



Deliverable D1.12 Harmonising national road accident data: Development of transformation rules for 15 European countries

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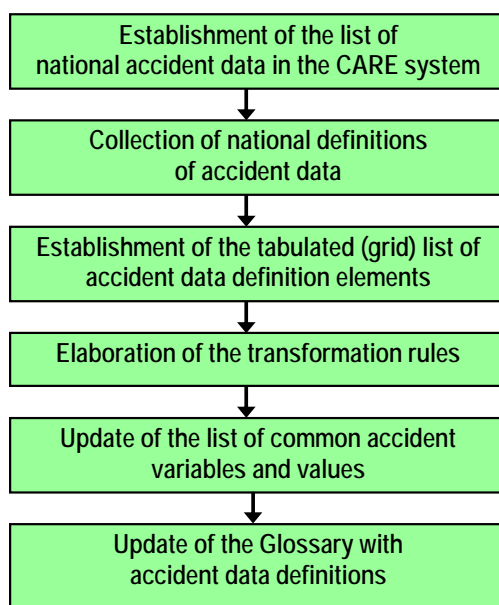
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Executive Summary

Work Package 1 of the SafetyNet Integrated Project is dealing with the further enhancement and exploitation of the CARE database, the European Community database with disaggregate data. Under that perspective, SafetyNet WP1 contributed to the further development of CARE as a complete and powerful tool for road accident analysis, which will also includes a comprehensive set of end-products with compatible statistics, useful for the improvement of road safety in the European Union.

Within this framework, the initial priority of the European Commission DG – TREN to have compatible data from the 10 accession countries in 2004 and additionally Switzerland and Norway was considered. This goal was achieved by incorporating the national accident databases of these countries into the CARE database by using a uniform methodology, a similar process to the CAREPLUS 1 and CAREPLUS 2 projects.

More specifically, for each national database, the methodology used consisted of the following tasks:



In conclusion, the enlargement of the CARE database by including twelve new countries provides the opportunity to draw two types of conclusions: firstly, those directly linked to the work on the field, and secondly, the added values for the European Road Safety.

Firstly, the study on the different structures of the national databases, as well as the definitions of the variables, provided a new perspective in accident analysis, and contributed to the further apprehension of road accident mechanisms.

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Secondly, the added value for the common effort to enhance Road Safety in Europe is indisputably the strong and sustainable link that is created between the countries that lately became EU Member States and those Member States already existing in the European Union. Strong because by providing its national data to the European Community is an indication of trust on behalf of the national authorities to the European systems and sustainable as this exchange of information and experiences will be an opportunity to maintain regular contacts with the common core and to receive feedbacks of the use of the provided data within the framework of European research projects.



1 Introduction

Work Package 1 of the SafetyNet Integrated Project is dealing with the further enhancement and exploitation of the CARE database, the European Community database with disaggregate data. Under that perspective, SafetyNet WP1 contributed to the further development of CARE as a complete and powerful tool for road accident analysis, which will also include a comprehensive set of end-products with compatible statistics, useful for the improvement of road safety in the European Union.

Within this framework, the initial priority of the European Commission DG – TREN to have compatible data from the 10 accession countries in 2004 and additionally Switzerland and Norway was considered. This goal was achieved by incorporating the national accident databases of these countries into the CARE database by using a uniform methodology, a similar process to the CAREPLUS 1 and CAREPLUS 2 projects.

The integration of their national databases into the CARE system was a very important step for those countries, as they feel instantly their close implication into the European road safety field. Nevertheless, this integration should be carried out with all the necessary attention, and offers the opportunity not only to exchange road accident data, but also to compare methods or perspectives in road accident description

Within this report three basic points are developed. Firstly, the previous phases of the development of the CARE common European road accident database (CAREPLUS projects), as well as the fundamental principles of this enlargement are described. Secondly, the basic principles of the work carried out with each country are presented, according to an eight-step process which was applied in each case. Finally, in the conclusions section of the report, the diverse experiences gained by all the partners from their collaboration with national experts on road accident data are synthesised and the added value of this work for the European Road Safety is discussed. Additionally, possible linkage of the work of Task 1.1 and the recommendation for a Common Accident Data Set, which is also developed within the SafetyNet IP is examined.

In order to carry out the work, CETE-SO defined a methodological framework based on eight distinct steps, which was used by all Task1.1 partners for the extension of CARE to the other EU Members States, according to the following distribution over the countries:

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Task 1.1 partners	CDV	CETE	DRD	NTUA	KTI
Member States	Czech Republic, Slovakia	Estonia, Switzerland, Poland and Romania.	Lithuania, Norway	Cyprus, Malta, Latvia, Bulgaria and Iceland	Hungary, Slovenia

In order to set up an efficient internal review system, all the partners were sending to the CETE-SO the transformations rules of the countries for which they were responsible, as soon as they had finalised them. CETE-SO had to further check the transformation rules according to the developed eight step methodology.

For carrying out the work in Task 1.1 efficiently, it was essential to establish appropriate links with the national experts working in the field of road accident data. On this purpose, the national representatives from these twelve countries, members of the CARE Experts Group were approached with the assistance of the EC. During the CARE Experts Group meeting in 2004 and 2005, a request was addressed by the EC to the national Experts to provide a first set of necessary information on their national road accident database, the variables and the values collected at national level and the related definitions. This first set was initially exploited by the Task 1.1 partners, who subsequently were working more closely with representatives of the countries for which they were responsible.

In general, all national representatives provided significant assistance to the work of the Task 1.1 partners and only in exceptional cases, some difficulties were temporarily confronted either with the establishment of contact with the appropriate persons or with delays in the provision of the necessary information. More specifically, regarding the compatibility improvement of the Polish accident data, some difficulties related to the identification of the responsible person for the provision of the necessary information were identified during the second year of SafetyNet, but were resolved by CETE-SO with the assistance of the EC.

With regard to the Swiss data, some difficulties related to the provision of the necessary information/data occurred during the third year of SafetyNet, however, these were also resolved by CETE-SO and the establishment of the final version of the transformation rules for Switzerland was completed and submitted to the EC.

In the case of the Slovenian data, delays with the identification of the responsible person for the provision of the necessary information occurred, as no Slovenian representative was attending most of the CARE Experts meetings.



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Several attempts to contact persons from the Ministry of Transport or the Slovenian Police took place and finally, KTI with the assistance of the EC managed to establish on the forth SafetyNet year links with the appropriate national expert and develop the transformation rules to be applied on the Slovenian road accident data.

Finally, with reference to the work with Lithuania, difficulties related to the establishment of links with the Lithuanian expert and to the provision of the necessary information/data occurred, however these were also successfully overcome and the necessary transformation rules were developed and submitted to the EC.

2 CARE and CARE PLUS Background

2.1 CARE: concept, objectives, and structure

The European Union database of injury road accidents (CARE) is an essential tool for the development of traffic and road safety policies at European, national and in some cases even regional level. The CARE database is composed of national road accident data, which are collected by the national authorities according to different definitions and recording practices and are further provided to the EC by the Member States.

The CARE PLUS 1 project started in 1996 with the objective to achieve comparability of 29 key road accident variables across the EU Member States. The project methodology involved three principal tasks:

- Selection of appropriate road accident variables common among the Member States
- Gathering the national definitions for each Member States' road accident variables
- Developing transformation rules which transform original Member States' road accident variables into comparable among all countries common road accident variables

The CARE PLUS 1 project applied the above procedures to conclude to a total of 29 common accident variables. The results of this work extended the functionality of the CARE database by allowing users to create comparable reports for important road accident variables across a range of Member States. The full list of comparable variables is presented in Annex 1.

The final report of the CARE PLUS 1 project was presented in Brussels on the 27th February 1997 at the meeting of the governmental experts on Road Accident Statistics.

The CARE PLUS 2 project, following the successful completion of the CARE PLUS 1 project, had the following objectives:

- Validation of the results of CARE PLUS 1 work.
- Development of a glossary for the 29 common variables (and values thereof) derived from CARE PLUS 1.
- Increasing the number of common variables from the 29 that were currently available.
- Identifying analysis themes using the common variables derived from the CARE PLUS projects.

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2.2 CARE PLUS common variables and values

The objective of the CARE PLUS project was to develop a methodology for obtaining a comparable set of data variables between Member States, from the respective national accident data. The purpose was to optimise the use of available road accident data for monitoring and developing both European and national road safety policies. On this purpose, the CARE PLUS expert group was formed at the request of the High Level Group of Road Safety to carry out this task. National data experts from most Member States participated in this group.

As the CARE PLUS project was designed to improve the comparability of national road accident statistics that were maintained in CARE, this was achieved by restructuring existing national road accident files within the CARE system, rather than harmonising the collection methods of Member States by using, for example, a standard road accident form. Increased comparability between Member States' road accident data held in CARE was an important step towards the enhanced use of the database, and increased its potential to support European and national road safety policies.

The CARE PLUS project was managed by a working group of national experts who developed appropriate procedures to achieve comparability between road accident variables through the use of transformation rules. Transformation rules transformed original national road accident variables into European or common road accident variables, which subsequently could be compared between all (or at least most) Member States.

2.3 Definitions, Transformation rules, Grids and Glossary

The concepts used in CARE PLUS are presented in the following paragraphs.

Grids

In the Grids, the national definition components for common values of the common variables are summarised and the availability of each component for each Member State is indicated. Grids are the "building" blocks for developing the transformation rules. Examples of Grids for the twelve countries are presented in Annex 4.

Associated variable

An associated variable is not included in the common variable list, but its values are incorporated in the transformation rules to obtain common variables and values. As an example, the associated variable "Car or Taxi" has its transformation rules for Poland as follows:

We have Car = B [(vehicle type: 4 TO 5)] and Taxi = B [(vehicle type: 6)] So, Car or Taxi = B [(vehicle type: 4 TO 6)]

Note: "Tak" means "Yes" and "Nie" means "No"



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Transformation Rules

Common variables and values are derived from the original national variables and values using transformation rules.

These transformation rules are logic statements, which contain the Boolean operators, for example, "AND" (intersection), "OR" (union) "=" (equal) and "NOT EQUAL". As an example, the CARE value "Injury Severity Person: Killed" has its transformation rules for Poland as follows:

Injury Severity Person: Killed = C [(killed on the spot: tak) OR (killed within 30 days after accident: tak)] OR D [(killed on the spot: tak) OR (killed within 30 days after accident: tak)]

Note: "Tak" means "Yes"

Common Variables

Common road accident variables are variables made comparable across all or most of the Member States. They are sometimes referred to as European Variables.

Common Values

Each road accident variable comprises of value(s). For example, the road accident variable "_Vehicle Type_" contains values such as Car, Pedal Cycle and Goods Vehicle. Common road accident values are values made comparable across all or most of the Member States.

3 Fundamental principles of the CARE enlargement to the additional 10 EU Members States, plus Norway, Switzerland, Bulgaria, Romania and Iceland

3.1 Fundamental principles

The CAREPLUS project was designed to improve the comparability of national road accident statistics, held in the European Union road accident database CARE. This was achieved by restructuring existing national road accident files within the CARE system, rather than harmonising the collection methods of EU countries by using, for example, a standard road accident form.

More specifically, within the CAREPLUS project, definitions of so called 'priority values' were collected for all countries, in order to gain a better understanding of any differences in terminology between countries and to determine which data can be comparable between countries. Priority values were values within variables that have been given a priority for analysis, either because a variable is frequently available for many countries, or because there is strong interest among Member States in a specific variable.

Increased comparability between Member States' road accident data held in CARE is an important step towards the enhanced use of the database, and is increasing its potential to support European and national road safety policies. The CAREPLUS project was managed by a working group of national experts who had developed procedures to obtain comparability between road accident variables using transformation rules. Transformation rules transform original national road accident variables into common road accident variables which can then be compared among all or most EU countries.

It should be noted that obtaining comparability will leave unchanged differences in the reporting level of accidents, or variations in data quality that already exist between Member States' road accident systems.

Within the framework of SafetyNet Task 1.1 the basic working principles of CAREPLUS were used to develop the appropriate transformation rules for the road accident data of the 15 additional EU countries:

- 1) Compatibility with the national road accident data was examined only for the existing common CARE variables and values.
- 2) For these common variables and values, the definitions were collected in both native language and English and information on their relation to some predefined definition interpretations was collected through the Grids. However, definitions of the non-common national variables and values were also recorded and are included in this Deliverable.

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3) In some cases, qualitative information regarding the collection of some national variables and values was also recorded (frequency of specific data collection, reliability of data collected, etc.), supplemented by more general information on the national road accident data collection system, enabling to identify any particularities that could assist to the appropriate development of the respective transformation rules.

4) Transformation rules for the common variables and values were established using the same procedure and format as in the CAREPLUS project.

5) In certain cases, recommendations were made for additional national variables or values that could be considered for inclusion into CARE at a next stage. This mostly concerned variables and values that were similar among the national accident databases and were common in most of the examined countries. However, further investigation should also consider whether these are also included in the national databases of the 14 EU countries, data of which is already included into the CARE system.

3.2 The 8 step process adopted in Task 1.1

Step 1: The CARE common variables and values concluded from the CARE PLUS 1 and 2 work, with their definitions, are listed and used as the “starting point” of the work of Task 1.1.

Step 2: The description of the national database, its content and all national road accident variables and values with the related definitions are analysed. Each Task 1.1 partner analysed the accident database of two or three EU countries (new Member States at that time) according to the workload distribution (see below) decided during the WP1 meeting in Barcelona on April 26th 2005.

Step 3: First draft of the national accident file structure:

- List and definitions of national variables/values.
- Logical organisation of the accident data.
- First selection of variables/values usable to be integrated in the CARE system.

Step 4: New requests from the Task 1.1 partners to the EU countries:

- Complementary information concerning the Logical organisation of the accident data.
- More detailed definitions, if necessary, concerning the selected variables and values usable in the CARE system

This step 4 can be repeated several times until the structure of the accident data file and definitions are sufficiently clear to make the transformation rules drafting possible.

Step 5: Drafting of the transformation rules.

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Step 6: Checking and revision of the transformation rules along with the national expert in charge on behalf of the Member State.

Step 7: Setting up of the final version of the transformation rules.

Step 8: Final validation of the transformation rules by the Member State.

The proposed templates have to be used in the steps 3 and 5 in order to use common documents and transformation rules presentation for each country's accident database.

4 The particular case in each country

4.1 CY Cyprus

4.1.1 General

In Cyprus the first road accident collection form and the national road accident database were introduced in 1976. The currently used collection form and the current structure of the road accident database were introduced in 1994, when the database also passed under the Police's responsibility, as until 1994 it was maintained by the Statistical Service, Ministry of Interior. The Traffic Department of the Cypriot Police is now responsible for both the development of the national road accident database and also for filling-in the accident data collection form (which is filled-in in paper format).

The policemen responsible for filling-in the collection form are receiving some special courses along with the basic training upon recruitment at the Police Academy. There is a time limit of four days after an accident occurs and certainly before the end of the month in which the accident took place, for the responsible policeman to fill-in the accident collection form and transfer the data into the database.

Road accident data for the entire Cyprus (except the occupied area) is included in the database and is considered highly reliable. As validation methodology applied on the accident data, it is cross-checked with the accident registry report. Furthermore, consistency checking concerning the transfer of data from the accident data collection form into the road accident database is carried out by the Police, as during the data entry the personnel checks whether the data are within the given options of each response.

The Cypriot road accident database contains information on accidents that involve casualties, but also accidents that involve material damages.

4.1.2 Work description

Within the framework of Task 1.1, NTUA closely collaborated with the Cypriot national representatives from the Traffic Safety Unit of the Ministry of Communications & Works and from the Cyprus Police Information Technology Department who are also members of the CARE Experts Group. First links with the Cypriot representatives were established during the CARE Experts meetings in 2005, in which first discussions on the organisation and planning of the work took place.

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Following the related request of the EC to the national representatives from the new Member States for provision of a first set of necessary information on their national accident database, the Cypriot representatives initially sent the accident data collection form of Cyprus with some relevant fill-in instructions, as well as a description of the Cyprus Accident database with the necessary definitions and characteristics in both electronic form and hardcopy. Additionally, they sent a more detailed booklet with the fill-in instructions of the accident data collection form.

This first set of information was examined by NTUA and in January 2006 some additional information on the structure of the national road accident database in Cyprus were requested, such as the number and names of the folders contained in the Cypriot national road accident database, as well as on which road accident variables are included in each of these folders. This supplementary information was provided by the Cypriot Expert and at a next stage, two Excel files concerning road accident variables and values definitions were sent back to fill-in/verify.

The first Excel file was a template developed within Task 1.1 and included the variables and values in both native and English language, as these are included in the national road accident collection form of Cyprus, as well as their definitions. The Cypriot representative filled-in any missing parts, verified the definitions for each variable and value and provided additional information/explanations when necessary.

The second Excel file was a Grid including various definitions of all the CARE+1 and CARE+2 variables and values, and was filled-in by the Cypriot national Expert, indicating which of these definitions apply to Cyprus and which not. These Grids have already been filled-in for all 15 EU countries during the CARE+1 and CARE+2 projects and filling them in also for the new EU countries will result to have a more complete picture of the road accident data collection at European level. Clarifications on filling-in this Grid were requested by the Cypriot Expert and were provided by NTUA.

Following the successful filling-in of these files, a draft version of the Cypriot transformation rules was developed and sent for verification, along with some new questions on specific variables. Subsequently, a meeting was organised between NTUA and the Cypriot Experts in Cyprus, in January 2007, allowing for the clarification of some pending issues related to the Cyprian road accident variables and values and the finalisation of the set of transformation rules. The final meeting took place at the premises of the Cyprian Ministry of Communications & Works and people from the Information Technology department were also present to discuss the issues related to the data transmission to the EC CARE administration.

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The 8 steps of the work progress	Duration
Step1: The CARE common variables and values	8 months
Step2: The description of the national database	
Step 3: First draft of the national accident file structure	
Step 4: New requests from the Task 1.1 partners to the EU countries	2 months
Step 5: Drafting of the transformation rules	1 month
Step 6: Checking and revision of the transformation rules	1 month
Step 7: Setting up of the final version of the transformation rules	1 month
Step 8: Final validation of the transformation rules by the Member State	1 month

4.1.3 Database structure and linkage between the accident components of the data – Identification of specific data

The Cyprian road accident database consists of 3 main folders:

CARD NO. 1: GENERAL ACCIDENT DATA (57 variables)

CARD NO. 2: VEHICLE DATA (27 variables)

CARD NO. 3: PERSONS INVOLVED DATA (18 variables)

These 3 folders are linked to each other, mainly through the variable "Consecutive number of accident on district register", which is common in all three folders and indicates the unique number of an accident. There are 102 variables in total in the national database, most of which are collected by the police on the accident spot. Most of these variables are filled-in by selecting one (or in a few cases more than one) values from a specific pre-defined list of values, and in a few cases text or number can be filled-in.

The variables included in each of the folders are the following:

GENERAL ACCIDENT DATA

Area code, Police district, Police station, District accident number, Accident date (day-month-year), Accident day, Accident time (Hours-minutes), Number of vehicles, Number of casualties, Exchange of names / addresses, Police at accident scene, Left scene, Photos taken, Hit and run, Division record number, Station record number, Town, Village, Street, Number on main road, Build-up area, Distance from 1st location, Landmark or large building, 1st location code 2nd location code, Road width (m), Width of shoulder / footway (m), Direction of travel (for dual carriageways), Junction type, Road narrowing, Allowed traffic movements, Road surface type, Road separation type, Speed limit (km / hour), Road works, Bus stop, Accident type, Pedestrian action, Traffic control, Pedestrian crossing facilities, Light conditions, Road descriptions, Road surface



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conditions, Weather, Apparent contributing factors - human, Apparent contributing factors - vehicular, Apparent contributing factors - Environmental, Police investigator, Police investigator number, Police notification number (hour and minutes), Police arrival time (hour and minutes), Time for Police to arrive (hours and minutes), Ambulance notified by, Ambulance notification time (hour and minutes), Ambulance arrival time (hour and minutes), Time for ambulance to arrive (hours and minutes), Type of the accident -Collision with other vehicle, Type of the accident -Collision with other moving object, Type of the accident - Collision with fixed object, Type of the accident -Non collision.

