SAFE SYSTEM
CULTURAL MATURITY
Context

Vision Zero

Vision Zero Partnership

Home safe and well

Vision Zero
No Road Deaths

Agilysis
National Highways
Safe System Actions & Change

• Mechanisms of change in outer circle
• Synthesised Safe System models from:
  • PACTS, United Kingdom
  • Australia
  • New Zealand
  • Canada
• Actions independently categorised & grouped.
<table>
<thead>
<tr>
<th>Loughborough</th>
<th>Australia</th>
<th>New Zealand</th>
<th>Canada</th>
<th>Combined</th>
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</thead>
<tbody>
<tr>
<td>R&amp;D and Transferring Knowledge</td>
<td>Data, Research and Evaluation</td>
<td>Understanding Crashes and Risk</td>
<td>Information, Data, Research</td>
<td>Research, Monitoring and Evaluation</td>
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<tr>
<td>Monitoring and Evaluating</td>
<td>Education and Information</td>
<td>Education and Information</td>
<td>Communication, Awareness</td>
<td>Education and Communication</td>
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<td>Promoting</td>
<td>Education and Information</td>
<td>Education and Information</td>
<td>Education, Training</td>
<td>Standards and Training</td>
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<td>Standards</td>
<td>Innovation</td>
<td>Innovation</td>
<td>Technology</td>
<td>Design and Engineering</td>
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<td>Licensing and Registration</td>
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<td></td>
<td>Innovation</td>
<td>Innovation</td>
<td>Leadership and Capability</td>
<td>Leadership and Co-ordination</td>
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<td>Co-ordinating</td>
<td>Coordination</td>
<td>Leadership and Capability</td>
<td>Linkages</td>
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<td>Target-Setting</td>
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<td>Leadership</td>
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<td>Road Rules and Enforcement</td>
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<td>Enforcement</td>
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<td>Compliance and Enforcement</td>
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<td>Funding</td>
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<td>Investment</td>
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<tr>
<td>Legislating</td>
<td>Road Rules and Enforcement</td>
<td>Legislation and Enforcement</td>
<td>Policy, Legislation, Regulation</td>
<td>Legislation and Regulation</td>
</tr>
</tbody>
</table>
Cultural Maturity Literature
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- Westrum’s Typology of Organisational Culture (Westrum, 1993)
- Fleming’s Safety Culture Maturity Model (Fleming, 2001)
- Westrum’s Cultural Scale Adaptation (Hudson & Willekes, 2000)
- TALK/WALK Matrix of Safety Culture Dimensions (Hudson, 2001)
- Descriptions of levels of safety culture for ‘concrete’ and ‘abstract’ organisational aspects (Parker, Lawrie, & Hudson, 2006)
- The Health and Safety Culture Maturity Model (Lingard, Zhang, Harley, Blisms, & Wakefield, 2014)
- Maturity model for academic partnerships (Fekadu, et al., 2021)
- Mining Industry Risk Management (Foster & Hoult, 2013)
Hearts & Minds Model

- **PATHOLOGICAL**: who cares as long as we are not caught
- **REACTIVE**: safety is important, we do a lot every time we have an accident
- **CALCULATIVE**: we have systems in place to manage all hazards
- **PROACTIVE**: we work on the problems that we still find
- **GENERATIVE**: safety is how we do business round here

The Hearts and Minds Model, Hudson & Parker, 2000
Behaviour Change Frameworks
ISM Model

The ISM Tool, Darnton & Evans, 2013
The Safe System Cultural Maturity Model
Components
Question Creation

- All Safe System imperatives
- All Safe System pillars
- Priority Safe System actions
- All identified change mechanisms

- Diagnostic: highlighting the overall health of Safe System culture that is prevalent in the organisation.

- Comparative: by seeking to create a set of statements that relate to the delivery of the Safe System overall, the survey has applicability beyond National Highways allowing for benchmarking performance against other road safety delivery bodies.

- Transformative: pinpointing the pillars, change mechanisms and actions which remain weak and in need of further improvement, across the organisation as a whole or within divisions.

- Evaluative: useful over time to consider progression, or indeed regression in some elements, as the organisation moves towards its goal of a more mature culture.
**QUESTIONS ARCHITECTURE**

- 22 Questions Measuring Current State of Maturity (Pathological to Generative)
- Focus on 8 Mechanisms of Change
- Addressing 6 Safe System Components
- Checking 33 Discrete Safe System Actions

<table>
<thead>
<tr>
<th>Component</th>
<th>Category</th>
<th>Question</th>
<th>Pathological</th>
<th>Reactive</th>
<th>Calculative</th>
<th>Proactive</th>
<th>Generative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road Safety Management</td>
<td>Leadership &amp; co-ordination</td>
<td>How does the Safe System impact on the actions of the organisation?</td>
<td>It is a concept adopted at Government level. The Safe System does not really affect how we work.</td>
<td>We're starting to think about how we apply Safe System. It is early days and not all colleagues understand it. There are only some Safe System pillars that we can influence.</td>
<td>Leaders and managers feel the Safe System is important to us. They talk about our commitment to Safe Systems. However, it does not significantly change what we do day to day.</td>
<td>We are actively working towards adopting a Safe System approach. We are working hard within our organisation and with our partners to ensure responsibility for Safe System delivery is shared.</td>
<td>Safe System thinking is embedded into everything we do. We champion the philosophy of the Safe System, working extensively with partners and stakeholders to promote implementation beyond our own network.</td>
</tr>
</tbody>
</table>

*Example statement set – addressing leadership & coordination, as part of road safety management safe system component*
Sample organisational data

Generative
Proactive
Calculative
Reactive
Pathological
Sample organisational data

- Road Safety Management
- Post Collision Response
- Safe Vehicles
- Safe Speeds
- Safe Roads & Roadsides
- Safe Road Use

Chart with concentric circles and data categories.
Creating a cultural maturity model to assess Safe System readiness within road safety organisations

**Context**

A Safe System model reflects international literature.

**Cultural Maturity**

Hudson and Parker safety culture ladder (2007)

**Components**

- GENERATIVE
- PROACTIVE
- REACTIVE
- PATHOLOGICAL

Extensive literature on cultural maturity was reviewed for relevance to Safe System adoption. Enhancing cultural maturity requires the application of a model for change.

**Model**

Reflective of the ISM Model and concepts proposed in the Hearts and Minds model, Construction is at the centre of the SSCM. It includes the beliefs, attitudes, and values of individuals towards the Safe System. The model also describes levels of Application and Operation that translate internal cultural constructs into external organisational activity. It is accompanied by a diagnostic tool for use within organisations to determine levels of Safe System cultural maturity.

**Testing**

Through testing with organisations across the UK, the Model was able to demonstrate a level of fidelity and differentiation between and within organisations.

**Results**

As well as reviewing answers to discrete questions, results can be explained according to Safe System components or mechanisms of change to identify potential areas of strength or prevailing weakness. Aggregated results for multiple organisations (as shown below) can be used as comparators and highlight necessary sectoral development.

The Safe System Cultural Maturity Model proposed here is founded on robust evidence, developed from Safe System actions defined in multiple international guidance manuals. The theoretical part of this study utilised in a robust explanation of how cultural maturity can influence Safe System thinking and application.

The purpose was to create an exploratory tool which could be diagnostic of an organisation, allowing comparisons between organisations; useful in evaluating progression or regression over time; and to transformative when applied to specific components, change mechanisms and actions. Initial testing has demonstrated that the tool provides that function.