Association mondiale de la Route

AIPCR VIA VITA PIARC

World Road Association

NECESSITY OF ACCIDENT DATA FOR ROAD SAFETY IMPROVEMENTS

JOSEF MIKULIK
CDV - Transport research centre

ROAD SAFETY SEMINAR
Lome, Togo
October 2006

Contents:

Why data are needed?

- to know the scope of the problem
- to evoke a public awareness
- to discover causes of crashes
- to explore ways to prevent crashes
- to develop measures to reduce severity of crashes

1. Accident Data – Source of Crucial Information

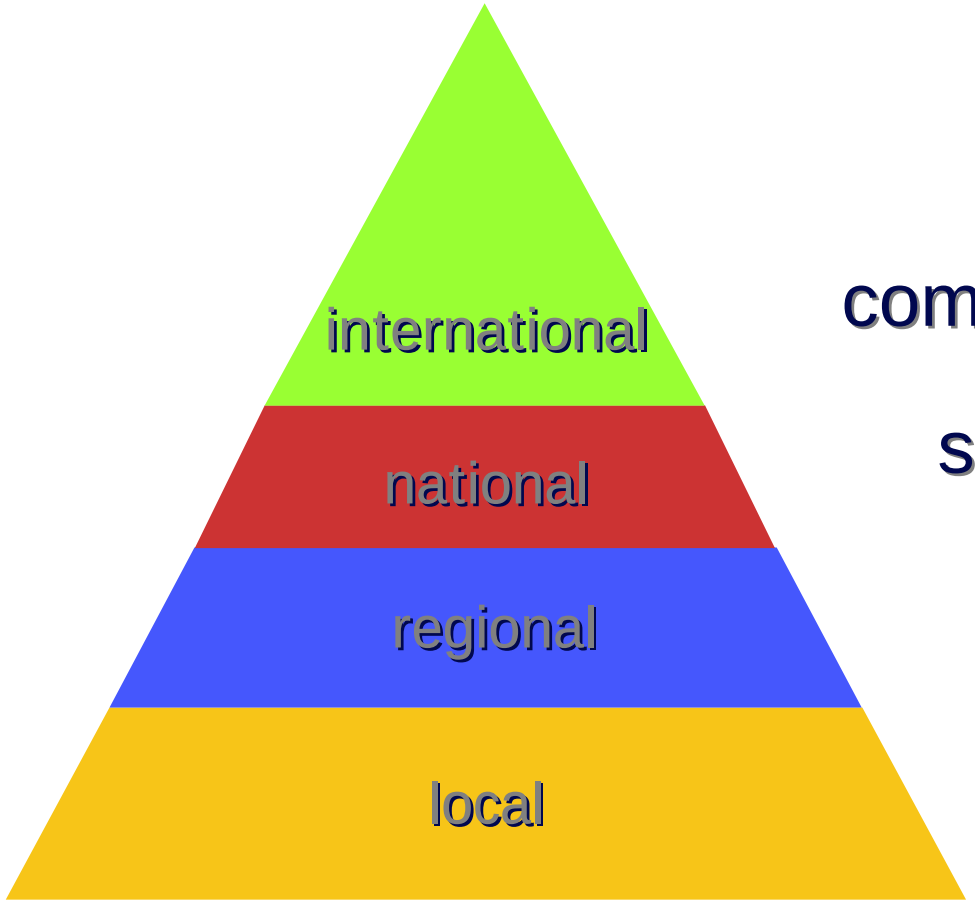
Who needs the data?

- citizens
- politicians
- decision makers
- responsible bodies
- professionals
- researchers

1. Accident Data – Source of Crucial Information

What scope of data is needed:

The scope of information depends on the level of their users:



comparison of safety level

safety strategy

safety programmes

implementation

2. STRUCTURE OF DATA

a) Accident description

- general information (location, time)
- consequences (fatalities, injuries)
- accident collision type (head on, pedestrian, etc.)
- road users (type, age, sex, seat belt use, alcohol influence, etc.)
- road characteristics (type, class, surface, conditions, etc.)
- weather and traffic conditions (rain, snow, etc.)
- vehicle characteristics (type, age, etc.)

