

Methodological Information

Overview

This document contains information on the methodology that the Research Department of the RSA has implemented when developing reports using the road traffic collision database. Section 8 (1) of the Road Safety Authority Act 2006 provides the legislative basis for the Research Department to produce road safety information and statistics using this database.

The Minister may direct the Authority to collect, compile, prepare, publish or distribute to such persons (including the Minister) such information and statistics relating to road safety and the functions of the Authority, as the Minister considers appropriate, for national or international planning, policy research and development, monitoring and reporting purposes and may specify any matter concerning the collection, compilation, preparation, publication and distribution of such data and statistics, as the Minister considers appropriate.

The data contained in the reports is based on collision records transferred from An Garda Síochána (AGS) to the RSA. The records are subject to a thorough quality review process, whereby members of the RSA's Research Department perform a series of quality checks on the data received from AGS. This ensures that all resulting statistical outputs are accurate and reliable.

The data can be classified into three broad categories:

- Location details, including x and y coordinate points of the site of the collision and the speed limit of the road on which the collision occurred
- Person details, e.g., the role and injury status of the person involved in the collision
- Vehicle details, including the class and actions of the vehicle involved in the collision

Data Collection

The Garda Information Services Centre (GISC), based in Castlebar, is a contact centre for operational members of AGS. After an incident, members of AGS phone GISC to record the case details. They give the details to trained civilian call-takers who enter the details on the PULSE system (the AGS database). The details of the incident are recorded in a combination of systematic, pre-defined fields and free-text fields.

Each weekday morning, an automated secure Pull API from AGS sends an agreed subset of incidents from the PULSE system to the RSA's road traffic collision database, which is structured in a tabular format. Only those records designated as Traffic Collision Fatal, Traffic Collision Serious, Traffic Collision Non-Serious, Traffic Collision Material Damage Only, Traffic Collision No Injury No Damage are available to the RSA and released to the database.

If there is any issue with the receipt of the data on a given morning, the RSA Data Office notifies the RSA ICT team to investigate and resolve in a timely manner.

Quality Assurance

A rigorous review process has been established by the Research Department to quality assure the data that has been received from AGS.

From a quality assurance perspective, 3 members of the Research Department engage in a detailed **manual** review of the incident records. For example, the free text narrative field is examined, and consistency and coherency checks are performed to ensure that what is recorded in the narrative aligns with the data in the systematic, pre-defined data fields. For instance, the classification of an incident may be reviewed as part of this process.

Any data quality issues that are uncovered during the course of the manual inspection of the records are compiled in an excel file which is sent to GISC for review approximately every 2 months. Any subsequent updates that are made to incident records by the GISC team or individual AGS members as part of this process are captured in a validation tool, called the Importer, on the RSA side. From there, members of the Research Department can manage the query further and can mark the record as “validated” once resolved.

At this stage, as an extra quality check, records are run through an additional list of **Key Data Element (KDE) rules**, a process that was developed in conjunction with the RSA’s Data Office. The purpose of this process is to alert the Research Department to possible data quality issues on Fatal and Serious collision records, rather than having to wait and only catch these when conducting error reports. At present there are over 30 rules. An example of such a rule would be if the Primary Collision Type equals cyclist, then there should be at least one pedal cycle and pedal cyclist recorded in the collision record.

The very final step in terms of quality checks on the dataset involves a member of the Research Department running **error reports** to highlight any issues that may not have been picked up as part of the manual and KDE quality assurance processes. Once the error reporting process is completed for a given year, the data for that year is no longer provisional and can be considered final.

Report Creation

Once a draft report has been developed, an extensive internal review process is undertaken by a Statistician in the Research Department, whereby the analyses are repeated, and the content is checked thoroughly to ensure accuracy, the consistent use of terminology and that the information is caveated where necessary. Specific examples as part of this review include ensuring that:

- Relevant years of data are caveated as provisional and subject to change.
- Sample sizes are correct and consistent throughout the report.
- Percentage scores are accurate and consistent with the absolute numbers presented.
- Historic data is accurate for the purposes of comparison and trend analyses.
- Any data presented in tables is consistent with data displayed in charts and graphs in the report.
- The text summary of the key findings from the report accurately reflects the quantitative data presented throughout the document.

- Colour coding is used appropriately both in the charts and graphs, as well as in the text descriptions where relevant.
- Charts and graphs are easy to read and interpret for a non-technical audience. This includes providing supporting text descriptions, written in clear and easy to understand language.
- Consideration is given to statistical confidentiality, especially in the case of small cell sizes. It is also important to be cognisant in terms of the presentation of this data, given the sensitivities involved.

Once this review is complete, the draft report is then shared with the Research Manager for further review and feedback is provided. Once the Statistician has addressed these feedback points, this updated version of the report is reviewed by the Research Manager once more. Any further feedback points are provided to the Statistician. This iterative process continues until the Research Manager is satisfied and approves a penultimate version of the report.

The report is then reviewed by the Director of Research, Standards and Assurance. When the Director approves the report, it is marked “Final”, and the dissemination processes can then begin. If the Director has feedback on the report, this feedback is reviewed and addressed by the Research Manager and the Statistician. This may also be an iterative process until the Director is satisfied and approves a final version of the report.

Dissemination

Reports are published on www.rsa.ie in PDF format, in accordance with the timelines set out in the [Statistical Work Plan](#). On the same day that the report is published on the website, a Statistician in the Research Department will upload aggregated data from the reports on PX Stat, which is the CSO’s open data platform for disseminating statistics.

Definitions of terminology used in the reports

It is important to note that the information in the reports is based on preliminary findings of the AGS investigation, at an early stage in the process. It does not contain information on contributory factors from the final completed investigation process.

Incidents that occur in carparks and other non-public roads are excluded from the RSA official figures per convention and consistent with all EU member states. However, AGS may include these collisions as they record incidents that have occurred in public places. This means RSA and AGS collision figures may differ.

Fatal Collision: where at least one person is killed as a result of the collision and death occurs within 30 days.

Serious Injury Collision: where there are no deaths but a person or persons are seriously injured.

A **fatality** is one where death occurs within 30 days of the date of the collision and is not the result of a medical cause or that of a deliberate act (e.g. suicide).

A **serious injury** is one for which the person is detained in hospital as an in-patient, or 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