Road Casualties Statistics Quality Report

This article summarises the sources and methods used to compile the road accident and casualty figures for Wales. It also reviews the quality of the resulting figures in terms of the six dimensions of statistical quality of the European Statistical System. The aim of this article is to provide this background information in a convenient form and in a single document for all users of the published statistics.

What are these statistics?
These figures show road traffic personal injury accidents and casualties in Wales that are brought to the attention of the police and reported by them to Government using the Stats19 statistical returns. These figures have not been checked against or supplemented by other sources.

The current system for collecting data about road accidents and casualties dates back to 1979. Transport Statistics road accidents database holds data back to 1979, and the first publication of 'Road Accidents: Wales' shows 1970 and 1980 data. Earlier data is available because the post-second World War data collection system was set up by a Home Office Circular dating from 1948, and before that, figures were collected from the First War onwards. The post war figures have always been based on police reported data. There is no legal obligation to report a road traffic collision. Similar data are collected from police forces in England and Scotland, and from the Police Service for Northern Ireland in respect of accidents in Northern Ireland.

Some definitions
The Stats19 statistical form (Annex A contains a copy of the current form) covers all accidents in which a vehicle is involved that occur on public roads (including footways) and result in death or personal injury. The vehicle need not be moving, and need not be in collision - for example, the returns include accidents involving people alighting from buses. Road accidents in which no-one is injured (damage only accidents) are not covered by this definition; neither are accidents that take place away from public roads, for example in car parks. The Welsh Government does not receive details of such accidents, and cannot give any figures for them.

Each accident is classified according to the severity of the injury to the most seriously injured person involved in the accident. An injured casualty is coded as killed or as seriously or slightly injured by the police on the basis of information available within a short time of the accident. Generally this will not include the results of a medical examination, but may include the fact of being detained in hospital, the reasons for which may vary from area to area. In deciding on the severity of a casualty:

- The figures for deaths refer to people killed immediately or who died within 30 days of the accident (excluding confirmed suicides, who are excluded from the road traffic casualty figures)
- A casualty is seriously injured if the injuries sustained require that he or she is detained in hospital as an ‘in-patient’, or sustains any of the following injuries whether or not detained in hospital: fractures, concussion, internal injuries, crushing, severe cuts and lacerations, severe general shock requiring medical treatment, injuries causing death 30 or more days after the accident.
- A casualty is slightly injured if the injuries sustained are of a minor character such as a sprain, bruise or cuts not judged to be severe, or slight shock requiring roadside attention.

Annex B sets out more definitions of the terms used in presenting Welsh road casualty statistics.
**Uses and users**
There are a variety of organisations that 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. They are also component indicators in the Welsh Government’s Child Poverty and Sustainable Development indicators.

The Welsh Government also publishes statistical data which is used for:
- General background data;
- Research into road safety;
- Development of policy;
- Briefing within Welsh Government;
- National Transport Plan monitoring;
- Regional Transport Plan monitoring;
- Road safety policy monitoring; and
- Resource allocation.

Other users include Highway Authorities; Highway Authorities include 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 Safety Camera Partnerships, Trunk Road Agents, and Police & Community Safety Partnerships.

The figures for Wales are passed to the Department for Transport (DfT) for inclusion in their figures for Great Britain.

A data review carried out on Great Britain road casualty statistics found that there was an undercount of reported road casualties compared to actual numbers (for more discussion of this issue see the ‘Quality’ section below). Irrespective of whether Wales has a similar undercounting issue or not, the reported data still represent the single best source of information on vehicles involved in road traffic injury accidents and there are not believed to be any under reporting issues with data relating to fatalities. Whatever the level of reporting, assuming that this is reasonably constant over time, still allows the data to be used to measure trends, report on targets, highlight accident “blackspots”, evaluate interventions and policy impacts and so on.

**Governance Structure for Road Safety Policy in Wales**
One of the main uses for the road accidents and casualties statistics is to help in the development, monitoring and evaluation of road safety policy in Wales. The strategic overview of road safety delivery in Wales is carried out by the ‘Monitoring and Evaluation group’. This is led by the Welsh Government and involves all the other key partner organisations involved in road safety in Wales; these include the Police and Fire Services, local authorities, Camera Partnerships, RoSPA and so on. The responsibilities of this group are set out below and all of these responsibilities either explicitly or implicitly require these statistics. These responsibilities include:
- Establish the strategic approach to road safety in Wales
- Develop and over-arching approach which encompasses engineering, enforcement and education approaches to improving road safety (both of these responsibilities use the statistics to establish the priority group and behaviours for policy intervention)
- Monitor and evaluate road casualty data
- Evaluate the effectiveness of activities to reduce road casualties
- Accountable for the implementation of the Road Safety Delivery Plan in Wales
There are a number of subsidiary groups at national, all-Wales level that are responsible for the delivery of different aspect of the national framework set out by the monitoring and evaluation group. There are four groups; the work of each of these groups is informed to a greater of lesser extent, by the road accidents and casualties statistics. These groups, and the organisations involved in them, are:

- ‘Road Safety Wales’, which looks at the use of road user education and training and at publicity for improving road safety at the all-Wales level. This involves local authorities, Police, Fire, RoSPA, Welsh Ambulance Service, and Welsh Government.

- ‘Wales Road Casualty Reduction Partnership’ (WRCRP); this partnership is responsible for camera enforcement, but the wider group looks at the use of enforcement in general (including camera enforcement) for improving road safety at the all-Wales level. This involves local authorities, WLGA, Police, Her Majesty’s Court and Tribunal Service, RoSPA, Welsh Government.

- ‘All Wales Strategic Road Policing Joint Advisory Group’, which looks enforcement through the overarching road policing strategy for Wales. This involves Police, Fire, WRCRP, ACPO, Welsh Ambulance Service.

- ‘CSS Wales’, which looks at the engineering of roads as a way of improving road safety in Wales. This is made up of local authorities, Welsh Government, Trunk Road Agents, RoSPA.

Road safety policy is also carried out at the regional level within Wales. Each of the four Regional Transport Consortia is responsible for improving road safety in their area by the collaborative delivery of road safety across education, enforcement and engineering. Again, the road accidents and casualties data are used in their work. The work of the Regional Transport Consortia involves partner organisations including local authorities, WRCRP, Welsh Government, Fire Police and Ambulance Service. Their work will involve the use of road accident and casualty data at regional or local level. In some instances it will need information about individual accident site locations.

The work of all these groups is co-ordinated by the all-Wales “Road Safety Delivery Plan” developed for the overarching Monitoring and Evaluation group. The first version of this Delivery Plan will be published later in 2012-13; the development of this plan and the evaluation of its delivery are both entirely dependent on the road accident and casualty data. The delivery plan will also determine the sorts of analysis of road accident and casualty data that are needed for both developing and evaluating road safety policy and delivery in Wales.
**Data processing**

**Data collection**
In summary, every personal injury road traffic collision that is reported to the police is recorded in an administrative system that includes an element of statistical reporting. This statistical reporting is done in an identical way across Great Britain using the "Stats19" statistical form. This form is either completed by the police officer attending the accident, or, in around a third of cases, it is reported by members of the public at a police station some time after the accident; this is for instances when a police officer has not attended the personal injury accident.

The Stats19 form is designed to collect information about the accident itself, about the attendant circumstances, the vehicles involved and the resulting casualties. The data is validated through various processes and then forwarded to the Welsh Government and then the Department for Transport (DfT) for national statistical purposes. The data are also passed to the local highway authorities that have statutory responsibilities to promote road safety.

