Rail Safety
2019-20

29 September 2020

Contents:

This release covers rail safety in Great Britain on mainline rail, London Underground, and other non-Network Rail networks (trams, metros, other light rail, minor and heritage railways).

There were **12 passenger fatalities** in 2019-20 - a decrease from 17 in 2018-19. Seven of these occurred on the mainline, and five occurred on London Underground.

There were no passenger fatalities as a result of a train accident in 2019-20.

Passenger fatalities on all rail networks, Great Britain, 2007-08 to 2019-20
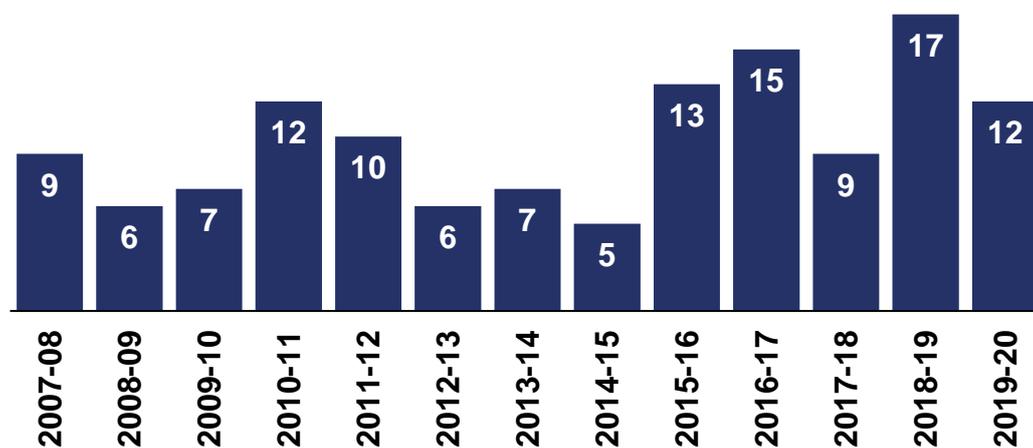
There were four **workforce fatalities** in 2019-20, compared to two in 2018-19. Three of these occurred on the mainline, and one fatality involved a London Underground infrastructure worker.

On the mainline, the numbers of **workforce major injuries and minor injuries** have fallen to the lowest levels since the time series began in 2007-08.

On the mainline, the number of **near misses at level crossings with pedestrians** increased to 316. This is the second highest number since the time series began in 2002-03. There were two pedestrian fatalities at level crossings in 2019-20, which is the same number as 2018-19.

All data tables, a quality and methodology report and an interactive chart associated with this release are published on the rail safety page of the ORR data portal. Key definitions are in Annex 1 of this release.

1. Mainline railway

The statistics in this release are for 2019-20 (April 2019 to March 2020) which covers the period before and immediately following the government's announcement of measures to limit the impact and transmission of the coronavirus (COVID-19) pandemic in mid-March. Rail passenger journeys decreased following announcements advising against all unnecessary travel. However, given the time period covered in this release, the impact has been minimal. There is likely to be a large impact in the 2020-21 rail safety release.

Please note that these statistics do not cover the time period in which the Carmont train accident occurred (fatal derailment which took place in August 2020).

Non-workforce fatalities in stations or on trains

In 2019-20 there were seven fatalities to people on trains or in stations, down from 13 in 2018-19. Six of these involved falling from the platform edge, and one of these was as a result of assault and abuse.

There is more information on these fatalities in RSSB's Rail Safety in Context 2019/20 report and Station Operations 2019/20 report.

Figure 1.1: Mainline non-workforce fatalities, in stations or on trains, Great Britain, 2007-08 to 2019-20 (Table 5200)
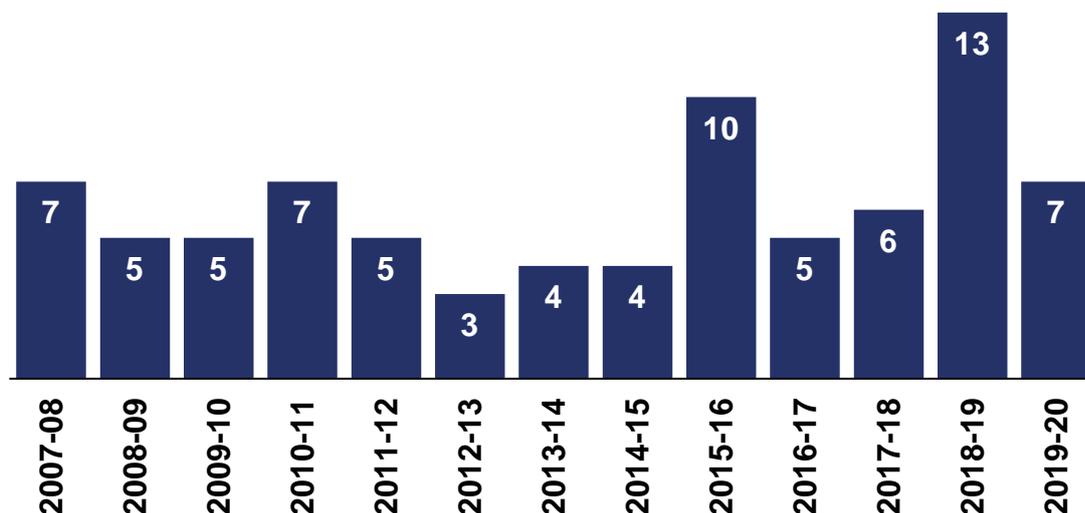
Major and minor non-workforce injuries in stations or on trains

There were 353 major injuries to passengers and members of the public (non-workforce) in stations or on trains in 2019-20, a decrease of 7.6% compared to 2018-19. The majority of these were slips, trips and falls – these made up 63.2% of all major injuries.

There were 6,354 minor injuries to non-workforce on trains or in stations in 2019-20, an increase of 3.5% compared to 2018-19.

