



Stakeholders' needs and priorities versus data and tools availability

Klaus Machata

KFV - Austrian Road Safety Board

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Evidence-based Road Safety Management!

- ERSO: better support through data, tools and knowledge
- Assess views and demands of stakeholders across Europe:
 1. **Expert panel** on the needs for data and technical tools in road safety policy-making (exploratory)
 2. Views of a broader array of **stakeholders** across Europe (and beyond)



Consultation of Expert Panel

- **38 persons** – covering many EU Member States + associated countries + Israel (*expert level*)
- **Semi-directive** face-to-face or telephone interviews + written contributions
- **Four dimensions** of Road Safety Management
 1. **Fact finding** and diagnosis
 2. Road safety **programme** development
 3. Preparing **implementation**
 4. **Monitoring** and **evaluation**
- → **4 comprehensive “needs matrices”**

1. Fact finding and diagnosis issues	
Interviews	Written contributions
1.1. Assessment, improvement and treatment of existing data - Better definitions for serious injuries D - Methods for assessing underreporting and for linking police and health databases T - Seminars and other training tools for fact-finding, interpreting the data (Training) - Targeted databases and information sources for searching relevant facts D - Disaggregated data for better problem examinations D - GPS support for data collection T - Risk ratios for specific types of infrastructure, road user groups D - International comparisons of trends in specific groups of road users, e.g. motorcyclist, elderly, notorious offenders D	- Better common - Standardized n - police and heal - GIS-based syste - Flexible tools to - Periodically upda - Exposure data D - Behaviour indicat
1.2. Insufficient or missing data and needs for new tools - Definitions of behaviour indicators and their priorities D - Definitions of work related crashes (on the way to and from work) D - Establishing a system for collecting behavioural indicators T - Methods for collecting exposure data on walking and cycling T - Exposure data for motorcyclists and pedestrians D - Statistical methods for priority setting T - Road safety expenditures, also in comparison with expenditures on other policy areas (e.g. environment) D	- Standardized met - Software for linkin - Link to the databas - Common methodol - Definitions of expos - Definitions of comm - Systematic collectio - categories, etc. D - Common method fo - Quantitative risk acc - Descriptive analysis - Common methodolog - Comparative fact-she - Common methodology - collecting it T
1.3. Needs for a better understanding of road safety - Naturalistic driving studies and driving simulator studies T - Evaluation of impact of external factors on road safety, e.g. economy, weather, demography T	- In-depth crash investig - Guidelines for crash in - Fact-sheets on typical - countries D - Methodological tools fo T
1.4. Integration of road safety with other sectoral policies - Examples of synergy between road safety and the environment agenda D - Values of fatalities, injuries per capita for comparison with health sector D	- To create a synergy bet tools to be defined (Ger

Table 4: The needs expressed in experts' opinions: data (D) and tools (T) required for the performance of road safety fact finding & diagnosis

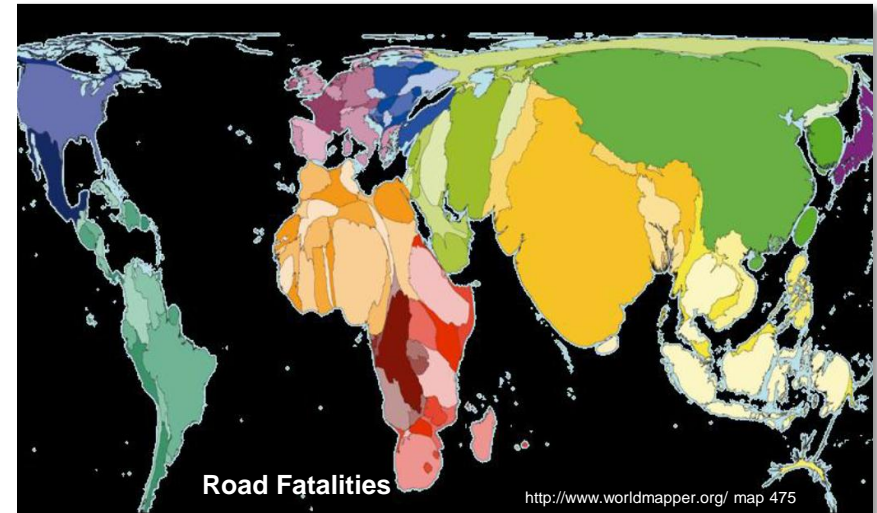
Stakeholder Consultation

- 3150 road safety stakeholders in Europe and beyond
- On-line questionnaire: standard survey tool
- Both policy-making and non-policy-making stakeholders:
 - European Commission's stakeholder list (consultation Action Programme)
 - ETSC contacts and PIN Panel members + their national contacts
 - FERSI contacts (Forum of European Road Safety Research Institutes)
- Cover letter by DG MOVE (e-mail, Feb 2011)



