



Road Safety Data, Collection, Transfer and Analysis

Deliverable D3.9 “Assembly of Basic Fact Sheets and Annual Statistical Report– 2012”

Please refer to this report as follows:

Broughton, J., Brandstaetter, C., Yannis, G., Evgenikos, P., Papantoniou, P., Candappa, N., Christoph, M., van Duijvenvoorde, K., Vis, M., Pace, J-F., Tormo, M., Sanmartín J., Haddak, M., Pascal, L., Amoros, E., Thomas, P., Kirk, A., Brown, L. (2012) Assembly of Annual Statistical Report and Basic Fact Sheets - 2012, Deliverable D3.9 of the EC FP7 project DaCoTA.

Grant agreement No TREN / FP7 / TR / 233659 /"DaCoTA"

Theme: Sustainable Surface Transport: Collaborative project

Project Coordinator:

Professor Pete Thomas, Transport Safety Research Centre, ESRI
Loughborough University, Ashby Road, Loughborough, LE11 3TU, UK

Project Start date: 01/01/2010

Duration 36 months

Organisation name of lead contractor for this deliverable:

Transport Research Laboratory (TRL)

Report Author(s):

Broughton, J. (TRL)

Brandstatter, C., (KfV)

Yannis, G., Evgenikos, P., Papantoniou, P. (NTUA)

Candappa, N., Christoph, M., van Duijvenvoorde, K., Vis, M. (SWOV)

Pace, J-F., Tormo, M., Sanmartín J. (INTRAS-UVEG)

Haddak, M., Pascal, L., Lefèvre, M., Amoros, E. (IFSTTAR)

Thomas, P., Kirk, A., Brown, L. (TSRC)

Due date of deliverable

31/12/2012

Submission date:

31/12/2013

Project co-funded by the European Commission within the Seventh Framework Programme

Dissemination Level

Public



Project co-financed by the European Commission Directorate General for Mobility and Transport

TABLE OF CONTENTS

Executive summary	4
1. INTRODUCTION	6
1.1. Annual Statistical Report.....	8
2. Annex 1: The Basic Fact Sheets 2012	12
2.1. Main figures.....	12
2.2. Children (aged <15)	13
2.3. Youngsters (aged 15-17)	14
2.4. Young people (aged 18-24)	15
2.5. The Elderly (aged >64).....	16
2.6. Pedestrians	17
2.7. Cyclists	18
2.8. Motorcycles and mopeds	19
2.9. Car occupants	20
2.10. Heavy Goods Vehicles and Buses.....	21
2.11. Motorways	22
2.12. Junctions	23
2.13. Urban areas.....	24
2.14. Roads outside urban areas	25
2.15. Seasonality.....	26
2.16. Single vehicle accidents.....	27
2.17. Gender	28
2.18. Accident causation	29
2.19. Design Principals for the Basic Fact Sheets and Annual Statistical Reports	30
3. ANNEX 2: THE ANNUAL STATISTICAL REPORT 2012	31

EXECUTIVE SUMMARY

The CARE database brings together the disaggregate details of road accidents and casualties across Europe, by combining the national accident databases that are maintained by all EU member states. Access to the CARE database is restricted, however, so it is important that a comprehensive range of publications based on these data be accessible to the general public. This process was begun in the SafetyNet project that was carried out between 2004 and 2008, and the concept of the Basic Fact Sheet (BFS) Basic Fact Sheets and Annual Statistical Report (ASR) was developed. By 2008, twelve Fact Sheets were being prepared annually by researchers at five institutes and one Statistical Report.

One of the tasks of DaCoTA Work Package 3 has been to continue to develop this area of work. These twelve BFS's have been updated and new content has been added. Six new BFS's have been developed, and the eighteen BFS's are listed below together with the partner responsible for the preparation of the 2012 version.

