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# Improving data & statistics in road safety: EU perspective

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WhiteRoads EU Project

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Asociación Española de la Carretera

European Commission

ERF

# The need for a comprehensive road safety data and knowledge tool

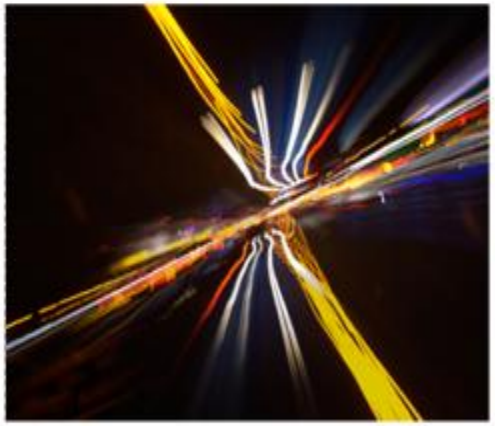
**Lack of data**

(accidents, injuries, exposure, performance indicators,...)

**Data not comparable**

**Correlations but not Causations**

Data incompatible



Lack of standard methodologies

Insufficient data details

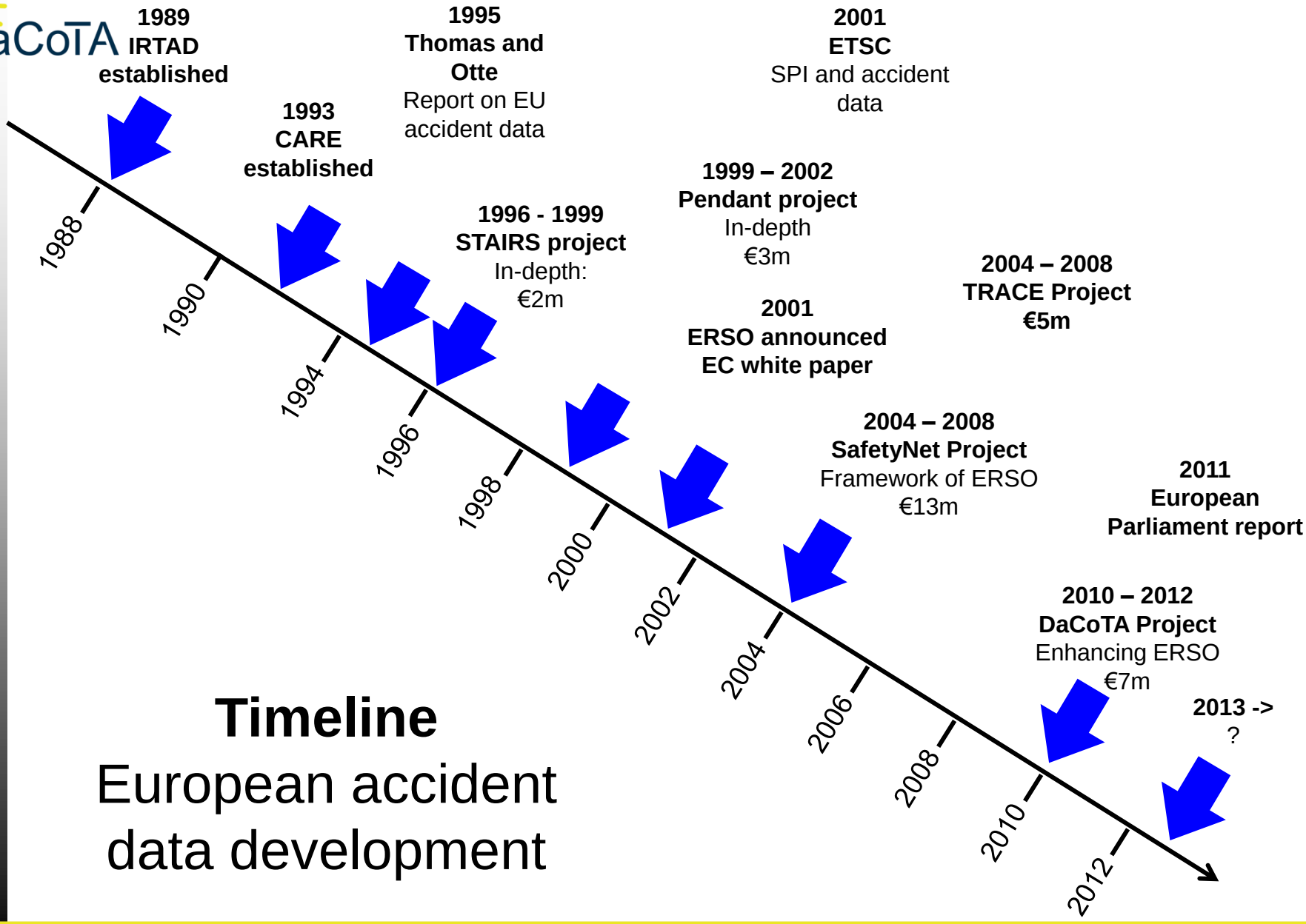
Analyses not solution oriented

Low reliability of data

# The need for a comprehensive road safety data and knowledge tool

Necessity to:

- Consolidate and organise existing data and information
- Make data and information available (one-stop service)
- Provide **a complete tool-kit** (analyses, methodologies, benchmarking tools)
- **Support road safety decision making at all levels**

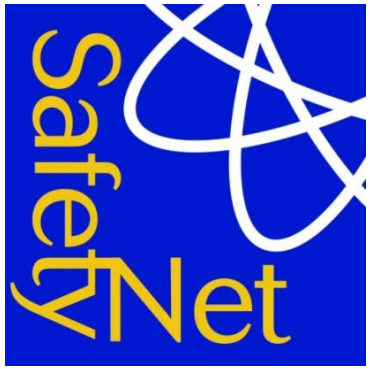



# Timeline

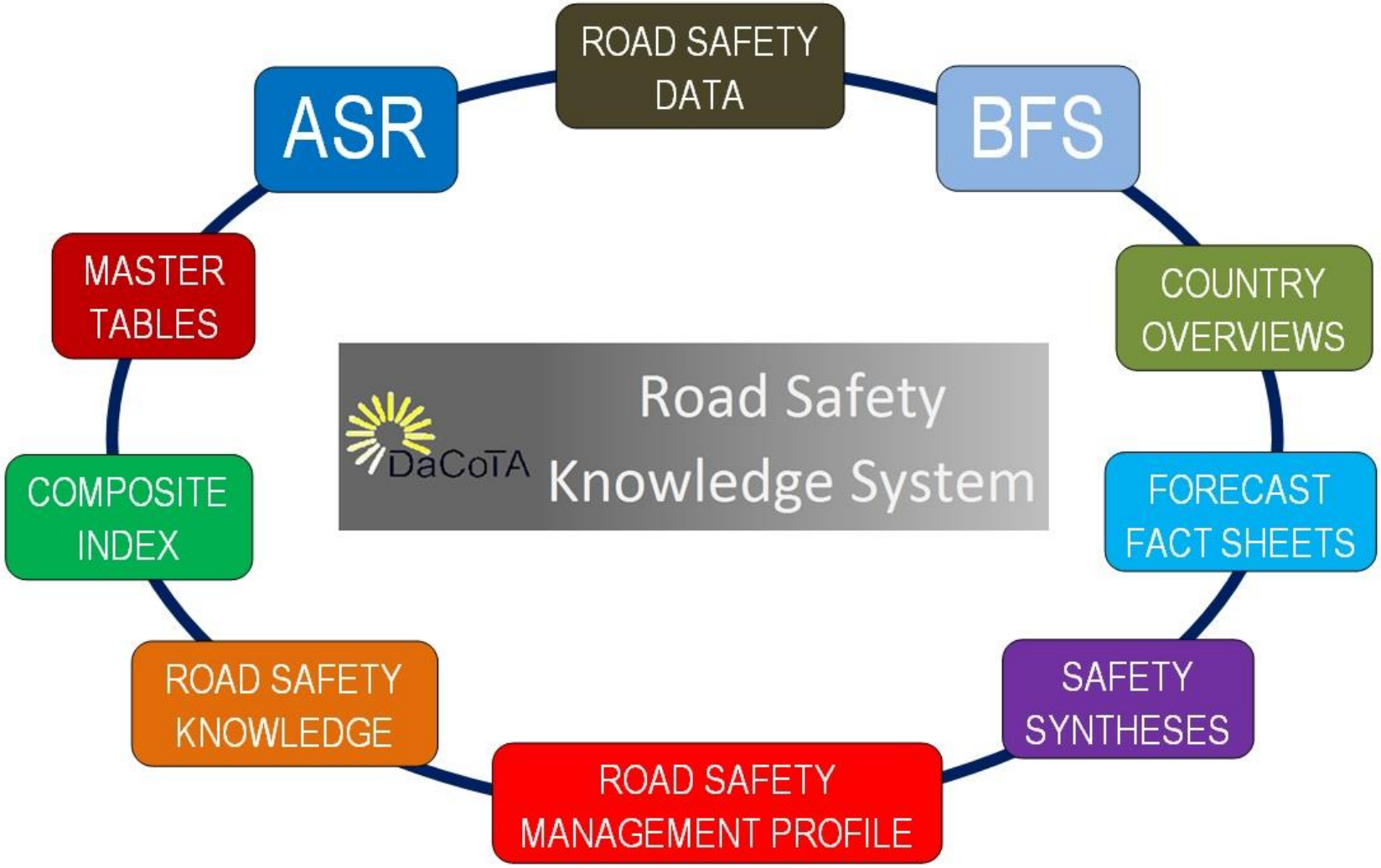
European accident data development

# The European Road Safety Observatory

- ERSO – initiated in 2001
  - "Objective is to coordinate all Community activities in the fields of road accident and injury data collection and analysis"
  - Central to new EU Road Safety Policy Orientations
- Many national Observatories now in operation



# DaCoTA Integrated Road Safety Knowledge System



# Road Safety Data

- Road accident data (CARE)
- Risk-exposure data (Eurostat, IRTAD, national sources, etc.)
- Safety Performance Indicators
