



TRB 2012 Workshop
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Towards a global set of injury crash data



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Global Injury Crash Data - Fundamental Questions

- what's the real number of crash fatalities worldwide?
- what's the approximate number of serious injuries worldwide?
- where these injury crashes occur?
- which road users are involved in these injury crashes?
- how is countries' performance ranked?

***If we cannot measure it
we cannot improve it.***

Lord Kelvin



Global Injury Crash Data - Setting the targets

- can we establish a simple global crash data set to be collected in the developed countries?
- can we establish a global crash data set to be collected in the developing countries?
- can we establish a simple global common crash data collection process?
- can we estimate under-reporting and then the real casualty number?
- is a global Agency able to coordinate such a process?



Current Large Crash Data Files

- **WHO** - World Health Organisation
- **IRTAD / ITF** - International Road Traffic Safety Data and Analysis Group
- **Eurostat, CARE** - European Commission
- **FARS** - National Highway Safety Administration
- **IRF** - International Road Federation



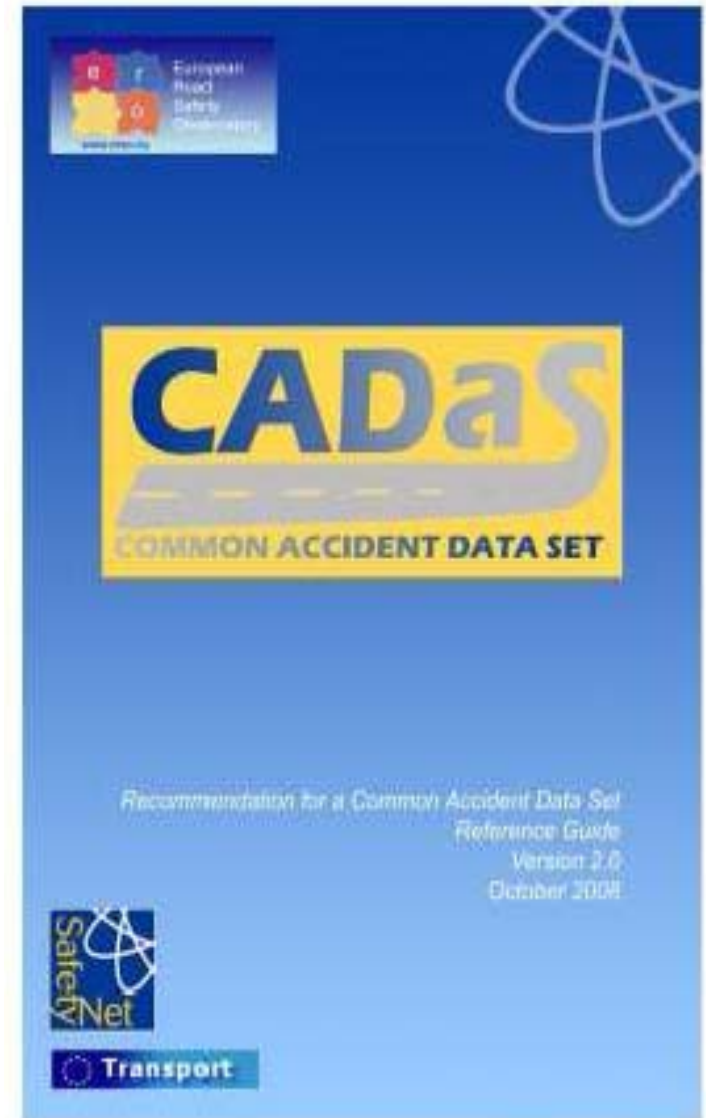
Development of a Common Accident Data Set (CADaS)

Scope

- The Common Accident Data Set (CADaS) allows for comparable road accident data to be available in Europe.
- The CADaS system is implemented by the EU Member States on a voluntary basis, in pieces ("a la carte" system) and gradually.

