

2007

Railway safety statistical report

THE SAFETY AND ECONOMIC
REGULATOR OF BRITAIN'S RAILWAYS



OFFICE OF RAIL REGULATION



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Railway safety statistical report 2007

Foreword

This railway safety statistical report covers the 2007 calendar year and provides statistical tables and charts. The report deals with: (a) incidents involving passengers, staff and members of the public, (b) level crossings, (c) trespass and vandalism, and (d) train incidents and rolling stock and infrastructure failures. A separate publication, the ORR annual report and resource accounts 2007-08, includes information about the work we have done in our role as safety authority.

I am again pleased to report that the statistics show that, overall, the level of safety on the railways has continued to show some improvement over the last year.

Level crossing fatalities increased from 8 in 2006 to 11 in 2007, however the overall downward trend from 2004 levels continues.

The proportion of train incidents due to malicious action reduced slightly from 41 per cent in 2006 to 37 per cent in 2007, against a continuing downward trend in train incidents overall. Deaths from trespass and suicide fell by 16 per cent from 321 in 2006 to 270 in 2007. There was a reduction in the number of confirmed suicide deaths (53 in 2007, compared with 68 in the 2006 report). However, the number of suicides is likely to rise once inquest verdicts are received. No children under 16 years of age were killed while trespassing, for the first year on record.

Although major injuries to railway employees and contractors increased by 7 per cent over the period from 209 to 223, the number of 'over 3-day' injuries fell by 21 per cent from 1538 to 1208. Assaults on employees by members of the public also decreased; by 25 per cent from 223 to 168, the lowest level in five years. There were 2 employee/contractor fatalities in 2007, a decrease from 4 in 2006.

The number of train incidents fell by 5 per cent from 1061 in 2006 to 1006 in 2007, continuing a five-year downward trend. However, there was an increase in the number of train incident fatalities from one in 2006 to five in 2007. Four of these were vehicle occupants at level crossings (including one suspected suicide). The remaining fatality was a passenger on the train that was involved in the derailment at Grayrigg. There were 88 other casualties, including two employees/contractors, as a result of this incident.

This year, we have included a brief description of all fatalities that do not involve trespass or confirmed suicide in the report.

There were also significant reductions in rail buckles and rolling stock failures over the reporting period.

Finally, there was a slight increase in the number of SPADs which industry classify as 'Severe', because they are the most serious, from 18 in 2006 to 21 in 2007. But the number of 'Significant' SPADs reduced from 116 to 68. The total number of SPADs overall, reduced from 349 to 325.



Linda Williams
chief inspector of railways
HM railway inspectorate
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Note: The source of all data is from the ORR SIGNAL database of rail incidents reportable under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995, unless stated otherwise.

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A Incidents involving passengers, staff and members of the public

(excluding trespassers and confirmed suicides)

Key facts

Table A1 shows that:

- The total number of casualties in all incidents has fallen from 4379 in 2006 to 4318 in 2007.
- The number of passenger fatalities has continued to fall – from 13 in 2004 to 6 in 2007
- The number of railway staff fatalities has also continued a downward trend – from 10 in 2004 to 2 in 2007
- However, the number of fatalities to other persons has increased from 9 in 2006 to 25 in 2007.

Further details of all fatalities are shown in *Table A6*, but more is said about the workforce fatalities below. The fatalities in *Table A6* should be viewed with caution. They include deaths where Coroner's Inquests, or the Procurator Fiscal, have yet to return verdicts and some are suspected suicides. From previous experience, we anticipate that the number of accidental fatalities will reduce.

Workforce safety

As mentioned above, there were two workforce fatalities in 2007. This is a reduction on the previous year's total, and part of a welcome downward trend since the high of ten workforce deaths in 2004 (the year of the accident at Tebay). 'Over 3-day' injuries were significantly down in number compared to 2006, and this area shows a reducing trend since 2003. There was a slight increase in the numbers of major injuries reported – 223 for 2007 compared to 209 for 2006. But overall, this category of incident has been reducing since 2003.

The two deaths occurred to staff working in the track environment. This highlights yet again the concentration of risk of fatal or serious injury when on or about the track. One of the fatalities was a welder working red zone with lookout protection. As in previous incidents, this death reveals the hazards of this method of protection and the dangers of not anticipating a train taking a different route from traffic that has gone before. The other death was of a member of staff returning from collecting protecting detonators at the end of a possession. This emphasises the importance of good planning that considers how to enable safe systems of work to be set up and dismantled.

Industry has set itself targets to reduce all categories of injury to its workforce and has introduced a number of initiatives to bring this about. Programmes addressing the behavioural factors that create a positive safety culture will bring longer-term benefits. There has been dialogue between HMRI and Network Rail in 2007. This is to ensure there are suitable levels of monitoring and supervision to encourage and embed these improvements, particularly for trackworkers.

Planned future work includes: examining aspects of COSS competence; inspecting arrangements for patrolling in red zones; and the implications of some recent difficulties with lookout-operated warning systems (LOWS).

One of the areas where industry can demonstrate a welcome improvement is that of work-related violence. The latest figures for assaults on railway employees (*Chart A10*) show a sustained decline in the number of incidents reported to HMRI. These, however, should be viewed with caution. Many incidents, in particular verbal assaults, are not reportable under RIDDOR, but have been reported to employers since the industry widened its definition of work-related violence.

Nonetheless, the decline in reportable incidents is indicative of the industry's continuing commitment to tackling this problem. This commitment is led by London Underground's work-related violence unit at Aldgate Station, a joint enterprise with the BTP, and by the work of the Rail Personal Security Group (RPSG). The RPSG's recent achievements include a commitment from the Sentencing Guidelines Council towards ensuring increased sentences for persons assaulting rail staff.

HMRI's recent inspection initiative on work-related violence noted significant improvements in Network Rail's management of this important issue.

Table A1: Casualties in all incidents 2004-2007 (excluding trespassers and confirmed suicides)

	2004					2005					2006					2007				
	Fatal	Major Injury	Over 3-day injury	Hospital treatment	Total	Fatal	Major Injury	Over 3-day injury	Hospital treatment	Total	Fatal	Major Injury	Over 3-day injury	Hospital treatment	Total	Fatal	Major Injury	Over 3-day injury	Hospital treatment	Total
Total all incidents	35	402	1898	2696	5031	33	332	1947	2860	5172	21	209	1538	2612	4380	32	223	1209	2852	4316
Passengers	13	0	0	2627	2640	10	0	0	2800	2810	8	0	0	2539	2547	5	0	0	2801	2806
Railway staff	10	402	1898	0	2310	6	332	1947	0	2285	4	209	1538	0	1751	2	223	1208	0	1433
Other persons	12	0	0	69	81	17	0	0	60	77	9	0	0	73	82	25	0	1	51	77
Train incidents																				
Total	12	5	21	85	123	7	0	20	31	58	1	2	17	24	44	5	3	10	98	116
Passengers	5	0	0	76	81	0	0	0	22	22	0	0	0	20	20	1	0	0	94	95
Railway staff	2	5	21	0	28	1	0	20	0	21	0	2	17	0	19	0	3	10	0	13
Other persons	5	0	0	9	14	6	0	0	9	15	1	0	0	4	5	4	0	0	4	8
Movement incidents																				
Total	17	48	328	563	956	20	28	311	595	954	12	25	333	537	907	27	33	263	535	858
Passengers	3	0	0	547	550	5	0	0	580	585	4	0	0	525	529	4	0	0	526	530
Railway staff	7	48	328	0	383	5	28	311	0	344	2	25	333	0	360	2	33	262	0	297
Other persons	7	0	0	16	23	10	0	0	15	25	6	0	0	12	18	21	0	1	9	31
Non-movement incidents																				
Total	6	349	1549	2048	3952	6	304	1616	2234	4160	8	182	1188	2051	3429	0	187	936	2219	3342
Passengers	5	0	0	2004	2009	5	0	0	2198	2203	4	0	0	1994	1998	0	0	0	2181	2181
Railway staff	1	349	1549	0	1899	0	304	1616	0	1920	2	182	1188	0	1372	0	187	936	0	1123
Other persons	0	0	0	44	44	1	0	0	36	37	2	0	0	57	59	0	0	0	38	38

Table A2: Casualties in all incidents by railway operator 2007 (excluding trespassers and confirmed suicides)

	Fatal					Major injuries					Over 3-day injuries					Hospital					Totals
	NR	LUL	Tram	Other	Total	NR	LUL	Tram	Other	Total	NR	LUL	Tram	Other	Total	NR	LUL	Tram	Other	Total	
Total all incidents	30	0	1	1	32	183	23	2	15	223	889	252	21	47	1209	1420	1302	47	84	2852	4315
Passengers	4	0	0	1	5	0	0	0	0	0	0	0	0	0	0	1384	1299	38	81	2801	2805
Railway staff	2	0	0	0	2	183	23	2	15	223	888	252	21	47	1208	0	0	0	0	0	1433
Other persons	24	0	1	0	25	0	0	0	0	0	1	0	0	0	1	36	3	9	3	51	77
Train incidents																					
Total	5	0	0	0	5	2	0	0	1	3	6	1	3	0	10	92	3	2	1	98	116
Passengers	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	91	3	0	0	94	95
Railway staff	0	0	0	0	0	2	0	0	1	3	6	1	3	0	10	0	0	0	0	0	13
Other persons	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	1	0	2	1	4	8
Movement incidents																					
Total	25	0	1	1	27	27	2	1	3	33	206	39	6	12	263	275	219	25	16	535	858
Passengers	3	0	0	1	4	0	0	0	0	0	0	0	0	0	0	273	219	18	16	526	530
Railway staff	2	0	0	0	2	27	2	1	3	33	205	39	6	12	262	0	0	0	0	0	297
Other persons	20	0	1	0	21	0	0	0	0	0	1	0	0	0	1	2	0	7	0	9	31
Non-movement incidents																					
Total	0	0	0	0	0	154	21	1	11	187	677	212	12	35	936	1052	1080	20	67	2219	3342
Passengers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1019	1077	20	65	2181	2181
Railway staff	0	0	0	0	0	154	21	1	11	187	677	212	12	35	936	0	0	0	0	0	1123
Other persons	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	3	0	2	38	38

Table A3: Casualties in movement incidents 2007 (excluding trespassers and confirmed suicides)

	Fatals						Hospital					Totals
	NR	LUL	Trams	Other	Total		NR	LUL	Trams	Other	Total	
Passenger total	3	0	0	1	4		273	219	18	16	526	530
Entering or Alighting from train	0	0	0	0	0		161	104	8	6	280	280
Falling off Platforms or being struck/run over by train	3	0	0	1	4		9	4	0	0	13	17
Crossing the line at stations	0	0	0	0	0		0	0	1	0	1	1
Opening or Closing or carriage doors	0	0	0	0	0		22	41	0	0	63	63
Falling out of carriages during the running of trains	0	0	0	0	0		0	0	0	3	3	3
Other Incidents	0	0	0	0	0		81	69	9	7	166	166
Other Members of the public total	20	0	1	0	21		2	0	7	0	9	30
At Level Crossings and on railway	20	0	1	0	21		2	0	7	0	9	30
"On business at stations, on tramways, etc"	0	0	0	0	0		0	0	0	0	0	0
Postal Workers	0	0	0	0	0		0	0	0	0	0	0

