DEPARTMENT OF FUNDAMENTAL VALUES

SAFETY UNIT

Safety Database Activity Report

- Significant Accidents 2010

- Benchmarking and Appendix

Paris, December 2011

INTERNATIONAL UNION
OF RAILWAYS

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Foreword

In an overall sense, the accident statistics from the UIC Safety Database for 2010 confirm the long-term positive trend towards improvement in railway safety. For several years the number of accidents has declined steadily, and the numbers for 2010 continued in that direction. In the longer-term historical context, it is also clear that railway safety has steadily improved for a number of reasons, including better technology, a better safety culture, international efforts to coordinate safety strategies, and the advent of high speed rail.

At the same time, certain events from 2010 should be cause for alarm. While the number of third parties, including trespassers, killed or injured on the railways declined sharply, there was an increase in passenger victims. There was a higher number of collisions and derailments. More accidents were caused by railway sub-system faults, including infrastructure and rolling stock, as well as by human factors in the railways. A particularly severe collision in Belgium, with 190 killed and seriously injured persons, had human factors as a cause. Clearly, European railways must not become complacent. They must continue their efforts to improve safety in the most fundamental areas: track, structures, rolling stock and employee preparedness.

This year a new section of the report has been added focusing specifically on derailments. From 2009 to 2010 the number of derailments increased significantly and unexpectedly. While there were far fewer human victims of derailments – 17 compared with 62 in 2009 – the financial costs of the derailments in 2010 were staggering, nearly three times higher than in 2009.

Despite the continuing challenges faced by railways in a time of economic stringency and high demand in an increasingly mobile society, it is undeniable that railways remain among the safest forms of transport. The future of European economic development and mobility lies with the smooth, safe operation of its state of the art, ever-expanding railway network.

-- Jean-Michel RICHARD

Chairman of the Safety Platform

Executive Summary of significant accidents in 2010

In 2010 the UIC Safety Database collected significant accidents and critical events from the main railway companies in 21 European countries including Norway and Switzerland, plus Eurotunnel.

One of the railways, NRIC of Bulgaria, which contributed data to the Database in 2009 did not submit data for 2010; on the other hand a new railway Infrastructure Manager, HZ of Croatia, submitted data for the first time this year. Therefore, as in 2009, there are 21 railways represented in this report, however one of them has been replaced by another. For the purposes of consistent comparison with past years, in the table below only the data from the 19 railways that have supplied data every year is considered.

With regard to the number of accidents since 2006 from these 19 members, the overall safety trend is positive. There have been fewer and fewer accidents every year, and 2010 was no exception, with a much lower number of accidents than in 2009, which was already well below the number for 2008. Part of the reason for this decline is undoubtedly the reduction in kilometres of train movement, due to the economic downturn across Europe. But the accident rate per kilometre has fallen as well, continuing a steady trend, which indicates a true reduction of accident risk on the railways.

There were a few surprises in the accident statistics for 2010. Trespassing, the most common cause of accidents and victims on the railway, had been increasing in past years, but 2010 saw a decline in these accidents. There were about 200 fewer accidents caused by trespassing in 2010 than in the previous year; it was the cause of 39 percent of accidents compared with 46 percent in 2009. Similarly, accidents to persons caused by rolling stock in motion, the majority of whose causes and victims are trespassers, declined from 66 percent of accidents to 61 percent. On the other hand, the number of collisions and derailments increased in 2010, and the number of victims of these accidents increased very sharply. Derailments increased by about 50%, passing from 3.8% of railway accidents to 5.8%. The derailment increase involved only freight traffic, with passenger train derailments declining slightly. At this point it is impossible to say with certainty whether this is a random statistical fluctuation, or indicative of a dangerous increase in risk.

Consistent with those figures, the percentage of accidents caused by external factors such as third parties declined in 2010, while accidents caused by factors internal to the rail system increased. These include railway subsystems such as rolling stock and infrastructure failures, as well as a variety of human factors. Internally caused accidents have always been a minority, but the increase in 2010 is a negative indicator for the factors under the direct responsibility of railways. The risk is that an increase in such accidents could reflect underinvestment, an attitude of complacency, or other factors, including simple bad luck or annual statistical variation.

Despite the increase in collisions and derailments, there was only one significant accident involving dangerous goods in 2010, with no release of the goods. This is important to note, because obviously such accidents can be particularly devastating.

Overall, the number of victims of rail accidents, which includes fatalities and serious injuries, dropped only slightly in 2010. The good news is that the number of fatalities dropped significantly, but this was mitigated by the fact that the number of serious injuries increased by close to the same amount. The decrease in fatalities can be largely attributed to the reduction in trespassing accidents, which account for the majority of accidents. Regrettably, this progress is hidden by the increase in serious injuries, which is largely attributable to a single collision in Belgium which had a very high number of victims.

The impacts of a few dramatic accidents in some years, or the lack thereof in other years, can have a major effect on the overall statistics, sometimes masking other trends that are more long-term and subtle.

There were 186 “serious accidents”, nearly the same as in 2009 and a bit lower than previous years. Serious accidents are the most severe significant accidents, defined as collisions or derailments with at least one fatality, or five serious injuries, or damage in excess of two million Euros.

The most serious accident in 2009 was the aforementioned collision in Belgium. It was caused by human factors and resulted in 190 victims, with 19 fatalities and 171 serious injuries. The second most serious accident involved several people hit by a train while crossing the tracks in an unauthorised manner in a crowded station, resulting in 12 killed and 10 seriously injured. The third and fourth most serious accidents were collisions between trains, both caused by human factors.

The most financially costly accident was a train collision with a buffer stop caused by human factors. Due to a lack of familiarity by the train crew, as well as language and communication problems, the train reached the end of the line at a high speed and crashed through the buffer stop, continuing for some 100 meters. While miraculously there were no human victims, the accident caused some 11.7 million euros worth of damage. Altogether there were five accidents with financial costs over 5 million euros, and 29 accidents exceeding 1 million euros. Of the top ten most expensive accidents, seven were derailments.

Years	Significant accidents	Serious accidents	Number of Fatalities / 100 significant accidents			All victims / 100 significant accidents	Significant accidents / Million of train Km movement	Fatalities / Million of train Km movement
			Passengers	Staff	Other			
2010	**1980 (2165)**	**186 (215)**	**2.3**	**1.8**	**51.2**	**107.7**	**0.52**	**0.28**
2009	2081	187	1.4	1.6	58.3	103.7	0.54	0.33
2008	2198	196	3.0	1.7	51.0	104.5	0.56	0.31
2007	2216	224	2.8	1.4	55.0	109.3	0.57	0.34
2006	2255	202	1.8	1.5	50.6	101.7	0.59	0.32

For comparison purposes, data presented in this table are from the group of 19 members that has provided consistent data for the years specified. Numbers in (brackets) represent data from 21 members; these are the reference figures for the rest of the report.

Figure 1	Breakdown and rate of types of significant accidents in 2010 according to different definitions.					
Accidents	Types of accidents as defined in UIC – SDB		Additional information from UIC -SDB		Types of accidents as defined in Safety Directive	
Collective accidents 30,3%	5,8%	Derailments of trains	5,8%	Derailments of trains	5,8%	Derailments of trains
	1,9%	Train collision with another train	1,9%	Train collision with another train	7,3%	Collisions of trains, including collisions with obstacles within the clearance gauge
	22,5%	Train collision with an obstacle	5,3%	Train collision with an obstacle not at level crossing		
			17,2%	Train collision with an obstacle at level crossing	22,9%	Level-crossing accidents, including accidents involving pedestrians at level-crossings,
			5,7%	Individual hit by a train at level crossing		
Individual accidents 67,9%	61,3%	Individual hit by a train	55,6%	Individual hit by a train not at level crossing	62,1%	Accidents to persons caused by rolling stock in motion, with the exception of suicides.
	6,5%	Individual falling from a train	6,5%	Individual falling from a train		
Other types of accidents 1,9%	0,9%	Fire in rolling stock	0,9%	Fire in rolling stock	0,9%	Fire in rolling stock
	1,0%	Electrocution by overhead line or third rail	1,0%	Electrocution by overhead line or third rail	1,0%	Other types of accidents
	0,0%	Accident involving dangerous goods	0,0%	Accident involving dangerous goods		
100%	100%		100%		100%	

Figure 2	UIC - SBD: First level analysis from UIC Safety Database - 2010 data Causes of accidents			
Simplest type of causes definition	**Basic causes definition from UIC-SDB**	**More detailed information from UIC-SDB second level causes**		**Number of significant accidents**
EXTERNAL CAUSES 75,2%	THIRD PARTIES 73,0%	Trespass (intrusion)	38,80%	840
		Other or not specified	16,17%	350
		Vehicle (case of LC accident	12,93%	280
		Pedestrian (case of LC accident)	4,53%	98
		Objects on the gauge	0,37%	8
		Vandalism	0,18%	4
	WEATHER & ENVIRONMENT 2,2%	Environment	1,06%	23
		Weather	1,02%	22
		Not specified	0,09%	2
INTERNAL CAUSES **21,0%**	RAILWAY SUB-SYSTEMS 5,3%	Rolling stock	2,91%	63
		Infrastructure (track & structures)	1,76%	38
		Energy system	0,32%	7
		Control-command signalling	0,14%	3
		Operations & traffic management	0,18%	4
	HUMAN FACTORS 15,7%	Passengers and freight company customers	8,18%	177
		Not specified	2,68%	58
		Control-command, energy, traffic operating and switching staff	1,71%	37
		Traindriver and train crew	1,39%	30
		Track and track contractors staff	1,20%	26
		Other users	0,28%	6
		Other human factor in RUs	0,23%	5
3,9%	CAUSES NOT IDENTIFIED		3,9%	84
100%	100%		100%	2165

Change from previous year

The vast majority of accidents had external causes in 2010. This has been consistently true, and in past years the gap between internal and external causes had been getting wider. In 2010, however, there was a higher percentage of internally caused accidents than in 2009, and a lower percentage of external causes. Causes such as trespassing were dramatically lower, however internal causes such as rolling stock, infrastructure and human factors were higher. These are the areas over which the railways have the most responsibility and control, and the increase in these types of accidents can not be seen as a positive development from the railways' point of view.

Figure 3 Trend of accidents and rates since 2001, given as cumulative data from 11 railways and 2006-2010 values for 20 railway companies.

	11 railway companies						20 railway companies				
Years:	Average 2001-2005	2006	2007	2008	2009	2010	2006	2007	2008	2009	2010
Number of serious injury accidents	861	871	831	760	799	692	2093	2130	2061	1958	1757
Serious injury accidents per million km of train movements	0,30	0,29	0,27	0,25	0,27	0,23	0,53	0,53	0,51	0,50	0,45
Number of fatalities	500	524	528	490	511	456	1254	1347	1256	1304	1121
Fatalities per million km of train movements	0,17	0,17	0,17	0,16	0,17	0,15	0,32	0,34	0,31	0,33	0,29
Number of significant accidents	970	1080	948	934	926	876	2327	2272	2263	2129	2025
Significant accidents per million km of train movements	0,34	0,36	0,31	0,30	0,31	0,29	0,59	0,57	0,56	0,54	0,52
Number of victims	1112	985	936	852	863	942	2367	2483	2356	2208	2181
Victims per million km of train movements	0,39	0,33	0,30	0,28	0,29	0,31	0,60	0,62	0,58	0,56	0,56
Number of million km of train movements:	2874,273	3021,404	3094,03	3094,03	3013,78	3024,05	3953,57	3997,36	4048,34	3912,74	3864,53

Figure 4 Number of accidents and victims in 2010
Data from 21 railway companies from UIC Safety Database

			Killed			Seriously injuried			Victims
		Number of accidents	Passenger	Staff	Other	Passengers	Staff	Other	All
At station	Collisions with an obstacle	28	0	0	6	2	3	5	**16**
	Collisions between trains	26	0	2	2	14	8	1	**27**
	LC accidents	75	0	0	42	0	1	37	**80**
	Derailments	50	0	1	0	8	4	0	**13**
	Hit by a train	449	9	13	237	16	14	189	**478**
	Falling from a train	92	8	3	2	56	18	7	**94**
	Other cases	18	0	1	3	0	2	5	**11**
	TOTAL at station:	**738**	**17**	**20**	**292**	**96**	**50**	**244**	**719**
In open line	Collisions with an obstacle	84	1	1	7	8	10	0	**27**
	Collisions between trains	9	18	2	0	172	13	0	**205**
	LC accidents	411	2	2	270	12	5	247	**538**
	Derailments	67	0	0	0	3	1	0	**4**
	Hit by a train	748	3	7	535	2	13	198	**758**
	Falling from a train	46	7	5	1	17	12	5	**47**
	Other cases	15	0	1	1	0	0	3	**5**
	TOTAL in open line:	**1380**	**31**	**18**	**814**	**214**	**54**	**453**	**1584**
	In other locations:	**47**	0	0	8	1	3	15	**27**
	TOTAL:	**2165**	**48**	**38**	**1114**	**311**	**107**	**712**	**2330**

Note: Figures 5, 6 and 18 – 24 are included only the in the full, confidential version of the report.

SECTION 1

DISCUSSION POINTS: TRESPASSING, LC ACCIDENTS AND ACCIDENTS AT STATION

The accidents recorded in 2010 confirm the evidence from previous years that the interaction of the rail system with its external environment results in more victims than the failure of the internal safety management of the rail system itself. Members of the public who interact with the railways - road vehicle users, pedestrian at level crossing and trespassers - still constitute a far larger proportion of fatalities than passengers and staff members. The proportion is 93% others, 4% passengers and 3% employees (see Figure 9).

Analysis based on significant accidents reported by 21 railway companies in 2010 indicates that 78.5% of total accidents are represented by level crossing accidents plus individuals hit by a train not at level crossings. Individuals hit by train, including pedestrian at level crossing represent about 61% of the total of accidents. Third parties were the cause of 73% of the total number of accidents.

In 2010, level crossing accidents and persons being hit by trains resulted in 86% of the total number of victims. For these two types of accidents, third parties were 95% of the victims. In this respect there is a need for wider community responsibility to be taken in the development of solutions to combat such types of accidents.

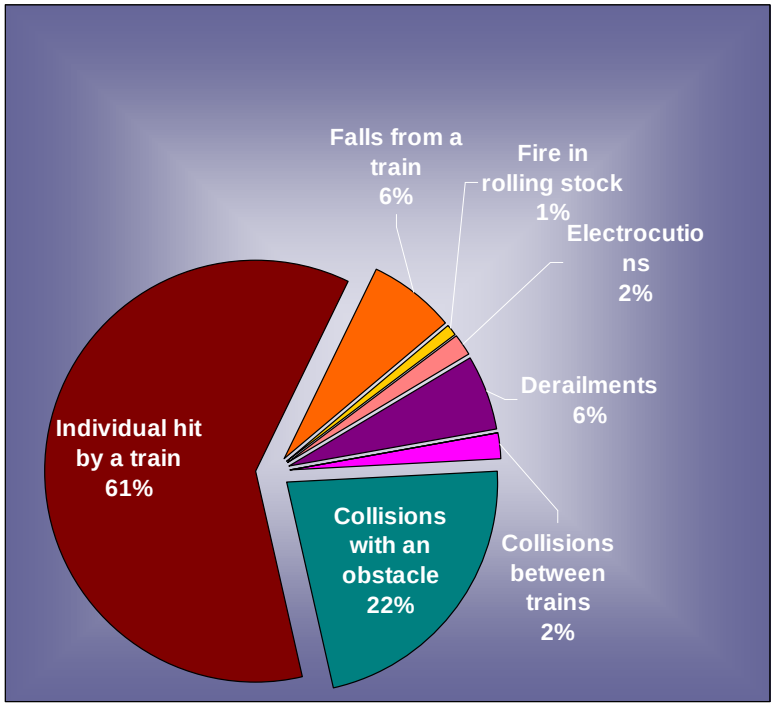
The number of level crossing accidents has been falling steadily for the last several years. However, between 2009 and 2010 the number of all accidents fell even more sharply, meaning that proportionally level crossing accidents made up a higher percentage of total accidents in 2010. The decline in train-km has also meant that the rate of level crossing accidents per million kilometres of train movement remained the same from 2009 to 2010.