Purpose

- CARE will contain increasingly more compatible and comparable data.
- More common road accident data will be available to the European Road Safety Community
- CADaS could be a solid basis for the development of the respective **Global CADaS**



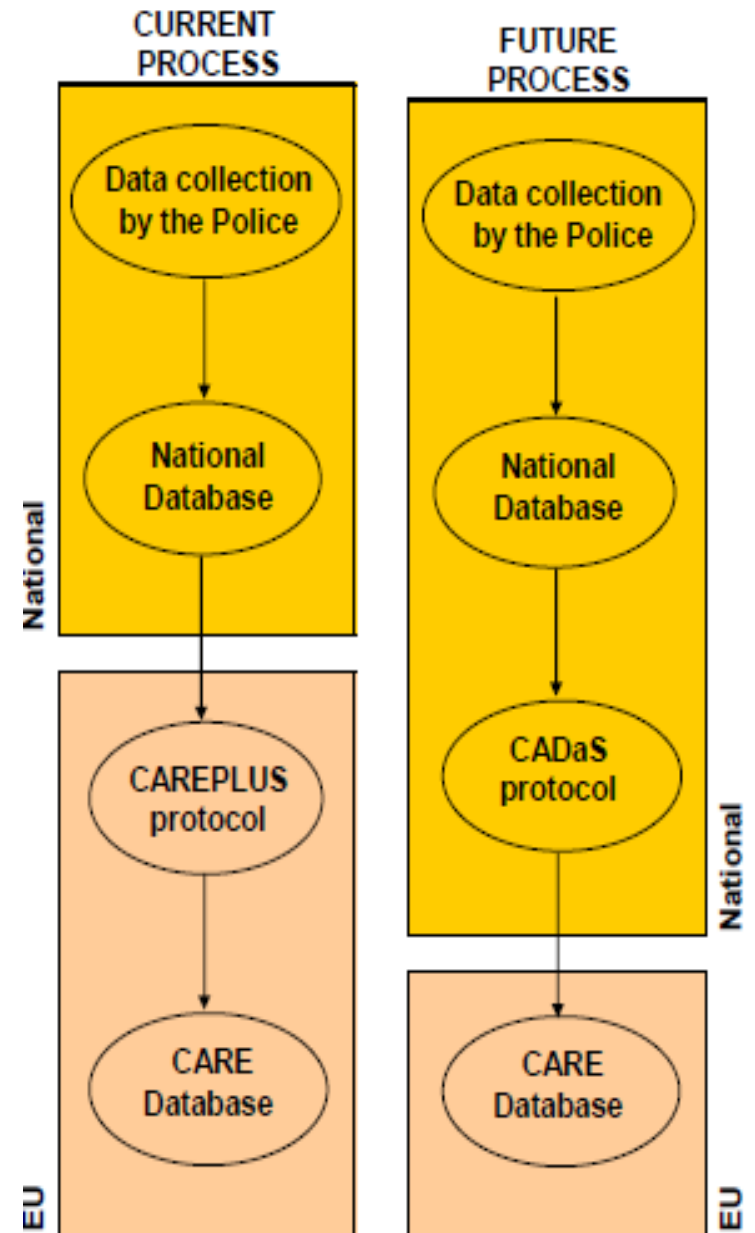
From CAREPLUS to CADaS

CAREPLUS

- Data transformed at EU level
- National data are sent to the EC without any elaboration.
- The EC applies transformation rules in order to transform them into the CAREPLUS common definition values
- **55 variables and 255 values**

CADaS

- Data transformed at national level
- National data are further processed and transformed in accordance to the CADaS definitions and structure (record layout) in each country.
- Then, each country transmits the CADaS data to the EC.
- **73 Variables and 471 Values**