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Table A3 continued

	Fatals					Major Injuries					Minor Injuries					Totals
	NR	LUL	Trams	Other	Total	NR	LUL	Trams	Other	Total	NR	LUL	Trams	Other	Total	
Railway employee total	2	0	0	0	2	27	2	1	3	33	205	39	6	12	262	297
Shunting incidents																
Getting on or off - or falling off - moving loco wagons	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Coming into contact with vehicles or fixed lineside objects when riding on locos etc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Staff on train involved in a collision in sidings	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Being caught between vehicles when coupling or uncoupling	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Struck or caught between vehicles when walking on the line	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Miscellaneous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Incidents during the running of trains																
Getting on or off - or falling off - moving loco wagons	0	0	0	0	0	12	1	0	3	16	60	15	0	5	80	96
Coming into contact with fixed lineside objects when riding on trains etc	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	2
Train staff injured while on board train	0	0	0	0	0	6	0	0	0	6	99	16	4	2	121	127
Miscellaneous	0	0	0	0	0	0	1	1	0	2	18	1	1	1	21	23
Incidents to staff working on or about the track																
Struck by train when acting as lookout or handsignaller	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Struck by train etc when working on or about the track	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	2
Struck by train etc when authorised to walk on the track	2	0	0	0	2	1	0	0	0	1	0	0	0	0	0	3
Struck by flying objects or out-of-gauge parts of a train	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Miscellaneous	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Other movement incidents																
Struck by train etc when required to cross the line on duty	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Struck by train etc when not required to walk on the track (inc failure to use an authorised route)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Through movement of vehicles at which workers were engaged	0	0	0	0	0	0	0	0	0	0	2	2	0	2	6	6
Miscellaneous	0	0	0	0	0	3	0	0	0	3	22	5	1	1	29	32

Table A4: Casualties in non-movement incidents 2007 (excluding trespassers and confirmed suicides)

	Fatales						Hospital					Totals
	NR	LUL	Trams	Other	Total		NR	LUL	Trams	Other	Total	
Passengers total	0	0	0	0	0		1020	1076	20	65	2181	2181
Ascending or descending steps and escalators at stations	0	0	0	0	0		501	819	7	49	1376	1376
Being struck by barrows, falling materials, falling over packages etc	0	0	0	0	0		38	17	0	1	56	56
Falling from platform onto line	0	0	0	0	0		33	11	2	0	46	46
Electric shock on electrified railways	0	0	0	0	0		0	0	0	0	0	0
Slips, trips and falls	0	0	0	0	0		425	216	11	15	667	667
Other incidents	0	0	0	0	0		23	13	0	0	36	36
Other persons total	0	0	0	0	0		33	3	0	2	38	38
On business/miscellaneous	0	0	0	0	0		29	3	0	2	34	34
Pedestrians at level crossings	0	0	0	0	0		4	0	0	0	4	4
Postal workers	0	0	0	0	0		0	0	0	0	0	0

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Table A4 continued

	Fatal					Major Injury					Over - 3 days					Totals
	NR	LUL	Trams	Other	Total	NR	LUL	Trams	Other	Total	NR	LUL	Trams	Other	Total	
Railway employee total	0	0	0	0	0	154	21	1	11	187	677	212	12	35	936	1123
Contact with or being trapped by moving machinery	0	0	0	0	0	1	0	0	2	3	4	1	0	1	6	9
Struck by moving, including flying or falling object, other than rails	0	0	0	0	0	23	2	0	0	25	60	20	1	2	83	108
Struck by moving vehicle (other than rail vehicle)	0	0	0	0	0	4	0	0	0	4	6	0	0	0	6	10
Struck against something fixed or stationary	0	0	0	0	0	6	2	0	0	8	20	13	0	1	34	42
Injured while handling, lifting or carrying other than rails	0	0	0	0	0	12	0	0	0	12	100	4	1	3	108	120
Fall through height of more than 2 metres	0	0	0	0	0	5	0	0	0	5	5	4	0	0	9	14
Fall through height of 2 metres or less	0	0	0	0	0	13	3	1	2	19	37	7	2	2	48	67
Fall from a stationary rail vehicle	0	0	0	0	0	1	0	0	0	1	4	0	0	0	4	5
Slip, trip or fall on the same level	0	0	0	0	0	53	10	0	5	68	199	39	2	11	251	319
Trapped by something collapsing or overturning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Burnt or scalded other than by chemical or electrical agents	0	0	0	0	0	2	0	0	1	3	7	1	0	0	8	11
Using power-driven hand tools	0	0	0	0	0	3	0	0	0	3	4	2	0	0	6	9
Using unpowered hand tools	0	0	0	0	0	3	0	0	0	3	18	5	1	2	26	29
Handling rails by manual or mechanical means	0	0	0	0	0	8	0	0	0	8	23	2	0	4	29	37
Electric shock or burns from plant or equipment	0	0	0	0	0	1	0	0	0	1	4	5	0	0	9	10
Electric shock or burns from live rail on electrified lines	0	0	0	0	0	1	0	0	0	1	1	1	0	0	2	3
Electric shock or burns from overhead electrification equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Harmed by lack of oxygen (e.g. drowning/asphyxiation)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Injured in an explosion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Contact with or exposure to harmful substances	0	0	0	0	0	4	0	0	0	4	6	1	0	0	7	11
Assaulted while on duty	0	0	0	0	0	7	2	0	1	10	83	69	3	3	158	168
Miscellaneous	0	0	0	0	0	7	2	0	0	9	96	38	2	6	142	151

Table A5(a): Fatal incidents 2007 - All railways - by county and country (England)

County	Successor County	Passenger	Railway Employee	Other Member of the Public	Trespasser	Suicide	Total
Avon	Bath and NE Somerset	0	0	0	2	0	2
	Bristol	0	0	0	0	0	0
	North Somerset	0	0	1	0	0	1
	South Gloucestershire	0	0	0	1	0	1
Bedfordshire		0	0	0	1	5	6
Berkshire		0	2	1	4	1	8
Buckinghamshire		1	0	0	4	0	5
Cambridgeshire		0	0	2	3	0	5
Cheshire		0	0	0	2	2	4
Cleveland		0	0	0	0	0	0
Cornwall		0	0	1	1	0	2
Cumbria		1	0	0	0	0	1
Derbyshire		0	0	0	4	0	4
Devon		0	0	1	1	0	2
Dorset		0	0	0	1	1	2
Durham		0	0	0	4	1	5
East Sussex		0	0	1	1	0	2
Essex		0	0	1	10	0	11
Gloucestershire		0	0	1	1	0	2
Greater London		0	0	1	58	14	73
Greater Manchester		0	0	0	8	1	9
Hampshire		1	0	0	6	4	11
Herefordshire		0	0	0	0	0	0
Hertfordshire		0	0	0	7	0	7
Humberside	East Riding of Yorkshire	0	0	0	0	0	0
	Kingston Upon Hull	0	0	0	0	1	1
	North East Lincolnshire	0	0	0	0	0	0
	North Lincolnshire	0	0	0	0	0	0

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Table A5(a) continued

County	Successor County	Passenger	Railway Employee	Other Member of the Public	Trespasser	Suicide	Total
Isles of Scilly		0	0	0	0	0	0
Isle of Wight		0	0	0	0	0	0
Kent		0	0	1	3	0	4
Lancashire		0	0	0	6	1	7
Leicestershire		0	0	0	2	0	2
Lincolnshire		0	0	1	1	0	2
Merseyside		0	0	2	0	0	2
North Yorkshire		0	0	0	2	1	3
Northamptonshire		0	0	0	1	0	1
Norfolk		0	0	1	4	1	6
Nottinghamshire		0	0	0	3	0	3
Northumberland		0	0	0	1	1	2
Oxfordshire		0	0	0	1	0	1
Rutland		0	0	0	0	0	0
South Yorkshire		0	0	1	2	4	7
Shropshire		0	0	0	2	2	4
Somerset		0	0	0	1	0	1
Staffordshire		0	0	0	2	0	2
Suffolk		0	0	0	2	0	2
Surrey		0	0	1	6	0	7
Tyne & Wear		0	0	0	4	0	4
West Midlands		0	0	0	14	0	14
West Sussex		0	0	4	3	1	8
West Yorkshire		0	0	0	8	8	16
Warwickshire		0	0	0	3	0	3
Wiltshire		0	0	0	5	0	5
Worcestershire		0	0	0	2	0	2
Total		3	2	21	197	49	272

Table A5(b): Fatal incidents 2007 - All railways - by country and county (Scotland)

County	Passenger	Railway Employee	Other Member of the Public	Trespasser	Suicide	Total
Aberdeen City	0	0	0	0	0	0
Aberdeenshire	0	0	0	0	0	0
Argyll & Bute	0	0	0	0	0	0
Angus	0	0	0	0	0	0
Border	0	0	0	0	0	0
Borders (Scottish)	0	0	0	0	0	0
City of Edinburgh	0	0	0	0	1	1
City of Glasgow	0	0	0	1	0	1
Central	0	0	0	0	1	1
Clackmannanshire	0	0	0	0	0	0
Dumfries & Galloway	0	0	0	0	0	0
Dundee City	0	0	0	0	0	0
East Ayrshire	0	0	0	0	0	0
East Dunbartonshire	0	0	0	0	0	0
East Lothian	0	0	0	1	0	1
East Renfrewshire	0	0	0	0	0	0
Falkirk	0	0	0	0	0	0
Fife	0	0	0	1	0	1
Grampian	0	0	0	0	0	0
Highland	0	0	2	0	0	2
Inverclyde	0	0	0	0	0	0
Lothian	0	0	0	0	0	0
Midlothian	0	0	0	0	0	0
Moray	0	0	0	0	0	0
North Ayrshire	0	0	0	1	0	1
North Lanarkshire	0	0	0	1	0	1
Orkney Islands	0	0	0	0	0	0
Perth & Kinross	0	0	0	0	0	0
Renfrewshire	0	0	0	0	0	0
South Ayrshire	0	0	0	0	0	0

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Table A5(b) continued

County	Passenger	Railway Employee	Other Member of the Public	Trespasser	Suicide	Total
South Lanarkshire	1	0	0	3	0	4
Shetland Islands	0	0	0	0	0	0
Stirling	0	0	0	0	0	0
Strathclyde	0	0	1	2	2	5
Tayside	0	0	0	2	0	2
West Dunbartonshire	0	0	0	1	0	1
Western Isles	0	0	0	0	0	0
West Lothian	0	0	0	0	0	0
Total	1	0	3	13	4	21

Table A5(c): Fatal incidents 2007 - All railways - by country and county (Wales)

County	Passenger	Railway Employee	Other Member of the Public	Trespasser	Suicide	Total
Blaenau Gwent	0	0	0	0	0	0
Bridgend	0	0	0	0	0	0
Caerphilly	0	0	0	0	0	0
Cardiff	0	0	0	0	0	0
Carmarthenshire	0	0	0	0	0	0
Ceredigion	0	0	0	0	0	0
Clwyd	0	0	1	2	0	3
Conwy	0	0	0	0	0	0
Denbighshire	0	0	0	0	0	0
Dyfed	0	0	0	1	0	1
Flintshire	0	0	0	0	0	0
Gwent	0	0	0	0	0	0
Gwynedd	0	0	0	1	0	1
Isle of Anglesey	0	0	0	0	0	0
Mid Glamorgan	1	0	0	0	0	1
Monmouthshire	0	0	0	0	0	0
Merthyr Tydfil	0	0	0	0	0	0
Neath Port Talbot	0	0	0	0	0	0
Newport	0	0	0	0	0	0
Pembrokeshire	0	0	0	0	0	0
Powys	0	0	0	0	0	0
Rhondda Cynon Taff	0	0	0	0	0	0
South Glamorgan	0	0	0	1	0	1
Swansea	0	0	0	1	0	1
Torfaen	0	0	0	0	0	0
Vale Glamorgan	0	0	0	0	0	0
West Glamorgan	0	0	0	1	0	1
Wrexham	0	0	0	0	0	0
Total	1	0	1	7	0	9

Table A5(d): Fatal incidents 2007 - All railways - by country (Great Britain)

Country	Passenger	Railway Employee	Other Member of the Public	Trespasser	Suicide	Total
England	3	2	21	197	49	272
Scotland	1	0	3	13	4	21
Wales	1	0	1	7	0	9
Great Britain	5	2	25	217	53	302

Table A6(a): Description of fatalities in movement incidents 2007 (excludes trespassers and confirmed suicides)