VEHICLE DATA

Insurance company, Insurance certificate number, Insurance issue date, Insurance expiry date, Vehicle owner (Name, surname, address, telephone number), Vehicle make, Vehicle model, Year of Construction, Vehicle capacity, Vehicle registration number, Vehicle Type, 1st impact damage on vehicle, Circulation license, Road worthiness certificate, Location of first event, Pre-accident vehicle action.

PERSONS INVOLVED DATA

Driver (Name, surname, address, telephone number, identity card number), Age of driver, Sex of driver, Type of driver's license, License number, Expiry date of license, Which vehicle occupied, Position in/on vehicle, Safety equipment used, Ejection from vehicle, Nationality, Age of casualty, Sex of casualty, Service personnel, Alcohol and drugs, Type of person involved, Injury type, Means of conveyance, Hospital, Name and addresses of persons involved.

Additionally, specific information on the collision can be derived from the sketches with the collision diagram.

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4.1.4 Transformation Rules – From theory to application

In order to elaborate the appropriate transformation rules to be applied on the national road accident data to become compatible with the CARE variables and values, the definitions of the Cyprian variables and values were analysed and it was examined whether they could identically match with the respective CARE variables and values or a combination of more than one variables and values was necessary.

All the CAREPLUS I and the CAREPLUS II variables and values can be extracted by the Cyprian road accident database, either directly or by combining more than one Cyprian variables or values. The detailed transformation rules are presented in Annex 3.

However, there are minor differences in the definitions of some Cyprian variables and values and some notes have to be considered with respect to the following ones:

Region/Province

Information on Region/Province, as this is defined in CARE is not available in the Cyprian database, as the entire Cyprus is classified as NUTS 3 in Eurostat.

Speed limit

In the Cyprian database the speed limit is recorded in individual numbers, representing the actual speed limit of the part of the road network. Consequently, the CARE speed limit values can be derived by aggregating the Cyprian speed limit values. Additionally, the "Unknown" as defined in CARE is equivalent to "Unknown", "n/a" and (blank).

Vehicle age

In the Cyprian database the vehicle age is not directly recorded, but it can be calculated if the Cyprian variable "Vehicle Year of construction" is deduced by the current year.

Month

The CARE variable "Month" can be derived from the "Accident Date" Cyprian variable.

Lighting Conditions

In the Cyprian database, in the light conditions, the value "night-street unlit" refers to roads where there are lights along the street but are unlit, and also in cases where there are no street lights at all.

Registration country of the vehicle

The Cyprus Accident Database records only whether the vehicle belongs to a military Corp (British Army, United Nations peace keeping force or Greek Army-ΕΛΔΥΚ).



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Junction control

A "Pedestrian traffic signal crossing" is a signaled controlled pedestrian crossing at a signal controlled junction (green/red signals for pedestrians).

A "Pelican Crossing" is a signal controlled crossing stretch where the pedestrians must push the control button to activate the traffic signals.

Hit and Run

The "Hit and Run" (Strike_Leave) variable in the Cyprus Accident Database can be regarded as the "Hit and Run" variable in the CARE Database. The "Left scene" variable (Abandon) in the Cyprus Accident Database has other definition. It means that the drivers moved the cars from the actual accident scene but the vehicle was not driven away from the scene (did not abandon the accident scene). This variable is used to determine whether the police investigator of the accident found the vehicles as they were engaged in the accident or not.

Some more general remarks are that when some variables are not filled-in (blank), it can be assumed that the value is either "unknown" or "not applicable". Moreover, information on the Cyprian alcohol level compatible to the CARE variable "Alcohol level" can be used for the Cyprian accident data of 2006 onwards, as the BAC limit of 0,05% was implemented in March 2006. Until then, the BAC limit was set to 0,09%.

4.1.5 CARE Glossary updating

In general, it can be mentioned that the Cyprian variables and values definitions meet the common definitions of the CARE data.

Certainly within the national road accident database there are more variables and values than in CARE, some of which could also be considered to be included into the CARE system at a next stage.

Persons are recorded as fatalities when they die within 30 days from the day of the accident. As seriously injured are considered injured persons involved in an accident, hospitalised for a period over 24 hours. As slightly injured are considered injured persons involved in an accident, transferred to the hospital but not hospitalised for more than 24 hours.

4.2 CZ Czech Republic

4.2.1 Work description

1. The CARE common variables and values from CARE PLUS 1 and 2 and their definitions have been gathered and listed with the cooperation of the Czech Police Directorate, the Czech national accident database operator (September 2005 - December 2005).

2. The analysis of the Czech national accident database structure started. Description, content and definitions of single variables and values were studied (January 2006 - March 2006).

3. The Czech national accident database variables and values from CARE PLUS1 and 2 and their definitions have been gathered and listed. Logical organisation of the accident data was studied and the first selection of variables and values usable to be integrated in the CARE system has been made (April 2006 - June 2006).

4. Complementary information with more detailed definitions on the database has been received from its operator (July 2006 - September 2006).

5. The first draft of the transformation rules has been prepared (October 2006 - February 2007).

6. The transformation rules have been checked and revised on two meetings with DG TREN and CETE experts (Budapest, 21st March 2007 and Brussels, 2nd May 2007).

7. The final version of the transformation rules has been prepared (May 2007 - June 2007).

8. The final validation of the transformation rules was carried out, and the rules have been accepted (July 2007 - August 2007).

After validation the first Czech accident data will be sent do the CARE database during October 2007.

The 8 steps of the work progress	Duration
Step1: The CARE common variables and values	10 months
Step2: The description of the national database	
Step 3: First draft of the national accident file structure	
Step 4: New requests from the Task 1.1 partners to the EU countries	3 months
Step 5: Drafting of the transformation rules	5 months
Step 6: Checking and revision of the transformation rules	2 months

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Step 7: Setting up of the final version of the transformation rules	3 months
Step 8: Final validation of the transformation rules by the Member State	2 months

4.2.2 Database structure and linkage between the accident components of the data – Identification of the specific data

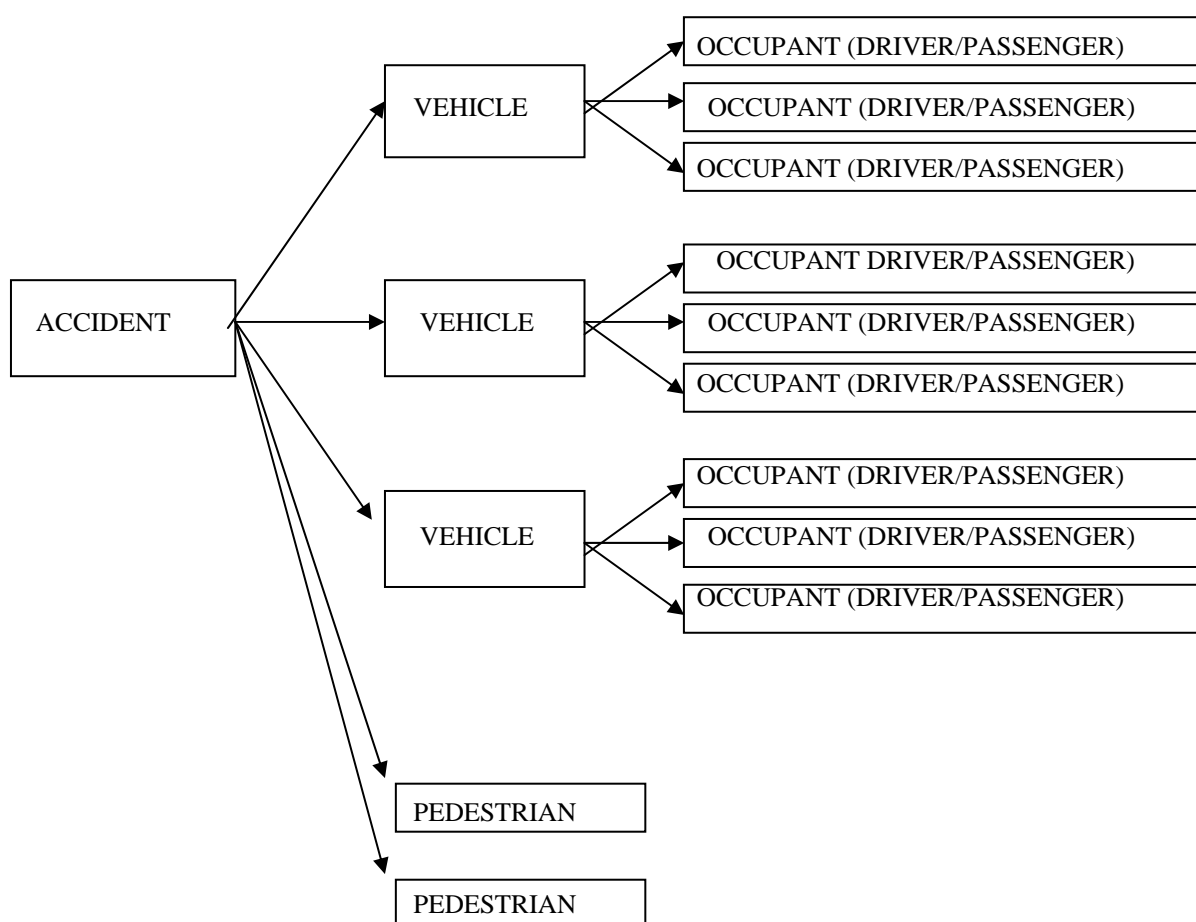
The Czech accident database is formed from four main groups of variables (folders):

- accident data (37 variables),
- vehicle data (13 variables),
- driver / passenger data (8 variables common + 6 extra for drivers),
- pedestrian data (10 variables).

All vehicle data are linked to the accident by an **accident code**.

All driver and passenger data are linked to the vehicles by a **vehicle code** and to the accidents by the respective **accident code**.

All pedestrian data are linked to the accidents by the **accident code**.



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Accident variables:

Date and time of accident, place of accident (region, municipality, type of area), accident type, collision type, cause of accident, accident consequences (number of killed, seriously and slightly injured), type and state of road surface, weather conditions, visibility and view conditions, road division, position on the road, traffic control, specific objects, route condition (straight, curve or crossing), type and number of road, number of participating vehicles) etc.

Vehicle variables:

Type of vehicle, number plate, year of vehicle production, vehicle operator, weight, number of seats etc.

Driver and passenger variables:

driving licence category, length of driving practice, type of education, condition, influencing (only for drivers)

type of occupant, type of safety equipment (belts, helmets), sex, year of the birth, nationality, consequences (for both drivers and passengers)

(also uninjured drivers and passengers can be recorded)

Pedestrian variables:

Condition, behaviour, situation at the accident, sex, year of the birth, nationality, consequences

(also uninjured pedestrians can be recorded)

4.2.3 Transformation Rules – From theory to application

Most of the transformation rules from the Czech database can be created quite simply. There are only a few exceptions:

age of driver, passenger or pedestrian - The year of birth is represented by only 2 digits in the Czech database (e.g. 20 = 1920, 05 = 2005). Theoretically though, the age up to 115 years can be recorded in the Czech database by the mean of the auxiliary value of the sex variable:

1 = man > 15 years (it can be 16 - 115),

2 = man <= 15 years,

3 = woman > 15 years (it can be 16 - 115),

4 = woman <= 15 years

(e.g. year of birth 05 and sex 1 -> 1905, but year of birth 05 and sex 2 -> 2005)

age of vehicle - The year of the production represented by only 2 digits in the Czech database (e.g. 70 = 1970, 05 = 2005).

day of the week - it is not directly represented in the Czech database although it is also calculated there



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NUTS region code - The police region structure differs from the NUTS and it must be transformed before the data delivery from the Czech part.

Some variables usable for the CARE database cannot be found in the Czech accident database (speed limit, alcohol level value, vehicle manoeuvre for every separated vehicle, road markings). “No street lights” and “Streets lights unlit” are not distinguished.

It is assumed that the age of the person, the age of the vehicle and the day of the week can be calculated from the original Czech data within the CARE database. NUTS structure will be transformed before the data delivery from the Czech part.

4.2.4 CARE Glossary updating

Definitions of basic terms are in accordance with international recommendations - “Glossary for Transport Statistics”, issued by the UNECE Secretariat in co-operation with CEMT and Eurostat.

Persons killed in 30 days - correction coefficients are not used (direct observation in 30 days).

4.3 EE Estonia

4.3.1 Work description

The Estonian database is maintained by the Estonian Police Board on the base of the data collected by the police since 2005. The electronic database contains a separate road traffic accident registration section, which is duplicated for Estonian Road Administration (ERA) for the use of traffic accidents analysis. Up to 2005, Estonian Road Administration maintained its own database, which is slightly different from the new.

This collection is sustained by the way of a questionnaire filled-in by the police after each road accident.

The first contacts with CETE-SO took place in autumn 2004. It was a very difficult period for Estonian Road Administration, because the new database system was half ready and it was irrational to build the system by the old database.

In April 2005, the development of the new version of Estonian database, which was constructed as part of the great police data system, was finalised and CETE-SO received the complete structure of the traffic accident database as well as the definitions of the variables and values. Moreover, a first analysis of the Estonian variables and values has been undertaken to verify the compatibility of the definitions according to the CARE glossary.

In July 2005, a first meeting was organised in Tallinn, in ERA. A first draft of the transformation rules was established during that meeting.

After checking the eventual misunderstandings or errors, a last meeting was organised in December 2005 in Bordeaux at the CETE-SO office, with ERA and the representative of the European Commission, in order to finalise the transformation rules.

In March 2006, the national definitions of the components of the grids were filled-in and sent to the Commission by ERA.

In May 2006, first test-data about traffic accidents 2005 was sent to the Commission by ERA.

The 8 steps of the work progress	Duration
Step1: The CARE common variables and values	10 months
Step2: The description of the national database	
Step 3: First draft of the national accident file structure	
Step 4: New requests from the Task 1.1 partners to the EU countries	5 months
Step 5: Drafting of the transformation rules	

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Step 6: Checking and revision of the transformation rules	1 month
Step 7: Setting up of the final version of the transformation rules	1 month
Step 8: Final validation of the transformation rules by the Member State	1 month

4.3.2 Database structure and linkage between the accident components of the data – Identification of the specific data

The Estonian database consists of three folders:

- + Folder A: **MAIN (ACCIDENT) DATA**
- + Folder B: **PARTICIPANT DATA**
- + Folder C: **CASUALTY DATA**

In this structure, an accident is defined by its own ID number (identifier of accident). This ID Number enables to link the three folders including the different variables and values describing this accident.

Moreover, the participants (drivers and pedestrians) and the casualties (killed or injured) are related to the ID Number of the participant (participant nr) and the vehicle they are involved with (in which vehicle was the casualty), while the latter is linked to the ID Number of the accident.

Concerning the folder B “PARTICIPANT DATA”, only driver(s) and pedestrian(s) are recorded. Passenger(s) are not included in this folder, independently whether they are injured or not.

If the driver(s), the pedestrian(s) or the passenger(s) are injured or killed, they appear in the folder C “CASUALTY DATA”.

In conclusion, if a driver or a pedestrian are injured or killed, they are recorded both in the folders B and C. And if a passenger is not injured, he won't appear in any folder.

4.3.3 Transformation Rules – From theory to application

In order to create successful transformation rules, the Estonian variables and values had to be analysed to check whether their definitions agree with the respective definitions included in the CARE glossary.

No differences or particularities between the Estonian variables and values and the respective CARE elements were observed.

In a general point of view, most of the transformation rules have been successfully created except for the following variables and values which are unavailable in the Estonian database:

- the value “INJURY SEVERITY PERSON = seriously injured”
- the value “INJURY SEVERITY PERSON = injured”
- the value “INJURY SEVERITY PERSON = not injured”



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- the value “INJURY SEVERITY PERSON = unknown”
- the value “INJURY SEVERITY DRIVER = seriously injured”
- the value “INJURY SEVERITY DRIVER = injured”
- the value “INJURY SEVERITY DRIVER = not injured”
- the value “INJURY SEVERITY DRIVER = unknown”
- the value “INJURY SEVERITY PASSENGER = seriously injured”
- the value “INJURY SEVERITY PASSENGER = injured”
- the value “INJURY SEVERITY PASSENGER = not injured”
- the value “INJURY SEVERITY PASSENGER = unknown”
- the value “INJURY SEVERITY PEDESTRIAN = seriously injured”
- the value “INJURY SEVERITY PEDESTRIAN = injured”
- the value “INJURY SEVERITY PEDESTRIAN = not injured”
- the value “INJURY SEVERITY PEDESTRIAN = unknown”
- the value “PERSON CLASS = passenger”
- the value “PERSON CLASS = unknown”
- the value “CAR PASSENGER TYPE = unknown”
- the value “VEHICLE TYPE = road tractor + semi-trailer”
- the value “VEHICLE TYPE = taxi”
- the value “LIGHTING = twilight”
- the value “LIGHTING = unknown”
- the value “NATURAL LIGHT = twilight”
- the value “NATURAL LIGHT = unknown”
- the value “STREET LIGHT = unknown”
- the value “WEATHER = unknown”
- the value “JUNCTION = not stated”
- the value “ARE TYPE = not stated”
- the variable “MOTORWAY”
- the variable “NATIONALITY PERSON”
- the variable “NATIONALITY DRIVER”
- the variable “NATIONALITY PEDESTRIAN”
- the variable “VEHICLE AGE”
- the value “DRIVING LICENCE AGE = unknown”
- the value “ROAD SURFACE CONDITION = unknown”
- the value “SPEED LIMIT = unknown”
- the value “ALCOHOL TEST PERSON = not tested”
- the value “ALCOHOL TEST DRIVER = not tested”
- the value “ALCOHOL TEST PEDESTRIAN = not tested”
- the value “PSYCHOPHYSI. CIRCUMST. PERSON = fatigue”
- the value “PSYCHOPHYSI. CIRCUMST. PERSON = sudden illness”
- the value “PSYCHOPHYSI. CIRCUMST. DRIVER = fatigue”
- the value “PSYCHOPHYSI. CIRCUMST. DRIVER = sudden illness”
- the value “PSYCHOPHYSI. CIRCUMST. PEDESTRIAN = fatigue”
- the value “PSYCHOPHYSI. CIRCUMST. PEDESTRIAN = sudden illness”
- the value “ALCOHOL LEVEL PERSON = unknown”

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- the value “ALCOHOL LEVEL PERSON = less than 0.8”
- the value “ALCOHOL LEVEL PERSON = less more 0.8”
- the value “ALCOHOL LEVEL PERSON = 0.0 to 1.5”
- the value “ALCOHOL LEVEL DRIVER = unknown”
- the value “ALCOHOL LEVEL DRIVER = less than 0.8”
- the value “ALCOHOL LEVEL DRIVER = less more 0.8”
- the value “ALCOHOL LEVEL DRIVER = 0.0 to 1.5”
- the value “ALCOHOL LEVEL PEDESTRIAN = unknown”
- the value “ALCOHOL LEVEL PEDESTRIAN = less than 0.8”
- the value “ALCOHOL LEVEL PEDESTRIAN = less more 0.8”
- the value “ALCOHOL LEVEL PEDESTRIAN = 0.0 to 1.5”
- the variable “MOVEMENT PEDESTRIAN”
- the variable “CARRIAGEWAY TYPE”
- the variable “MANOEUVRE VEHICLE”
- the value “JUNCTION CONTROL = authorised person”
- the value “JUNCTION CONTROL = automatic traffic signal”
- the value “JUNCTION CONTROL = give way sign or markings”
- the value “JUNCTION CONTROL = stop sign”
- the variable “SECURITY EQUIPMENT PASSENGER - CRASH HELMET”
- the value “SECURITY EQUIPMENT PASSENGER – SEAT BELT = unknown”
- the value “ROAD MARKING = yes”
- the value “ROAD MARKING = unknown”
- the variable “HIT AND RUN”
- the variable “NUMBER OF LANES”

4.3.4 CARE Glossary updating

The Estonian variables and values correspond exactly to the CARE Glossary, except for the variables and values, listed in the previous paragraph (5.3.3). For these variables and values, the CARE glossary has to be updated.

