



TEMPUS



TECHNISCHE
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Network Safety Management

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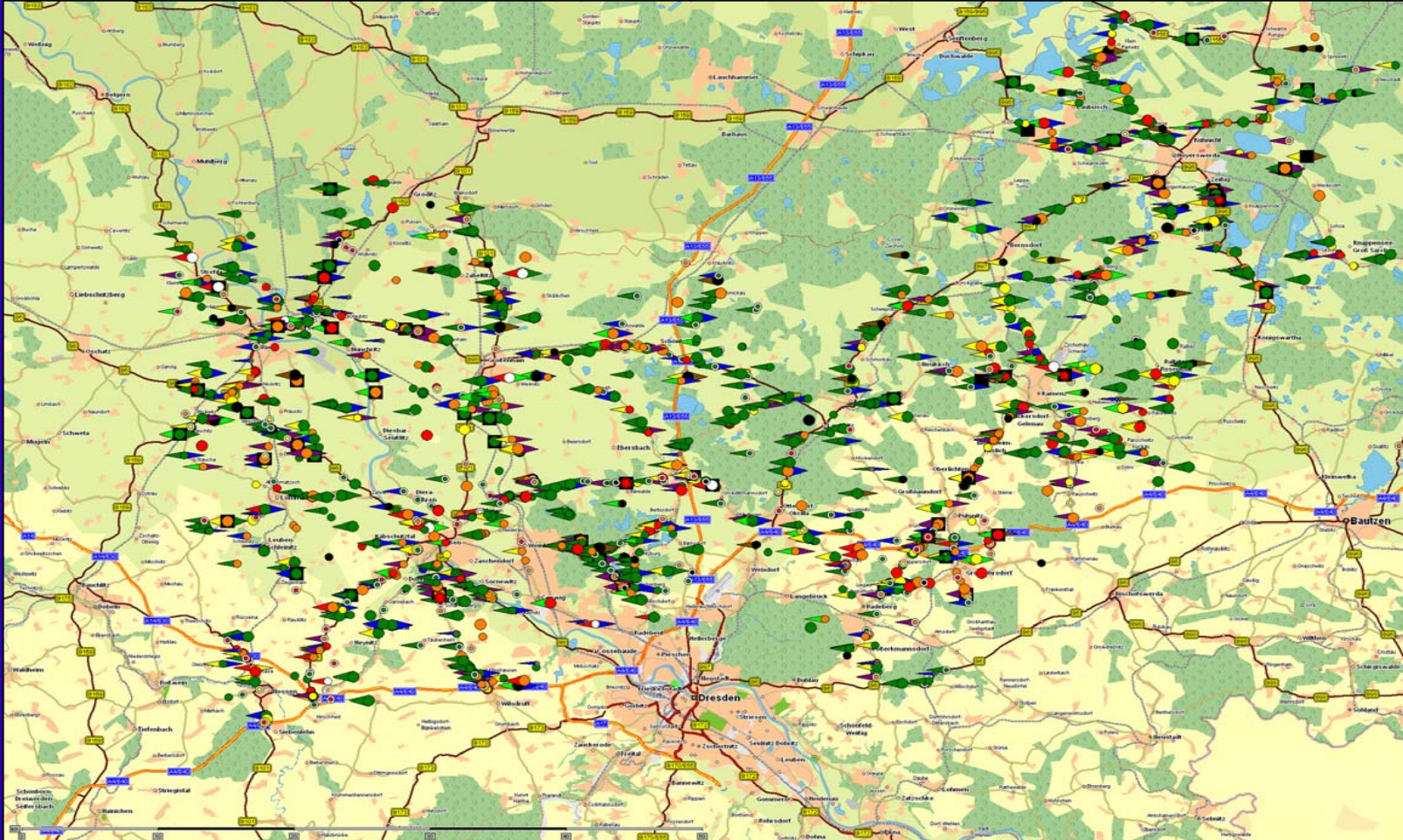
Content

- Background
- Road Network Data
- Safety Analysis of a Road Network
- Conclusion

Background

- 4949 fatalities in the year 2007
- More then 230.000 km road network
- Invest money only 30 Mrd. € for next 8 years
- Black spot management not valid for analysis of road network,
- Question: Which road must be reconstructed (repaired) with the best benefit in the field of road safety?