Date	Location	Operator	No. of fatalities	Brief description of incident
1/1/2007	Paggetts Footpath Level Crossing, West Sussex	Network Rail	1	A male playing near the footpath crossing was struck by a train. Coroner's verdict awaited.
15/1/2007	Johnstown Footpath Level Crossing, Clwyd	Network Rail	1	Girl, who lost one of her shoes, was attempting to retrieve it when she was struck by train. Coroner's verdict awaited.
11/1/2007	Gidea Park Station, Essex	Network Rail	1	A male was struck by a train after falling from the station platform. Coroner's verdict: Accidental death.
24/1/2007	Wokingham Level Crossing, Berkshire	Network Rail	1	Male struck by train at level crossing. Coroner's verdict awaited.
25/1/2007	Treorchy, Mid Glamorgan	Network Rail	1	Male was struck by a train after leaning over the platform edge. Coroner's verdict: Accidental death.
25/1/2007	Ballast Hole Foot Crossing, Lincolnshire	Network Rail	1	A train struck a woman on a foot crossing. Coroner's verdict: Accidental death.
13/2/2007	Haddenham & Thame Parkway, Buckinghamshire	Network Rail	1	A body was found on the line with injuries consistent with being struck by a train. CCTV footage showed the person alighting from the train and falling between the train and the platform. Coroner's verdict awaited.
22/3/2007	Northumberland Park, Greater London	Network Rail	1	Train struck a person who was laying on the track. Suspected suicide. Coroner's verdict awaited.
25/4/2007	Alphington Road Footpath Level Crossing	Network Rail	1	Train struck a person on a foot crossing. Coroner's verdict awaited.
25/4/2007	Ridgeway Road, Sheffield, South Yorkshire	Stagecoach Supertram	1	Cyclist believed to have emerged from the front of a van across the path of the tram. Suspected suicide. Coroner's verdict awaited.
29/4/2007	Ruscombe, Berkshire	Network Rail	1	A train struck a Network Rail employee as it was crossing from the Down Main line to the Down Relief line at Ruscombe Junction. Coroner's verdict awaited.
10/5/2007	Coxes Farm Level Crossing, West Sussex	Network Rail	1	Train had struck a person who had been lying on the Down line near the footpath crossing. Suspected suicide. Coroner's verdict awaited.
7/6/2007	Shornmead Level Crossing, Kent	Network Rail	1	Train struck a person on the Down line at Hoo Junction. Suspected suicide. Coroner's verdict awaited.
15/6/2007	Gwinear Level Crossing, Cornwall	Network Rail	1	Train struck a person on the Down Main line at the User Worked Level Crossing. Suspected suicide. Coroner's verdict awaited.
3/7/2007	Bugle Level Crossing, Surrey	Network Rail	1	Train struck a person who laid the level crossing. Suspected suicide. Coroner's verdict awaited.
31/7/2007	Sandringham Avenue Level Crossing, Merseyside	Network Rail	1	A train struck a woman walking her dog at the level Crossing . Coroner's verdict awaited.
1/8/2007	Parsonage Road Level Crossing, West Sussex	Network Rail	1	Train struck a person laying on the level crossing. Suspected suicide. Coroner's verdict awaited.
16/8/2007	Horsham Road Level Crossing, West Sussex	Network Rail	1	Train struck a person who jumped over the barriers at the level crossing. Coroner's verdict awaited.
24/8/2007	Southerham Junction, East Sussex	Network Rail	1	Train struck a person who was on the line. Suspected suicide. Coroner's verdict awaited.
16/9/2007	Windwhistle Level Crossing, Avon	Network Rail	1	A train struck a person on the Single line at the foot crossing. Coroner's verdict awaited.
10/10/2007	Red Cross Lane, Cambridgeshire	Network Rail	1	Train struck a person on the line near to the level crossing. Suspected suicide. Await coroner's verdict.
11/10/2007	Hinxton, Cambridgeshire	Network Rail	1	Train struck a person who walked on the level crossing. Suspected suicide. Coroner's verdict awaited.
3/11/2007	Bushey Lane Footpath Level Crossing, Merseyside	Network Rail	1	Train struck a person who walked and stood on the level crossing. Suspected suicide. Coroner's verdict awaited.

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Table A6(a)
continued

Date	Location	Operator	No. of fatalities	Brief description of incident
7/11/2007	Cambuslang, South Lanarkshire	Network Rail	1	A train struck a man who had fallen from the platform. Procurator Fiscal's verdict awaited.
20/11/2007	Brimscombe, Gloucestershire	Network Rail	1	A train struck a man on the line at Brimscombe Footpath Crossing (UWC). Coroner's verdict awaited.
20/11/2007	Church Street Level Crossing, Essex	Network Rail	1	A train had struck a person on the level crossing. Suspected suicide. Coroner's verdict awaited.
29/11/2007	Reading, Berkshire	Network Rail	1	A train struck a male track worker at Kennet Bridge. Coroner's verdict awaited.
1/12/2007	Alresford, Hampshire	Minor Railways Standard Gauge	1	A male passenger had alighted at Alresford station but for some reason attempted to reboard the departing train and fell between platform and the train. Coroner's verdict awaited.

Note: Fatality figures in *Table/Chart B1, B2, B3, and B4* will be less than figures quoted in the Foreword (in relation to occupants of road vehicles), and in *Table A6* because *B1, B2, B3 and B4* do not include suspected suicides.

Table A6(b): Description of fatalities in non-movement incidents 2007(excludes trespassers and confirmed suicides)

There were no fatalities in non-movement incidents.

Table A6(c): Description of fatalities in train incidents 2007 (excludes trespassers and confirmed suicides)

Date	Location	Operator	No. of fatalities	Brief description of incident
2/2/2007	Delny Level Crossing, Highland	Network Rail	2	A car struck the side of a train. One person died at the scene and another in hospital five days later. The other car occupant received minor injuries. Procurator Fiscal's verdict awaited.
23/2/2007	Gailes Level Crossing, Strathclyde	Network Rail	1	Train struck a van which stood foul on the line while a man was inside. Suspected suicide. Procurator Fiscal's verdict awaited.
23/2/2007	Grayrigg/Lambrigg, Cumbria	Network Rail	1	A train derailed on the Down Main line at Lambrigg Ground Frame near Oxenholme with 111 passengers on board. All 9 vehicles derailed. As well as the woman that was fatally injured, there was one serious injury to a member of staff, minor injuries to a member of staff and 86 passengers. Coroner's verdict awaited.
1/3/2007	Swainsthorpe Level Crossing, Norfolk	Network Rail	1	Train struck a car. The driver of the car died. Coroner's verdict awaited.

Note: Fatality figures in *Table/Chart B1, B2, B3, and B4* will be less than figures quoted in the Foreword (in relation to occupants of road vehicles), and in *Table A6* because *B1, B2, B3 and B4* do not include suspected suicides.

Chart A7: Fatal injuries to railway employees and contractors 2003-2007 - All railways (excluding suicide)



Chart A9: Over 3-day injuries to railway employees and contractors 2003-2007 - All railways

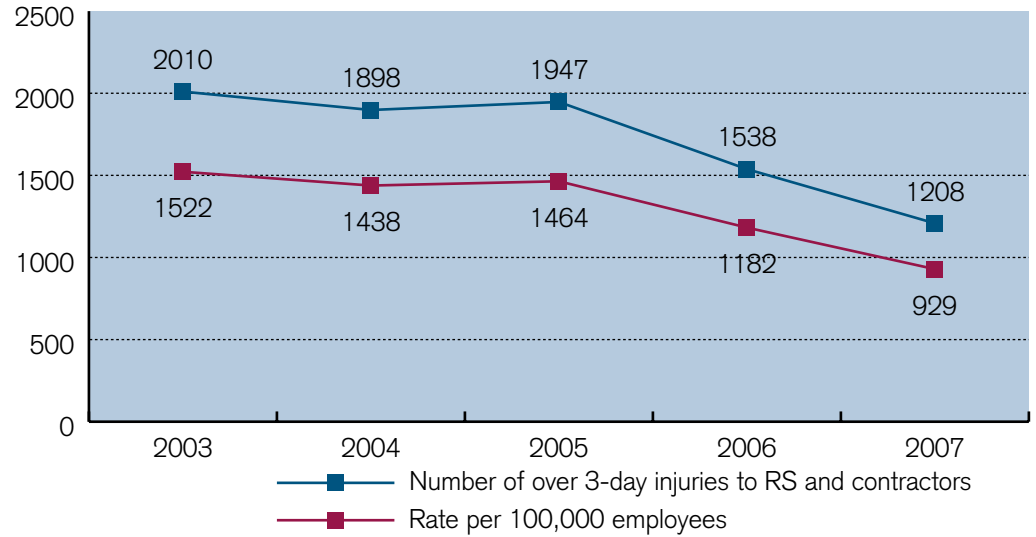


Chart A8: Major injuries to railway employees and contractors 2003-2007 - All railways

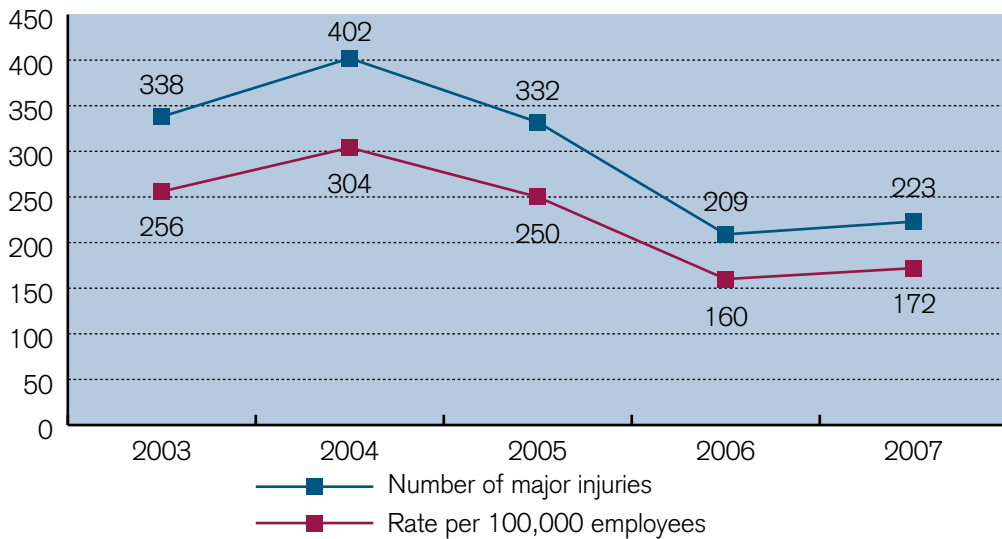


Chart A10: Assaults on railway employees by members of the public 2003-2007 - All railways

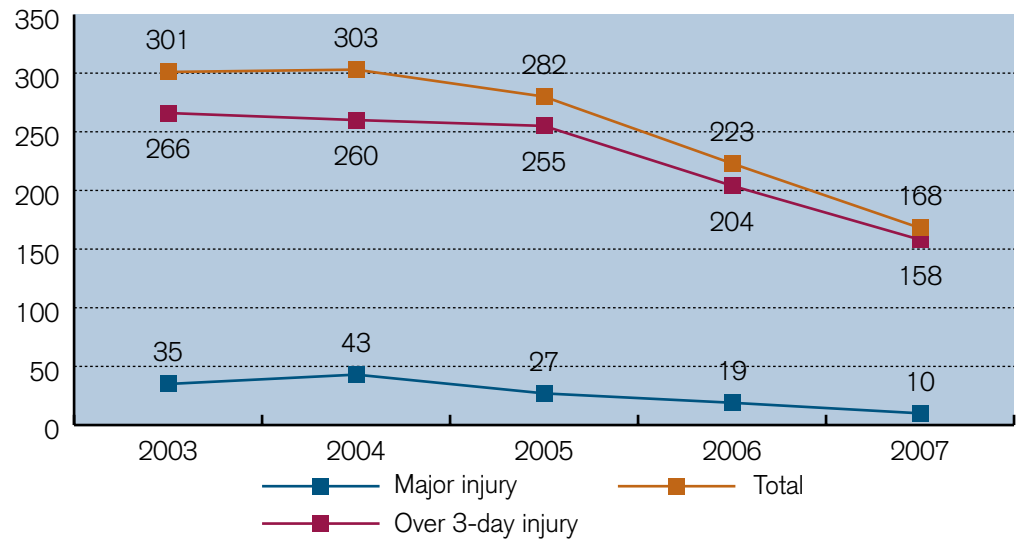


Table A11: Fatalities on London Underground Ltd infrastructure 1998-2007

Category	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Passengers	2	5	3	5	4	2	1	4	3	0
Railway employees and contractors	1	0	0	0	0	0	0	0	0	0
Other members of the public	0	0	0	0	0	0	0	0	0	0
Trespassers	6	12	13	14	11	22	18	18	18	19
Confirmed suicides	15	9	3	8	8	4	1	6	1	2
Total	24	26	19	27	23	28	20	28	22	21