The information collected on the Stats19 form is revised every five years. The latest version of the form was introduced form the beginning of 2005. This was reviewed during 2008 and 2009 and a report setting out changes (to take effect in 2013) was published in 2010. The link below provides a copy of the current Stats19 form, together with the Stats20 document that provides detailed guidance for completing this form. It also covers the review process described above.


The Stats19 form is really a series of forms:
- **An accident record** form setting out the attendant circumstances associated with this accident. These include, for example: The road class, type, number and speed limit; light, weather and road surface conditions; presence or otherwise of junctions and pedestrian crossing facilities); date, time and location (by grid reference) of the accident.
- **A vehicle record**, a separate form is completed for each of the vehicles involved in the accident setting out details about the vehicle; its movements before and in the course of the accident; some information about the driver (their age, sex, journey purpose, home postcode) and whether or not it was a hit and run accident.
- **A casualty record**, again with a separate form completed for each of the casualties resulting from the accident. This sets out the age and sex of the casualty and the severity of their injuries (fatal, serious or slight); details about the location and movements of any pedestrian casualties; and the casualty class, that is whether they were a driver/rider, vehicle passenger (including car and bus passengers recorded separately), or a pedestrian.
- **A contributory factors** form: One of these forms is completed for each accident; the form sets out a grid of 76 factors that may contribute to an accident; and the police officer can list up to six of these factors that he or she considers to be relevant to the accident. Each of these factors is linked to one of the participants (either to a vehicle or a casualty, where there will also be an associated vehicle or casualty record; or to an ‘uninjured pedestrian’ , where there will not be any further information). The police officer also indicates whether the factors was a ‘very likely’ to have contributed to the accident or only have a ‘possible’ link to the accident. More than one factor can be linked to a single road user, and the same factor can be linked to a series of road users.

A bit more detail about Stats19 form itself: Some of the fields on the form are completed with a numerical code (for example ‘road type’ is 1=roundabout, 2=one way street and so on). Other fields are filled with numerical data, such as ages of drivers and casualties, the number of vehicles involved and so on; or alphanumeric data, for example like the vehicle registration marks (number plates) of the vehicles involved and the postcodes of drivers and casualties. In order to match up the different parts of the Stats19 form, all the parts of each forms have a single accident reference number; each vehicle and
casualty involved also has a reference number, so that casualties that are drivers of, or passengers in, a vehicle can be linked to their vehicle, and so that the contributory factors section can refer to the relevant vehicles or pedestrians.

The Stats19 is part of a larger administrative form that is completed by the police office for each accident. This larger form contains additional fields about the accident that are relevant to the decision whether or not the police will prosecute any of the people involved. It also contains the police officer’s description of both the circumstances of the accident itself, and a description of the location of the accident.

At the moment, the Stats19 is either a series of paper forms which are completed by the police officer and then keyed in by back office staff in the police force, or they are completed directly onto a computer version of the form. There are currently moves at the Great Britain level to capture this data through hand held or other computer devices. For more details see the CRASH project http://www.dft.gov.uk/pgr/statistics/committeesusergroups/crash

There are separate developments within some police forces in Wales that are also aimed at delivering a change to collecting data on a computer version of the form. The move to computer collection should lead to an improvement in the quality of the data, particularly in the quality of the data about the precise location of accidents. These changes will take place later in 2012-13.

Mode of data collection
As described above, the Stats19 data are a set of numeric and alphabetic data. These data are sent to the Welsh Government as a ‘text file’ containing the strings of numbers and letters relating to each individual accident and its associated vehicle and casualty information. These are sent via e-mail. On receipt they are run through a validation program; the valid data is loaded onto the Stats19 database which holds records of all police reported accidents in Wales since 1979.

Data are sent to the Welsh Government directly from Dyfed Powys, South Wales and Gwent police forces in respect of traffic accidents in their areas. Data are sent from individual local authorities in North Wales in respect of accidents in the Isle of Anglesey, Gwynedd, Conwy, Flintshire, Denbighshire and Wrexham.

Validation and verification
As described above, the Stats19 is part of an administrative system which records ‘personal injury accidents and casualties that are reported to the police’. The wider quality issues relating to this are discussed below in the Quality section. But this means that these Stats19 data do not contain ‘statistical’ errors as, in principle, they cover this entire category of traffic accidents (which is a sub-set of all traffic accidents, or collisions, however these are defined). Instead, the errors arise from:

• Individual police officers failing to complete Stats19 forms;
• Individual police officers misreporting the details they write onto the form, or
• Other errors made by police forces and local authorities in the processing of the data, including deleting, or otherwise failing to report accident records to the Welsh Government.

There are a number of layers in the validation process aimed to minimise these errors. Police forces have internal checking processes designed to ensure that police officers complete this form. They also can use in-house checking of the quality of the data on the forms. Many police forces use local authorities to check details of accidents, particularly the information about the location of accidents. The way this is done varies across police forces in Wales:

• Dyfed Powys Police shares and jointly validates data with their local authorities, and then sends corrected data to the Welsh Government.
South Wales Police sends data directly to the Welsh Government and to the local authorities, so the authorities are less involved in validating the data.

Gwent Police validate the data, before sending it to the Welsh Government. They also send the data to local authorities, who have a separate contract with Capita Symonds to further improve the validation of the data (particularly the location of the accident).

North Wales Police pass Stats19 data to their individual local authorities, who in turn both validate it and pass it on to both ArriveAlive North Wales and to the Welsh Government.

The Welsh Government, then it in turn carries out its own validation of the data and checks any failures of validation with the relevant police force, or local authority in the case of North Wales. The Welsh Government passes Welsh data through to DfT to be incorporated in their dataset for Great Britain.

The validation and verification procedures carried out by the Welsh Government on data are:

- Ensuring that police and local authorities send figures, on time.
- Ensuring that the forms are fully completed.
- Ensuring that each accident is allocated to the correct local authority area by checking that the grid reference falls within the rectangle defined by the most North/South and East/West boundaries of the authority concerned.
- Checking that duplicate records have not been sent through.
- Checking that the Welsh Government holds the same number of accident and casualty records as the contributors for any given time period.
- Running a standard set of validation checks. These checks are run on each accident record. If a record fails validation, then a report is generated which is sent back to the data provider so that they can correct the record.
- Deal with other database management tasks in order to ensure a clean dataset, including inserting fillers for incomplete data and ensuring consistency by eliminating orphan records (e.g. casualty records without an associated accident record).
- Finally, checking that the results at all-Wales level and for individual local authorities are plausible, that is in line with figures for previous years and identified trends.

The DfT also run further validation checks on the data before they incorporate it into the GB-dataset.
Other statistical issues

Standards
National Statistics are produced to high professional standards set out in the Code of Practice for Official Statistics. They undergo regular quality assurance reviews to ensure that they meet customer needs. They are produced free from any political interference.

Disclosure and confidentiality
The report of the details of a traffic accident and the resulting casualties (and the nature of these casualties) is a report of a public event. For example it may be reported in the press, or on radio or television. So there are no confidentiality issues posed by reporting about an individual accident and its attendant circumstances, together with details of the vehicles and casualties involved. This means that there is not need to impose any disclosure control to the publication of most of the statistical information about the accident.

Confidentiality protection is relevant to a few potentially personally disclosive data items on the Stats19 form. These items cover information about people involved in the accident which are considered to be confidential and relate to (1) postcodes of the addresses of drivers, (2) postcodes of addresses of casualties, and (3) the registration numbers of vehicles involved in accidents.

