and safety challenges facing the industry over the longer term are not always taken into account when decisions are made.**

**Strategic Activity:** Develop a systematic approach for evaluating how changes within and outside the industry will shape its future risk profile.



**Measure of success:** Strategic risk reduction activity is supported by horizon scanning and risk forecasting. Opportunities for health and safety improvement are integrated into the Rail Technical Strategy.

**Strategic Challenge D4: Introducing new technology can be slow and expensive because of actual and perceived barriers. It can also introduce risk if there has not been adequate consideration of human factors and the operational environment.**

**Strategic Activity:** Take a risk-based approach to removing barriers to the adoption of new technology.

**Strategic Activity:** Ensure closer cooperation between designers, manufacturers and operators, and adopt the human factors integration principle of technology and people as a team.

**Measure of success:** Technology that delivers incremental health and safety improvements is delivered quickly and cost-effectively.

**Strategic Challenge D5: A key interface is that between rail industry buyers and suppliers. Buyers need confidence in the products and services they procure, and suppliers need an efficient way of demonstrating their capability and benchmarking performance.**

**Strategic Activity:** Continue to develop and embed the use of a consistent, efficient and risk-based approach to supplier assurance, supported by relevant systems and tools.

**Measure of success:** There is mutual confidence between buyers and suppliers and supply side risks are effectively managed.

## Monitoring, audit and review

**Strategic Challenge E1: Some accident and incident investigations do not look beyond immediate causes and so learning opportunities are lost.**

**Strategic Activity:** Embed good practice in accident and incident investigations through guidance, training and an increased awareness of human factors.

**Strategic Activity:** Improve how investigation outcomes are shared within GB rail and with other railways and other sectors.

**Measure of success:** Accident and incident investigations consistently identify root causes. Investigation findings are shared and implemented.

**Strategic Challenge E2: Most health and safety monitoring is reactive and outcome based.**

**Strategic Activity:** Establish greater use of activity indicators to support proactive monitoring.

**Measure of success:** Rail companies use a mix of outcome and activity indicators to monitor the health of their critical and vulnerable risk controls and to track improvement initiatives.

**Strategic Challenge E3: There is no industry level solution for reporting and monitoring railway system faults and failures.**

**Strategic Activity:** Establish a collaborative industry process for reporting and sharing information on railway system defects and corrective actions and the systems required to support this.

**Measure of success:** A solution has been developed for rail vehicles that is extendable to other areas and able to meet the needs of the future digital railway.

**Strategic Challenge E4: There is untapped potential in the large volumes of information being generated by an increasingly data-enabled railway.**

**Strategic Activity:** Exploit open or shareable data sources, unlock access to other relevant data, and apply new analysis techniques to better understand and manage risk.

**Measure of success:** Health and safety requirements are integrated into initiatives like the Rail Data Action Plan. New data sources and analysis techniques are generating new health and safety insights.

## Where to get support

- The Office of Road and Rail’s website hosts the Risk Management Maturity Model (RM3) and supporting material:  
**<https://orr.gov.uk/rail/health-and-safety/health-and-safety-strategy/risk-management-maturity-model-rm3>**
- The Improving Safety, Health and Wellbeing section RSSB’s website hosts Taking Safe Decisions as well as guidance on different aspects of risk management, information about RSSB-managed risk models and tools, and intelligence on safety performance. RSSB also provides a health and wellbeing topic hub, which covers aspects of health and wellbeing risk management capability:  
**<https://www.rssb.co.uk/Standards-and-Safety/Improving-Safety-Health--Wellbeing/>**
- The Risk Management Capability Group (RMCG) is a senior strategic group that supports the delivery of strategic risk management capability improvement initiatives to support of the vision set out in this document. It advises RSSB on its activities and facilitates and monitors collaborative industry effort. Its members represent passenger train operators, freight train operators, infrastructure contractors, Network Rail and the ORR:11 mins is good  
**<https://www.rssb.co.uk/Learn-and-Connect/Groups-and-Committees/Safety/SSRG/RMCG>**







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