More than other forms of transport, the railways have a porous infrastructure, with which the public is constantly coming in contact. Whether as trespassers or level crossing users, members of the public external to the rail system are the most critical target audience for informational campaigns to reduce the number of railway accidents.

Years	Level Crossings Significant accidents	Rate of total accidents	Number of Fatalities / 100 significant level crossing accidents			LC victims / 100 significant LC accidents	LC Significant accidents / Million of train Km movement	LC Fatalities / Million of train Km movement
			Passengers	Staff	Other			
2010	**443 (496)**	**22.4**	**0.5**	**0.2**	**63**	**126.6**	**0.12**	**0.08**
2009	461	21.7	0.0	0.6	75	134.1	0.12	0.09
2008	539	24.2	0.5	0.4	60	125.2	0.14	0.08
2007	611	27.3	0.3	0.3	67	141.7	0.15	0.10
2006	606	27.4	0.2	0.5	52	121.3	0.16	0.08

For comparison purposes, data presented in this table are from the group of 19 members that has provided consistent data for the years specified. Numbers in (brackets) represent data from 21 members

Figure 7 — **UIC - SBD Report on significant accidents from 2010-01-01 to 2010-12-31 Breakdown of accidents by type for 21 European railways.**



Accidents by type

- Collisions with an obstacle include collisions at level crossings.
- Individual hit by a train include pedestrians at level crossings.
- For level crossings accidents refer to Figure 10.

Rounded values:	Victims / accident	Fatalities / accident	Serious injuries / accident
Passengers	**0,17**	**0,02**	**0,14**
Staff	**0,07**	**0,02**	**0,05**
Others	**0,84**	**0,51**	**0,33**
Total:	**1,08**	**0,55**	**0,52**

	Accidents		Victims	
Type of accidents	Number	[%]	Fatalities	Serious injuries
- Train collision with another train	42	1,9%	24	208
- Train collision with an obstacle (including at LC)	487	22,5%	236	303
- Individual hit by a train (including at LC)	1328	61,3%	905	469
- Individual falling from a train	141	6,5%	26	118
- Fire in rolling stock	19	0,9%	1	0
- Electrocution by overhead line or third rail	22	1,0%	7	16
- Derailment	126	5,8%	1	16
- Dangerous goods accidents (no release)	0	0,0%	0	0
- Dangerous goods accidents (with release)	0	0,0%	0	0
Total:	**2165**	**100%**	**1200**	**1130**

Summary results

The number of individuals hit by train was lower than in 2009, while there were higher numbers of collisions and derailments. These numbers fluctuate from year to year however, and do not appear to indicate a long-term trend.

Figure 8 — **UIC - SBD Report on significant accidents from 2010-01-01 to 2010-12-31 Fatalities and serious injuries**

	Fatalities			Serious injuries		
Type of accidents	P	S	O	P	S	O
- Train collision with another train	18	4	2	186	21	1
- Train collision with an obstacle (including at LC)	3	2	231	22	19	262
- Individual hit by a train (including at LC)	12	21	872	18	27	424
- Individual falling from a train	15	8	3	74	32	12
- Fire in rolling stock	0	1	0	0	0	0
- Electrocution by overhead line or third rail	0	1	6	0	3	13
- Derailment	0	1	0	11	5	0
- Accident involving dangerous goods	0	0	0	0	0	0
Total:	**48**	**38**	**1114**	**311**	**107**	**712**

(1) P = passengers; S = staff; O = others

Figure 9 — **UIC – SBD Public safety**

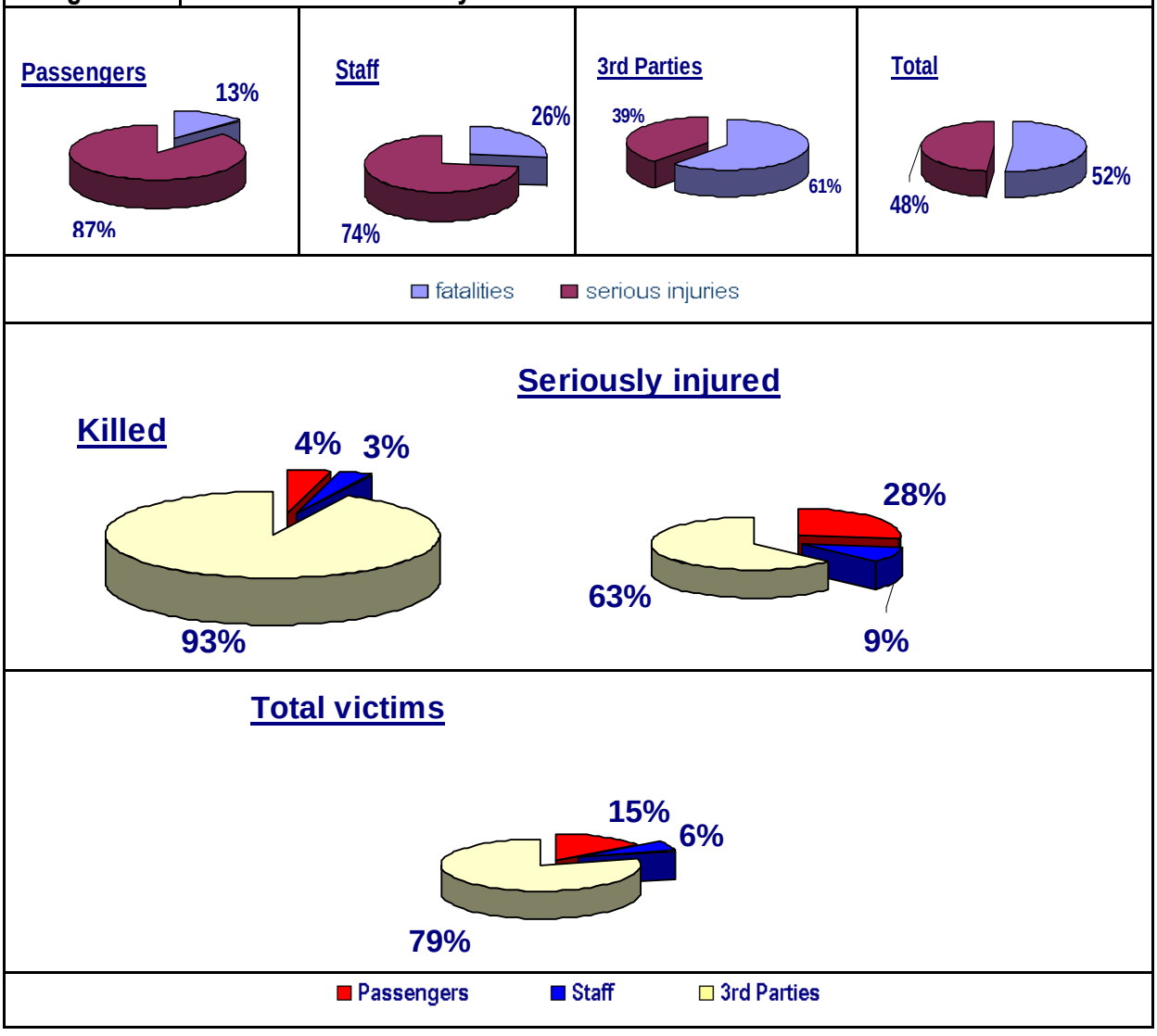
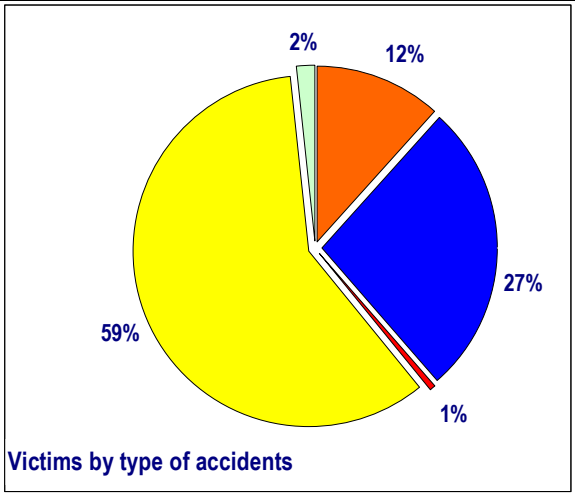


Figure 10 — **UIC - SBD Report on significant accidents from 2010-01-01 to 2010-12-31 Breakdown of victims by type of accidents for 21 European railways.**



	Rate of:		
	Fatalities	Serious injuries	Victims
Passengers	2%	14%	16%
Staff	2%	5%	7%
Others	52%	33%	84%

	Accidents		Victims	
Type of accidents	Number	[%]	Fatalities	Serious injuries
- Collisions	157	7,3%	39	236
- Level Crossings	496	22,9%	320	307
- Derailments	126	5,8%	1	16
- Persons & RS in motion (in this hit by train: 1009 or 89.2%)	1345	62,1%	832	555
- Fire	19	0,9%	1	0
- Others	22	1,0%	7	16
Total:	**2165**	**100%**	**1200**	**1130**

Summary results

The most frequent type of accident was that to persons due to rolling stocks in motion. Excluding level crossings, there were 1204 accidents involving persons hit by a train, causing a total of 1243 victims. This amounts to approximately 53% of the total number of victims in all railway accidents (down from 57% in 2009 and 56% in 2008). While still the most frequent type of accident, the numbers declined in 2010 due to a reduction in trespassing.

In a total of 748 cases of accidents to persons hit by a train in open line (people struck by a train) there were 758 victims (545 persons were killed and 213 were seriously injured – see Figure 4).

Significantly, in previous years most passenger fatalities or serious injuries occurred in station areas, as a result of passengers falling from trains or being hit by trains, but in 2010 this was reversed, particularly with regard to serious injuries (see also Figure 13). Unfortunately, this was primarily the consequence of one particularly devastating collision that occurred in Belgium at an open line location.

There were 496 level crossing accidents. Although this number is slightly lower than the 503 reported in 2009, it represents 22.9% of all accidents, a higher percentage than the 21.7% in 2009, due to fewer accidents overall in 2010. In 2008 level crossing accidents represented 24.2% of all accidents and 27.3% in 2007.

While the data from 2009 was marked by a diminution in the number of collisions and level crossing accidents, with a far lower percentage of passenger victims, in 2010 this trend was reversed. There

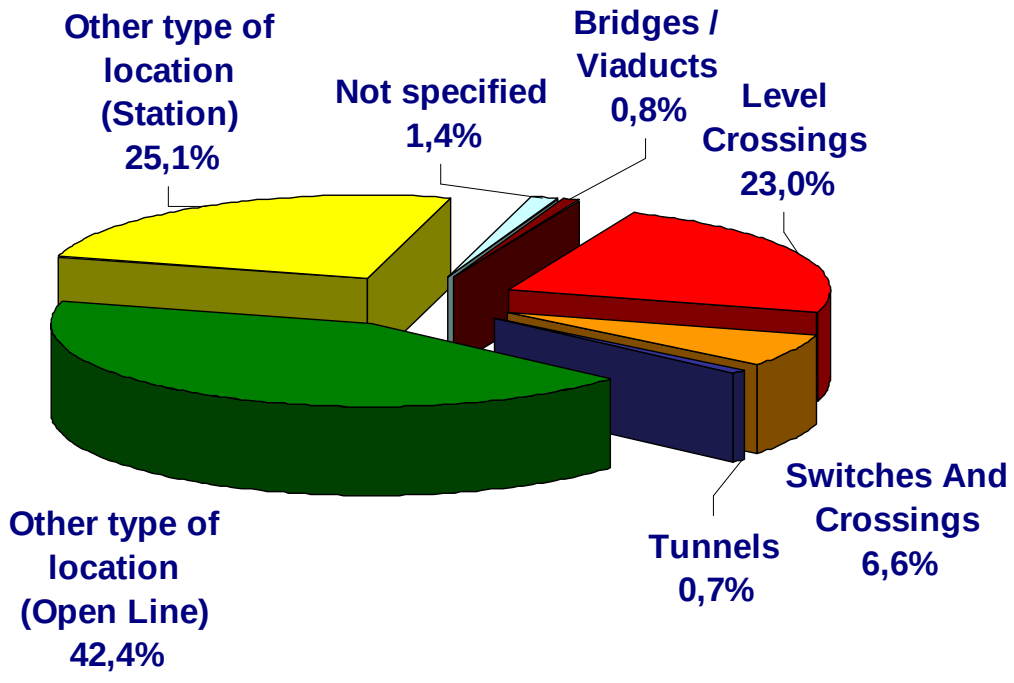
were more collisions and derailments in 2010, and while third party victims declined considerably, there was an increase in passenger fatalities and serious injuries. At this point it is unclear whether this is representative of a new, negative trend for passenger safety, or if the longer term trends of increased passenger safety will continue in the years to come.

Figure 11 — **UIC - SBD Report on significant accidents from 2010-01-01 to 2010-12-31 Fatalities and serious injuries according to EUROSTAT definitions.**

	Fatalities			Seriously injured		
	P	S	O	P	S	O
- Collisions	19	5	15	196	34	6
- Level Crossings	2	2	316	12	6	289
- Derailments	0	1	0	11	5	0
- Persons & RS in motion	27	28	777	92	59	404
- Dangerous goods Total	0	0	0	0	0	0
- Fire	0	1	0	0	0	0
- Others	0	1	6	0	3	13
Total:	**48**	**38**	**1114**	**311**	**107**	**712**

(1) P = passengers; S = staff; O = others

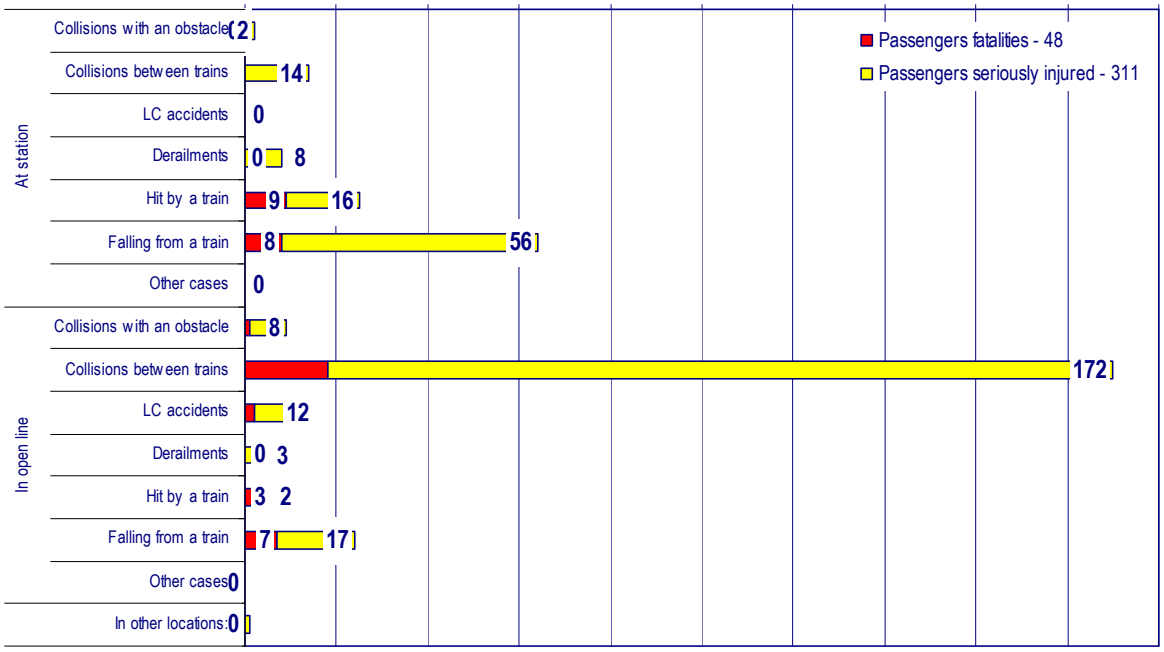
Figure 12 — **UIC - SBD Report on significant accidents from 2010-01-01 to 2010-12-31 Breakdown of accidents for all participant railways by type of location**



Summary results

A breakdown of accidents by location shows that more accidents occur in open line locations than anywhere else, with substantial percentages also occurring at stations and level crossings. There was a significant diminution in the number of accidents at level crossings from 2008 to 2009, but this increased again in 2010, seeming to mark no particular trend. There were 143 accidents at switches and crossings, nearly the same as in 2009, that resulted in a total of 91 victims (43 killed and 48 serious injured persons). Figures for level crossing accidents in the last five years are reported in the table on page 12.