These three pieces of information from the Stats19 are not released outside police forces and the statistical sections of the Welsh Government and the Department for Transport (DfT). The data fields containing this information are passed from police forces in Wales to the Welsh Government, and from the Welsh Government to the DfT. The police forces do not pass this information to local authorities; and the Welsh Government does not pass this information either to local authorities, or to other users of this data. The Transport Statistics section in the Welsh Government uses the postcode data for statistical analysis to investigate the links between accidents and casualties and deprived areas. The DfT links the vehicle registration data with DVLA records in order to analyse accidents and casualties by the make and model of the vehicles involved.

The Stats19 database is password protected and is only accessible to members of the Transport Statistics section.

Other information collected by the police in relation to the accident is just one part of the plethora of personal information they collect in the course of their activities. The confidentiality issues in respect of the Stats19 form fits into their general processes for dealing with personal data.

Response burden
The Stats19 form is part of a wider administrative process that is carried out by policy forces in respect of personal injury road accidents that come to their attention. It is, therefore a little difficult to establish the response burden that relates solely to the completion of the Stats19. The latest estimate is that the response burden amounts to around £350,000 covering the time individual police officers spend completing the form, the back office work in compiling the data, work across local authorities in checking the location of accidents, and finally the checking of records by police and local authorities of accidents and casualties which fail the various validation checks carried out by the Welsh Government.

Dissemination
The Stats19 data are administrative rather than statistical data. So all figures that are collected are (with the few exceptions for reasons of disclosure) available to be released after the quality checking process described above. The Stats19 collects a very large amount of data, as each accident has:

- An accident record with 25 fields of data
- One or more vehicle records, each with 24 fields of data
• One of more casualty records, each with 17 fields of data
• A contributory factors record, with up to 6 contributory factors.

It is impossible to disseminate more than a small fraction of the available data, particularly as it also has a geographical element as well; as well as accidents or casualties for Wales as a whole, data is required for local authority and police force areas, for stretches of named roads, for individual towns or other areas; for particular types of area, such as small areas that are considered to be relatively ‘deprived’ when ranked using the Welsh Index of Multiple Deprivation.

The data collected using the Stats19 form are disseminated through the statistical outputs listed below; the Transport Statistics section also has an on-demand enquiry service which dealt with about 90 requests for ad hoc analyses of road accident data during 2010.

**Evaluation**
We always welcome feedback on any of our statistics. Please contact us through our generic e-mail: stats.transport@wales.gsi.gov.uk

**Publication**
First releases and Statistical Bulletins related to road casualties can be found from the road accidents and casualties internet theme page:
http://wales.gov.uk/topics/statistics/theme/transport/accidents/?lang=en

Alternatively, most of these outputs can be found on the ‘headlines’ internet page. This covers 2012 releases; it also provides links to releases for earlier years.

Maps of location of casualties etc
This link is to the maps covering the location of car occupants casualties; but is also contains links to the other maps showing the location of motorcyclist casualties and pedestrian casualties; together with the location of accidents that involved at least one young driver.
Quality
The sections below set out how, and to what degree, ‘road traffic personal injury accidents and casualties in Wales that are brought to the attention of the police and reported by them to Government using the Stats19 statistical returns’ adhere to a quality strategy as listed in Principle 4 of the National Statistics Code of Practice; that is the six dimensions of statistical quality of the European Statistical System.

The six dimensions are listed below, together with an assessment for Welsh road casualty statistics. This section is followed by a further quality section which looks, in more depth, at the issue of whether or not the Stats19 data undercounts the ‘true’ level of road casualties; and the implication of this situation for users of these statistics.

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

The statistical products based on the Stats19 data include an overview bulletin which reports on and then analyses accidents casualties as a whole; a series of reports providing further detail about accidents and casualties associated with high-risk road users and vulnerable road users. There are also a set of Excel tables with more detailed tables for individual local authority areas. These outputs meet most needs for data from both official and non-official users of data. In addition, the Welsh Government provides an on-demand service through our generic e-mail address (stats.transport@wales.gsi.gov.uk) for answering requests for data that are not covered by the published statistics (for example a request for details about accidents along a particular stretch of road).

These outputs currently meet user requirements. We know this firstly because we get direct feedback from users through our generic e-mail address. Secondly, we get direct feedback about our statistical product from people and organisations involved in road safety policy and delivery in Wales (for example Police and Fire Services, local authorities, Camera Partnerships, RoSPA). This arises because these organisation are also involved either in the strategic overview of road safety delivery in Wales, as co-ordinated by the ‘Monitoring and Evaluation group’ or are responsible for the delivery of different aspect of the national framework set out by the monitoring and evaluation group. The section above ‘Governance Structure for Road Safety Policy in Wales’ sets out this framework for road safety policy in Wales in more detail. But the main point here is that road accidents and casualty data are:

• An integral part in all these aspects of road safety policy and delivery;
• That this governance structure ensures the continuing relevance of these data; and
• It also provides a variety of forums where the different organisations involved in road safety delivery can provide feedback about the extent to which these statistics are meeting their needs.

Finally, and thirdly, we have a number of other ways to consult with users; these include the ‘Transport Statistics Users Group’ in Wales, which includes many non-governmental users; and the ‘Welsh Statistical Liaison Committee’, covering local authorities in Wales. Presentations about road accident and casualty statistics have been made to both groups in recent years and they provide a forum for gauging the views of these users.

The continuing relevance of the Stats19 data at the Great Britain level is ensured through the work of the Standing Committee for Road Accident Statistics\(^1\) (SCRAS); the aim of this review is to maintain the relevance of the information collected by the Stats19 form, as well as balancing the users requirements for data against the response burden of completing the from and the likelihood of any new data fields gathering reliable information.

\(^1\) The terms of reference and other papers of this group can be found at: http://www.dft.gov.uk/pgr/statistics/committeesusergroups/scras/
Accuracy
The closeness between an estimated result and the (unknown) true value.

The concept of statistical accuracy can be broken down into sampling and non-sampling error. Non-sampling error includes areas such as coverage error, non-response error, measurement error and processing error.

The accidents and casualties data for Wales are based on personal injury accidents that are reported to the police. The Stats19 figures, in principle, have complete coverage of these accidents so there is by definition, no sampling error in the figures. There are issues of accuracy, or rather incompleteness, to the degree that:
- Accident and casualties are reported to the police but are not recorded on the Stats19 form; or are
- Reported to the police but the details of the accident and casualties are not recorded accurately; or
- Personal injury accidents are not reported to the police.

These issues of accuracy are linked to the issue about the definition and recording of personal injury; in other words what is, or should be, the circumstances when someone involved in a traffic collision has suffered a ‘personal injury’. For example the Stats19 definition of an accident will include single-vehicle pedal cycle accidents, if the rider (or a pedestrian in collision with the cycle) is injured. In practice, very few of this type of accident is reported to the police. A secondary issue is, if anyone is injured in the traffic accident, then what are the boundaries between ‘slight’ and ‘serious’ casualties (there are fewer issues with the definition of road traffic fatalities, of course).

This is a serious issue concerning the quality of the road casualty data. If this under-reporting is unrecognised, then the true magnitude of any road safety problems are not known, or could be underestimated. This could in turn lead to incorrect prioritising of policy measures to improve road safety, or could lead to less efficient or inappropriate countermeasures.