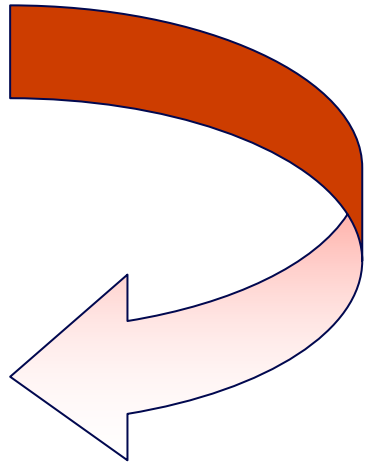
2. STRUCTURE OF DATA

b) Exposure data

- population (age groups)
- vehicle fleet (category)
- vehicle kilometers (road, vehicle type)
- driver's population (category, age)
- fuel consumption

3. BASIC PARAMETERS OF DATA

- accuracy
- complexity
- availability
- uniformity



standardization

Standardization on national level

- basically no problem
  (regional and local comply with national ones)
- but there exist different databases
  - ✓ police
  - ✓ road administration
  - ✓ hospitals
  - ✓ insurance companies

→ agreement on national standard

3. BASIC PARAMETERS OF DATA

Standardization on international level

- differences as colourfull as the world itself
  example: persons killed
  (0, 1, 3, 5, 10, 30, 365 days)
- agreement on international standard definitions

→ **adapt or adopt international standards**

→ **develope conversion coefficients**

Example of standardization :

UNECE + EUROSTAT + ECMT agrement on GLOSSARY FOR TRANSPORT STATISTICS

3. BASIC PARAMETERS OF DATA

Gradual process is proposed:

from minimum standard

towards desirable standard

A. Minimum standard containing total number of:

- **injury accidents**
- **persons killed**
- **population**
- **vehicle fleet**

B. Medium standard containing:

- **total number of injury accidents**
- **persons killed**
  - total number
  - split by user's group
  - split by age groups
- **population**
  - total number
  - split by age groups
- **vehicle fleet**
  - total number
  - split by vehicle type

C. Desirable standard containing:

- **injury accidents**
  - total number
  - split by road location
- **persons killed**
  - total number
  - split by user's group
  - split by age groups
  - split by road location
- **persons injured**
  - total number
  - split by user's group
  - split by age groups
  - split by road location
- **population**
  - total number
  - split by age groups
- **vehicle fleet**
  - total number
  - split by vehicle type
- **kilometrage (vehicle km)**
  - total number
  - split by road location

(road location: urban, rural, motorways)

3. BASIC PARAMETERS OF DATA

New steps to facilitate accident data operation:

- **WHO**

„How to“ manual on road traffic data collection

- **PIARC**

Road Traffic Accident Data Manual

Discussion on a harmonisation of these efforts is running

4. INTERNATIONAL COMPARISONS

International comparisons of national road traffic accident numbers are vital important

They offer:

- comparable picture about national accident situation
- position among other countries
- indication of urgency for international support
- information on development and progress
- better identification of weak areas in safety system
- diferences in safety level of users and roads

4. INTERNATIONAL COMPARISONS

The most Important International Road Traffic Accident Databases

CARE, FARS, ECMT, UN ECE, EUROSTAT, WHO, IRF, IRTAD

Differences in:

- needs and purpose
- information structure
- scope of information
- way of data collection
- data processing
- publishing and availability
- regional coverage

4. INTERNATIONAL COMPARISONS

UN ECE

- part of statistics
- 52 European states + Israel, USA, Canada
- includes
  - killed
  - injured
    - › disagregated according road users
  - injury accidents
  - vehicle fleet
  - road network
  - population
- fatalities – no correction