Figure 1.2: Mainline major injuries to non-workforce, in stations or on trains, Great Britain, 2007-08 to 2019-20 (Table 5230)
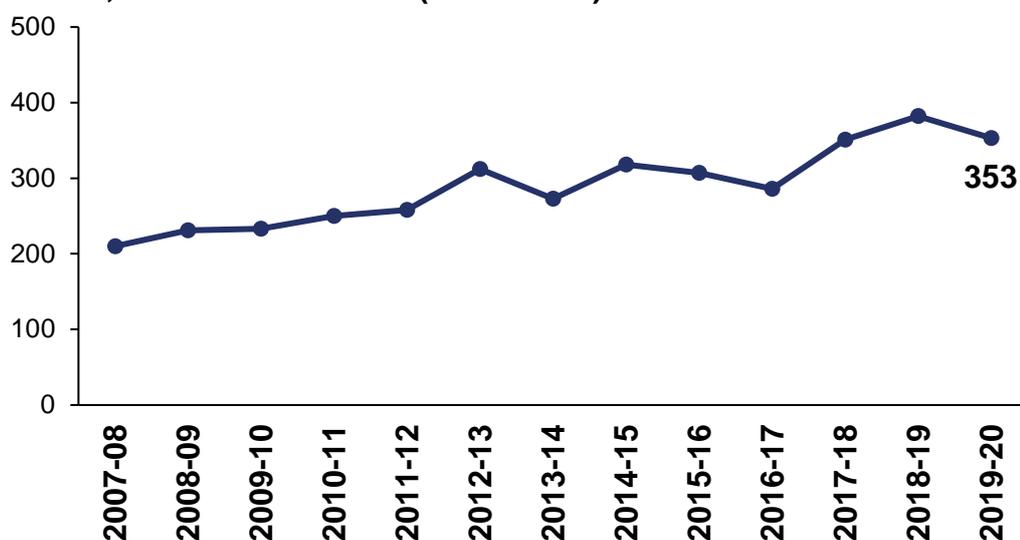
The numbers of major injuries broken into different categories for 2019-20 are presented in Figure 1.3.

Figure 1.3: Mainline major injuries to non-workforce, in stations or on trains, Great Britain, 2019-20 (RSSB data)

Category	Major injuries occurring in stations	Major injuries occurring on board trains
Assault and abuse	10	1
Other injuries	24	29
Platform-train interface	57	N/A
Contact with object/ person/ awkward body movement	0	11
Slips, trips and falls	194	29
Total	**284**	**69**

Source: RSSB Station Operations 2019/20 report and Train Operations 2019/20 report. Please note an adjustment factor was applied to estimate for missing events for one train operating company. This has resulted in decimal values and the figures do not equal the total due to rounding.

Workforce fatalities

There were three workforce fatalities in 2019-20, an increase from two in 2018-19.

Two of these fatalities involved infrastructure workers who were struck by a train at Margam in July 2019. One fatality involved a driver who was fatally injured when passing between two trains being coupled together at Tyseley depot in December 2019.

There is more information on these fatalities in the interim RAIB (Rail Accident Investigation Branch) reports for Margam and Tyseley depot.

Workforce injuries

There were 130 major injuries to the workforce in 2019-20, which is the lowest number reported since the current time series began in 2007-08.

The number of major injuries broken down into different categories for the last two years can be seen in Figure 1.4.

Figure 1.4: Mainline major injuries to workforce, Great Britain, 2018-19 and 2019-20 (RSSB data)

Major injury category	2018-19	2019-20
Slip, trips and falls	68	53
Contact with object	33	31
Electric shock	3	1
Manual handling/ awkward body movement	0	5
Platform edge incidents	9	7
Road traffic accidents	4	4
On-board injuries	15	14
Other accidents	11	15
Total	**143**	**130**

Source: RSSB Workforce Safety 2019/20

There were 5,099 minor injuries to workforce in 2019-20, which is also the lowest number reported since the current comparable data series began in 2007-08. There was a small decrease from 5,107 minor injuries in 2018-19.
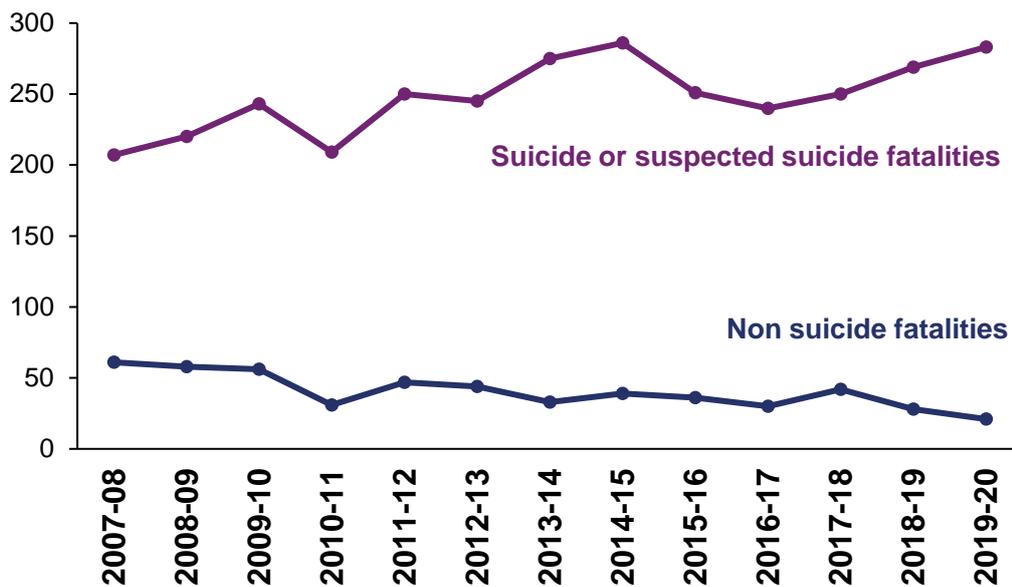
Public fatalities

This section refers to fatalities involving members of the public. This includes suicides, trespassing fatalities, and fatalities to people that did not take place in stations or on trains.

There were 283 fatalities as a result of suicide or suspected suicide in 2019-20. This is the highest number since 2014-15, and the third year in a row that the number of suicide fatalities have increased.

There were 21 non-suicide fatalities in 2019-20 - 17 of these were trespassers, which is the lowest number of trespasser fatalities since the current comparable time series began in 2007-08. Three trespass fatalities involved children (under 18).

Two of the fatalities were level crossing users, and two were other non-suicide fatalities: one was due to a fall from a bridge onto the running line, and one was an electrocution incident.

Figure 1.5: Mainline public fatalities, Great Britain, 2007-08 to 2019-20 (Table 5220)


There is more information on public fatalities and trespass incidents in RSSB's Public Behaviour 2019/20 report.

Level crossings

In 2019-20, there were two fatalities at level crossings. This is the same number that there were in 2018-19. Both of the fatalities in 2019-20 involved pedestrians and occurred at footpath crossings.