Road Network Data



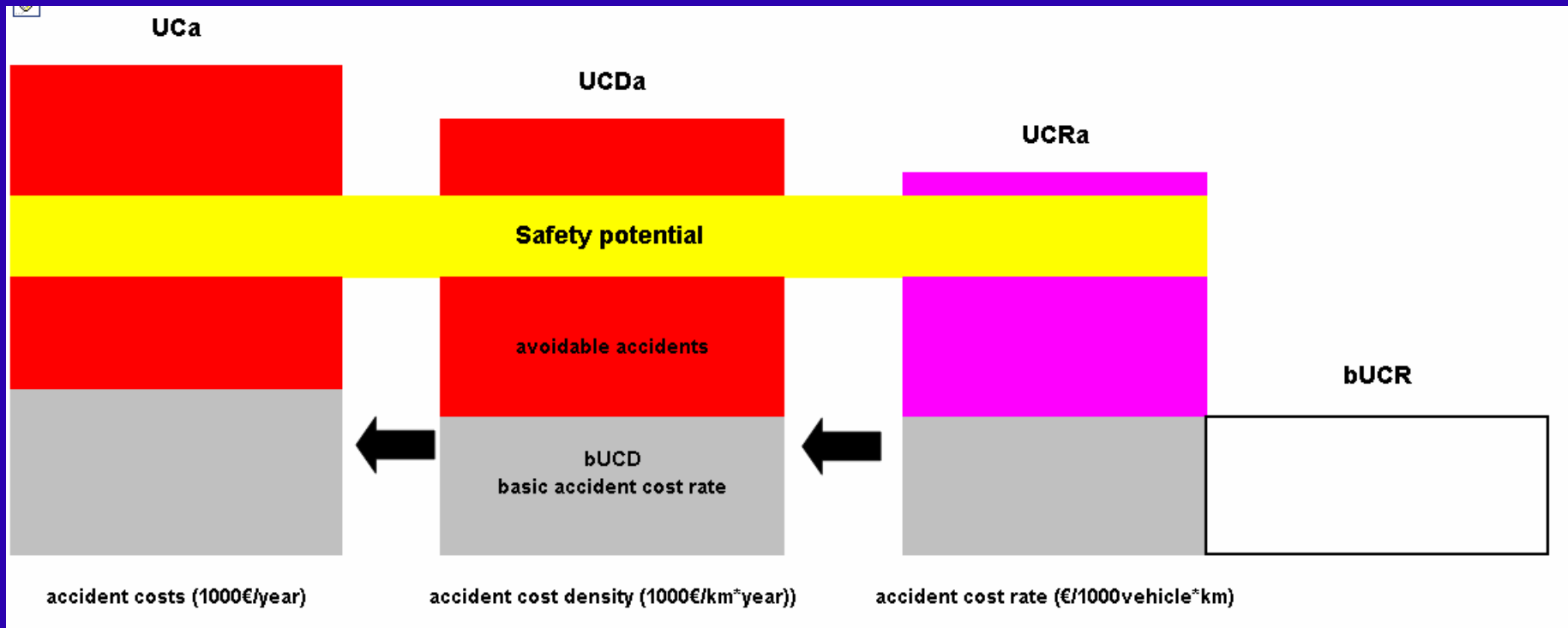
Road Network Data

- Geometric data
 - Elements and Parameters in vertical and horizontal alignment
 - Cross section (number of lanes, lane width)
- Additional data
 - Road marking, traffic signs, crash barriers
 - Traffic ADT (Average Daily Traffic)
 - Road Design (thickness of asphalt layers)