Table A12: Casualties on minor railways 2003-2007 (excluding trespassers and suicides)

Category	2003	2004	2005	2006	2007
Fatalities	2	1	2	2	1
Serious injuries	3	10	9	13	11
Minor injuries	22	48	29	42	27
Total casualties	27	59	40	57	39

B Level crossings

Key facts

- The figures in *Chart B2* show that there were 11 fatalities in 2007 – up from 8 in 2006, but continuing the overall downward trend since 2004.
- The number of pedestrian fatalities was 8 in 2007 – the same as it was in 2006
- The most significant risk at level crossings comes from collisions between trains and road vehicles. During 2007, there were 11 such collisions on all railways in which three vehicle occupants were killed without suspicion of suicide. Eight of these were on the national network - slightly fewer than in recent years. After a year with no such deaths, the number of accidental fatalities returned to levels seen before 2006 and continues the generally level trend since 1997.
- There were no train occupants killed, or trains derailed, in incidents at level crossings in 2007.
- At crossings operated by Network Rail the total number of train incidents increased by 57%, and there were just under 9% more failures.

Table B1: Casualties at level crossings 2007 – All railways (excluding confirmed/suspected suicides)

	Totals	Protected								Unprotected			
		Manual			Automatic					Manual			
		MG	MCB	MCB with CCTV	AHB	ABCL	AOCR	AOCL	UWC with MWL	UWC	UWC with Tel	OC	FP
Fatalities													
Passenger	0	0	0	0	0	0	0	0	0	0	0	0	0
Railway Staff	0	0	0	0	0	0	0	0	0	0	0	0	0
Occupants of road vehicles (including pedal cyclists)	3	0	0	0	1	0	0	2	0	0	0	0	0
Pedestrians	8	0	1	1	0	0	0	0	1	1	1	0	3
Total Fatalities	11	0	1	1	1	0	0	2	1	1	1	0	3
Injuries													
Passenger	0	0	0	0	0	0	0	0	0	0	0	0	0
Railway Staff	3	2	0	1	0	0	0	0	0	0	0	0	0
Occupants of road vehicles (including pedal cyclists)	6	0	0	4	0	0	0	2	0	0	0	0	0
Pedestrians	3	0	1	0	0	0	0	0	1	0	0	0	1
Total Injuries	12	2	1	5	0	0	0	2	1	0	0	0	1

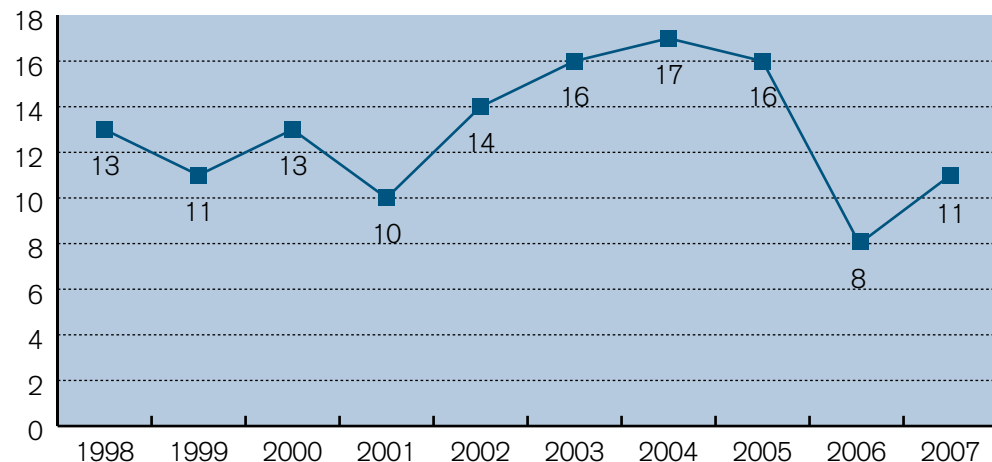
Note: Fatality figures in *Table/Chart B1, B2, B3, and B4* will be less than figures quoted in the Foreword (in relation to occupants of road vehicles), and in *Table A6* because *B1, B2, B3 and B4* do not include suspected suicides.

Action by industry

The railway industry kept up its considerable efforts to reduce level crossing risk. Most visible was the 'Don't Run the Risk' media campaign aimed at educating level crossing users in the dangers of misuse and how to use level crossings safely. The message is addressed to the users of all level crossing types.

Network Rail published in November an updated statement on how it manages level crossing risk. It implemented an improved level crossing risk modelling and assessment process with increased emphasis on human factors in level crossing design. The new process should assist decision making for level crossing upgrades and in refining arrangements to protect users. Network Rail put in place a new team to take forward recommendations from the plethora of recent level crossing research. Its work will include evaluation of alternative technical and human factor approaches to providing warnings and reducing risk.

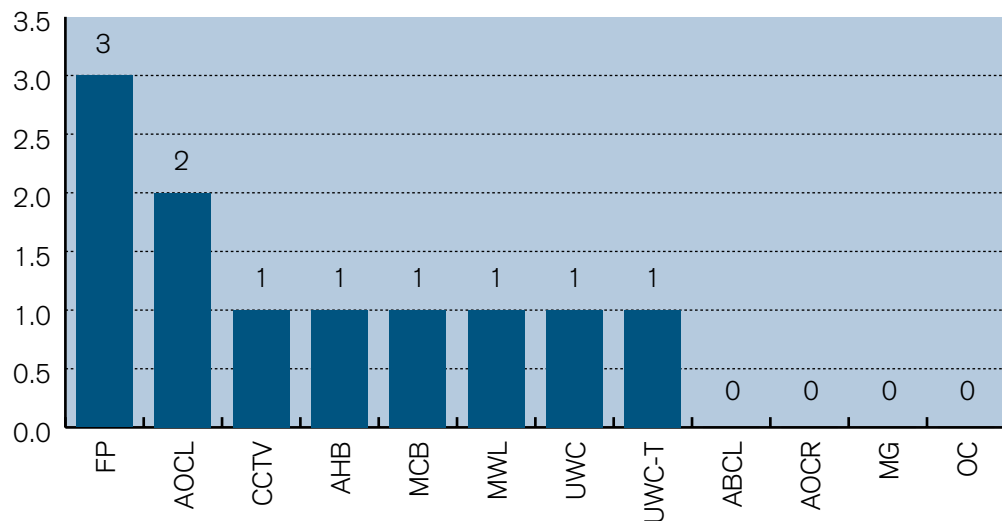
Chart B2: Level crossing fatalities 1998-2007 - All railways (excluding confirmed/suspected suicides)



Note: Fatality figures in *Table/Chart B1, B2, B3, and B4* will be less than figures quoted in the Foreword (in relation to occupants of road vehicles), and in *Table A6* because *B1, B2, B3* and *B4* do not include suspected suicides.

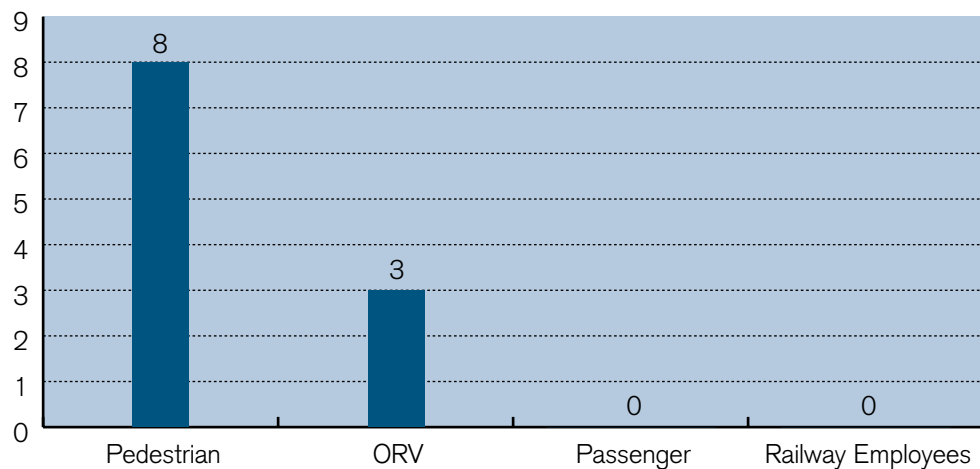
The industry's level crossing research and development programme, led by the Railway Safety and Standards Board (RSSB), continues. Eight reports were published in 2007 and 14 more are in progress or under development.

Chart B3: Level crossing fatalities 2007 by level crossing type – All railways (excluding confirmed/suspected suicides)



Note: Fatality figures in Table/Chart B1, B2, B3, and B4 will be less than figures quoted in the Foreword (in relation to occupants of road vehicles), and in Table A6 because B1, B2, B3 and B4 do not include suspected suicides.

Chart B4: Level crossing fatalities 2007 by casualty type – All railways (excluding confirmed/suspected suicides)



Note: Fatality figures in Table/Chart B1, B2, B3, and B4 will be less than figures quoted in the Foreword (in relation to occupants of road vehicles), and in Table A6 because B1, B2, B3 and B4 do not include suspected suicides.

Table B5: Train incidents and failures at level crossings 2007 – All railways

	Totals	Protected							Unprotected				
		Manual			Automatic				Manual				
		MG	MCB	MCB with CCTV	AHB	ABCL	AOCR	AOCL	UWC with MWL	UWC	UWC with Tel	OC	FP
Train incidents*	33	3	1	1	5	1	0	4	2	4	9	3	0
Failures													
Level Crossing Equipment stuck by road vehicle	187	7	25	92	46	5	0	0	5	1	6	0	0
Level Crossing obstructed by road vehicle	14	0	2	4	4	0	0	1	0	1	2	0	0
Train running onto Level Crossing - no collision	10	0	1	1	5	2	0	1	0	0	0	0	0
General Failure of Level Crossing equipment (includes failure of telephones)	486	8	9	24	127	13	0	7	15	11	271	0	1
Signalling failures at Level Crossings	38	0	3	17	13	2	1	0	1	0	1	0	0
Total Failures	735	15	40	138	195	22	1	9	21	13	280	0	1

Note: * Train incidents include incidents due to acts of vandalism at level crossings and missile damage to trains at level crossings.