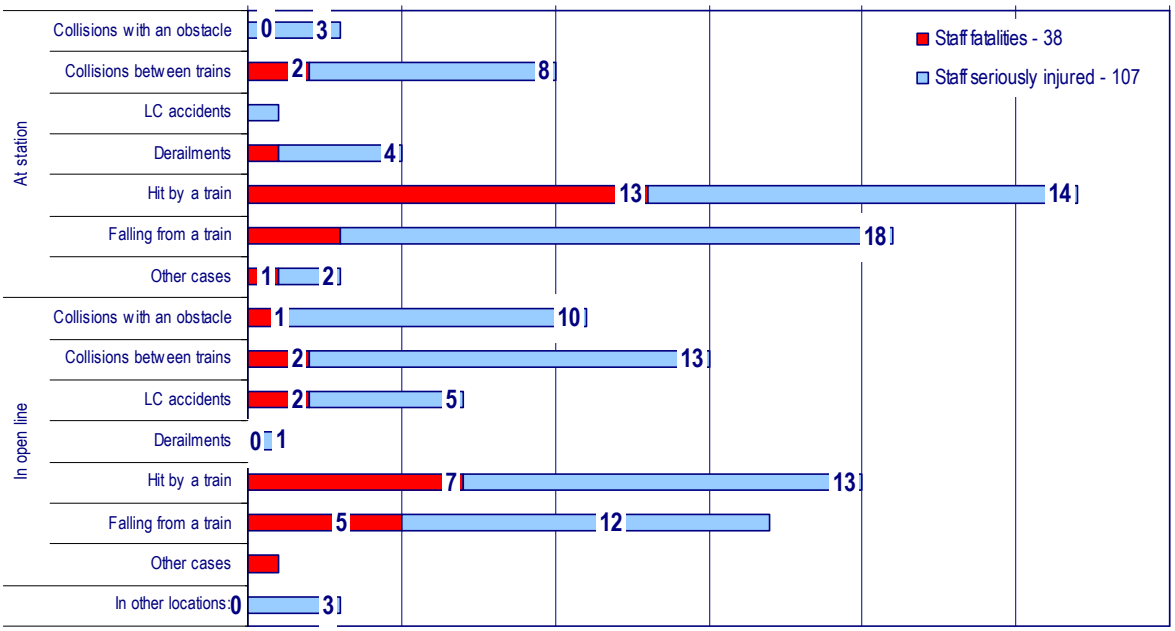
Figure 13	**UIC - SBD Report on significant accidents from 2010-01-01 to 2010-12-31 Total number of passengers who were victims of accidents by type of of location.**



Summary results

In past years station locations were responsible for the majority of passenger fatalities and serious injuries, despite representing a relatively small percentage of all accidents. In 2010, however, this was not the case. 34% of accidents occurred at stations, and accounted for 35% of passenger fatalities and 31% of passenger injuries. For the first time, the majority of passenger injuries occurred in open line locations rather than stations. One serious collision at an open line location in Belgium is largely responsible for this change.

Figure 14	UIC - SBD Report on significant accidents from 2010-01-01 to 2010-12-31 Total number of staff who were victims of accidents by type of location.



Summary results

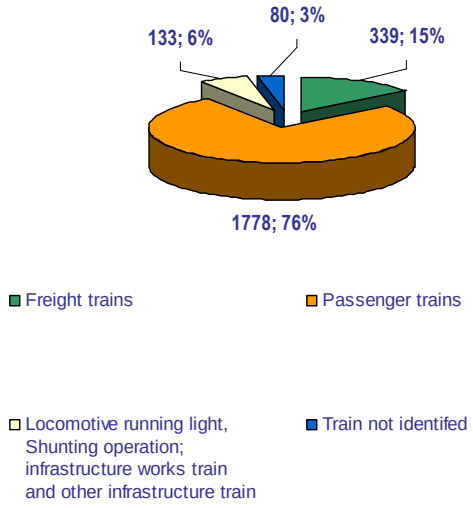
The number of staff victims in 2010, at 145, was nearly unchanged from 2009 when the figure was 146. The number of staff victims per hundred million train kilometres has been increasing steadily from 2.7 in 2007, to 3.2 in 2008, 3.6 in 2009, and 3.7 in 2010. Part of this is explained not so much by an increase in staff victims as by the reduction in train kilometres travelled. There were 1.8 staff members killed per 100 significant accidents, the highest value in several years, also a consequence of the number of victims remaining constant or increasing slightly despite the declining number of accidents.

Figure 15	UIC – SBD: First level analysis from UIC Safety Database – 2010 data Number of victims per type, cause and location							
Accident [Events] and victims		Causes and victims	Location, [Events] and victims				Victims		
			Open Line	Station	Others	Details	(1)	Killed	Serious Injured
Individual hit by a train [1328]	1374	Third parties – 1191 Human factors – 118 Not identified – 60 All others – 5	[841] 858	[473] 502	[14] 14	Level crossings - 131 Switches & Crossings – 70 Bridges & Viaducts – 10 Tunnels – 6 All others - 1157	 P S O	 12 21 872	 18 27 424
Train collision with an obstacle [487]	539	Third parties – 492 Weather & Environment – 2 Human factors – 26 Not identified – 12 All others – 7	[402] 465	[79] 72	[6] 2	Level crossings – 496 Switches & Crossings -1 Bridges & Viaducts – 0 Tunnels – 1 Other type of location - 41	 P S O	 3 2 231	 22 19 262
Individual falling from a train [141]	144	Human factors – 111 Third parties – 30 Not identified – 3 All others – 0	[46] 47	[92] 94	[3] 3	Level crossings – 0 Switches & Crossings -6 Tunnels – 1 Other type of location - 137	 P S O	 15 8 3	 74 32 12
Train collision with another train [42]	232	Human factors – 230 Rolling stock – 1 Not identified – 1 All others – 0	[9] 205	[26] 27	[7] 0	Switches & Crossings – 2 Other type of location - 230 	P S O 	18 4 2 	186 21 1
Derailment [126]	17	Human factors – 11 Third parties – 0 All others – 6	[67] 4	[50] 13	[9] 0	Switches & Crossings – 12 Other type of location - 5 	P S O	0 1 0	11 5 0
Electrocution [22]	23	Third parties – 16 Human factors – 5 All others – 2	[3] 4	[11] 11	[8] 8	Level crossings – 0 Bridges & Viaducts – 3 Other type of location – 20	P S O	0 1 6	0 3 13
Fires [19]	1	Rolling stock – 1 Third parties - 0	[12] 1	[7] 0	[0] 0	Other type of location - 1 	P S O	0 1 0	0 0 0
TOTAL [2165]	**2330**	**Third parties – 1729** **Human factors – 501** **Not identified – 78** **Weather & Environment – 4** ***Railway Subsystems - 18**	**[1380] 1584**	**[738] 719**	**[47] 27**	**Level crossings -627** **Switches & Crossings – 91** **Bridges & Viaducts – 13** **Tunnels – 8** **All others - 1591**	 P S O 	 **48** **38** **1114** 	 **311** **107** **712**
								1200	**1130**
(1) P=passengers; S=staff; O=others									

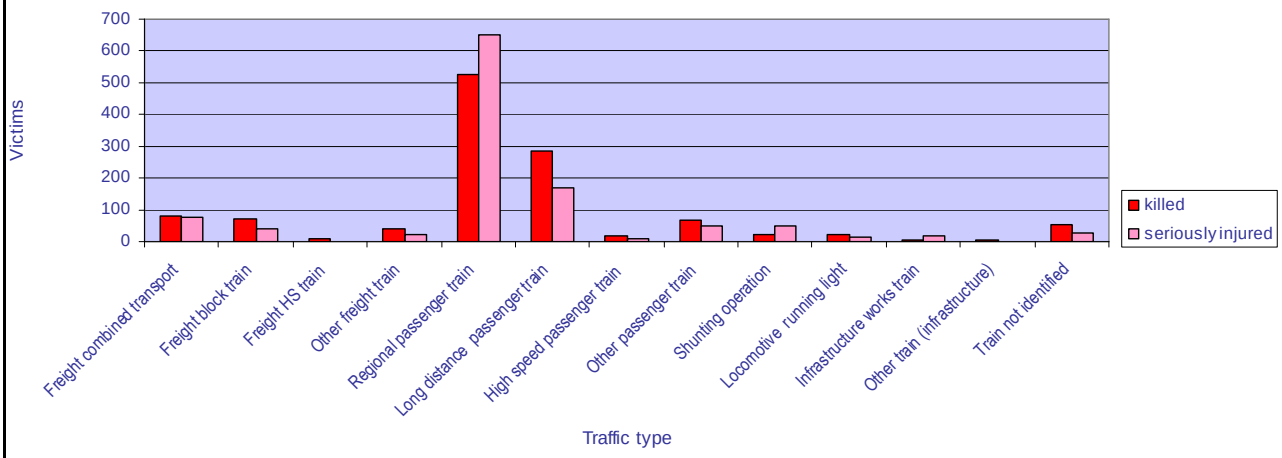
(*) Causes for 18 victims related to "Railway Subsystems" are attributed as follow: Infrastructure = 7; Energy system = 2; Control-Command & Signalling = 0; Operations & Traffic Management = 2; Rolling stock = 7.

Figure 16

UIC - SBD Report on significant accidents from 2010-01-01 to 2010-12-31
Breakdown of victims by type of traffic involved



Type of accident	*Number of Victims*			
	Freight trains	Passenger trains	Light running locomotives, Shunting operation, infrastructure works train and other infrastructure train	Train not identified
Collision	12	230	33	0
Derailment	1	13	3	0
Level-crossing accidents	96	503	25	3
Accidents to persons caused by rolling stock in motion	218	1031	72	66
Fires in rolling stock	1	0	0	0
Other accidents (all electrocutions)	11	1	0	11
TOTAL victims:	**339**	**1778**	**133**	**80**



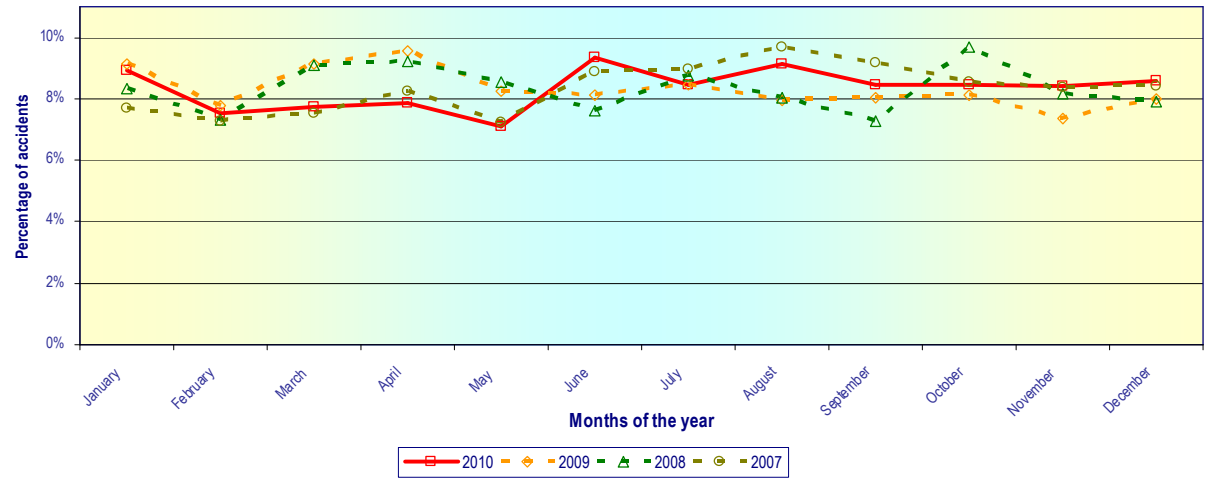
Summary results

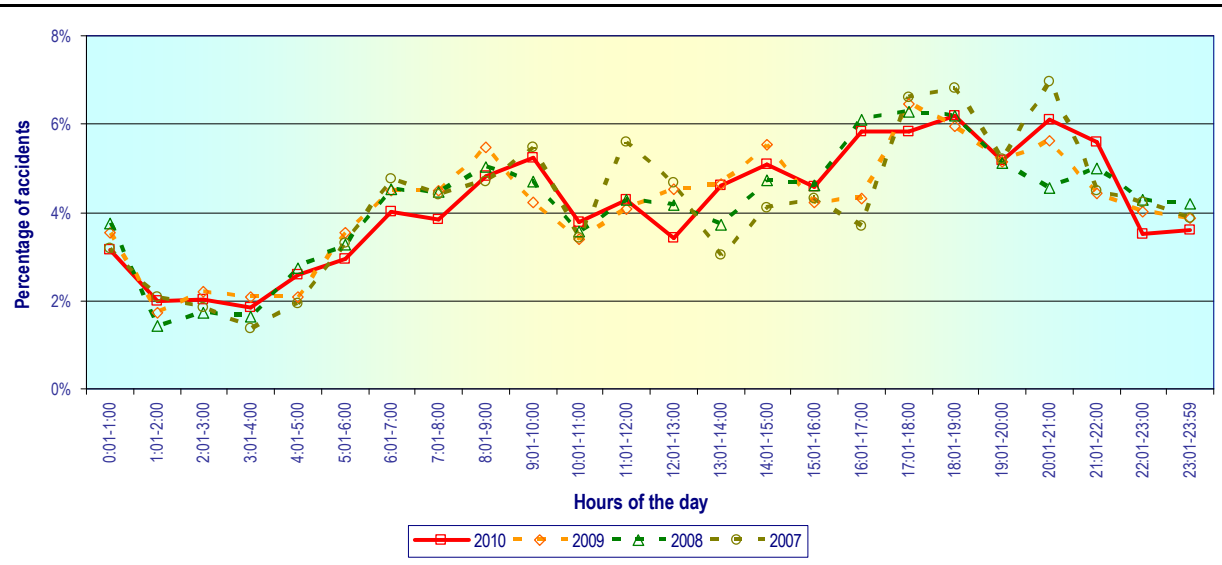
Sixty-nine percent of significant accidents involved passenger trains; 20 percent involved freight. Regional passenger trains largely outnumbered long distance passenger trains in accident occurrences. There was a slightly higher proportion of accidents involving freight trains in 2010 compared to the previous year, as well as a small increase in the percentage of accidents involving locomotives running light, shunting operations, and work trains. The percentage of passenger train accidents was slightly lower, as was the percentage of unidentified trains.

