

## Police recorded road accident statistics

### What are these statistics?

Statistics on police recorded road accidents provide summary information about road accidents in Wales which resulted in personal injury. Police forces are required by law to collect information about such incidents, including details about casualties, vehicles, locations and causes.

Provisional summary statistics on StatsWales and an interactive dashboard are updated on a quarterly basis, and detailed final analysis and commentary are published in annual reports.

The information covers only road accidents which resulted in personal injury and for which information was collected by the police. It is known that there is an element of under-recording of such incidents, particularly for less severe incidents. These statistics feed into the [Department for Transport's statistics on reported road casualties in Great Britain](#).

### Policy and operational context

Road safety is devolved to the Welsh Government and Welsh Ministers are the Highways Authority for motorways and trunk roads in Wales. These statistics are essential to support analysis and policy development on road safety in Wales. Context for road safety interventions by the Welsh Government and its partner organisations is given in the [Road Safety Framework for Wales](#), which was published in July 2013. This included the creation of targets to reduce the number of people killed and seriously injured on Welsh roads by 2020.

### Users and uses

The data are used by the Welsh Government to assess the effectiveness of current policy, develop and assess the impact of new policies and road safety interventions and monitor trends and progress towards its targets for reducing the number of people killed and seriously injured on Welsh roads. As the Highways Authority for the trunk roads, Welsh Ministers must analyse the data to help promote road safety in Wales. Much of the data is important in understanding the operation of the road network and driver behaviour.

In addition, a variety of other organisations use these data to support road safety assessments and identify and address accident hotspots. They include police forces, road safety groups, local authorities, transport planners and highway authorities. The statistics are also frequently covered by national and local media in reporting the latest picture and trends in road safety.

The statistics included in this release do not cover any of the national indicators, however they may be relevant in the context of some indicators and they may be used by public services boards in relation to their local well-being assessments and plans.

## Strengths and limitations of the data

### Strengths

- The data are the most comprehensive and reliable source of information on road accidents and casualties in Wales.
- The information is processed and published on a quarterly basis to enable users to identify and act on emerging road safety issues.
- The statistical outputs have been developed to meet user needs and cover a wide range of topics relevant to users.
- The [road accidents dashboard](#) enables users to manipulate the underlying data by a range of geographical and demographic variables to create bespoke analyses to supplement those in the statistical bulletins.
- The statistics are derived from existing administrative systems operated by police forces.

### Limitations

- There are long-standing issues around under-coverage, particularly with less serious accidents, affecting the statistics in Wales and across Great Britain. For example, hospital, survey and compensation claims data indicate that many non-fatal accidents are not reported to or recorded by the police.
- Interpreting short-term trends can be problematic because of changes in police recording practices and road users' reporting of incidents.
- Quarterly updates are regarded as provisional because they are often under-estimates compared with final year's data.
- Since data on severity of injuries and factors contributing to incidents are based on police officers' subjective assessments, they often don't provide a comprehensive picture.
- Delays in data provision have occasionally resulted in postponements to statistical releases.

## Data processing cycle

### Data collection

The [Annual Data Requirement](#) confers a statutory duty on police forces in Great Britain to collect information about road traffic accidents which result in personal injury. Police officers record this data on a 'STATS19' form, and they are collated at a police force level onto administrative systems and transferred to the Welsh Government on a monthly or quarterly basis. Most of the information is recorded at the scene of the incident by attending officers, however the forms may be completed or updated subsequently when more information is available. There are four police forces in Wales; South Wales Police; Gwent Police; Dyfed-Powys Police; North Wales Police.

### Validation and verification

The Welsh Government runs a suite of automatic validations on the raw data provided by police forces. These checks are intended to identify records containing unusual, invalid or missing data and these are flagged for validation with police forces and local authorities. Some examples of the types of checks are:

- Age of drivers within expected range
- Invalid accident locations
- Checks for duplicate records
- Internal consistency of records

When these validation checks are resolved Welsh Government compiles a near-final dataset and runs comparisons against previous years' aggregates. This is done on an annual and quarterly basis for Wales as a whole, for the police force areas and at a local authority level. This helps to identify unusual trends in the statistics which can indicate missing data, which can be queried again with the police.

We involve local authorities in quality assuring certain aspects of the data, with a focus on location details. We also compare against other sources of information, for example intelligence from meetings with police forces, information reported to the [Road Safety Wales group coordinated by ROSPA](#), and fatal accident reports supplied to Welsh Government.