	Basic Fact Sheet	Partner responsible
Update and expansion of existing BFS	Main figures	TRL
	Children (aged<15)	TRL
	Young people (aged 18-24)	NTUA
	The Elderly (aged>64)	TRL
	Pedestrians	INTRAS-UVEG
	Cyclists	SWOV
	Motorcycles and mopeds	NTUA
	Car occupants	SWOV
	Heavy Goods Vehicles and Buses	INTRAS-UVEG
	Motorways	NTUA
	Junctions	TRL
	Urban areas	INTRAS-UVEG
New BFS	Youngsters (aged 15-17)	IFSTTAR with SWOV
	Roads outside urban areas	INTRAS-UVEG
	Seasonality	TRL
	Single vehicle accidents	NTUA
	Gender	NTUA
	Accident causation	TSRC

The Fact Sheets present an overview highlighting the main facts for a specific topic. Wherever possible, measures of risk are calculated by relating the number of fatalities from CARE to exposure data available from other sources. Most Fact Sheets examined trends over the period 2001-2010, with more detailed analyses of data from 2010.

The eighteen Basic Fact Sheets that were prepared in 2012 appear as Annex 1 to this report. The partners involved in this work are:

NTUA	National Technical University of Athens	Greece
INTRAS- UVEG	Research Institute on Traffic and Road Safety, University of Valencia	Spain
IFSTTAR	French institute of science and technology for transport, development and networks	France
KfV	Kuratorium für Verkehrssicherheit	Austria
SWOV	Institute for Road Safety Research	Netherlands
TRL	Transport Research Laboratory	UK
TSRC	Transport Safety Research Centre, Loughborough University	UK

These partners also worked to develop the Annual Statistical Report of 2008, led by KfV. More recent road accident data from the CARE database, for more countries, were incorporated. The Annual Statistical Report consists of a large number of Tables and Figures with data retrieved from the CARE database, without further analysis or comment. It includes a Glossary with the definitions of the variables and values used in the Annual Statistical Report.

The Annual Statistical Report of 2012 provides the basic characteristics of road accidents in 26 member states of the European Union and Switzerland for the period 2001-2010, and more detailed data for the last available year. It consists of 56 Tables and 26 Figures with the most interesting combination of CARE road accident data on major road safety topics, giving the overall description of the road safety situation in the EU and the development of fatalities in the countries over time. It monitors trends using time series of fatal data from the decade and also analyses data on fatalities and fatal accidents for different accident-related attributes like time, area type, road network and mode of transport.

1. INTRODUCTION

The CARE database brings together the disaggregate details of road accidents and casualties across Europe. It is based on the national accident databases maintained by all EU member states, taking account of the differences between national systems for recording accidents. It is thus a vital resource in monitoring the level of road safety across Europe, and for formulating approaches for reducing the harm caused throughout Europe by road accidents.

Access to the CARE database is permitted only to a restricted range of users, so it has been important to develop a comprehensive range of publications based on these data that are accessible to the general public. This process was begun in the SafetyNet project that was carried out between 2004 and 2008 as part of the European Commission's Sixth Framework Programme. The concepts of the Basic Fact Sheet (BFS) and Annual Statistical Report (ASR) were developed, and by 2008 one ASR and twelve BFSs was being prepared annually by researchers at five institutes and published via the SafetyNet website. The 'Main figures' Fact Sheet provided an overview of the accident data. The other Fact Sheets presented a range of statistics derived from analyses of the CARE database relating to a specific group of accidents or casualties, such as pedestrian casualties or accidents occurring on motorways. All Fact Sheets gave details of trends over ten years, with more detailed analyses of data from the most recent year. The Annual Statistical Report consists of a large number of Tables and Figures with data retrieved from the CARE database, without further analysis or comment.

Only data relating to fatal accidents or casualties were analysed because of inconsistencies between national reporting of non-fatal accidents and casualties.

One of the tasks of DaCoTA Work Package 3 has been to continue to develop this area of work. These twelve Fact Sheets have been updated and new content has been added. Six new Fact Sheets have been developed, and the set of eighteen Fact Sheets that were prepared in 2012 is listed in Table 1. The partners involved in this work are listed in Table 2.