Figure 1.6: Mainline fatalities at level crossings by person type, Great Britain, 2002-03 to 2019-20 (Table 5204)
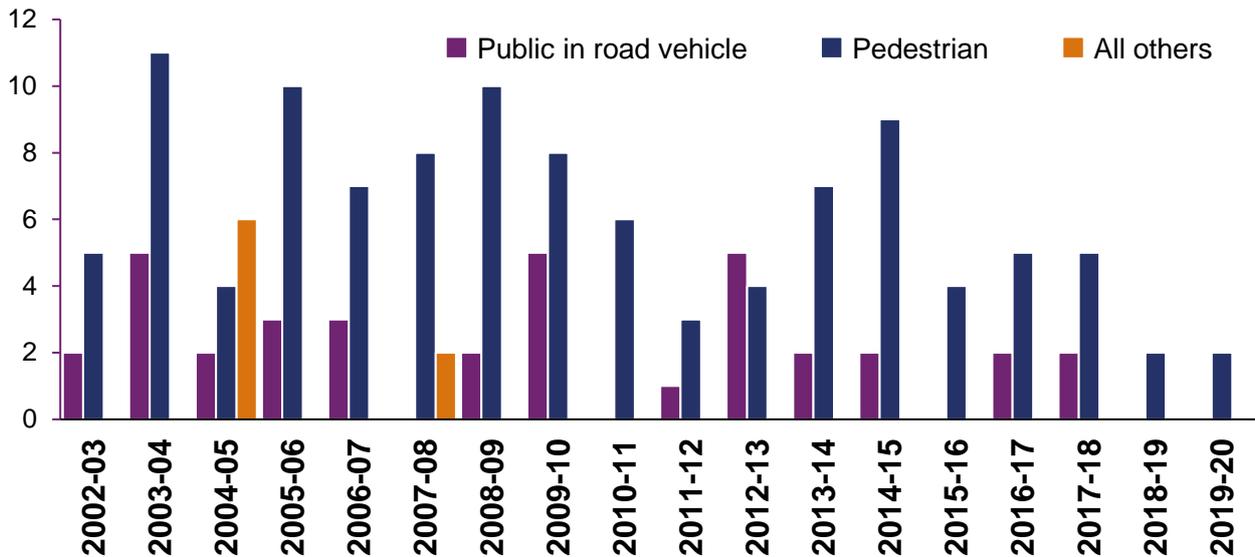
There was an increase to 316 near misses with pedestrians at level crossings. This is the second highest level since the time series began in 2002-03 (the highest was 322 near misses in 2011-12).

There were 75 near misses with road vehicles at level crossings, which is the same number as in 2018-19 and the lowest level since the time series began in 2002-03.

Figure 1.7: Mainline level crossing near miss incidents by user, Great Britain, 2002-03 to 2019-20 (Table 5244)
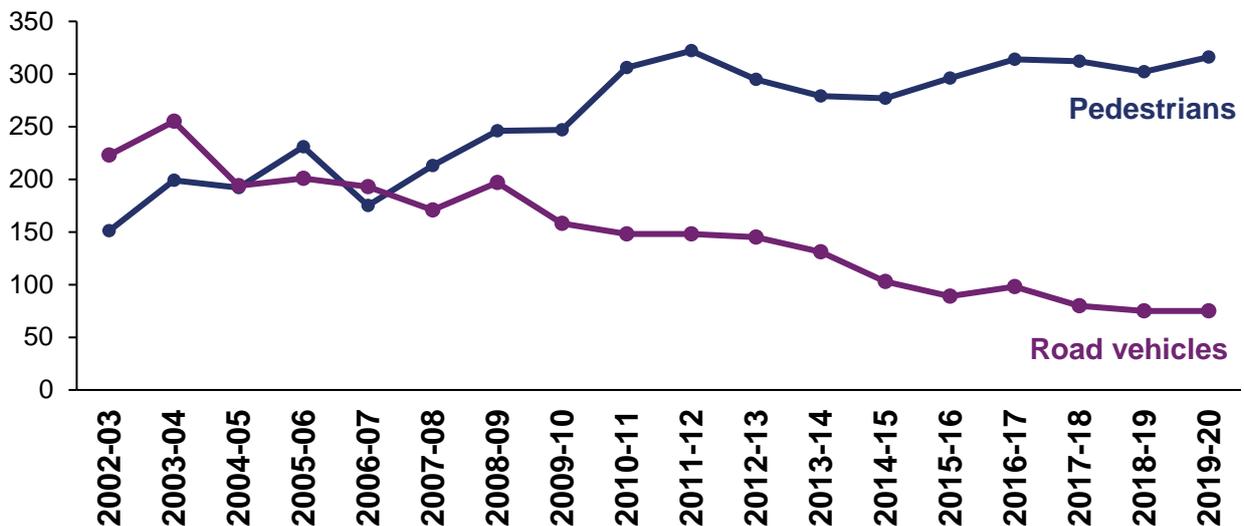
There were six train collisions with road vehicles at level crossings in 2019-20, a reduction following the peak of nine in 2018-19. None of these collisions resulted in a train derailment.
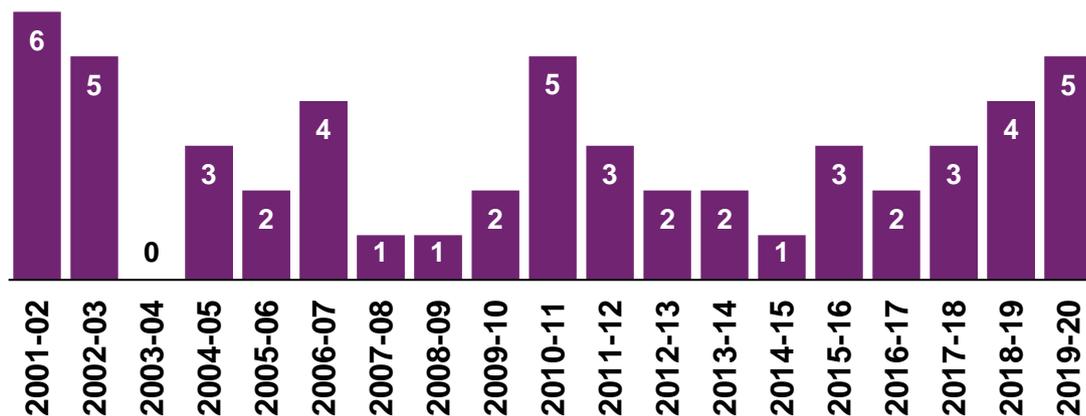
There is more information on level crossing fatalities and risks in RSSB's Level Crossing 2019/20 report.

2. London Underground

Passenger fatalities

There were five passenger fatalities on London Underground in 2019-20, which is the highest number since 2010-11.

Figure 2.1: London Underground passenger fatalities, 2001-02 to 2019-20 (Table 5200)

For more information on safety on London Underground see Transport for London's Safety, Health and Environment Report 2019/20.

Passenger major and minor injuries

There were 100 major injuries to passengers in 2019-20, as shown in Figure 2.2. This was a decrease from 145 major injuries in 2018-19.