Composition of Stakeholders

- EU Member States
- Associated countries + European Region + overseas
- Policy-/non-policy making stakeholders
- Categories of organisations
 - Associations & Interest Groups
 - Research
 - National / regional administrations
 - European administration
 - Industry
 - Road safety organisations
 - Services
 - Media
 - Police
 - Other



The questionnaire

- Background (such as **country** of origin, type of **organisation**, field of **work**, field of **influence**, ...)
- Use of tools (ERSO, IRTAD, CARE, UN-ECE, national databases, ...)
- Data and Resources – **priority + availability** of >50 items of data and tools (from needs matrix)
 1. **Fact Finding**: Crash causation factors, exposure data, data on under-reporting, ...
 2. **Programme**: Costs and benefits, safety impacts of measures, public acceptance, ...
 3. **Implementation**: common methodology to identify high risk sites, simulation, digital crash maps, ...
 4. **Monitoring & evaluation**: statistical methods for following trends, long term forecasts, crash prediction models, ...

European Survey on Road Safety Related Data and Information

European Survey on Road Safety Related Data and Information

EU wide Data, Methodologies and Resources

This section of the survey will ask you to rank a series of statements according to the priority and availability of the following data and resources in your day to day work.

12. Please indicate both priority and availability of the following data and resources for fact finding and diagnosis of road safety issues in your day to day work. Please answer all questions and fill out for both Priority and Availability!

	PRIORITY level for my work				AVAILABILITY level for my work
	High priority	Medium priority	Low priority	Not relevant for my work	
a. A common definition of a fatality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. A common definition of a serious injury	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. A common definition of a work related crash (i.e. a crash that occurs whilst commuting or during professional activities)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Data on the under-reporting of road traffic crashes (i.e. underestimation of the true number of accidents)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Crash databases that link police and hospital data	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. The use of GPS and/or GIS technologies in accident data collection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Information on road users' behaviour and attitudes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Exposure data (e.g. kilometres driven, numbers of trips)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Statistical methods for priority setting (e.g. to rank road safety measures)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Results from in-depth crash investigations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

https://www.surveylab.ac.uk/road_safety_data

First results

- 512 Responses
 - high response rate for research institutes and consultancies, health sector, associations / interest groups, universities, road safety organisations
 - one response from European Parliament (of 120)
- Top ranked priorities:

Fact finding and diagnosis	Development of safety programmes	Implementation	Monitoring and evaluation
Information on crash causation factors	Information on the costs and benefits of a road safety measure	Common methodology for identifying high risk sites	" Seriously " injured counts , in addition to fatality counts
Information on road users' behaviour and attitudes	Information on the safety impacts of combined measures	Good practice collection on implementation	Methods for evaluation of safety impacts
A common definition of a fatality	Common methods for evaluations of road safety measures	Digital road maps for mapping crashes	Common methodology for the evaluation of costs and benefits of road safety measures
Exposure data (e.g. kilometres driven, numbers of trips)	Good practice catalogue of measures	Detailed information from road safety audits and road safety inspections	Statistical methods for following trends

In-depth Analysis I

- Meaningful **structure** in priorities and availability ratings?
- Principal Component Analysis (PCA, *separate*)
- Factor Analysis (FA, *combined*)
- ... striking similarities between results

	PCA : Priority ratings	PCA : Availability ratings	FA : Combined priority and availability ratings
Component/Factor 1	"Implementation of measures"	"Costs and safety impacts of measures"	"Implementation of measures"
Component/Factor 2	"Statistical models"	"Statistical models"	"Accident and infrastructure analysis for the implementation of measures"
Component/Factor 3	"Costs and safety impacts of measures"	"Implementation of measures"	"Statistical models"
Component/Factor 4	"Road infrastructure and accident analysis"	"Road infrastructure and accident analysis"	"Exploring implementation frameworks"
Component/Factor 5	"Common definitions and under-reporting"	"Exposure and behaviour"	"Crash causation"
Component/Factor 6	"Crash causation"	"Policies, rules and regulations"	"Evaluation of measures"
Component/Factor 7	"Advanced research methods"	-	"Common definitions"
Component/Factor 8	-		"Information on safety impacts"
Component/Factor 9	-		"Improving data collection"

In-depth Analysis II

- Meaningful **stakeholder groups** on the basis of their **priority** ratings?
- Linked to **background** characteristics?

Component scores	Cluster			
	1	2	3	4
Comp.1: Implementation of measures	-0.155	-1.101	0.446	0.029
Comp.2: Statistical models	-0.202	0.487	0.237	-1.177
Comp.3: Costs & safety impacts of measures	-0.730	0.139	0.163	0.062
Comp.4: Road infrastructure & accident analysis	-0.121	-0.729	0.470	-0.548
Comp.5: Common definitions & underreporting	-0.819	0.612	0.248	-0.711
Comp.6: Crash causation	-1.262	0.132	0.099	0.852
Number of cases	65	75	204	61
% of cases	16%	19%	50%	15%
	↑	↑	↑	↑
	<u>“Low needs”</u>	<u>“Need data & modelling”</u>	<u>“Need everything”</u>	<u>“Need in-depth”</u>
	Research, Admin	RS Org., Associations Police	Industry	
			Policy Makers	