- Health data/indicators (Eurostat, EU Injury Database)
- In-depth accident data (Accident Causation Database)

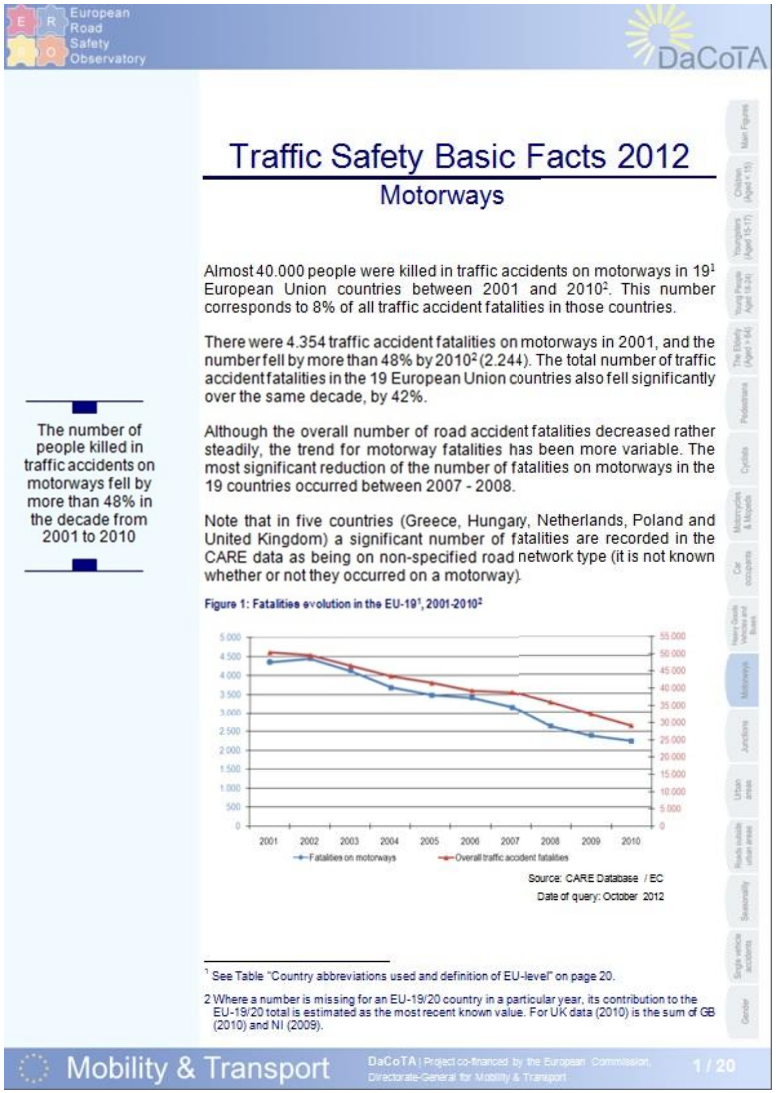
# Basic Road Safety Fact Sheets (1/2)

Disaggregate road accident data for a decade on specific road safety topics and few basic comments.

- Tables and Figures
- Maps from the CARE/CADaS database
- Worth-noticing comments in “highlight boxes”
- In-depth accident/causation data for 6-7 countries
- Health indicators

**www.erso.eu**

http://ec.europa.eu/transport/road_safety/specialist/statistics/index_en.htm


European Road Safety Observatory

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Traffic Safety Basic Facts 2012

Motorways

Almost 40.000 people were killed in traffic accidents on motorways in 19[1] European Union countries between 2001 and 2010[2]. This number corresponds to 8% of all traffic accident fatalities in those countries.