Availability:

- Statistics of Road Traffic Accidents in Europe and North America

4. INTERNATIONAL COMPARISONS

ECMT

- part of transport statistics
- 42 European states + USA, Canada, Australia, Japan, New Zealand, Korea, Morocco
- includes
  - killed
  - injured
    - › disaggregated according road users
  - injury accidents
- indicators related to vehicle fleet
- fatalities - correction factor

Availability:

- annually : Road Safety in Europe
- bi-annually : Statistical Report on Road Accidents
- http://www1.oecd.org/cem/stat/accidents

4. INTERNATIONAL COMPARISONS

IRF

International Road Federation

- road accident database
- 180 members states
- includes
  - killed
  - injury
  - injury accidents
  - road network
  - vehicle fleet
  - fuel consumption
  - road expenditures
- from 1963

Availability:

- IRF World Road Statistics
- http://econ.worldbank.org/view.php?topic=25&type=18&id=23079

4. INTERNATIONAL COMPARISONS

WHO

World Health Organisation

- part of WHO Statistical Information System (WHOSIS)
- involves registrated deaths distributed by
  - cause
  - sex
  - age
- all UN (WHO)
- mostly 1995-2000
- fatalities corrected to 30 days

Availability:

- http://www3.who.int/whosis/menu.cfm?path=whosis,inds,mort&language=english

IRTAD

International Road Traffic Accident Database

- **established in 1988**
- **part of OECD RTR Programme**
- **since 2004 - JTRC OECD/ECMT**
- **operated and checked by BASt (Germany) untill end 2005**
- **since January 1st 2006 moved operation to JTRC OECD/ECMT**