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Safety Potential



Safety potential = real accident rates/costs – basic accident rate/costs

Safety Analysis of a Road Network

GERMAN ROAD AND TRANSPORTATION RESEARCH ASSOCIATION
WORKING GROUP TRAFFIC ENGINEERING AND SAFETY

Guidelines for Safety Analysis of Road Networks ESN

Safety Analysis of a Road Network

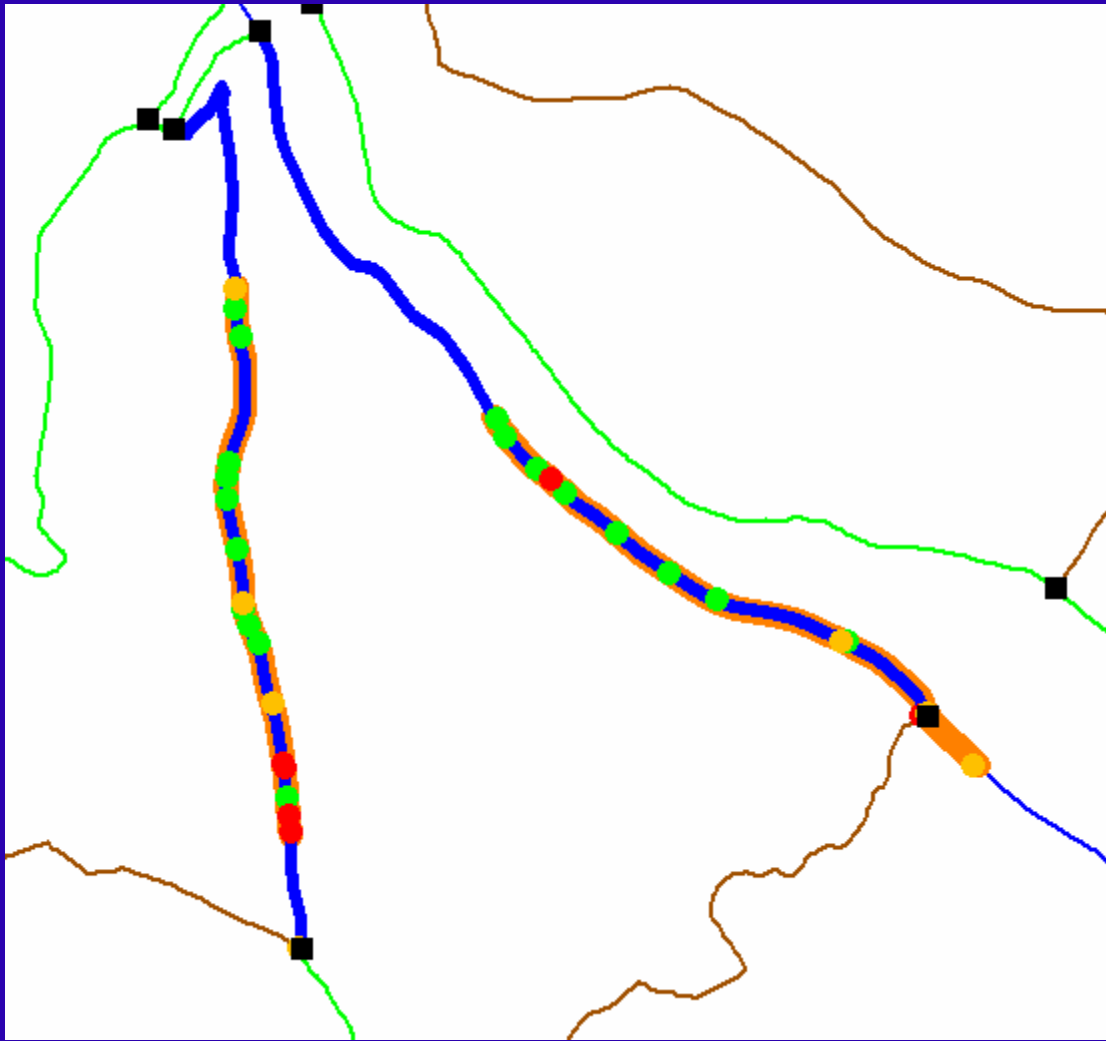
Test Area

- Urban Network (main roads – 300 km)
- Rural Network (500 km)

