Annual report of health and safety on Britain's railways 2024 to 2025

Health and Safety across the railway sector: the regulator's view

Introduction

This section provides a summary of our key findings across the railway sectors we regulate. It highlights significant risk areas and evaluates how effectively these are being managed. Our conclusions are supported by a range of evidence, including (where appropriate) the results of our Risk Management Maturity Model (RM3) assessments. These are provided in Annex A.

RM3 is a core tool used to assess the maturity and effectiveness of health and safety management systems. It evaluates an organisation's capability to manage risk and deliver excellence in risk control. The model examines various elements, including policy, monitoring, audit and review, planning and implementation, co-operation and confidence, and organisational structures for control and communication. Performance is rated on a five-point scale, which helps identify strengths and areas for improvement. Further detail on RM3, including assessment criteria and performance levels, is available in the Risk Management Maturity Model (RM3) 2019.

How ORR assesses harm and risk performance

Reliable data collection across Great Britain's railways is essential for:

- Identifying risk trends and emerging issues.

- Setting appropriate priorities for risk control, and
- Monitoring and benchmarking performance.

We assess health and safety performance using both actual harm and modelled risk:

- Actual harm is quantified using the Fatalities and Weighted Injuries (FWI) index, a composite measure that combines fatalities and injuries, weighted by severity.
- Modelled risk is derived from historical data to estimate the likelihood and potential consequences of safety-related events. On the mainline, this includes the Rail Safety and Standards Board (RSSB)'s Safety Risk Model (SRM) and the Precursor Indicator Model (PIM), which tracks trends in key precursors to catastrophic train accidents. Similar models are used by London Underground (LUL) and in the tramway sector.

While these outcome-based indicators provide valuable insights into current risk levels, they are inherently retrospective and not always predictive of future issues. To address this, we adopt a broader and more proactive approach, using RM3 assessments and other intelligence sources to triangulate our view of industry performance. These include:

- Planned inspections that evaluate the management and control of risk in operational settings.
- Performance indicators, such as near-miss events that had the potential to cause harm.
- Content indicators, including asset management and maintenance performance, and
- Context indicators, such as safety culture and leadership commitment to risk management.

When analysing harm over time, it is important to consider the annual trends of passenger numbers and freight traffic. More information on rail usage can be found on ORR's Data Portal

The data contained in this report are sourced from:

- Network Rail's Safety, Health and Environment Performance (SHEP) Reports.
- Network Rail's Chief Engineer Assurance Reports.
- Office of Rail and Road (ORR) Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) reporting tool – safety incidents which occur on non-mainline railways including trams, metros, other light rail, and minor and heritage railways in Great Britain are submitted by duty holders under the Reporting of Incidents, Diseases and Dangerous Occurrences Regulations 2013,

- Outputs from inspections, investigations, industry incident reporting and liaison meetings with industry.
- RSSB's Safe Insights data – the industry's national database for recording safety related events that occur on Great Britain's mainline rail network. High Speed 1 Limited (HS1 Ltd) and Core Valley Lines infrastructure safety incidents are also included.
- RSSB PIM Dashboard, available at – Precursor Indicator Model Dashboard

Safety data for April 2024 to March 2025 will be reported in our rail safety statistical release, provisionally scheduled for publication end of September 2025. It will contain safety statistics on mainline rail, London Underground, and other non-mainline networks (trams, metros, other light rail, minor and heritage railways).

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