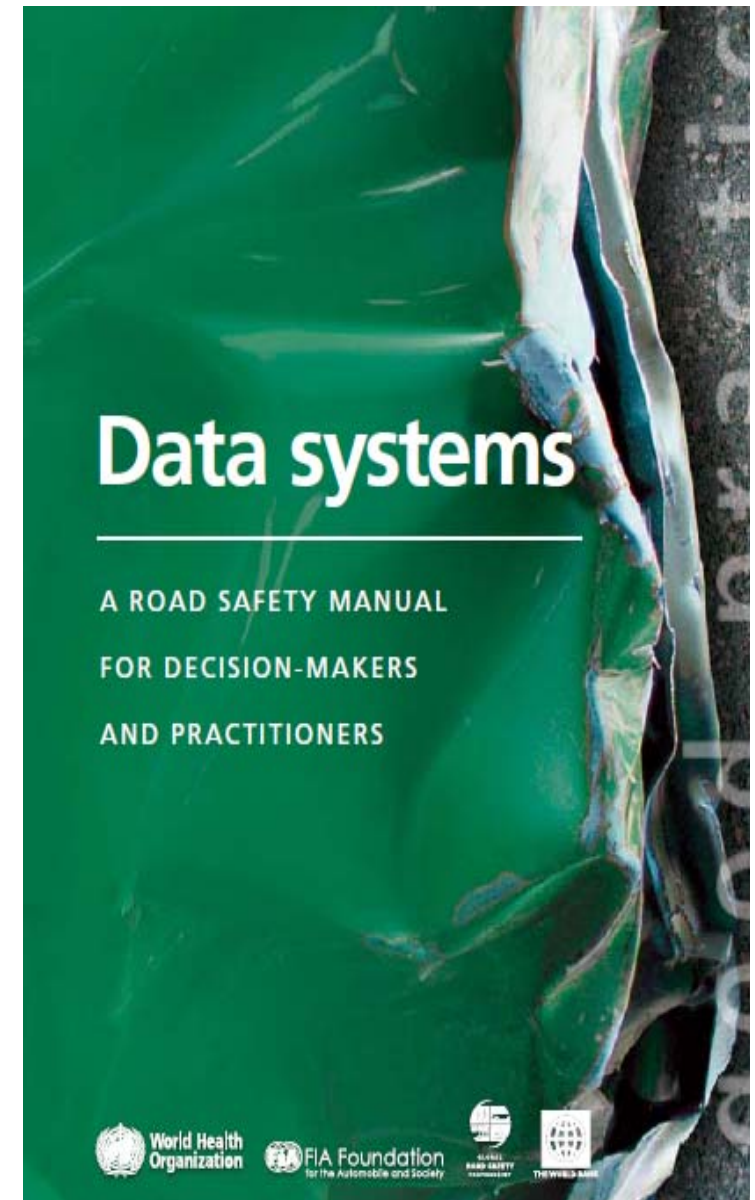
The WHO Manual on Data Systems

Purpose

To give practical guidance on establishing data systems that produce timely, reliable data on road traffic injuries that can be used to inform road safety management.

Contents of the Manual

- Importance of good data for road safety management, types of data required
- Situational assessment (stakeholders, data sources, user needs, priorities)
- Strategies for improving data quality and the performance of systems already in place
- Steps needed to plan, design and implement a new system
- A **common dataset** with minimum data elements and definitions.



Development of a Global Common Crash Data Set (WHO)