These issues also affect the ‘coherence’ strand of quality, so they are covered separately in the section below “Quality – potential undercount of road casualties”.

Timeliness and punctuality
Timeliness refers to the lapse of time between the publication and the period to which the data refer. Punctuality refers to the time lag between the actual and planned dates of publication.

Punctuality is a minor issue as all outputs adhere to the Code of Practice by pre-announcing the date of publication through the Welsh Government’s Due Out Soon pages. They are also available from the National Statistics Publication Hub. If any need should arise to postpone or otherwise amend an output, then this would follow the Welsh Government’s Revisions, Errors and Postponements arrangements.

In terms of timeliness, we publish the First Releases about road casualties as soon as is practical after the relevant quarterly or annual time period and in line with the timetable for processing these data across the rest of Great Britain as determined by the Department for Transport and the Scottish Government.

More detailed analysis of road casualty data is presented in a series of Statistical Bulletins produced through the year. The timeliness of the production of these Bulletins is determined by the availability of staff resources within the Transport Statistics section and by Welsh Government policy requirements for this analysis, for example our analysis of ‘Road Casualties: Drinking and Driving’ was produced in November just before the start of the Welsh Government’s pre-Christmas anti drinking and driving campaign.
**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.

The Welsh road casualty statistics are published in an accessible, orderly, pre-announced manner on the Welsh Government website at 9:30am on the day of publication. An RSS feed alerts registered users to this publication. Simultaneously the releases are also published on the National Statistics Publication Hub. All releases are available to download for free. More detailed data are also on spreadsheets for use offline.

We regularly peer review our outputs. We aim to use Plain English in our outputs and all outputs adhere to the Welsh Government’s accessibility policy. Furthermore, all our headlines are published in Welsh and English.

Further information regarding the statistics can be obtained by contacting the relevant staff detailed on the release or via stats.transport@wales.gsi.gov.uk

**Comparability**

The degree to which data can be agreed over both time and space.

The Stats19 form is used in England and Scotland, and a similar data are collected in Northern Ireland. All these data are collected from the same source and are, therefore aligned in terms of the definitions and coverage of the data. In addition the data are given a similar set of validation checks to ensure the internal consistency of the data provided in various sections of the Stats19 form. The figures for road accidents and casualties in Wales are, therefore, directly comparable with those for other parts of the United Kingdom.

The changes to the Stats19 form take place every five years and are controlled by the Standing Committee of road Accident Statistics. One of the parameters in deciding on changes to the form is the need to retain long-term consistency in the main statistical series. The Welsh Government holds a database with comparable data going back to 1979. The main categories, such as total casualties or total accidents are comparable with data from before that date.

Some comparisons can be made internationally, as most countries record road traffic accidents, usually based on police accident reports (as in Wales and Great Britain). Figures for fatalities in different countries are broadly comparable; and this is the basis of the usual international comparisons. There are considerable differences in the way different countries treat road traffic-related injuries. So while figures are available for injuries internationally as well, these are not used for comparison purposes.

**Coherence**

The degree to which data that are derived from different sources or methods, but which refer to the same phenomenon, are similar.

Other sources of data relevant to road traffic accidents and casualties for Wales include:

- Death registrations data
- Patient Episode Database for Wales (hospital admissions)
- Emergency Department Dataset (for accident and emergency attendances at hospital)
- DWP compensation claims data
- British Crime Survey data on road accidents and casualties.

The issue of the comparability of the Stats19 data with these data sources is described in more detail below, in the section below “Quality – potential undercount of road casualties”.

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The Stats19 remains the single most useful source of data on road accidents and resulting casualties in Wales. In particular, it is the only source to provide detailed information on accident circumstances, vehicles involved and resulting casualties. However, as has long been known, Stats19 is not a complete record of all injury accidents and resulting casualties, and this can lead to discrepancies with the other sources of data listed above. Although STATS19 does not provide complete coverage of road accidents and casualties, this does not in itself make it unsuitable for monitoring changes over time, assuming that levels of reporting to police have not changed. There is no clear or conclusive evidence of a systematic change in levels of reporting at national level. In addition, most, if not all, road accident fatalities are included in the police data.

Other datasets can be useful both as a check on the quality and completeness of Stats19 and in providing information which is not collected by the police, for example relating to more detailed medical consequences of road accidents. The final section of this note sets out the future work of the Welsh Government to investigate this further. Though making comparisons of Stats19 with other data sources is not straightforward, as there are often differences in definitions and changes in data collection and recording practices which can affect trends over time. In addition, some of the data collections are relatively new and a longer time series is needed before a full analysis can be carried out.
Quality – potential undercount of road casualties

Issue
The accidents and casualties data for Wales are based on personal injury accidents that are reported to the police. So these data are incomplete to the extent that personal injury accidents are not reported to the police; or are reported to the police but the details of the accident and casualties are not recorded accurately, or indeed not recorded at all.

Sources of under-reporting and under-recording of road accidents and casualties in Wales

- Not all road accidents are "reportable": for example, if no injury occurs or the accident take place on private land away from the public highway;
- There is no legal obligation for drivers to report road accidents to the police, provided the parties concerned exchange personal details at the scene. The requirements to stop, provide information and report a road traffic accident are set out in the Road Traffic Act 1988 (section 170), as amended by the Road Traffic Act 1991 (Schedule 4);
- Some accidents that should be reported by drivers to the police are not reported. This may be because the driver is ignorant of the legal requirements or is reluctant to do so, for example, if the driver has been drinking or is uninsured;
- The police do not record all accidents reported to them. It has been suggested that up to one fifth of casualties reported to the police in England are not recorded in the Stats19 system; and
- It is often difficult for a police officer to judge whether a casualty should be classified as having a serious or slight injury. For example, the full severity of the injury may not be apparent until some time after the collision when the police officer is no longer present. Research has found that the police tend to underestimate the severity of the injury.

This is a potentially serious issue concerning the quality of the road casualty data. If this under-reporting is unrecognised, then the true magnitude of any road safety problems are not known, or could be underestimated. This could in turn lead to incorrect prioritising of policy measures to improve road safety, or could lead to less efficient or inappropriate countermeasures. The impact could be:

- That under reporting is greater for certain types of accident and casualty; and this would lead to a lack of priority for dealing with the relatively under-reported types. For example comparison of Stats19 data with hospital admissions data (for England) shows that the Stats19 relatively under represents serious injury casualties from cyclist accidents, particularly if no other vehicle is involved.
- If the degree of under-reporting changes over time, then the Stats19 data will not be a representative measure of progress towards meeting road safety casualty reduction targets. It has been argued that the divergence (in England) between falling levels of serious casualties from the Stats19 as compared with level of rising hospital admissions for road casualties suggests that the relative extent of under-counting in the Stats19 data is increasing over time.

The first point to note is that this is a long standing issue which affects the road casualty figures for both Wales and for Great Britain. It is also a problem internationally as most countries’ road casualty data are based on police reports and so are affected by these issues (for discussion see Derriks and Mak, 2007); this is particularly important as globally, road traffic fatalities are consistently amongst the top three causes of death for people aged between 5 and 44 years old, with a global total of 1.3 million deaths in 2004 and between 20 to 50 million traffic injuries (see WHO 2009).


In Great Britain, this issue has been raised in a number of policy and statistical contexts, and these discussions are summarised in the UK Statistics Authority Assessment of road casualty statistics produced by the DfT. Examples of occasions where this issue has been raised include 2006 National Statistics Quality Review of Road Accident Statistics or the House of Commons Transport Committee October 2008 report that expressed concern about the quality of the Stats19 data.