There were 4.354 traffic accident fatalities on motorways in 2001, and the number fell by more than 48% by 2010[2] (2.244). The total number of traffic accident fatalities in the 19 European Union countries also fell significantly over the same decade, by 42%.

The number of people killed in traffic accidents on motorways fell by more than 48% in the decade from 2001 to 2010

Although the overall number of road accident fatalities decreased rather steadily, the trend for motorway fatalities has been more variable. The most significant reduction of the number of fatalities on motorways in the 19 countries occurred between 2007 - 2008.

Note that in five countries (Greece, Hungary, Netherlands, Poland and United Kingdom) a significant number of fatalities are recorded in the CARE data as being on non-specified road network type (it is not known whether or not they occurred on a motorway).

Figure 1: Fatalities evolution in the EU-19[1], 2001-2010[2]



Source: CARE Database / EC

Date of query: October 2012

[1] See Table “Country abbreviations used and definition of EU-level” on page 20.

2 Where a number is missing for an EU-19/20 country in a particular year, its contribution to the EU-19/20 total is estimated as the most recent known value. For UK data (2010) is the sum of GB (2010) and NI (2009).

Mobility & Transport

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# Basic Road Safety Fact Sheets (2/2)

Seasonality

Main Figures

Junctions

Motorcycle and Mopeds

Children

Motorways

Urban Areas

Pedestrians

Cyclists

Car occupants

Gender

Elderly

Causation

Roads outside urban areas

Youngsters (aged 15-17)

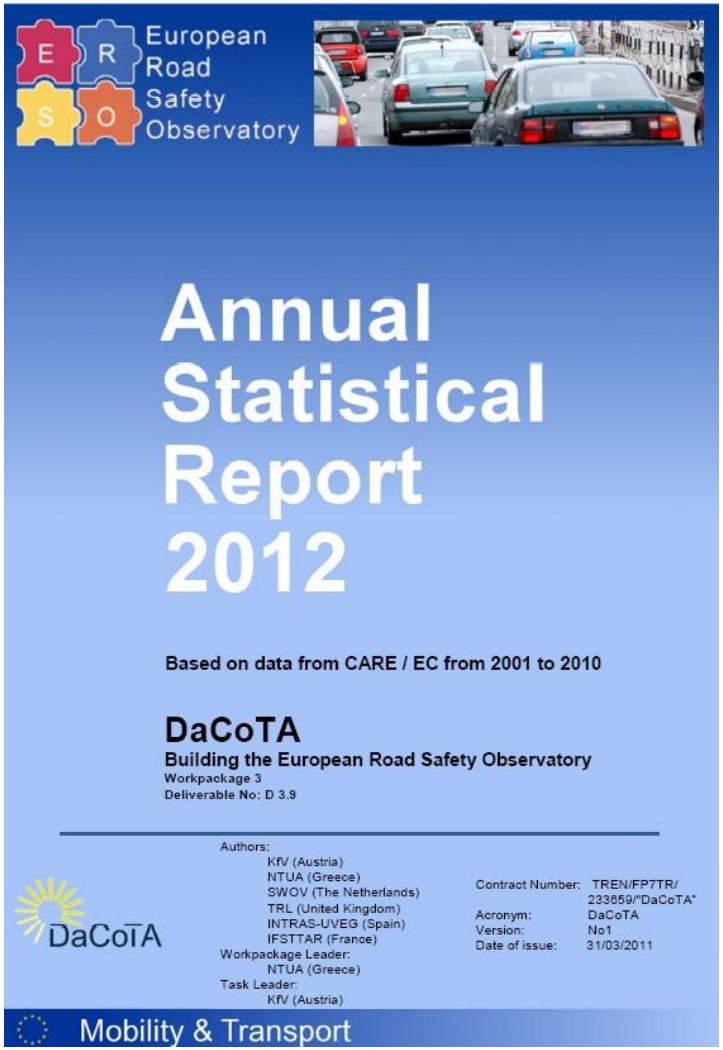
Young People (aged 16-24)

Single Vehicle Accidents

Heavy Goods Vehicles & Buses

# Annual Statistical Report

- Selection of **basic characteristics** of fatal road accidents related to:
  Person class, Person killed, Area type, Motorway, Junction type, Weather conditions, Modes of transport, Month, Day of the week, Hour of day
- Data from **27 European countries** for a decade
- **52 Tables and 26 Figures** with the most interesting combination of road accident data