Fifty-eight percent of passenger train victims were killed or injured by rolling stock in motion, and 28 percent from level crossing accidents, down slightly from previous years. However, collisions accounted for fully 13 percent of passenger train victims, a much higher figure than in previous years. 64 percent

of freight accident victims are attributed to rolling stock in motion, while level crossing accidents represented 28 percent. Collisions were responsible for 3.5 percent of freight victims, and remarkably there was only one victim of a freight derailment in 2010. In comparison, in 2009 derailments accounted for 12 percent of the victims in freight accidents.

Figure 17	UIC - SBD Report on significant accidents. Monthly and daily accident distributions for the years 2007 – 2010





Summary results

The annual variation in the number of accidents shows a nearly constant level from month to month. In 2010 there was a slight peak in June, with slightly fewer accidents between February and May. The differences in accident numbers from month to month, and compared with the past few years, do not indicate any particular trend.

As in past years, the accidents occur most frequently during the morning and evening peak periods, with a dip in the middle of the day and then a sustained level throughout the afternoon. Accident rates are lowest late at night. These figures correspond well to the varying levels of passenger traffic and public activity at different times of day, as would be expected.

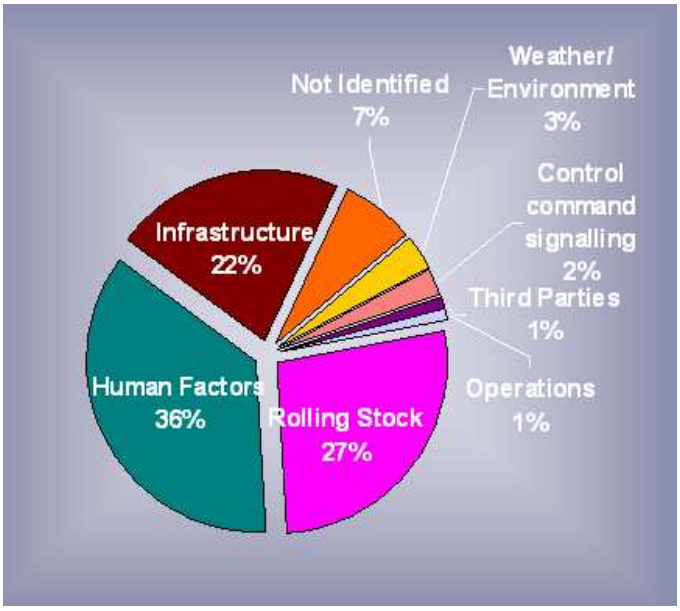
SECTION 2

ANALYSIS OF DERAILMENTS

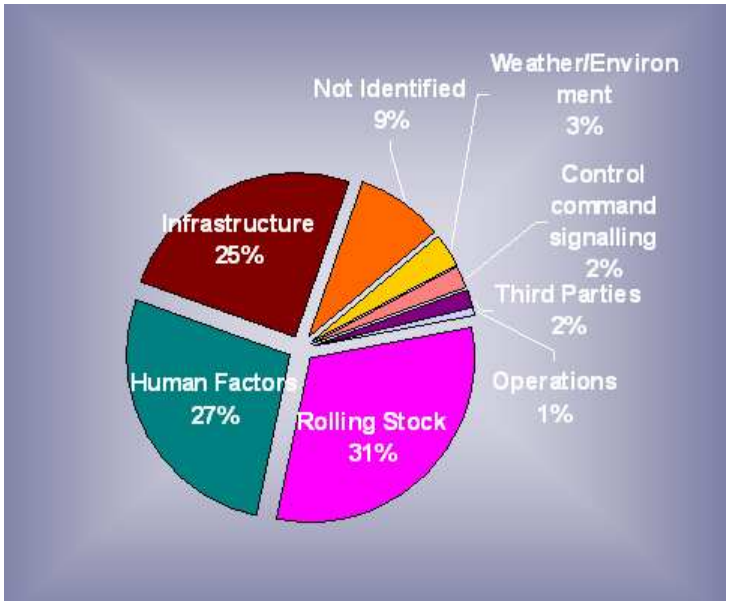
Despite overall positive trends in the numbers and rates of accidents, 2010 saw a troubling increase in derailments, up nearly 50% from the previous year, from 86 to 126. In this section of the Activity Report we will take a deeper look at the characteristics of derailments on European railways in 2010. The reasons for the increase are difficult to pin down; there is no single cause that jumps out of the data as being new or unusual. Of the 126 significant derailments reported by UIC SDB member railways in 2010, more than three-quarters were caused by rolling stock, human factors and infrastructure in roughly equal proportions, with the rest caused by a variety of other causes.

CAUSES OF DERAILMENTS

First-level causes of derailments in 2009



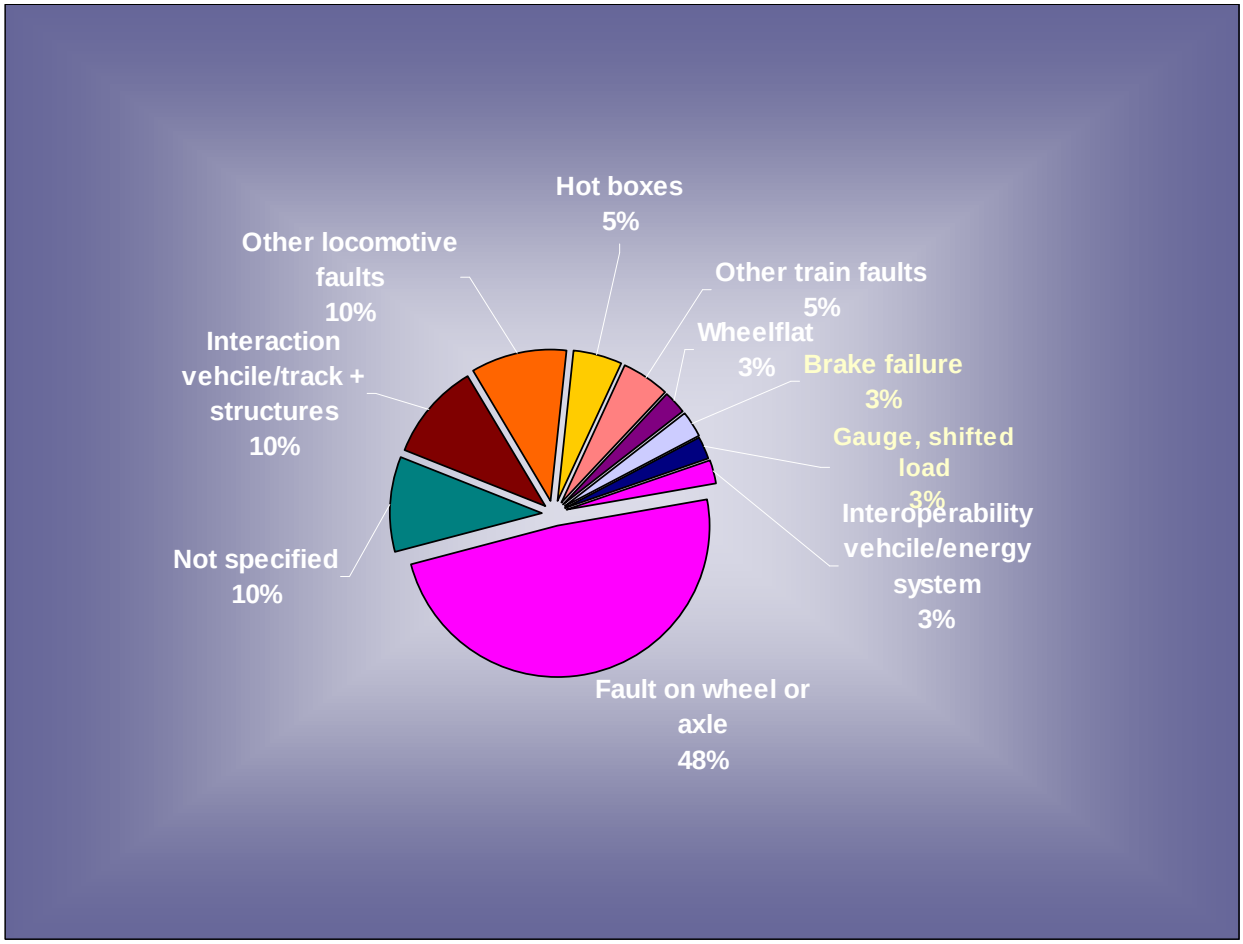
First-level causes of derailments in 2010



A comparison of derailment causes between 2009 and 2010 shows an increase in rolling stock and infrastructure causes in 2010, with a corresponding decrease in the proportion of human factor causes. It would be incorrect, however, to infer that this fact represents an improvement of human factor risks. There were actually more derailments caused by human factors in 2010 than in 2009 – 34 as opposed to 31 – but because the other categories of causes increased even more, the proportion shrank. Rolling stock and infrastructure causes increased significantly, both proportionally and in absolute numbers.

Within each of these first-level cause categories are sub-levels which provide more detail about the cause of a particular accident. Each of these sub-causes will be broken down in the following diagrams. Looking first at the largest cause of derailments, rolling stock failures, gives the following breakdown of secondary causes:

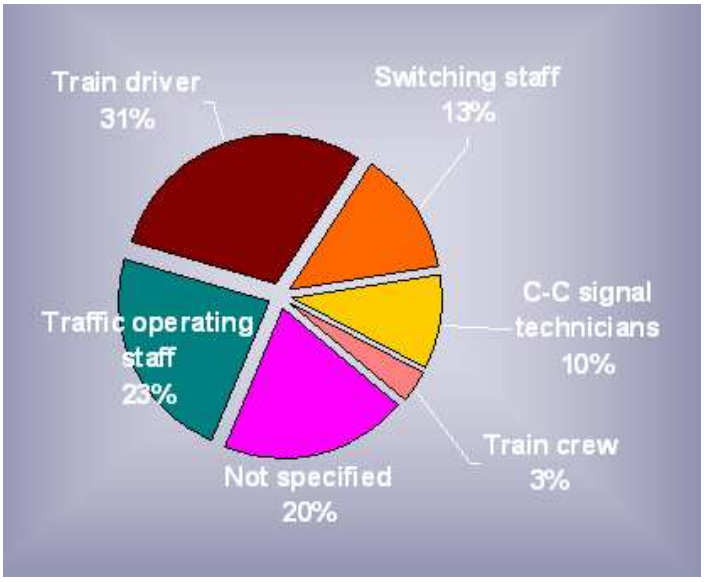
Second-level causes of derailments caused by Rolling Stock failures in 2010



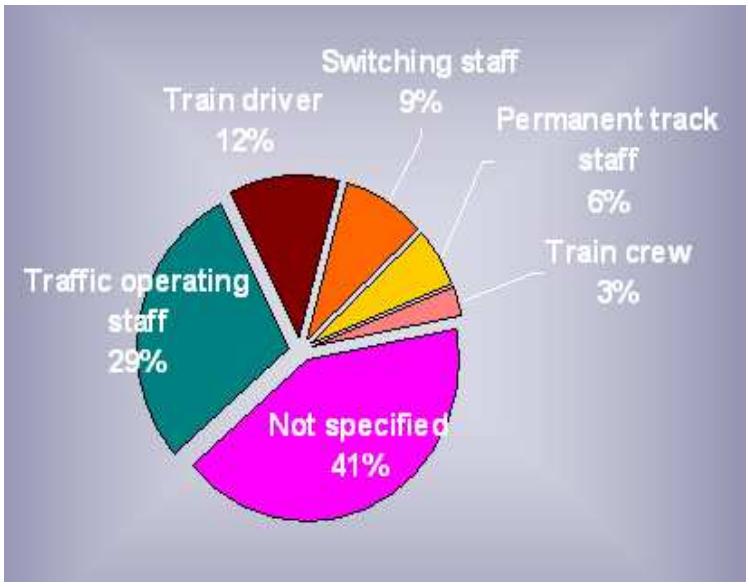
Within the category of derailments caused by rolling stock are many sub-categories responsible for various percentages of the accidents. The dominant sub-cause is Fault on wheel or axle, making up roughly half of the rolling stock causes, which in turn comprise about one third of significant derailments. Faults on wheels or axles increased from 2009, when they comprised 40 percent of rolling stock sub-causes. Within the 19 derailments caused by "Fault on wheel or axle" in 2010, at the third level of cause analysis, 6 had maintenance as a cause, 5 had materials, and 8 have not been specified at the third level.

Human Factors

Second-level causes of derailments caused by Human Factors in 2009



Second-level causes of derailments caused by Human Factors in 2010

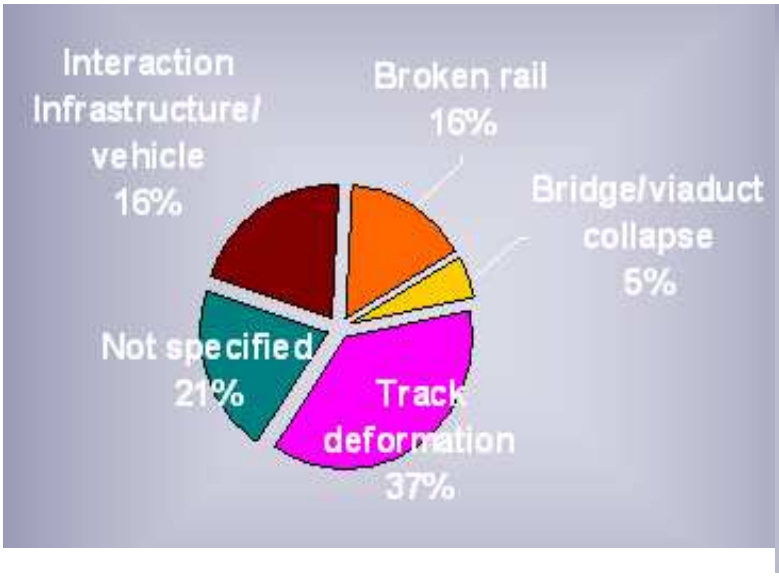


Unfortunately a large number of the second-level causes under Human Factors for derailments were not recorded in 2010, but where the data is available, the highest number of cases was attributed to Traffic Operating Staff.

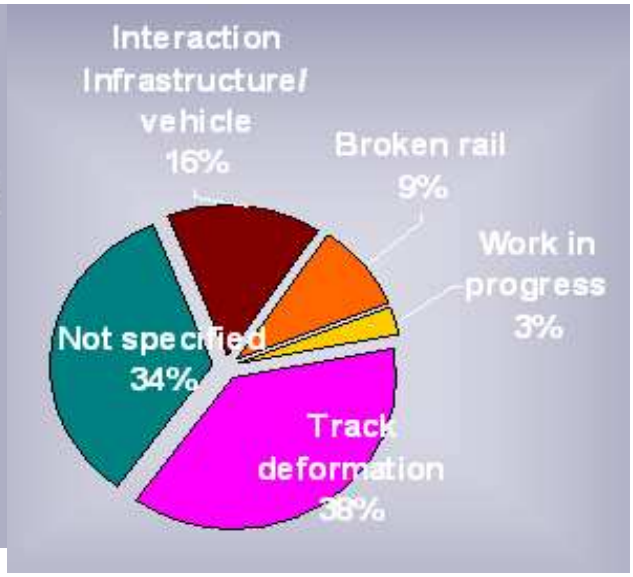
Regarding third-level causes, the most common one across all categories of Human Factors was Lack of attention, indicating unintentional human error caused by distraction or preoccupation. The second most common third-level cause was Voluntary, which, on the contrary, refers to a person wilfully not following a rule or procedure.