One part of the development has consisted of adding details of accident causation to Fact Sheets where appropriate, based on in-depth accident data collected during the SafetyNet project; this has been done for ten Fact Sheets as shown in Table 1. Another development in 2011 was the addition of a section 'Road Accident Health Indicators' to the Main Figures BFS based on analyses of data from the EU Injury Database. In 2012, health indicator sections based on analyses of the EU Injury Database were added to the nine BFS shown in Table 1. In addition a new BFS was developed dealing specifically with accident causation, based again on the SafetyNet in-depth data.

Experience with the preparation of the 2010 Fact Sheets had demonstrated that authors needed more comprehensive guidance about style and content, so in the summer of 2011 one of the partners (TRL) developed the document 'Design Principals for the Basic Fact Sheets and Annual Statistical Reports'. This guidance was followed by Partners as they worked on the 2011 and 2012 editions.

Table 1 Titles of current Basic Fact Sheets

	Basic Fact Sheet	Partner responsible	Causation section?	Health indicator section?
Update and expansion of existing BFS	Main figures	TRL	No	Yes
	Children (aged<15)	TRL	No	Yes
	Young people (aged 18-24)	NTUA	Yes	Yes
	The Elderly (aged>64)	TRL	Yes	Yes
	Pedestrians	INTRAS-UVEG	Yes	Yes
	Cyclists	SWOV	Yes	Yes
	Motorcycles & mopeds	NTUA	Yes	Yes
	Car occupants	SWOV	Yes	Yes
	Heavy Goods Vehicles and Buses	INTRAS-UVEG	Yes	No
	Motorways	NTUA	No	No
	Junctions	TRL	Yes	No
Urban areas	INTRAS-UVEG	No	No	
New BFS	Youngsters (age 15-17)	IFSTTAR with SWOV	No	Yes
	Roads outside urban areas	INTRAS-UVEG	No	No
	Seasonality	TRL	No	No
	Single vehicle accidents	NTUA	Yes	No
	Gender	NTUA	Yes	Yes
	Accident Causation	TSRC	-	No

Table 2 : Partners involved in preparing 2012 BFS

NTUA	National Technical University of Athens	Greece	BFS
IFSTTAR	Institut Français des Sciences et Technologies des Transports, de l'Aménagement et des Réseaux	France	BFS
INTRAS	Research Institute on Traffic and Road Safety, University of Valencia	Spain	BFS
KfV	Kuratorium für Verkehrssicherheit	Austria	Health Indicators
SWOV	Institute for Road Safety Research	Netherlands	BFS
TRL	Transport Research Laboratory	UK	BFS
TSRC	Transport Safety Research Centre, Loughborough University	UK	BFS, Causation sections

A central aim of road safety analysis is to measure and compare the risk of having an accident, so measures of exposure to risk are indispensable for providing the context for the accident and casualty data. Risk indicators are generally calculated as the ratios between accident or casualty counts and an appropriate exposure measure. Various indices exist that quantify more or less satisfactorily the exposure to risk of those travelling by road in a country, so they are related more or less directly to the number and type of road accident casualties in that country.

These indices are typically divided into three groups: those relating to the people using the roads and their behaviour, those relating to the vehicles being used, and those relating to the road infrastructure. The range and detail of indices that are collected varies between countries. One of the tasks of DaCoTA Work Package 3 is

to bring together the available files of exposure data to broaden the range of analyses of CARE data that can be conveniently be made. Where possible, these exposure data have been used to enhance the Fact Sheets.

1.1. Annual Statistical Report

The Annual Statistical Report provides the basic characteristics of road accidents in member states of the European Union and Switzerland and Iceland, and more detailed data for the last available year, on the basis of data collected and processed in the CARE database, the Community Road Accident Database with disaggregate data. The chapters comprising the Annual Statistical Report, as well as the related Tables and Figures, were selected by looking at the main interests of several potential road accident stakeholders. WP 3 partners collaborated closely with the EC-CARE administration to identify which types of information are comparable among countries and which types are open to misinterpretation. Consequently, detailed Tables and Figures containing data about non-fatal accidents and casualties were excluded.