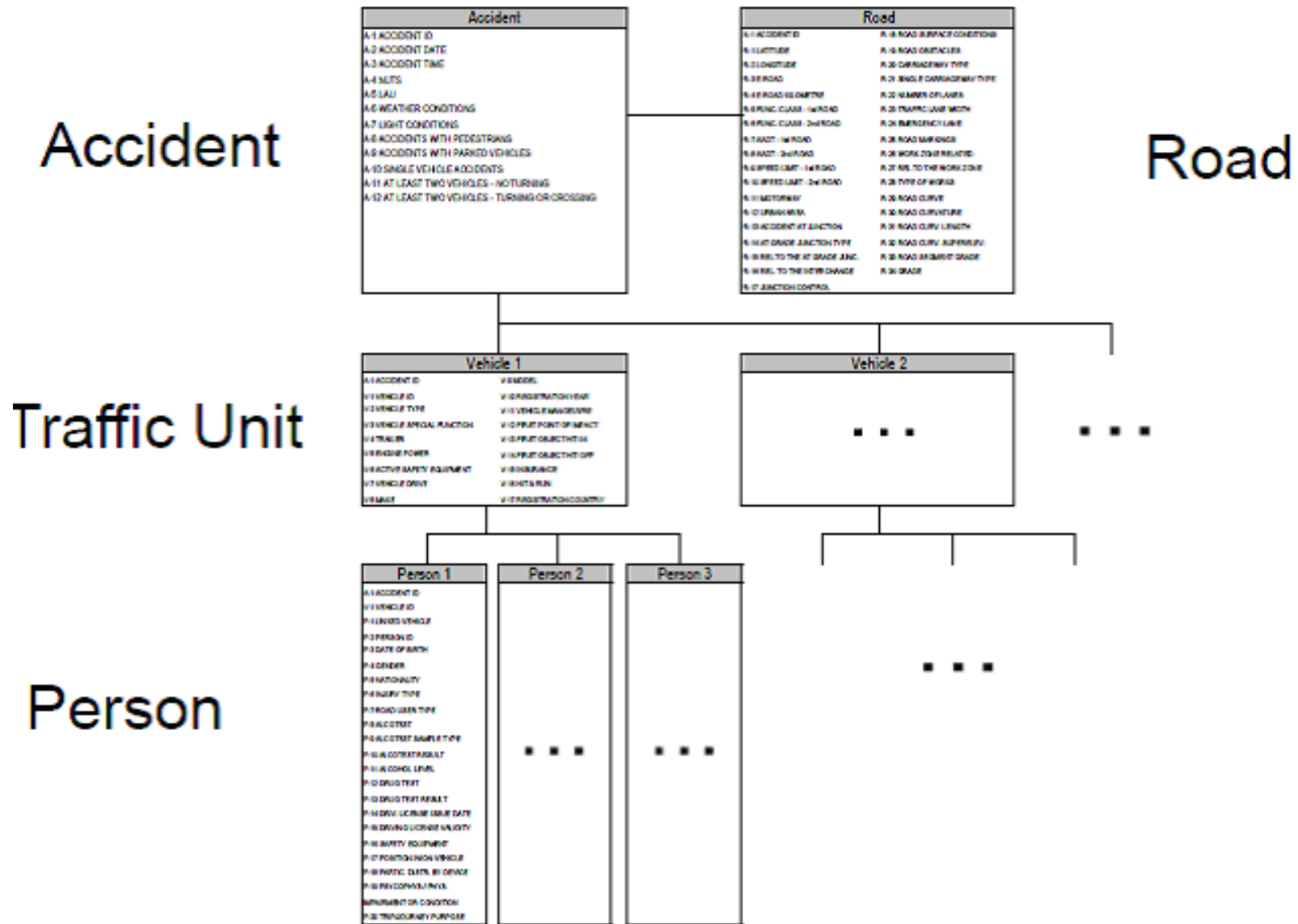
Selection criteria for variables & values

- Variables and values must be useful for road accident analysis, especially at international level.
- The level of detail of the variables and values corresponds to macroscopic data analysis and not to detailed reconstruction of the scene of the accident.
- Variables and values must be comprehensive and concise. Each variable must include description and scope, attribute values, their definitions and data format
- Data impossible or very difficult to be collected are not retained, independently of their value for road accident analysis.
- The future perspective of using certain variables was taken into account, although these are not currently collected by most countries due to technical difficulties (i.e. latitude and longitude etc.).



Structure of the Global Common Crash Data Set

Three level structure



Description of the Global Common Crash Data Set

Overview of minimum data elements

Crash related	Road related	Vehicle related	Person related
<ul style="list-style-type: none"> Crash identifier (unique reference number assigned to the crash, usually by police) Crash data Crash time Crash municipality/place Crash location Crash type Impact type Weather conditions Light conditions Crash severity^o 	<ul style="list-style-type: none"> Type of roadway* Road functional class* Speed limit* Road obstacles Road surface conditions* Junction Traffic control at junction* Road curve* Road segment grade* 	<ul style="list-style-type: none"> Vehicle number Vehicle type† Vehicle make† Vehicle model† Vehicle model year† Engine size† Vehicle special function† Vehicle manoeuvre (what the vehicle was doing at the time of the crash) 	<ul style="list-style-type: none"> Person ID Occupant's vehicle number Pedestrian's linked vehicle number Date of birth Sex Type of road user Seating position Injury severity Safety equipment Pedestrian manoeuvre Alcohol use suspected Alcohol test Drug use Driving licence issue date Age^o

Additional variables commonly collected

Crash related	Road related	Vehicle related	Person related
<ul style="list-style-type: none"> Location relative to roadway 	<ul style="list-style-type: none"> Urban area Tunnel Bridge Number of lanes Markings Work-zone related 	<ul style="list-style-type: none"> Vehicle identification number (VIN, issued by manufacturer) Registration place and year Registration number First point of impact Insurance Hazardous materials 	<ul style="list-style-type: none"> Distracted by device Driver licence class and jurisdiction Driver manoeuvre Trip/journey purpose (see Box 3.1)