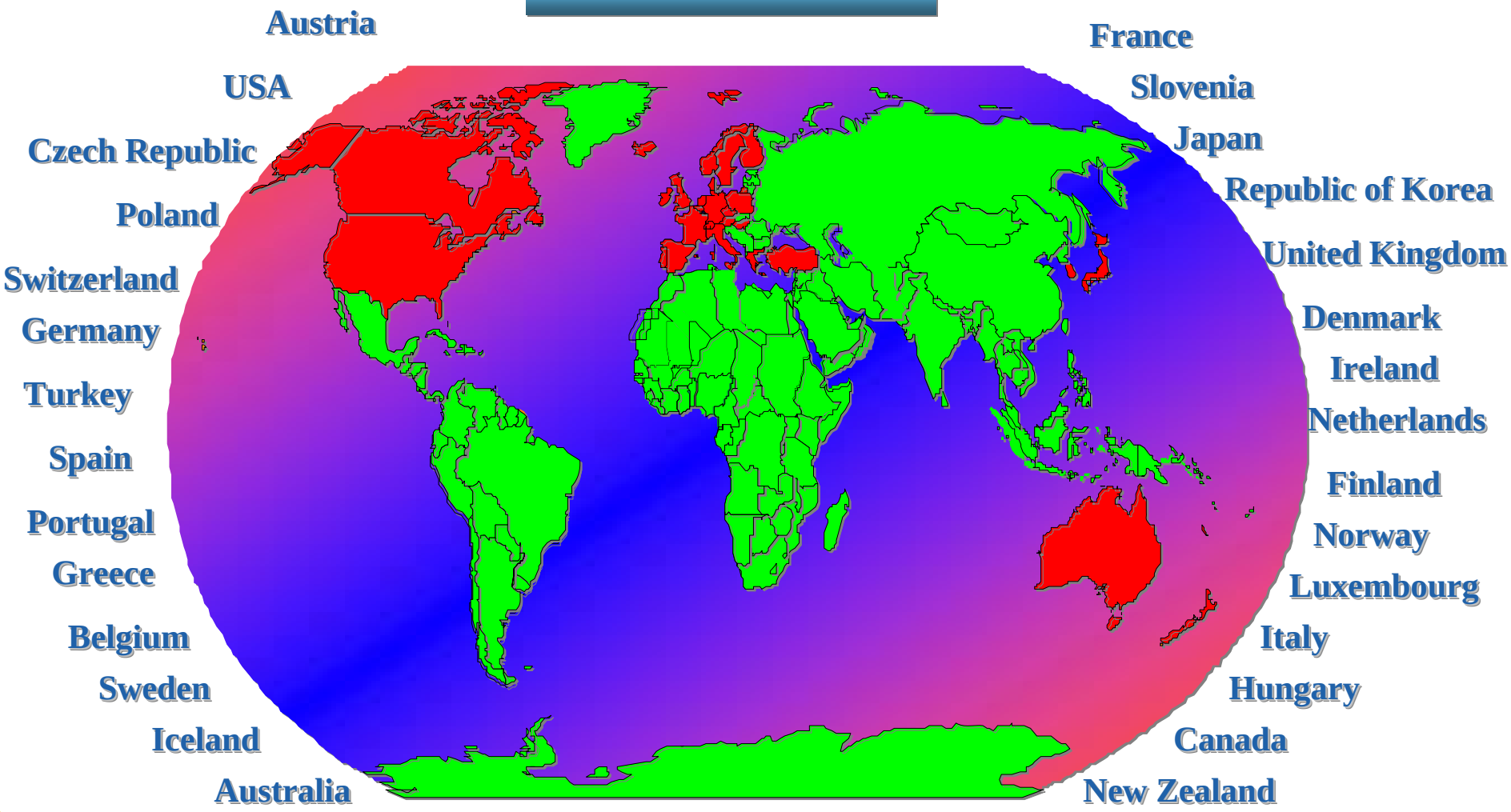
Objectives

- International co-operation on road accident data and analysis
- Collection, harmonization and dissemination of timely, high-quality, aggregated accident and exposure data
- Improvement of the data used for research and road safety policy
- Scientific approach to advance accident knowledge based on statistical methods in analysing road accidents

5. IRTAD

IRTAD Members

Data from 30 countries



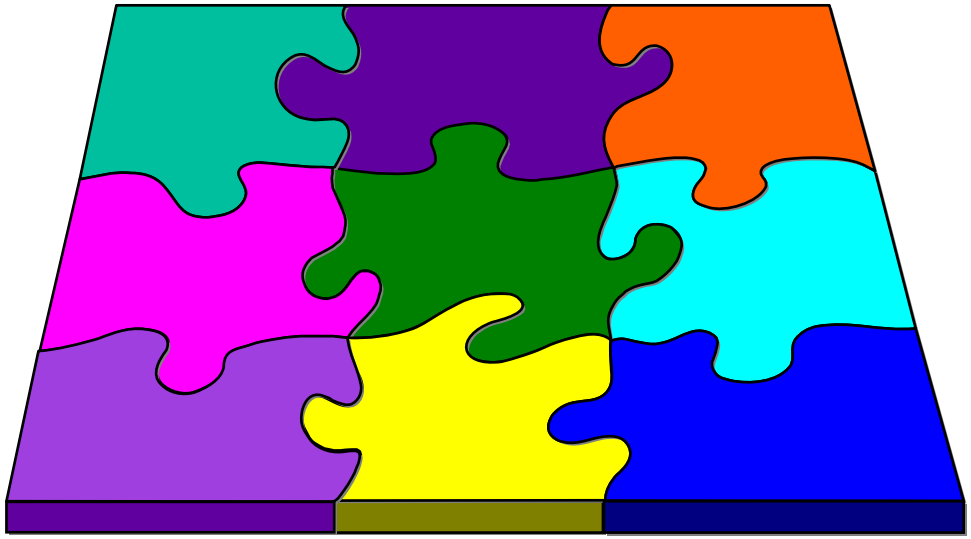
5. IRTAD

Σ 51 members

- National co-ordinating institutes representing the countries – 30
- Additional institutes from research and private sector – 18
- Associated members - new
- International organisations (DG TREN, FIA, ACEA)

