GUIDELINES FOR CONDUCTING ROAD SAFETY DATA REVIEWS
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Data Challenge

• Varying degrees of underreporting, completeness and lack of meaningful analysis for road safety interventions

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

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

• Road safety indicators are not used (e.g. speed, drink-driving, safety equipment)
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
Reliable safety and traffic data are essential to:

• Prioritize road safety vis a vis other public health issues

• Assess the full nature of the road safety problem (who is at risk? When? Why?)

• Assess the real economic costs associated with road crashes

• If the problem is underreported, less likely to receive the right level of investment

• Design the most (cost) effective road safety interventions

• Monitor progress and adjust work plan

• Develop and implement a systematic approach to road safety
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
# Safety Performance Indicators

<table>
<thead>
<tr>
<th>Target</th>
<th>Safety Performance Indicator</th>
<th>Collection Methods</th>
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<tbody>
<tr>
<td>1. 2020</td>
<td>Free-flow average speeds and disaggregated by vehicle type, road type, and time-of-day</td>
<td>Observational studies or spot surveys</td>
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<tr>
<td>2. 2030</td>
<td>85th percentile speeds disaggregated by vehicle type, road type, and time-of-day</td>
<td>Observational studies or spot surveys</td>
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<tr>
<td>3. 2030</td>
<td>Percentage of vehicles exceeding the speed limit</td>
<td>Spot surveys, enforcement data</td>
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<tr>
<td>4. 2030</td>
<td>Halve the proportion of vehicles exceeding the posted speed limit</td>
<td>Observational studies or spot surveys</td>
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<td>5. 2030</td>
<td>Halve injuries and fatalities related to drink-driving</td>
<td>Crash data</td>
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<tr>
<td>6. 2030</td>
<td>Increase seat belt and child restraints usage to close to 100%</td>
<td>Observational studies or spot surveys</td>
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<tr>
<td>7. 2030</td>
<td>Increase motorcycle riders correctly using helmets to close to 100%</td>
<td>Observational studies or spot surveys</td>
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<tr>
<td>8. 2030</td>
<td>New roads should have at least 3-star iRAP rating</td>
<td>iRAP data</td>
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<tr>
<td>9. 2030</td>
<td>More than 75% of travel on existing roads is on roads that meet a three-star safety rating or better</td>
<td>iRAP data</td>
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<tr>
<td>10. 2030</td>
<td>100% of new and used roads meet high quality standards such as the UN vehicle safety standards</td>
<td>Vehicle registration and inspection data</td>
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</table>

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**Target 1:** By 2020, all countries establish a comprehensive multi-annual national road safety action plan with time-bound targets.

**Target 2:** By 2020, all countries accede to one or more of the core road safety-related UN legal instruments.

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

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

**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.

**Target 6:** By 2030, increase the proportion of motorcycle riders correctly using helmet systems to close to 100%.

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

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

**Target 9:** By 2030, halve the proportion of vehicles exceeding the posted speed limit and achieve a reduction in speed-related injuries and fatalities.

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

**Target 11:** By 2030, all countries have national laws to restrict or prohibit the use of mobile phones while driving.

**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

- Mobility Data
- Road Safety Interventions

Safety engineering
- Road sections with improved iRAP star rating
- Number of intersections improved
- Number of speed camera operational
- Length of road with section control for speeding

Enforcement
- Number of tickets delivered
- Number of drivers checked
- Hours spent on check

Education
- Number of downloads for educational material
- Number of children taught a course

Promotional activities
- Number of clicks on promotional video
- Minutes of air time for a spot

Driver training
- Driving lessons taken by students
- Exams attempted/exams passed

Vehicle testing
- Vehicles checked
- Vehicles admitted after improvements

Emergency medical services
- Crash scenes attended
- Average time to arrive at scene
Preparation

- Preparations
  - List of available data
  - Crash registration protocol (CADAS)
  - Online GIS database

- Stakeholders
  - RTSA road traffic safety agency
  - Police
  - Hospitals
  - (AMSS – Motor Vehicles Center)
### Review Serbia

- **Preparations**
- **List of available data**
- **Crash registration protocol (CADAS)**
- **Online GIS database**

### Stakeholders

- RTSA road traffic safety agency
- Police
- Hospitals
- (AMSS – Motor Vehicles Center)

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<th>Pedestrian</th>
<th>Bicycle</th>
<th>Moped</th>
<th>Motorcycle</th>
<th>Passenger</th>
<th>Bus</th>
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Review Serbia

- Police
  - Head of traffic police
  - Belgrado office
    - Head
    - Officers (data entry)
  - Pančevo office
- Hospital
  - Receptionists
  - Doctors
  - Police stationed at hospital
Review Serbia: input database

- Police (via RTSA)
  - Crashes & casualties
- RTSA
  - SPI – road users behavior
  - Social attitudes
  - Road safety casualties risks
  - Negligent drivers – with confiscated driver licenses
  - Set of data on: lecturers, examiners, instructors, professional drivers – CPC
  - Tachograph workshops
  - Technicians in tachograph workshops
  - The Number of licensees of technicians in tachograph workshop by municipalities
  - Local road safety bodies

Ministry of Interior
- Traffic fines
- Motor vehicle drivers
- Registered motor vehicles
- Driving training centers
- Stations for technical inspections

State Road Agency
- Set of data on AADT by sections
- Locations of traffic counters
- Traffic signs data set
- Set of data on “Black spots”
- Bridges
- Tunnels
- Landslides
- ITS devices
- International E roads
Other Stakeholders

- State Road Agency
- Ministry of Interior
- Statistics Office
- Coroners
- Insurance Companies
- Road Safety Advocacy Groups and Journalists
Interviews

- What?
  - Organisation of data collection
  - Resources
  - Data storage and accessibility
  - Data use

- How?
  - Trace the whole chain
  - Look for tangible evidence
  - Check for consistency
Reporting

- Evaluation
  - Completeness
  - Quality
  - Uniformity

- Recommendations
  - Organization of data collection
  - Use of road safety data
  - Additional data to collect
Reporting -- Serbia

- Evaluation
  - Completeness
  - Quality
  - Uniformity

- Recommendations
  - Organization of data collection
  - Use of road safety data
  - Additional data to collect

- Evaluation
  - Strong police
    - Head of police dedicated to road safety
  - Comfortable funding
  - Modern data system
  - Good training
  - Strong compliance in crash reporting
    - No underreporting could be detected
    - Overreporting of slight injuries (in Belgrad)
  - Good system for SPI data collection
  - Good use of data

- Recommendations
  - Linking to hospital data
  - Collect Exposure data
  - Seat belt use – documentation in crashes
THANK YOU!

http://roadsafetyfacility.org

https://openknowledge.worldbank.org/handle/10986/36835