Infrastructure

Second-level causes of derailments caused by Infrastructure in 2009



Second-level causes of derailments caused by Infrastructure in 2010



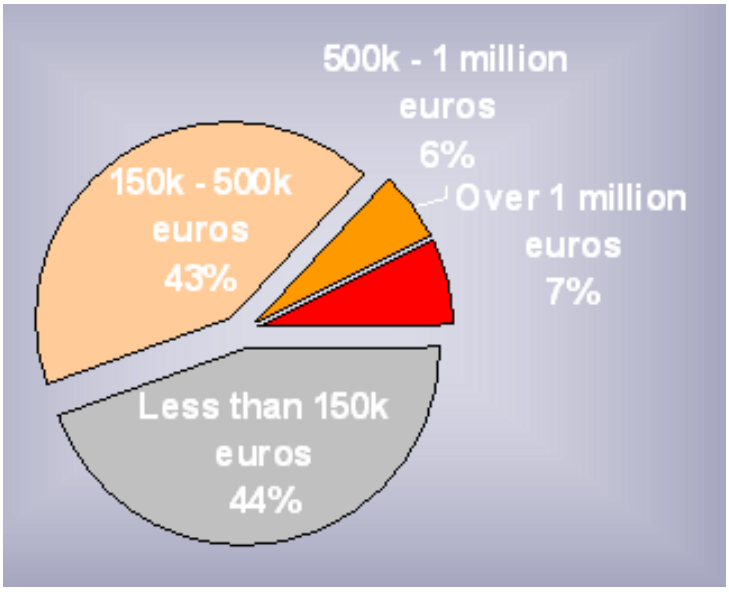
Track deformation was the most common secondary derailment cause under the category of Infrastructure in both 2009 and 2010. The interaction between the infrastructure and the vehicle was also a significant cause, as were broken rails. For all three of these causes – Track deformation, Interaction Infrastructure/Vehicle, and Broken rail – the most common third-level subcause was maintenance in both years.

CONSEQUENCES OF DERAILMENTS

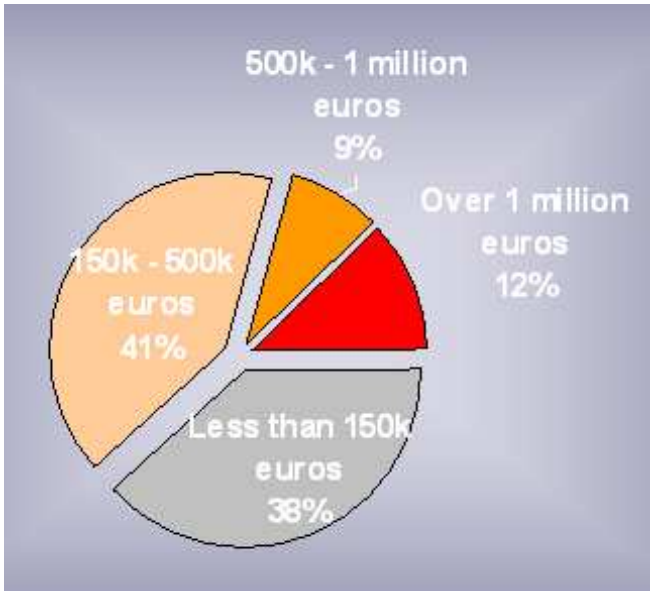
Generally speaking, derailments in 2010 had a far lower human cost than in 2009, but a far higher financial cost. The 126 significant derailments recorded in 2010 on the European member railways of the SDB caused 17 victims. Altogether, one person was killed, a railway staff member, while 16 were seriously injured: 11 passengers and 5 staff members. Although the number of derailments in 2010 was much higher than the previous year, derailments in 2009 nonetheless caused 62 victims, primarily due to one severe accident in Italy. The number of victims per derailment fell impressively from 0.72 in 2009 to only 0.13 in 2010. The 62 victims in 2009 break down to 31 fatalities and 31 serious injuries. Most of the victims were third parties; however 15 of the seriously injured were passengers. From the perspective of human cost, the figures from 2010 are an improvement over the previous year.

In 2010, 44 derailments led to traffic disruptions of six hours or more, down from 55 the previous year, but 78 had financial consequences greater than 150 thousand euros, a big increase from 48 in 2009. The most costly derailment in 2010 had damages of approximately 10.5 million euros. The second and third most costly derailments cost 8 million and 6 million euros respectively. Overall, fully 12 percent of the significant derailments had costs of over 1 million euros. The total cost of the 126 derailments amounted to some 67.5 million euros, compared with 24.3 million in 2009. The distribution of costs of derailment accidents is shown below.

Financial consequences of significant derailments in 2009



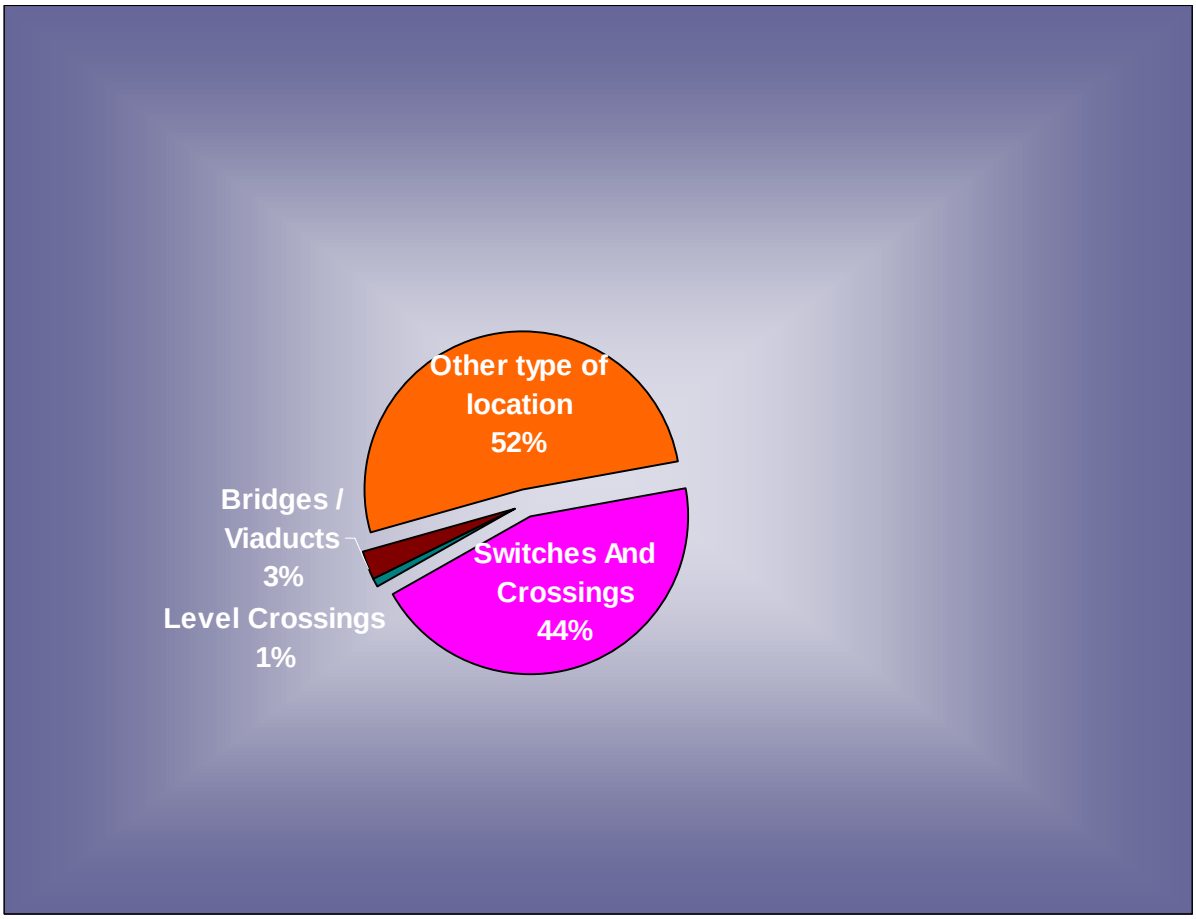
Financial consequences of significant derailments in 2010



LOCATIONS OF DERAILMENTS

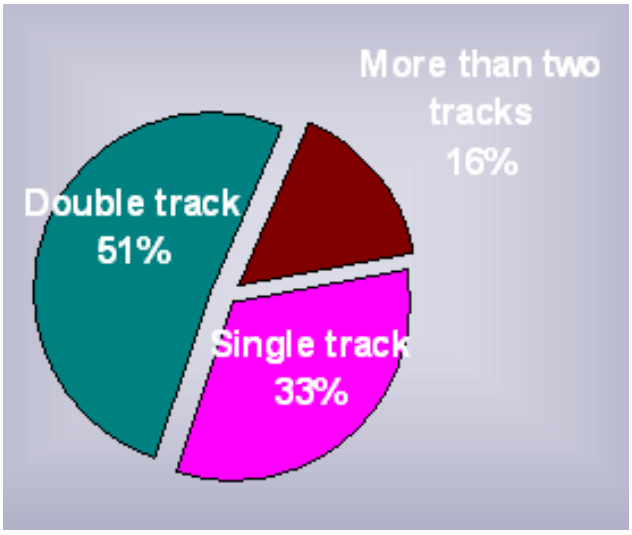
The most striking figure regarding derailment locations is that fully 44% of them occurred at switches and crossings, compared with only 6.6% for accidents overall. Four derailments occurred at bridge/viaduct locations, representing also a higher percentage than the overall rate of accidents at such locations. One derailment occurred at a level crossing, as a result of freezing soil causing the rails to lift. This is a danger specific to level crossings, where a change in the characteristics of the track bed and materials creates a risk that the track geometry could change under certain conditions. The percentages are mostly unchanged from 2009, which had 36 percent of derailments at switches and crossings, none on bridges or viaducts, and two cases of level crossing derailments. The rest were classified under "Other type of location".

Location details of significant derailments in 2010

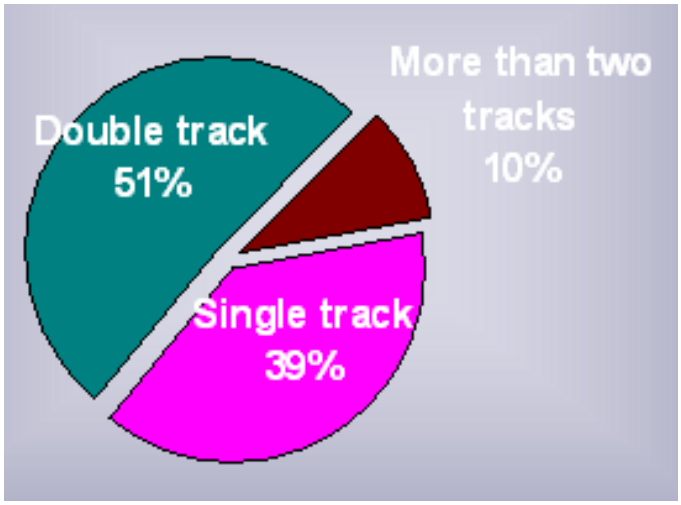


When derailments occur in places where there is more than one track, there is a risk of the derailed train fouling the zone occupied by trains on other tracks, leading potentially to collisions between trains. In 2010 there was one case of a derailment leading to a collision with another train. The accident caused one serious injury of a staff member and 3.6 million euros worth of damage.

Number of tracks at significant derailment locations in 2009



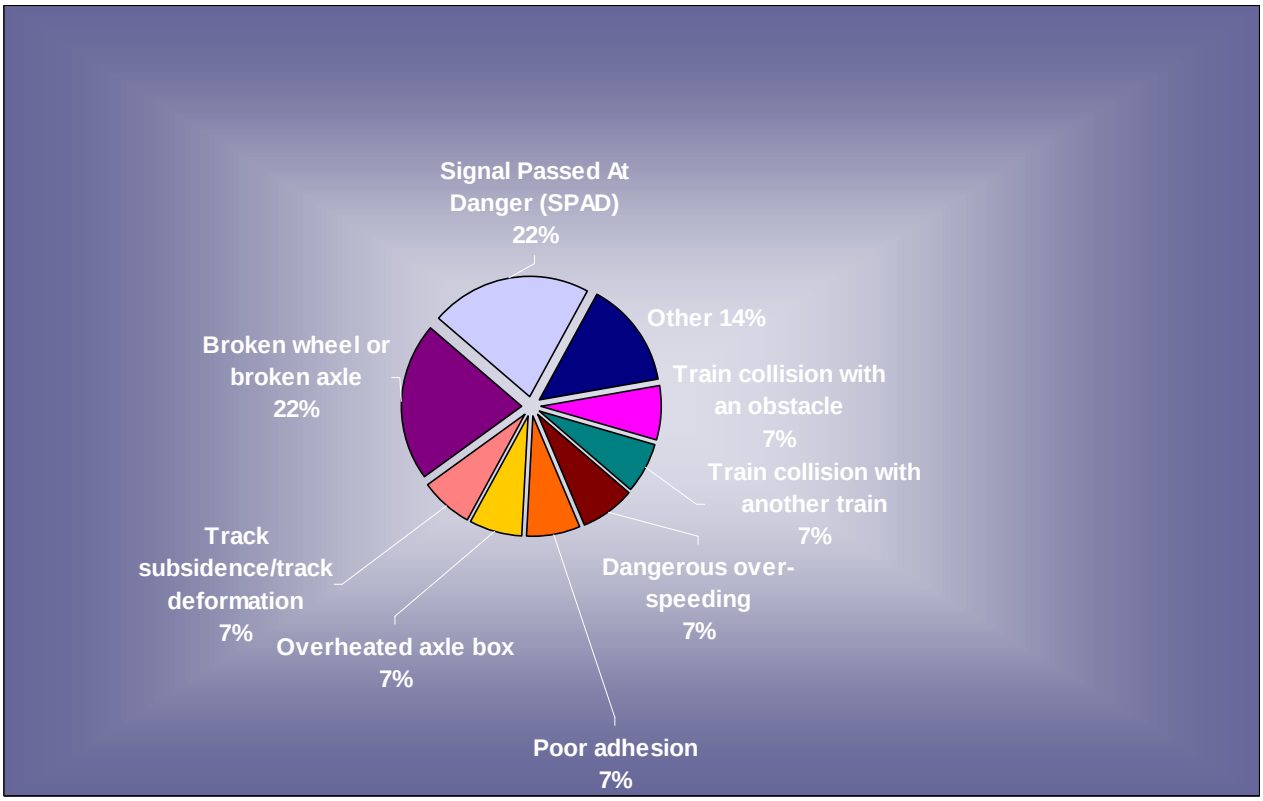
Number of tracks at significant derailment locations in 2010



DERAILMENT ASSOCIATED EVENTS

Most derailments did not have associated events recorded in the database. For those that did, the type of associated event varied widely, as seen in the diagram below.

