Forum International des Transports

International Traffic Safety Data and Analysis Group

WORKSHOP ON SAFETY INDICATORS FOR CITIES
18 APRIL 2012

Opportunities for the development of safety indicators for cities

Peter Hollo, Luca Persia, Sylvain Lassarre, George Yannis, Andrew Pearce, Vojtech Eksler and Véronique Feypell

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Objectives

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- Identify existing work on benchmarking safety for cities
- Identify the opportunities to create an IRTAD network and IRTAD database for the cities (or to expand the existing network of the cities)
- Discuss relevant safety indicators for urban areas
- Identify options to develop the concept of IRTAD for the cities.
- Assess the resources required

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The IRTAD Group

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- IRTAD is an international group of road safety experts and statisticians, operated by the Transport Research Centre of the International Transport Forum at the OECD.
- Its members include research institutes, transport ministries, the industry, NGOs, etc. It is open to all countries.
- IRTAD currently includes about 62 members from 32 countries. The World Bank, the FIA Foundation, the Association of European Car Manufacturers, etc. are also members. http://www.internationaltransportforum.org/irtad/members.html.
- The IRTAD Group is a forum for exchange of knowledge on safety trends, recent safety measures, data collection and analysis methodologies.

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The IRTAD Database

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- The IRTAD database is an aggregated safety database, containing around 500 variables, including:
  - Crash/casualty data: fatalities, injured, hospitalised, by road users, road type, age group
  - Exposure data, including vehicle fleet, population, yearly number of vehicle kilometres (annual kilometrage), modal split
  - Other performance indicators, safety data, including seatbelt wearing rate

- It is considered by the research community as a very valuable tool because of the quality of its data

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Enlargement of IRTAD

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- IRTAD has the ambition to be the world reference for safety data, and to progressively include data from more countries, while maintaining quality as the top priority.
- In 2009, IRTAD launched twinning programmes with low- and middle-income countries to assist in the setting up and maintenance of crash data system so that, in turn, they might join the IRTAD Group.
- A Latin American Network of national road safety observatories is currently being considered; and could benefit from the IRTAD structure and model.

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Initiatives from cities

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Global Road Safety Partnership

Implementation of a city based approach to improving road safety outcomes in low and middle income countries and the possibilities it raises for data sharing and benchmarking.

Observatory on Urban Mobility in Latin American Cities

This inititiave was launched launached by the Development Bank of Latin America (CAF). This Observatory is currently focusses on urban policies, but there is discussion in including a road safety dimension.

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Past work on safety benchmarking in urban areas

Quite a few comparative studies on the transportation situations and policies among megacities. A lot of information and data about mobility and transportation network is available.

- European Transport Safety Council (2009)
- SUNflowerNext (2007 -2008)
- POLIS
- Others

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Relevant safety indicators and exposure data for urban areas

- Urban areas are characterised by a low travelling speed, by distinct speed distribution and a large number of potential conflicts between different road users. As a result, an accident occurrence is more likely, although the crash outcomes are less serious than accidents occurring outside urban areas.
- It is however not possible to strictly distinguish the two types of settlement. Some semi-urban settlement structures, such as inner-suburbs, tend to show the worst safety records and minor improvements in time.
- The delimitation of the city as such would therefore have a significant influence on road safety outcomes.

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Defining a city

- The city is delimited by its administrative borders, which also specify which roads and sections should be considered as roads belonging to the city. The administrative boundary of the city is therefore a factor to be considered for any analysis.

- As regards large agglomerations, it could be recommended to focus on the compact core of the urban areas (e.g. Inner Paris).

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Relevant indicators to assess safety performance in a city

- Killed and seriously injured (KSI) is a better indicator for a city than fatalities and serious injuries taken separately, since the number of fatalities could be very low from statistical point of view, and thus inappropriate for regular analysis.

- Road mortality is the preferred risk indicator when measuring the safety performance in urban areas. Standardised road mortality (by age and sex) of victims is an even better indicator, since the demographic profile of cities varies from one to another.

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Relevant exposure data

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- If road mortality as a measure of road safety should be further standardised, the following factors could be considered:
  - population density,
  - motorisation,
  - settlement structure …
  - speed
  - number of vehicles

- Identifying relevant exposure data is difficult , due to the lack of reliable traffic data (such as vehicle –kilometres).

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Synthesis

Benchmarking of the safety performance of cities remains a difficult task, due a number of factors:

- The cities compared should be at least of similar size in terms of area covered and number of inhabitants.
- They should have a comparable modal-split (largely influenced by the motorisation rate, average income, demography and the road network composition).
- The city boundaries should not go beyond zones which have speed limits above 50 km/h (except grade separated distribution roads with higher limits).

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Data to be collected

- **Crash / casualty data: Fatalities, seriously injured, slightly injured**

  By road user type, By age, By gender

- **Exposure data :**

  Population, Area, Registered vehicles, Yearly number of vehicle kilometres, Speed (average, 85%, distribution, etc.)

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Safety database for cities

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Two options are possible:

- Integrating safety data of megacities in the existing database
- A separate database for the cities and possibly with different indicators

Special attention should be paid to methodological tool for safety data analysis.

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Network of experts at city level

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- Creation of a sub-group of IRTAD Members: Experts representing cities will join the IRTAD Group and may hold a morning or afternoon dedicated session during the IRTAD meetings

  Or

- Creation of a parallel network?

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Selection of cities – Size of the network

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What is manageable?

Which cities should be targeted?

- Capitals of all IRTAD countries?
- Cities from IRTAD countries above a certain number of inhabitants?
- Big cities of emerging economies, as a first step before engaging the whole country in IRTAD?
- All “voluntary” cities who wish to participate?

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Resources required

Based on the options chosen, costs need to be assessed. These may include:

- Database (part):
  - Upfront development costs
  - Maintaining / updating database

- Secretariat resources

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Funding

In the beginning, it can be assumed that the network and database would be managed by the existing Secretariat. However, depending on how the project evolves, additional resources, in terms of staff, may be required.

An annual subscription comparable to IRTAD members (4 100 Euros / year) would cover the maintenance costs, but probably not the upfront costs.

Comment from GRSP: The relatively modest costs of setting up an "IRTAD for Cities" could be an attractive investment possibility for the European Union or other development agencies.

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Next steps

- Organise a special Workshop / working group meeting in conjunction with the Spring 2012 IRTAD meeting, with representatives from cities; in order to :
    1. Discuss cities interest and expectations from such a network
    2. Relevant safety indicators at urban level
    3. Availability of data
- Subject to strong interest of cities, collecting data for at least ten IRTAD capitals in 2012-13 (including historical data)

Investigation of the possibilities for creation of a funding proposal to implement “IRTAD for cities” from interested partners to the EU and/or other agencies.

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