

Webinar Summary – Modelling risk on the railways and roads – how and why do the approaches differ?

Presented by Ella Dahan, RSSB and James Catmur, JC and Associates

The webinar explored how risk is modelled across the railway and highway sectors, and why the approaches have developed differently. The speakers highlighted the importance of evidence, assumptions, model scope and understanding model limitations. The distinction between a risk model and a hazard log was also discussed, with risk models providing greater quantification and supporting comparison of different risks and scenarios.

For highways, the development of the risk model was ~~illustrated through~~ started on the M42 dynamic hard shoulder and all-lane-running programmes and developed into the all road hazard log. The approach uses Well Reasoned Arguments (WRAs), hazards and highway features to assess changes and their potential risk impacts. GG 104 provides the framework for assessing the hazard associated with changes to the National Highways network. The highways model also considers emerging features such as intelligent speed adaptation and lane keeping. Use of this model is limited as it is still being beta tested.

For railway practitioners, the RSSB Safety Risk Model was presented as a data-driven evidence base for quantifying projected safety risk that is used extensively in the industry to understand and manage risk to passengers, staff and members of the public. It is built using data from the Safe Insights data collection system, as well as fault and event trees for low frequency events such as train accidents.

The key message was that risk models can provide structured evidence for identifying relevant hazards, assessing changes, prioritising risk-reduction initiatives and investment, and testing whether interventions achieve their intended effect. Practitioners should also make assumptions explicit, use available evidence critically, and recognise where data limitations require reasoned judgement.

If you are a SaRS Member and would like to watch the recording of the webinar, please [click here](#).