Associated events accompanying derailments in 2010

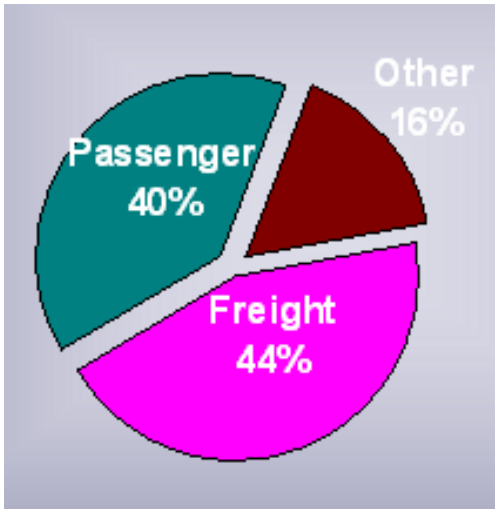


TYPES OF TRAINS INVOLVED IN DERAILMENTS

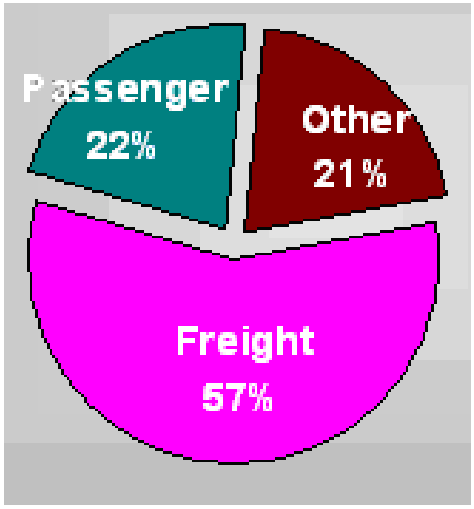
In 2010 derailments disproportionately involved freight trains. While freight trains were involved in only 20% of accidents overall, in derailments specifically they represented 57% of the total. Conversely, only 22% of derailments involved passenger trains, compared with a rate of 69% in accidents overall. The reasons for this may include the fact that freight trains are often longer, carry heavier loads, and often run on lines that are not as well maintained.

In 2009, however, the proportions were more equal. In raw numbers, there were 34 passenger train derailments in the Database in 2009, which declined slightly to 28 in 2010. But the number of freight derailments nearly doubled from 38 to 72. The real trend, therefore, that can be observed from 2009 to 2010 is not simply an increase in derailments, but an increase in freight trains derailing specifically. This also likely accounts for the fact stated earlier that there were fewer victims of derailments, particularly passengers, but far higher financial costs, as would be expected with freight trains, which are longer, and carry goods with a high monetary value.

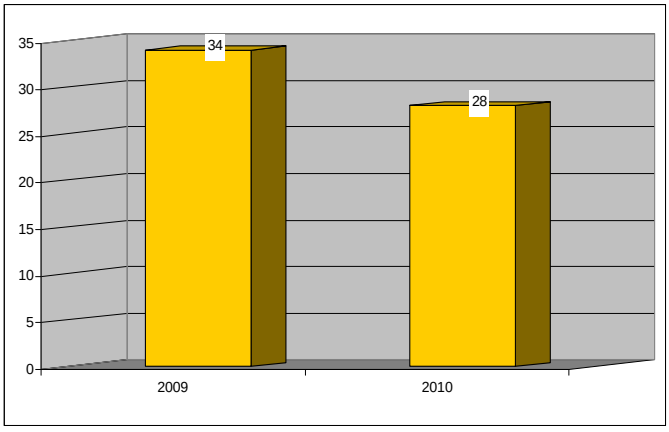
Type of trains having significant derailments in 2009



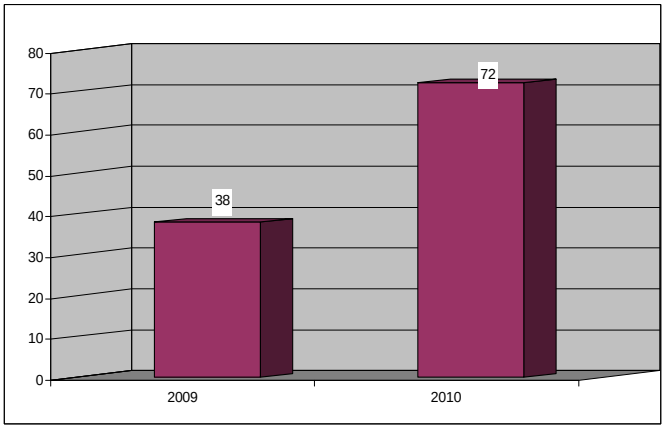
Type of trains having significant derailments in 2010



Passenger train derailments 2009- 2010



Freight train derailments 2009- 2010



CONCLUSIONS:

The leading causes of significant derailments in 2010 were Rolling Stock, Human Factors, and Infrastructure. Within those causes, the most frequently seen problems were with Faults on wheels or axles, Traffic operating staff, and Track deformation. Within the infrastructure category, problems were primarily related to maintenance. Perhaps most importantly, the sharp increase in derailments seen in 2010 is entirely a freight phenomenon. Therefore, any effort to reduce the number of derailments would probably need to prioritize freight trains and freight lines for improvements in maintenance, inspection and operations.

SECTION 3

BENCHMARKING INDICATORS

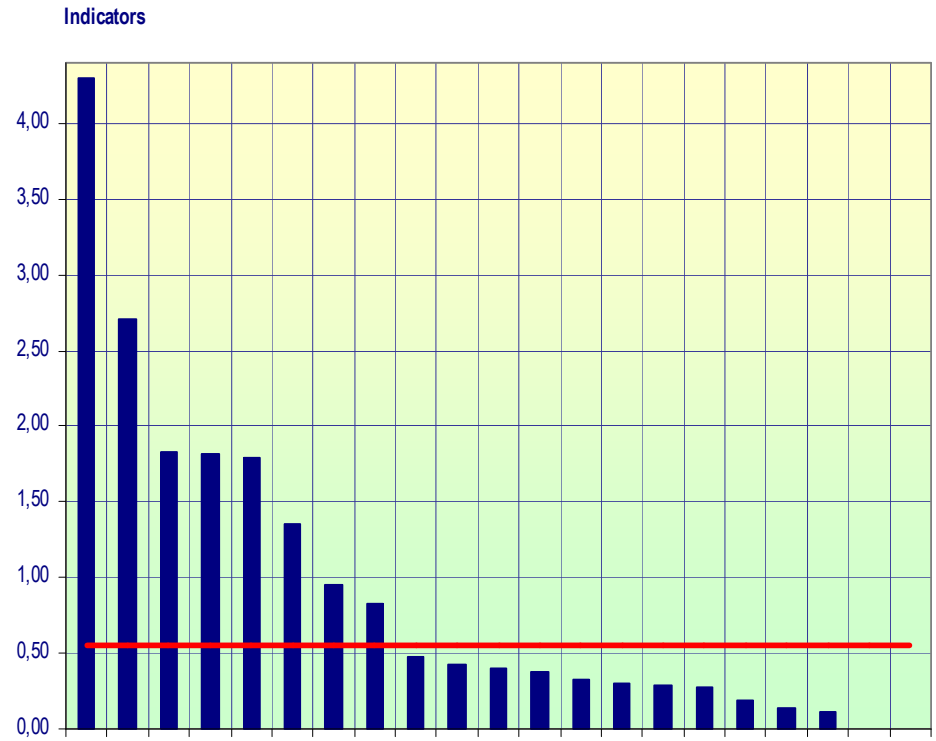
The benchmarking proposed here is based on the indicators of significant accidents victims recorded in the SDB in 2010. Each infrastructure manager in the sample can evaluate their performances in relation to the others. These indicators and the numbering system used to classify them correspond to the Common Safety Indicators defined by the European Commission.

Figures 25 to 35 are graphic representations of several indicators (number of accidents of the same type divided by million km of train movements).

All accidents

Figure 25 — **Number of all accidents in 2010 related to the total number of million km of train movements.**

Railway	Indicator
	4,298
	2,706
	1,832
	1,816
	1,788
	1,355
	0,947
	0,827
	0,478
	0,428
	0,407
	0,378
	0,328
	0,301
	0,285
	0,274
	0,192
	0,137
	0,110
	0,000
	0,000
Total of 21 members	**0,549**

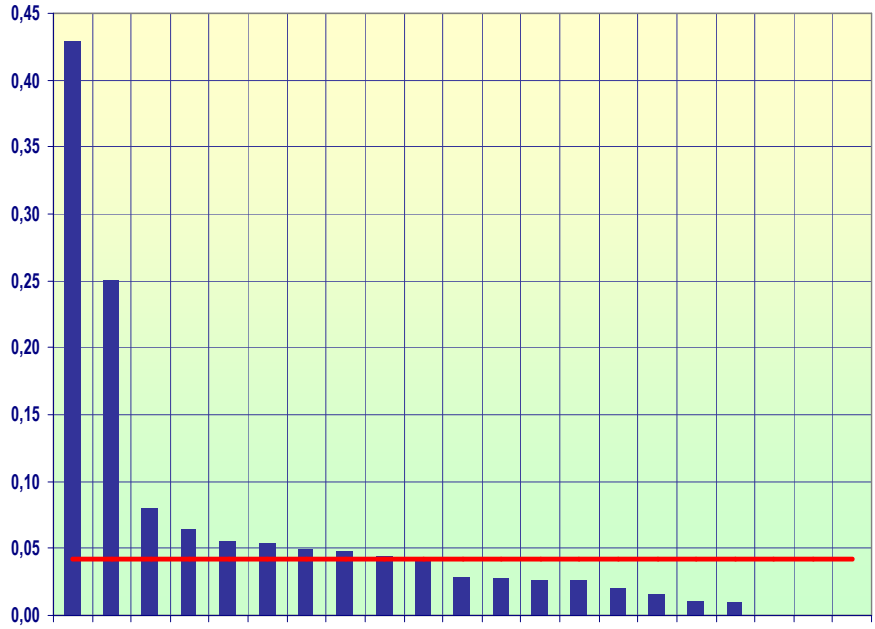


Note: In Figures 25 through 35 the names of the members have been omitted. They are included in the full confidential version of the report.

Collisions

Figure 26	Indicator 1, 1, 1 - Number of collisions of trains, including collisions with obstacle within the clearance gauge in 2010 related to the total number of million km of train movements.

Railway	Indicator for Collisions
	0,430
	0,251
	0,081
	0,065
	0,055
	0,054
	0,050
	0,048
	0,045
	0,042
	0,029
	0,028
	0,026
	0,026
	0,020
	0,016
	0,011
	0,010
	0,000
	0,000
	0,000
Total of 21 members	**0,040**



Summary results

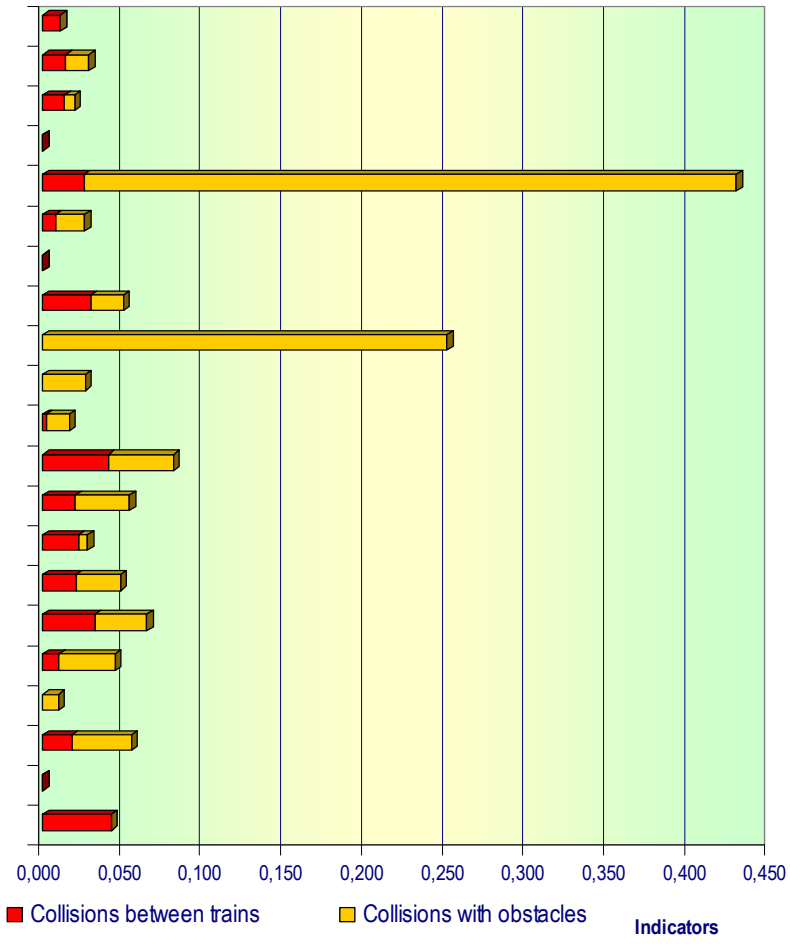
Collisions are very rare; however in 2010 there were more collisions than in previous years. The average frequency in 2010 was 4.0 collisions for every 100 million Km of train movements. This is significantly higher than in the last several years.

Two more useful indicators are obtained by splitting collisions into “train collision with another train” and “train collision with an obstacle”. The set of indicator values for collisions between trains is the most accurate (see Figure 27).

Breakdown of collisions

Figure 27 — **Indicators 1,1,1a: Number of collisions between trains and 1,1,1b: Number of trains collisions with an obstacle within the clearance gauge in 2010 related to the total number of million km of train movements.**

	Collisions	
Railway	Between trains	With obstacle
	0,011	0,000
	0,014	0,014
	0,013	0,007
	0,000	0,000
	0,025	0,405
	0,008	0,018
	0,000	0,000
	0,030	0,020
	0,000	0,251
	0,000	0,026
	0,002	0,014
	0,040	0,040
	0,020	0,033
	0,022	0,006
	0,021	0,027
	0,032	0,032
	0,010	0,035
	0,000	0,010
	0,018	0,037
	0,000	0,000
	0,042	0,000
Total of 21 members	**0,011**	**0,029**



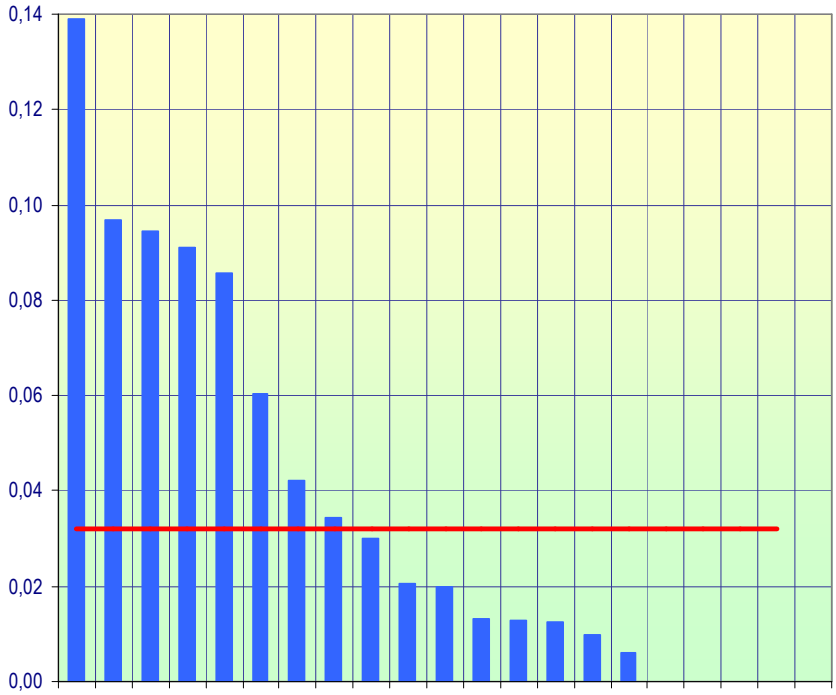
Summary results

The indicators for collisions with obstacles shown in this graphic do not include collisions at level crossings, where the majority of such collisions occur. Nonetheless, even excluding level crossings, collisions with obstacles are far more common than collisions between trains. Both categories of collision indicator were higher in 2010 than in the past few years. One particularly serious collision between trains, occurring in Buizingen, Belgium, had a very high human cost, with 19 fatalities and 171 serious injuries, most of whom were passengers.