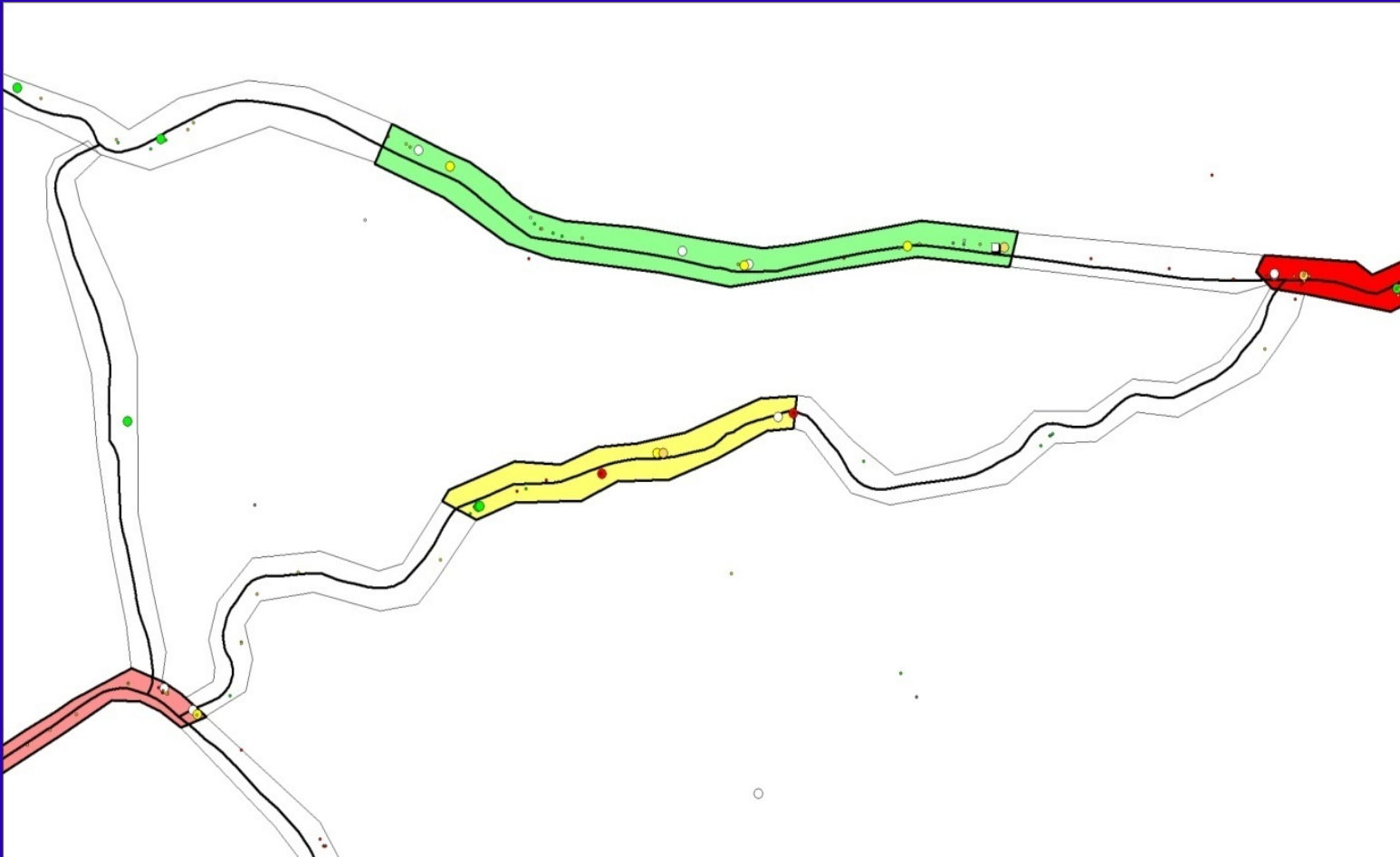
Section building

- Road Network topology
- Accident density

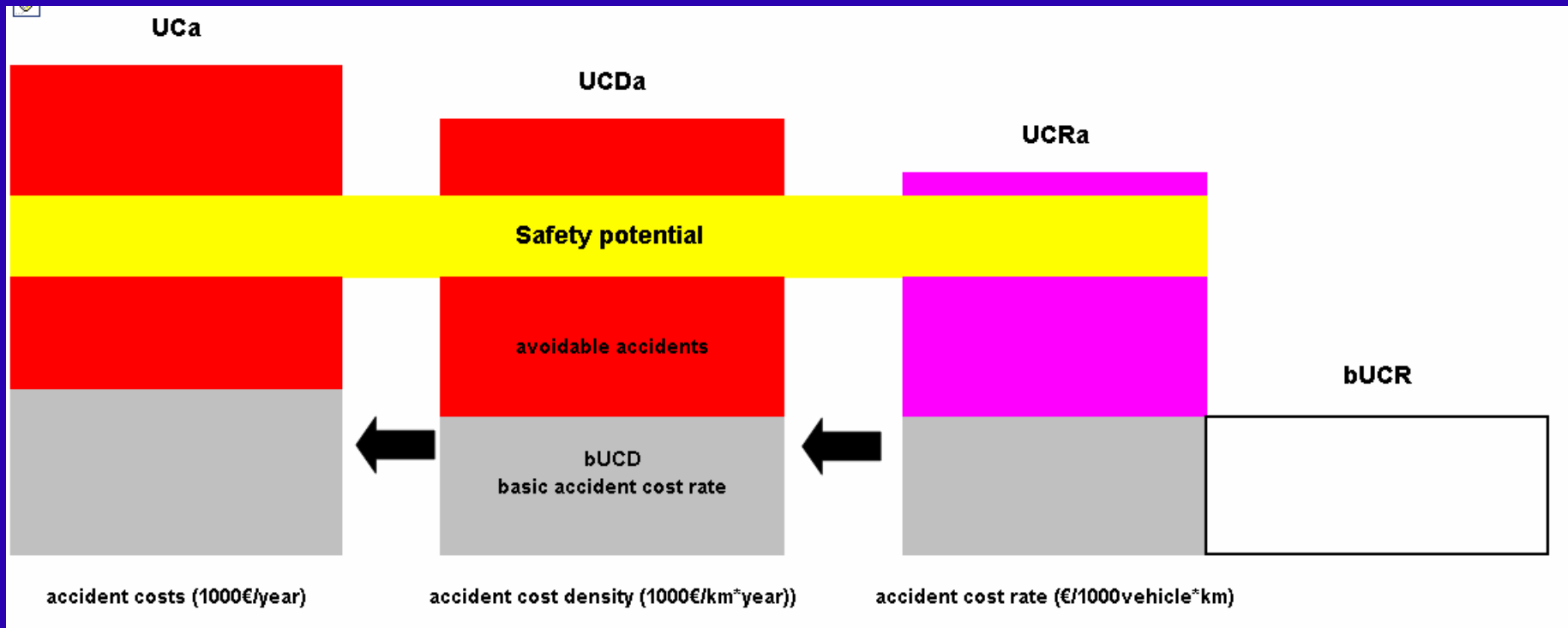
Safety Analysis of a Road Network