**www.erso.eu**

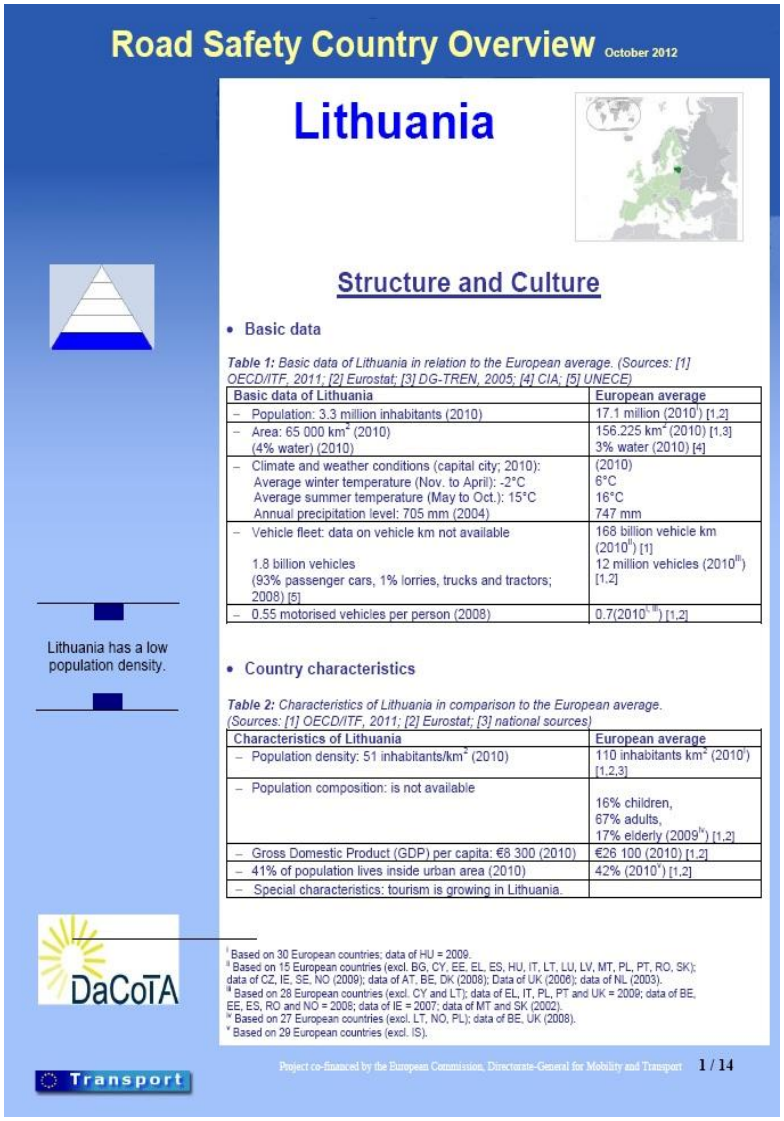
http://ec.europa.eu/transport/road_safety/specialist/statistics/index_en.htm

# Country Overviews

For each country **all layers of the Road Safety Pyramid** are covered:

- Structure & Culture
- Programs & measures
- Road Safety Performance Indicators
- Road Safety Outcomes
- Social Cost

A Synthesis Section at the end.



Road Safety Country Overview October 2012

Lithuania

Structure and Culture

• Basic data

*Table 1: Basic data of Lithuania in relation to the European average. (Sources: [1] OECD/ITF, 2011; [2] Eurostat; [3] DG-TREN, 2005; [4] CIA; [5] UNECE)*

| Basic data of Lithuania | European average |
|---|---|
| – Population: 3.3 million inhabitants (2010) | 17.1 million (2010[I]) [1,2] |
| – Area: 65 000 km² (2010)<br>(4% water) (2010) | 156.225 km² (2010) [1,3]<br>3% water (2010) [4] |
| – Climate and weather conditions (capital city; 2010):<br>Average winter temperature (Nov. to April): -2°C<br>Average summer temperature (May to Oct.): 15°C<br>Annual precipitation level: 705 mm (2004) | (2010)<br>6°C<br>16°C<br>747 mm |
| – Vehicle fleet: data on vehicle km not available<br><br>1.8 billion vehicles<br>(93% passenger cars, 1% lorries, trucks and tractors; 2008) [5] | 168 billion vehicle km (2010[II]) [1]<br>12 million vehicles (2010[III]) [1,2] |
| – 0.55 motorised vehicles per person (2008) | 0.7(2010[I, III]) [1,2] |

Lithuania has a low population density.