Derailments

Figure 28	Indicator 1,1,2 - Number of derailments of train in 2010 related to the total number of million km of train movements.

Railway	Indicator
	0,139
	0,097
	0,094
	0,091
	0,086
	0,060
	0,042
	0,035
	0,030
	0,021
	0,020
	0,013
	0,013
	0,013
	0,010
	0,006
	0,000
	0,000
	0,000
	0,000
	0,000
Total of 21 members	**0,032**



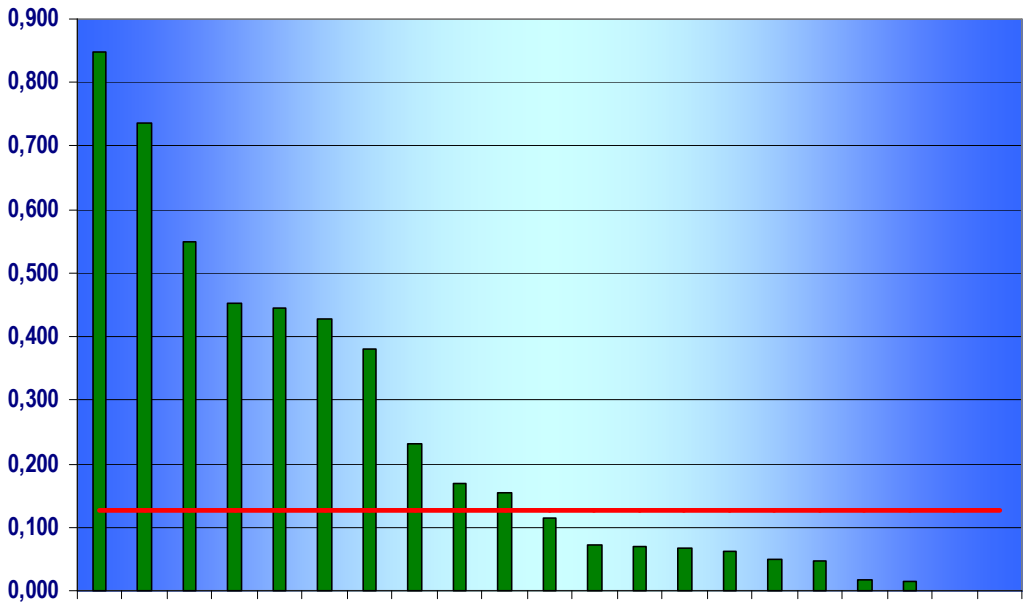
Summary results

While train derailments remain extremely rare, the 126 significant derailments seen in 2010 represent an increase of nearly 50 percent from the previous year. The rate of derailments per million train-km, at 0,032, is also nearly 50 percent higher than in 2009. A few railways had no significant derailments in 2010, and several other railways had very low numbers, but the railways highest on the list in 2010 all troublingly saw significant increases from the previous year.

Level Crossing Accidents

Figure 29	Indicator 1, 1, 3 - Number of level crossing accidents, including accidents involving pedestrians at level crossing in 2010 related to the total number of million km of train movements.

Railway	Indicator
	0,847
	0,737
	0,550
	0,452
	0,444
	0,428
	0,380
	0,231
	0,169
	0,154
	0,114
	0,073
	0,068
	0,068
	0,061
	0,049
	0,048
	0,018
	0,014
	0,000
	0,000
Total of 21 members	**0,126**



Summary results

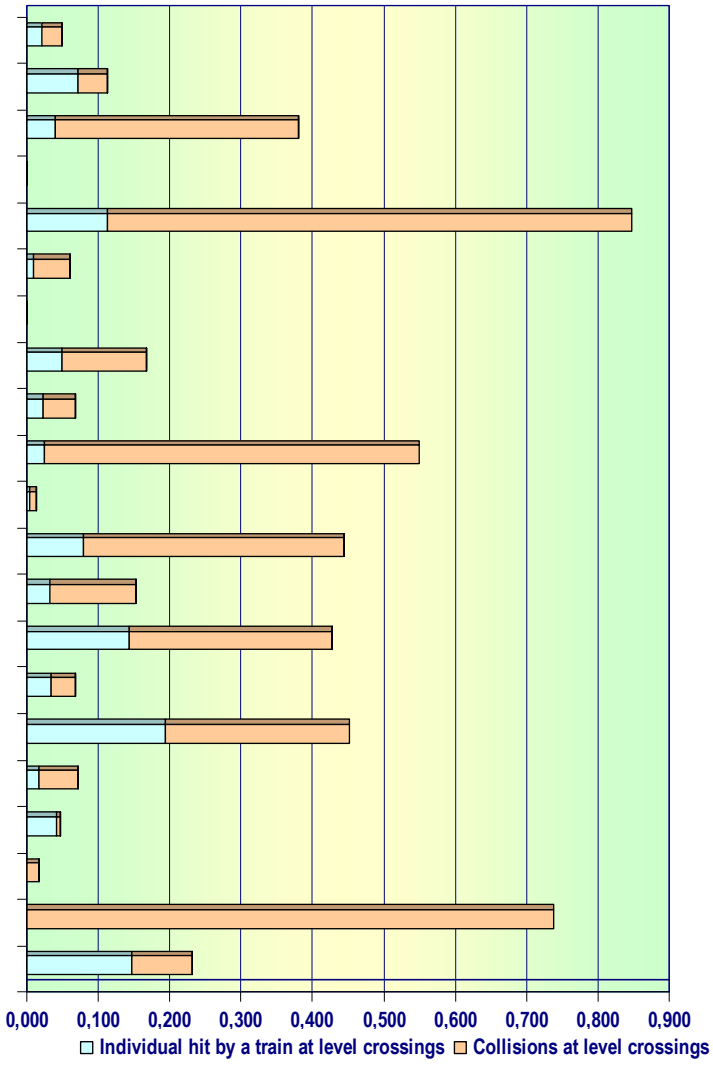
The overall rate of level crossing accidents per million train-km in 2010 was nearly identical to that of 2009. However the disparity between railways has increased, with several of the best-performing railways showing even more improvement, while the railways with higher accident rates have gotten even higher. It is important to note that level crossing accidents are not only railway accidents, but are highly dependent on the overall level of roadway safety in different countries. The difference between level crossing accident rates in different countries is significant, indicating that while some countries have made substantial progress, others have chronic level crossing safety problems that are getting worse.

Breakdown of level crossing accidents

Figure 30	**Indicators 1,1,3a: Number of level crossing accidents - individual hit by a train and 1,1,3b: Number of level crossing accidents - collisions with an obstacle relating to the total number of million km of train movements in 2010.**

Level Crossing Accidents

Railway	Individual hit by a train	Collision with an obstacle
	0,022	0,027
	0,071	0,043
	0,040	0,340
	0,000	0,000
	0,114	0,733
	0,011	0,050
	0,000	0,000
	0,050	0,119
	0,023	0,046
	0,026	0,523
	0,005	0,009
	0,081	0,363
	0,033	0,120
	0,144	0,283
	0,034	0,034
	0,194	0,258
	0,018	0,055
	0,042	0,006
	0,000	0,018
	0,000	0,737
	0,147	0,084
Total of 21 members	**0,031**	**0,094**



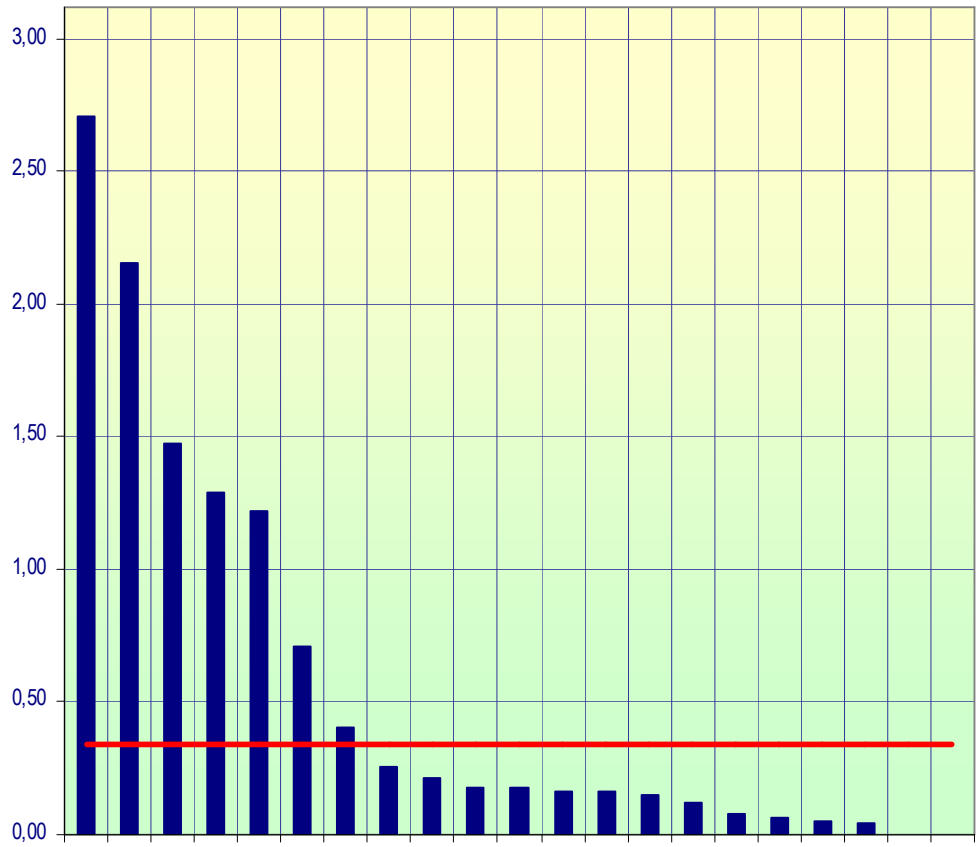
Summary results

The majority of level crossing accidents are collisions with an obstacle, generally a roadway vehicle. The indicator for this type of accident was higher in 2010 than in 2009, but still much lower than in 2008. The rate of individuals hit by a train at level crossings, a smaller proportion of the accidents, has declined steadily the past few years, and is consistent with the fact that fewer people were hit by trains in 2010, at level crossings or otherwise. This might be taken as a sign that pedestrians have been well informed by education campaigns concerning safety at level crossings, while driver behaviour remains more difficult to change.

Rolling stock in motion

Figure 31	Indicator 1, 1, 4 - Number of accidents to persons caused by rolling stock in motion, with exception of suicides in 2010 related to the total number of million km of train movements.

Railway	Indicator
	2,705
	2,156
	1,472
	1,291
	1,217
	0,710
	0,407
	0,254
	0,211
	0,179
	0,176
	0,166
	0,161
	0,149
	0,120
	0,077
	0,063
	0,048
	0,046
	0,000
	0,000
Total of 21 members	**0,341**



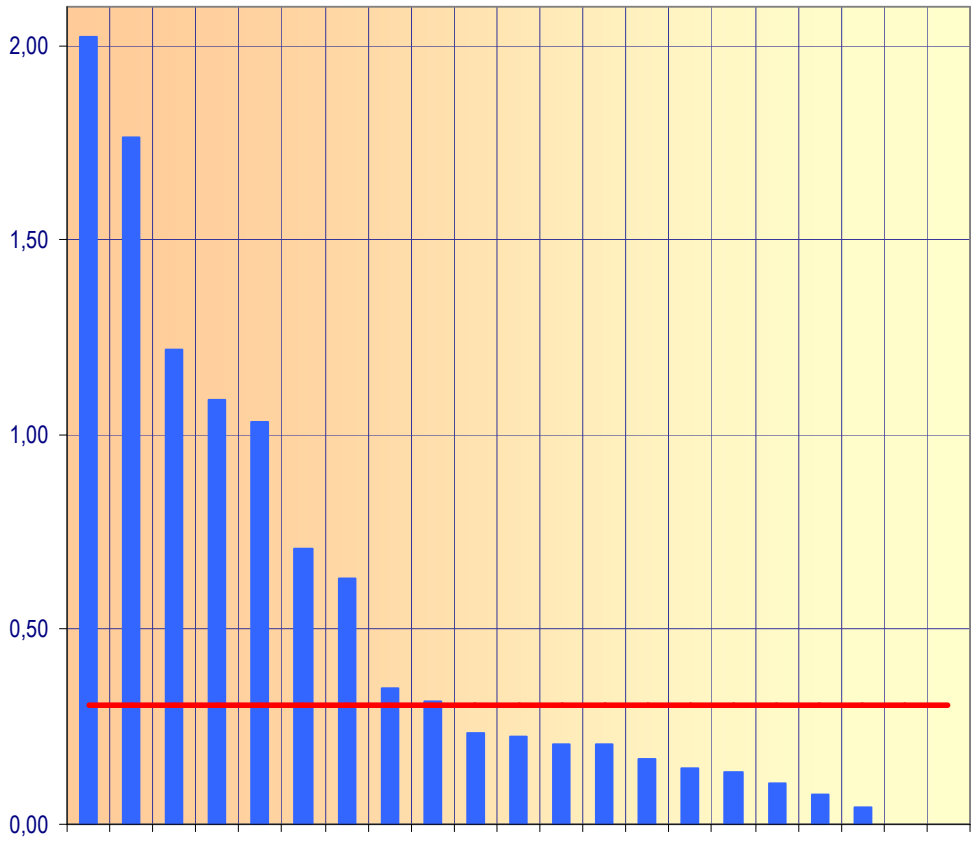
Summary results

Accidents to persons caused by rolling stock in motion are comprised of individuals hit by trains and individuals falling from trains. Level crossing accidents are not included here and can be found separately in Figures 29 and 30. The rate of these accidents varies considerably from country to country. The majority of rail network database members had rates below the average, while a few others had very high rates which skewed the overall average value.