Level crossings on Network Rail controlled infrastructure

Table B6: Level Crossings on Network Rail controlled infrastructure by type 2003/04 - 2007

	Totals	Protected								Unprotected				
		Manual			Automatic					Manual				
		MG	MCB	MCB with CCTV	AHB	ABCL	AOCR	AOCL	UWC with MWL	UWC	UWC with Tel	OC	FP	SFB
2003/04	7937	259	255	361	462	49	1	134	172	1979	1677	60	2528	-
2004	7833	245	249	364	457	49	1	131	162	2003	1613	62	2497	-
2005	7674	253	235	373	456	49	1	127	129	1551	1668	58	2593	181
2006	6785	213	238	377	451	50	1	128	93	1060	1661	63	2266	184
2007	6652	191	234	380	452	48	1	120	88	980	1624	51	2290	193

Source: Network Rail Level Crossing Census (via RSSB)

Table B7: Level Crossings on Network Rail controlled infrastructure by route 2007

Route	Totals	Protected									Unprotected						
		Manual			Automatic						Manual						
		MG	MCB	MCB with CCTV	AHB	ABCL	AOCR	AOCL	FP with MWL	UWC with MWL	UWC	UWC with Tel	OC	FP	FP with Tel	FP with WB	SFB
Anglia	813	34	20	50	93	17	0	16	8	14	152	173	1	160	4	55	16
Kent	323	9	10	13	21	2	0	3	0	4	49	51	12	39	2	100	8
Sussex	218	4	9	27	25	0	0	0	2	2	18	28	0	44	9	48	2
Wessex	327	3	8	44	33	0	0	3	2	6	7	57	0	70	11	67	16
London NE	1926	107	91	145	187	11	0	29	10	38	320	391	14	330	36	159	58
London NW	833	17	35	48	20	3	0	9	4	9	100	201	6	220	5	117	39
Scotland	559	3	16	18	28	3	1	23	5	5	101	272	2	34	0	39	9
Western	1653	14	45	35	45	12	0	37	4	10	233	451	16	450	22	234	45
Totals	6652	191	234	380	452	48	1	120	35	88	980	1624	51	1347	89	819	193

Source: Network Rail Level Crossing Census (via RSSB)

The acronyms used in this report are described in Appendix II.

Table B8: Station foot and barrow level crossings on Network Rail controlled infrastructure 2007

Route	Totals	SF	SF with MWL	SF with WB	SB	SB with WLI	SB with WB	SB with Tel
Anglia	16	7	6	0	1	2	0	0
Kent	8	0	0	0	0	0	0	8
Sussex	2	0	0	0	0	2	0	0
Wessex	16	0	0	1	9	0	0	6
London NE	58	22	11	3	7	13	1	1
London NW	39	19	1	5	10	2	1	1
Scotland	9	6	0	1	1	0	0	1
Western	45	12	1	1	12	15	0	4
Totals	193	66	19	11	40	34	2	21

Source: Network Rail Level Crossing Census (via RSSB)

C Trespass and vandalism

Key facts

- 270 members of the public died as a result of trespass and suicide, of whom 52 were confirmed suicides and 129 were suspected suicides;
- In addition, there was one confirmed staff suicide on London Underground Ltd premises
- No children under 16 years of age were killed while trespassing, for the first year on record;
- 375 (37%) of the 1006 reportable train incidents in 2007 were due to acts of vandalism, continuing the downward trend of recent years.

Trespass and suicide

Table C1: Casualties to trespassers, suicides and attempted suicides 2007

	Fatals										Hospital										All Totals	
	NR		LUL		Trams		Other		Total		NR		LUL		Trams		Other		Total			
Total all incidents	242	(0)	21	(0)	1	(0)	6	(0)	270	(0)	83	(0)	29	(0)	7	(0)	3	(0)	122	(0)	392	(0)
Movement incidents																						
Fall from platform and struck	28	(0)	6	(0)	0	(0)	0	(0)	34	(0)	6	(0)	3	(0)	0	(0)	0	(0)	9	(0)	43	(0)
Walking on line and struck	148	(0)	12	(0)	1	(0)	5	(0)	166	(0)	20	(0)	7	(0)	6	(0)	0	(0)	33	(0)	199	(0)
Fall from train in motion	1	(0)	0	(0)	0	(0)	0	(0)	1	(0)	2	(0)	0	(0)	1	(0)	0	(0)	3	(0)	4	(0)
Other movement incidents	2	(0)	0	(0)	0	(0)	0	(0)	2	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	2	(0)
Suicide and attempted suicide	50	(0)	1	(0)	0	(0)	0	(0)	51	(0)	14	(0)	5	(0)	0	(0)	3	(0)	22	(0)	73	(0)
Total movement incidents	229	(0)	19	(0)	1	(0)	5	(0)	254	(0)	42	0	15	(0)	7	(0)	3	(0)	67	(0)	321	(0)
Non-movement incidents																						
Fall to line from bridge etc	7	(0)	0	(0)	0	(0)	0	(0)	7	(0)	17	(1)	5	(0)	0	(0)	0	(0)	22	(1)	29	(1)
Contact with OLE	2	(0)	0	(0)	0	(0)	0	(0)	2	(0)	3	(0)	0	(0)	0	(0)	0	(0)	3	(0)	5	(0)
Contact with live rail	2	(0)	1	(0)	0	(0)	0	(0)	3	(0)	1	(0)	0	(0)	0	(0)	0	(0)	1	(0)	4	(0)
Other non-movement incidents	1	(0)	0	(0)	0	(0)	1	(0)	2	(0)	14	(1)	4	(0)	0	(0)	0	(0)	18	(1)	20	(1)
Suicide and attempted suicide	1	(0)	1*	(0)	0	(0)	0	(0)	2	(0)	6	(0)	5	(0)	0	(0)	0	(0)	11	(0)	13	(0)
Total non-movement incidents	13	(0)	2	(0)	0	(0)	1	(0)	16	(0)	41	(2)	14	(0)	0	(0)	0	(0)	55	(2)	71	(2)

*Staff suicide within work premises

Note:

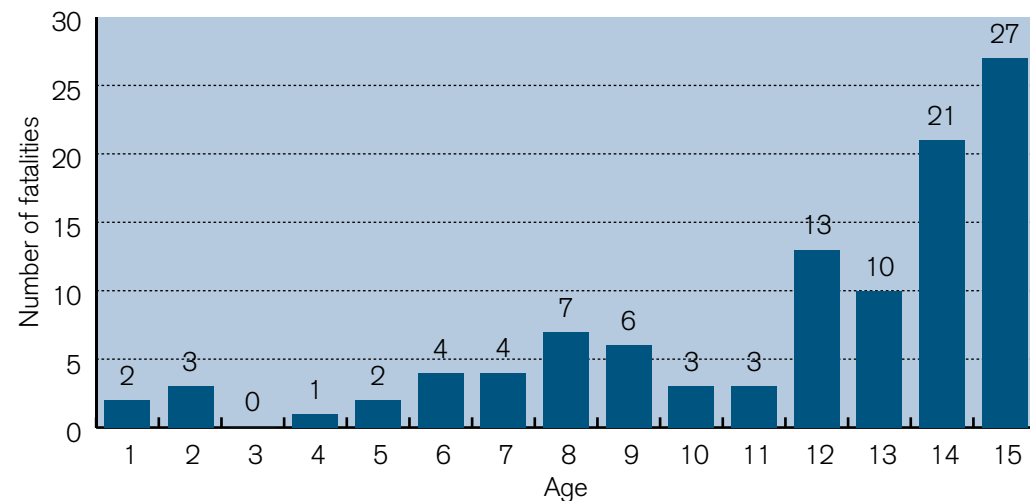
(a) Figures in brackets refer to injuries to child trespassers aged 15 and under

(b) Fatality data is provisional and subject to change due to outstanding coroner's and procurator fiscal's verdicts

The figures in Table C1 show a marked reduction (16%) in the total number of deaths from trespass and suicide (270) compared with the previous year (321). The figures appear to show a significant downturn in suicide deaths (53 confirmed suicides in 2007, compared with 68 in the 2006 report). However, the balance between accidental trespass and suicide deaths needs to be treated with caution, particularly as the trespass figures will include some suspected suicides. Previous experience has shown that the numbers of confirmed suicides are likely to increase significantly as verdicts of outstanding Coroners Inquests, or the Procurator Fiscal, are returned. The overall fall seen in trespass deaths in 2007 is encouraging, reversing the upturn seen in 2006.

As mentioned earlier, there were no children under 16 years old killed while trespassing in 2007, for the first year on record. This is a major step forward from the position in the mid 1980s-90s when, on average, 6 children a year were killed while trespassing on the railways.

Chart C2: Trespasser fatalities involving young people by age 1991-2006* - All railways



* There were no child trespass fatalities in 2007

Incidents due to vandalism

In 2007, there was a further fall in the number of reportable train incidents due to malicious action (down to 375 from 438 in 2006). This continued the consistent downward trend seen in recent years. Since 2000, the number of reportable incidents involving vandalism has fallen by over 60%. These incidents are still of concern because they can lead to damage to railway equipment, injury, or even train derailment as a result of vandals deliberately obstructing the track.

The majority, about 60%, of the 2007 vandalism incidents involved missile damage/stone throwing; about a quarter involved obstruction of the line by vandals; with on-train fires accounting for most of the rest. The numbers of incidents across all these groups fell in 2007.

Table C3: Train incidents due to malicious action by percentage, 2003-2007

	Total number of train incidents	Train incidents due to malicious action	Percentage
2003	1237	611	49%
2004	1336	642	48%
2005	1057	452	43%
2006	1061	438	41%
2007	1006	375	37%

Table C4: Train incidents due to malicious action 2003-2007

	Collisions	Derailments	Running into obstructions	Fires in train	Missile damage	Total
2003	25	4	107	141	334	611
2004	12	6	128	188	308	642
2005	1	3	98	96	254	452
2006	0	0	108	67	263	438
2007	0	1	99	51	224	375

Action to combat trespass and vandalism (route crime)

During 2007, the railway industry maintained an extensive programme of initiatives aimed at reducing trespass, vandalism and suicide risk. Joint working to tackle public behaviour issues is co-ordinated primarily via Community Safety Partnership Groups (CSPGs), which bring together Network Rail, RSSB, BTP, and passenger train and freight operators to share experience, seek solutions and agree actions to tackle community safety issues, including trespass and vandalism. Network Rail continued and expanded its 'No Messin' diversionary campaign, designed to provide young people with exciting and accessible alternatives to railway crime in high-risk areas. Across the railway industry, work has continued to try to identify and focus risk mitigation at suicide 'hotspots' (including work with NHS-led suicide prevention groups), and work with the Samaritans to reduce suicide risk at stations.

During 2007, ORR continued to work closely in support of rail industry partners, at both national and local level, to ensure a targeted and co-ordinated approach to trespass and vandalism risk. Our strategic priorities remained trespass risks to children and derailment risks caused by obstruction of the line by vandals. Planned work included targeted inspection work on management of route crime risk by Network Rail, together with active participation in CSPGs, and joint working on educational initiatives aimed at deterring trespass by children and young people.