4.4 HU Hungary

4.4.1 Work description

The road traffic accident data collection system relies on a questionnaire-based survey in Hungary. Data are collected by the police while the Hungarian Central Statistical Office (HCSO) is responsible for maintaining the database and for the methodology. KTI has drawn HCSO as national expert into the work performed.

After having examined the CARE common variables and values, the description of the Hungarian database (list of national variables and values), the structure and linkage, the list of accident causes and the Questionnaire were sent to the Commission (the official wording in Hungarian plus an English translation).

The first draft of the transformation rules was elaborated in March 2006. The variables and values usable to be integrated in the CARE System were selected and a test file was sent to the Commission in XML file in November 2006.

The definitions of the National components included in the grids were filled-in and the second version of the transformation rules was set up in early 2007. The final Budapest meeting with CETE, the Commission, KTI and the national experts was organized in March in order to finalise the transformation rules and transfer the national accident database to CARE. The transformation rules were finalised and validated with CETE's helpful collaboration and sent to the European Commission in May 2007. The final version is being integrated in the CARE system.

The 8 steps of the work progress	Duration
Step1: The CARE common variables and values	10 months
Step2: The description of the national database	
Step 3: First draft of the national accident file structure	
Step 4: New requests from the Task 1.1 partners to the EU countries	5 months
Step 5: Drafting of the transformation rules	1 month
Step 6: Checking and revision of the transformation rules	1 month
Step 7: Setting up of the final version of the transformation rules	1 month
Step 8: Final validation of the transformation rules by the Member State	1 month

4.4.2 Database structure and linkage between the accident components of the data – Identification of the specific data

The application for controlled data entry has been developed in Oracle Forms and PL/SQL. Oracle 10g serves the system as the underlying database.

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The logical model of tables forms a hierarchical structure. Victims (as logical entities) belong to a given participant entity, and a subset of participant belongs to an accident.

A subset of data retrieved from the database is transformed into XML for satisfying the expectation.

4.4.3 Transformation Rules – From theory to application

After examining the national accident file structure and the CARE common variables and values, the variables and values usable to be integrated in the CARE System were selected.

CETE_SO defined the templates to be used. In the CARE Transformation Rules template all the common variables and values of the CARE System were listed. The Hungarian database can be divided in three folders. Folder A represents the data of accidents, Folder B the participant data and Folder C the casualty data. Firstly, it had to be defined which folder contains the CARE variables and which variables and values were unavailable. Some values have been excluded from the transformations for readability reasons. If the source field contains something else than expected, the report result is “unknown”. In Hungary speed of the involved cars is recorded although the speed limit at the location of the accident is missing. Among the transformation rules, this variable is marked as unknown, although the values could be estimated. Secondly, the values were given. Every CARE PLUS 2 variable consists of several values. Some transformations are straightforward translations from one or more values to one CARE value; others give priorities to certain source value combinations. The values are given using code numbers. The denomination of each code number can be found in the definition template. The definitions contain the deviation from CARE definition if any.

4.4.4 CARE Glossary updating

Definitions are fully adapted to EU and international standards. All victims of road accidents are included (pedestrian, biker, car driver etc.). If a person dies within 30 days as a result of an accident, he is considered as killed in the statistics.

Considering CARE PLUS 2 common values, the variable “hit and run”, and from variable “type of intersection” T or Y Junction value are missing.

4.5 LT Lithuania

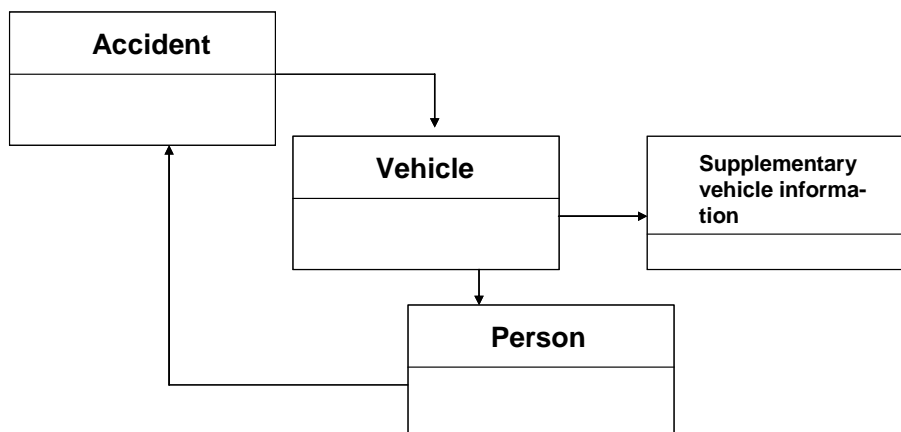
4.5.1 Work description

The work has been done in cooperation with the Lithuanian CARE Expert group member and some extra information from the police section dealing with the technical part of accident registration. Unfortunately it has only been possible to coordinate the work by e-mail as the start of the project was delayed due to problems with establishing the right connection (establishing contact took about 24 months). Afterwards there have also been delays in the process because of problems with the mail connection from time to time. The first version of grids and transformation rules has been established for Lithuania by December 2007. Grids and transformation rules were finalised by end of April and immediately after send to CARE. The implementation of Lithuanian data in CARE is though still pending.

The 8 steps of the work progress	Duration
Step1: The CARE common variables and values	10
Step2: The description of the national database	
Step 3: First draft of the national accident file structure	
Step 4: New requests from the Task 1.1 partners to the EU countries	2
Step 5: Drafting of the transformation rules	5
Step 6: Checking and revision of the transformation rules	2
Step 7: Setting up of the final version of the transformation rules	2
Step 8: Final validation of the transformation rules by the Member State	1

4.5.2 Database structure and linkage between the accident components of the data – Identification of the specific data

The basic structure of the relations is:



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The supplementary vehicle information is basically related to specific information about the vehicle such as number plate, model and age.

4.5.3 Transformation Rules – From theory to application

In a general most of the CARE variables have been met either directly or by transformation rules except for the following variables and values, which are unavailable in the Lithuanian database:

- Distinguishing between slight and sever injured
- Carriageway type
- Junction control is only partly available
- Number of lanes
- Road markings
- Speed limit
- Motorway
- Driving license age
- Nationality is only known as foreigner or national
- Injury is only known as injured and not seriously or slight
- There is no information about alcohol level
- There is no registration about registration country for vehicles

4.5.4 CARE Glossary updating

Information about variables and values in Lithuanian and the corresponding English terms has been send to CARE.

Following definitions for registration are used:

1. Traffic accident – occurrence on the road, involving at least one moving vehicle in course of which people were killed or injured or vehicles, goods, road, road constructions or any other property damaged.

2. Bio transport (Engineless vehicle) – vehicle driven by muscular power (driven by drivers or passengers muscular power), on isolated case it could be driven by assist engine (bicycles, more than two wheelers cycles, wheelchairs etc.)

3. Vehicle – device used for carrying persons and/or goods. This definition includes tractors, self propelled machines and devices.

4. Person injured in traffic accident – person injured during car crash and hospitalised or treated at home under appointment of doctor due to his trauma.

5. Person killed in traffic accident – *person killed in traffic accident place or in 30 days period after traffic accident due to his trauma.*

4.6 LV Latvia

4.6.1 General

In Latvia the first road accident collection form and the national road accident database were introduced in 1995. The currently used collection form and the current structure of the road accident database were introduced in 2001, with one of the main changes being the exclusion of data for the seat belt usage. The Road Police Department is responsible for both the development of the national road accident database and for filling-in the accident data collection form (which is filled-in electronically, using PDA).

The policemen responsible for filling-in the collection form are not receiving any special training. There is not specific time limit for the responsible policeman to fill-in the accident collection form and transfer the data into the database. Every month, accident data are sent from the Road Police to Road Traffic Safety Directorate.

Road accident data for the entire Latvia is included in the database and is considered highly reliable for the fatality figures, but medium reliability stands for overall accidents. Consistency checking concerning the transfer of data from the accident data collection form into the road accident database is not carried out.

The Latvian road accident database contains information on accidents that involve casualties, but also accidents that involve material damages.

4.6.2 Work description

Within the framework of Task 1.1, NTUA closely collaborated with the Latvian national representative, the Deputy Head of information technology department of the Latvian Road Traffic Safety Directorate, who is also member of the CARE Experts Group. First links with Mr. Lama were established during the CARE Experts meetings in 2005, in which first discussions on the organisation and planning of the work took place.

Following the related request of the EC to the national representatives from the new Member States for provision of a first set of necessary information on their national accident database, the Latvian Expert initially provided the Latvian accident collection form, as well as a list with the variables, values and the related definitions of the Latvian road accident database in native language and in English, in both electronic form and hardcopy.

This first set of information was examined by NTUA and in July 2006 some additional information on the structure of the national road accident database in Latvia were requested, such as the number and names of the folders contained in the Latvian national road accident database, as well as on which road accident variables are included in each of these folders. This supplementary

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information was provided by the Latvian Expert and at a next stage two Excel files concerning road accident variables and values definitions were sent back to fill-in/verify.

The first Excel file was a template developed within Task 1.1 and included the variables and values in both native and English language, as these are included in the national road accident collection form of Latvia, as well as their definitions. The Latvian Expert filled-in any missing parts, verified the definitions for each variable and value and provided additional information/explanations when necessary, especially on some of the variables and values that might not be collected systematically, or they are of low quality.

The second Excel file was a Grid including various definitions of all the CARE+1 and CARE+2 variables and values, and was filled-in by the Latvian national Expert indicating which of these definitions apply to Latvia and which not. These Grids have already being filled-in for all 15 EU countries during the CARE+1 and CARE+2 projects and filling them in also for the new EU countries will result to have a more complete picture of the road accident data collection at European level. Clarifications on the completion of this Grid were provided to the Latvian Expert by NTUA.

Following the successful filling-in of these files by the Latvian Expert, a draft version of the Latvian transformation rules was developed and subsequently, a meeting was organised between NTUA and the Latvian Expert in Latvia, in April 2007, allowing for the clarification of some pending issues related to the Latvian road accident variables and values and the finalisation of the set of transformation rules. The final meeting took place in the premises of the Latvian Road Traffic Safety Directorate in Riga. Following the discussions during that meeting, the final version of the Latvian transformation rules was developed and delivered to the EC-CARE administration.

The 8 steps of the work progress	Duration
Step1: The CARE common variables and values	8 months
Step2: The description of the national database	
Step 3: First draft of the national accident file structure	
Step 4: New requests from the Task 1.1 partners to the EU countries	3 months
Step 5: Drafting of the transformation rules	1 month
Step 6: Checking and revision of the transformation rules	2 month
Step 7: Setting up of the final version of the transformation rules	1 month
Step 8: Final validation of the transformation rules by the Member State	1 month

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4.6.3 Database structure and linkage between the accident components of the data – Identification of the specific data

The Latvian road accident database consists of 7 different folders, as indicated in the following Table:

Folders of the Latvian road accident database	
General	Type of accident
Vehicle	Collision diagram
Casualty	Possible reason of accident
Infrastructure	

There are 29 variables in total in the national database, most of which are collected by the police on the accident spot. Most of these variables are filled-in by selecting one (or in a few cases more than one) values from a specific pre-defined list of values, and in a few cases text.

The variables included in each of the folders are the following:

GENERAL

Number of accident in region's Police Office, Code of region's Police office, Date of accident (day. month. year), Time of accident, Code of place of accident, Short description of accident.

VEHICLE

Type of vehicle, State number of vehicle.

CASUALTY

Consequences for road users, Status of participant, Identification code of road users, Gender, Guilt, Alcohol.

INFRASTRUCTURE

Code of road1, Number of mileage on road, Code of road2, Code of street1, Code of street2, Type of surface, Surface condition, Slop, Element of road (street), Lighting conditions, Weather condition, Turn.

TYPE OF ACCIDENT

Type of accident.

COLLISION DIAGRAM

Collision diagram.

4.6.4 Transformation Rules – From theory to application

In order to elaborate the appropriate transformation rules to be applied on the national road accident data to become compatible with the CARE variables and values, the definitions of the Latvian variables and values were analysed and it was examined whether they could identically match with the respective CARE



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variables and values or a combination of more than one variables and values was necessary.

Many of the CAREPLUS I and CAREPLUS II variables and values can be extracted by the Latvian road accident database, either directly or by combining more than one Latvian variables or values. The detailed transformation rules are presented in Annex 3.

However, the following CARE variables are not included into the Latvian database:

Position in vehicle, Motorway, Registration country, Nationality, Diving licence age, Speed limit, Number of lanes, Psychophysical circumstances, Security equipment, Road markings, Hit and run, Alcohol test, Alcohol level. Additionally, some more CARE values in other CARE variables are not available in the Latvian database, as it can be seen in the detailed transformation rules.

Some CARE variables are not collected in the Latvian road accident form, however, the necessary information can be available either by using some other relevant variables, or by retrieving data from other national databases i.e. the vehicle age from the vehicles database, or the driving licence age from the driving licences database. There are also minor differences in the definitions of some Latvian variables and values and some notes have to be considered with respect to the following ones:

The CARE variables "Year", "Month", "Day of month" and "Day of week" will be calculated by the Latvian Expert using the Latvian variable "Date of accident" (NEGADIJUMA DATUMS) and can be included into the national datafile sent to the EC.

In the "Time of the accident" Latvian variable (NEGADIJUMA LAIKS), unknown is recorded as 0000 in the datafile.

The CARE "Age" variable can be calculated using the year of birth of the person, which is recorded into the Latvian datafile under the variable "Identification codes of road users" (PERSONAS KODS - PK).

In the Latvian database, "trucks" are recorded and they are not initially separated under and over 3,5 tn. However, this separation according to their gross weight is possible, using the trucks' number of plate but only for trucks registered in the Latvian vehicle databases and not for trucks from other countries. More specifically, the variable "Gross weight of trucks, kg" will be calculated and included in the Latvian datafile, which will be transmitted to CARE.

Information on Region/Province, as this is defined in CARE is not available in the Latvian database. The NUTS classification of Eurostat should be used in combination with the "Place of accident" (NEGADIJUMA VIETAS - VIETA_KOD) variable of the Latvian datafile.



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Vehicle age can be extracted from the Latvian vehicle database, again only for the vehicles which are registered into the Latvian databases. More specifically, the "Year of production of vehicle" will be included and transmitted to CARE as a value of the Latvian datafile.

Driving license age can also be calculated through the driving license issue date from the person record (person ID) of the Latvian database. More specifically, for the driver of the vehicle, the month and year of the issue of the first driving license will be recorded in a four-digit number (i.e. 06.63, corresponding to June 1963).

In the Latvian database in the Vehicles variable, there is no separate value for taxis. However, taxis can be identified from the other passenger cars by using the plate number available in the Vehicles database.

In the Latvian database there are the terms "road" and "street". According to their definition, streets can be found in built-up areas and roads can be found outside built-up areas. Looking at whether a street or a road is recorded, the information inside/outside urban area can be extracted.

4.6.5 CARE Glossary updating

In general, it can be noted that the Latvian variables and values definitions meet the common definitions of the CARE data, despite the fact that some variables of CARE are not available in the Latvian database.

Almost all Latvian variables are included in CARE, with the exception of the variable "Guilt", "Slop" and "Possible reason of accident". In the other Latvian variables, there are also values which are not available in CARE, some of which could be considered to be included into the CARE system at a next stage, if it meaningful for road accident analyses and if these can be available in the other EU countries.

4.7 MT Malta

4.7.1 General

In Malta the first road accident collection form and the national road accident database were introduced in 1998. The currently used collection form and the current structure of the road accident database were introduced in 2005, including more variables and values, allowing thus to perform better analysis of the accident, its location and cause. Both the Police and the Maltese Transport Authority are responsible for the development of the national road accident database and Police is responsible for filling-in the accident data collection form (which is filled-in in paper format). The policemen responsible for filling-in the collection form are receiving special training upon promotion or recruitment at the Police Academy and it basically deals with how the database works and the description of the collection form. However, this is not an on-going process. Furthermore, consistency checking concerning the transfer of data from the accident data collection form into the road accident database is carried out by the Police.

The Maltese road accident database contains information on accidents that involve casualties, but also accidents that involve damage of government property. Accidents that involve only material damages are not included in the database.

4.7.2 Work description

Within the framework of Task 1.1, NTUA closely collaborated with the Maltese national representative from the Maltese Transport Authority, who is also member of the CARE Experts Group. First links with the Maltese Expert were established during the CARE Experts meeting, in which first discussions on the organisation and planning of the work took place.

Following the related request of the EC to the national representatives from the new Member States for provision of a first set of necessary information on their national accident database, the Maltese Expert initially sent a Glossary of terms that are included in the Maltese road accident database, as well as a copy of the police road accident record form in both electronic form and hardcopy.

This first set of information was examined by NTUA and in January 2006 some additional information on the structure of the national road accident database in Malta were requested, such as the number and names of the folders contained in the Maltese national road accident database, as well as on which road accident variables are included in each of these folders. This supplementary information was provided by the Maltese Expert and at a next stage, two Excel files concerning road accident variables and values definitions were sent back to fill-in/verify.

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The first Excel file was a template developed within Task 1.1 and included the variables and values in both native and English language (in the case of Malta only in English, as it is one of the official Maltese languages), as these are included in the national road accident collection form of Malta, as well as their definitions. The Maltese Expert filled-in any missing parts, verified the definitions for each variable and value and provided additional information/explanations when necessary, especially on which of the variables and values are not collected systematically, or they are of low quality.

The second Excel file was a Grid including various definitions of all the CARE+1 and CARE+2 variables and values, and was filled-in by the Maltese national Expert indicating which of these definitions apply to Malta and which not. These Grids have already been filled-in for all 15 EU countries during the CARE+1 and CARE+2 projects and filling them in also for the new EU countries will result to have a more complete picture of the road accident data collection at European level. Clarifications on the completion of this Grid were requested by the Maltese Expert and were provided by NTUA.

Following the successful filling-in of these files by the Maltese Expert, a draft version of the Maltese transformation rules was developed and subsequently, a meeting was organised between NTUA and the Maltese Expert in Malta, in October 2006, allowing for the clarification of some pending issues related to the Maltese road accident variables and values and the finalisation of the set of transformation rules. The final meeting took place in the premises of the Maltese Transport Authority in Valletta and people from the Information Technology department were also present to discuss the issues related to the data transmission to the EC CARE administration.

The 8 steps of the work progress	Duration of each step
Step1: The CARE common variables and values	5 months
Step2: The description of the national database	
Step 3: First draft of the national accident file structure	
Step 4: New requests from the Task 1.1 partners to the EU countries	1 month
Step 5: Drafting of the transformation rules	1 month
Step 6: Checking and revision of the transformation rules	1 month
Step 7: Setting up of the final version of the transformation rules	1 month
Step 8: Final validation of the transformation rules by the Member State	1 month

4.7.3 Database structure and linkage between the accident components of the data – Identification of the specific data

The Maltese road accident database consists of 13 different folders, as indicated in the following Table:



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Folders of the Maltese road accident database		
General	Pedestrian Movement	Weather Conditions
Vehicle	Vehicle Manoeuvre	Surface
Driver	Junction Details	Surface Condition
Casualty	Lighting Conditions	Road Works
Collision Details	Road Condition	

There are 44 variables in total in the national database, most of which are collected by the police on the accident spot. Most of these variables are filled-in by selecting one (or in a few cases more than one) values from a specific pre-defined list of values, and in a few cases text (i.e. Nationality variable) or number can be filled-in (i.e. Vehicle Age variable).

All these variables are not collected in the same systematic way by the police, thus their reliability in terms of completeness may vary. According to the Maltese Expert, the variables can be distinguished in three levels of quality: variables of good quality, variables of medium quality and variables of low quality. As variables of good quality can be considered those, which are reported by most/all the police officers. Accordingly, variables of medium quality are those that are reported by some police officers and variables of low quality are those that are not reported by the majority of the police officers, or “not available” is usually recorded in the road accident collection form. According to the Maltese Expert, 25 of the national road accident variables are of good quality, 6 of the variables are of medium quality and 13 of the variables are of low quality.