The data are provided to the UK Department for Transport (DfT) to feed in to their statistical releases. DfT runs a suite of automatic validations which can flag up additional quality issues such as duplicate records, but these are typically on a very small scale.

The final data are shared with police forces for final quality assurance and sign off before publication.

### Publication

Once the data has been finalised the statistical bulletin, statistical headline, dashboard and StatsWales tables are compiled. All elements of the release are independently checked and a final sense check is carried out by the responsible statistician prior to publication on the website.

The final data also feed into the Department for Transport's statistical release on [reported road casualties in Great Britain](#).

## **National Statistics status**

The [United Kingdom Statistics Authority](#) has 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 Statistics](#). National Statistics status means that statistics meet the highest standards of trustworthiness, quality and public value and it is our responsibility to maintain compliance with these standards.

All official statistics should comply with all aspects of the Code of Practice for Statistics. They are awarded National Statistics status following an assessment by the UK Statistics Authority's regulatory arm. The Authority considers whether the statistics meet the highest standards of Code compliance, including the value they add to public decisions and debate. The designation of these statistics as National Statistics was confirmed in July 2013 following a [full assessment against the Code of Practice](#).

Since the last review by the Office for Statistics Regulation, we have continued to comply with the Code of Practice for Statistics, and have made the following improvements:

- Undertaken a substantial piece of work to improve our understanding of data quality, by using the [Quality Assurance of Administrative Data toolkit](#)
- Added to and refined information about dimensions of quality and described links to policy and Welsh Government targets
- Improved visuals by de-cluttering and standardising charts and tables

It is Welsh Government's responsibility to maintain compliance with the standards expected of National Statistics. If we become concerned about whether these statistics are still meeting the appropriate standards, we will discuss these concerns with the Authority promptly. National Statistics status can be removed at any point when the highest standards are not maintained, and reinstated when standards are restored.

## **Administrative data quality assurance**

This release has been scored against the UK Statistics Authority's Administrative Data Quality Assurance matrix. The matrix is the UK Statistics Authority regulatory standard for the quality assurance of administrative data. The Standard recognises the increasing role that administrative data play in the production of official statistics and clarifies what producers of official statistics should do to assure themselves of the quality of these data. The toolkit that supports it provides helpful guidance to statistical producers about the practices they can adopt to assure the quality of the data they receive, and sets out the standards for assessing statistics against the Code of Practice for Official Statistics.

The criteria against which statistics are scored are as follows:

- Operational context and administrative data collection
- Communication with data supply partners
- Quality assurance principles, standards and checks applied by data suppliers
- Producer's quality assurance investigations and documentation

The matrix enables us to make an assessment about the risk profile of our statistics based on public interest and quality concerns. We have assessed these statistics as 'A2/A3' because we consider the statistics to be of medium/high data quality concern and of medium public interest. This implies that our assurance practices should be either 'Enhanced' (A2) or 'Comprehensive' (A3) depending on the relevance of the particular practices to our work.

Our initial assessment was that our existing processes met or exceed the requirements at the A2 and A3 levels of assurance in most cases, though there were also areas of the framework requiring improvement. Existing processes were strong in areas such as communication with suppliers, our internal quality assurance and our understanding of the operational context of the data collection. We identified some areas of relative weakness, for example providing information around sources of bias and error and understanding suppliers' quality assurance processes. We have since taken steps to improve our practices in these areas, including:

- Met with individual police forces to develop better understanding of their data collection and quality assurance processes. Helped forces to improve their processes and established more collaborative approaches to QA by increasing the frequency and efficiency of data validations.
- Attended meetings with the Welsh Roads Policing Regional Strategic Group (WRPRSG) and Road Safety Wales (partnership between local authorities, road safety groups and police forces). Used these meetings to improve understanding of stakeholders' work and priorities, to stress the importance of data quality and to help maintain commitment and buy-in from suppliers.
- Formalised agreements around roles and responsibilities in data collection, quality assurance and supply.
- Use a wider range of information to help verify data, including fatality reports, local authorities' intelligence and information presented to the Road Safety Wales group.
- Provide more detailed information about the sources of error in the data, with comparisons against related data sources and discussion around the likely scale of under-coverage.

Our work across these and other areas of the QAAD framework is ongoing and we continue to work with police forces and stakeholders to identify where improvements to data quality and statistical dissemination can be made.