The 2012 edition of the Annual Statistical Report consists in total of 52 Tables and 26 Figures with the most interesting combination of CARE road accident data on the following major topics:

Overview – major issues

- EU-25 – Developments (also includes data other than CARE)
- Interesting Details

Time Series – last 10 years

- General time series
- Time series related to mode of transport
- Time series related to person age and gender

Fatalities 2010

- People involved Modes of transport Accident characteristics
 - Various periods of time (month, day of week, hour of day)
 - Type of area / road
 - Type of junction
 - Weather conditions

The chapter “Overview – major issues” includes the overall description of the road safety situation in the EU, the development of fatalities in the countries over time and interesting details about the distribution of fatalities in the EU by gender, area type and mode of transport is provided.

In order to monitor trends, time series of fatal data from 2001–2010 are presented in the chapter “Time Series – last 10 years”. In addition to general time series such as “Annual number of fatalities by country”, more specific series about mode of transport, age and gender etc. are presented.

The next chapter “Fatalities 2010” contains Tables and Figures with data from 2010 or the last available data from each country. This yearly dataset is analysed in several ways in the following pages. The sub-chapters “People involved”, “Mode of transport” and “Accident characteristics” reflect the hierarchical structure of road accidents. The fatalities are analysed for different accident related attributes like time, area type, road network, type of junction and weather conditions.

1.2. Practical details

The allocation of tasks to partners that had been adopted in 2011 was retained in 2012. Active preparation of the Fact Sheets and Annual Statistical Report began during September when the CARE database was “frozen”, i.e. no changes were made to the database during this period to ensure that all documents would have a consistent statistical basis. The database was frozen for six weeks, and all necessary data were extracted during that period. Table 3 summarises the availability of CARE data at this time.

Table 3 Availability of CARE data for Fact Sheets

		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Belgium	BE	X	X	X	X	X	X	X	X	X	X
Bulgaria	BG	-	-	-	-	-	-	-	-	X	-
Czech Republic	CZ	X	X	X	X	X	X	X	X	X	X
Denmark	DK	X	X	X	X	X	X	X	X	X	X
Germany	DE	X	X	X	X	X	X	X	X	X	X
Estonia	EE	-	-	-	-	X	X	X	X	X	-
Ireland	IE	X	X	X	X	X	X	X	X	X	X
Greece	EL	X	X	X	X	X	X	X	X	X	X
Spain	ES	X	X	X	X	X	X	X	X	X	X
France	FR	X	X	X	X	X	X	X	X	X	X
Italy	IT	X	X	X	X	X	X	X	X	X	X
Cyprus	CY	-	-	-	X	-	-	-	-	-	-
Latvia	LV	-	-	-	-	-	X	X	X	X	X
Lithuania	LT	-	-	-	-	-	-	-	-	-	-
Luxembourg	LU	X	X	X	X	X	X	X	X	X	X
Hungary	HU	-	-	X	X	X	X	X	X	X	X
Malta	MT	-	-	-	-	X	X	X	X	X	X
Netherlands	NL	X	X	X	X	X	X	X	X	X	X
Austria	AT	X	X	X	X	X	X	X	X	X	X
Poland	PL	X	X	X	X	X	X	X	X	X	X
Portugal	PT	X	X	X	X	X	X	X	X	X	X
Romania	RO	X	X	X	X	X	X	X	X	X	X
Slovenia	SI	X	X	X	X	X	X	X	X	X	X
Slovakia	SK	-	-	-	-	X	X	X	X	X	X
Finland	FI	X	X	X	X	X	X	X	X	X	X
Sweden	SE	X	X	X	X	X	X	X	X	X	-
United Kingdom	UK	X	X	X	X	X	X	X	X	X	N
Iceland	IS	-	X	X	X	X	X	X	X	X	X
Norway	NO	-	-	-	-	-	-	-	-	-	X
Switzerland	CH	-	-	-	X	-	-	-	X	X	X

Source: CARE Database / EC

Date of query: September 2012

The availability of CARE data, as summarised in the table, had various consequences for the coverage and content of the Fact Sheets. There was good availability of data for 2010, which simplified the analyses that focus on the latest year of data. Data were available for the full decade 2001-2010 in 17 countries, and data were missing for a single year in another two countries. In order to allow 10-year time series to be based on the widest range of countries possible, it was decided to estimate these missing data as the previous or next reported number. CARE data were not available for Northern Ireland for 2010; Northern Ireland accounts for less than 5% of the United Kingdom fatality total in in most years, so it was decided to

estimate the UK data for 2010 by summing the GB data for 2010 and the NI data for 2009.