4.7.4 Transformation Rules – From theory to application

In order to elaborate the appropriate transformation rules to be applied on the national road accident data to become compatible with the CARE variables and values, the definitions of the Maltese variables and values were analysed and it was examined whether they could identically match with the respective CARE variables and values or a combination of more than one variables and values was necessary.

Most of the CAREPLUS I variables and values can be extracted by the Maltese road accident database, either directly or by combining more than one Maltese variables or values, as well as some of the CAREPLUS II variables and values. The detailed transformation rules are presented in Annex 3.

However, there are minor differences in the definitions of some Maltese variables and values and some notes have to be considered with respect to the following ones:

Region/Province

Information on Region/Province, as this is defined in CARE is not available in the Maltese database, as the entire Malta is classified as NUTS 3 in Eurostat.



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Speed limit

In the Maltese database the speed limit is recorded in individual numbers, representing the actual speed limit of the part of the road network. Consequently, the CARE speed limit values can be derived by aggregating the Maltese speed limit values. Additionally, the "Unknown" as defined in CARE is equivalent to "Unknown", "n/a" and (blank).

Nationality

In the Maltese database, only the nationality of the driver is recorded and it is filled-in as text (i.e. Maltese, English, etc.). When there is no value (blank) then it is unknown.

Junction - Junction Type

In the CARE "Junction" and "Junction Type" variables, the "no" and "not at junction" values respectively, could be equivalent to the "Not at junction" Maltese value. However, this value is not filled-in correctly by the Maltese police, mainly due to the structure of the Maltese collection form. (i.e. if an accident occurs in a two way road where there is no junction, the police may only note that it occurred in a two way road and not note that it did not occur at a junction). Consequently, it is not very reliable information.

Moreover, the Maltese value "staggered junction" is a junction type that can be included in a broader junction category referring to road intersections with three arms. Consequently, it should be included in the "t or y junction" value of the CARE "Junction Type" variable.

Vehicle age

In the Maltese database the vehicle age is recorded in individual numbers. Consequently, the CARE vehicle age values can be derived by aggregating the Maltese vehicle age values.

Psychophysical circumstances

The CARE "Not applicable" value is equivalent to the "n/a" values of the "Fatigue" "Alcohol or drugs" and "Sudden illness" variables but also to the (blanks).

Day of week

The CARE variable "Day of week" is not directly recorded in the Maltese database but it can be derived from the "Date" Maltese variable.

Motorway

There is no motorway network in Malta.

Lighting conditions

The value "Glare" in the Maltese database means very bright light, due to which the driver of the vehicle could lose the control of the vehicle (at least instantly). According to our discussions with the Maltese Expert, it concerns both natural and artificial light, thus it could be included in the "Daylight" value of CARE.



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4.7.5 CARE Glossary updating

In general, it can be noted that the Maltese variables and values definitions meet the common definitions of the CARE data, despite the fact that some variables of CARE are not available in the Maltese database.

Almost all Maltese variables are included in CARE, with the exception of the variable "Landmark", "Insurance", "Sudden illness", "Fatigue" and "Helmet". In the other Maltese variables, there are also values which are not available in CARE, some of which could be considered to be included into the CARE system at a next stage, if it meaningful for road accident analyses and if these can be available in the other EU countries.

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4.8 PL Poland

4.8.1 Work description

The Polish road accident database is maintained by ITS (Motor Transport Institute) based on the police data collection carried out since 1990. This collection is sustained by the way of a questionnaire filled-in after each road accident.

After a first contact with the ITS representative, CETE-SO received the complete structure of the database, the definitions of the variables and values, and the questionnaire in September 2006.

A preliminary analysis of the Polish variables and values has been undertaken to verify the compatibility of the definitions according to the CARE glossary. Furthermore, a first draft of the transformation rules has been created and sent to ITS in order to check for any eventual misunderstandings of errors.

The second version of the transformation rules was established during the first meeting held in Warsaw in January 2007 at the ITS office, with the entire Polish staff.

In March 2007, a last meeting was organised in Bordeaux at the CETE-SO office with ITS and the representative of the European Commission, in order to finalise the transformation rules.

In June 2007, the national definitions of the components included in the grids were filled-in and sent to the Commission by ITS.

The 8 steps of the work progress	Duration
Step1: The CARE common variables and values	8 months
Step2: The description of the national database	
Step 3: First draft of the national accident file structure	
Step 4: New requests from the Task 1.1 partners to the EU countries	2 month
Step 5: Drafting of the transformation rules	2 months
Step 6: Checking and revision of the transformation rules	1 month
Step 7: Setting up of the final version of the transformation rules	2 months
Step 8: Final validation of the transformation rules by the Member State	3 months

4.8.2 Database structure and linkage between the accident components of the data – Identification of the specific data

The Polish database consists of four folders:
+ Folder A: **ACCIDENT**



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- + Folder B: **VEHICLE**
- + Folder C: **DRIVER**
- + Folder D: **VICTIM**

In this structure, an accident is defined by a unique ID Number. The ID Number enables the linkage the four folders containing the different variables and values describing the accident. Moreover, the driver and the victim(s) are linked with the ID Number of the vehicle they are involved with, this last being of course linked to the ID Number of the accident.

4.8.3 Transformation Rules – From theory to application

In order to create the transformation rules, the analysis of the Polish variables and values had to be undertaken to verify whether their definitions agreed with the CARE glossary.

This analysis showed that no differences existed except for:

- “VEHICLE TYPE = Bus or coach” where this value includes the trucks for the person transport, which is a quite usual mean of transport in Poland.
- “VEHICLE TYPE = Lorry \geq 3.5 Tonnes” where this value could include the lorry less than 3.5T, as no distinction of the weight of the lorries is made in the Polish database
- The values “unknown” or “not stated” don’t exist regardless of the variable.

In general, most of the transformation rules have been successfully created except for the following variables and values, which are unavailable in the Polish database:

- the variable “CAR PASSENGER TYPE”
- the value “VEH. TYPE = Road tractor”
- the value “VEH. TYPE = Road tractor+semi-trailer”
- the value “COLLISION TYPE = parked vehicle”
- the variable “Street light”
- the value “JUNCTION TYPE = t or Y junction”
- the value “JUNCTION TYPE = other junction”
- the variable “VEHICLE AGE”
- the variable “REGION”
- the variable “SPEED LIMIT”
- the value “ALCOHOL TEST = Not tested” both for driver, passenger or pedestrian
- the variable “ALCOHOL LEVEL” both for driver, passenger or pedestrian
- the value “MOVEMENT PEDESTRIAN = crossing not masked”
- the value “MOVEMENT PEDESTRIAN = walking in cw with traffic”
- the value “MANOEUVRE VEHICLE = straight ahead”

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- the value “MANOEUVRE VEHICLE = overtaking on the left”
- the value “MANOEUVRE VEHICLE = overtaking on the right”
- the value “MANOEUVRE VEHICLE = turning”
- the value “JUNCTION CONTROL = authorised person”
- the value “JUNCTION CONTROL = give way sign or markings”
- the value “JUNCTION CONTROL = stop sign”
- the variable “ROAD MARKING”
- the variable “NUMBER OF LANES”

4.8.4 CARE Glossary updating

The Polish variables and values correspond exactly to the CARE Glossary, except for the variables and values, listed in the previous paragraph (5.8.3). For these elements, the CARE glossary has to be updated.

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4.9 SI Slovenia

4.9.1 Work description

After fairly long experimenting, at the end of November 2007 we succeeded getting all the necessary data, values and variables from in order to be able to elaborate the Slovenian transformation rules. Unfortunately, KSH is no more able to contribute to our work, therefore we had to find another expert who carried out the work detailed in the next chapters.

We obtained no information about the Slovenian methods and system of collection of the road traffic accidents, and those involved and responsible in this data collection activity.

After having the source database we examined the CARE common variables and values; the description of the Slovenian database (list of national variables and values), the structure and linkage, furthermore the list of accident causes.

The first draft of the transformation rules was elaborated in January 2008. The variables and values usable to be integrated in the CARE System were selected.

The 8 steps of the work progress	Duration
Step1: The CARE common variables and values	10 months
Step2: The description of the national database	
Step 3: First draft of the national accident file structure	
Step 4: New requests from the Task 1.1 partners to the EU countries	4 months
Step 5: Drafting of the transformation rules	
Step 6: Checking and revision of the transformation rules	
Step 7: Setting up of the final version of the transformation rules	4 months
Step 8: Final validation of the transformation rules by the Member State	

4.9.2 Database structure and linkage between the accident components of the data – Identification of the specify data

The available data files with reference to Slovenia were the following:

CARE_database-SLO.xls

Database_structure.xls

SLO 2000-2006_Person type items.txt

SLO 2000-2006_Accident type items.txt



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Where the two latter can be the ASCII character dumps of the actual database (probably consisting of two tables only). However, no information was provided on the original database.

Following the overview of the data, we used the CARE_database-SLO.xls source file for input, because of the name and the more detailed code value content with the following structure and content:

Database Structure(SLO)
ID number of accident(1)
ACCIDENT SEVERITY(2)
PLACE OF THE ACCIDENT(3)
PLACE OF THE ACC(3) (2)
TIME OF THE ACCIDENT (4,5)
AREA TYPE(6)
CATEGORY OF ROAD (7)
LOCATION TYPE (8)
CAUSATION (14)
ACCIDENT TYPE (15)
WEATHER CONDITION (16)
TRAFFIC CONDITION (17)
ROAD SURFACE TYPE (18)
ROAD SURFACE CONDITION (19)
CAUSER (20)
AGE (21)
GENDER (22)
PERSON ADMIN_UNIT(3)
NATIONALITY (23)
PERSON INJURY (24)
PARTICIPANT (25)
SECURITY EQUIPMENT (26)
DRIVING LICENCE (27)
ALCOHOL LEVEL (28,29)
DRÄAVA REGISTR (30)
VRSTA VOZILA (31)
ZNAMKA VOZILA (32)
TIP VOZILA (33)

4.9.3 Transformation Rules – From theory to application

After examining the national accident file structure and the CARE common variables and values, the variables and values usable to be integrated in the CARE System were selected.

In the CARE Transformation Rules template all the common variables and values of the CARE System were listed. The Slovenian database can be divided in two folders. Folder ATI represents the data of accidents, Folder PTI the participant data. Firstly, it had to be defined which folder contains the CARE



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variables and which are the unavailable variables and values. Some values have been excluded from the transformations for readability reason. Secondly, the values were given. Every Care +2 variables consist out of several values. Some transformations are straightforward translations from one or more values to one CARE value; others give priorities to certain source value combinations.

The relevant information to the Slovenian accident data however contained contradictions as well. Some sheets were mentioned in the first list but not found in the file of this database (Nr. 8..13, 28-29).

We found but not used the file Database_structure.xls file. The content of this file is in contradiction - in a certain extent - with that of the used data file, but it contains additional information (not used in this version). An example of this is the age of the driving licence <-> durability of the licence. Consequently, whereas the CARE database intends to record how long a driver is the holder of a driving licence, the Slovenian data specify only the expiry date of the licence.

It is likely that certain missing data, e.g. location data, can be complemented after resolving the contradictions. However, this requires the cooperation of the local organisations.

In the result-file the following nominations have been used:

- the data content of the grey lines are missing from the known Slovenian data base (eg: lighting, junction type, age of the vehicle, pedestrian movement etc)
- ATI = Accident Type Items / Shxx = Sheet number (according to the Slovenian classification)
- PTI = Person (Participant) Type Items / Shxx = Sheet number (according to the Slovenian classification)

In other places the usual „Syntax : Folder [(Variable:values)]” nomination has been used.

In the resource data some special character used in code values (eg: Č) can cause problems in other code systems. In the PTI / Sheet30 table the Country: 000 code is not identified (may be „Not identified“?). Among others, here too we put the relevant question to the Slovenian data supplier.

In the resulting CARE+2 tables the „nationality of passenger” section is missing. In the Sheet03 „Region of the accident” field there is no information whether this is NUTS1 or not;

in the Sheet28,29 (not separated) the cases for alcohol test are not coded, but the other (not used) data source deals with the „alcohol test” event other way.

Many tables in the Slovenian data source are not used, as they are not indicated in the CARE database. Some code values (eg: „x-offender – jrm” in „participant in the accident” variable) were doubtful or they could not be decoded (eg: A=road tractor and 8=road tractors at the „Vehicle group code” variable). We applied to the Slovenian partner for proper information.



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The necessary data conversion rules were summarised in the SN-CETE-1-1-CARE TR- SLO-30-jan-08.xls file, consequently this is one of the final results of the work.

4.9.4 CARE Glossary updating

The Slovenian variables and values correspond to the CARE Glossary, except for the variables and values, listed in the previous paragraph (5.9.3) and in our result file. For them, the CARE glossary has to be updated.

4.10 SK Slovakia

4.10.1 Work description

The general feature of the Czech and Slovak national accident databases is their origin from the common Czechoslovak national accident database which existed up to 1992), therefore structure and definitions of most of the variables and values are still very similar.

The work started in September 2005 in accordance to the agreed eight-step procedure.

1. The CARE common variables and values from CARE PLUS 1 and 2 with their definitions have been gathered and listed with the cooperation of the Slovak Police Directorate and the Slovak national accident database operator (September 2005 - December 2005).

2. The analysis of the Slovak national accident database structure started. Description, content and definitions of single variables and values were studied (January 2006 - April 2006).

3. The Slovak national accident database variables and values from CARE PLUS 1 and 2 with their definitions have been gathered and listed. Logical organization of the accident data was studied and the first selection of variables and values usable to be integrated in the CARE system was carried out (May 2006 - July 2006).

4. Complementary information with more detailed definitions on the database has been received from its operator (August 2006 - October 2006).

5. The first draft of the transformation rules has been prepared (November 2006 - February 2007).

6. The transformation rules have been checked and revised on two meetings with DG TREN and CETE-SO experts (Budapest, 21st March 2007 and Brussels, 2nd May 2007).

7. The final version of the transformation rules has been prepared (May 2007 - June 2007).

8. The final validation of the transformation rules was realised and the rules have been accepted (July 2007 - August 2007).

After validation the first Slovak accident data has been sent to the CARE database during November 2007.

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The 8 steps of the work progress	Duration
Step1: The CARE common variables and values	12 months
Step2: The description of the national database	
Step 3: First draft of the national accident file structure	
Step 4: New requests from the Task 1.1 partners to the EU countries	3 months
Step 5: Drafting of the transformation rules	4 months
Step 6: Checking and revision of the transformation rules	2 months
Step 7: Setting up of the final version of the transformation rules	2 months
Step 8: Final validation of the transformation rules by the Member State	2 months

4.10.2 Database structure and linkage between the accident components of the data – Identification of the specific data

The Slovak accident database is formed from 4 main groups of variables (folders):

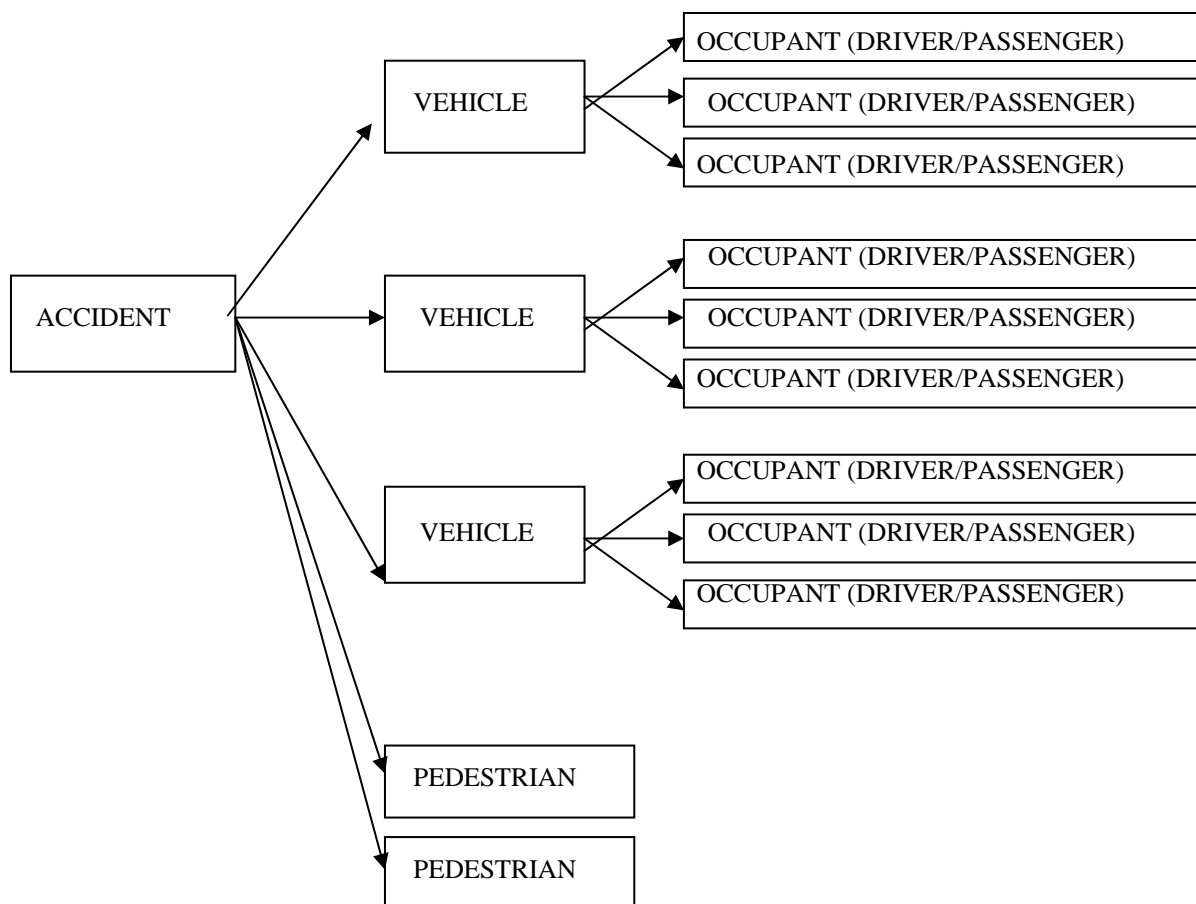
- accident data (40 variables),
- vehicle data (10 variables),
- driver / passenger data (8 variables common + 5 extra for drivers),
- pedestrian data (10 variables).

All vehicle data are linked to the accidents by the **accident code**.

All driver and passenger data are linked to the vehicles by the **vehicle code** and to the accidents by the **accident code**.

All pedestrian data are linked to the accidents by the **accident code**.

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Accident variables:

date and time of accident, place of accident (region, municipality, type of area), accident type, collision type, cause of accident, accident consequences (number of killed, seriously and slightly injured), type and state of road surface, weather conditions, visibility and view conditions, road division, position on the road, traffic control, specific objects, route condition (straight, curve or crossing), type and number of road, number of participating vehicles), speed limit etc.

Vehicle variables:

type of vehicle, number plate, year of vehicle production, vehicle operator, etc.

Driver and passenger variables:

driving licence category, length of driving practice, condition, influencing (only for drivers)

type of occupant, type of safety equipment (belts, helmets), sex, year of the birth, nationality, consequences (for both drivers and passengers)

(also uninjured drivers and passengers can be recorded)

Pedestrian variables:

condition, behaviour, situation at the accident, sex, year of the birth, nationality, consequences

(also uninjured pedestrians can be recorded)



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4.10.3 Transformation Rules – From theory to application

Most of the transformation rules from the Slovak database can be created quite simply. There are only a few exceptions:

age of driver, passenger or pedestrian - The year of birth is represented by only 2 digits in the Slovak database (e.g. 20 = 1920, 05 = 2005). Theoretically the age up to 115 years can be recorded by the mean of the auxiliary value of the sex variable:

1 = man > 15 years (it can be 16 - 115),

2 = man <= 15 years,

3 = woman > 15 years (it can be 16 - 115),

4 = woman <= 15 years

(e.g. year of birth 05 and sex 1 -> 1905, but year of birth 05 and sex 2 -> 2005)

age of vehicle - The year of production is represented by only 2 digits in the Slovak database (e.g. 70 = 1970, 05 = 2005).

day of the week - it is not directly represented in the Slovak database although it is also calculated there

NUTS region code - The police region structure differs from the NUTS and it must be transformed before the data delivery from the Slovak part.