We regard the longstanding issues with under-coverage of accidents as the most significant quality concern with these statistics. Under-coverage falls into two categories:

- Accidents resulting in personal injury not reported to the police. Research by DfT<sup>1</sup> with other data sources such as insurance claims, hospital admissions data and survey data indicates that around 50 per cent of accidents involving some degree of personal injury, accounting for two thirds of all non-fatal casualties, are not reported to police. Evidence suggests the majority of these injuries are relatively minor, and it is not known how many would have qualified as recordable injuries had police attended the scene.
- Accidents reported to the police but not recorded by the police. We have identified some instances of this through our QA processes, which flag significant changes in the data which we then query with police. In these scenarios police forces have usually, but not always, been able to retrospectively collate and supply the missing information. But by their nature, these occurrences are only identifiable if there are relatively large discrepancies compared with previous years' data. It is not known to what extent there is under recording on a small scale or on an ongoing basis. Improving awareness around the need to record accidents through the STATS19 system has been a feature of our work with police forces. As with non-reported accidents, the significant majority of non-recorded cases are likely to be 'slight' injury accidents.

Overall, the available sources show that accidents reported to and recorded by police forces represent only a subset of all personal injury road accidents, but that coverage of serious injuries and fatalities is good.

In addition to under coverage of accidents, there is likely to be under recording of serious injuries. This is discussed in more detail under accuracy below.

The department for Transport is currently leading a review of STATS19 statistics across Great Britain which covers these topics and will assess options for improving coverage and estimating for missing data. The Welsh Government will play an active role in this exercise.

### **Disclosure control and confidentiality**

The published statistics on road accidents do not include any personally or commercially sensitive information requiring action around disclosure control or protection of confidentiality. However, the source data do contain some personal sensitive fields, for example post codes, registration numbers and breath test results. All such data are held and transferred securely and they are not available in published outputs. Sensitive data are made available to external users in some circumstances, for example to support local authorities' road safety initiatives. In these cases, users conform through signed data access agreements that they will meet the necessary data security requirements and destroy the data at a specified time in the future.

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<sup>1</sup> Summarised under 'strengths and weaknesses' in [Reported Road Casualties for Great Britain](#).

## **Assessment of statistical quality**

Police recorded road accident statistics adhere to the Welsh Government's Statistical Quality Management Strategy, and this is in line with the European Statistical System's dimensions of quality. Details of the dimensions, and how we adhere to them, are provided below:

### **Relevance**

The degree to which the statistical product meets user needs for both coverage and content.

A variety of organisations use the Welsh road traffic accident and casualty data. The Welsh Government uses road traffic collision and casualty data to help set road safety policy. It is also used for performance indicators, both for the Welsh Government's Transport Strategy and for some Health Performance indicators.

Other users include Highway Authorities, including the Welsh Government which is responsible for the motorway and trunk road network, and local authorities, which are responsible for other roads in Wales. Other bodies involved in road safety include Go Safe, Trunk Road Agents, Police & Community Safety Partnerships, Road Safety Wales, the Royal Society for the Prevention of Accidents (ROSPA) and GoSafe. Welsh Government also provides data to transport planning organisations to support road safety assessments.

There is some demand for information on non-injury road accidents but these are not covered by the STATS process.

### **Accuracy**

The closeness between an estimated result and the (unknown) true value.

The data presented reflect the personal injury road accidents recorded by police forces in Wales. As discussed under administrative data quality assurance, while these data are the most detailed and reliable source of information on road accidents and casualties, they do not provide a complete record of all such incidents – for example, hospital, survey and compensation claims data indicate that many non-fatal accidents are not reported to or recorded by the police. This means that the figures presented are likely to be lower than the true values. This is particularly the case for accidents resulting in slight injuries only, though it is not possible to reliably quantify the extent of the under-coverage.

There is evidence to suggest that the severity of some casualties is underestimated by attending police officers. This follows the introduction in some English forces of injury based reporting systems, which automatically assign severity and which have led to a significant increase in the number of serious injuries recorded. The evidence indicates that non-injury based systems, including those used by all forces in Wales and which rely on police officers' assessments of severity, result in underestimates of serious casualties in the region of 20% to 25%. This source of bias is not thought to affect trends over time in the statistics since the full back series is affected. DfT has produced an adjusted version of the casualty severity statistics for Great Britain and we intend to explore whether this could be used to help quantify the extent of under recording of serious injuries in Wales.