The decrease was driven by a reduction in the number of slips, trips and falls, from 109 to 86. This is shown in more detail in Table 5230.
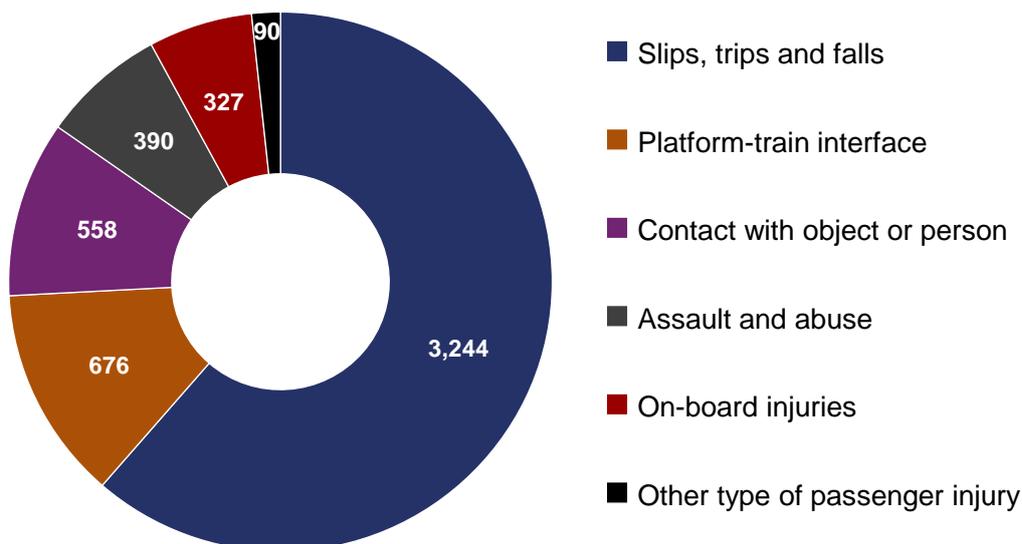
Figure 2.2: London Underground major injuries to passengers, 2001-02 to 2019-20 (Table 5230)
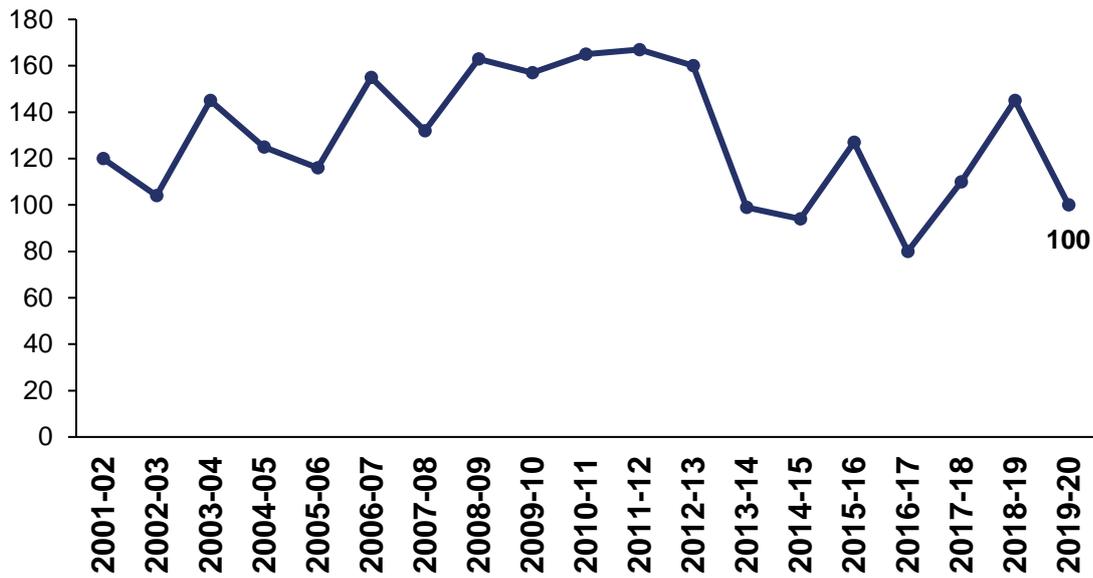
There were 5,285 minor injuries to passengers in 2019-20. Slips, trips and falls made up over 60% of all minor injuries.

There was a small increase (1.1%) in the number of minor injuries compared to 2018-19. This was largely due to a rise in the number of 'Contact with object or person' injuries (up from 390 to 558 in 2019-20).

Figure 2.3: London Underground minor injuries to passengers by category, 2019-20 (Table 5230)

- Slips, trips and falls
- Platform-train interface
- Contact with object or person
- Assault and abuse
- On-board injuries
- Other type of passenger injury

There were 117 shock and trauma incidents in 2019-20, which is the lowest number since 2007-08. There was a decrease from 170 incidents in 2018-19 (fall of 31.2%).

Workforce fatalities

There was one workforce fatality in 2019-20 - this is the first fatality for London Underground workforce since the time series began in 2001-02. This involved an infrastructure worker who was working on a moving walkway at Waterloo Underground station in September 2019.

Workforce injuries

There were 10 major injuries to workforce in 2019-20, an increase from seven major injuries in 2018-19.

There were 1,113 minor injuries to workforce in 2019-20, a decrease of 4.6% compared to 2018-19. The only workforce category to increase this year was 'Infrastructure worker'.

