GUIDELINES FOR CONDUCTING ROAD SAFETY DATA REVIEWS

7th IRTAD Conference
Lyon - September 27th-28th, 2022

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Help of Heike Martensen
Overview

- **Background**
  - Challenge
  - Objectives
- **Road Safety Data**
  - Importance
  - Crash Data
  - Other Data
- **The review**
  - Reviewer reference
  - Preparation
  - Stakeholders to meet
  - Interview
  - Reporting
Background and objectives
Data challenge

• Varying degrees of under-reporting, completeness and lack of meaningful analysis for road safety interventions

• Lack of standardization and integration of multiple datasets, definitions, and collection methods

• Needs
  • streamlining of processes,
  • leveraging technology,
  • bridging gaps in capacity and resources,
  • addressing barriers in notification of fatalities and injuries

• Road safety indicators are not used (e.g. speed, drink-driving, safety equipment)

GLOBAL TOTALS:

<table>
<thead>
<tr>
<th>Number of countries</th>
<th>Total population (000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>175</td>
<td>7296943</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total reported deaths</th>
<th>Total WHO estimation</th>
</tr>
</thead>
<tbody>
<tr>
<td>629365</td>
<td>1323666</td>
</tr>
</tbody>
</table>

Guidelines for conducting Road Safety Data Reviews
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Objectives

• Support review teams in the assessment of road safety data collection (“detective work”)
• Harmonize assessments
• Identify needed preparations (stakeholders to consult, activities, documents to review)
• Identify international standards
• Self-evaluation tool for observatories

Scope

• Whole data collection process (crash investigations, reporting and registration, checking completeness and consistency, storage, analysis, use, and accessibility)
• Primary focus is crash data although other types of road safety data are considered
Road Safety Data
Road Safety Data: they are essential

• To prioritize road safety among other public health issues
• To assess the full nature of the road safety problem (who is at risk? When? Why?)
• To assess the real economic costs associated with road crashes
• To receive the right level of investment, and then avoid under-reporting
• To design the most (cost) effective road safety interventions
• To monitor progress and adjust work plan
• To develop and implement a systematic approach to road safety
Road Safety Data:  
highly linked with Road Safety Management

Costs:  
Medical costs, material and intervention costs, productivity losses, traffic jams (lost time), loss of life/quality of life

Outcome indicators:  
Crashes, injuries, deaths (combined with exposure data)

Safety performance indicators:  
Speed, alcohol, restraints, helmets, road infrastructure, vehicle safety, trauma

Process/implementation indicators:  
Road safety policies, plans, programs

Results

Social cost
Final outcomes
Intermediate outcomes
Outputs

Road Network

Planning, design, operation and use
Entry and exit of vehicles and drivers
Recovery and rehabilitation of crash victims

Interventions

Institutional Management Functions

Results Focus

Coordination
Legislation
Funding and resource allocation
Promotion
Monitoring and evaluation
R&D and knowledge transfer

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Crash and Casualty Data

- Should provide full picture of road risk, fatal and serious injury most important
- Completeness and notification
- Uniformity of definitions and collection
- Crash location
- Registration, transmission, and sharing
- Data storage
- Data querying, visualization, and analysis
- Leveraging other datasets, augmenting data

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Mobility Data: Measure of Exposure to Risk

\[ Risk = \frac{Stake\text{(eg: number of crashes, casualties)}}{Measure\text{ of Exposure (eg: population, km travelled, road length)}} \]

- Modal share importance
- Travel distances as a gold standard
  - Ideal: surveys
  - Alternative: traffic counts
- Surrogate: Fuel Consumption, Road Length, Vehicle Fleet, Driver Population, etc.
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Safety Performance Indicators

**WHO: a set of 12 performance targets**

1. **Target 1:** By 2030, all countries establish a comprehensive, multi-sectoral national road safety action plan with time-bound targets.

2. **Target 2:** By 2030, all countries adhere to one or more of the core road safety-related UN legal instruments.

3. **Target 3:** By 2030, all roads implement technical standards for all road users that take into account road safety, or meet a three-star rating or better.

4. **Target 4:** By 2030, more than 75% of travel on existing roads that meet technical standards for all road users that take into account road safety.

5. **Target 5:** By 2030, 100% of new (defined as produced, sold or imported) and used vehicles meet high quality safety standards, such as the recommended priority UN Regulations, Global Technical Regulations, or equivalent recognized national performance requirements.