Note that some details were not recorded for certain countries, or not recorded well, which meant that specific analyses had to exclude these countries. For example, hour of accident is not known in the German data, so Germany must be omitted from analyses relating to time of day.

The CARE database contains data from some European countries outside the EU. Some Fact Sheets included data from Switzerland, Iceland and Norway.

A standard template was used to enable the Fact Sheets to share a common “look”, which again followed the approach that had been developed during the SafetyNet project. Experience with the preparation of the 2010 Fact Sheets had demonstrated that authors needed more comprehensive guidance, so the document ‘Design Principals for the Basic Fact Sheets and Annual Statistical Reports’ was developed in the summer of 2011. This document is contained in Annex 1. As Fact Sheets were drafted, they were checked for conformity with the ‘Design Principals’ document.

The eighteen Basic Fact Sheets that have been prepared in 2012 are reproduced in Annex 1; the Annual Statistical Report is reproduced in Annex 2.

Special attention should be given to the following points that concern the content of the Annual Statistical Report - 2012:

- All queries for figures and tables were carried out in October 2012.
- It should be taken into account that analysis and comparisons of the numbers of accidents and injuries are not always possible, as different definitions exist in each EU Member State.
- Fatality data are compatible between countries and use common definitions as a result of the CAREPLUS 1 and CAREPLUS 2 project. Corrective factors have been applied to comply with the international definition of people killed within 30 days after an accident.
(http://ec.europa.eu/transport/roadsafety/road_safety_observatory/doc/care_glossary.pdf).
- Minor differences in totals are due to rounding-off differences of data.
- “Unknown” values are not displayed in tables, but totals include the unknowns.
- The EU totals for all people killed are not necessarily the sum of each subdivision of these persons, given that there are no data available for all subdivisions and all countries. Corresponding percentages refer to the available data.
- Partial or complete reproduction of these statistics is permitted if the source is mentioned and accompanied with the remarks included in the Statistical Report.
- The basic characteristics of fatal road accidents in the EU member states have been selected as those which might be useful for road accident analysis and where data are available for all or most of the EU countries. More precisely, the basic characteristics of fatal road accidents refer to:

Person class (driver, passenger, pedestrian)

Person killed (age groups and/or gender)

Area type (inside or outside urban area)

Motorway (yes or no)

Junction type (crossroad, level crossing, not at a junction, roundabout, T or Y junction)

Weather conditions (dry, fog or mist, rain, snow/sleet/hail, strong wind)

Modes of transport – vehicle group (agricultural tractor, bus or coach [>8 seats], car or taxi, heavy goods vehicles, lorry under 3,5 tons, pedal cycle, moped, motorcycle, other)

Month (January to December)

Day of the week (Monday to Sunday)

Hour (0-24)

2.ANNEX 1: THE BASIC FACT SHEETS 2012

2.1. Main figures

2.2. Children (aged <15)

2.3. Youngsters (aged 15-17)

2.4. Young people (aged 18-24)

2.5. The Elderly (aged >64)

2.6. Pedestrians

2.7. Cyclists

2.8. Motorcycles and mopeds

2.9. Car occupants

2.10. Heavy Goods Vehicles and Buses

2.11. Motorways

2.12. Junctions

2.13. Urban areas

2.14. Roads outside urban areas

2.15. Seasonality

2.16. Single vehicle accidents

2.17. Gender

2.18. Accident causation

2.19. Design Principals for the Basic Fact Sheets and Annual Statistical Reports

3. ANNEX 2: THE ANNUAL STATISTICAL REPORT 2012