Figure 2.4: London Underground workforce minor injuries by worker type, 2018-19 to 2019-20 (Table 5210)
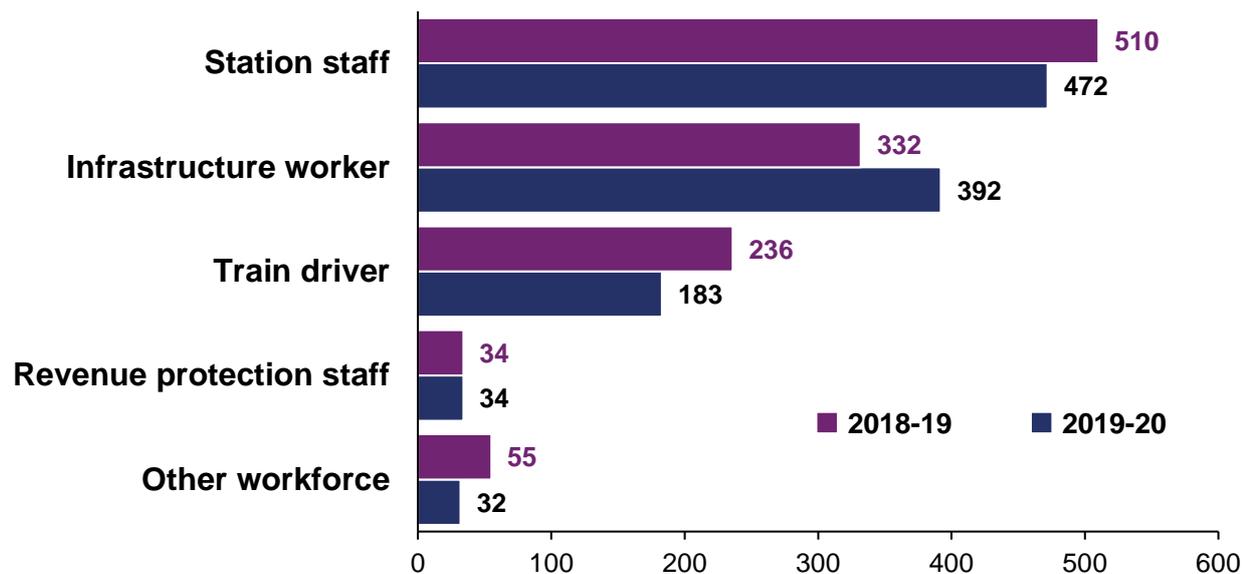
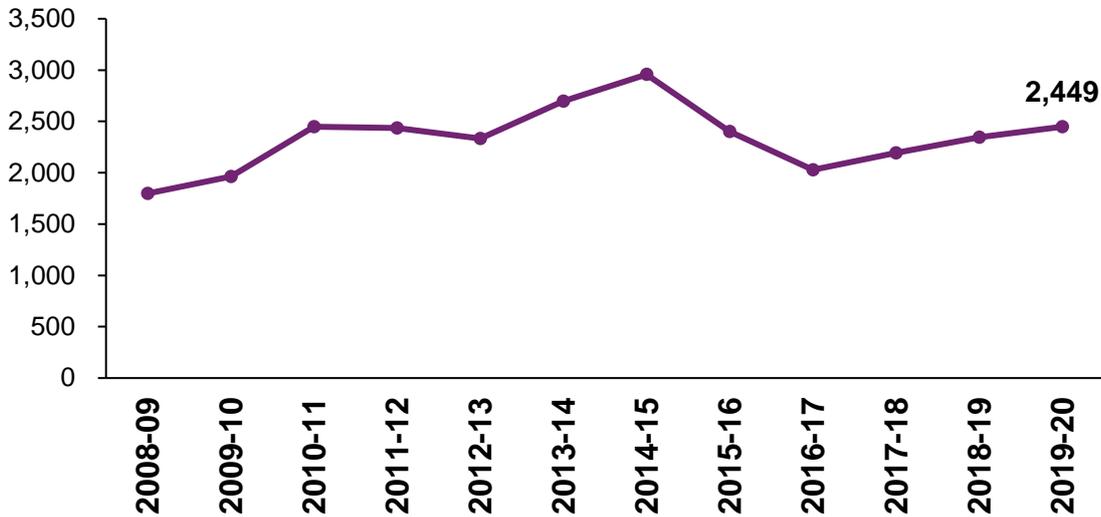There were 2,449 shock and trauma incidents in 2019-20, which is at the highest level in the last five years.

Figure 2.5: London Underground workforce shock and trauma incidents, 2008-09 to 2019-20 (Table 5210)

Public fatalities and injuries

There were 25 suicide or suspected suicide fatalities in 2019-20, which is the lowest number since 2014-15.

The number of assaults to passengers and members of the public rose to 3,188 in 2019-20, which is the highest number since the time series began in 2004-05. This was largely driven by an increase in common assaults (up from 1,637 to 1,743) and the number has tripled compared to ten years ago.

Figure 2.6: London Underground passenger and public assault incidents, 2009-10 to 2019-20 (Table 5206)
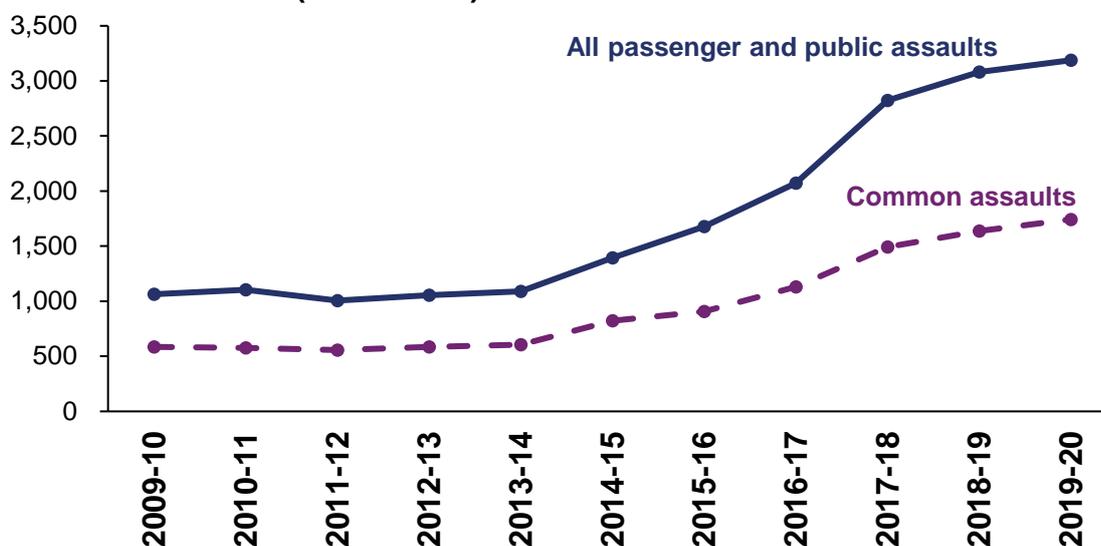
The number of major injuries to members of the public decreased to 14 in 2019-20 (was 19 in 2018-19).

There is more information on crime on London Underground in Transport for London's Crime and Incident bulletins and the British Transport Police Annual statistical bulletins.

3. Trams, metros and other non-Network Rail networks

The data in this section covers incidents and fatalities on trams, metros, other light rail, and minor and heritage railways.

Passenger fatalities

For the third year in a row, there were no fatalities to passengers on trams, metros and other non-Network Rail networks.

Passenger injuries

In 2019-20 there were 28 injuries where a passenger had to be taken directly to hospital. This is the lowest figure since the time series began in 2005-06.