**DfT Response**

The Department for Transport has carried out a considerable amount of research into this topic over a number of years. The current position is, however, determined by the requirements set out in the UK Statistics Authority assessment of road casualty statistics referred to above. The relevant requirements are set out in section 2.4 of their report:

- **Requirement 1:** Develop a best approximation of the numbers of casualties based on research into the undercounting associated with the Stats19 form. These estimates should then be included in the published counts to inform the use of the scale of the problem.
- **Requirement 3:** Bring together as much relevant data as possible – including sources that are not currently exploited – at the time the statistics are released in order to help explain the weaknesses in the Stats19 data, and the implications of these.

---

**Where does DfT publish its latest analysis concerning undercount of casualties in Stats19 data?**


The current articles come from ‘Reported Road Casualties Great Britain: 2010 Annual Report’ published in September 2011. Similar information was published in the 2009 annual report. The articles are:

- **Article 5:** Survey data on road accidents
- **Article 6:** Hospital admissions data on road casualties
  - Part 1: Comparing HES (Hospital Episode Statistics) and Stats19 data on road casualties
  - Part 2: Linking STATS19 and HES data
  - Part 3: Admissions for non-traffic accidents
  - Annex A: HES data used
  - Annex B: Limitations of MAIS used in the linked dataset
  - Annex C: Car occupant casualties included in the age of cars analysis

The basis for the work underlying these articles comes from the earlier ‘Reported Road Casualties Great Britain: 2008 Annual Report’ which was published in September 2009. The relevant article is:

- **Article 5:** Comparing police data on road accidents with other sources
  - Part 1: Sources of road accident data
  - Part 2: Estimating the total number of road casualties
- **Article 6:** Illustrative analysis of linked police and hospital data

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DfT response to the recommendations of this report in relation to Stats19 data: [http://www.publications.parliament.uk/pa/cm200809/cmselect/cmrtran/136/13604.htm](http://www.publications.parliament.uk/pa/cm200809/cmselect/cmrtran/136/13604.htm)

The current work by DfT either relates to England or to Great Britain as a whole. Their best, current approximation to the total number of road casualties in Great Britain each year, including those not reported to the police, is in the range of 610 to 780 thousand, with a central estimate of 700 thousand. Their estimate is mainly based on results from the National Travel Survey\(^8\) (NTS), where questions about road accidents were added to the survey in 2007, giving three years of data to analyse. This total can be compared with the Stats19 GB-level total for 2009 of 231 thousand casualties; that is that the ‘true’ level of casualties is around three times higher than the figure from the Stats19 statistics. The sample size of the NTS in Wales is too small to carry out this calculation for Wales. There is, however, no reason why the broad conclusion at the GB-level should not also be applicable at the Wales level too. For further details, see the DfT articles described in the box on Page 11.

A Statistical Article will be published in November 2012 reviewing these issues in Wales.

Henry Small
Transport Statistician, Knowledge and Analytical Services, Welsh Government
Original May 2011, Revised March and September 2012

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\(^8\) For more information about the National Travel Survey, including a copy of the questionnaire, the 2010 results and a description of the methodology, please see the documents at the following link:
http://www.dft.gov.uk/pgr/statistics/datatablespublications/nts/
## Accident Record Attendant Circumstances

### 1.1 Record Type
- 11 New accident record
- 15 Amended accident record

### 1.2 Police Force

### 1.3 Accident Ref No

### 1.4 Road Type
- 1 Roundabout
- 2 One way street
- 3 Dual carriageway
- 6 Single carriageway
- 7 Slip road
- 9 Unknown

### 1.5 Number of Vehicle Records

### 1.6 Number of Casualty Records

### 1.7 Date

### 1.8 Time of Day

### 1.9 Location

### 1.10 Local Authority

### 1.11 Location
- 10 digit OS Grid Reference number

### 1.12 1st Road Class
- 1 Motorway
- 2 A(M)
- 3 A
- 4 B
- 5 C
- 6 Unclassified

### 1.13 1st Road Number

### 1.14 Road Type
- 1 Roundabout
- 2 One way street
- 3 Dual carriageway
- 6 Single carriageway
- 7 Slip road
- 9 Unknown

### 1.15 Speed Limit (Permanent) mph

### 1.16 Junction Detail
- 00 Not at or within 20 metres of junction
- 01 Roundabout
- 02 Mini roundabout
- 03 T or staggered junction
- 05 Slip road
- 06 Crossroads
- 07 Multiple junction
- 08 Using private drive or entrance
- 09 Other junction

### 1.17 Junction Control
- 1 Authorised person
- 2 Automatic traffic signal
- 3 Stop sign
- 4 Give way or uncontrolled

### 1.18 2nd Road Class
- 1 Motorway
- 2 A(M)
- 3 A
- 4 B
- 5 C
- 6 Unclassified

### 1.19 2nd Road Number

### 1.20a Pedestrian Crossing - Human Control
- 0 None within 50 metres
- 1 Control by school crossing patrol
- 2 Control by other authorised person

### 1.20b Pedestrian Crossing - Physical Facilities
- 0 No physical crossing facility within 50 metres
- 1 Zebra crossing
- 4 Pelican, puffin, toucan or similar non-junction pedestrian light crossing
- 5 Pedestrian phase at traffic signal junction
- 7 Footbridge or subway
- 8 Central refuge – no other controls

### 1.21 Light Conditions
- 1 Daylight: street lights present
- 2 Daylight: no street lighting
- 3 Daylight: street lighting unknown
- 4 Darkness: street lights present and lit
- 5 Darkness: street lights present but unlit
- 6 Darkness: no street lighting
- 7 Darkness: street lighting unknown

### 1.22 Weather
- 1 Fine without high winds
- 2 Raining without high winds
- 3 Snowing without high winds
- 4 Fine with high winds
- 5 Raining with high winds
- 6 Snowing with high winds
- 7 Fog or mist – if hazard
- 8 Other
- 9 Unknown

### 1.23 Road Surface Condition
- 1 Dry
- 2 Wet / Damp
- 3 Snow
- 4 Frost / Ice
- 5 Flood (surface water over 3cm deep)

### 1.24 Special Conditions at Site
- 0 None
- 1 Automatic traffic signal out
- 2 Automatic traffic signal partially defective
- 3 Permanent road signing or marking defective or obscured
- 4 Roadworks
- 5 Road surface defective
- 6 Oil or diesel
- 7 Mud

### 1.25 Carriageway Hazards
- 0 None
- 1 Dislodged vehicle load in carriageway
- 2 Other object in carriageway
- 3 Involvement with previous accident
- 6 Pedestrian in carriageway – not injured
- 7 Any animal in carriageway (except ridden horse)

### 1.26 Did A Police Officer Attend Accident and Complete Record?
- 1 Yes
- 2 No

### 1.27 DfT Special Projects
### Vehicle Record

<table>
<thead>
<tr>
<th>2.1 Record Type</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>New vehicle record</td>
<td></td>
</tr>
<tr>
<td>Amended vehicle record</td>
<td></td>
</tr>
</tbody>
</table>

| 2.2 Police Force         |          |
| 2.3 Accident Ref No      |          |
| 2.4 Vehicle Ref No       |          |
| 2.5 Type of Vehicle      |          |

