Does safety research influence policy-making?

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UK
• Well-respected organisation
• Founded around persuading Parliament to require belt-wearing for front occupants
• Close links to UK Department for Transport (DfT)
• Embedded in various advisory bodies
• Sometimes listened to by Ministers
• Arguably had a role in persuading DfT to adopt the “Safe System” approach
What was the PACTS Road User Behaviour Working Party discussing in 1993?

- Car advertising that promoted speed
- Obligation on Local Authorities to fund road safety education of children
- Training of truck drivers — why were instructors not approved?
- Graduated licensing — we advocated it
- Impact of local government reorganisation on road safety
A case study on the influence of research on policy
Our major reports on ISA
Assisting ISA: effect on behaviour and attitudes
The ISA-UK trials

2 urban trials
(1 private motorists, fleet)

2 rural trials
(1 private motorists, fleet)

79 drivers with a mix of:
Younger / older
Male / female
Speeding intenders / non-intenders
An overridable assisting system

- System that limited speed to the prevailing limit (no acceleration beyond limit)
- Drivers could override at will
- Vibration on throttle pedal to prevent overthrottling
Speed distribution on 30 mph (50 km/h) urban roads

**Vehicle Speed (mph)**
- Before
- During
- After

**Travel Distance (%)**
- Phase 1
- Phase 2
- Phase 3
Speed distribution on 70 mph (110 km/h) roads

Vehicle Speed (mph)

Travel Distance (%)
Acceptability

<table>
<thead>
<tr>
<th>Mean Score</th>
<th>Before</th>
<th>Early with</th>
<th>Late with</th>
<th>After</th>
</tr>
</thead>
</table>

-2  |  |  |  |  |
-1  |  |  |  |  |
 0  |  |  |  |  |
 1  |  |  |  |  |
 2  |  |  |  |  |

Usefulness

Satisfaction*
Intention

Mean intention to speed
Impact Prediction
Method for estimating accident reductions with ISA

- Based on models from the literature relating speed to crash risk (e.g. Kloeden et al., 2001, 2002)
- These models have been calculated from real-world data
- *They are not drawn from the police reported contributory factors for accidents*
Estimated risk reduction by type of ISA

Estimated Reduction in Injury Accidents for Vehicles with ISA

<table>
<thead>
<tr>
<th>ISA Variant</th>
<th>Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advisory ISA</td>
<td>−2.7%</td>
</tr>
<tr>
<td>Assisting (Overridable) ISA</td>
<td>−12.0%</td>
</tr>
<tr>
<td>Assisting (Non-Overridable) ISA</td>
<td>−28.9%</td>
</tr>
</tbody>
</table>

= −50% for fatal crashes
What is the importance of regulation?
GB accidents saved over time for under the Market Driven scenario
GB accidents saved over time for the Authority Driven scenario

- Fatal
- Serious
- Slight
Interpretation of scenario analysis

• Both scenarios are winners
• The harder the push for ISA and the “stronger” the system, the greater the benefits
• Shows the importance of regulation
• Much of the potential of ISA, e.g. to replace traditional and costly traffic calming, was not counted
Comparison of predicted outcomes

**GB Crashes Saved from, 2010 to 2070**

<table>
<thead>
<tr>
<th></th>
<th>Slight Crashes</th>
<th>Serious Crashes</th>
<th>Fatal Crashes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Driven scenario</td>
<td>4%</td>
<td>8%</td>
<td>13%</td>
</tr>
<tr>
<td>Regulation scenario</td>
<td>15%</td>
<td>25%</td>
<td>30%</td>
</tr>
</tbody>
</table>

- Benefit to cost ratios (accidents + fuel + CO$_2$):
  - Market Driven scenario 3.4
  - Regulation scenario 7.4

• Immediate submission of this report and cover paper to the Secretary of State for Transport*

• The Department for Transport should work with the relevant European authorities, vehicle manufacturers, local authorities, insurance companies, representative bodies and others to consider what steps should be taken to support the future availability of the technology and to promote its take up

• A public debate on the future of ISA. The potential benefits and opportunities of ISA should be widely disseminated to companies that can provide effective incentives for its adoption to encourage the establishment of market driven solutions

• Government should engage with employers to ensure they are aware of the overall benefits of ISA and consider the fitment and use of this technology within their duty of care and work related road safety policies, when it is available

• The Department for Transport should move immediately to put in place the infrastructure necessary to provide the digital maps required to operate an ISA system

• The Department for Transport should look at opportunities to equip its own fleet with ISA and act as a champion with other Government Departments and public bodies. Its role as a champion should focus on engaging Government Departmental support for the concept and encouraging Departments and Agencies with large workplace driving activity to implement ISA in their vehicle fleets

• Fleet operators and vehicle rental companies should be appraised of the benefits of ISA and encouraged to introduce ISA into their own fleets

• Government should examine whether ISA in any form has a role to play in supporting drivers convicted of dangerous driving where speed is a factor or as a benefit to supporting vehicle access for younger drivers

* Geoff Hoon
Outcome
What happened next?