Figure 3.1: Passenger injuries on trams, metros and other non-Network Rail networks, Great Britain, 2005-06 to 2019-20 (Table 5230)
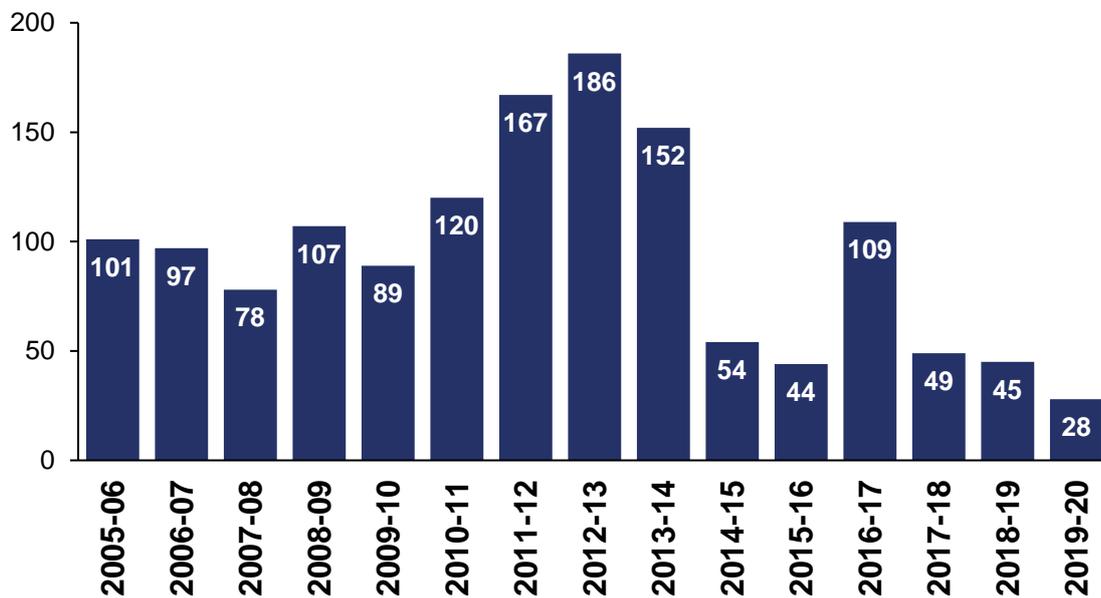
Workforce fatalities

For the second year in a row, there were no workforce fatalities on trams, metros and non-Network Rail networks.

Workforce injuries

There were 39 workforce major injuries or conditions in 2019-20, which is a similar level to the previous year of 42.

There were 127 minor injuries to workforce in 2019-20, which is the lowest number in the last ten years.

Public fatalities and injuries

There were two fatalities to pedestrians who were struck by trams in 2019-20, which is the same as in 2018-19.

Nine members of the public were taken to hospital as a result of an injury in 2019-20. These were five pedestrians, three trespassers and one other member of the public.

4. Train accidents

Mainline

There were 408 train accidents in 2019-20 on the mainline, an increase of 11.8% compared to 2018-19.

There were 25 potentially high risk train accidents (PHRTAs), similar to the figure of 26 recorded in the previous year. Eight of these involved at least one passenger train.

Figure 4.1: Train accidents (PHRTAs) on the mainline, Great Britain, 2013-14 to 2019-20 (Table 5260)
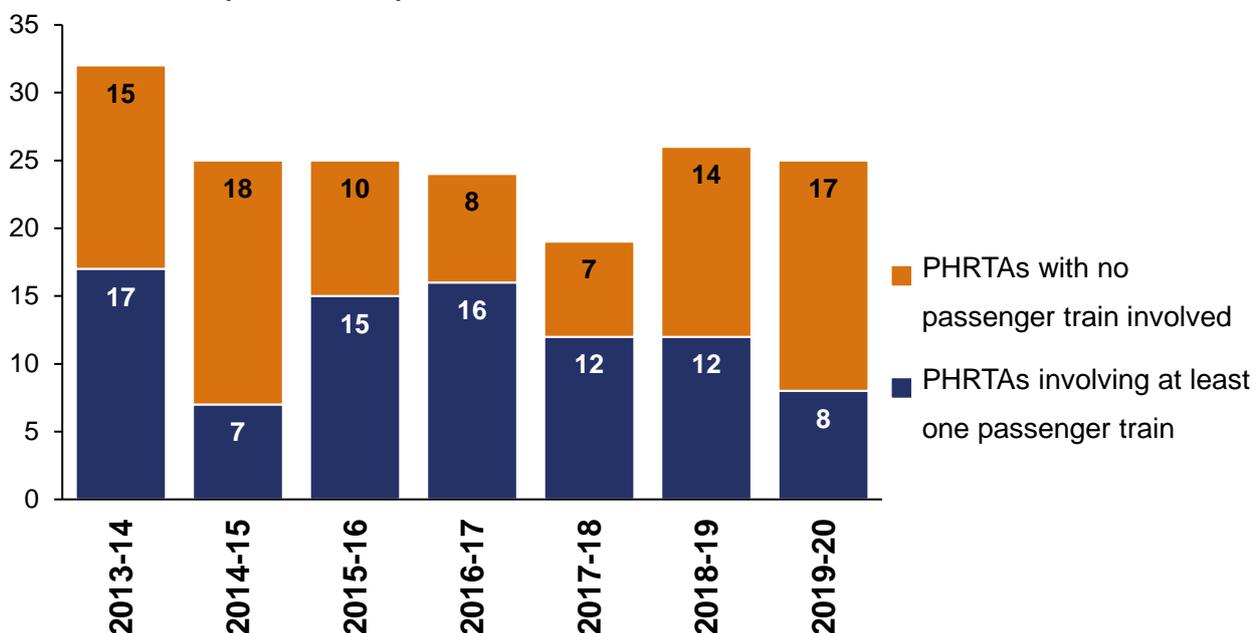
The 25 PHRTAs were:

● 10 derailments (none involving passenger trains)

● 5 collisions between trains (two involving passenger train)

● 5 collisions with road vehicles at level crossings (four involving passenger train)

● 3 collisions with road vehicles at other locations (two involving passenger train)

● 2 striking buffer stops (none involving passenger train)

There were 383 non-PHRTAs in 2019-20, an increase of 13.0% compared to the previous year. The category with the largest increase was 'Striking animals', with an increase from 109 to 141. This is the highest number in recent years since a peak of 346 in 2012-13.

Figure 4.2: Non-PHRTA train accidents on the mainline, Great Britain, 2013-14 to 2019-20 (Table 5260)
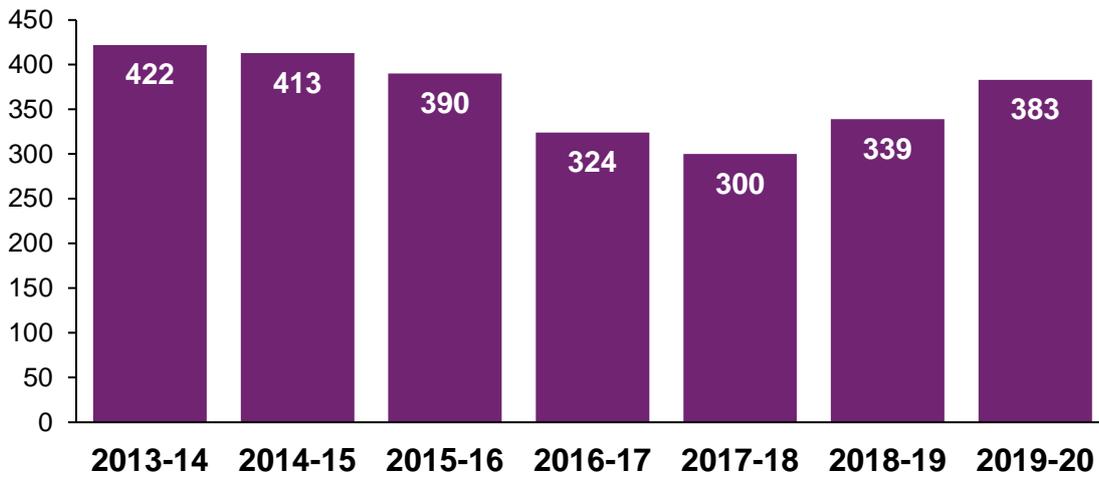
London Underground