Some variables usable for the CARE database cannot be found in the Slovak accident database (alcohol level value, vehicle manoeuvre for every separated vehicle, road markings). “No street lights” and “Streets lights unlit” are not distinguished.

It is assumed that the age of the person, the age of the vehicle and the day of the week can be calculated from the original Slovak data within the CARE database. NUTS structure will be transformed before the data delivery from the Slovak part.

4.10.4 CARE Glossary updating

Definitions of basic terms are in accordance with international recommendations - “Glossary for Transport Statistics”, issued by the UNECE Secretariat in co-operation with CEMT and Eurostat.

Persons killed in 30 days - correction coefficients are not used (direct observation in 30 days).



4.11 NO Norway

4.11.1 Work description

An advantage in the work has been that a previous work transforming Nordic accident information into common information has been carried out under the leadership of DRD. The work in this project was carried out in cooperation with the national Norwegian road administration and the central statistical bureau of Norway. The grids have been discussed with the road administration at a meeting in January 2007. A few outstanding questions have been clarified at a later stage with the statistical office. Following the work with the grids transformation rules has been put up. All information was sent to CARE in May 2007 in order to make it possible to include Norwegian data into CARE. During summer 2008 it was discovered sending information to CETE that where some problems with the final version of transformation rules at DRD. (The final version had been overwritten by a preliminary version by mistake. Therefore the information was inspected and corrected and a new version was send to CARE to ensure they had the right version.

The 8 steps of the work progress	Duration
Step1: The CARE common variables and values	8
Step2: The description of the national database	
Step 3: First draft of the national accident file structure	
Step 4: New requests from the Task 1.1 partners to the EU countries	2
Step 5: Drafting of the transformation rules	4
Step 6: Checking and revision of the transformation rules	3
Step 7: Setting up of the final version of the transformation rules	
Step 8: Final validation of the transformation rules by the Member State	2

4.11.2 Database structure and linkage between the accident components of the data – Identification of the specific data

The Norwegian data are in accordance with most of the information in the CARE variables.

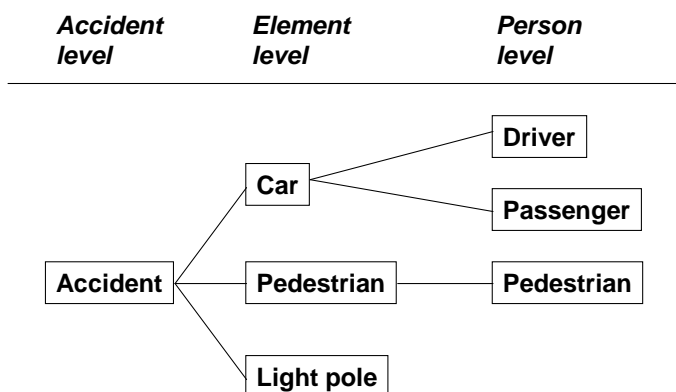
The data structure is based on:

- Accident information
- Element information (vehicles, pedestrians and obstacles)
- Person information

Persons are linked to elements and elements to accident building up a hierarchical structure.

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Example:



Building up the final combined accident-, element- and person record given to CARE information not relevant for the actual element will be marked with blank (NULL). Person information will of course not be given for obstacles and therefore also will be blank in the record.

4.11.3 Transformation Rules – From theory to application

Transformation rules for CARE PLUS 1 and 2 variables have been established except for:

- Motorway
- Driving license age
- Alcohol level
- Manoeuvre

Motorway was not included because the Norwegian definition does not agree with the respective EUROSTAT definition.

Information about driving license age, alcohol level and manoeuvre is not recorded. Manoeuvre could in some way be derived from accident type but not in the precise form needed for all cases.

4.11.4 CARE Glossary updating

Information about variables and values in Norwegian and the corresponding English terms were sent CARE.

In general, it can be mentioned that the Norwegian definitions meet the common definitions within CARE. Only accidents on roads with public access are included. Persons are recorded as fatalities if they die within 30 days from the accident. Persons died previously from the accident or due to suicide are not regarded as fatalities. The accident may be included if somebody else was injured.



4.12 CH Switzerland

4.12.1 Work description

The Swiss database is maintained by OFS (Federal Office of Statistic) on the basis of the data collected by the police. This collection is sustained by the way of a questionnaire filled-in after each road accident.

After a first contact with the Swiss CARE expert and also the representative of OFROU (the Federal Office of Roads), CETE-SO received the complete structure of the database, the definitions of the variables and values, and the questionnaire in September 2006. Furthermore, a first analysis of the Swiss variables and values has been undertaken to verify the compatibility of the definitions according to the CARE glossary.

A first draft of the transformation rules was created and sent to OFROU to be checked for eventual misunderstandings or errors, in November 2006.

The second version of the transformation rules was established during the first meeting held in BERN in September 2007 at the OFROU office, with the Swiss CARE expert and with the OFS representatives.

The final validation of the transformation rules was carried out during the meeting in the office of the DG-TREN at Brussels in November 2007.

The 8 steps of the work progress	Duration
Step1: The CARE common variables and values	11 months
Step2: The description of the national database	
Step 3: First draft of the national accident file structure	
Step 4: New requests from the Task 1.1 partners to the EU countries	1 month
Step 5: Drafting of the transformation rules	1 month
Step 6: Checking and revision of the transformation rules	11 months
Step 7: Setting up of the final version of the transformation rules	
Step 8: Final validation of the transformation rules by the Member State	2 months

4.12.2 Database structure and linkage between the accident components of the data – Identification of the specific data

The Swiss database consists of three folders:

- + Folder A: **ACCIDENT**
- + Folder B: **OBJECT**
- + Folder C: **PERSON**

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Each accident is defined by a unique ID Number which allows the linkage of the three folders where the variables and values are included. Moreover, the driver(s) and the passenger(s) are related to the ID Number of the OBJECT (namely the vehicle they are involved with, at the moment of the accident). Furthermore, the ID number of the OBJECT is linked to the ID Number of the accident.

Pedestrian(s) involved in an accident, are not directly linked to the car which they collided with but to the ID Number of a new OBJECT created to identify them. In other words, a “virtual vehicle” is created to link pedestrian(s) to a specific accident.

4.12.3 Transformation Rules – From theory to application

In order to create the transformation rules, the analysis of the Swiss variables and values had to be undertaken to verify whether their definitions agree with the CARE glossary.

In a general point of view, most of the transformation rules have been successfully created except for the following variables and values, which are unavailable in the Swiss database:

- the value “VEHICLE TYPE = other”
- the value “COLLISION TYPE = unknown”
- the value “STREET LIGHT = unknown”
- the value “COLLISION TYPE = unknown”
- the value “WEATHER = unknown”
- the value “JUNCTION = not stated”
- the value “JUNCTION TYPE = other”
- the value “AREA TYPE = not stated”
- the value “MOTORWAY = not stated”
- the variable “NATIONALITY PERSON”
- the variable “NATIONALITY DRIVER”
- the variable “NATIONALITY PASSENGER”
- the variable “NATIONALITY PEDESTRIAN”
- the variable “VEHICLE AGE”
- the value “DRIVING LICENCE AGE = unknown”
- the variables “ALCOHOL TEST”
- the variables “PSYCHOPHYSI. CIRCUMSTANCES”
- the variables “ALCOHOL LEVEL”
- the value “MOVEMENT PEDESTRIAN = unknown”
- the value “MANŒUVRE VEHICLE = overtaking on the left”
- the value “MANŒUVRE VEHICLE = overtaking on the right”
- the variable “ROAD MARKINGS”
- the variable “NUMBER OF LANES”

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4.12.4 CARE Glossary updating

The Swiss variables and values correspond exactly to the CARE Glossary, except for the variables and values, listed in the previous paragraph (5.12.3). For these elements, the CARE glossary has to be updated.

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4.13 RO Romania

4.13.1 Work description

The Romanian database is maintained by the Romanian Road Traffic Police Directorate (DPR) on the base of the data collected by the police since 1990. The electronic database contains a separate road traffic accident registration section, which is duplicated for Romanian Road Administration (CNADNR) for the use of traffic accidents analysis. This collection is sustained by the way of a questionnaire filled-in by the police after each road accident.

The first contacts with CETE-SO took place in December 2007 with the representative of the Road Traffic Police Directorate, in order to obtain the database structure and the national definitions.

In March 2008, CETE-SO received the complete structure of the traffic accident database as well as the definitions of the variables and values

In April 2008, a first analysis of the Romanian variables and values was undertaken to verify the compatibility of the definitions according to the CARE glossary. The development of the transformation rules has been undertaken in May 2008.

In June 2008, a first meeting was organised in Bucharest, in the office of the DRP in order to establish a first validation of the transformation rules.

After checking the eventual misunderstandings or errors, a last meeting was held in October 2008 in Brussels at the DG-TREN office, with the DPR and the representative of the European Commission, in order to finalise the transformation rules.

The 8 steps of the work progress	Duration
Step1: The CARE common variables and values	4 months
Step2: The description of the national database	
Step 3: First draft of the national accident file structure	
Step 4: New requests from the Task 1.1 partners to the EU countries	1 month
Step 5: Drafting of the transformation rules	1 month
Step 6: Checking and revision of the transformation rules	1 month
Step 7: Setting up of the final version of the transformation rules	2 month
Step 8: Final validation of the transformation rules by the Member State	2 months

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4.13.2 Database structure and linkage between the accident components of the data – Identification of the specific data

The Romanian database consists of three folders:

- + Folder A: **ACCIDENT**
- + Folder B: **VEHICLE**
- + Folder C: **PARTICIPANT**

Each accident is defined by a unique ID Number which allows the linkage of the three folders where the variables and values are included. Moreover, the driver(s) and the passenger(s) are related to the ID Number of the VEHICLE (namely the vehicle they are involved with, at the moment of the accident). Furthermore, the ID number of the PARTICIPANT is linked to the ID Number of the accident. Pedestrian(s) involved in an accident, are directly linked to the car which they collided.

4.13.3 Transformation Rules – From theory to application

In order to create the transformation rules, the analysis of the Romanian variables and values had to be undertaken to verify whether their definitions agree with the CARE glossary.

In a general point of view, most of the transformation rules have been successfully created except for the following variables and values, which are unavailable in the Romanian database:

- the value “Person class = unknown”
- the value “Injury Severity Person = unknown”
- the value “Vehicle type = unknown”
- the value “Collision type = unknown”
- the value “Natural light = unknown”
- the value “Street light = unknown”
- the value “Weather = other”
- the value “Weather = unknown”
- the value “Junction = not stated”
- the value “Junction type = unknown”
- the value “Alcohol Test = unknown”
- the value “Movement Pedestrian = crossing masked”
- the value “Movement Pedestrian = crossing not masked”
- the value “Movement Pedestrian = walking in cw with traffic”
- the value “Movement Pedestrian = walking in cw facing traffic”
- the variable “Speed limit”
- the variable “Manœuvre vehicle” (except the value “stopped”)
- the value “Junction Control = stop sign”
- the value “Security equipment = unknown”
- the value “Security equipment = not applicable”
- the value “Road markings = unknown”

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4.13.4 CARE Glossary updating

The Romanian variables and values correspond exactly to the CARE Glossary, except for the variables and values, listed in the previous paragraph (5.12.3). For these elements, the CARE glossary has to be updated.

4.14 IS Iceland

4.14.1 General

In Iceland the Police is responsible for the collection of road accident data by filling-in the accident data collection form (which is filled-in in paper format), but both the Police and the Icelandic Road Traffic Directorate are responsible for the content and the development of the national road accident database. The policemen responsible for filling-in the collection form are receiving some special training however this is not an on-going process. Furthermore, some consistency checking concerning the transfer of data from the accident data collection form into the road accident database is carried out.

It is evident thus, that the Icelandic accident database is based on police reports but as the police does not report everything, people working at the Road Traffic Directorate read every police file, review it and add certain fields, i.e. the type and cause of accident, as well as the reviewed coordination (location) of the accident. The reviewed coordination is based upon the police coordination (in case these are filled-in) and the related descriptive text from the police report itself. The police coordination locates the position of the police car when it arrives at the accident scene, but not necessarily the exact coordination of the accident.

Police is also dealing with the follow-up of the accident casualties (slight, serious injuries) in the hospitals. Regarding fatalities, no underreporting by the Police is observed, however the same certainty does not apply to serious and slight casualties.

The Icelandic road accident database contains information on accidents that involve casualties, but also on material damage-only accidents. However, data on material damage only accidents are not always accurate, especially due to significant single vehicle accidents underreporting.

4.14.2 Work description

Within the framework of Task 1.1 and during the extension period of the project (May 2008 to October 2008), NTUA closely collaborated with the Icelandic national representative from the Icelandic Road Traffic Directorate, who is also member of the CARE Experts Group. First links with the Icelandic Expert were established during the CARE Experts meeting in 2007, in which first discussions on the organisation and planning of the work took place.

Following the related request of the EC to the national representatives for provision of a first set of necessary information on their national accident database, the Icelandic Expert initially sent a description of the Icelandic database, including the names of the variables and values in each of the three main folders (Tables), as well as information on the data type, the size and the

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code key of each value. Additionally, a separate file with sketches of the accident/collision types was provided.

This first set of information was examined by NTUA and in June 2008 some additional information on the structure of the national road accident database in Iceland were requested. This supplementary information was provided by the Icelandic Expert and at a next stage, two Excel files concerning road accident variables and values definitions were sent back to fill-in/verify.

The first Excel file was a template developed within Task 1.1 and included the variables and values in both native and English language, as these are included in the national road accident collection form of Iceland, as well as their definitions. The Icelandic Expert filled-in any missing parts, verified the definitions for each variable and value and provided additional information/explanations when necessary, especially on which of the variables and values are not collected systematically, or they are of low quality.

The second Excel file was a Grid including various definitions of all the CARE+1 and CARE+2 variables and values, and was filled-in by the Icelandic national Expert indicating which of these definitions apply to Iceland and which not. These Grids have already been filled-in for all 15 EU countries during the CARE+1 and CARE+2 projects and filling them in also for the new EU countries will result to have a more complete picture of the road accident data collection at European level. Clarifications on the completion of this Grid to the Icelandic Expert were provided by NTUA.

Following the successful filling-in of these files by the Icelandic Expert, a draft version of the Icelandic transformation rules was developed and subsequently, a meeting was organised between NTUA and the Icelandic Expert in Iceland, in early October 2008, allowing for the clarification of some pending issues related to the Icelandic road accident variables and values and the finalisation of the set of transformation rules. The final meeting took place in the premises of the Icelandic Road Traffic Directorate in Reykjavik.

The 8 steps of the work progress	Duration of each step
Step1: The CARE common variables and values	3 months
Step2: The description of the national database	
Step 3: First draft of the national accident file structure	
Step 4: New requests from the Task 1.1 partners to the EU countries	1 month
Step 5: Drafting of the transformation rules	1 month
Step 6: Checking and revision of the transformation rules	1 month
Step 7: Setting up of the final version of the transformation rules	0,5 month
Step 8: Final validation of the transformation rules by the Member State	0,5 month



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4.14.3 Database structure and linkage between the accident components of the data – Identification of the specific data

The Icelandic road accident database consists of 3 different main folders, as indicated in the following Table:

Table 1: ACCIDENT DATA (31 variables)

Table 2: VEHICLE DATA (39 variables)

Table 3: PERSON DATA (12 variables)

These 3 Tables are linked to each other, mainly through the variable "Numeric ID", which is common in all three Tables and is a number issued by the police. Each accident has a unique NID and every vehicle and person in that accident has the same NID. In case of an added case (if there is a file that wasn't sent to the Road Traffic Directorate), the NID is negative.

Additionally, for every accident there are 1..n vehicles and 1..n persons and for every vehicle there are 0..n persons.

There are 82 variables in total in the national database, most of which are collected by the police on the accident spot. Most of these variables are filled-in by selecting one (or in a few cases more than one) values from a specific pre-defined list of values, and only in a few cases text or number can be filled-in.

The variables included in each of the Tables are the following:

ACCIDENT DATA

Numeric ID, Police district / Region, Date and Time, Type of accident, Road number (Municipality level), Road number (National level), Brightness, Traffic priority, Lighting, Weather conditions (up to four different weather conditions in four fields), Road surface, Road conditions, Rural/Urban, Bridge accident, Crossroad accident, Traffic Lights, Latitude (degrees north), Longitude (degrees west), Latitude (minutes north), Longitude (minutes west), Case Number, Accident Cause, Other conditions, User ID, Accident Severity, Case closed, Tunnel, Parking Lot, Agent, X Coordinates, Y Coordinates.

VEHICLE DATA

Numeric ID, Vehicle No, License Plate Number, Registration Number, Personal Number, Model Year, Type of vehicle, Colour, Insurance Company, Speed limit, Actual speed of vehicle, Driver gender, License status, Driver License, License Issue date, Drug use of driver, Alcohol use of driver, Tyres, Driver Nationality, Damage level, Damage points, Trailer being pulled, Driving direction (intended), Location, Lane, Owner or not, Actual Speed, Damage description, Driver age, Make, Type, Vehicle group, Vehicle usage, Altered, Tyre Size, Vehicle Own Mass, Vehicle Laden Mass, Inspection date, Inspection result.



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PERSON DATA

Numeric ID, Person Number, Position, Personal number, Gender, Safety equipment, Injury severity, Point of injury, Drug use, Nationality, Vehicle, Age.

Additionally, specific information on the type of accident/ collision can be derived from the sketches with the accident/collision diagram.

All these variables are not collected in the same systematic way by the police, thus their reliability in terms of completeness may vary.

4.14.4 Transformation Rules – From theory to application

In order to elaborate the appropriate transformation rules to be applied on the national road accident data to become compatible with the CARE variables and values, the definitions of the Icelandic variables and values were analysed and it was examined whether they could identically match with the respective CARE variables and values or a combination of more than one variables and values was necessary.

Most of the CAREPLUS I variables and values can be extracted by the Icelandic road accident database, either directly or by combining more than one Icelandic variables or values, as well as some of the CAREPLUS II variables and values. The detailed transformation rules are presented in Annex 3.

However, there are minor differences in the definitions of some Icelandic variables and values and some notes have to be considered with respect to the following ones:

In the Icelandic database the "Lysing - Lighting" variable refers to the artificial lighting; whether the street is sufficiently lit up (or if there is any lighting at all) but brightness refers to the natural light. The value "Streetlight" in the brightness variable means that it is dark but artificial lighting exists.

In the Icelandic database in the "Birta - Brightness" variable, the value "Darkness" is used only light does not exist or it is insufficient. Lit up roads exist only in built up areas, as in Iceland the rural roads aren't lit up. There are a few exceptions but the general rule is that once you are out of built up areas the road becomes dark and you have to depend on your headlights and the reflectors on the road side.

In some variables i.e. "Vedur (1-4)" the numbers indicate in fact four separate fields; Vedur1, Vedur2, Vedur3 and Vedur4. The first field is always filled in but the others are filled in if there are more than one valid weather-code to enter (i.e. if there is a storm and rain, we would have Vedur1=7, Vedur2=4, Vedur3=NULL and Vedur4=NULL (NB. Vedur4, Yfirbord4 and Faerd4 are usually NULL).

The "Faerd (1-4) - Road conditions" and the "Yfirbord (1-4) - Road surface" variables are different ones: Road conditions are related to how is the condition

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of the road due to weather conditions. Road surface is the condition of the road itself.

With reference to the "Orsök - Accident Cause" variable, in Iceland the Road Traffic Directorate is responsible for the accident data. Based on the police reports (both the text and the variable fields), people at the Road Directorate add some information, including the accident cause. So the police does not really report how the cause should be coded. It is not the opinion of the police but the opinion of RTD workers who analyse the police report. Every statement and test that is in the police report is used to determine the accident cause, consequently, this data can be considered as somewhat subjective. (i.e. for alcohol, etc).

In the Icelandic database the format of the "Speed limit" variable is an integer field. Numbers represent the speed limit in km/h.