Fatalities

Figure 32 — **Indicator - Significant accidents - Number of fatalities in 2010 related to the total number of million km of train movements.**

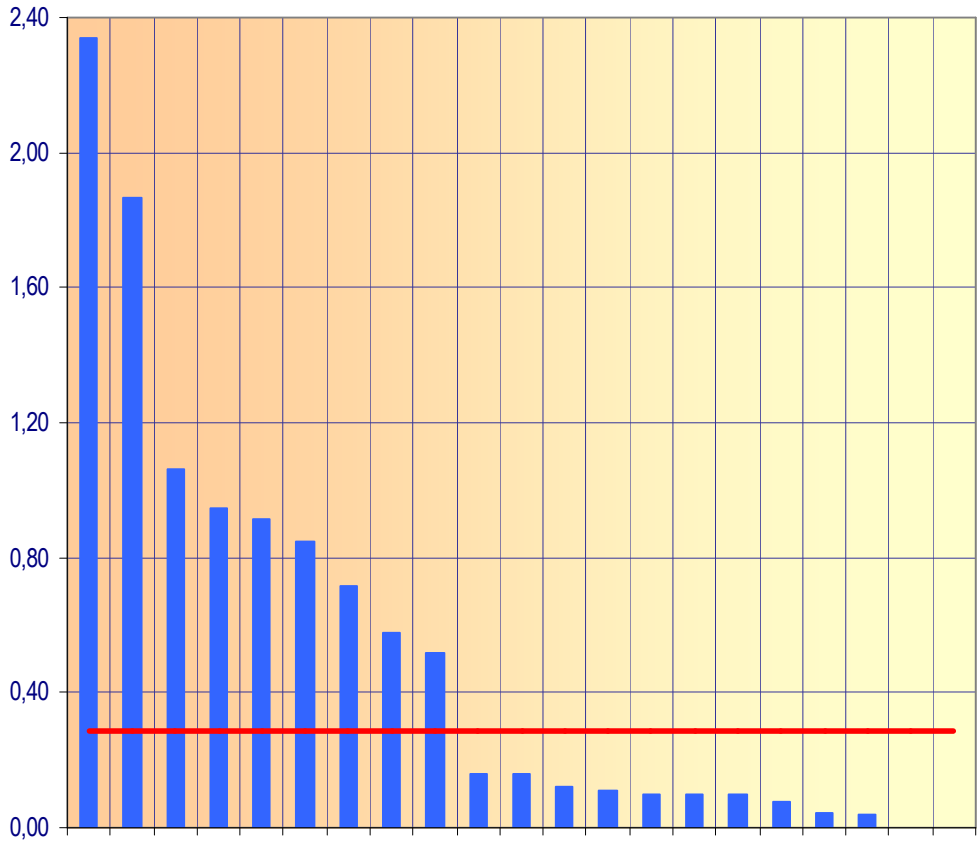
Railway	Indicator
	2,023
	1,767
	1,220
	1,090
	1,034
	0,710
	0,632
	0,348
	0,314
	0,236
	0,225
	0,205
	0,203
	0,167
	0,143
	0,136
	0,103
	0,075
	0,045
	0,000
	0,000
Total of 21 members	**0,304**



Serious Injuries

Figure 33 — **Indicator - Significant accidents - Number of serious injury in 2010 related to the total number of million km of train movements.**

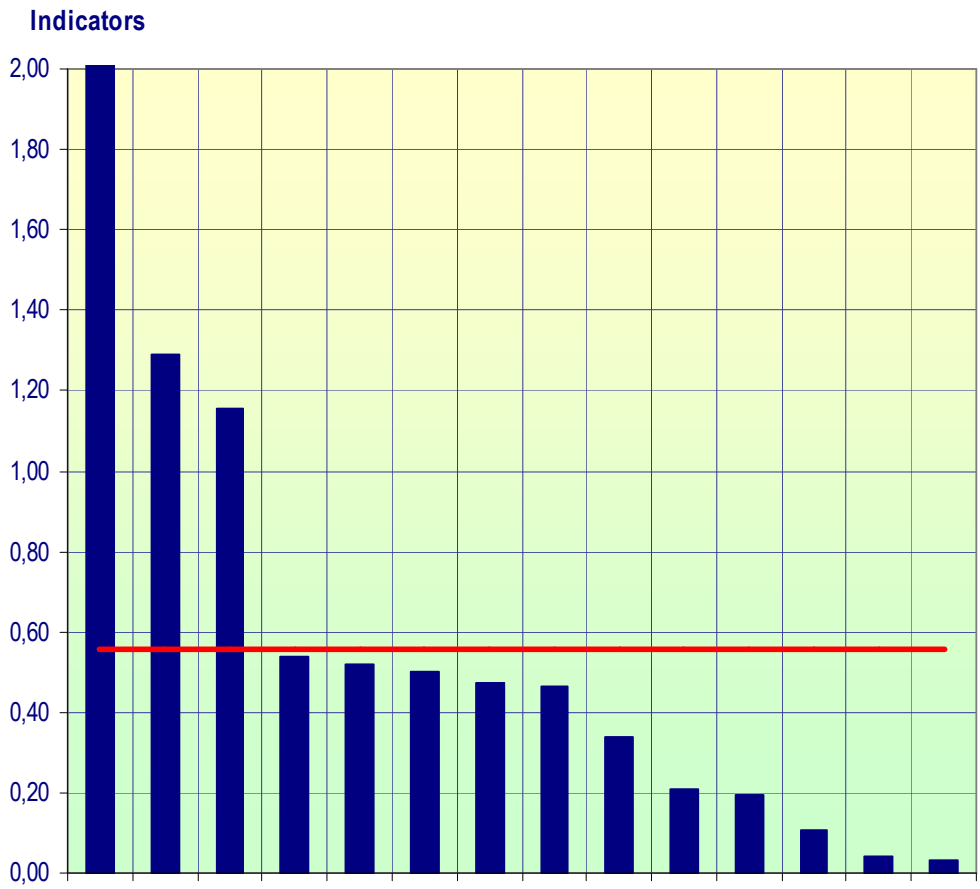
Railway	Indicator
	2,339
	1,868
	1,061
	0,947
	0,916
	0,848
	0,714
	0,579
	0,516
	0,161
	0,159
	0,121
	0,109
	0,098
	0,097
	0,096
	0,077
	0,041
	0,041
	0,000
	0,000
Total of 21 members	**0,287**



Signals Passed At Danger

Figure 34	Indicator - SPADs - Number of signals passed at danger in 2010 related to the total number of million km of train movements.

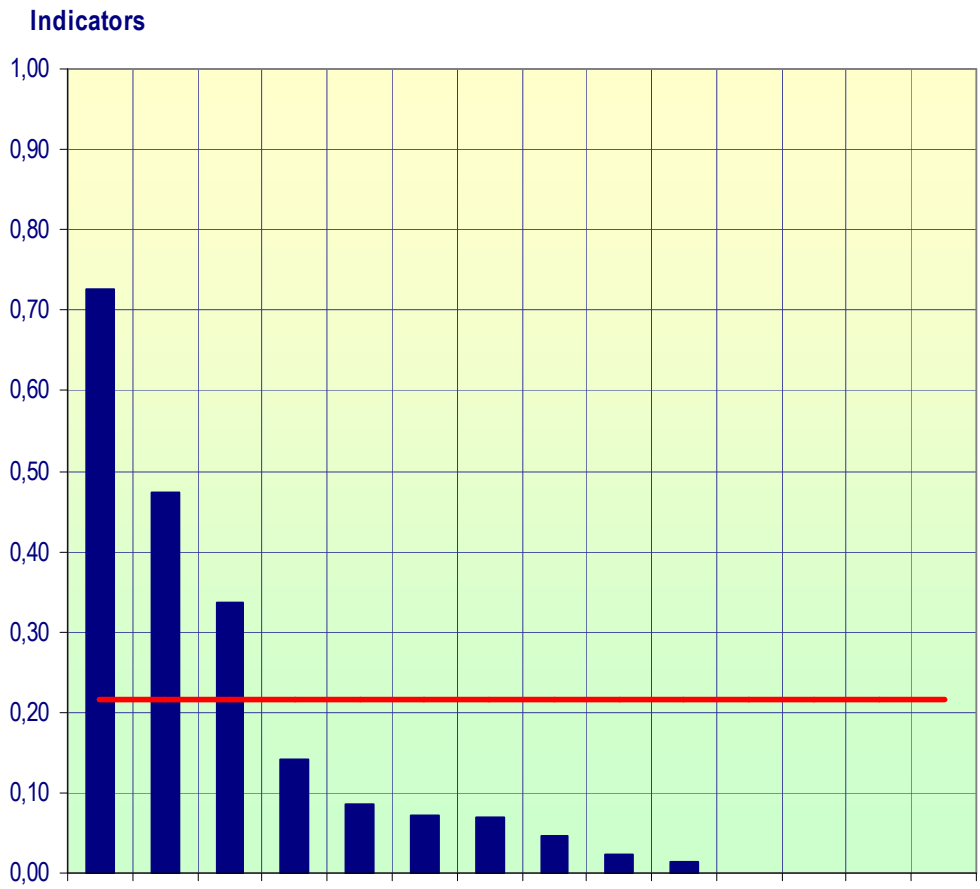
Railway	Indicator
	15,490
	1,292
	1,158
	0,537
	0,520
	0,499
	0,473
	0,463
	0,337
	0,207
	0,194
	0,105
	0,040
	0,032
Average	**0,555**



Signals Passed At Danger With Engagement of Protected Point

Figure 35	Indicator - SPADs - Number of signals passed at danger with engagement of the danger point in 2010 related to the total number of million km of train movements.

Railway	Indicator
	0,725
	0,473
	0,337
	0,141
	0,087
	0,072
	0,068
	0,046
	0,023
	0,013
	0,000
	0,000
Average	**0,216**



Appendix

ACCIDENT DEFINITIONS CURRENTLY IN FORCE IN EUROPE

Please note that this appendix, following the request of the Safety Performance Group, has been repeated from the 2010 report. It gives the key accident definitions currently in force in Europe.

At present there are at least four definitions of "railway accidents" which have legal force in Europe:

2 definitions from Commission Regulation (EC) N° 1192/2003:

"Significant accident" means any accident involving at least one rail vehicle in motion, resulting in at least one killed or seriously injured person, or in significant damage to stock, track, other installations or environment, or extensive disruptions to traffic. Accidents in workshops, warehouses and depots are excluded. **Notes from the European Office of Statistics (EUROSTAT) specify the following factors:** significant damage over €150K and extensive disruptions to traffic with tracks blocked for more than 6 hours.

"Serious injury accident" means any accident involving at least one rail vehicle in motion, resulting in at least one killed or seriously injured person. Accidents in workshops, warehouses and depots are excluded.*(Where "person killed" means any person killed immediately or dying within 30 days as a result of an accident, excluding suicides; and "person seriously injured" means any person injured who was hospitalised for more than 24 hours as a result of an accident, excluding attempted suicides)*.

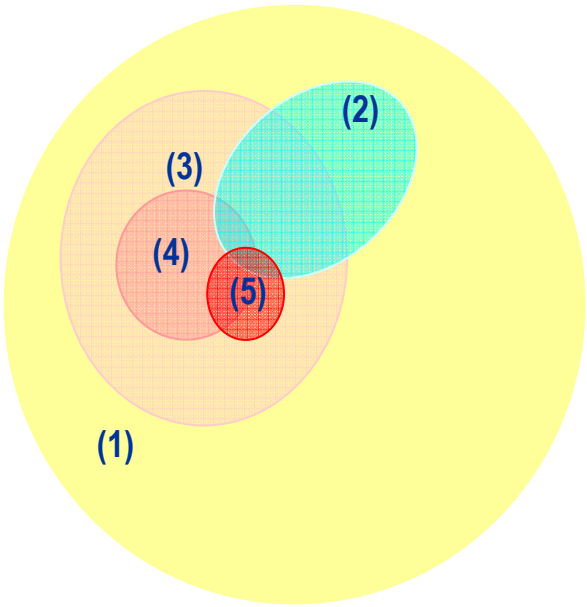
Fig 34 comprises a diagram showing the field of application of and intersection between the four accident definitions.

The UIC Safety Database collates information on railway accidents, critical events, suicides and attempted suicides. UIC SDB accepts declarations based on all the above accident definitions. However, **declaration of "Significant Accidents"** in accordance with the definition given by the Commission Regulation (EC) N° 1192/2003 and the notes from European Office of Statistics **is mandatory.**

Moreover, SDB offers specific reports and analysis for the community or for a single railway based on filtering the data collection according the definitions in force. So, for its own information, an SDB member can declare accidents to the database other than significant accidents without prejudice to its relative position in the international benchmarking where only significant accidents are automatically taken into account for declarations in accordance with Commission Regulation.

The UIC International Railway Statistic – Table A91 collates the total of Significant Accidents in 5 categories and the number of passenger, staff and third parties victims as a result of the accidents.

Figure 34 Domains of the different definitions of accidents



(1) Accidents as defined in the European Railway Safety Directive.
It is not used for any mandatory data collection.

(2) Dangerous goods accidents as in RID/ADR section 1.8.5.
It contains the accidents to take into account to complete EUROSTAT table H2

(3) Significant Accidents as in EC Regulation N° 1192/2003.
It contains the accidents to take into account to complete EUROSTAT table H1 and to calculate the Safety Indicators as defined in the Safety Directive Annex 1.

(4) Serious Injury Accidents in EC Regulation N° 1192/2003
It is used to complete the optional part of EUROSTAT table H1 and tables H2 and H3.

(5) Serious Accidents domain as defined in the European Railway Safety Directive.
It contains those accidents for which Member States shall ensure that an investigation is carried out by the investigating body and the results of the investigations made known to the public.

Finally, SDB must contain at least all the significant accidents and all the dangerous goods accidents declared (one by one or automatically transferred) by the SDB Correspondents plus the number of critical events, suicides and attempted suicides in a defined period.

Table A91 of the UIC International Railway Statistics must contain, for each UIC member, the total number of accidents by type (5 types) and the number of passenger fatalities and injuries for each type of accident, calculated as a total of all significant accidents experienced by each UIC member.

Every year at the end of September, the values necessary to compile Table A91 are extracted by the SDB and transferred to the UIC Committee for International Statistics. Those responsible for statistics within UIC railway member companies can confirm or correct the totals that will be published thereafter in the official statistics Table A91: “Railway Accidents”.

Tables Index

List of the UIC European Railway Members participating in the Safety Database

Country	Country code	Railway Company	Railway Company name
-	-	Eurotunnel	Eurotunnel
Austria	AT	ÖBB	Österreichische Bundesbahnen
Belgium	BE	Infrabel	Infrabel
Bulgaria	BU	NRIC	National Railways Infrastructure Company
Croatia	HR	HZ	Hrvatske Željeznice
Czech Republic	CZ	CD; SZDC	Ceské Dráhy; Správa železniční dopravní cesty
Denmark	DK	DSB	Danske Statsbaner
Finland	FI	RHK	Ratahallintokeskus
France	FR	RFF	Réseau Ferré de France
		SNCF	Société Nationale des Chemins de fer Français
Germany	DE	DB	Deutsche Bahn
Hungary	HU	MAV	Magyar Allamvasutak Rt.
Ireland	IE	CIE	Coras Iompair Eireann
Italy	IT	RFI	Rete Ferroviaria Italiana
Luxembourg	LU	CFL	Société Nationale des Chemins de Fer Luxembourge
Netherlands	NL	ProRail	ProRail
Norway	NO	JBV	Jernbaneverket
Poland	PL	PKP PLK	PKP Polskie Linie Kolejowe
Portugal	PT	REFER	Rede Ferroviária Nacional
Romania	RO	CFR	Compania Nationala de Cai Ferate CFR SA
Slovak Republic	SK	ZSR	Železnice Slovenskej Republiky
Slovenia	SI	SZ	Slovenske Zeleznice
Spain	ES	ADIF	Administrador de Infraestructuras Ferroviarias
Sweden	SE	Trafikverket	Trafikverket
Switzerland	CH	SBB-CFF-FFS	Chemin de Fer Suisse - Schweizerische Bundesbahnen
United Kingdom	UK	Network Rail	Network Rail Limited

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