Institution: Loughborough University

Unit of Assessment: D34 Art and Design, History, Practice and Theory

Title of case study: The development of the European Road Safety Observatory and the impact on safety policy-making

1. Summary of the impact

Research at the Transport Safety Research Centre (TSRC) at Loughborough University has led to the development of a new road safety data and knowledge base called the European Road Safety Observatory (ERSO). The European Commission has confirmed in a reference that it has become a standard tool for EU and national level safety policy development and has been praised by the European Parliament. Since being established in 2006 it has been emulated at national level by many EU Member States including the UK, Spain, Czech Republic, Netherlands and France. The ERSO website now receives over 5000 hits each month from road safety policy-makers across the EU. The research, which was led by TSRC researchers, was conducted between 2004 and 2012 and in 2013 was awarded the HRH Prince Michael International Road Safety Award for its impact on road safety.

2. Underpinning research

The research programme **[3.1, 3.2]** was led by the team at Loughborough University and included 22 international organisations and over 100 members. It involved the development and application of a series of new methodologies that would characterise the fundamental aspects of road safety in a manner that would be applicable internationally while being based on the best knowledge in the area, being capable of addressing a wide range of state of the art safety issues and meeting a high level of scientific rigour. A series of protocols were developed and validated that would define harmonised methods to gather

- National level accident data **[3.1, 3.3]** – describing the characteristics of the crashes
- Disaggregated exposure data **[3.1, 3.4]** – eg distance travelled on urban, rural roads or motorways
- Safety performance indicators **[3.1, 3.5]** – eg helmet use rates, speeds of travel
- In-depth crash and injury data **[3.1, 3.2]** – providing details of accident and injury causation

Furthermore new multi-level statistical procedures were developed to provide a standard basis for accident data analysis **[3.1]** and a state of the art knowledge base was developed for safety policy support **[3.1]**.

A key outcome was the new EU road accident database CADAS which brings together the national data from all 27 Member States. This is now a standard reference tool for many safety policies and is widely used across the EU.

Most recently in 2012 the High Level Group Of Road Safety Directors, representing the 27 EU Member States adopted the recommendations of the SafetyNet project by agreeing on a new Serious Injury Strategy based on the project outcomes.

The development of the European Road Safety Observatory has taken place over a 13 year period and continues with the addition of new data tools and updated information. It has been supported by a series of research projects funded by the European Commission. Each of these projects was awarded following a highly competitive process against a demanding set of criteria including the rigour of the research methods and the project cost. Once in operation each project underwent a full annual technical review by independent research peers with a further external review on completion of the project. Each project was considered to be highly successful by both the funding organisation and the external reviewers

Contextual info

The development of the European Road Safety Observatory (ERSO) was a collaborative European

effort led by the Transport Safety Research Centre at Loughborough University under a series of EU funded research studies that started in 2000 and continued until 2013.These studies include grants G1, G2 and G3 with a collective value of €24m, each of these projects individually made an important contribution to ERSO. The TSRC has led each of the projects as well as many of the individual work packages including those developing in-depth data resources. Team members have contributed to most of the remaining areas of work within the programme.

To achieve the full outcomes the international team conducting the work had to conduct a wide ranging review of road safety data and knowledge requirements of the governments of all EU countries. The protocols had to take account of the existing availability of the various types of data but avoid a lowest-common-denominator approach. Each was validated by a European-wide peer review procedure by policymakers in all 27 Member States who worked with the Project Team to implement new procedures and to provide data.

The new knowledge base was developed under the auspices of a scientific team of world leading experts who directed and reviewed the state of the art reviews. This information was placed on a specific website which, by 2012 was receiving over 5,000 unique hits each month.

Key researchers

Key researchers at Loughborough University include Prof. Pete Thomas (1982 – current) who led the research, Julian Hill (1995 – current) (Senior Research Fellow) and Dr Andrew Morris (1995 – current) (Reader in Road and Vehicle Safety) who have all remained members of staff within the Transport Safety Research Centre over the full period of the research programme. Other TSRC researchers who have contributed to the research include Steve Reed (2006 – current), Lucy Rackliff (2004 - 2010), Charlotte Brace (2004 – 2006), Dawn Chambers-Smith (1995 – 2011) and Rachel Talbot (2006 – current).

3. References to the research *Bold text indicates Loughborough University staff*

3.1. **Thomas P, Morris A.P, Chambers-Smith, D**, Yannis, G, Evgenikos, P, Duchamp, G, Treny, V, Vis, M, Vallet, G, Jahi, H, Dupont, E, Martensen, H. SafetyNet final activity report European Commission 2009.