<table>
<thead>
<tr>
<th>2.6 Towing and Articulation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No tow or articulation</td>
<td>3 Caravan</td>
</tr>
<tr>
<td>Articulated vehicle</td>
<td>4 Single trailer</td>
</tr>
<tr>
<td>Double or multiple trailer</td>
<td>5 Other tow</td>
</tr>
</tbody>
</table>

| 2.7 Manoeuvres             |          |
|---------------------------|--|--|
| Reversing                 | 12 Changing lane to right|
| Parked                     | 13 Overtaking moving|
| Waiting to go ahead       | 14 Overtaking stationary|
| but held up               | 14 Overtaking stationary|
| Slowing or stopping       | 15 Overtaking on nearside|
| Moving off                | 16 Going ahead left hand|
| Turning left              | 17 Going ahead right|
| Waiting to turn left      | 18 Going ahead other|
| Turning right             | 19 Going ahead other|
| Changing lane to left     | 20 Going ahead other|

### Vehicle Movement

<table>
<thead>
<tr>
<th>2.8 Vehicle Movement Compass Point</th>
<th>From To</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 N 4 SE 7 W</td>
<td></td>
</tr>
<tr>
<td>2 NE 5 S 8 NW</td>
<td></td>
</tr>
<tr>
<td>3 E 6 SW 00</td>
<td></td>
</tr>
</tbody>
</table>

### Incident Location at Time of Accident - Restricted Lane/ Away from Main Carriageway

<table>
<thead>
<tr>
<th>2.9 Vehicle Location at Time of Accident - Restricted Lane/ Away from Main Carriageway</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>On main carriageway – not in restricted lane</td>
<td></td>
</tr>
<tr>
<td>Tram / Light rail track</td>
<td></td>
</tr>
<tr>
<td>Bus lane</td>
<td></td>
</tr>
<tr>
<td>Busway (including guided busway)</td>
<td></td>
</tr>
<tr>
<td>Cycle lane (on main carriageway)</td>
<td></td>
</tr>
<tr>
<td>Cycleway or shared use footway</td>
<td></td>
</tr>
<tr>
<td>On lay-by or hard shoulder</td>
<td></td>
</tr>
<tr>
<td>Entering lay-by or hard shoulder</td>
<td></td>
</tr>
<tr>
<td>Leaving lay-by or hard shoulder</td>
<td></td>
</tr>
<tr>
<td>Footway (pavement)</td>
<td></td>
</tr>
</tbody>
</table>

### Junction Location of Vehicle

<table>
<thead>
<tr>
<th>2.10 Junction Location of Vehicle</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at, or within 20 metres of a junction</td>
<td></td>
</tr>
<tr>
<td>Approaching junction or waiting/parked at junction approach</td>
<td></td>
</tr>
<tr>
<td>Cleared junction or waiting/parked at junction exit</td>
<td></td>
</tr>
<tr>
<td>Leasing roundabout</td>
<td></td>
</tr>
<tr>
<td>Entering roundabout</td>
<td></td>
</tr>
<tr>
<td>Leaving main road</td>
<td></td>
</tr>
<tr>
<td>Entering main road</td>
<td></td>
</tr>
<tr>
<td>Entering from slip road</td>
<td></td>
</tr>
<tr>
<td>Mid junction – on roundabout or on main road</td>
<td></td>
</tr>
</tbody>
</table>

### Skidding and Overturning

<table>
<thead>
<tr>
<th>2.11 Skidding and Overturning</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No skidding, jack-knifing or overturning</td>
<td></td>
</tr>
<tr>
<td>Skidded</td>
<td></td>
</tr>
<tr>
<td>Skidded and overturned</td>
<td></td>
</tr>
<tr>
<td>Jack-knifed</td>
<td></td>
</tr>
<tr>
<td>Jack-knifed and overturned</td>
<td></td>
</tr>
</tbody>
</table>

### Hit Object in Carriageway

<table>
<thead>
<tr>
<th>2.12 Hit Object in Carriageway</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Did not leave carriageway</td>
<td></td>
</tr>
<tr>
<td>Left carriageway nearside</td>
<td></td>
</tr>
<tr>
<td>Left carriageway nearside and rebounded</td>
<td></td>
</tr>
<tr>
<td>Left carriageway straight ahead at junction</td>
<td></td>
</tr>
<tr>
<td>Left carriageway offside onto central reservation</td>
<td></td>
</tr>
<tr>
<td>Left carriageway offside onto central reservation and rebounded</td>
<td></td>
</tr>
<tr>
<td>Left carriageway offside and crossed central reservation</td>
<td></td>
</tr>
</tbody>
</table>

### Hit Object Off Carriageway

<table>
<thead>
<tr>
<th>2.14 Hit Object Off Carriageway</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Did not impact</td>
<td>3 Offside</td>
</tr>
<tr>
<td>Front</td>
<td>4 Nearside</td>
</tr>
<tr>
<td>Back</td>
<td></td>
</tr>
</tbody>
</table>

### First Point of Impact

<table>
<thead>
<tr>
<th>2.16 First Point of Impact</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Did not impact</td>
<td></td>
</tr>
<tr>
<td>Front</td>
<td></td>
</tr>
<tr>
<td>Back</td>
<td></td>
</tr>
</tbody>
</table>

### First Contact Between Each Vehicle

| 2.17 First Contact Between Each Vehicle |          |

### STATS19 (2005)

<table>
<thead>
<tr>
<th>2.21 Sex of Driver</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>2 Female</td>
</tr>
<tr>
<td>3 Not traced</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2.22 Age of Driver</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated if necessary</td>
<td>Years</td>
</tr>
<tr>
<td>0 Not applicable</td>
<td></td>
</tr>
<tr>
<td>5 Driver not contacted</td>
<td></td>
</tr>
<tr>
<td>1 Positive</td>
<td></td>
</tr>
<tr>
<td>2 Negative</td>
<td></td>
</tr>
<tr>
<td>6 Not provided</td>
<td></td>
</tr>
<tr>
<td>3 Not requested</td>
<td>(medical reasons)</td>
</tr>
<tr>
<td>4 Refused to provide</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2.24 Hit and Run</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Other</td>
<td>2 Non-stop vehicle, not hit</td>
</tr>
<tr>
<td>1 Hit and Run</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2.25 DfT Special Projects</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Not a foreign registered vehicle</td>
<td></td>
</tr>
<tr>
<td>1 Foreign registered vehicle – left hand drive</td>
<td></td>
</tr>
<tr>
<td>2 Foreign registered vehicle – right hand drive</td>
<td></td>
</tr>
<tr>
<td>3 Foreign registered vehicle – two wheeler</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2.27 Driver Registration Mark (VRM)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Special codes: 2 Non-UK resident</td>
<td></td>
</tr>
<tr>
<td>1 Unknown</td>
<td></td>
</tr>
<tr>
<td>3 Parked and unattended</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2.28 Foreign Registered Vehicle</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Not a foreign registered vehicle</td>
<td></td>
</tr>
<tr>
<td>1 Foreign registered vehicle – left hand drive</td>
<td></td>
</tr>
<tr>
<td>2 Foreign registered vehicle – right hand drive</td>
<td></td>
</tr>
<tr>
<td>3 Foreign registered vehicle – two wheeler</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2.29 Journey Purpose of Driver/Rider</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>06 turn</td>
<td></td>
</tr>
<tr>
<td>1 Journey as part of work</td>
<td></td>
</tr>
<tr>
<td>2 Commuting to/from work</td>
<td></td>
</tr>
<tr>
<td>3 Taking pupil to/from school</td>
<td></td>
</tr>
<tr>
<td>4 Pupil riding to/from school</td>
<td></td>
</tr>
<tr>
<td>5 Other/Not known</td>
<td></td>
</tr>
</tbody>
</table>
### Pedestrian Casualties only