Drug and Alcohol tests are applied mainly to drivers and pedestrians. If passengers are drug tested or alcohol tested it would be an exception.

There is a difference between the "Eflokkur - Vehicle group" and the "Tegund - Type of vehicle" variables. Vehicle group (passenger car, bus, etc.) is retrieved from the national vehicle registry, so that field has the vehicle group for most of the vehicles. If the vehicle is not included in the vehicle registry, it can be manually filled-in, but the field Tegund can indicate why it is not in the vehicle registry (foreign car, bicycle, unregistered etc.). If it is in the vehicle registry (as most vehicles are) the field Tegund takes the value 1=Vehicle in national registry.

In the "Eflokkur - Vehicle group" the value "Tractor" is related only to agricultural tractors. Road tractors (the ones pulling the trailers) are defined as Heavy good vehicles.

In the "Tegund - Type of vehicle" variable, for the value "Motorised scooter", motorised scooter is a scooter (the small ones like a skate board with a handle) equipped with a small engine. These are extremely rare. The driver on such a scooter can be considered more as a pedestrian than a driver.

The national road accident database is linked with the national vehicle registry. The last fields in the table (those starting with E...) are collected from the vehicle registry.

In the Icelandic database in the "Stadsetning - Position" variable the value "operator" is recorded in case the vehicle is empty and the owner or operator is registered and linked with the vehicle. This operator can even be an organisation or a company.

In the Icelandic database in the "Oryggistaeki (1-3) - Safety equipment" variable the meaning of the "afterglow" value is reflective clothing or banners or any other kind of reflectors.



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4.14.5 CARE Glossary updating

In general, it can be noted that the Icelandic variables and values definitions meet the common definitions of the CARE data, despite the fact that some variables of CARE are not available in the Icelandic database.

Within the national road accident database there are more variables and values than in CARE, some of which could also be considered to be included into the CARE system at a next stage.

4.15 BU Bulgaria

4.15.1 General

In Bulgaria the Police is responsible for the collection of road accident data by filling-in the accident data collection form (which is filled-in in paper format). The policemen responsible for filling-in the collection form are receiving some special training however this is not an on-going process. Furthermore, some basic consistency checking concerning the transfer of data from the accident data collection form into the road accident database is carried out.

4.15.2 Work description

Within the framework of Task 1.1 and during the extension period of the project (May 2008 to October 2008), NTUA collaborated with the Bulgarian national representatives from the Ministry of Transport and the Police, who are also members of the CARE Experts Group. First links with the Bulgarian Experts were established during the CARE Experts meeting in 2007, in which first discussions on the organisation and planning of the work took place.

Following the related request of the EC to the national representatives for provision of a first set of necessary information on their national accident database, the Bulgarian Experts initially sent a description of the Bulgarian database and an example of the Bulgarian registration form, including the names of the variables and values in each of the two main folders.

This first set of information was examined by NTUA and in June 2008 some additional information on the structure of the national road accident database in Bulgaria were requested. Part of this supplementary information was provided by the Bulgarian Expert and at a next stage, one Excel files concerning road accident variables and values definitions was sent back to fill-in/verify.

This Excel file was a template developed within Task 1.1 and included the variables and values in both native and English language, as these are included in the national road accident collection form of Bulgaria, as well as their definitions. The Bulgarian Expert filled-in some missing parts, verified the definitions for each variable and value and provided additional information/explanations when necessary, especially on which of the variables and values are not collected systematically, or they are of low quality.

Following the filling-in of these files by the Bulgarian Expert, a draft version of the Bulgarian transformation rules was developed. No meeting was organised between NTUA and the Bulgarian Expert, as due to some delays to the provision of the necessary data/information, there was not enough time to arrange for a meeting before the end of the project.

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The 8 steps of the work progress	Duration of each step
Step1: The CARE common variables and values	3 months
Step2: The description of the national database	
Step 3: First draft of the national accident file structure	
Step 4: New requests from the Task 1.1 partners to the EU countries	2 month
Step 5: Drafting of the transformation rules	1 month
Step 6: Checking and revision of the transformation rules	2 month
Step 7: Setting up of the final version of the transformation rules	1 month
Step 8: Final validation of the transformation rules by the Member State	0,5 month

4.15.3 Database structure and linkage between the accident components of the data – Identification of the specific data

The Bulgarian road accident database consists of 2 main folders, as indicated in the following Table:

Folder 1: GENERAL ACCIDENT DATA (36 variables)

Folder 2: PERSONS INVOLVED AND VEHICLES (20 variables)

There are 56 variables in total in the national database, most of which are collected by the police on the accident spot. Most of these variables are filled-in by selecting one (or in a few cases more than one) values from a specific pre-defined list of values, and only in a few cases text or number can be filled-in.

The variables included in each of the Tables are the following:

GENERAL ACCIDENT DATA

Ministry of Interior Section, Traffic accident registration number, Date, Hour, City (town, village), Street, House number, Crossing/section number, Road class, Road number, Kilometer, Municipality, Itinerary, Post, Accident scheme, Entry/direction of motor vehicle, Traffic accident type, Weather conditions, Road layout and profile, Traffic accident location, Characteristic place, Traffic, Pavement width, Number of traffic lanes, Pavement, Pavement condition, Lighting, Traffic control, Number of vehicles involved, Damages, Main reason for the traffic accident, Violations of the driver, Defects in vehicles, Shortcomings in the road conditions, Violations of the pedestrian, Violations of the passenger.

PERSONS INVOLVED AND VEHICLES

City/town/village, Street and number, №, Code of participant, First name, surname, Family name, Personal Identification Number, Condition,



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Consequence, Place of passenger, Safety provisions, Category, Insurance company, Violation, Practice, Driving duration, Personal Identification Number (BULSTAT) of the vehicle owner, Vehicle type, Registration number type, Registration number, Motor vehicle make code number.

All these variables are not collected in the same systematic way by the police, thus their reliability in terms of completeness may vary.

4.15.4 Transformation Rules – From theory to application

In order to elaborate the appropriate transformation rules to be applied on the national road accident data to become compatible with the CARE variables and values, the definitions of the Bulgarian variables and values were analysed and it was examined whether they could identically match with the respective CARE variables and values or a combination of more than one variables and values was necessary.

Most of the CAREPLUS I variables and values can be extracted by the Bulgarian road accident database, either directly or by combining more than one Bulgarian variables or values, as well as some of the CAREPLUS II variables and values. The detailed transformation rules are presented in Annex 3.

4.15.5 CARE Glossary updating

In general, it can be noted that the Bulgarian variables and values definitions meet the common definitions of the CARE data, despite the fact that some variables of CARE are not available in the Bulgarian database.

Within the national road accident database there are only some additional variables and values than in CARE, some of which could be considered to be included into the CARE system at a next stage.

5 Conclusions

The incorporation of fifteen new countries in the CARE database provided the opportunity to nurture two types of conclusions: firstly, those directly linked to the work on the field, and secondly, the added values for the European Road Safety.

Concerning the experiences attained from the work with these countries (new Member States at the time when SafetyNet began), it was evident that all governmental correspondents very well perceived the importance of becoming an active partner of the European CARE road accident database. Furthermore, the responsible parties have made a point of honour of being available as often as possible for the WP1 partners in charge of their country: The international human resources management, a challenge inherent in this kind of project, has been successfully undertaken by all parties involved.

From a practical point of view, once each partner received the structure and the definitions of the national database, the first four steps of the Task 1.1 process, which represent the base of the Transformations Rules creation, lasted from 4 to 10 months, while the last three steps, enabling to finalise and validate the Transformation Rules, lasted 7 months on average, meaning that the average time to integrate a new country into CARE was approximately 17 months.

Moreover, the study of different national database structures, as well as the definitions of the variables, has provided insight on different ways to analyse an accident and to identify different perspectives on the possible use of the analysis outcomes.

The added value for the common effort to enhance Road Safety in Europe is indisputably the strong and sustainable link that is created between the countries that lately became EU Member States and those Member States already existing in the European Union. Strong because by providing its national data to the European Community is an indication of trust on behalf of the national authorities to the European systems and sustainable as this exchange of information and experiences will be an opportunity to maintain regular contacts with the common core and to receive feedbacks of the use of the provided data within the framework of European research projects.

This integration will provide a wider spectrum for future projects in order to:

- Work on further elements of comparisons between the Member States
- Broaden the subsets of comparable countries (by category, by population etc)
- Assess more precisely the different road safety policies in any country.

Part of the work of Task 1.1 was also exploited within the framework of Task 1.4, which deals with the improvement of accident data compatibility throughout Europe. As harmonisation of accident data at national level (apart from the EC

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level) could be very beneficial for road accident analysis, using more common variables and values across the European countries, a Common Accident Data Set (CADaS) and methodology were established, to be used by any EU country that wishes to update their national road accident collection system. Within the framework of the work carried out in Task 1.4, the information from the Grids filled-in for these twelve countries was used, and the recorded structures of the national accident data collection systems were analysed, allowing for the identification of the different fill-in systems and the links between the various road accident variables.

Moreover, the gathered information on the national road accident variables, values and their related definitions (along with the necessary clarifications when needed), as well as any other qualitative information on the collection reliability of each variable provided by the national experts were considered, in order to conclude to the variables and values that were finally included into the Common Accident Data Set. Special attention was given to the national road accident variables and values that are not currently included in the CARE database, exploring the opportunity to embody the most useful for analysis and the most common ones among the examined countries, into the recommendation for the common data set.

ANNEX 1: CARE updated Glossary

CARE - GLOSSARY

CARE is a Community database on road accidents resulting in death or injury (no statistics on damage - only accidents). The major difference between CARE and most other existing international databases is the high level of disaggregation, i.e. CARE comprises detailed data on individual accidents as collected by the Member States. This structure allows for maximum flexibility and potential with regard to analysing the information contained in the system and opens up a whole set of new possibilities in the field of accident analysis.

The purpose of CARE system is to provide a powerful tool which would make it possible to identify and quantify road safety problems throughout the European roads, evaluate the efficiency of road safety measures, determine the relevance of Community actions and facilitate the exchange of experience in this field.

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Chapter 1 - CARE - Glossary

5.1 BASIC DEFINITIONS

5.1.1 Accident

Definition: Occurs on a public road or on a private road to which the public has right of access (except B, NL, P). Involves atleast one moving vehicle (except P, UK). Involves at least one injured or killed person. Is reported by the police. Self reporting possible (B, EL, IRL, I, UK). Self reporting not possible (DK, D, NL, A, P, FIN). Confirmed suicides excluded (B, D, DK, IRL, NL, A, P, UK). Confirmed suicides included (E, I, L).

Note : The variation in the types of road and the coverage of the injury categories included in injury accidents, together with differences in the level of self reported accidents, will lead to significant variations in the number of injury accidents reported, and their reporting rate, between Member States.

5.1.2 Person killed at 30 days

Definition: Death within 30 days of a road accident (UN/ECE Geneva 1995 – Statistics of Road Traffic Accidents in Europe and North America, annex 1). Suicide not included (except E, F). Natural death not included (except L, S). The following correction coefficients (proposed by the concerned Member States) are used for EL (24 hours), E (24 hours in CARE ; 24 hours before 1993 in publication), F (6 days), I (7 days), A (3 days before 1992), P (24 hours).

5.1.3 Correction coefficients

Definition: A table of correction coefficient have been proposed by Member States. These coefficients are applied to absolute values for killed person in an accident in order for values to be in adequacy with the common definition of ‘killed persons in 30 days as from the day of accident’.

The following correction coefficients (proposed by the concerned Member States) are used for A (3 days before 1992), E (24 hours in CARE ; 24 hours before 1993 in publication), F (6 days before 2005), GR (24 hours), I (7 days), P (24 hours).

Member State	Correcting factors		
Greece	$K(30) = K * 1.18$ up to 1995		
Spain	$K(30) = K * 1.3$ up to 1992		
	1993 up to 1996:	Outside urban area	Inside urban area
	Driver	$K(30)=K+SI*2.46\%$	$K(30)=K+SI*1.02\%$
	Passenger	$K(30)=K+SI*2.29\%$	$K(30)=K+SI*0.94\%$
	Pedestrian	$K(30)=K+SI*7.22\%$	$K(30)=K+SI*3.87\%$
	1997 up to 2000:	Outside urban area	Inside urban area
	Driver	$K(30)=K+SI*2.44\%$	$K(30)=K+SI*1.93\%$
	Passenger	$K(30)=K+SI*2.17\%$	$K(30)=K+SI*1.80\%$
	Pedestrian	$K(30)=K+SI*4.76\%$	$K(30)=K+SI*5.71\%$
		2001 up to 2004	Outside urban area
	Driver	$K(30)=K+SI*2.41\%$	$K(30)=K+SI*2.17\%$
	Passenger	$K(30)=K+SI*2.24\%$	$K(30)=K+SI*2.15\%$
	Pedestrian	$K(30)=K+SI*6.17\%$	$K(30)=K+SI*4.34\%$
France	$K(30) = K * 1.09$ up to 1993 $K(30) = K * 1.057$ from 1994 to 2004		
Italy	$K(30) = K * 1.078$ up to 1998		
Austria	$K(30) = K * 1.12$ only for 1991		
Portugal	$K(30) = K * 1.3$ up to 1997		
	$K(30) = K * 1.14$ from 1998 onwards		

Where K: number of persons killed, SI: number of persons seriously injured.



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5.1.4 Coherence rules

- Psychological circumstances is not applicable for passengers/pedestrians
- Driving license age is not applicable for pedestrians, passengers
- Security equipment is not applicable for pedestrians
- Alcohol level is not applicable for passengers/pedestrians
- Alcohol test is not applicable for passengers/pedestrians
- Movement pedestrian is not applicable for passengers/drivers
- Car passenger type is not applicable for drivers/pedestrians
- There is no junction when its type is "not at a junction"

5.2 ACCIDENT TYPE ITEMS

5.2.1 ACCIDENT SEVERITY

Definition: The highest level of injury affecting one person involved in the accident injury severity from slightly injured, seriously injured up to killed) Values defined: fatal accident - injury accident - serious injury accident - slight injury accident - unknown.

fatal accident	<p>Definition: Accident with at least one killed person regardless the injury severity from any other involved persons.</p> <p>Note: see 'killed' definition from Injury Severity defined in Person type item.</p> <p>Data availability: All countries.</p>
injury accident	<p>Definition: Accident with at least one injured person among the person(s) involved without specification of type of injury</p> <p>Note: see 'injured' definition from Injury Severity defined in Person type item.</p> <p>Data availability: All countries except FI, IT, NL, EE</p>
serious injury accident	<p>Definition: Accident with at least one or more seriously injured person stated among the person(s) involved and wherein no other killed person was reported.</p> <p>Note: see 'seriously injured' definition from Injury Severity defined in Person type item.</p> <p>Data availability: All countries except FI, IT, NL, EE, LT</p>
slight injury accident	<p>Definition: Accident with at least one or more slight injured person stated among the person(s) involved and wherein no other seriously injured or killed person was reported.</p> <p>Note: see 'seriously injured' definition from Injury Severity defined in Person type item.</p> <p>Data availability: All countries except FI, IT, NL, EE, LT</p>
unknown	<p>Definition: Accident for which no injury severity was reported among the person(s) involved.</p> <p>Note: see 'unknown' definition from Injury Severity defined in Person type item.</p> <p>Data availability: BE, DK, SE, CH</p>

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5.2.2 CARRIAGEWAY TYPE

dual carriageway	Definition: A carriageway which is divided by a central reservation (e.g.: barrier).
	Data availability: All countries except ES (1993 onwards), FI, LU, NL, PT,EE,SE, SI, LT, NO, MT, LV
single carriageway	Definition: A carriageway which is not divided by a central reservation.
	Data availability: All countries except AT,ES (1993 onwards), IE (before 1995), LU,NL,PT,SE,EE, SI, LT, NO, MT, LV
single carriageway, one way street	Definition: A carriageway with a one way street (with at least one lane) which is not divided by a central reservation.
	Data availability: All countries except BE,ES,FI,IE before 1997,LU,NL,PT 1999 onwards, SE,EE
single carriageway, two way street	Definition: a carriageway with a two way street (with at least one lane for each direction) which is only divided by road markings.
	Data availability: AT, CY

5.2.3 COLLISION TYPE

angle collision	Definition: Collision between two moving vehicles. First vehicle has a side collision point, other vehicle has a frontal collision point (ES 1993 onwards, GR, IT, IE).
	Data availability: AT, DK, ES 1993 onwards, GR, IT, IE,EE, CY, HU, PL, CH, CZ, SK, SI, LT, RO
	Value included in another value: lateral collision
chain collision	Definition: Collision between more than two moving vehicles (BE, ES, FR). First vehicle has a rear collision point, other vehicle has a frontal collision point (ES, FR).
	Data availability: BE, ES, FR,EE, HU, PL, MT, RO
	Value included in another value: chain or rear collision
chain or rear collision	Definition: Collision between two or more vehicles travelling in the same direction on the same road. First vehicle has a rear collision point, other vehicle has a frontal collision point (ES, FR, GR, IT, IE, NL, PT).
	Data availability: All countries (except GB, LU, NI, SE 2003 onwards).
collision with animal	Definition: Collision between vehicle and animal.
	Data availability: All countries (except , GB, IE 1996 onwards, IT, NI).
collision with obstacle	Definition: Collision between moving vehicle and obstacle. On or off the road. Fixed or moving obstacle. Includes trees, posts, crash barriers.
	Data availability: All countries (except GB, NI, SE 2003 onwards, LT).
collision with	Definition: Collision between moving vehicle and parked vehicle. Includes vehicle moving off (DK).
	Data availability: All countries (except B, GB, NI, PT, PL).