• Country characteristics

*Table 2: Characteristics of Lithuania in comparison to the European average. (Sources: [1] OECD/ITF, 2011; [2] Eurostat; [3] national sources)*

| Characteristics of Lithuania | European average |
|---|---|
| – Population density: 51 inhabitants/km² (2010) | 110 inhabitants km² (2010[I]) [1,2,3] |
| – Population composition: is not available | 16% children,<br>67% adults,<br>17% elderly (2009[IV]) [1,2] |
| – Gross Domestic Product (GDP) per capita: €8 300 (2010) | €26 100 (2010) [1,2] |
| – 41% of population lives inside urban area (2010) | 42% (2010[V]) [1,2] |
| – Special characteristics: tourism is growing in Lithuania. | |

[I] Based on 30 European countries; data of HU = 2009.
[II] Based on 15 European countries (excl. BG, CY, EE, EL, ES, HU, IT, LT, LU, LV, MT, PL, PT, RO, SK); data of CZ, IE, SE, NO (2009); data of AT, BE, DK (2008); Data of UK (2006); data of NL (2003).
[III] Based on 28 European countries (excl. CY and LT); data of EL, IT, PL, PT and UK = 2009; data of BE, EE, ES, RO and NO = 2008; data of IE = 2007; data of MT and SK (2002).
[IV] Based on 27 European countries (excl. LT, NO, PL); data of BE, UK (2008).
[V] Based on 29 European countries (excl. IS).

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Transport

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# Road Safety Management Profiles

- Overview of road safety management good practice elements
- Structures, processes & outputs described according to the policy-making cycle
- Notes & Observations
  - Policy orientation
  - Medium-level intersectoral coordination
  - Stakeholders' consultation
  - Funding
  - Monitoring and reporting
  - Relations between national/regional level
  - Knowledge production & use

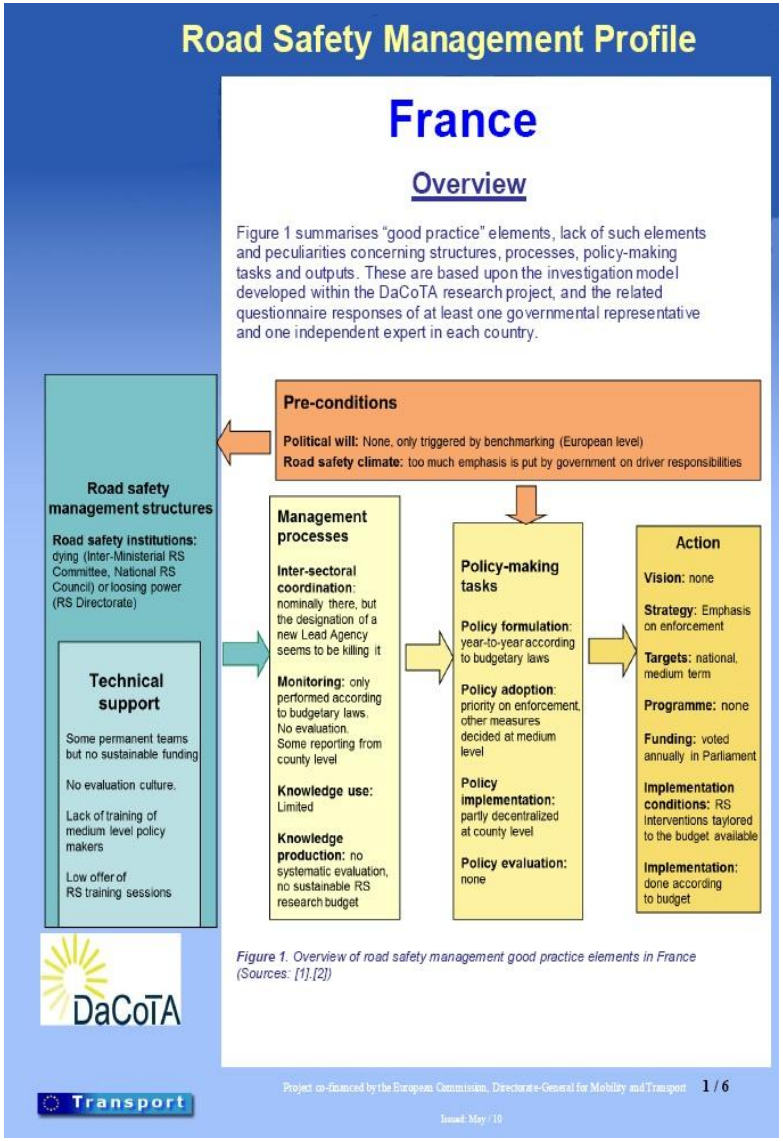
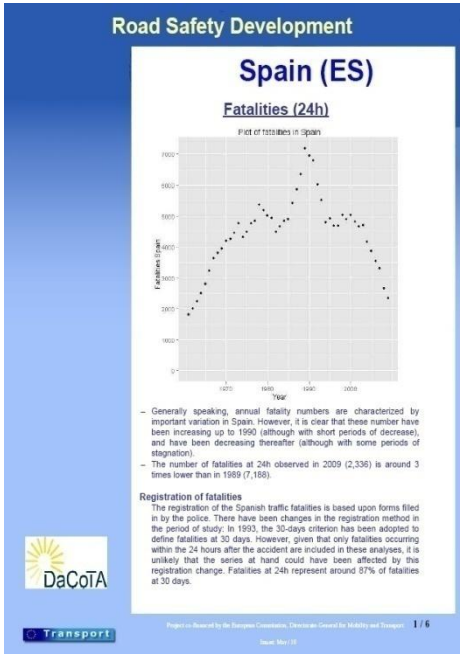


