



## SFI Public Service Fellowship 2023

<b>1. Name of Governmental Department or Agency</b>
Road Safety Authority
<b>2. Title of the Project</b>
<b>RSA1</b> Understanding and preventing speeding on Irish roads: A data-led approach to inform national road safety policy and practice
<b>3. Description of the Project</b>
<p><b>Background to the project – Speed in the Government Road Safety Strategy 2021 – 2030</b></p> <p>The government Road Safety Strategy (RSS) 2021 – 2030 has adopted Vision Zero and the Safe System approach with a long-term goal of no deaths or serious injuries by 2050. There are 7 priority intervention areas; arguably the most critical of which is Safe Speeds, as reducing speed can have a significant impact in reducing road deaths and serious injuries. The WHO estimates that a 5% reduction in mean speed can reduce road deaths by up to 30%.</p> <p>The RSS includes 15 key safety performance indicators (SPIs) to measure and track the factors known to influence death and serious injury which includes a requirement to monitor speed (SPI 5). In addition, the European Commission has asked Member States to provide estimates for a set of Key Performance Indicators (KPIs), one of which relates to speeding (KPI 1).</p> <p>In phase 1 of the RSS there are series of actions to support progress toward the target of a 50% reduction in deaths and serious injuries by 2030. Action 7 sets out to share data and information on speeding, make recommendations and urgently implement measures identified to reverse the trend of non-compliance. One of the recommendations is that speed data collection by Local Authorities is standardised through the development of national guidelines and consideration be given to a central repository for this data.</p> <p><b>Speed related data collection by the RSA</b></p> <p>Prior to 2021, RSA speed surveys collected data using handheld radar guns limiting the number of data points available for analysis. In 2021, a free speed pilot study was conducted using Automatic Traffic Counter (ATC) devices allowing observations to be captured for a 24-hour period on 50km/h roads. Additionally, data for 100km/h roads and motorways (120km/h) was analysed using traffic count data from Transport Infrastructure Ireland (TII). This resulted in coverage across the entire week (including at weekends), and observations were recorded during daylight and night-time hours. An analysis provided high-level estimates of speeding for SPI 5 (RSS) and KPI 1 (EC) but not all data was analysed. More recent data will also be available for this project.</p> <p>In addition, the RSA regularly conduct attitude and behaviour studies which ask questions of motorists about their speeding behaviour and attitudes. There is trend data since 2014 for these surveys.</p>

### **The research project**

The project scope (section 4) sets out four proposed work packages (WP) to be completed as part of this research project. This provides an opportunity for the RSA and stakeholders to understand speeding in new ways with greater detail and results will be used to create or further develop road safety policy for speed reduction. This project provides the researcher with an opportunity to develop and inform policy in the area of road safety.

The first two work packages aim to obtain a more detailed understanding of speeding on the public road network in Ireland using observed data collected as part of the RSA annual speed surveys. The new approach to data collection provides an opportunity to gain greater insight into speeding and examine this problem in new ways. An in-depth analysis of the new datasets, which include millions of records from 2021 to 2023 across all road types, will be undertaken to gain novel insights into the complex issue of speeding. This will be invaluable in terms of policy development, as well as understanding speeding patterns and trends in the future. These work packages give the researcher the opportunity to link with international road safety experts in data collection through the Trendline consortium project involving 25 member states and funded by the EC.

The third and fourth work packages are based on recommendations from Action 7 where the researcher will be given an opportunity to implement recommended policy. The output (WP3) will provide Local Authorities and other road safety stakeholders with standardised guidance in the development, administration, and analysis of data for road traffic speed surveys conducted as part of their road safety remit. This data can then be compared across counties, regions and time periods or collated to form regional/national speed survey datasets. The researcher will gain experience collaborating with national road safety stakeholders in an effort to implement a consistent policy approach to speed measurement and analysis nationally.

WP4 aims to identify other sources of speed data in Ireland available from stakeholders, to gain access to this data where possible and to explore the data with a view to conducting a comparative analysis with the RSA speed data.

This research project will result in new actions being developed for inclusion in the Phase 2 Action Plan of the RSS. At the highest level, this research project links to the overall targets of the RSS, that of a reduction in death and serious injuries of 50% by 2030, which is possible to achieve through reductions in speeding on Ireland's roads.

#### **4. Project Scope**

This project has three key aims.

1. The first is to conduct an in-depth, extensive analysis of data already available from the RSA annual speed surveys and to estimate a mean speed of traffic for Ireland.
2. Explore any other sources of speed related data in Ireland to ensure this project considers all relevant available information.
3. To implement recommendations from the task force of Action 7 of the RSS, by providing Local Authorities and other road safety stakeholders with guidelines in the development, administration, and analysis of data collected in road traffic speed surveys conducted as part of their road safety remit.

Indicative work packages and estimated timings required to deliver this project are outlined below. The RSA will however work closely in collaboration with the appointed Fellow to agree on the final scope and approaches in line with the expertise of the Fellow.