Project and report peer reviewed annually by independent experts (Prof Tomaz Pavcic, Slovenian Roads Ministry, Prof Chryssanthi Limperi, road safety advisor to Greek Government, Prof Murray Mackay, Birmingham University) on behalf of the EC

3.2. **Morris, A.P., Brace, C.L., Reed, S.G.,** Fagerlind, H., Björkman, K., Jaensch, M., Otte, D., Vallet, G., Cant, L., Giustiniani, G., Parkkari, K., Verschragen, E. and Hoogvelt, B." The development of a European fatal accident database", International Journal of Crashworthiness, 152, 15th July 2010, p201-209, ISSN: 1754-2111

Paper peer reviewed by anonymous independent reviewers following normal practise.

3.3. George Yannis, **Lucy Rackliff** (TSRC**),** Petros Evgenikos, Antonis Chaziris (NTUA), Jeremy Broughton, Brian Lawton, Louise Walter (TRL), Stefan Hoeglinger, Thomas Leitner, Andrea Angermann (KfV), Niels Bos (SWOV), Stig Hemdorff (DRD), Peter Hollo (KTI), Jan Tecl (CDV), Jaime Sanmartin, Jean-Francois Pace (INTRAS) CADaS - The Common Accident Data Set, Deliverable D.1.14 of the FP 6 SafetyNet project. 31/10/2008,

Project and report peer reviewed annually by independent experts (Prof Tomaz Pavcic, Slovenian Roads Ministry, Prof Chryssanthi Limperi, road safety advisor to Greek Government, Prof Murray Mackay, Birmingham University) on behalf of the EC

3.4. George Yannis, Eleonora Papadimitriou, **Lucy Rackliff,** TSRC, Antonis Chaziris NTUA, Gilles Duchamp, Philippe Lejeune, Vincent Treny, CETE-SO, Stig Hemdorff, DRD, Mouloud Haddak, Erik Lenguerrand, INRETS, Péter Holló, Miklós Gábor, Mária Cseffalvay, KTI, Thomas Leitner, Andrea Angermann, Stefan Hoeglinger, KfV, Joao Cardoso, LNEC, Frits Bijleveld, Sjoerd Houwing, SWOV, Torkel Bjørnskau, TØI,. Risk Exposure Data Common Framework Deliverable 2.3 of the FP6 SafetyNet project 31/07/2008

Project and report peer reviewed annually by independent experts (Prof Tomaz Pavcic,

Slovenian Roads Ministry, Prof Chryssanthi Limperi, road safety advisor to Greek Government, Prof Murray Mackay, Birmingham University) on behalf of the EC

3.5. Kerstin Auerbach (BASt)**; Lucy Rackliff** (TSRC) Roland Allenbach (BfU); Vojtech Eksler (CDV); François Riguelle (IBSR); Elke Moons, Geert Wets (IMOB); Mouloud Haddak (INRETS); Péter Holló (KTI); Elisabete Arsenio (LNEC); Eleonora Papadimitriou, George Yannis (NTUA); Kirsten Duivenvoorden, Charles Goldenbeld, Sjoerd Houwing, Robert Louwerse, René Mathijssen, Chris Schoon, Martijn Vis, Wendy Weijermars (SWOV); Victoria Gitelman, Shalom Hakkert, Malka Avitzour (TECHNION); Terje Assum (TØI) (2007) Road Safety Performance Indicators: Manual. Deliverable D3.8 of the EU FP6 project SafetyNet.

Project and report peer reviewed annually by independent experts (Prof Tomaz Pavcic, Slovenian Roads Ministry, Prof Chryssanthi Limperi, road safety advisor to Greek Government, Prof Murray Mackay, Birmingham University) on behalf of the EC

Research Grants

G3.1. Pendant – Pan-European Accident database (2000 – 2004). Funded by European Commission. Total value €4 million, PI: Prof. Pete Thomas

G3.2. SafetyNet (2004 – 2008). Funded by European Commission. Total value €13 million, PI: Prof. Pete Thomas

G3.3. DaCoTA - Data Collection and Analysis (2010 – 2013). Funded by European Commission Total value €7 million PI: Prof. Pete Thomas

4. Details of the impact

Evidence-based decision making lies at the heart of areas of policy-making. Under the principle of subsidiarity, road safety policies have been predominantly developed and implemented at national level, while the safety performance of vehicles and other technical measures has been specified through international agreements, increasingly on a global scale. In 2001, in its Transport White Paper **[5.1]**, the European Commission identified that it could support casualty reduction at national level by providing a consistent mechanism for EU Member States to monitor progress, prioritise measures and to understand better the causes of crashes and injuries. At that time little was known about the manner in which safety policy-making was conducted or the optimum characteristics of the evidence base, so in the Road Safety Action Plan **[5.2]**, published in 2003 the Commission decided to request research into the development of the European Road Safety Observatory (ERSO). This would "coordinate all Community activities in the fields of road accident and injury data collection and analysis" and the purpose of the research programme was to design the framework, content and dissemination aspects of the Observatory according to state of the art scientific evidence, user requirements and the best dissemination principles.