Data variables

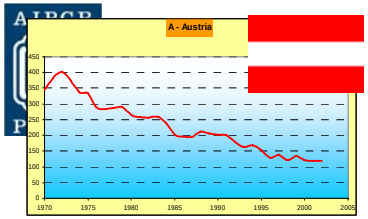
The database consists of the following data on a yearly basis for the 1965 and for every year since 1970 with a split by age, sex, car passenger/occupant, road network, vehicle types or road usage:

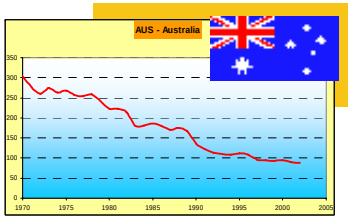


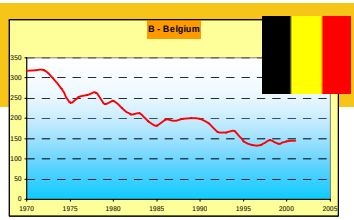
- population figures
- vehicle population
- kilometrage
- injury accidents
- fatality figures
- hospitalised figures
- network length
- modal split
- area of the state
- risk values
- seat belt wearing rates
- monthly key indicators

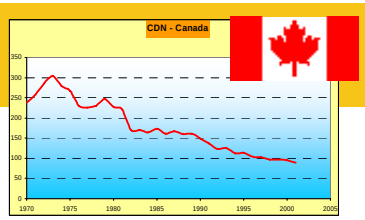
Special reports:

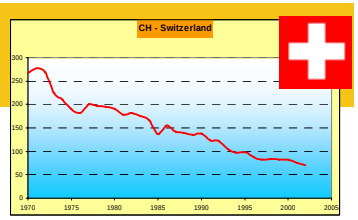
- Under-reporting
- Follow-up of traffic victims during the 30-days period
- Seat belt wearing data
- Methods and necessity of exposure data
- Definitions and data availability
- Hospitalized road user survey

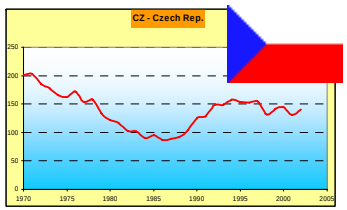

A - Austria

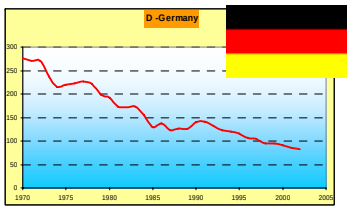

AUS - Australia

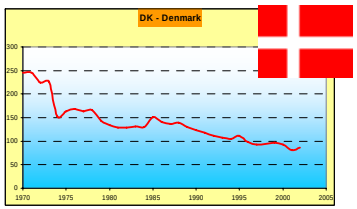

B - Belgium

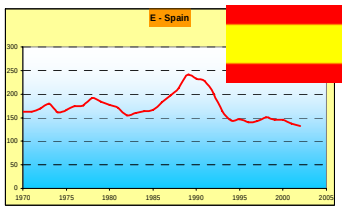

CDN - Canada

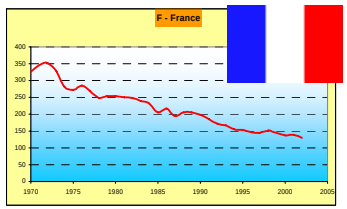

CH - Switzerland

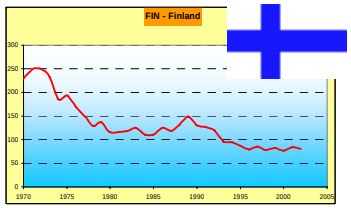

CZ - Czech Rep.