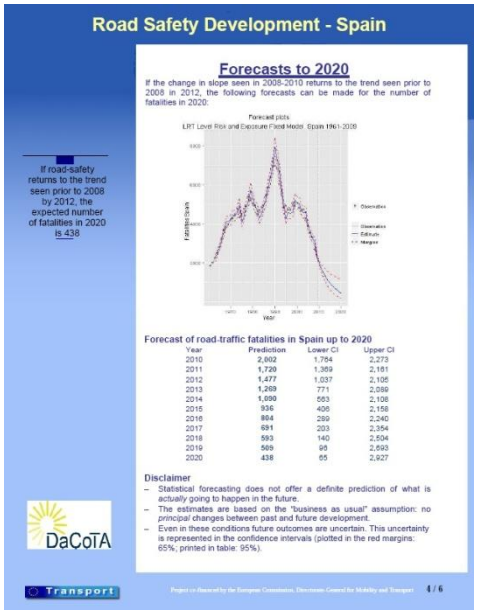
*Figure 1. Overview of road safety management good practice elements in France (Sources: [1].[2])*

# Forecast Fact Sheets

Estimation of road traffic fatalities based on time-series analysis

- Road traffic fatalities
- Traffic volume
- Fatality risk
- Forecasts to 2020
- Forecasts according to mobility scenarios



# Syntheses on key road safety issues
# 22 webtexts

Alcohol

Driver Distraction

Novice Drivers

Older Drivers

Pedestrians and Cyclists

E-Safety

Vehicle Safety

Cost-Benefit Analysis

Data Collection

Speeding

Roads

Mobile Phones

Speed Enforcement

Fatigue

Work-Related Road Safety

Children

Post Impact Care

Quantative Road Safety Targets

Integrated Paper

Safety Ratings

Powered Two-Wheelers

Road Safety Management

# Integrated Road Safety Knowledge System

**http://safetyknowsys.swov.nl/**

A comprehensive and integrated road safety information system

with aggregate data and information consolidating, organising and making available