6. **Target 6:** By 2030, halve the proportion of vehicles traveling over the posted speed limit and achieve a reduction in speed-related injuries and fatalities.

7. **Target 7:** By 2030, increase the proportion of motorcycle riders correctly using standard helmets to close to 100%.

8. **Target 8:** By 2030, increase the proportion of motor vehicle occupants using safety belts or standard child restraint systems to close to 100%.

9. **Target 9:** By 2030, halve the number of road traffic injuries and fatalities related to drivers using alcohol, and/or achieve a reduction in these related to other psychoactive substances.

10. **Target 10:** By 2030, all countries have national laws to restrict or prohibit the use of mobile phones while driving.

11. **Target 11:** By 2030, all countries to enact regulatory measures for driving time and rest periods for professional drivers, and/or achieve a reduction in international/regional regulation to this area.

12. **Target 12:** By 2030, all countries establish and achieve national targets in order to minimize the time interval between road traffic crash and the provision of first professional emergency care.
## Other Data

### Road Safety Interventions

<table>
<thead>
<tr>
<th>Category</th>
<th>Data Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety engineering</td>
<td>• Road sections with improved iRAP star rating</td>
</tr>
<tr>
<td></td>
<td>• Number of intersections improved</td>
</tr>
<tr>
<td></td>
<td>• Number of speed cameras operational</td>
</tr>
<tr>
<td></td>
<td>• Length of road with section control for speeding</td>
</tr>
<tr>
<td>Enforcement</td>
<td>• Number of tickets delivered</td>
</tr>
<tr>
<td></td>
<td>• Number of drivers checked</td>
</tr>
<tr>
<td></td>
<td>• Hours spent on checks</td>
</tr>
<tr>
<td>Education</td>
<td>• Number of downloads for educational material</td>
</tr>
<tr>
<td></td>
<td>• Number of children taught a course</td>
</tr>
<tr>
<td>Promotional activities</td>
<td>• Number of clicks on promotional video</td>
</tr>
<tr>
<td></td>
<td>• Minutes of air time for a spot</td>
</tr>
<tr>
<td>Driver training</td>
<td>• Driving lessons taken by students</td>
</tr>
<tr>
<td></td>
<td>• Exams attempted/ exams passed</td>
</tr>
<tr>
<td>Vehicle testing</td>
<td>• Vehicles checked</td>
</tr>
<tr>
<td></td>
<td>• Vehicles admitted after improvements</td>
</tr>
<tr>
<td>Emergency medical services</td>
<td>• Crash scenes attended</td>
</tr>
<tr>
<td></td>
<td>• Average time to arrive at scene</td>
</tr>
</tbody>
</table>

## Regional Road Safety Observatories: Reports and Outputs

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The review
Reviewer: Situation Assessment Process

• Situate each aspect of road safety data system in the diagram and adapt recommendations accordingly
• Therefore, the review can serve several purposes:
  • From initiating a good starting point of a system in the making,
  • ...to improving an already existing system
Preparing: a key cooperation step

By the Host Team

- Table of relevant road safety data
- Documentation
- Key partners in data collection, analysis, use
- Relevant outputs: reports, maps, analysis
- Registration form
- Definitions of crach data
- Description of database(s)
- Actual crash data
- Visit preparation: meetings, appointments

By the Review Team

- Determine scope and objectives of the review
- Request relevant data and documentation from the host country
- Organize meetings ahead of the visit
- Identify stakeholders and government organization structure
- Undertake a literature review of published studies and reports
- Review existing documentation, forms, and reports
- Inspect crash data
- Assess SPIs and mobility data
- Develop a preliminary assessment and insight
- Prepare interview questions and presentations
Meeting Stakeholders

- Ministries and Government Departments
- Police
- Hospitals
- Statistics Office
- Coroners
- Insurance Companies
- Road Safety Advocacy Groups and Journalists
- Research and Academia
Interviewing

• Topics to address
  • Organization of data collection (crash and others)
  • Resources: quality and capacity
  • Data storage, integration and quality control
  • Data use
• How?
  • Trace the whole data chain
  • Look for tangible evidence
  • Check for consistency
Reporting

- Context, key stakeholders
- Safety Data Evaluation
  - Collection, storage
  - Completeness
  - Quality
  - Links with other data
  - Uses
- Recommendations
  - Organization of data collection
  - Methods, training, communication
  - Use of existing road safety data
  - Additional data to collect
Versions

English and French versions available
Spanish version to come

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Thank you for your attention!