**3.10 Pedestrian Location**
- 01 In carriageway, crossing on pedestrian crossing facility
- 02 In carriageway, crossing within zig-zag lines at crossing approach
- 03 In carriageway, crossing within zig-zag lines at crossing exit
- 04 In carriageway, crossing elsewhere within 50 metres of pedestrian crossing
- 05 In carriageway, crossing elsewhere
- 06 On footway or verge
- 07 On refuge, central island or central reservation
- 08 In centre of carriageway, not on refuge, central island or central reservation
- 09 In carriageway, not crossing
- 10 Unknown or other

**3.11 Pedestrian Movement**
- 01 Crossing from driver’s nearside
- 02 Crossing from driver’s nearside – masked by parked or stationary vehicle
- 03 Crossing from driver’s offside
- 04 Crossing from driver’s offside – masked by parked or stationary vehicle
- 05 In carriageway, stationary – not crossing (standing or playing)
- 06 In carriageway, stationary – not crossing (standing or playing), masked by parked or stationary vehicle
- 07 Walking along in carriageway – facing traffic
- 08 Walking along in carriageway – back to traffic
- 09 Unknown or other

**3.12 Pedestrian Direction**
- Compass point bound
  - 0 Standing still
  - 1 N
  - 2 NE
  - 3 E
  - 4 SE
  - 5 S
  - 6 SW
  - 7 W
  - 8 NW
  - 9 Unknown

**3.13 School Pupil Casualty**
- 1 School pupil on journey to or from school
- 0 Other

**3.15 Car Passenger**
- 0 Not a car passenger
- 1 Front seat passenger
- 2 Rear seat passenger

**3.16 Bus or Coach Passenger**
- 0 Not a bus or coach passenger
- 1 Boarding
- 2 Alighting
- 3 Standing passenger
- 4 Seated passenger

**3.17 DfT Special Projects**

**3.18 Casualty Postcode**

Special codes:
- 1 Unknown
- 2 Non-UK resident
Select up to six factors from the grid, relevant to the accident. Factors may be shown in any order, but an indication must be given of whether each factor is very likely (A) or possible (B). Only include factors that you consider contributed to the accident. (i.e. do NOT include “Poor road surface” unless relevant).

More than one factor may, if appropriate, be related to the same road user. The same factor may be related to more than one road user. The participant should be identified by the relevant vehicle or casualty ref no. (e.g. 001, 002 etc.), preceded by “V” if the factor applies to a vehicle, driver/rider or the road environment (e.g. V002), or “C” if the factor relates to a pedestrian or passenger casualty (e.g. C001).

Enter ‘U000’ if an uninjured pedestrian contributed.

If 999 Other: give brief details. (Note: Only use if another factor contributed to the accident and include it in the text description of how accident occurred). These factors reflect the Reporting Officer’s opinion at the time of reporting and may not be the result of extensive investigation.

<table>
<thead>
<tr>
<th>Road Environment Contributed</th>
<th>Vehicle Defects</th>
<th>Injudicious Action</th>
<th>Driver/Rider Error or Reaction</th>
<th>Impairment or Distraction</th>
<th>Behaviour or Inexperience</th>
<th>Vision Affected by</th>
<th>Pedestrian Only (Casualty or Uninjured)</th>
<th>Special Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor or defective road surface</td>
<td>Tyres illegal, defective or under inflated</td>
<td>Disobeyed automatic traffic signal</td>
<td>Junction overshoot</td>
<td>Impaired by alcohol</td>
<td>Aggressive driving</td>
<td>Stationary or parked vehicle(s)</td>
<td>Cross road masked by stationary or parked vehicle</td>
<td>Stolen vehicle</td>
</tr>
<tr>
<td>Deposit on road (e.g. oil, mud, chippings)</td>
<td>Defective lights or indicators</td>
<td>Disobeyed ‘Give Way’ or ‘Stop’ sign or markings</td>
<td>Junction restart (moving off at junction)</td>
<td>Impaired by drugs (illicit or medicinal)</td>
<td>Careless, reckless or in a hurry</td>
<td>Vegetation</td>
<td>Failed to look properly</td>
<td>Vehicle in course of crime</td>
</tr>
<tr>
<td>Slippery road (due to weather)</td>
<td>Defective brakes</td>
<td>Disobeyed double white line</td>
<td>Poor turn or manœuvre</td>
<td>Fatigue</td>
<td>Nervous, uncertain or panic</td>
<td>Road layout (e.g. bend, winding road, hill crest)</td>
<td>Failed to judge vehicle’s path or speed</td>
<td>Emergency vehicle on a call</td>
</tr>
<tr>
<td>Inadequate or masked signs or road markings</td>
<td>Defective steering or suspension</td>
<td>Disobeyed pedestrian crossing facility</td>
<td>Failed to signal or misleading signal</td>
<td>Uncorrected, defective eyesight</td>
<td>Driving too slow for conditions or slow veh. (e.g. tractor)</td>
<td>Buildings, road signs, street furniture</td>
<td>Wrong use of pedestrian crossing facility</td>
<td>Vehicle door opened or closed negligently</td>
</tr>
<tr>
<td>Defective traffic signals</td>
<td>Defective or missing mirrors</td>
<td>Illegal turn or direction of travel</td>
<td>Failed to look properly</td>
<td>Illness or disability, mental or physical</td>
<td>Learner or inexperienced driver/rider</td>
<td>Dazzling headlights</td>
<td>Dangerous action in carriageway (e.g. playing)</td>
<td>805</td>
</tr>
<tr>
<td>Traffic calming (e.g. speed cushions, road humps, chicanes)</td>
<td>Overloaded or poorly loaded vehicle or trailer</td>
<td>Exceeding speed limit</td>
<td>Failed to judge other person’s path or speed</td>
<td>Not displaying lights at night or in poor visibility</td>
<td>Inexperience of driving on the left</td>
<td>Dazzling sun</td>
<td>Impaired by alcohol</td>
<td>806</td>
</tr>
<tr>
<td>Temporary road layout (e.g. contraflow)</td>
<td>Travelling too fast for conditions</td>
<td>Following too close</td>
<td>Cyclist wearing dark clothing at night</td>
<td>Inexperience with model of vehicle</td>
<td>Rain, sleet, snow, or fog</td>
<td>Sprayed from other vehicles</td>
<td>Careless, reckless or in a hurry</td>
<td>807</td>
</tr>
<tr>
<td>Road layout (e.g. bend, hill, narrow carriageway)</td>
<td>Vehicle travelling along pavement</td>
<td>Swerved</td>
<td>Distraction in vehicle</td>
<td>Visor or windscreen dirty or scratched</td>
<td>Pedestrian wearing dark clothing at night</td>
<td>809</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Animal or object in carriageway</td>
<td>Cyclist entering road from pavement</td>
<td>Loss of control</td>
<td>Distraction outside vehicle</td>
<td>Vehicle blind spot</td>
<td>Disability or illness, mental or physical</td>
<td>Other – Please specify below</td>
<td>999</td>
<td></td>
</tr>
</tbody>
</table>

APPENDIX A
Appendix B

Definitions

**A(M) Road:** A road designated on road signs as A(M). The A48(M) is the only road of this kind in Wales.

**Accident:** An accident involving personal injury occurring on the public highway (including footways) in which a road vehicle is involved and which becomes known to the police within 30 days of its occurrence. The vehicle need not be moving and it need not be in collision with anything. One accident may give rise to several casualties. Damage-only accidents are not included.