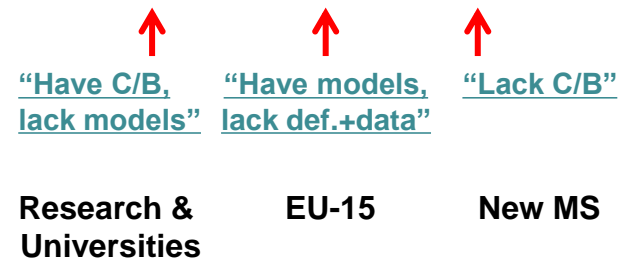
No clear relation with “geographical background”

In-depth Analysis III

- Meaningful **stakeholder groups** on the basis of their **availability** ratings?
- Linked to **background** characteristics?

Components	Cluster		
	1	2	3
Comp.1: Costs & safety impacts of measures	0.969	0.113	-0.804
Comp.2: Statistical & forecasting models	-0.432	0.628	-0.229
Comp.3: Implementation of measures	0.224	-0.156	-0.029
Comp.4: Road infrastructure	0.072	-0.402	0.295
Comp.5: Exposure & behaviour	0.312	-0.334	0.061
Comp.6: RS policies, rules & regulations	0.449	-0.175	-0.176
Comp.7: Common definitions	0.331	-0.715	0.376
Number of cases	43	51	59
% of cases	28%	33%	39%

All 3 clusters quite strongly represented in all types of organisations



In-depth Analysis IV

- Meaningful **stakeholder groups** on the basis of their **combined priority and availability** ratings
(high scores = high priority + low availability)
- Linked to **background** characteristics?

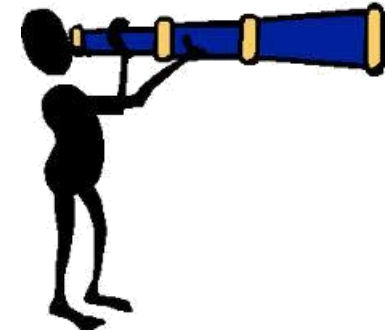
Factors	Clusters						
	1	2	3	4			
1-Implementation of measures	0.28	-0.43	0.89	-0.20	1		
2-Accident and infrastructure analysis for implementation of measures	0.55	-0.39	-0.32	-0.24	0		
3-Statistical models	0.00	-0.43	-1.34	1.23	0		
4-Exploring implementation frameworks	0.73	-0.16	-0.21	0.02	-0.10	-0.24	0.88
5-Crash causation	0.65	-0.24	0.43	0.11	-0.29	-0.24	0.88
6-Evaluation of measures	0.47	-0.12	-0.17	-0.07	0.11	-0.08	0.87
7-Common definitions	0.29	-0.10	-0.37	0.03	0.13	0.07	0.88
8-Information on safety impacts	0.74	0.01	-0.38	-0.20	-0.17	-0.33	0.85
9-Improving data collection	0.16	-0.06	-0.15	0.00	-0.05	0.26	0.82
Number of respondents	59	164	32	74	49	27	
% of respondents	15%	40%	8%	18%	12%	7%	

40% in the “moderate needs for all” cluster

- New MS
- Associations / Interest Groups
- >20 years experience
















Conclusions & Discussion

- Results encouraging for further development of ERSO: one single platform can provide **added value for all stakeholder groups!**
- **Significant demand for data and knowledge!**
- Research, administration and policy makers have rather **similar needs** and availability issues
- **Availability: Misjudgement** and many “**unknown**” responses: lack of information, even on already available items
- Low scores but **high stake in future:** In-depth, simulators, naturalistic driving, ...



Implications for ERSO

- Much is known already, and should be made accessible on ERSO!
- To require from F&D projects to produce ERSO-compatible information

Fact finding and diagnosis	Development of safety programmes	Implementation	Monitoring and evaluation
<p>Information on crash causation factors: research gap!</p> 	<p>Information on the costs and benefits of a road safety measure</p> 	<p>Common methodology for identifying high risk sites</p> 	<p>"Seriously" injured counts, in addition to fatality counts</p> 
<p>Information on road users' behaviour and attitudes</p> 	<p>Information on the safety impacts of combined measures</p> <p>research gap!</p> 	<p>Good practice collection on implementation</p> 	<p>Methods for evaluation of safety impacts</p> 
<p>A common definition of a fatality</p> <p>already widely available!</p>	<p>Common methods for evaluations of road safety measures</p> 	<p>Digital road maps for mapping crashes, eg. EUSKA (D):</p> <p>research gap!</p> 	<p>Common methodology for the evaluation of costs and benefits of road safety measures</p> 
<p>Exposure data (e.g. kilometres driven, numbers of trips)</p> 	<p>Good practice catalogue of measures</p> 	<p>Detailed information from road safety audits and road safety inspections</p> 	<p>Statistical methods for following trends</p> 



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