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parked vehicle	
collision with pedestrian	<p>Definition: Collision between moving vehicle and pedestrian.</p> <p>Data availability: All countries (except GB, NI).</p>
frontal collision	<p>Definition: Collision between two vehicles travelling in the opposite direction on the same road. Both vehicles have a frontal collision point (BE, ES, FR, GR, IT, IE, NL, PT).</p> <p>Data availability: All countries (except GB, LU, NI, SE 2003 onwards).</p>
lateral collision	<p>Definition: Includes angle collision, side by side collision. First vehicle has a side collision point, other vehicle has a frontal or side collision point (BE, ES, FR, GR, IT, IE, PT).</p> <p>Data availability: All countries (except GB, LU, NI, LV).</p>
rear collision	<p>Definition: Collision between two vehicles travelling in the same direction on the same road. First vehicle has a rear collision point, other vehicle has a frontal collision point (ES, FR).</p> <p>Data availability: AT, BE, DK, ES, FR,EE, HU, CH, CZ, SK, LT, CY, MT, LV</p> <p>Value included in another value: chain or rear collision</p>
side by side collision	<p>Definition: Collision between two vehicles, where both vehicles have a side collision point (ES from 1993 onwards, GR, IT).</p> <p>Data availability: AT, DK, ES from 1993 onwards, GR, IT,EE, HU, PL, CH, CZ, SK, SI, LT, CY, MT, LV, RO</p> <p>Value included in another value: lateral collision</p>
single vehicle accident, no obstacle	<p>Definition: Accident in which only one vehicle was involved. Includes vehicle leaving the road, cyclist falling.</p> <p>Data availability: All countries (except DK,FI before 2003, GB,IE 1996 onwards, IT, LU, NI,,SE before 2002, SI, LT).</p>

5.2.4 HIT AND RUN

no (not a hit and run accident)	<p>Definition: All persons and vehicles involved in the accident are recorded on the spot.</p> <p>Data availability: AT, FR, ES 1993 onwards,FR 1993 onwards,GB,IE before 1996,LU,IT,NI, PL, CH, CZ, SK, LT, CY, RO</p>
yes (hit and run accident)	<p>Definition: One or more persons and/or vehicles involved in the accident quit after the accident without being recorded on the spot.</p> <p>Data availability: AT, FR, ES 1993 onwards,FR 1993 onwards,GB,IE before 1996,LU,IT,NI, PL, CH, CZ, SK, LT, CY, MT, RO</p>

5.2.5 JUNCTION CONTROL

authorised person	<p>Definition: Police officer or traffic warden in uniform who is controlling the traffic. Includes where an 'authorised person' is controlling the junction even if there are traffic signals or other junction controls present.</p> <p>Data availability: BE, ES, FR before 1993, GB, GR, NI, HU, CH, CZ, SK, CY, RO</p>
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automatic traffic signal	<p>Definition: Includes where traffic signals are present but out of action and no authorised person in control.</p> <p>Data availability: All countries except AT,FR 2004 onwards,IT,LU,NL,EE, CZ, SK, SI, LT, MT, RO</p>
controlled	<p>Definition: A junction which is controlled by a authorised person (eg police men) or by a automatic traffic signal.</p> <p>Data availability: All countries (except IT, NL, LU, PT and SE,EE).</p>
give way sign or markings	<p>Definition: A junction which is not controlled by a authorised person (eg police men) or by a automatic traffic signal but controlled with a give way sign or with markings.</p> <p>Data availability: All countries except AT,ES,IT,NL,LU,PT,EE,SE 2003 onwards, PL, SI, LT, LV</p>
stop sign	<p>Definition: A junction which is not controlled by a authorised person (e.g. police men) or by a automatic traffic signal but controlled with a stop sign.</p> <p>Data availability: All countries (except AT,BE,EE,ES,FR 2004 onwards,GR 1996 onwards,IT,LU,NL,PT,SE 2003 onwards, HU, PL, CZ, SK, SI, LT, MT, LV, RO)</p>
uncontrolled	<p>Definition: A junction which is not controlled by a authorised person (e.g. police men) or by a automatic traffic signal or by give way signs or markings or by stop signs.</p> <p>Data availability: All countries (except ES,FI,EE,FR 2004 onwards,IT,LU,NL,SE 2003 onwards, PL, SI, NO, MT)</p>

5.2.6 NUMBER OF LANES

1 lane	<p>Definition: The road in which the accident took place had one lane.</p> <p>Data availability: FR, GB, LU,NI,GR 1996 onwards, CZ, SK, MT, RO</p>
2 lanes	<p>Definition: The road in which the accident took place had two lanes. It is not clear whether these lanes refer to one or two directions.</p> <p>Data availability: FR, GB, LU,NI,GR 1996 onwards, HU, CZ, SK, MT, RO</p>
3 lanes	<p>Definition: The road in which the accident took place had three lanes. It is not clear whether these lanes refer to one or two directions.</p> <p>Data availability: FR, GB, LU,NI,GR 1996 onwards, CZ, SK, MT, RO</p>
>=4 lanes	<p>Definition: The road in which the accident took place had four or more lanes. It is not clear whether these lanes refer to one or two directions.</p> <p>Data availability: FR, GB, LU,NI,GR 1996 onwards, CZ, SK, MT, RO</p>

5.2.7 ROAD MARKINGS

none	<p>Definition: A road with no road markings.</p>
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	Data availability:	ES, FR, GR, IT, IE and PT, EE, HU, CY, RO
road markings	Definition:	Road with road markings (eg: broken centre line, continuous centre line, edge markings, lane markings).
	Data availability:	ES, FR before 2004, GR,IE, IT,PT, HU, CY, RO

5.2.8 ROAD SURFACE CONDITIONS

dry	Definition:	Dry road surface.
	Data availability:	All countries.
frost,ice	Definition:	frost or ice on the road. .
	Data availability:	All countries except BE,DK,LU,NL,PT, CY, MT
other, unknown	Definition:	none of these above.
	Data availability:	All countries.
slippery	Definition:	Slippery road surface. Includes gravel, mud, leaves on the road, snow or ice are not included in this value.
	Data availability:	All countries excepted GB,IE,SE..
snow	Definition:	Snow on the road. .
	Data availability:	AT,IT,FI,GB,GR,SE,IE,ES,FR,NL,EE, HU, CH, CZ, SK, SI, LT, LV, RO
snow, frost or ice	Definition:	Snow, frost or ice on the road. .
	Data availability:	DK 2003 onwards,LU,SE,NL,BE,PT, HU, PL, CH, CZ, SK, SI, CY, LV, RO
wet, damp, flood	Definition:	Wet road surface. Includes flood and damp.
	Data availability:	All countries .

5.2.9 SPEED LIMIT GROUP

< 30 km/h	Definition:	The speed limit group at the accident location is less than 30 km/h.
30-50 km/h	Definition:	The speed limit group at the accident location is between 30 and 50 km/h.
51-80 km/h	Definition:	The speed limit group at the accident location is between 51 and 80 km/h.
81-100 km/h	Definition:	The speed limit group at the accident location is between 81 and 100 km/h.
+/- 110 km/h	Definition:	The speed limit group at the accident location is around +/- 110 km/h.
120 km/h	Definition:	The speed limit group at the accident location is equal than 120 km/h.

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5.2.10 SPEED LIMIT

< 30 km/h	Definition:	The speed limit at the accident location is less than 30 km/h.
+/- 30 km/h	Definition:	The speed limit at the accident location is around +/-30 km/h.
40 km/h	Definition:	The speed limit at the accident location is equal than 40 km/h.
+/- 40 km/h	Definition:	The speed limit at the accident location is around +/-40 km/h.
50 km/h	Definition:	The speed limit at the accident location is equal than 50 km/h.
+/- 50 km/h	Definition:	The speed limit at the accident location is around +/-50 km/h.
60 km/h	Definition:	The speed limit at the accident location is equal than 60 km/h.
+/- 60 km/h	Definition:	The speed limit at the accident location is around +/-60 km/h.
70 km/h	Definition:	The speed limit at the accident location is equal than +/-70 km/h.
+/- 70 km/h	Definition:	The speed limit at the accident location is around +/-70 km/h.
80 km/h	Definition:	The speed limit at the accident location is equal than 80 km/h.
+/- 80 km/h	Definition:	The speed limit at the accident location is around +/-80 km/h.
90 km/h	Definition:	The speed limit at the accident location is equal than 90 km/h.
+/- 90 km/h	Definition:	The speed limit at the accident location is around +/-90 km/h.
100 km/h	Definition:	The speed limit at the accident location is equal than 100 km/h.
+/- 100 km/h	Definition:	The speed limit at the accident location is around +/-100 km/h.
110 km/h	Definition:	The speed limit at the accident location is equal than 110 km/h.
+/- 110 km/h	Definition:	The speed limit at the accident location is around +/-110 km/h.

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120 km/h	Definition:	The speed limit at the accident location is equal than 120 km/h.
+/- 120 km/h	Definition:	The speed limit at the accident location is around +/-120 km/h.
130 km/h	Definition:	The speed limit at the accident location is equal than 130 km/h.
+/- 130 km/h	Definition:	The speed limit at the accident location is around +/-130 km/h.

5.2.11 WEATHER

Dry	Definition:	No hindrance from weather. Includes clear sky and cloudy.
	Data availability:	All countries (ES prior to 1993).
fog or mist	Definition:	Includes fog, mist. Includes smoke (DK, FR, FI, GR, IT, NL, PT). Opinion of the police.
	Data availability:	All countries (ES prior to 1993).
Rain	Definition:	Opinion of the police.
	Data availability:	All countries (, ES prior to 1993).
	Value included in another value:	rain, storm, hail, sleet (LU).
Snow	Definition:	Opinion of the police. Includes sleet building up a deposit (AT, BE, GB, GR, IT, NI).
	Data availability:	All countries (except DK from 1995 onwards, DK, ES prior to 1993, FR, NL, PT, MT).
	Value included in another value:	snow, sleet, hail
snow, sleet, hail	Definition:	Includes snow, sleet, hail. Opinion of the police.
	Data availability:	All countries (ES prior to 1993).
strong wind	Definition:	Opinion of the police. Deemed to have an adverse affect on driving conditions (AT, DK, GB, GR, IT, NI).
	Data availability:	All countries (except DK before 1994, ES prior to 1993,FI,GB,LU,NL,SE, CY, LV
Other	Definition:	Opinion of the police. None of the above definitions.

5.2.12 ACCIDENT TYPE

Please refer you to the document “Accident type glossary”.

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5.2.13 AREA

5.2.13.1 AREA TYPE

inside urban area	Definition:	Area inside urban area boundary signs (except GB, IE, NI). Includes dual carriageways and national roads. Can include motorways (except DK, DK, GR, IT). Opinion of the police (DK, SE).
	Note:	Data approximated from speed limit of 40 mph or less (GB, IE, NI).
	Data availability:	All countries except MT.
outside urban area	Definition:	Area outside urban area boundary signs. Opinion of the police (DK, SE). Includes motorways.
	Note:	Data approximated from speed limit of over 40 mph (GB, IE, NI).
	Data availability:	All countries except MT.

5.2.13.2 MOTORWAY

Definition: Public road with dual carriageways, and at least two lanes each way. Entrance and exit signposted. Road with grade separated interchanges. Road with a central barrier or central reservation. No crossing permitted. No stopping permitted unless in an emergency. Entry prohibited for pedestrians, animals, pedal cycles, mopeds, agricultural vehicles ; learner drivers (BE, GB, GR, IE, NI, PT). Access restricted to motor vehicles (AT, DK, FI). Minimum speed between 50 km/h and 80 km/h (except FR, GB, NI). Maximum speed between 100 km/h and 130 km/h (except DK recommended 130 km/h).

Data availability: All countries.

motorway	Definition:	The public road is a motorway as defined here above.
	Data availability:	All Countries except EE, LT, NO, MT, LV.
no motorway	Definition:	The public road is not a motorway as defined here above.
	Data availability:	All Countries except EE, LT, NO, MT, LV.

5.2.14 JUNCTION

5.2.14.1 JUNCTION

Definition: The road is an intersection . Not grade separated. Includes t junction, y junction, crossroad, level crossing (except DK, FI, GB, NI), roundabout (except FR), multiple junction.

Data availability: All countries except GR before 1996

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no	Definition: There is no road intersection as defined here above. Data availability: All Countries except GR before 1996
yes	Definition: The accident takes place on a road intersection as defined here above. Data availability: All Countries except GR before 1996

5.2.14.2 JUNCTION TYPE

Definition: Road intersection with three or more arms. Not grade separated. Includes t junction, y junction, crossroad, level crossing (except DK, FI, GB, NI), roundabout (except FR), multiple junction.

Data availability: All countries (except GR).

crossroad	Definition: Road intersection with four arms. Opinion of the police (DK, DK, ES, FI ; not AT). Data availability: All countries (except BE, GR, FI 2003 onwards, SI, LT, LV).
not at a junction	Definition: Position on road more than 20m from a junction or roundabout (AT, GB, IE, NI, NL). Position on road more than 50m from a junction (FR). Opinion of the police (BE, DK, DK, ES, FI, IT, LU, SE). Data availability: All countries (except GR before 1996, IE 1996 onwards,EE).
roundabout	Definition: Circular highway. Includes sections of the road leading into it, within 20m (AT, GB, IE, NI). Opinion of the police (DK, ES, FR, IT). Data availability: All countries (except, FI, FR before 1993, GR, LU, PT before 1998, SI, LT, LV).
t or y junction	Definition: Road intersection with three arms. Includes t junction, y junction, staggered junction. Data availability: All countries (except BE, FI, GR, IT, PT before 1999, SE 2003 onwards, HU, PL, SI, LT, LV).
Level crossing	Definition: Data availability: All countries (except ES,FI,GB,GR,IE,EE,NI, SE 2003 onwards, HU, PL, SI, LT, CY, MT).

5.2.15 NUMBER INVOLVED

5.2.15.1 NR OF VEHICLES

Definition: The number of vehicles involved in the accident. Not counting a pedestrian as a vehicle.

Data availability: All countries

5.2.15.2 NR OF PERSONS

Definition: The number of persons involved in the accident.

Data availability: All countries

5.2.15.3 NR OF PEDESTRIANS

Definition: The number of pedestrians involved in the accident.



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Data availability: All countries

5.2.16 LIGHT

5.2.16.1 LIGHTING

darkness, lights unlit or no lights	Note: see 'darkness' definition in 'Natural light' and see 'street lights unlit or no lights' definition in Street light item.
darkness, no street lights	Note: see 'darkness' definition in 'Natural light' and see 'no street lights' definition in Street Light item.
darkness, street lights lit	Note: see 'darkness' definition in 'Natural light' and see 'street lights lit' definition in Street Light item.
darkness, street lights unlit	Note: see 'darkness' definition in 'Natural light' and see 'street lights unlit' definition in Street Light item.
daylight	Note: see 'daylight' definition in Natural Light item.
daylight or twilight	Definition: includes 'daylight', 'twilight', 'daylight or twilight'. Note: see 'daylight', 'twilight' definitions in Natural Light item.
twilight	Definition: Daytime light. Opinion of the police. Corrected by monthly hour tables (GR ; IE in 'natural light' variable prior to 1996). Note: see 'twilight' definition in Natural Light item. Data availability: All countries (except GB, IT, IE, NI 1993 onwards, PT 1998-2003, EE).

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5.2.16.2 LIGHTING CONDITIONS

darkness, lights unlit or no lights	Definition:	includes 'darkness, lights unlit or no lights', 'darkness, no street lights', 'darkness, street lights unlit'.
darkness, street lights lit		
daylight or twilight	Definition:	includes 'daylight', 'twilighit', 'daylight or twilight'.
	Note:	see 'daylight', 'twilight' definitions in Natural Light item..
unknown	Definition:	None of the above or not available.

5.2.16.3 NATURAL LIGHT

daylight	Definition:	Daytime light. Opinion of the police. Corrected by monthly hour tables (GR ; IE in 'natural light' variable prior to 1996).
	Data availability:	All countries (except GB, IT, IE, NI).
	Value included in another value:	daylight or twilight (IE,NI).
daylight or twilight	Definition:	Includes daylight, twilight.
	Data availability:	All countries (except IT).
darkness	Definition:	Period of the day when the lighting is dark. Opinion of the police.
	Data availability:	All countries (except IT).
twilight	Definition:	Period of half light between daybreak and sunrise, or between sunset and darkness. Opinion of the police.
	Data availability:	All countries (except GB, IT, IE, NI, PT 1998-2003, EE).

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5.2.16.4 STREET LIGHTS

no street lights	<p>Definition: Roadside not equipped with lights. Opinion of the police. Information only collected if darkness (ES, FR, GR, IE, SE).</p> <p>Data availability: All except BE,ES,FI,IT, PL, CZ, SK, SI, CY</p> <p>Value included in another value: darkness, lights unlit or no lights included in 'unknown' (BE, ES, FI) ; darkness, lights unlit or no lights included in 'no street lights' (AT, LU); darkness, no lighting or no moonlight included in 'street lights unlit' (PT).</p>
street lights lit	<p>Definition: Street lights are lit. Opinion of the police. Includes alternate lamps lit (AT, GB, LU, NI). Includes poor and good lighting (AT, DK, ES, FR, GR, IE, NL). Information only collected if darkness (AT, BE, ES, FR, GB, GR, IE, SE).</p> <p>Data availability: All countries (except IT, PL, SI).</p>
street lights unlit	<p>Definition: Opinion of the police. Street lights not switched on (DK, FR, GB, GR, IE, NI, NL). Street lights not working (DK, GB, GR, IE, NI, NL). Scattered or isolated lamps lit (GB, GR, NI). Information only collected if darkness (FR, GB, GR, IE, PT, SE).</p> <p>Data availability: All countries (except BE, ES, FI, IT, LU, PL, CZ, SK, SI, CY).</p> <p>Value included in another value: darkness, lights unlit or no lights (AT) ; darkness, lights unlit or no lights included in 'unknown' (ES, FI) ; darkness, no lighting or no moonlight (PT).</p>

5.2.17 REGION/PROVINCE

Individual regions / provinces

Definition: Individual regions / provinces according to the Eurostat NUTS region classifications, with levels 1 and 2.

Data availability: All countries except DK 1991-1996,2000, GB level 1 only, IE (NUTS level 1 only)

5.3 COUNTRY ITEMS

5.3.1 COUNTRY AREA

Definition: Country Name identifying the country reporting the accident. As it represents the state, the reader has to consider that value as a geographical area definition (eg Great-Britain and North Ireland)

Data Availability: All countries



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5.3.2 COUNTRY CODE

Definition: Code identifying the authorities reporting the accident. It has to be considered as an administrative area definition (eg GB for Great-Britain and NI for North Ireland) and is useful to retrieve the source of informations.

Data Availability: All countries

5.3.3 MEMBER STATE NAME

Definition: Official names of the Member States of the European Union according to decision of the permanent representatives of the Member States; protocol order is based on the name of the country in that country's official language(s).

Data Availability: All countries

5.3.4 PROTOCOL ORDER

Definition: Order of the Country in the Protocol.

Data Availability: All countries

5.3.5 STATE NAME (EN)

Definition: Common State Name expressed in English.

Data Availability: All countries

5.3.6 STATE PROTOCOL CODE

Definition: Codes of the Member States of the European Union as abbreviated by decision of the permanent representatives of the Member States and protocol order based on the name of the country in that country's official language(s).

Data Availability: All countries

5.3.7 STATE SIGN

Definition: Distinguishing sign of vehicles in accordance with the 1968 Convention on road traffic (Vienna Convention) art45 as stated in the status notified to the U.N.E.C.E (valid at 1 May 2001) valid for States (<> Country)

Data Availability: All countries

5.4 PERSON TYPE ITEMS

5.4.1 AGE

Definition: Length of life of person. Rounded down to whole number of years (except GR, IT, NI : rounded to nearest year).

Note: Age 0 to 1 is exceptionally rounded up (FR, IT, IE, LU, NI, PT). Age over 99 only available for ES, FR (1993 on), NL.

Data availability: All countries.

5.4.2 AGE GROUP

Definition: Age of person. Values have been grouped as follows :

- From 0 to 13 years old : '<14'
- From 14 to 17 years old : '14-17'



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- From 18 to 24 years old : '18-25'
- From 25 to 30 years old : '26-50'
- From 31 to 39 years old : '51-65'
- From 66 years old and more : '>65'

Data availability : All countries.

5.4.3 AGE GROUP05

Definition: Age of person. Rounded down to whole number of years (except GR, IT, NI : rounded to nearest year) and group by 5 years.

Note: Age 0 to 1 is exceptionally rounded up (FR, IT, IE, LU, NI, PT). Age over 99 only available for ES, FR (1993 on), NL.

Data availability: All countries.

5.4.4 AGE GROUP10

Definition: Age of person. Rounded down to whole number of years (except GR, IT, NI : rounded to nearest year) and group by 10 years.

Note: Age 0 to 1 is exceptionally rounded up (FR, IT, IE, LU, NI, PT). Age over 99 only available for ES, FR (1993 on), NL.

Data availability: All countries.

5.4.5 CAR PASSENGER TYPE

front passenger	<p>Definition: Person in the front of a vehicle and who is not a driver. Can be more than one front passenger. Seating immediately prior to the accident (DK, GB, IE, LU, NI). Collected mainly for car passengers (GB, NI).</p> <p>Data availability: All countries except AT,FI,FR 1993 onwards,GR before 1996,IT,NL,PT,SE before 1993, PL, SI, LT, LV</p>
not a passenger	<p>Definition: not applicable as being not a passenger.</p>
rear passenger	<p>Definition: Person in the rear of a vehicle. Seating immediately prior to the accident (DK, GB, IE, LU, NI). Collected mainly for car passengers (GB, NI).</p> <p>Data availability: All countries except AT,FI,FR 1993 onwards,GR before 1996,IT,NL,PT,SE before 1993, PL, SI, LT, LV</p>

5.4.6 DRIVING LICENCE AGE

individual driving licence ages	<p>Definition: Individual ages of the first driving licence.</p> <p>Data availability: AT,DK, ES, FI 2003 onwards, FR, GR 1996 onwards, IT, LU, PT.,EE, PL, HU, CH, CZ, SK, RO</p>
not applicable	<p>Data availability: All countries</p>



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5.4.7 DRIVING LICENCE AGE GROUP

Grouped driving licence ages

Definition: Groups of individual ages of the first driving licence.

Data availability: AT,DK, ES, EE, FI 2003 onwards, FR, GR 1996 onwards, IT, LU, PT, EE, HU, PL, CH, CZ, SK. Driving licence age groups available in GR. First driving licence for vehicle driven in ES, FR, NI. Last driving licence in AT, PT.

