Principles of decision making – Modelling societal concern for the rail industry

Research aims

The purpose of this paper is to outline Rail Safety and Standard Board's (RSSB's) response to the attached report, and to summarise the actions being taken by RSSB.

The report was commissioned under the Railway Safety Research Programme (RSRP), and prepared by Risk Solutions. The aim of the work was to investigate the feasibility of providing a practical tool, which can be used to gauge the relative significance of societal concerns about different types of accidents in the rail industry.

Risk Solutions combined literature reviews and original thinking to build on work previously carried out for the Health and Safety Executive (HSE) to provide a tool for comparing the concerns about accidents in different industries. Whilst there is a vast literature available on the factors which influence people’s reactions to accidents with different characteristics, there is a notable absence of work which has proposed ways of converting this body of academic knowledge into practical tools which can assist decision makers in real situations.

This report contributes to the suite of projects aimed at resolving the underlying challenges that the industry faces in making the right decisions about investments and operations, which affect safety. These challenges arise from the context of the legal framework, stakeholders with differing objectives, as well as the practices, perceptions and incentives within the industry, its funders and regulators. RSSB is leading the pulling together of these projects, in consultation with industry and other stakeholders with the aim of achieving a practical, agreed and consistent approach to decision making.

One of the issues on which clarity is being developed is the list of factors that decision makers should take into account. For many decisions, which affect safety, a relatively straightforward view on the balance of safety, performance and financial impacts is appropriate. However, there may be circumstances where other less tangible factors such as those considered within this report rightly have an influence.

RSSB welcomes this study, which has proposed one potential method for taking a view on some of these softer and more subjective factors, which can influence a decision on safety. Whilst the model would appear to be an attempt to quantify these soft factors, it must be recognised that the intention is not to reduce what is a complex issue into a number, which can be plugged into a quantitative analysis as input to a decision. The aim is rather that by taking a semi-quantitative view, decision makers could be presented with a picture which represents the levels of concern about particular accident types relative to one another, and therefore providing more information for them to determine the extent to which their decision is affected by these softer factors. Although industry stakeholders have reviewed the model, it is important to note that at this stage the model is a proposal, which has yet to be fully tested for the feasibility of capturing public views, and being used by decision makers.

Next steps

The next steps in this area are for RSSB, together with stakeholders, to review this work alongside other research that has been commissioned to develop alternatives.
and against the findings emerging from discussions with the HSE on the factors that duty holders are expected to take into account. Further development and feasibility work would then be required to take forward the concepts before they can be incorporated into the emerging guidance on decision-making, which will be published by RSSB. Key elements of any further development would include:

- A further review of the six high-level concern factors against other work, and with decision makers to determine that they are the right factors to take into account, and to create a clear reasoning for why they are valid. In particular the size of accident factor is of a different nature to the other five, which are more directly about people’s reactions rather than a given attribute of an accident.

- The design and testing of the method for obtaining inputs from members of the public must ensure that valid results are obtained, but also that the process of obtaining views does not in itself heighten concern about the safety of the railway.

- Discussions with those industry decision makers who are the potential users of the outputs from the model, in order to determine the circumstances in which it would add value, and the manner in which it would be used.

Contact
Views on the report, and on the way forward in this area, are welcome. Please contact:

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