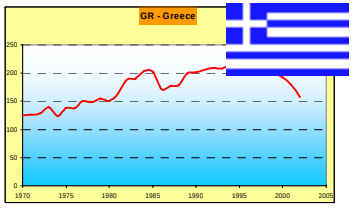

D -Germany

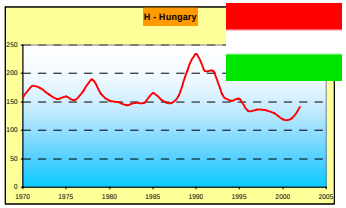

DK - Denmark

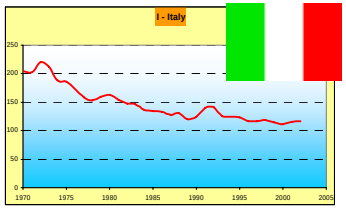

E - Spain

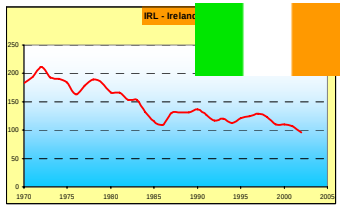

F - France

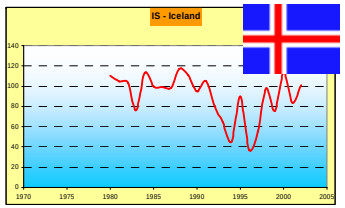

FIN - Finland

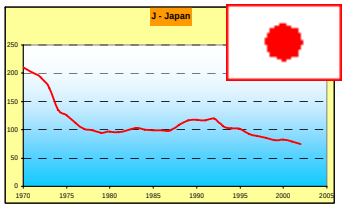

GR - Greece

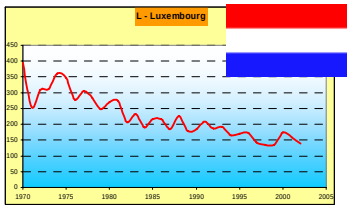

H - Hungary

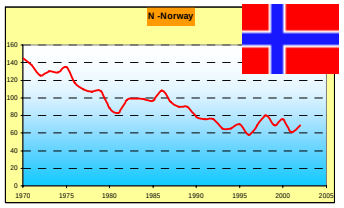

I - Italy

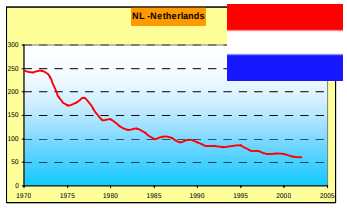

IRL - Ireland

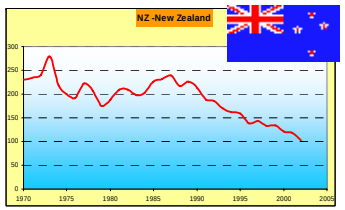

IS - Iceland

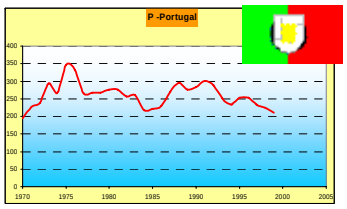

J - Japan

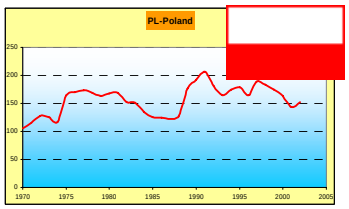

L - Luxembourg

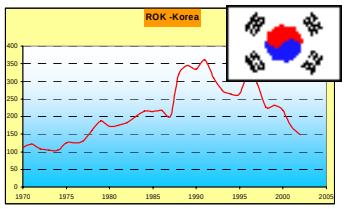

N -Norway

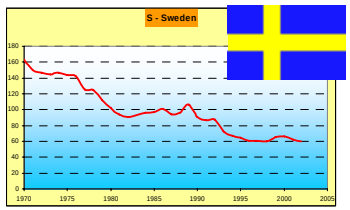

NL -Netherlands

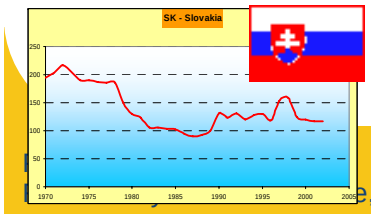

NZ -New Zealand

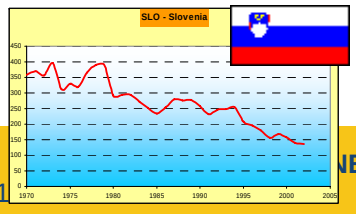

P -Portugal

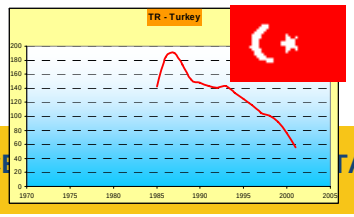

PL-Poland

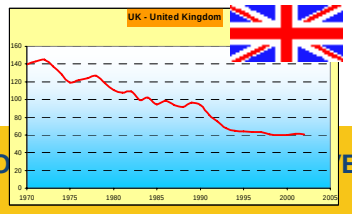

ROK -Korea

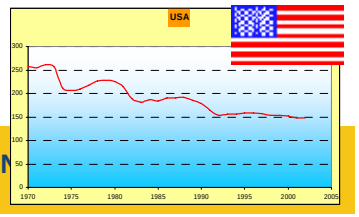

S - Sweden


SK - Slovakia


SLO - Slovenia


TR - Turkey


UK - United Kingdom


USA

5. IRTAD

IRTAD is not only accident statistics database, but group of road safety professionals:

- closely co-operating
- sharing national experience
- enhancing international comparability
- responding to the needs of governments, research, international organisations and private bodies

IRTAD International Traffic Safety Data and Analysis Group

3rd IRTAD CONFERENCE

ROAD TRAFFIC ACCIDENT DATA
IMPROVED DATA FOR BETTER SAFETY

26 – 27 – 28 November 2006
Hotel Holiday Inn, Brno, Czech Republic

www.irtad.net
www.cdv.cz

CONFERENCE:

With the participation of :

The Ministry of Transport of the Czech Republic

The World Health Organisation Office of the Czech Republic

The World Road Association (PIARC)

Global Road Safety Partnership (GRSP)

www.irtad.net
www.cdv.cz

CONFERENCE:

Objectives:

- Present IRTAD and its products
- Stimulate an extension of IRTAD within non-OECD countries
- Discuss future development of accident databases in order to better respond needs

Target audience

- Policy makers
- Road safety data users
- Accident data experts

www.irtad.net
www.cdv.cz

PROGRAMME:

Sunday 26 November

- Registration
- Welcome coctail by the Mayor of the City of Brno

Monday 27 November

- Importance of road accident data – New challenges ahead
- The IRTAD database
- Recent trends in road safety data and data collection
- Better analysis of national data to bring safety benefits

Tuesday 28 November

- Reliability and comparability of accident data
- Analysis of international data to improve road safety
- Road crash data and analysis needs in non member countries
- Concluding panel session

Wendesday 29 November

- IRTAD group meeting

www.irtad.net
www.cdv.cz

SPECIAL SESSION:

Road crash data and analysis needs in non member countries

Chair: Peter Elsenaar (GRSP)

The objective of the session is to gain further insights on data collection system needs in non – IRTAD member countries including developing countries and countries in transition.

- **Presentation from Russia, Moroco, Romania, Costa Rica**
- **Potential for other Countries**
- **Discussion**

www.irtad.net
www.cdv.cz

Thank you for your attention

Josef Mikulik

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