Safety Analysis of a Road Network

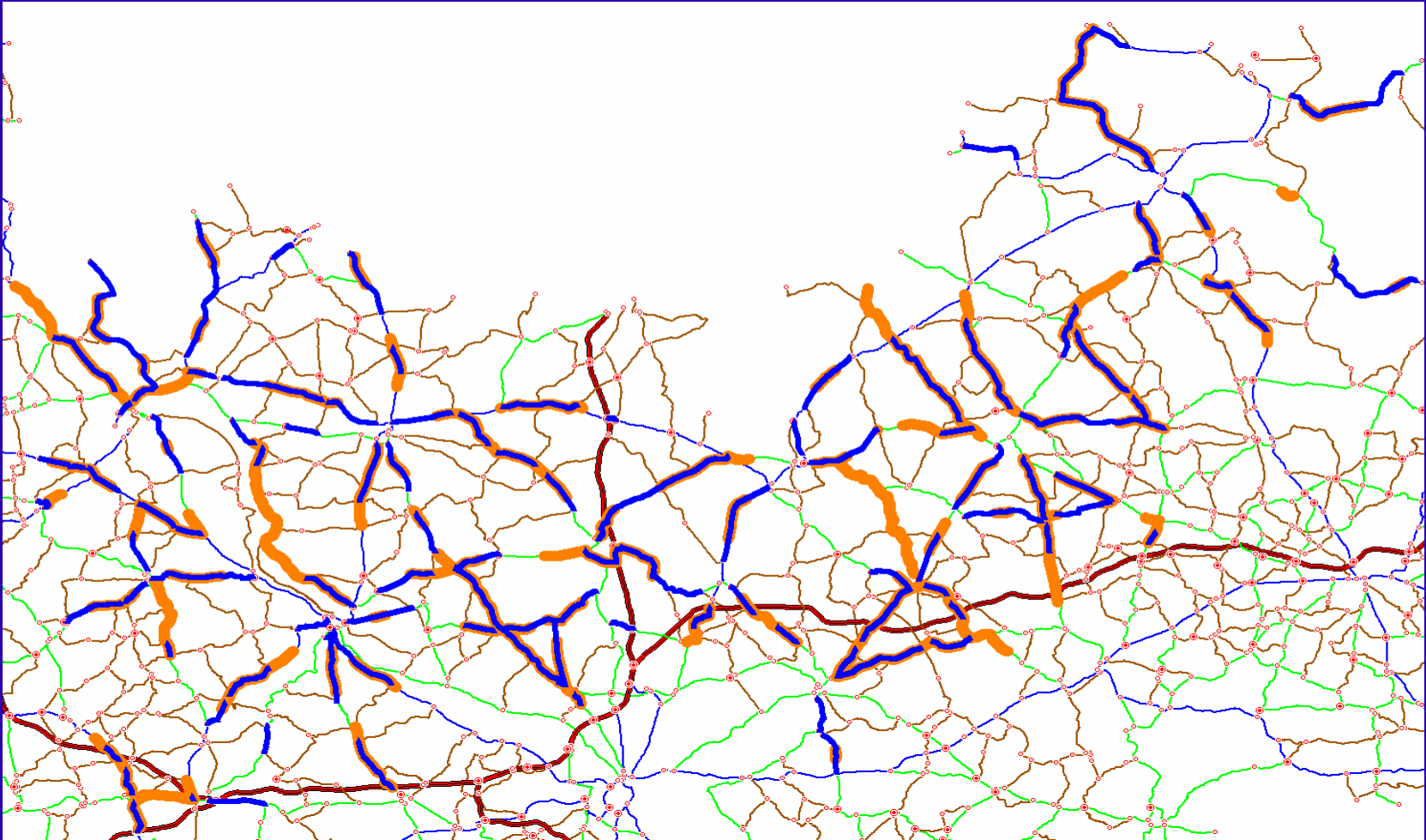


Safety Analysis of a Road Network

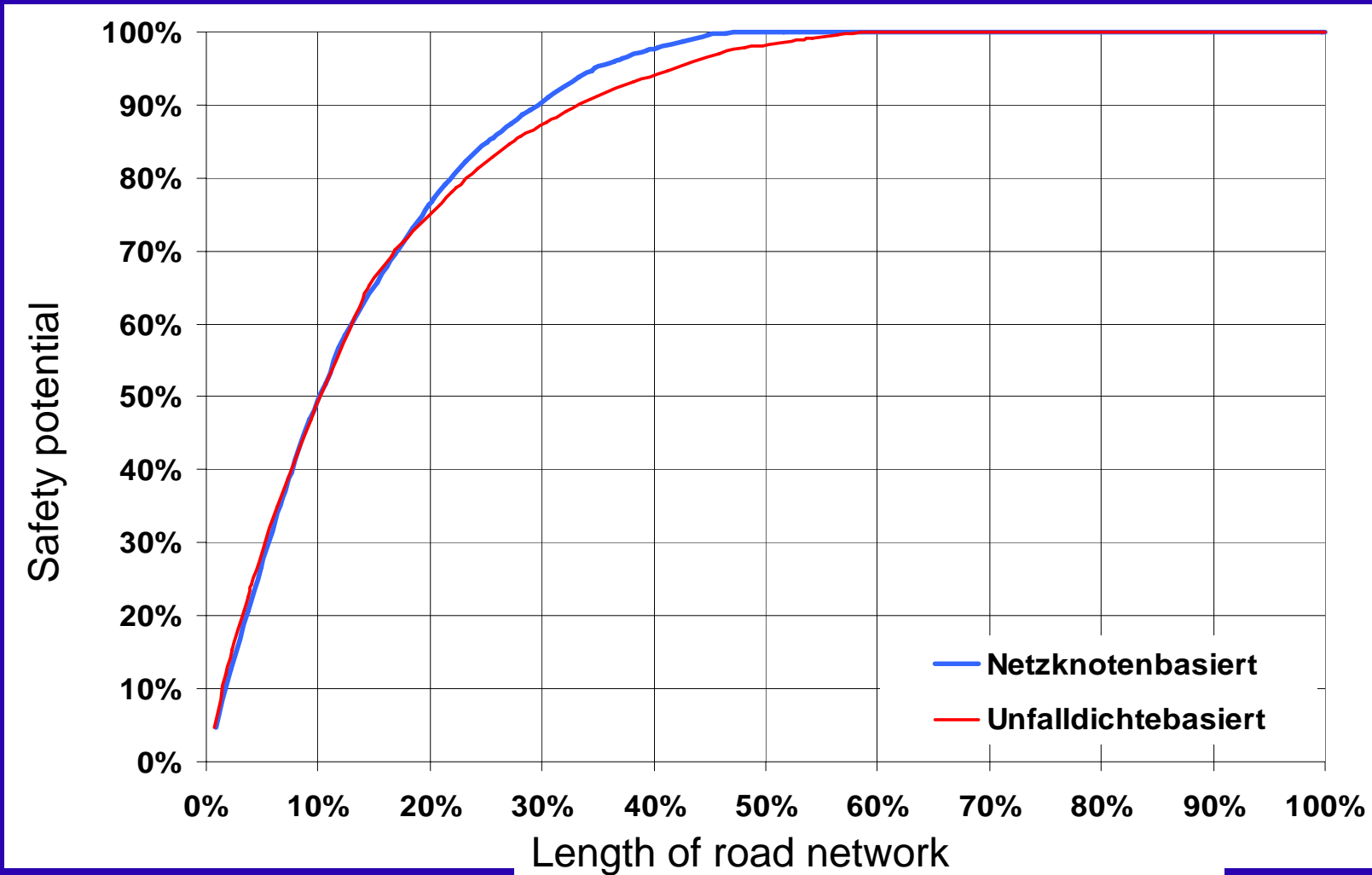