Table C5(a): Train incidents due to malicious action 2007 – All railways – by country and county (England)

County	Successor County	Collision	Derailment	Running into Obstruction	Fire on board	Missile damage to train window	Total
Avon	Bath and NE Somerset	0	0	0	0	0	0
	Bristol	0	0	1	0	0	1
	North Somerset	0	0	0	0	0	0
	South Gloucestershire	0	0	0	0	0	0
Bedfordshire		0	0	2	0	2	4
Berkshire		0	0	0	0	3	3
Buckinghamshire		0	0	0	1	4	5
Cambridgeshire		0	0	0	0	1	1
Cheshire		0	0	1	0	6	7
Cleveland		0	0	1	0	2	3
Cornwall		0	0	1	0	2	3
County Durham		0	0	1	0	0	1
Cumbria		0	0	1	0	4	5
Derbyshire		0	0	1	0	7	8
Devon		0	0	0	1	4	5
Dorset		0	0	0	0	0	0
Durham		0	0	0	0	1	1
East Sussex		0	0	1	0	1	2
Essex		0	0	3	3	9	15
Gloucestershire		0	0	0	0	0	0
Greater London		0	0	12	22	16	50
Greater Manchester		0	0	11	0	20	31
Hampshire		0	0	2	0	8	10
Herefordshire		0	0	0	0	3	3
Hertfordshire		0	0	3	5	4	12
Humberside	East Riding of Yorkshire	0	0	0	0	4	4
	Kingston Upon Hull	0	0	0	0	0	0
	North East Lincolnshire	0	0	0	0	1	1
	North Lincolnshire	0	0	0	0	0	0

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Table C5(a) continued

County	Successor County	Collision	Derailment	Running into Obstruction	Fire on board	Missile damage to train window	Total
Isles of Scilly		0	0	0	0	0	0
Isle of Wight		0	0	0	0	0	0
Kent		0	0	9	7	4	20
Lancashire		0	0	0	1	4	5
Leicestershire		0	0	2	0	7	9
Lincolnshire		0	0	1	0	0	1
Merseyside		0	0	0	0	16	16
North Yorkshire		0	0	4	0	2	6
Northamptonshire		0	0	1	0	1	2
Norfolk		0	0	1	1	0	2
Nottinghamshire		0	0	1	0	3	4
Northumberland		0	0	1	0	1	2
Oxfordshire		0	0	0	1	2	3
Rutland		0	0	0	0	0	0
South Yorkshire		0	0	1	0	8	9
Shropshire		0	0	0	0	0	0
Somerset		0	0	0	0	2	2
Staffordshire		0	0	3	0	4	7
Suffolk		0	0	0	0	0	0
Surrey		0	1	7	5	1	14
Tyne & Wear		0	0	1	0	4	5
West Midlands		0	0	5	0	27	32
West Sussex		0	0	3	0	2	5
West Yorkshire		0	0	5	1	15	21
Warwickshire		0	0	0	0	5	5
Wiltshire		0	0	2	0	3	5
Worcestershire		0	0	0	0	0	0
Total		0	1	88	48	213	350

Table C5(b): Train incidents due to malicious action 2007 - All railways - by country and county (Scotland)

County	Collision	Derailment	Running into Obstruction	Fire on board	Missile damage to train window	Total
Aberdeen City	0	0	0	0	0	0
Aberdeenshire	0	0	0	0	0	0
Argyll & Bute	0	0	0	0	0	0
Angus	0	0	0	0	0	0
Border	0	0	0	0	0	0
Borders (Scottish)	0	0	0	0	0	0
City of Edinburgh	0	0	1	0	0	1
City of Glasgow	0	0	0	1	0	1
Central	0	0	0	0	0	0
Clackmannanshire	0	0	0	0	0	0
Dumfries & Galloway	0	0	0	0	0	0
Dundee City	0	0	0	0	0	0
East Ayrshire	0	0	1	0	0	1
East Dunbartonshire	0	0	0	0	0	0
East Lothian	0	0	0	0	0	0
East Renfrewshire	0	0	0	0	0	0
Falkirk	0	0	0	0	0	0
Fife	0	0	0	0	0	0
Grampian	0	0	0	0	0	0
Highland	0	0	0	0	0	0

County	Collision	Derailment	Running into Obstruction	Fire on board	Missile damage to train window	Total
Inverclyde	0	0	0	0	0	0
Lothian	0	0	0	0	0	0
Midlothian	0	0	0	0	0	0
Moray	0	0	0	0	0	0
North Ayrshire	0	0	0	0	0	0
North Lanarkshire	0	0	0	1	0	1
Orkney Islands	0	0	0	0	0	0
Perth & Kinross	0	0	0	0	0	0
Renfrewshire	0	0	0	0	0	0
South Ayrshire	0	0	0	1	0	1
South Lanarkshire	0	0	0	0	0	0
Shetland Islands	0	0	0	0	0	0
Stirling	0	0	0	0	0	0
Strathclyde	0	0	3	0	0	3
Tayside	0	0	0	0	0	0
West Dunbartonshire	0	0	0	0	0	0
Western Isles	0	0	0	0	0	0
West Lothian	0	0	0	0	0	0
Total	0	0	5	3	0	8

Table C5(c): Train incidents due to malicious action 2007 - All railways - by country and county (Wales)

County	Collision	Derailment	Running into Obstruction	Fire on board	Missile damage to train window	Total
Blaenau Gwent	0	0	0	0	0	0
Bridgend	0	0	0	0	1	1
Caerphilly	0	0	0	0	0	0
Cardiff	0	0	0	0	1	1
Carmarthenshire	0	0	0	0	0	0
Ceredigion	0	0	0	0	0	0
Clwyd	0	0	1	0	4	5
Conwy	0	0	0	0	0	0
Denbighshire	0	0	0	0	0	0
Dyfed	0	0	0	0	0	0
Flintshire	0	0	0	0	2	2
Gwent	0	0	0	0	0	0
Gwynedd	0	0	0	0	0	0
Isle of Anglesey	0	0	1	0	0	1
Mid Glamorgan	0	0	2	0	0	2
Monmouthshire	0	0	0	0	0	0
Merthyr Tydfil	0	0	0	0	0	0
Neath Port Talbot	0	0	0	0	0	0
Newport	0	0	0	0	0	0
Pembrokeshire	0	0	0	0	0	0
Powys	0	0	1	0	0	1
Rhondda Cynon Taff	0	0	0	0	1	1
South Glamorgan	0	0	1	0	1	2
Swansea	0	0	0	0	0	0
Torfaen	0	0	0	0	0	0
Vale Glamorgan	0	0	0	0	0	0
West Glamorgan	0	0	0	0	1	1
Wrexham	0	0	0	0	0	0
Total	0	0	6	0	11	17

Table C5(d): Train incidents due to malicious action 2007 - All railways - by country (Great Britain)

Country	Collision	Derailment	Running into Obstruction	Fire on board	Missile damage to train window	Total
England	0	1	88	48	213	350
Scotland	0	0	5	3	0	8
Wales	0	0	6	0	11	17
Great Britain	0	1	99	51	224	375

D Train incidents and rolling stock and infrastructure failures

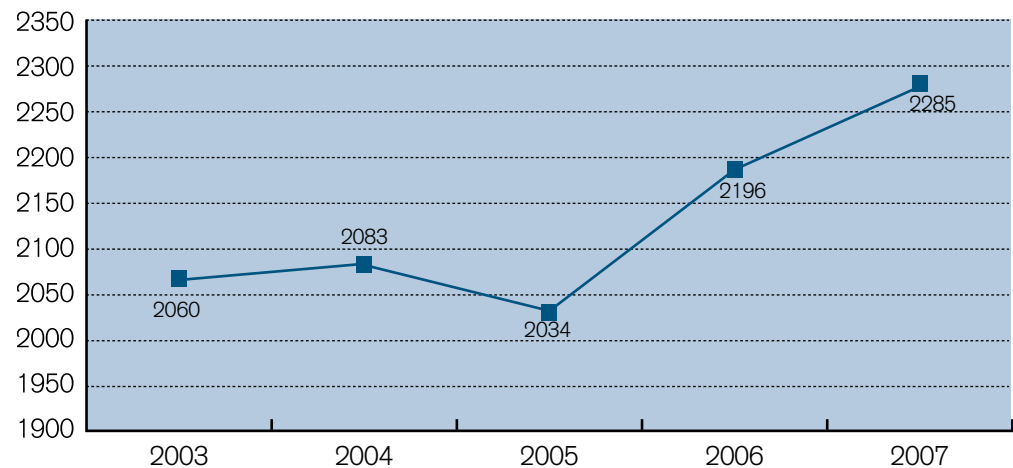
Key facts

- Chart D1 shows that 2285 railway bridges were struck by motor vehicles on Network Rail Infrastructure in 2007. This is an increase of 10% over the average figure for the previous four years and continues an apparently increasing trend.
- 191 rail breaks were reported on Network Rail infrastructure during 2007. This figure continues a trend of major improvement following from 1999 when 939 breaks were recorded.
- There were 4 track buckles reported on Network Rail infrastructure during the year. This is significantly less than the number of buckles in the previous seven years.
- The total number of train incidents has reduced from 1061 in 2006 to 1006 in 2007, but the number of potentially higher risk train accidents on Network Rail controlled infrastructure increased from 52 to 62.

Bridge strikes

There were 2285 reported bridge strikes for the 12 months to end Dec 2007 on the Network Rail Infrastructure. Ninety four per cent of these strikes were vehicles colliding with underline bridges. It is unclear why the increase has occurred. It is possible there has been improved incident reporting with better and more consistent reporting instructions posted to bridges. Other thoughts include an increase in satellite navigation direction errors and an increase in foreign Large Goods Vehicles (formerly Heavy Goods Vehicles) on the road.

Chart D1: Railway bridges struck by road vehicles on Network Rail controlled infrastructure 2003-2007



Source: Network Rail

Work to reduce the incidence and severity of the bridge strikes continues - focussed through the Department for Transport Bridge Strike Prevention Group. This is a multi agency group, including Network Rail, other bridge owners, representatives of the Highways Agency, Local Authorities, the County Surveyors Association, the Road Haulage Association, Freight Transport Association, Confederation of Passenger Transport and Police Authorities, amongst others. Network Rail is particularly committed to minimising the incidents and damage to their infrastructure. It has recently taken over the chair of the committee, after DfT relinquished it.

Table D2: Railway bridges struck by road vehicles on Network Rail controlled infrastructure by bridge type 2007

Category	Unspecified	Not Serious	Potentially Serious	Serious	Total
Underline	129	1993	14	10	2146
Overline	15	100	15	9	139
Total Bridge strikes	144	2093	29	19	2285

Source: Network Rail

Note: Bridge strike classifications are described in Appendix I

Network Rail has also continued to improve its processes to mitigate the impact of bridge strikes on the travelling public. This is by reducing time taken for reinstatement of normal line speed without affecting considerations of structural safety integrity.

Of all the bridge strikes, 19 were considered serious and 29 potentially serious, broadly in proportion to previous years incidences

Rail breaks

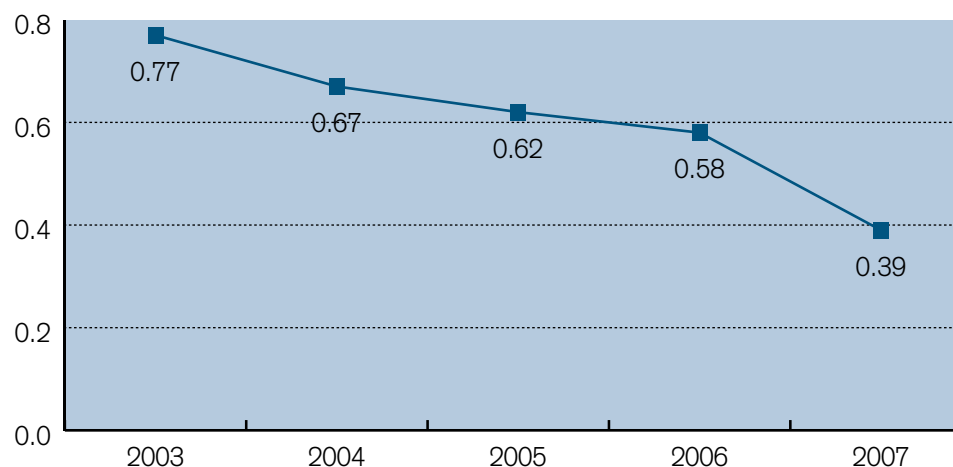
Table D3 provides data on all rail breaks during 2007 compared with previous years.

Table D3: Broken rails all railways 2003-2007

Year	Network Rail	LUL	Other Railways	Total
2003	379	32	0	411
2004	333	49	5	387
2005	317	47	4	368
2006	227	28	4	259
2007	191	19	6	216

The reduction in rail breaks is a success story. They have reduced on all railways, from 988 in the 1998/99 financial year to 216 in 2007. Not only are the numbers of rail breaks again reduced but there continues to be a proportionately greater improvement made to reduce the numbers of rail breaks associated with the higher risk on high speed lines.

