COST-329 Workshop on Models for Traffic and Safety Development and Interventions

DATA REQUIREMENTS IN RELATION TO CARE AND TIME SERIES ANALYSIS

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THE QUESTIONS

Do we have the data we need?
Do we need the data we have?

Road accident analysis at international level
Cross-country comparisons
Exchange of experience
USEFULNESS & AVAILABILITY OF DATA

<table>
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<tr>
<th>Available data</th>
<th>Not available data</th>
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<tbody>
<tr>
<td>Usefull data</td>
<td>Not usefull data</td>
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<tr>
<td>Available data</td>
<td>Not available data</td>
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METHODOLOGY

COST 329 Surveys
accident analysis priorities and necessities
data availability and usefulness

Experience from the development of international data files
the CARE database and the CAREPLUS project
other data files (IRTAD, ECMT, UN, EUROSTAT, IRF)

Experience of COST-329 experts
analyses at national level
international research
PRIORITIES AND NECESSITIES FOR TIME SERIES ANALYSIS

- multiple aims: monitoring and prognosis of traffic safety, international comparisons
- basic criterion: fatalities
- type of variables: number of casualties, number of accidents
- disaggregation: by country
- types of model types: the descriptive/prognostic, causal
- time basis: yearly or monthly
- time horizon for prognosis: 1-3 years or 4-10 years
- basic additional variables: exposure (veh-kms)
ABOUT ROAD ACCIDENT DATA

- Data concerning accident variables are in general available and sufficiently disaggregate for model-based road accident analysis.

- Data availability is in general daily and the average starting year is in the early seventies.

- Basic data quality problems refer to definitions (killed 30-days, hospitalised) and under-reporting.

- Usefulness of accident variables is in general acceptable.
ABOUT EXPOSURE (TRAFFIC) DATA

- A combination of periodical and extraordinary traffic counts and surveys is used for the estimation of the number of vehicle-kilometers (and passenger-kilometers) and their characteristics (by road and vehicle type and by road user type).

- The basic data insufficiencies comprise
  - poor availability
  - poor reliability
  - incomparability
  - inappropriate disaggregation
ABOUT ADDITIONAL DATA

- additional exposure data
  vehicle fleet by type and age, population by age and sex, road network length by type, fuel sales, drivers, etc.

- weather conditions
  temperature, rain, sunshine, snow/ice

- economic factors’ data
  fuel and consumer price index, wage index, GNP/GDP, unemployment, alcohol consumption per capita, road construction and maintenance budget, road safety budget, etc.

- safety factors’ data
  drinking and driving, seat belt and helmet use by road user type, average speed by road type, etc.
DEALING WITH LACK OF EXPOSURE DATA

- Absolute numbers and trends
  (limited use)

- Severity Indices
  (nr. of persons killed per 100 persons injured, etc.)

- Induced exposure
  (the driver of the 2nd vehicle is presumed not responsible)

- Percentages related to accident type
  (accident and manoeuvre type)
CONCLUSION

• Today, model-based road accident analysis at European level has a great potential
  - priorities and necessities are well defined and converging
  - a lot of useful data variables are available

• The more the data are useful, the more difficult is to find them

• Further work and research should focus on data compatibility and availability, especially for traffic data (pan-european data collections systems and surveys)