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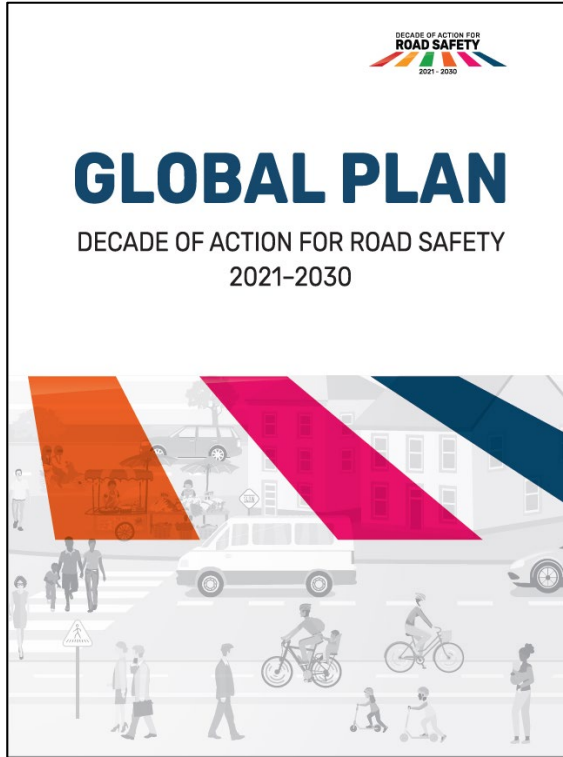
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Adaptive optimisation of road safety strategic management

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Background



(World Health Organization, 2021)

- Focus of road network management from construction through to strategic management.
- Road death and injuries have been becoming a global health issue. (World Health Organization, 2018)
- Road safety strategic management is promoted but lack of data-based intelligent methods to achieve.



Problem and Needs

- Number of traffic crash and KSI (killed and seriously injured) crashes are not acceptable.
- Strategic tools are not widely used.



Source: UNECE Transport Database, Grey represents countries outside of the ECE region or for which data for 2019 were not available.

Map of road traffic fatalities per million inhabitants by country, 2019 (UNECE, 2021)

- A procedure with less interference from experts based on data is needed
- Multi-disciplined knowledge is required to conduct data analysis and resource allocation for strategy formulation.