There were 28 train accidents on the London Underground network in 2019-20, an increase from 24 in 2018-19. This is the highest number since the time series began in 2006-07. There were no potentially high risk train accidents (PHRTAs) in 2019-20.

There was an increase in the number of train fires involving at least one passenger train. There were 20 in 2019-20 which is the highest number since the time series began in 2006-07.

Figure 4.3: All train accidents (PHRTAs and non-PHRTAs) on London Underground by type, Great Britain, 2006-07 to 2019-20 (Table 5260)
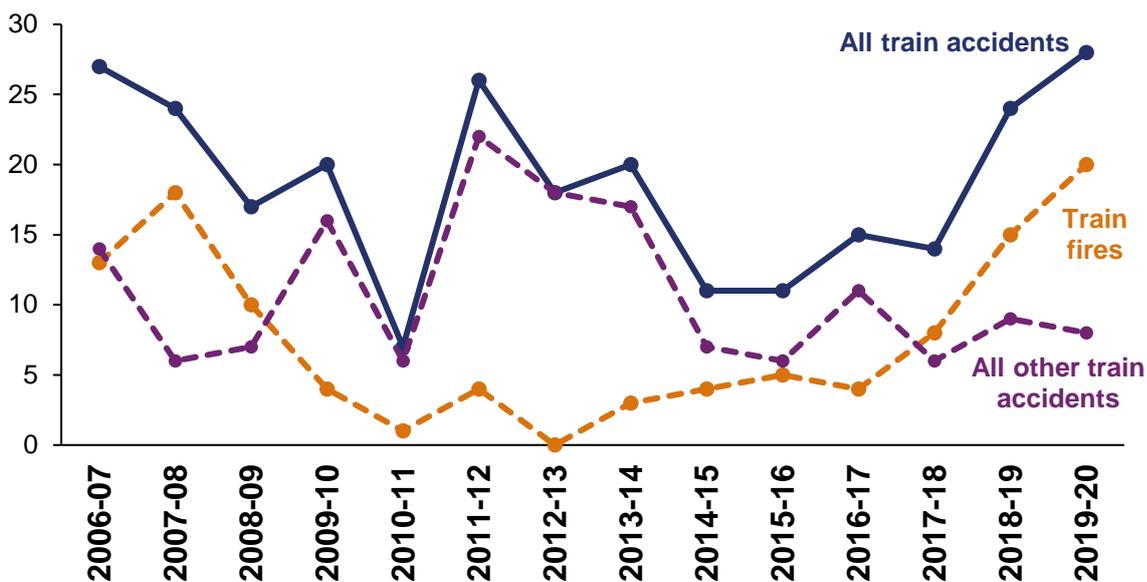
Trams, metros and other non-Network Rail networks

There were 98 train accidents on trams, metros and other non-Network Rail networks in 2019-20, which is the lowest number in the last six years. The number of accidents decreased by 26.3% compared to 2018-19.

There were 93 potentially high risk accidents (PHRTAs), a decrease from 103 in 2018-19. Of these, 87 involved at least one passenger train.

The 93 PHRTAs were:

- 78 collisions with road vehicles at other locations (all involving at least one passenger train)
- 10 derailments (five involving passenger train)
- 5 collisions between trains (four involving passenger train)

There were five non-PHRTAs in 2019-20, a decrease from 30 in the previous year.

5. Annexes

Annex 1 – Definitions

- The **mainline rail network** is owned and operated by Network Rail. This includes over 20,000 miles of track and over 6,000 level crossings. There are more than 2,500 mainline stations in Great Britain.

- **London Underground** (also known as the Tube) is operated by London Underground Limitied, which is owned by Transport for London. It has 11 lines covering over 400 km and serves 270 stations.

- **Light rail** is an urban transportation system that generally uses electrically powered rail guided vehicles along exclusive rights-of-way at ground level, on raised structures, in tunnels, and in streets. **Tramways** are a specific type of light rail system that have a significant element of the system operating in a highway environment or other public space.

- **Minor and heritage railways** are railways which are 'lines of local interest', museum railways or tourist railways that preserve, re-create or simulate railways of the past. This includes any that demonstrate or operate historic or special types of motion power or rolling stock. There are over 200 such railways operating in Great Britain.

- **A passenger** is defined as a person on railway infrastructure who either: intends to travel, is in the process of travelling, or has travelled. This is regardless of whether they have a valid ticket.

- **Members of the public** are defined as neither passengers nor workforce. It includes people who trespass, or who commit (or attempt to commit) suicide. It also includes people using public spaces such as roads, where trams may operate.

- **Workforce** is defined as a person working for the industry on railway activities, either as a direct employee or under contract.

- **Non-workforce** are defined as people who are not part of the rail workforce. Data for the mainline comes from RSSB, who were not able to reliably differentiate between passengers and members of the public for some incidents. Passenger and public incidents that took place on mainline trains or in stations are combined together into non-workforce incidents. This category only applies to mainline, as incidents are divided into passenger and public for London Underground, and trams, metro and non-Network Rail networks.

- **A trespasser** is defined as someone who accesses prohibited areas of the railway, and their actions are due to deliberate or risk-taking behaviour.

- **A level crossing** is where a railway line is crossed by a road or right of way on the level, this means without the use of a tunnel or a bridge.

- A **near miss at a level crossing** can be either a near miss between a train and a person or road vehicle at a level crossing, or any emergency brake application of a train or rail vehicle to avoid striking a person or road vehicle.

- A **platform-train interface** incident can be classed as two types: **boarding/alighting**, where an incident occurs whilst getting on or off a train or **not boarding/alighting**, where an incident involves falling from the platform (with or without a train present) or contact with train or traction supply at the platform edge.

- **Slips, trips, and falls** are generally defined as a fall of less than 2 metres anywhere (except on trains), and falls of any height down stairs or escalators.

- **Assault and abuse** includes all types of assault, verbal abuse and threat. It also includes unlawful killing, murder or manslaughter or lawful killing in self-defence. For further detail on assault offences please see Sentencing Council website.