- Nothing!
A quote from a Dutch safety expert about ISA

“The best system we never had.”
Standards for new vehicles in Europe

• Minimum safety standards for new vehicles are specified in the General Safety Regulation (GSR) and Pedestrian Safety Regulation (PSR)

• Last revision of GSR was in 2009. This required that:
  – ESC was fitted on all cars and trucks from 2014
  – AEB and LDW were fitted on all large vehicles from 2015

• The responsible directorate in the European Commission is DG GROW

• Legislative procedure is co-decision of the Commission, Parliament and Council
DG GROW

• Sets minimal safety standards for new vehicles sold in Europe
• General Safety Regulation (GSR) study to consider the potential of crash avoidance technologies to supplement crash mitigation technologies (published March 2015)
• Sets the European regulatory agenda for 2016 onwards
• Actual outcome in terms of legislation is co-decision of Commission, European Parliament and Council
Question asked of the study:

• What new technologies could be cost-effective in improving vehicle safety?
Active Safety

“Based on the evidence reviewed, the following measures were considered to be likely to be cost-beneficial and could on that basis be taken into consideration:

• Enhanced AEB with collision mitigation
• Intelligent speed adaptation
• Lane keep assist
• Reversing detection and reversing camera systems
• Emergency brake light display”
## Active Safety

<table>
<thead>
<tr>
<th>Code</th>
<th>Measure</th>
<th>Feasible</th>
<th>BCR</th>
<th>Legislate?</th>
<th>Recommendations/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEB</td>
<td>Expansion and enhancement of AEB, BAS and LDW to avoid or mitigate collisions, including inter-urban, city and those with VRU</td>
<td>✔</td>
<td>~1</td>
<td></td>
<td>Greatest casualty benefit for AEBS is for M1 then N1 vehicles, although cost-benefit less clear than for N2/N3. System cost estimates suggest 'city safety' systems may be getting to the breakeven cost point</td>
</tr>
<tr>
<td>ISA</td>
<td>Speed limiters controlled by road speed limit (speed assist, intelligent speed adaptation)</td>
<td>✔</td>
<td>&gt;1</td>
<td></td>
<td>BCR&gt;1 for 6 Member States, for voluntary activation (switched on/off by the driver) and mandatory activation, and public acceptability of the systems considered to be growing. BCR higher for mandatory activation system, but both have positive BCR</td>
</tr>
</tbody>
</table>
GSR2 study, May 2017

• TRL carried out a further study (GSR2)
• More detailed investigation of costs and technology packages
And then an even more detailed version of the cost-effectiveness study, March 2018

- Final report
- + detailed annex on methodology
The announcement of the new policy proposals, May 2018

• “Third Mobility Package”
Safe mobility

While road fatalities have more than halved since 2001, 25,300 people still lost their lives on EU roads in 2017 and another 135,000 were seriously injured. The Commission is therefore taking measures with strong EU added-value to contribute to safe roads and to a Europe that protects. The Commission is proposing that new models of vehicles are equipped with advanced safety features, such as advanced emergency braking, lane-keeping assist system or pedestrian and cyclists’ detection systems for trucks (see full list here).
The European legislative is near completion, March 2019

- The package of new measures in (just about) approved
- The UK press notices it
Illegal and inappropriate speed is the single biggest contributory factor in fatal road crashes. It increases both the risk of a crash happening and the severity of injuries that result. Managing speed is therefore the most important measure to reduce death and injury on our roads.

The objective of the iSAFER campaign is to contribute to reducing speed-related road deaths and injuries through the identification and promotion of best practice. The project includes a special focus on Intelligent Speed Assistance (ISA) and promoting its use at European and national level.

The campaign will include:

- Seminars at a national and European level, aiming to raise awareness of the risks of speeding, and exploring the best strategies for introduction of ISA.
- A policy paper on speed, looking at priorities for reducing deaths on our roads related to speed, focusing primarily on ISA.
- A ranking showing the ‘state of play’ of digital maps and ISA implementation in the different EU Member States.
- Six fact sheets on speed that will showcase best practice in each of the following areas: behaviour, vehicles, in-vehicle technology, infrastructure, speed limits.
- A Speed Monitor newsletter three times a year which includes monitoring of EU and national policies that have an impact on speed related road safety within the 28 EU countries.
The ETSC video

The spy in your car! EU's speed-limiter system has a 'black box' recorder to track your every move

- New cars in EU and UK to have Intelligent Speed Assistance limiters from 2022
- Campaigners fear devices allow police, insurers and hackers to spy on people
- The Department for Transport has backed the introduction of the technology
Conclusions

• Sometimes research can have influence
• The EU process of synthesising the research evidence to prepare policy proposals is to be applauded
• Of course that does not remove politics completely
• Researchers need to engage with policy-makers
Thank you for your attention!

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