In addition, changes in police recording practices may mean that the statistics are not directly comparable over time.

The figures are based on information available to the Welsh Government 14 weeks after the end of the latest quarter. Published figures are subject to revisions if additional data subsequently become available.

There are likely to be some errors with accident details and geographical and demographic information, though these are minimised by the validations carried out by the Welsh Government, local authorities and police forces.

### **Timeliness and punctuality**

Timeliness refers to the lapse of time between the reference period and the publication of the statistics. Punctuality refers to the time lag between the actual and planned dates of publication.

Full calendar year estimates are usually published 5 to 6 months into the following year. This release includes the statistical bulletin, statistical headline, interactive dashboard and StatsWales tables. Provisional updates for quarters 1, 2 and 3 are also made to the dashboard and StatsWales during the year with a lag of approximately 6 months after the end of the reference period.

Delays with data provision and quality assurance have, on occasion, resulted in the postponement of the main statistical release. For example the 2017 release, which was due to be published in June 2018, was postponed to early August 2018.

Results for Great Britain are usually published by the Department for Transport approximately 7 months after the end of the reference period.

### **Accessibility and clarity**

Accessibility is the ease with which users are able to access the data, also reflecting the format(s) in which the data are available and the availability of supporting information. Clarity refers to the quality and sufficiency of the metadata, illustrations and accompanying advice.

This Statistical Bulletin is pre-announced and published on the [Welsh Government's Statistics & Research website](#). All historical data are available on [StatsWales](#) and users are able to download and export bespoke cuts of data in open data formats.

We aim to inform known users about developments with the statistical outputs. For example we developed a user friendly interactive dashboard with which users can explore a range of location and demographic features of the data. We update and promote the dashboard on a quarterly basis. In our outputs, we aim to provide a balance of commentary, summary tables, charts and maps where relevant. The intention is to 'tell the story' in plain English, with a focus on certain topics of known interest to users, for example performance against the Welsh Government's targets.

Our statistical headlines and tweets are published in Welsh and English. All of our outputs adhere to the Welsh Government accessibility policy and they are subject to internal peer review.

Further information regarding the statistics can be obtained by contacting the responsible statistician named on the release or via [stats.transport@gov.wales](mailto:stats.transport@gov.wales).



## **Comparability and coherence**

The degree to which data can be compared over time and domain and the degree to which data that are derived from different sources or methods, but which refer to the same phenomenon, are similar.

Changes in police recording practices and our quality assurance procedures may mean that the statistics are not directly comparable over time. These can come about through changes to systems, protocols, software or personnel. When we are aware of such cases we try to establish and describe the likely impact on the statistics. There may also be other more gradual recording or behavioural changes which we do not become aware of. It is not possible to quantify or adjust for the impact of such things but we believe when they occur they are unlikely to be significant because, for example, comparisons against other sources (hospital and survey data) are relatively stable.

Conceptually, road accident statistics are fully comparable across Great Britain. However, there are some known differences in reporting systems used by police forces which are likely to result in variation in the comparability of certain information. For example, some police forces in England have moved to injury based reporting systems which automatically assign severity, and these systems are known to result in higher numbers of severe injuries compared with non-injury based reporting systems, which are based on police officers' judgements. As with the differences between forces in Wales mentioned above, there may also be other procedural differences between police forces across Great Britain which would mean differences in coverage and quality of data.

As discussed, evidence from other sources indicates that the police recorded road accidents data are only a subset of all personal injury accidents, with potentially large numbers of less serious incidents not being reported to, or recorded by, the police. This, and the fact that the STATS19 process excludes certain accidents (for example deliberate acts and accidents not on public highways) means that the STATS19 statistics are not coherent with estimates of road accidents or casualties from sources such as hospital episode statistics and insurance claims data.

Evidence indicates the inconsistencies between STATS19 data and other data sources covering road accidents mainly affect less serious incidents. For example, there is broad coherence, both in terms of levels and in terms of trends, between the STATS19 statistics on fatalities and the Office for National Statistics' (ONS') cause of death statistics for land transport accidents.

The DfT led STATS19 review will investigate whether it is possible to quantify the overall scale of under-reporting and what further work can be done to provide a better assessment of the coherence in trends from these statistics and other sources.

## Evaluation

We welcome feedback on any of our statistics. If you wish to contact us, please do so via:

[stats.transport@gov.wales](mailto:stats.transport@gov.wales)

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