**Adults:** Persons aged 16 and over.

**Built-up areas:** Accidents on roads in 'built-up areas' are those which occur on roads with a speed limit (ignoring temporary limits) of 40 mph or less. The general nature of the area is not taken into account.

**Bus or coach:** Bus or coach (17 or more passenger seats).

**Cars:** Include taxis, estate cars, three and four-wheeled cars and mini-buses (with 8-16 passengers), unless otherwise stated.

**Casualty:** A person killed or injured in an accident. One accident may give rise to several casualties. Casualties are subdivided into killed, seriously injured and slightly injured categories.

**Children:** Persons under 16 years of age.

**Combinations:** Mopeds, motor scooters, or motorcycles with a sidecar for passengers or goods.

**Darkness:** The period from sunset to sunrise, i.e. 'lighting-up time'.

**Daylight:** All times other than darkness.

**Drivers:** Persons in control of vehicles other than pedal cycles and motorcycles. Other occupants of these vehicles are passengers.

**Failed breath test:** A driver or rider who was tested with a positive result.

**Fatal accident:** An accident in which at least one person is killed (but excluding confirmed suicides).

**Four-wheeled motor vehicles:** In this context, vehicles including cars, goods vehicles, public service vehicles and other vehicles; therefore includes three-wheeled cars, invalid tricycles and vehicles with more than four wheels.
Goods vehicles: Vans, lorries, tankers, milk floats, tractor units travelling with or without their trailer units. Includes three categories of goods vehicles - 3.5 tonnes maximum gross weight (mgw) and under, over 3.5 tonnes and under 7.5 tonnes mgw and 7.5 tonnes mgw and over. (A heavy goods vehicle is one of greater than 3,500 kg gross vehicle weight, but not less than 1,525 kg unladen weight.)

Junction: Any place at which two or more highways meet whatever the angle of the axes of the highways, and parts of such highways lying within 20 metres of that place, including roundabouts.

Killed: A casualty is killed if the injuries sustained cause death less than 30 days after the accident.

KSI: Killed or seriously injured.

Major roads: Motorways and ‘A’ roads.

Minibus: Equipped to carry less than 17 passengers, includes minibus, micro-bus, post buses and Dial-a-Bus.

Mofa: Bicycles fitted with auxiliary motor with an engine capacity not exceeding 50cc and maximum speed not exceeding 45km/h.

Mopeds: Two-wheeled motor vehicles with an engine capacity not over 50 cc and either (a) where the registration suffix is S or later having a maximum design speed of 30 mph, a kerbside weight not exceeding 250 kg and an index plate identifying them as mopeds (i.e. as redefined in the Motor Vehicles (Construction and Use) Regulations 1978); or (b) with an earlier suffix and equipped with pedals.

Motorway: A road designated on road signs as M, the use of which is restricted to certain vehicles.

Motorcycles: Two-wheeled motor vehicles, including mopeds, motor scooters; and motorcycle combinations.

Motor scooters: Two-wheeled motor vehicles which have the following characteristics: a platform for feet, an open frame, wheels smaller than those of a conventional motorcycle.

Non built-up areas: Accidents in 'non built-up areas' are those which occur on roads with a speed limit (ignoring temporary limits) over 40 mph. The general nature of the area is not taken into account.

Other roads: Roads not classified as motorway, A(M) or trunk routes but excluding green lanes.
Other vehicles: Other motor vehicles include ambulances, fire engines, pedestrian-controlled vehicles with motor, electric or petrol driven invalid vehicles, railway trains or engines, refuse vehicles, road-rollers, tractors, excavators, mobile cranes, tower wagons, army tanks, etc. Other non-motor vehicles include those drawn by an animal, ridden horses, invalid carriages without motor, street barrows, etc. In certain tables 'other vehicles' may also include buses and coaches or goods vehicles, as indicated in footnotes.

Passengers: Occupants of vehicles, other than the person in control (who is the driver or rider). Includes pillion passengers.

Pedal cycles: All non-motorised cycles including toy cycles ridden on the carriageway, tandems and tricycles. Since 1983, cycles and tricycles with battery assistance with a maximum speed of 15 mph have also been included.

Pedal cyclists: Riders of pedal cycles including any passengers.

Pedestrians: Road users on foot. Includes persons riding toy cycles on the footway, persons pushing bicycles, pushing or pulling other vehicles or operating pedestrian-controlled vehicles, those leading or herding animals, occupants of prams or wheelchairs and people who alight safely from vehicles and are subsequently injured.

Public service vehicles (PSV): Vehicles are coded according to their construction, i.e. adapted to carry passengers, whether or not they are being used under public service vehicle licences. Thus, vehicles of bus construction (with 17 or more passenger seats) which are privately licensed are included while PSV licensed mini-buses are included under cars. Includes works buses, and (in past years) trams and trolley buses.

Riders: Persons in control of pedal cycles or motorcycles. Other occupants of these vehicles are passengers.

Road users: Pedestrians and vehicle users.

Serious accident: An accident in which at least one person is seriously injured but no person (other than a confirmed suicide) is killed.

 Seriously injured: A casualty is seriously injured if the injuries sustained require that he/she is detained in hospital as an 'in-patient', or sustains any of the following injuries whether or not detained in hospital: fractures, concussion, internal injuries, crushings, severe cuts and lacerations, severe general shock requiring medical treatment, injuries causing death 30 or more days after the accident. An injured casualty is coded as seriously or slightly injured by the police on the basis of information available within a short time of the accident. Generally, this will not include the results of a medical examination, but may include the fact of being detained in hospital, the reasons for which may vary from area to area.

Severity: The severity of an accident is determined by the severity of the most severely injured casualty; that is fatal, serious or slight. The severity of a casualty is determined by the degree of injury; that is killed, seriously injured or slightly injured.
Slight accident: An accident in which at least one person is slightly injured but no person is killed or seriously injured.

Slightly injured: A casualty is slightly injured if the injuries sustained are of a minor character such as a sprain, bruise or cut not judged to be severe, or slight shock requiring roadside attention.

Speed limit: Permanent speed limits applicable to the roadway.

Taxis: Prior to 1994 these were defined as vehicles with 4 or more seats which were purpose-built to be used for hire for the carriage of passengers. Vehicles used for hire for the carriage of passengers but not purpose built for that use (e.g. saloon cars) were categorised according to their construction. A purpose-built taxi no longer used as such would still have been considered a taxi in this context. From 1 January 1994, only those vehicles operating as a hackney carriage, regardless of construction, and bearing the appropriate district council or local authority hackney carriage plates will be defined as a taxi.

Unladen weight (uw): Unladen weight includes that of the trailer even when a tractor unit is travelling without its usual trailer.

Users of a vehicle: All occupants, i.e. driver (or rider) and passengers, including persons injured while boarding or alighting from the vehicle.

Vehicles: Vehicles are classified according to their structural type and not according to their employment or category of licence at the time of an accident. Vehicles recorded include those whose drivers or passengers are injured; those which suffered damage in the accident; those which caused injury to a pedestrian (including parked vehicles on or off the carriageway into which a pedestrian walked); those which were in collision with another vehicle in the accident and those which neither suffered damage nor caused nor contained casualties but, in the opinion of the reporting officer, contributed to the accident. Includes pedal cycles ridden on the footway.