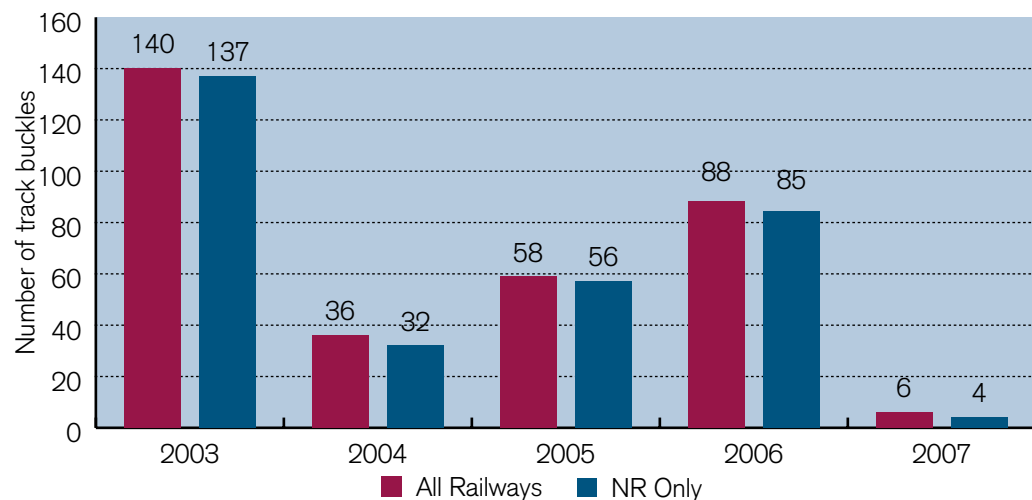
Chart D4: Broken rails per million train kilometres travelled 2003-2007



Track buckles

There were 4 track buckles reported on Network Rail infrastructure during the year. This is significantly less than the number of buckles in recent years (85/56/32). We welcome this major improvement but do not fully understand the factors behind it being realised. There is normally a strong correlation between track buckles and ambient temperature. The wet cool summer of 2007 no doubt contributed to the low number of track buckles experienced. However we are interested to learn if additional proactive measures taken by Network Rail have been significant in preventing track buckles.

Chart D5: Track buckles 2003-2007



Source: RSSB and SIGNAL

Train incidents

The number of Potentially Higher Risk Train Accidents across the UK Rail network continued its downward trend - from a high of 104 incidents in 2005 to 86 in 2007. Given the low incident numbers recorded, we expect an annual fluctuation. The essential element is that the trend is downward.

Table D6: Potentially higher risk train accidents (PHRTAs) all railways 2003-2007

Category	2003	2004	2005	2006	2007
Collisions between trains (excluding roll-backs, open door collisions and out of gauge collisions)	6	10	9	6	9
Derailments (excluding those at LC)	60	59	63	47	47
Buffer-stop Collisions		7	5	3	7
Trains striking road vehicles at LC (including derailments at LC)	30	20	21	14	16
Trains running into road vehicles not at LC and with no derailment (excluding those on a tramway)	1	5	6	4	7
Total	97	101	104	74	86

Table D7: Potentially higher risk train accidents (PHRTAs) Network Rail controlled infrastructure only 2003-2007

Category	2003	2004	2005	2006	2007
Collisions between trains (excluding roll-backs, open door collisions and out of gauge collisions)	5	4	5	1	5
Derailments (excluding those at LC)	36	40	37	32	34
Buffer-stop Collisions		7	2	2	6
Trains striking road vehicles at LC (including derailments at LC)	26	17	17	13	11
Trains running into road vehicles not at LC and with no derailment (excluding those on a tramway)	1	5	6	4	6
Total	68	73	67	52	62

The increase in Potentially Higher Risk Train Accidents within the Network Rail controlled environment is principally within the category of train collisions. Collisions between trains reached a concerning five-year high of five incidents. The reasons behind the incidents are varied but several involved trains which had been divided or were to be joined in platforms. There are approximately six million trains run across Network Rail infrastructure each year, so establishing clear trends from such a small incidence rate is difficult. HMRI are discussing the situation with TOCs, who are responsible for ensuring that drivers are suitably trained and supervised and that the design of rolling stock allows attachments and detachments to be made safely so that the risk of such occurrences is minimised.

Table D8: Train incidents and failures of rolling stock and permanent way 2007

	NR	LUL	Trams	Other	Totals
Collisions between:					
passenger train or parts thereof	4	0	3	1	8
passenger train and freight trains or light locomotives	0	0	0	0	0
freight locomotive or other moving vehicles	1	0	0	0	1
trains and vehicles standing foul of the line	0	0	0	0	0
trains and buffer stops or vehicles standing at buffer stops	6	0	0	1	7
trains and projections from other trains or vehicles on parallel lines	4	0	1	0	5
trains and lineside structures	1	0	1	0	2
Total collisions	16	0	5	2	23
Derailment of:					
passenger train	8	1	2	5	16
freight trains	26	0	1	4	31
Total derailments	34	1	3	9	47
Trains running into:					
gates or vehicles or animals at LC	19	1	1	5	26
animals on the line	84	0	0	0	84
other obstacles*	235	9	131	1	376
Total running into obstructions	338	10	132	6	486

* Data under 'trams' include tram collision with road vehicles

Table D8 continued

	NR	LUL	Trams	Other	Totals
Fires on Trains					
passenger trains	117	15	0	0	132
freight trains	9	0	0	0	9
Total fires on trains	126	15	0	0	141
Missile damage to train windows including driver windscreens					
Total missile damage to train windows including driver windscreen	297	2	3	7	309
Failures of locomotives and multiple unit vehicles					
Diesel	32	0	0	2	34
Electric	29	6	1	1	37
Steam	0	0	0	0	0
General failure of rolling stock	10	1	0	0	11
Failure of wheels or tyres	3	0	0	0	3
Failure of axles (including bearing failures)	0	0	0	0	0
Failure of coupling apparatus on:					
passenger trains	7	0	0	2	9
freight trains	1	0	0	0	1
Total rolling stock failures	82	7	1	5	95
Failure of structures					
Tunnels, bridges, viaducts, culverts etc.,	23	2	0	0	25
Damage to bridges by motor vehicles & ships	48	0	4	1	53
Failure of track by:					
broken rails	191	19	5	1	216
track buckles	4	2	0	0	6
Flooding of Permanent Way, landslips, obstructions of the PW	324	18	0	5	347
Fires at passenger stations, signal boxes, lineside	38	14	0	1	53
Failure of overhead line equipment	28	0	0	1	29
Miscellaneous Failures	499	0	0	1	500
Total failures of permanent way and structures	1155	55	9	10	1229

Source: SIGNAL, RSSB and tram operators

Table D9(a): Train incidents 2007 - All railways - by country and county (England)

County	Successor County	Collision	Derailment	Running into Obstruction	Fire on board	Missile damage to train window (including bird strikes)	Total
Avon	Bath and NE Somerset	0	0	0	0	0	0
	Bristol	0	0	2	1	0	3
	North Somerset	0	0	1	0	0	1
	South Gloucestershire	0	0	0	1	1	2
Bedfordshire		0	0	7	1	9	17
Berkshire		0	0	6	5	3	14
Buckinghamshire		0	2	2	1	5	10
Cambridgeshire		0	1	4	2	1	8
Cheshire		0	1	4	2	8	15
Cleveland		0	0	3	0	2	5
Cornwall		0	1	1	1	2	5
County Durham		0	0	1	0	0	1
Cumbria		0	1	5	1	5	12
Derbyshire		0	2	9	1	9	21
Devon		0	1	3	1	5	10
Dorset		0	0	2	0	0	2
Durham		0	0	3	0	2	5
East Sussex		0	0	6	0	4	10
Essex		1	0	7	4	12	24
Gloucestershire		0	1	4	0	3	8
Greater London		2	5	67	41	21	136
Greater Manchester		6	3	40	2	21	72
Hampshire		0	0	11	2	11	24
Herefordshire		0	0	0	0	4	4
Hertfordshire		0	0	6	8	9	23
Humberside	East Riding of Yorkshire	0	0	2	0	5	7
	Kingston Upon Hull	0	0	0	0	0	0
	North East Lincolnshire	0	0	1	0	1	2
	North Lincolnshire	0	0	0	0	0	0

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Table D9(a) continued

County	Successor County	Collision	Derailment	Running into Obstruction	Fire on board	Missile damage to train window (including bird strikes)	Total
Kent		2	1	27	11	8	49
Lancashire		2	2	12	2	4	22
Leicestershire		0	0	3	0	9	12
Lincolnshire		0	1	2	1	3	7
Merseyside		2	0	3	6	18	29
North Yorkshire		1	1	13	1	4	20
Northamptonshire		0	0	4	0	3	7
Norfolk		1	0	3	1	0	5
Nottinghamshire		0	1	35	2	8	46
Northumberland		0	1	4	2	2	9
Oxfordshire		0	0	2	3	4	9
Rutland		0	0	0	0	0	0
South Yorkshire		0	0	47	5	9	61
Shropshire		0	1	0	1	0	2
Somerset		0	0	2	0	2	4
Staffordshire		0	1	8	1	5	15
Suffolk		0	2	2	1	0	5
Surrey		1	2	14	6	3	26
Tyne & Wear		0	2	3	0	5	10
West Midlands		1	3	15	2	29	50
West Sussex		0	0	9	0	4	13
West Yorkshire		0	0	19	4	15	38
Warwickshire		0	0	1	0	9	10
Wiltshire		0	0	3	2	4	9
Worcestershire		0	0	1	1	0	2
Total		19	36	429	126	291	901

Table D9(b): Train incidents 2007 - All railways - by country and county (Scotland)

County	Collision	Derailment	Running into Obstruction	Fire on board	Missile damage to train window (including bird strikes)	Total
Aberdeen City	0	1	0	0	0	1
Aberdeenshire	0	0	0	0	0	0
Argyll & Bute	0	0	0	0	0	0
Angus	0	0	0	0	0	0
Border	0	0	1	0	0	1
Borders (Scottish)	0	0	0	0	0	0
City of Edinburgh	0	0	1	0	0	1
City of Glasgow	1	0	2	2	0	5
Central	0	0	0	1	0	1
Clackmannanshire	0	0	0	0	0	0
Dumfries & Galloway	0	0	1	0	0	1
Dundee City	0	0	0	0	0	0
East Ayrshire	0	0	2	0	0	2
East Dunbartonshire	0	0	0	0	0	0
East Lothian	0	0	0	4	0	4
East Renfrewshire	0	0	0	0	0	0
Falkirk	0	1	0	1	0	2
Fife	0	1	1	0	0	2
Grampian	0	0	2	0	0	2
Highland	0	1	7	0	0	8
Inverclyde	0	0	0	0	0	0
Lothian	0	1	0	0	0	1
Midlothian	0	0	0	0	0	0
Moray	0	0	1	1	0	2
North Ayrshire	0	0	1	0	0	1
North Lanarkshire	0	0	1	1	0	2
Orkney Islands	0	0	0	0	0	0
Perth & Kinross	1	0	1	0	0	2
Renfrewshire	0	0	0	0	0	0
South Ayrshire	0	0	1	1	0	2

This table is continued on the next page

The acronyms used in this report are described in Appendix II.

