

Annual Safety Performance Report 2007

Introduction

The Annual Safety Performance Report (ASPR) reviews our industry's safety performance over the calendar year and assesses progress in the Key Risk Areas identified by the Strategic Safety Plan. It benchmarks rail safety in Britain against other transport modes and overseas railways, reviews the way that our industry learns from accidents, and discusses the European developments that are having an effect on the way safety is managed.

The 2007 report is the third that RSSB has produced in-house, and the first to be based on the revised weightings for shock, trauma and minor injuries in the calculation of *fatalities and weighted injuries*, which were introduced in April 2008.

Headlines

- One passenger died in a derailment at Grayrigg – the first on-board fatality in a train accident since 2004.
- Eight other passengers died in individual incidents – one as a result of assault, two jumped or fell from moving trains and five were struck by trains in stations.
- Two members of the workforce died in accidents in the trackside environment – the same number as in 2006.
- At 49, the number of potentially higher-risk train accidents (PHRTAs) was little changed from the previous year.
- The risk from signals passed at danger (SPADs) at the end of 2007 stood at around 13% of its March 2001 level, representing a slight increase in risk during the year.
- Nine pedestrians died at level crossings, an increase of four compared to 2006.
- There were three accidental fatalities involving road vehicle occupants at level crossings, which is more than the zero recorded in 2006 but comparable with levels seen over the previous five years.
- Fatalities from suicide and trespass totalled 249. This represents a return to more typical levels after an unusually high number in 2006.

Train accidents

One passenger was killed and 88 people were injured in a high-speed derailment at Grayrigg on 23 February 2007. The immediate cause of the accident was points failure.

Prior to Grayrigg, the last time a train accident led to on-board fatalities was November 2004. There has been a significant long-term reduction in train accidents with on-board fatalities and the current decade has seen an average of less than one such incident per year.

The types of train accident with the greatest potential to cause harm are known as 'potentially higher-risk train accidents', or PHRTAs. There were 49 PHRTAs in 2007, which is very similar to last year, and less than half the total seen 10 years ago.

Because serious train accidents are rare, RSSB also analyses trends in precursors and their associated risk. This analysis shows that the underlying risk from train accidents was relatively static over the year, consolidating the improvements seen earlier in the decade.

Passenger safety

In addition to the fatality at Grayrigg, eight passengers died in individual incidents. Of these, one was assaulted, two jumped or fell from moving trains, and the remainder were struck by trains (one on a station crossing, two from standing too close to the platform edge, one after falling down the gap between the train and platform when alighting a train, and one after falling from the platform). The total of nine passenger fatalities is broadly in line with recent years.

There was a small rise in major injuries to passengers, from 219 to 233. The increase was largely brought about by the accident at Grayrigg. Most major injuries occur in stations, and the underlying trend is downwards, especially when normalised by passenger journeys.

Intoxication plays a role in many passenger injuries, particularly late at night. Other factors which influence risk from certain types of accident include age and gender.

Workforce safety

Two members of the workforce were killed in 2007. Both were track workers struck by trains in separate incidents. This is the same number of workforce fatalities as 2006 (although there were no track worker fatalities that year), and less than the average of recent years.

A further two track workers received major injuries from being struck by trains. Overall there were 128 workforce major injuries, which is very similar to last year and a significant reduction from 2004 and 2005. More than half of the workforce major injuries affect track workers, and most of these result from slips, trips and falls or other personal accidents about the track. Track worker major injuries continued to reduce in 2007 and have halved since 2004.

There were 16 major injuries involving train drivers, including one at Grayrigg and two who were struck by objects thrown at their trains. Around 150 drivers need to take time off work with shock or trauma each year; the two major causes are striking persons on the line and near misses.

Shunting has been identified as a high-risk railway occupation, but most injuries are outside the scope of the ASPR because they occur in depots, yards and sidings. In August, a shunter had both legs amputated following an accident in which he was run over by a freight train at Harlow Mill.

Public safety

Most risk occurs to members of the public, much of it being a consequence of their own behaviour. There were 43 trespasser fatalities during the year, which is more than last year but in line with the 10-year average. Approximately half of these occurred around stations. Young men make up a high proportion of trespasser fatalities, and peaks occur in the early and late evening.

Most of the other accidental fatalities to members of the public occurred at level crossings, although three people (who were not in the station in connection with train journeys they were making) were hit by trains after getting too close to or falling from the platform edge.

There were 206 suicides (or suspected suicides) over the year, fewer than in 2006 but comparable with the long-term average.

Level crossings

The harm arising from level crossing misuse increased in 2007, returning to pre-2006 levels.