The Transport Safety Research Centre at Loughborough University led a series of three EU fnded projects to first design the framework of the ERSO and then to augment and enhance its capabilities. Building on previous research conducting in-depth accident research under the Pendant research programme the Loughborough University research team identified the following areas of data and knowledge to be of most value in supporting national road safety policy- making.

1. National accident data
2. Exposure data
3. Intermediate outcome indicators
4. In-depth data on accident and injury causes
5. Road safety management practise
6. Evaluation and forecasting methods
7. Driving safety behaviour
8. State of the art reviews of key safety areas

A series of research phases was undertaken for each area of data and knowledge to identify the most appropriate indicators or knowledge areas and to develop the most suitable protocols. These were reviewed by representatives of the 27 EU Member States, and, by 2010 the set of protocols was adopted as the European Standard to be implemented within ERSO and by Member States. The relevance and applicability of the Observatory was finally reviewed by national representatives of each EU Member State. Before it was transferred to the European Commission DG-MOVE website in 2009 the Observatory was attracting over 5,000 internet hits

from road safety policymakers across the EU each month.

The reach of the impact has been very broad covering all 27 EU Member States and increasingly countries outside the EU that have reviewed and identified the value of the work. The research has validated the concept of the Observatory, which has now been incorporated within the EC website **[5.5]**. Since the completion of the SafetyNet programme national observatories have been developed in many countries including the UK, France, Spain, Czech Republic, Poland, Tunisia and Netherlands and 20 South American countries. In 2011 the Transport and Tourism Committee of the European Parliament conducted a review **[5.4]** of the Commissions Road Safety Programme to 2020 **[5.3]**, its conclusions were supported by the full Parliament in a vote and the final motion **[5.7]** called for the results of SafetyNet and DaCoTA to be deployed across the 27 Member States by 2013.

The availability of the information within the ERSO and its application to road safety policy-making has been promoted by many international road safety organisations including

- European Transport Safety Council
- Centro Regionale di Monitoraggio della Sicurezza Stradale
- European Association for Injury Promotion and Safety Control
- Deutscher Verkehrssicherheitsrat
- Road Safety For All (low and middle income countries)
- Welsh National Assembly
- Organisation for Economic Co-operation and Development Transport Forum
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The availability of the Observatory has improved the evidence base available to road safety policy-makers and this has improved the quality of decision making, particularly in the countries with less well developed road safety cultures. The development of ERSO continues to have an impact in new areas; the European Commission is currently developing a serious injuries strategy **[5.8]** which will apply to all Member States. This directly implements the research and recommendations conducted in SafetyNet concerning this casualty group by making standard the research protocols defining serious injury and the methods to relate national counts to a harmonised EU method. The impact of ERSO has been corroborated by the EC Project Officer **[5.9]**. As further recognition of the impact of the Observatory in 2013 ERSO was presented with the HRH Prince Michael International Road Safety Award **[5.10].**

5. Sources to corroborate the impact

The following sources of corroboration can be made available at request.

5.1. European Commission White Paper, European transport policy for 2010: Time to decide, Brussels, 2001

5.2. European Commission, Road Safety Action Plan, COM(2003) 311 final, 2.6.2003, Brussels

5.3. Towards a European road safety area: policy orientations on road safety 2011-2020, Communication from the commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, Brussels, 20.7.2010 COM(2010) 389 final. http://ec.europa.eu/transport/road_safety/pdf/road_safety_citizen/road_safety_citizen_100924_en.pdf

5.4. Report on European road safety 2011-2020 (2010/2235(INI)). Committee on Transport and Tourism, European Parliament Rapporteur: Dieter-Lebrecht Koch. 8 July 2011

5.5. www.erso.eu – link to the public part of the Observatory

5.6. Towards a European road safety area: policy orientations on road safety 2011-2020 (COM(2010)0389)

5.7. European Parliament resolution of 27 September 2011 on European road safety 2011-2020, P7_TA(2011)0408

5.8. On the implementation of objective 6 of the European Commission's policy orientations on road safety 2011-2020 – First milestone towards an injury strategy SWD(2013) 94 final

5.9. Reference from Project Officer EC

5.10. http://www.roadsafetyawards.com/