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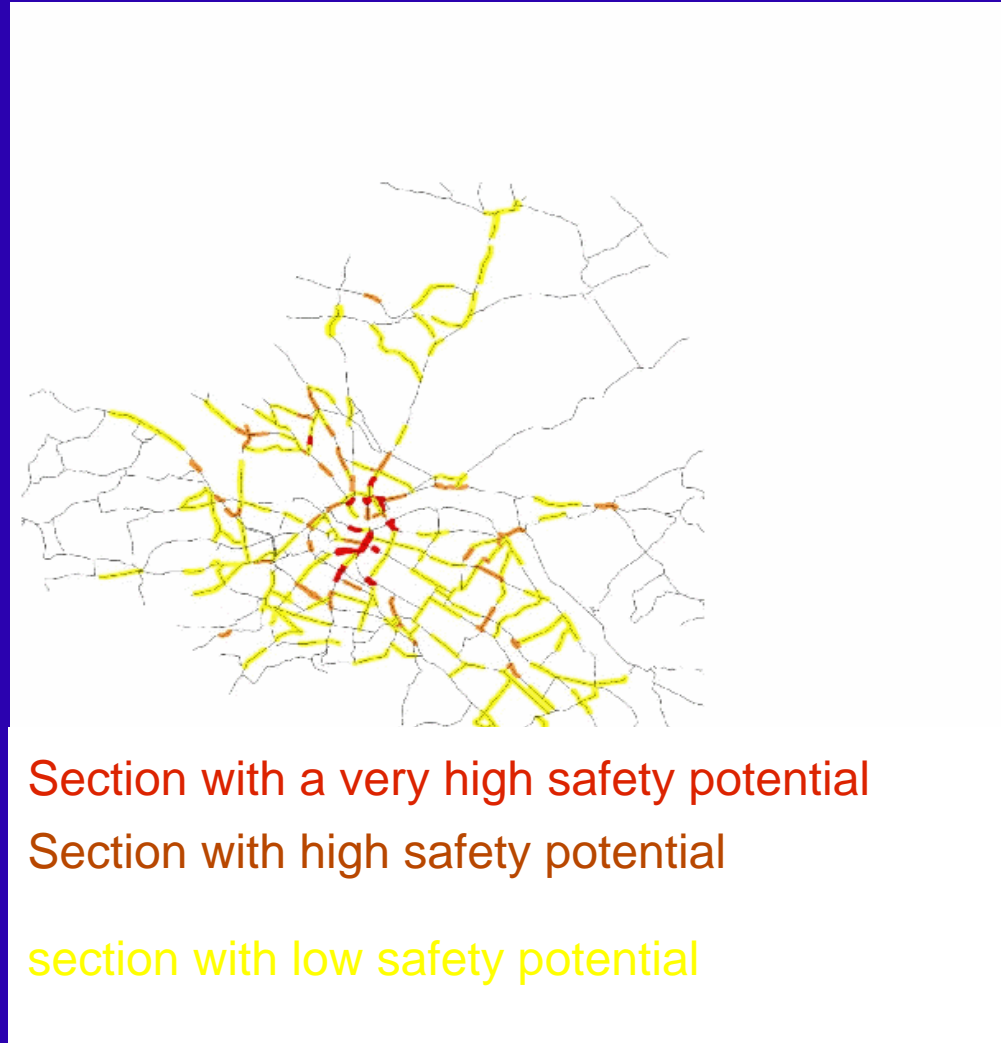
Safety Analysis of a Road Network



Safety Analysis of a Road Network



Safety Analysis of a Road Network



Section with a very high safety potential

Section with high safety potential

section with low safety potential



Conclusions

- Network safety Management is a common method to analyze road networks
- Accident data and ADT data must have a good quality
- Results be influenced by method of building sections