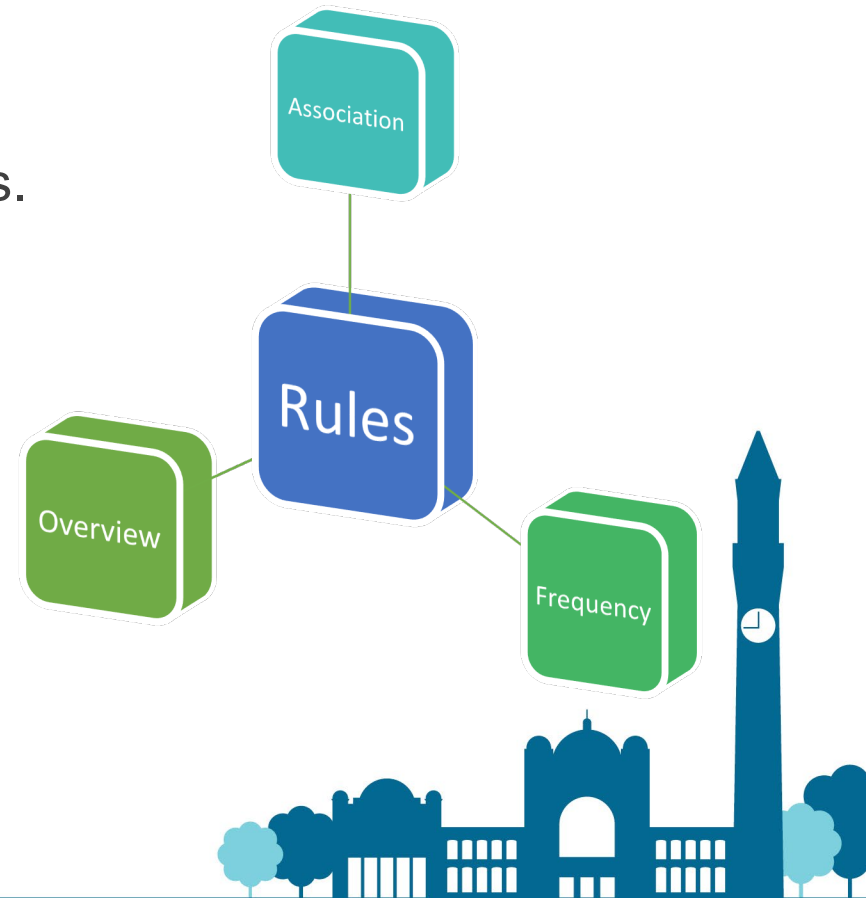
Innovation and Challenges

- Innovation

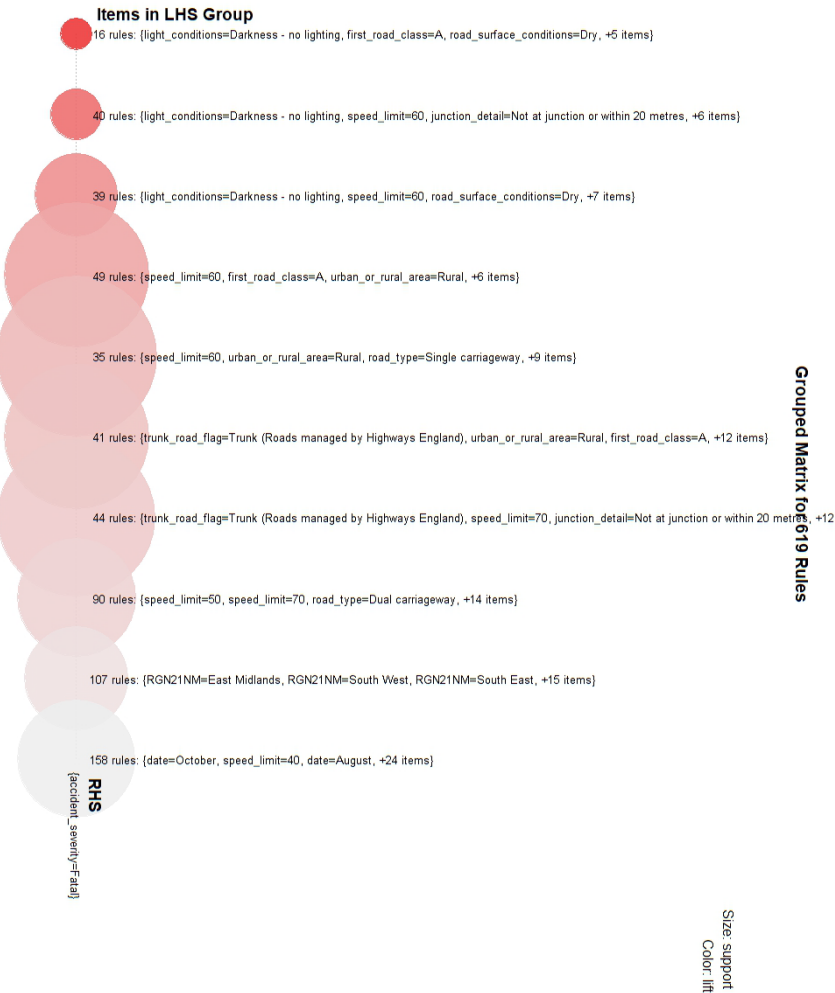
- 1) Data mining leading to rules that represent hidden information.
- 2) Advance visualisation for the results.

- Challenges

- 1) Need for data of significant quantity and very good quality.
- 2) Lack of such data in developing countries.



Outputs



- Software programming developed for research purposes on a prototype
- Need to produce a fully working model for the practising engineers.
- Knowledge can be extracted from database
- Objectives for strategic optimisation ways include reduction of accidents, budget optimisation, countermeasure selection.



Impact

- Perspectives for strategy development
 - 1) Quantity of the results
 - 2) Quality of the results
 - 3) Knowledge for strategic development
- Severity analysis, regional safety analysis, road class analysis are all applicable.
- The model can be adapted to cater for different levels of governance or administration (local or central).
- It enables unconstrained budget allocation of safety countermeasure.





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THANK YOU

Adaptive optimisation of road safety
strategic management

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