- 1) Analyse existing speed data (4 months)
  - a) Conduct an extensive analysis of existing speed data held since 2021 by vehicle type, road type, day of week and time of day. The approach to analysis will be discussed and agreed with the researcher who will have significant input into designing this key part of the project.
  - b) Investigate the possibility of providing a trend analysis using results from speed surveys conducted prior to 2021.
  - c) Produce a report of the results for publication and a presentation of findings.
  - d) As part of the report, develop recommendations for future speed related policy and data collection based on this analysis.
- 2) Estimate of average speeds on Irish roads (3 months)
  - a) Develop a methodological approach to estimate mean speed on Irish roads through involvement with the EC funded Trendline Project.
  - b) Estimate mean speed on Irish roads for 2023 and compare to international estimates where appropriate.
  - c) Develop recommendations for future speed related policy and data collection.
  - d) Prepare a short academic paper to publicise the estimated figure.
  - e) Produce a manual detailing this methodology to publishable standard.
- 3) Speed Survey Guidelines (3 months)
  - a) Examine the Baseline Methodological guidelines for KPI Speed surveys.
  - b) Produce a guidance document to detail the development, administration, and analysis of data for road traffic speed surveys for national agencies to follow including technical requirements of equipment, installation, and data analysis.
  - c) Identify approaches to disseminate this information to include a workshop and publication online.
- 4) Explore any other sources of speed related data in Ireland (2 months)
  - a) To identify all state agencies who collect and hold speed related data, e.g., AGS GoSafe, NTA, Local Authorities, and investigate the steps required to access this data for use by the RSA.
  - b) If feasible conduct a comparative analysis of this data.
  - c) Explore how information from the RSA driver attitude and behaviour studies which include speeding questions could also be utilised.
  - d) Consider appropriate methods and avenues to house this data centrally which could be accessible to all road safety stakeholders.
  - e) Make recommendations about future opportunities to use this data.
  - f) Develop existing or new relationships with agencies/bodies who hold this data.
  - g) Explore other potential sources of speed related data and make recommendations on same.

#### 5. Skills/Expertise Required

The researcher must be able to demonstrate:

- A qualification and expertise in Mathematics, Statistics or Engineering discipline.
- They have experience identifying suitable secondary data sets, extracting relevant information and calculating estimates whilst controlling for extraneous variables.

- The researcher would be familiar with data of a similar nature and has the necessary skills to develop a database of speed data.
- Strong research and analytical skills with excellent attention to detail.
- Excellent interpersonal and team working skills.
- Excellent verbal and written communication skills, including the ability to write in English at a suitable standard for the preparation of written reports, publications, and presentations of the work at generalist and specialist levels, including discussions with policy specialists and experts in different fields.
- Data analyses skills would be required to effectively assess data and formulate evidence-based findings.

Experience to include:

- The researcher must be an independent researcher willing to take a leadership role on the project.
- The researcher must have previous experience in working on similar, data-led research projects, examples and references should be provided.
- An established track record of publication in leading journals/conferences, on relevant topics (desirable).

## 6. Expected Outputs of Project

A critical outcome from this research project is that outputs and recommendations from all work packages are developed into draft, actionable policy for consideration by the RSA and other stakeholders. Once agreed, some of these policy measures will be included as actions (e.g., the introduction of new measures) for implementation as part of the Phase 2 Action Plan 2025-2027 in the second stage of the RSS 2021 – 2030, while others will be adopted within a 'business-as-usual' approach, for example, changes to the analysis of speed related data.

### Output documents:

1. Overall project report in summary (including a standalone Executive Summary).
2. Press release outlining the project results (through RSA Communications Department).
3. Detailed analysis of speed survey data 2021-2023 with recommendations for future speed related policy (Report).
4. Average traffic speed – estimation 2023 (Academic paper).
5. Average traffic speed – methodological approach (Standards Manual).
6. Conducting speed surveys - guidelines for Local Authorities and other Agencies (Standards Manual).
7. Briefing document on other sources of speed data including recommendations for future use of same (Report).
8. Any additional outputs (to the outputs listed here) will be discussed and agreed with the researcher.

### Dissemination activities to support outputs may include:

9. Present findings to the Road Safety Transformation Partnership Board overseeing governance of the RSS. This may also include a presentation at the Annual RSS Review meeting of stakeholders.

10. Present findings to key RSA staff and road safety stakeholders including Department of Transport on findings from this project.
11. Present findings to at least one International Road Safety Group (e.g., CARE, IRTAD, ETSC, Trendline).
12. Conduct workshops/training sessions with end-users to explain and present the Guidelines for Local Authorities and other Agencies.
13. Present findings of the detailed analysis of speed survey data at an academic conference.
14. All publications made available on [www.rsa.ie](http://www.rsa.ie).
15. Any additional dissemination activities will be discussed and agreed with the researcher.

### **7. Working Arrangements**

The RSA has offices in Ballina, Co. Mayo, Loughrea in Co. Galway as well as in Cork and Dublin. The location for this role will be negotiated with the successful candidate once appointed to include blended working/hybrid working and new ways of working. Such arrangements will be aligned and in accordance with central DPER guidelines on blended working.

While the person selected will be expected to work independently on this project, they will also be expected to participate as an RSA Research team member in team meetings, etc. To further develop the successful candidate's knowledge in relation to speeding and road safety, members of the research team with expertise in different areas will provide context through briefings on areas such as speed as a factor in road traffic collisions, speed related surveys, coronial data, and safety performance indicators.

### **8. Expected Timeline**

Preferably, 12 months full-time, however, this project could accommodate a timeline of 24 months part-time for a suitable candidate. Exact start date will be agreed with the successful candidate.

### **9. Contact Details**

Velma Burns, Research Manager