Exploiting Data for Road Safety Decision Making

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Initial Considerations

• Road Safety is a typical field with high risk of **important investments not bringing results**.

• Absence of **monitoring** and accountability limits seriously road safety performance.

• Decision making in road safety management is highly dependent on appropriate and **quality data**.

• Very often we look where the data are and **not where the problems** and solutions are.
Data needed for Road Safety Decision Support

Data to identify the problems
- Crash data
- Risk exposure and performance indicators

Data to identify the solutions
- data on measures implementation
- data on measures effectiveness

Macroscopic data
- for the whole population
- for a city, region, country, globally

Microscopic data
- driver, passenger pedestrian behaviour and performance
- junction, road segment, small area performance
- specific accident analysis data
Monitoring and Analysing Road Safety Performance

Monitoring ROAD SAFETY INTERVENTIONS

Analyses correlating Interventions with RSPI

Analyses correlating Interventions with Accidents (Crash Modification Factors)

Monitoring ROAD SAFETY PERFORMANCE INDICATORS (RSPI)

Analyses correlating RSPI with Accidents

Making widely available all Monitoring and Analysis Results

Analyses correlating Cost-benefit/effectiveness

Monitoring ROAD ACCIDENT AND CASUALTIES
Critical Data Properties

• Crash data are meaningful only if they are combined with **exposure data** (crash per km driven, per traffic characteristics, per time, etc.)

• Crash causalities are revealed when crashes are correlated with **safety performance indicators** (behaviour, infrastructure, traffic, vehicles)

• The **evaluation of safety measures** effectiveness provides valuable information, necessary for matching problems with solutions

• Analysis of **high resolution data** reveals hidden and critical crash properties
The Atlanta Exemplary Project

TSR Members together with the City of Atlanta brought together for the first time:

- very recent data
- high resolution data
- highly diversified data
- powerful data analytics tools

Important insight on North Avenue crash characteristics and causalities was delivered
Atlanta Project Leverage

- High added value from TSR Members **synergies** (data and analysis)
- Important new potential in collecting and analysing **high resolution** safety data
- More insight on the crash causalities will derive by working with **safety performance indicators**
- The next big step should be to link crash causalities with respective **measures**
- Automated procedures will increase the **transferability** of the process
TSR and Global Road Safety Data

• The global character of TSR is ideal for global data synergies

• Development of successful projects and transferable methodologies

• Bringing together big and global data allowing for:
  - reliable international comparisons
  - valuable exchange of experience
  - efficient monitoring of road safety performance

• Support road safety management at city, region, national and international level
Concluding Remarks

- **Digitalisation** opens great new data possibilities for evidence based road safety decision making at all levels.

- New potential for **data driven seamless procedures** from safety problems identification to selection and implementation of optimal solutions.

- New increased **net present value of road safety data**, available for early problem detection and prompt and customised decision support.

- TSR Members have a role to play in developing new efficient and **transferable methodologies**.
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