Description of the Global Common Crash Data Set

Example of variables & values

C6. Crash type

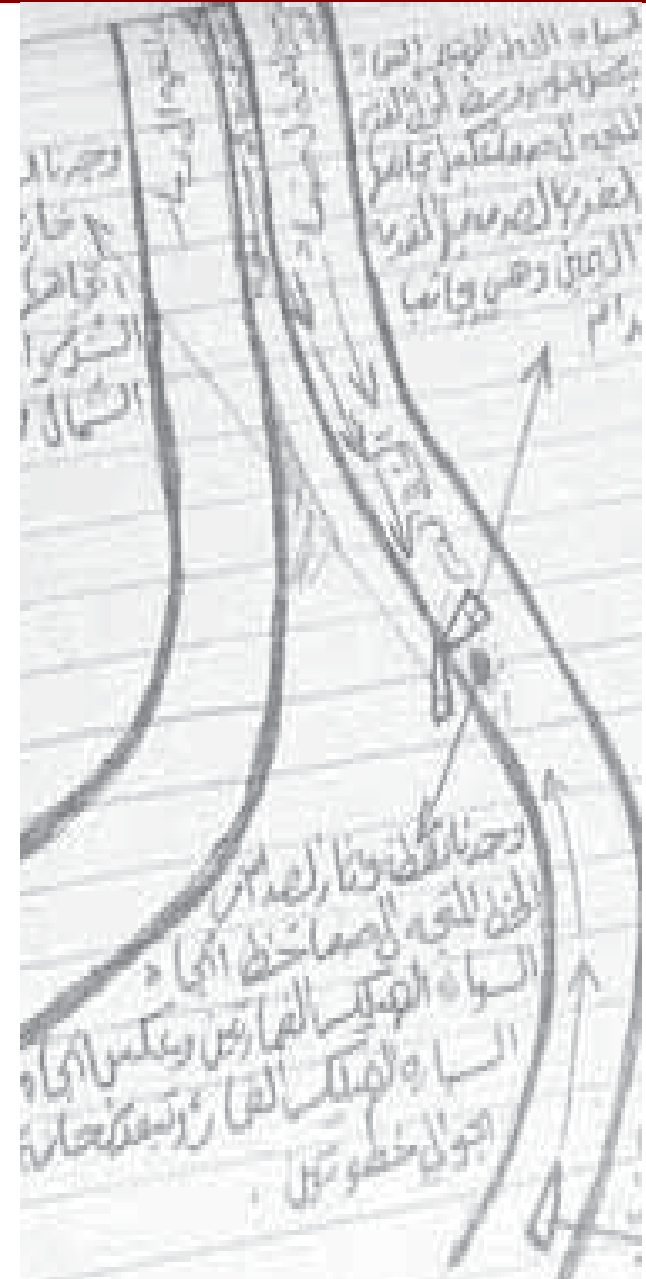
Definition: The crash type is characterized by the first injury or damage-producing event of the crash.

Obligation: Mandatory

Data type: Numeric

Data values:

- 1 **Crash with pedestrian:** Crash between a vehicle and at least one pedestrian.
- 2 **Crash with parked vehicle:** Crash between a moving vehicle and a parked vehicle. A vehicle with a driver that is just stopped is not considered as parked.
- 3 **Crash with fixed obstacle:** Crash with a stationary object (i.e. tree, post, barrier, fence, etc).
- 4 **Non-fixed obstacle:** Crash with a non-fixed object / lost load.
- 5 **Animal:** Crash between a moving vehicle and an animal.
- 6 **Single vehicle crash/non-collision:** Crash in which only one vehicle is involved and no object was hit. Includes vehicle leaving the road, vehicle rollover, cyclists falling etc.
- 7 **Crash with two or more vehicles:** Crashes where two or more moving vehicles are involved.
- 8 **Other crashes:** Other crash types not described above.



Global Injury Crash Data - The next steps

- An **International Agency** takes the lead
- A **Group of International Experts** exploits work of WHO (common data set) and IRTAD (aggregate statistics) and prepares:
 - a simple global crash data set
 - a simple procedure for data collection
 - a methodology for estimating real numbers
- The International Agency **adopts, promotes and monitors** the global approach by:
 - establishing the global data base
 - coordinating data collection globally
 - publishing global statistics





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