- **Contact with object** covers any injury that involved contact with objects, not covered by another category. **Contact with person** covers injuries due to bumping into, or being bumped into, by other people. This excludes assaults.

- **Awkward body movement** are strains and sprains due to lifting or moving objects, or awkward movement. This excludes injuries to dropping items being carried (classed as contact with object).

- **A PHRTA** is a Potentially Higher Risk Train Accident. These are RIDDOR reportable accidents and are those that have the greatest risk of resulting in physical injuries. Train accidents which have a lower potential for serious consequences are known as **non-PHRTAs**.

Injury Categories

Employers, the self-employed and those in control of premises are required by law to report specified workplace incidents to the relevant enforcing authority, as set out by the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 2013.

The ORR has produced guidance which provides more detail on the types of incidents which are RIDDOR reportable. These statistics also include non-RIDDOR reportable minor injuries.

The injury categories reported in these statistics are generally as follows:

● **Fatality** - death occurs within one year of the incident

● **Major injury** - injuries to passenger, staff or member of the public as defined by Schedule 1 of RIDDOR 2013. This includes most fractures, amputations, loss of sight, crush or burn injuries

● **Minor injury** - RIDDOR reportable minor injuries, which are injuries that are not fatalities or major injuries and the injured person is unable to work for more than seven consecutive days. This also includes all other physical injuries outside the scope of RIDDOR

● **Shock or trauma** - from being involved in or witnessing events that have the potential of a fatal outcome or from other causes such as verbal abuse

Further information on each of these measures and other definitions can be found in the [Rail Safety quality and methodology report.](#)

Annex 2 – Quality and methodology

Data sources

Data for the mainline rail network, which is owned, run and maintained by Network Rail, is provided by the **Rail Safety Standards Board** (RSSB). The scope is generally limited to incidents which occurred in stations, on trains or elsewhere on Network Rail managed infrastructure, such as the track or trackside. Workforce fatalities which occur away from these locations, but occur during working time, are also included.

The data for London Underground is provided by **London Underground Limited** (LUL). Train accident data for London Underground is not available before 2006-07.

The data for non-mainline networks are derived from the **Office of Rail and Road** (ORR) webform. The dataset includes safety incidents reported by heritage operators, tramways, light rail systems and other operators on non-Network Rail infrastructure. Data for non-mainline networks is only available from 2005-06.

Revisions

There have been revisions to mainline data previously published within this release for various categories, from 2015-16 onwards. Details on historic revisions can be found in the Revisions log, and further information on revisions and data series breaks can be found in the data portal tables.

The rail safety data in this release are comparable to the two related publications mentioned in the 'Other related statistics' section below. Occasional differences may occur due to subsequent updates or revisions to these reports. Reasons for changes to data could include late reporting, changes as a result of further investigations into incidents, or the development of injuries sustained in previously reported incidents.

Further details on revisions, data collection, and the historic background, can be found in the Rail safety quality and methodology report.

Annex 3 – List of data tables associated with this release and other related statistics

Data tables

All data tables can be accessed on the ORR data portal free of charge in OpenDocument Spreadsheet (.ods) format. We can also provide data in csv format on request.

All tables associated with this release can be found under the Data tables heading at the bottom of the Rail safety page.

Fatalities and injuries

- All fatalities and injuries – Table 5200

- Passenger and public assault – Table 5206

- Workforce fatalities and injuries – Table 5210

- Public fatalities and injuries – Table 5220

- Passenger fatalities and injuries – Table 5230

Level crossings

- Road rail interface fatalities – Table 5204

- Road rail interface bridge strikes – Table 5240

- Road rail interface near miss and misuse incidents – Table 5244

- Road rail interface collisions – Table 5245

Train accidents

- Train accidents by severity – Table 5260

- Train accidents with passenger or workforce fatalities – Table 5265

Other tables

- Broken rails and buckled rails – Table 5250

For quarterly data on Signals Passed at Danger (SPADs) see Table 5255.

Other related statistics

This release includes information from mainline networks, London Underground, and other non-Network Rail networks. Some of the data has previously been reported in two publications:

Rail Safety and Standards Board- Annual Health and Safety Report 2019/20 (June 2020)

Office of Rail and Road- Annual Health and Safety Report (July 2020)

More detailed commentary about specific incidents, trends and background information can be found in these reports. RSSB have also published 14 topic-specific reports, which look at priority risk areas.

There may be minor differences in the mainline and London Underground data in this release compared to the other two publications - see the revisions section and Rail safety quality and methodology report for more information.

European Safety Benchmarking

The UK is required to submit Common Safety Indicators (CSIs) data to the European Union Agency for Railways on an annual basis. The CSIs can be used to assess and benchmark the performance of the UK railway against EU member states. The latest CSIs can be found on the ERAIL website including the latest report on rail safety in the EU (2018 calendar year data).

The results of analysis of CSIs submitted for 2010 to 2013 can be found on the ORR website: Railway safety benchmarking - Safety on the UK's mainline railway network (October 2015).

Annex 4 – ORR's statistical publications

Statistical Releases

This publication is part of ORR's National Statistics accredited releases, which consist of six annual publications: **Rail Finance; Rail Fares Index; Rail Safety Statistics; Rail Infrastructure and Assets; Rail Emissions; Regional Rail Usage**; and four quarterly publications: **Passenger Rail Performance; Freight Rail Usage and Performance; Passenger Rail Usage; Passenger Rail Service Complaints.**

In addition, ORR also publishes a number of Official Statistics, which consist of four annual publications: **Estimates of Station Usage; Train Operating Company Key Statistics; Rail Statistics Compendium; Occupational Health**; and four quarterly publications: **Signals passed at danger (SPADS); Delay Compensation Claims; Disabled Person's Railcard (DPRC); Passenger assistance.**

All the above publications are available on the ORR data portal along with a list of publication dates for the next 12 months.

National Statistics

The United Kingdom Statistics Authority designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Official Statistics. National Statistics status means that official statistics meet the highest standards of **trustworthiness**, **quality** and public **value**.

Our statistical releases were assessed in 2012 and hold National Statistics status. Since our assessment we have improved the content, presentation and quality of our statistical releases. In addition, in July 2019 we launched our new data portal. Therefore, in late 2019 we worked with the OSR to conduct a compliance check to ensure we are still meeting the standards of the Code. On 4 November 2019, OSR published a letter confirming that ORR's statistics should continue to be designated as National Statistics. OSR found many positive aspects in the way that we produce and present our statistics and welcomed the range of improvements made since the statistics were last assessed.

For more information on how we adhere to the Code please see our compliance statements. For more details or to provide feedback, please contact the Statistics Head of Profession (Lyndsey Melbourne) at rail.stats@orr.gov.uk.