Table D9(b) continued

County	Collision	Derailment	Running into Obstruction	Fire on board	Missile damage to train window (including bird strikes)	Total
South Lanarkshire	0	0	1	0	0	1
Shetland Islands	0	0	0	0	0	0
Stirling	0	0	0	0	0	0
Strathclyde	0	2	7	0	0	9
Tayside	0	0	0	0	1	1
West Dunbartonshire	0	0	2	0	0	2
Western Isles	0	0	0	0	0	0
West Lothian	0	0	0	0	0	0
Total	2	7	32	11	1	53

Table D9(c): Train incidents 2007 - All railways - by country and county (Wales)

County	Collision	Derailment	Running into Obstruction	Fire on board	Missile damage to train window (including bird strikes)	Total
Blaenau Gwent	0	0	0	0	1	1
Bridgend	0	0	0	0	1	1
Caerphilly	0	0	0	1	0	1
Cardiff	0	0	0	2	1	3
Carmarthenshire	0	0	1	0	0	1
Ceredigion	0	0	0	0	0	0
Clwyd	0	0	1	0	5	6
Conwy	0	0	0	0	0	0
Denbighshire	0	0	0	0	0	0
Dyfed	1	0	7	0	1	9
Flintshire	0	0	0	0	2	2
Gwent	1	0	1	0	0	2
Gwynedd	0	4	3	0	0	7
Isle of Anglesey	0	0	1	0	0	1
Mid Glamorgan	0	0	2	0	1	3
Monmouthshire	0	0	1	0	0	1
Merthyr Tydfil	0	0	0	0	0	0
Neath Port Talbot	0	0	0	0	0	0
Newport	0	0	0	0	0	0
Pembrokeshire	0	0	2	0	0	2
Powys	0	0	3	0	0	3
Rhondda Cynon Taff	0	0	0	0	1	1
South Glamorgan	0	0	2	0	3	5
Swansea	0	0	0	0	0	0
Torfaen	0	0	0	0	0	0
Vale Glamorgan	0	0	0	0	0	0
West Glamorgan	0	0	0	1	1	2
Wrexham	0	0	1	0	0	1
Total	2	4	25	4	17	52

Table D9(d): Train incidents 2007 - All railways - by country (Great Britain)

Country	Collision	Derailment	Running into Obstruction	Fire on board	Missile damage to train window (including bird strikes)	Total
England	19	36	429	126	291	901
Scotland	2	7	32	11	1	53
Wales	2	4	25	4	17	52
Great Britain	23	47	486	141	309	1006

Table D10: Train incidents 2007 - All railways - analysis by Primary Cause

	Total	Collisions	Derailments	Running into obstructions	Fires on trains	Damage to train windows
TOTAL TRAIN INCIDENTS	1005	23	47	486	141	309
Management & supervisory failures total	6	1	2	3	0	0
Management & supervisory failures	6	1	2	3	0	0
Employee error total	25	12	4	8	0	1
Train crews (including guards):						
a) passing signals at danger	0	0	0	0	0	0
b) other irregularities or want of care						
i) drivers	7	6	1	0	0	0
ii) guards	0	0	0	0	0	0
iii) drivers and guards	2	2	0	0	0	0
Signalmen:						
a) irregular block working	0	0	0	0	0	0
b) other irregularities or want of care	0	0	0	0	0	0
Other employees:						
a) in traffic departments	4	1	2	1	0	0
b) in other departments	0	0	0	0	0	0
Train crews and signalmen	0	0	0	0	0	0
Train crews and other employees	0	0	0	0	0	0
Signalman and other employees	10	2	1	7	0	0
Faulty loading	2	1	0	0	0	1
Technical defects total	159	7	20	39	70	23
Locomotive and multiple units	47	2	0	3	42	0
Vehicles	12	3	3	2	4	0
Track	51	0	13	15	1	22
Signalling apparatus	3	0	0	3	0	0
Overhead line equipment	10	0	0	10	0	0
Other structures	19	0	0	6	12	1
Combined defects	0	0	0	0	0	0
Traction and braking shocks	17	2	4	0	11	0

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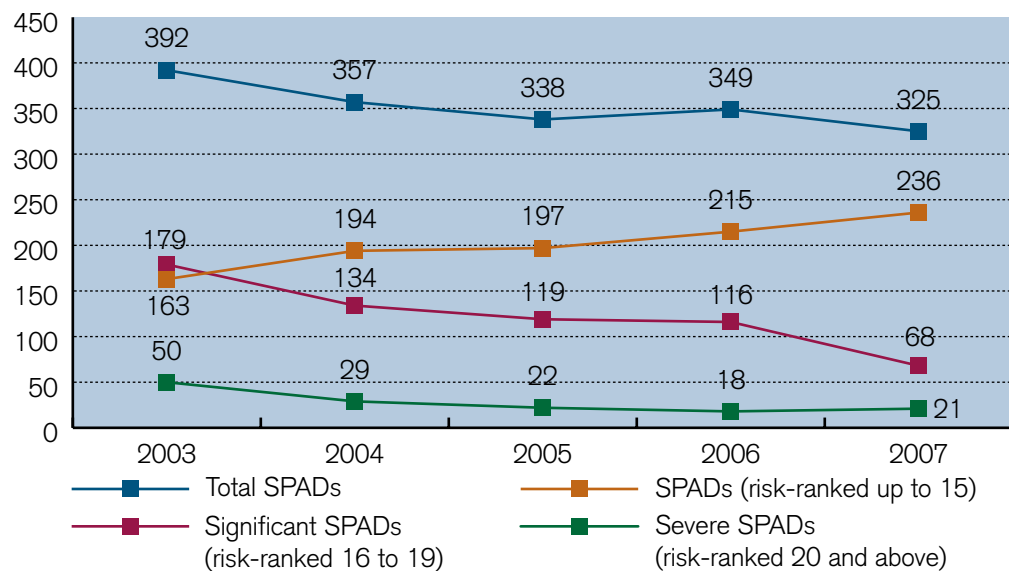
Table D10 continued

	Total	Collisions	Derailments	Running into obstructions	Fires on trains	Damage to train windows
Other causes total	815	3	21	436	71	285
Snow landslides floods etc	58	0	3	55	0	0
Animals on the line (including bird strikes)	115	0	0	84	0	31
Irresponsibility of the public	0	0	0	0	0	0
a) irregular opening of doors	0	0	0	0	0	0
b) at level crossings	13	0	0	13	0	0
c) malicious	374	0	1	97	51	225
d) other	12	0	0	11	1	0
e) road vehicles on tramways	112	0	0	112	0	0
Miscellaneous and cause not determined	131	3	17	64	18	29

Signals passed at danger (SPADs) on Network Rail controlled infrastructure

The total number of incidents of signals being passed at danger (SPADs) on the main line network was down on 2006, as was the number of significant incidents. This is a continuation of a trend that has run now for several years and which is due to ongoing effort by train companies and Network Rail to identify the causes of SPADs and to find ways of managing the risk of their happening, and the risks they cause.

Chart D11: Signals passed at danger (SPADs) on Network Rail controlled infrastructure 2003-2007



Source: ORR SPAD Quarterly Reports

In 2007 initiatives included a concentration on the safety implications of unusual shunt moves and of empty coaching stock moves. Train operating companies made more detailed analysis of SPAD precursors such as age and experience of drivers. Training of staff in safety critical communications protocols continued during 2007 with the aim of reducing the number of SPADs caused by misunderstanding of information or instructions. Regular meetings of Communications Review Groups (CRG) took place in all parts of the network and were attended by Network Rail and representatives from train, freight and on-track machine operating companies. Similar groups met in each of the Network Rail Routes under the name of OPSRAM to discuss initiatives to improve operational safety. ORR supported this cross-industry co-operation and Inspectors attended some CRG and OPSRAM meetings as observers.

The process of agreeing the routing of basic shunt moves at complicated layouts was started so that drivers and signallers would know the default routes that should be set. Coupled with this was a growing understanding of the need for drivers and signallers to discuss and agree the routing of moves which fall outside these basic moves. Both of these initiatives should result in a reduced number of instances of error and misunderstanding leading to SPADs and both are further examples of cross-industry co-operation.

All of these initiatives have been carried forward to 2008 and have the backing of ORR. We shall continue to monitor the industry's progress and to offer support and guidance as appropriate.

The quality of industry investigations and the reports deriving from them has continued to improve, with train operating companies taking the lead in more cases than previously. ORR monitored the quality of these reports and, in some cases, the enactment of the recommendations made by them. We also carried out our own investigations in some cases as well as checking that recommendations from RAIB were dealt with appropriately. We shall continue to do this in 2008.

Tramway incidents

The number of tram collisions with road vehicles reduced over the last year from 136 to 116 - continuing the downward trend since 2004.

Table D12: Tramway incidents 2003-2007

	2003		2004		2005		2006		2007	
	Collisions with Road Vehicles	Other incidents	Collisions with Road Vehicles	Other incidents	Collisions with Road Vehicles	Other incidents	Collisions with Road Vehicles	Other incidents	Collisions with Road Vehicles	Other incidents
Blackpool Transport Services	11	1	8	2	19	4	11	4	3	3
Croydon Tramlink	22	0	23	2	25	3	28	5	21	1
Midland Metro	5	12	12	8	5	6	6	2	8	0
Nottingham Tram Consortium	0	2	34	3	36	1	35	0	27	0
Serco Manchester Tramlink	17	10	26	10	21	17	16	29	19	21
South Yorkshire Supertram	51	5	59	3	48	8	40	7	38	2
Total	106	30	162	28	154	39	136	47	116	27

Source: Tram operators and SIGNAL

Appendix I

Bridge strike classification

Extract from 'Management of reports on bridge strikes' published by Network Rail Ref. NR/WI/CIV/076

6 Severity classification

The severity of a bridge strike shall be classified in accordance with 6.1 to 6.3 inclusive.

6.1 Serious bridge strike

A bridge strike shall be classified as 'serious' if any of the following result from it:

- the horizontal or vertical alignment of the track is affected;
- a load-carrying element is damaged distorted or displaced to such an extent that its load-carrying capacity is in doubt;
- there is a physical obstruction to the passage of trains, such as an extent that its load-carrying capacity is in doubt;
- there is a physical obstruction to the passage of trains, such as fallen debris from the parapet of an overline bridge lying within the loading gauge;
- an arch or spandrel wall is damaged to such an extent that its stability is affected and an operational railway track has to remain closed, or subject to temporary speed restriction, until repairs have been carried out; or
- a pre-stressed concrete element carrying live load is damaged to such an extent that the reinforcement is broken or displaced.

6.2 Potentially serious bridge strike

A bridge strike shall be classified as 'potentially serious' if any of the following result from it:

- a load-carrying element suffers structural damage to the extent that it is necessary to carry out extensive repairs, but it is not necessary to impose a temporary speed restriction on rail traffic pending such repairs;
- an arch or spandrel wall is damaged to the extent that its stability is not immediately affected but any further significant damages would require part of the arch or spandrel wall to be replaced;
- fallen debris, such as from the parapet of an overline bridge, is lying on a cutting slope on the track, but it does not infringe the loading gauge; or
- a reinforced concrete element carrying live load is damaged to the extent that the reinforcement is exposed but not broken or displaced.

6.3 Not serious bridge strike

A bridge strike shall be classified as 'not serious' if none of the situations described in 6.1 or 6.2 occurs.

Appendix II

Acronyms 2007

ABCL automatic barrier crossing locally monitored

AHB automatic half barrier

AOCL automatic open crossing locally monitored

AOCR automatic open crossing remotely monitored

BTP British Transport Police

CCTV closed circuit television

COSS Controller of Site Safety

CRG Communications Review Group

CSPG Community Safety Partnership Group

DfT Department for Transport

FP footpath (level crossing)

HMRI Her Majesty's Railway Inspectorate

LC level crossing

LOWS lookout-operated warning systems

LUL London Underground Limited

MCB manually controlled barrier (operated by a railway employee including those operated by trainmen)

MG manual gate (operated by a railway employee including those operated by trainmen)

MWL miniature warning lights

NE North East

NHS National Health Service

NR Network Rail

OC open crossing

OLE overhead line equipment

OPSRAM Operational Risk Reduction and Mitigation

ORR	Office of Rail Regulation	SPAD	signal passed at danger
ORV	occupant of a road vehicle	TOC	Train Operating Company
PHRTAs	potentially higher risk train accidents	TPWS	train protection warning system
PW	permanent way	UWC	user-worked crossing with either gates or lifting barriers not manned by a railway employee
RAIB	Rail Accident Investigation Branch	WB	Whistle Boards
RIDDOR	Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995	WLI	white light indicators
RPSG	Rail Personal Security Group		
RSSB	Railway Safety Standards Board		
SB	station barrier crossing		
SF	station foot crossing		
SFB	station foot and barrow level crossing		
SIGNAL	System for Incident Generation, Notification and Listing (Database containing information on RIDDOR reportable incidents)		

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