Nine pedestrians died as a result of being struck by trains at level crossings. One of these was a passenger at a station crossing. This total is higher than 2006, but comparable with the five-year average.

There were 11 collisions between trains and road vehicles, which is unchanged from 2006 and lower than previous years. Four road vehicle users died as a result, one of whom is suspected of committing suicide. Of the three accidental fatalities, one person was killed at an automatic half-barrier crossing (which was the scene of another fatal collision in 2005) and two died in a collision at an automatic open level crossing.

There is also a downward trend in near misses with road vehicles at level crossings. Unusually, one of the collisions in 2007 was the result of signaller error; there were no reported injuries.

Personal security

One passenger died after being assaulted in 2007. He was stabbed in the back in an incident at Dewsbury station.

Overall, there was a reduction in the number of assaults recorded both by British Transport Police and by the industry's Safety Management Information System (SMIS). Harm from workforce assaults also fell for the third year running. Nevertheless, the personal security of rail staff remains an issue of concern. On a typical day, more than 10 members of the workforce are absent as a result of assault or abuse.

Reports of threats and abuse against staff rose again during the year, although it is possible that continued improvements in reporting are behind this trend. Ticket disputes are the most common contributory factor in staff assaults, and alcohol can exacerbate the situation.

Around two-thirds of passengers rate their personal security on trains and in stations as good, and passenger perceptions have shown slight improvements in this area over recent years.

Station safety

Excluding trespassers, nine people died in incidents at stations. One was assaulted, the other eight were struck by trains (see the passenger and public sections for further details).

There were no fatalities from slips, trips and falls away from the platform edge, and there was a reduction in the number of major injuries from such accidents. Stairs and escalators continue to account for more than half of all the harm from this cause.

The substantial reduction in boarding and alighting injuries in 2006 has not been maintained. That year now looks like a 'statistical outlier' and the number of major injuries in 2007 returned to the level seen in 2005.

The number of trespasser fatalities in stations rose to 24 in 2007, which is the highest number for at least a decade.

Summary of performance

Although 2007 saw a number of serious accidents, the overall story was one of consolidating the progress achieved in recent years, with continued improvements in some areas. Previous Strategic Safety Plans had the principle of ‘*maintaining safety in a period of change*’ as their overarching objective, and the industry continues to do this against a backdrop of increasing passenger numbers and growth in freight.

The 2007–09 Strategic Safety Plan took a new approach to safety planning by basing itself on companies’ own safety plans. It set out nine *trajectories* that reflect both the industry’s ambitions in Key Risk Areas and the actions the industry is undertaking to achieve them.

The table below presents the trajectories in each of the Key Risk Areas, together with an assessment of whether, after one year of the three-year plan, progress towards achieving them is apparent from safety data. Progress towards the trajectory is indicated by a tick, and failure to make progress is marked with a cross. Where there is insufficient data to ascertain whether progress is being made, a dash has been placed in the final column.

Key Risk Area	Trajectory	Progress
Passengers at stations	<i>Deliver a measurable reduction in the level of risk caused by the behaviour of passengers in stations by reducing or eliminating the typical hazards that result in accidents .</i>	✓
Passengers on trains	<i>Given the improvements in this Key Risk Area, the aim is to maintain the current level of safety, improve it where reasonably practicable and take opportunities to reduce risk when there are train refurbishments projects and new rolling stock procured.</i>	-
Workforce - train crew	<i>Given the improvements in this Key Risk Area, the aim is to maintain the current level of safety, and improve it where reasonably practicable, over the next three years.</i>	✓
Workforce - track workers	<i>Deliver a measurable reduction in the rate of track worker accidents.</i>	✓
Workforce - at stations	<i>Deliver a measurable reduction in the risk of accidents to passengers in stations through an improvement in the competency of station staff.</i>	-
Engineering - track	<i>Given the improvements in this Key Risk Area, the aim is to maintain the current level of safety, and improve it where reasonably practicable, over the next three years.</i>	✓
Engineering - trains	<i>Deliver a measurable reduction in the risk from catastrophic accidents and accidents to passengers from vehicle defects.</i>	✓
Public behaviour - crime	<i>Deliver a measurable reduction in the risk from crime to passengers and the workforce.</i>	✓
Public behaviour - level crossings	<i>Deliver a measurable reduction in the risk from the misuse of level crossings.</i>	-

Overall, there is evidence that the industry is delivering on the trajectories in the strategic safety plan. In six of the nine Areas, tangible progress has been made towards delivering the trajectory. In the remaining three Key Risk Areas, there is insufficient data to yet comment on whether there is any trend. The areas that show the greatest improvements are *Workforce – track workers*, *Engineering – trains* and *Engineering – track*.