existing data and information, necessary for the **support**

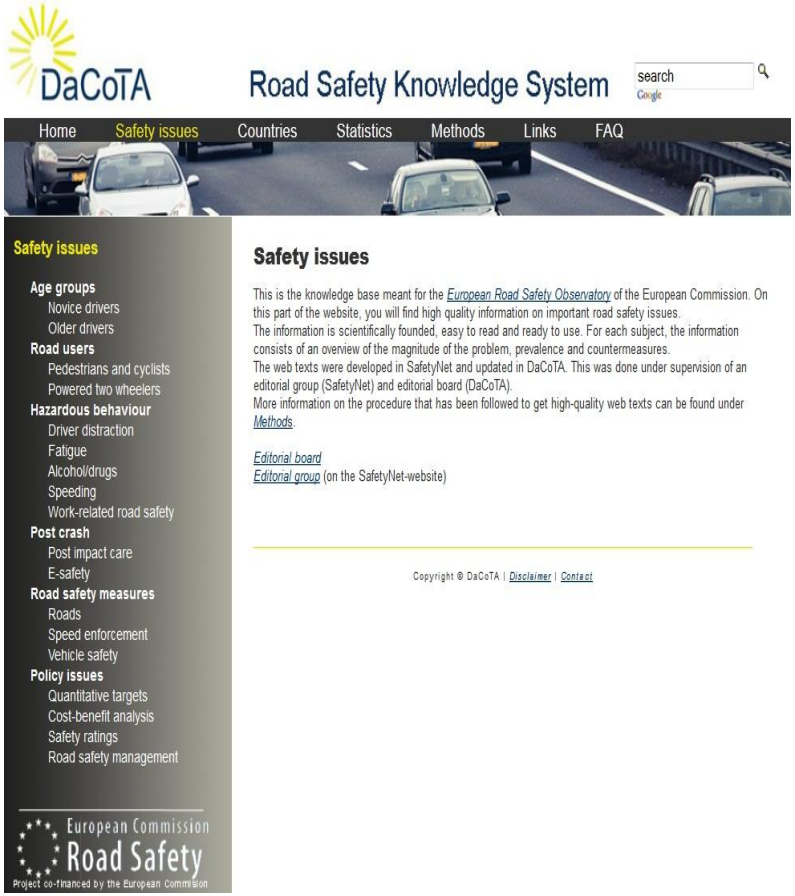
**of road safety decision making**

in Europe

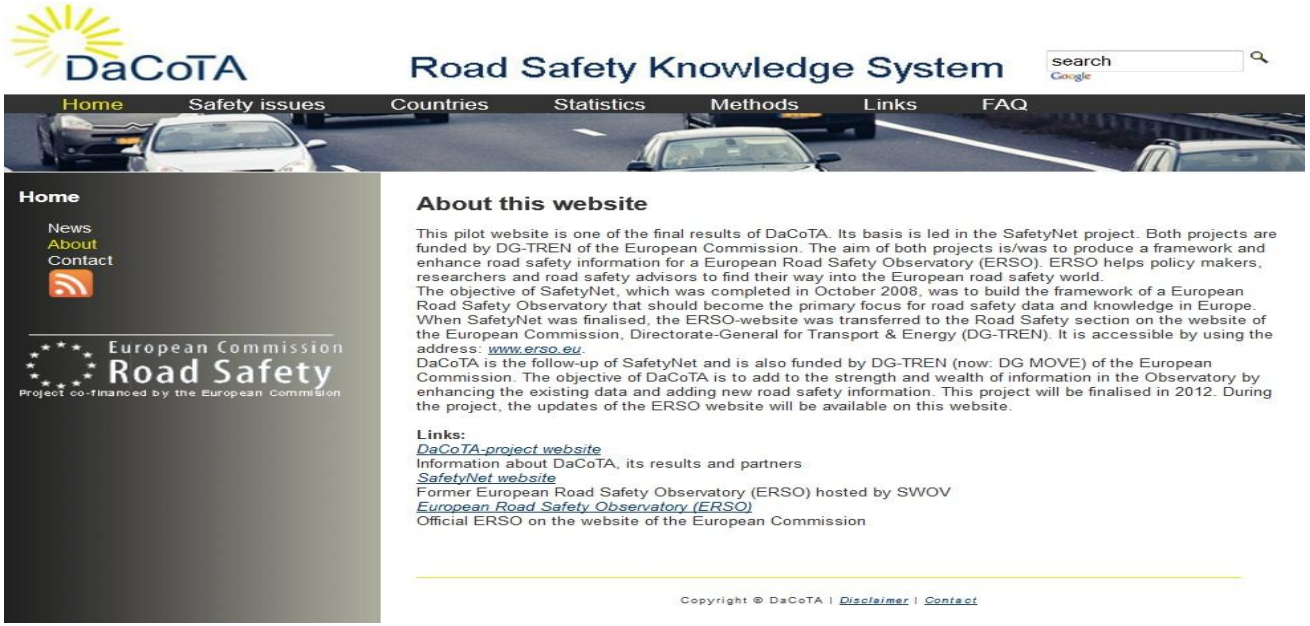
# Integrated Road Safety Knowledge System

Five main components

- Safety issues (overview, magnitude, prevalence, countermeasures)
- Countries (overviews, forecasts, composite index)
- Statistics (data, interactive browsing tool, fact sheets)
- Methods (methodologies, meta-data)
- Links (400 links organized aphabetically, by country, by organisation and by topic)



# Integrated Road Safety Knowledge System



# The White Roads Concept

Data and knowledge about both high and low risk sites should be made available to everybody.

The inclusion of the results of the White Roads project into the European Road Safety Observatory is a first step.

GIS technology can well facilitate data presentation and analysis at network level.

# The White Roads Concept – Open Issues

A **common European definition** of White Roads (absolute figures or accident rates or both).

Introduction of road network **performance ranking and benchmarking** across Europe
- use of a common methodology,
- gradually extended to the whole interurban and urban road network.

**Learn** from both the high and low risk sites.

In the future, why not introducing "**Road Safety Charging Systems**" of the road network.

# Next steps for improved road safety data and knowledge in Europe

- More surveys for exposure, performance indicators, driver behaviour
- More large scale experiments

  (in-depth accident investigation, naturalistic driving, driving simulator)
- More research and analyses to support policy making
- More solutions to real life problems
- A more rigid European Road Safety Observatory

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