5.4.8 GENDER

female	Definition: Determined by the police (except AT, ES, IT, LU, PT : on the basis of identity documents ; DK, FI, SE : on the basis of personal id number).
	Data availability: All countries.
male	Definition: Determined by the police (except AT, ES, IT, LU, PT : on the basis of identity documents ; DK, FI, SE : on the basis of personal id number).
	Data availability: All countries.
unknown	Definition: Sex could not be determined (hit and run accident , police unable to trace person, not specified).
	Data availability: All countries (except FR before 1993, PL, CH, CZ, SK, SI).

5.4.9 MOVEMENT PEDESTRIAN

crossing	Definition: Pedestrian crossing road. Includes crossing masked (BE,GB,IE,NI), crossing not masked (BE,GB) and crossing on pedestrian crossing (BE,DK,FR,GR,PT)
	Data availability: All Countries (except AT,FI,EE,GR before 1996,IT,LU,SE 2003 onwards, HU, SI)
not applicable	Definition: the information 'movement pedestrian' is not applicable to the situation.
	Data availability: All countries
not crossing	Definition: the pedestrian is not crossing. Includes stationary in carriageway (BE, DK,ES,FR,GB,IE,NI), walking in cw with traffic (BE,GB,GR,IE,NI) and walking in cw facing traffic (BE,GB,IE,NI,PT,SE)
	Data availability: All countries except AT, FI,GB,EE,IE,LU,NI,SE, HU, SI, NO

5.4.10 NATIONALITY

Individual nationality

Definition: The nationality country name of the person involved

Data availability: AT,ES,FR,GR,LU,NL, HU, PL, CZ, SK, SI, MT, RO



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5.4.11 NATIONALITY GROUP

foreigner	Definition:	The person involved has a different nationality of the country where the accident takes place.
	Data availability:	All countries except CH, NO, LV
national	Definition:	The person involved has the same nationality of the country where the accident takes place.
	Data availability:	AT,ES,FR,GR,LU,NL, HU, PL, CZ, SK, SI, LT, CY, MT, RO
unknown	Definition:	The person involved has 'unknown' as nationality.
	Data availability:	AT,ES,FR,GR,LU,NL, HU SI

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5.4.12 PERSON CLASS

driver	<p>Definition: Person driving or riding any motorised vehicle or pedal cycle. Person herding animals is not a driver (except AT, BE). Learner driver is a driver (except ES, PT). Learner driver is a driver during a driving test, but not in a driving lesson (DK). Driving instructor is not a driver (except ES, PT). Driving instructor is a driver during a driving lesson, but not during a driving test (DK).</p> <p>Note: Uninjured drivers are included in the database (except GB, NI, NL : implicitly included in vehicle records only). Data on driving instructors and learner drivers collected separately from 1993 onwards (SE).</p> <p>Data availability: All countries.</p>
passenger	<p>Definition: Person on or in a vehicle, who is not the driver. Includes person in the act of boarding or alighting from a vehicle (except DK). Learner driver is not a passenger (except ES, PT). Learner driver is a passenger during a driving lesson, but not during a driving test (DK). Driving instructor is a passenger (except ES, PT). Driving instructor is a passenger during a driving test, but not in a driving lesson (DK).</p> <p>Note: Uninjured passengers not included in the database (except FR, IE, LU ; AT, ES, FI in some cases).</p> <p>Data availability: All countries.</p>
pedestrian	<p>Definition: Person on foot. Person pushing or holding bicycle (except DK). Person pushing a pram or pushchair. Person leading or herding an animal (except AT, DK). Person riding a toy cycle on the footway (except AT). Person on roller skates, skateboard or skis (except AT). Does not include person in the act of boarding or alighting from a vehicle (except DK, ES).</p> <p>Note: Uninjured pedestrians not included in the database (except BE, IE, LU ; NL implicitly included in element records ; AT, DK, DK, FR, FI, SE if they caused the accident ; ES not consistently).</p> <p>Data availability: All countries.</p>

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5.4.13 PERSON INJURY

injured	<p>Definition: Injured in a road accident. Hospitalisation or medical treatment not necessarily required (except FR). Self declaration of injury (DK if slight ; FI, GB, IT, IE, NI). Opinion of the police.</p> <p>Note: see ‘seriously injured’, ‘slightly injured’ definitions.</p> <p>Data availability: FI,IE 1996 onwards,IT,EE, HU, PL, CH, CZ, SK, SI, LT, NO, CY, RO</p>
killed	<p>Definition: Death within 30 days of a road accident (UN/ECE Geneva 1995 – Statistics of Road Traffic Accidents in Europe and North America, annex 1), except AT (3 days before 1992), ES (24 hours in CARE ; 24 hours before 1993 in publication), FR (6 days), GR (24 hours), IT (7 days), PT (24 hours). Suicide not included (except ES, FR). Natural death not included (except LU, SE).</p> <p>Data availability: All countries.</p>
not injured	<p>Definition: Not injured in an accident. Person does not require medical treatment (AT, DK, ES, FR, FI, IE, LU). Opinion of the police (AT, BE, DK, IE, SE).</p> <p>Note: Uninjured drivers are included. Uninjured passengers may be included (AT, ES, FR, FI, IE, LU). Uninjured pedestrians may be included (except GR, IT, PT).</p> <p>Data availability: All countries (except GB, IE 1996 onwards, NI, NL : not injured drivers implicitly included in vehicle record, HU, MT).</p>
seriously injured	<p>Definition: Injured in a road accident. Hospitalised at least 6 days (FR). Hospitalised at least 24 hours (BE, DK, ES from 1993 onwards, GR, LU, PT). Hospitalised as in-patient (DK, NL). Not hospitalised, hospitalised for observation or as in-patient (GB, IE, NI). No reference to hospitalisation (AT, SE). Opinion of the police (except BE, ES from 1993 onwards, FR, LU, NL, PT). Police guidance provided (DK, ES before 1993, GB, IE, NI). Persons died 30 days after accident included (except FR, LU, PT).</p> <p>Data availability: All countries (except FI, IT,EE, LT).</p>
slightly injured	<p>Definition: Injured in a road accident. Hospitalised 6 days or less (FR). Hospitalised less than 24 hours (BE, DK, ES, GR, PT). Not hospitalised (DK, GB, IE, NI, NL). Medical treatment required (DK, FR, LU, PT). Police guidance provided (DK, ES before 1993, GB, IE, NI). Opinion of the police.</p> <p>Data availability: All countries (except FI, IT,EE, LT).</p>

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5.4.14 PSYCHOPHYSICAL CIRCUMSTANCES

drugs or medicine	<p>Definition: A person (driver, user) who is influenced by (legal or illegal) drugs (eg: cannabis, alcohol) or medicine or an accident which was caused by influence of (legal or illegal) drugs (e.g.: cannabis, alcohol) or medicine or fatigue.</p> <p>Data availability: BE, DK before 1997, ES, FI, FR, EE, IE before 1996, IT, HU, PL, CY, MT, RO</p>
fatigue	<p>Definition: A person (driver, user) who is influenced by fatigue or tiredness or an accident which was caused by influence of fatigue or tiredness.</p> <p>Data availability: BE, ES, FR before 2003, IE (before 1996), IT, LU and NI (before 1996), HU, PL, CZ, SK, CY, MT, RO</p>
not applicable	<p><u>Data availability:</u> All countries</p>
others	<p>Data availability: only NI (1991-1998), RO</p>
others, none	<p>Data availability: IT, LU</p>
sudden illness	<p>Definition: A person (driver, user) which sudden illness (eg: heart attack) caused the accident.</p> <p>Data availability: DK before 1997, ES, HU, CZ, SK, CY, MT, RO</p>

5.4.15 SECURITY EQUIPMENT

crash helmet not used	<p>Definition: Crash helmet was not worn during the accident.</p> <p>Data availability: DK, ES, EE, FR, GR 1996 onwards, IT, NI (except 1994-1998) NL, PT, HU, PL, CH, CZ, SK, SI, LT, MT, CY, RO</p>
crash helmet used	<p>Definition: Crash helmet was worn during the accident.</p> <p>Data availability: All countries except BE, FI, GB, IE, LU, NI 1994-1998, SE, LV</p>
crash helmet use unknown	<p>Definition: It is unknown whether the crash helmet was worn during the accident.</p> <p>Data availability: AT, FR (1993-2003), NL, PT (1991-1997), EE, CH, CY, MT.</p>
not applicable	<p>Data availability: All countries</p>
seat belt not used	<p>Definition: Seat belt was not worn during the accident.</p> <p>Data availability: All countries except AT, BE, FI, GR before 1996, SE, FR before 1993, LV</p>
seat belt used	<p>Definition: Seat belt was worn during the accident.</p> <p>Data availability: All countries except BE, FI, SE, LV</p>

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seat belt use unknown	Definition:	It is unknown whether the seat belt was worn during the accident.
	Data availability:	AT, FR 1993 onwards, IE1996 onwards, NL; PT before 1998), EE, CH, CY, MT

5.4.16 ALCOHOL

Due to the fact that only a few countries provided information about alcohol test and alcohol level, these data are not enough representative of the variables. For all those reasons, these variables have been temporarily deactivated.

However, here were definitions of the two variables related to alcohol.

5.4.16.1 ALCOHOL TEST

not tested	Definition:	The driver was not breath or blood tested.
	Data availability:	BE, EE,DK (1991-1999, 2001-2004), FI, FR, GB (1991-2002), GR, IE (1996-1997,1999), NI (1994, 1997-1998), NL, PT
tested	Definition:	The driver was breath or blood tested to determine whether he/she was driving under the influence of alcohol.
	Data availability:	AT, BE, EE,DK (1991-1999 & 2001 - 2004), FI, FR, GB (1991-2002), GR, IE (1991-1994, 1996 – 1997,1999), NI (1994,1997-1998), NL, PT

5.4.16.2 ALCOHOL LEVEL

0.0 to 1.5	Definition:	The driver's blood alcohol level was 0.0 , 0.1, .. or 1.5
	Data availability:	DK, FR, PT,EE.
less than 0.5 g/l	Definition:	The driver's blood alcohol level was less than 0.5 grams per litre of blood (or breath equivalent).
	Data availability:	BE, GR, NL
less than 0.8 g/l	Definition:	The driver's blood alcohol level was less than 0.8 grams per litre of blood (or breath equivalent)..
	Data availability:	GB (from 1991 to 2002), IE (from 1991 to 1994, from 1996 to 1997 and 1999)
more than 0.5 g/l	Definition:	The driver's blood alcohol level was more than 0.5 grams per litre of blood (or breath equivalent).
	Data availability:	AT (1999 onwards), BE, GR, NL.
more than 0.8 g/l	Definition:	The driver's blood alcohol level was more than 0.8 grams per litre of blood (or breath equivalent)..

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	Data availability: AT (before 1999), FR (1991 - 1992), GB (1991-2002), GR (1991-1995), IE (from 1991 to 1994, from 1996 to 1997 and 1999)
more than 1.5 g/l	<p>Definition: The driver's blood alcohol level was more than 1.5 grams per litre of blood (or breath equivalent)..</p> <p>Data availability: DK (1991-1999 & 2001 - 2004), FR (1993 - 2004), GR (1991-1995), PT.</p>
not applicable	<p>Definition: Not applicable as being not tested.</p> <p>Data availability: All countries.</p>

5.5 TIME TYPE ITEMS

5.5.1 DAY OF WEEK

Definition: 24 hour day within 7 day week.

Note: Data calculated by the CARE system from the date of accident, where data is not available in national files (AT from 1992 onwards, BE, FR prior to 1993, PT, SE).

Data availability: All countries.

5.5.2 HOUR

Definition: Period of 60 minutes. Rounded down to whole hours (except ES, GR, IT : rounded to nearest hour).

Note: Winter time is:

- GMT from November to March (DK from 1996 onwards, GB, IE, NI, PT)
- GMT +1 hour from October to March (AT, BE, DK prior to 1996, DK, ES, FR, IT, LU, NL, SE)
- GMT +2 hours from October to March (FI, GR).

Summer time is one hour ahead of winter time :

- GMT +1 hour from April to October (DK from 1996 onwards, GB, IE, NI, PT)
- GMT +2 hours from April to September (AT, BE, DK prior to 1996, DK, ES, FR, IT, LU, NL, SE)
- GMT +3 hours from April to September (FI, GR).

For PT, unknown hour coded as '12' during daytime and '0' during night time

Data availability: All countries (except DK).

5.5.3 MONTH

Definition: Calendar month.

Data availability: All countries

5.5.4 YEAR

Definition: YEAR expressed in format yyyy (four digits) from year 1990 up to the latest year of data available.

Data availability: All countries.



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5.6 VEHICLE TYPE ITEMS

5.6.1 MANŒUVRE VEHICLE OR DRIVER

changing lane	Definition: Vehicle changing lane Data availability: DK, FR (1991-1992), GB, GR, IE (1996-2003), NI, HU, CH, SI, CY, MT, LV
not applicable	Data availability: All countries.
other	Definition: other vehicle manoeuvre Data availability: BE, DK, ES, FR, GB, GR, IE (1991-1994;1996-2003), NI, PT, CH, CY, MT, LV
overtaking	Definition: Vehicle overtaking another vehicle Data availability: GB, IE (1991-1994;1996-2003), NI, PTHU, PL, CH, SI, CY, MT, LV
overtaking on the left	Definition: Vehicle overtaking another vehicle on the left Data availability: BE, ES (1993-2004), FR, GR, IE (1991-1994), PT, MT.
overtaking on the right	Definition: Vehicle overtaking another vehicle on the right Data availability: BE, ES (1993-2004), FR, GR, IE (1991-1995), PT, MT.
reversing	Definition: Vehicle reversing Data availability: BE, ES, FR, GB, GR, IE (1991-1994;1996-2003), NI, PT, HU, CH, CY, MT, LV
stopped	Definition: Vehicle stopped Data availability: BE, DK, ES, GB, IE (1991-1994), NI, NL, HU, CH, CY, MT, RO
stopped/stopping	Definition: Vehicle stopped/stopping Data availability: FR, NI, PT, HU, CH, CY, MT, RO
stopping	Definition: Vehicle stopping Data availability: ES, GB, GR, IE (1991-1994), NI, PL, CH, CY, MT
straight ahead	Definition: Going straight ahead Data availability: BE, DK, ES, FR, GB, GR, IE (1991-1994), NI, NL, PT, HU, CH, CY, MT, LV
turning left (turning right GB, IE, NI)	Definition: Vehicle turning left (near side of driver) Data availability: BE, DK, ES, FR, GB, GR, IE (1991-1994;1996-2003), NI, NL, PT, CH, CY, MT
turning right (turning left GB, IE, NI)	Definition: Vehicle turning right (far side of driver) Data availability: DK, ES, FR, GB, GR, IE (1991-1994;1996-2003), NI, NL, PT, CH, CY, MT

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u-turn	Definition: Vehicle making a U-turn
	Data availability: BE, ES, FR, GB, GR, IE (1991-1994), NI, PT (1998-2003), CH, CY, MT

5.6.2 REGISTRATION COUNTRY

Individual registration countries

Definition: The country name in which the vehicle was registered.

Data availability: AT, BE, DK 1997 onwards, ES before 1993, FR 1993 onwards, GR 1996 onwards, LU, NL, SE, HU, PL, CZ, SK, SI, RO

5.6.3 REGISTRATION COUNTRY GROUP

Grouped registration countries

Definition: The country group name in which the vehicle was registered.

Data availability: AT, BE, DK 1997 onwards, ES before 1993, FR 1993 onwards, GR 1996 onwards, LU, NL, SE, HU, PL, CH, CZ, SK, SI, RO

home	Definition: The vehicle is registered in the EEA country, in which the accident took place.
other countries	Definition: The vehicle is registered in a country other than the EEA countries.
other EEA countries	Definition: The vehicle is registered in the another EEA country, in which the accident took place.
unknown	Definition: The vehicle is registered in an unknown country.

5.6.4 VEHICLE AGE

Data availability: AT, DK, ES, FI 2003 onwards, FR, GR 1996 onwards, IT, LU, PT, HU, CZ, SK, MT, LV, RO

0	Definition: Individual vehicle ages being less than 1 year old since its first registration.
1 – 2	Definition: Individual vehicle ages from 1 to 2 years since its first registration.
3 – 5	Definition: Individual vehicle ages from 3 to 5 years since its first registration.
6 – 10	Definition: Individual vehicle ages from 6 to 10 years since its first registration.



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11 – 15	Definition:	Individual vehicle ages from 11 to 15 years since its first registration.
> 10	Definition:	Individual vehicle ages from 11 years since its first registration.
> 15	Definition:	Individual vehicle ages from 16 years since its first registration.
unknown	Definition:	Individual vehicle age unknown.

5.6.5 VEHICLE GROUP

Definition: Typical grouping of several Vehicle Type

agricultural tractor	Definition:	Motor vehicle for agricultural use, with wheels or caterpillar tracks, with at least two axles. Driving licence required (AT, DK, ES, FI, GB, GR, IT, IE, LU ; not in FR). Maximum speed 30 km/h or 40 km/h.
	Data availability:	All countries (except IE 1996 onwards, HU).
bus or coach	Definition:	Motor vehicle with at least four wheels, used for transporting people. Public or private use. Type DK driving licence required (BE, GB, IE, NI). Includes bus, more than 8 and 16 seats, minibus, trolley-bus (except LU), scheduled bus, unscheduled bus, school bus.
	Data availability:	All countries
car + taxi	Definition:	includes CAR , TAXI , CAR OR TAXI (not specified),
heavy goods vehicle	Definition:	INCLUDES road tractor , road tractor with semi trailer , 'lorry, over 3.5 tonnes'
lorry, under 3.5 tonnes	Definition:	Motor vehicle with a permissible gross vehicle weight of less than 3.5 tonnes, used only for the transport of goods. Type BE driving licence required.
	Note:	Lorries cannot systematically be categorised as less than 3.5 tonnes (DK, IT).
	Data availability:	All countries (except DK, IT, LU, PL, SI, RO).
moped	Definition:	Motor vehicle with two wheels, with an engine size of less than 50 cc. Design speed between 25 km/h and 50 km/h. One or two seats. Minimum age for driver between 14 and 18 (except IT). No driving licence required (ES, FR, FI, GB, IT, PT, SE). Unregistered vehicle (BE, DK, DK, ES, FR, SE).
	Data availability:	All countries (except IE from 1996 onwards).



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	Value included in another value: two wheeled motor vehicle (IE from 1996 onwards).
motor cycle	<p>Definition: Motor vehicle with two or three wheels (not three wheeled in DK), with an engine size of more than 50 cc. With a trailer possible (except DK). With a sidecar possible. Registered vehicle (except PT). Type A driving licence required. Includes motor scooter (except FR).</p> <p>Data availability: All countries (except IE from 1996 onwards).</p> <p>Value included in another value: two wheeled motor vehicle (IE from 1996 onwards).</p>
other	<p>Definition: INCLUDES other, other motor vehicle , other non motor vehicle , other vehicle</p>
pedal cycle	<p>Definition: Vehicle with at least two wheels, without engine, moved by pedals or hand cranks. With or without a trailer. With or without passengers. Ridden in the carriageway. Ridden on the pavement (except DK, LU).</p> <p>Data availability: All countries.</p>
pedestrian	<p>Definition: Wherever a person's person class has been identified as being pedestrian, its vehicle type is "pedestrian". This as opposed to older version of Care where a pedestrian didn't have a vehicle type.</p> <p>Data availability: All countries</p>

5.6.6 VEHICLE TYPE

Alongside oldest version of Care's vehicle types, following vehicle type now exists.

agricultural tractor	<p>Definition: Motor vehicle for agricultural use, with wheels or caterpillar tracks, with at least two axles. Driving licence required (AT, DK, ES, FI, GB, GR, IT, IE, LU ; not in FR). Maximum speed 30 km/h or 40 km/h.</p> <p>Data availability: All countries (except IE 1996 onwards, HU).</p> <p>Value included in another value: construction or agricultural machine included in 'agricultural tractor' (AT, DK), agricultural or industrial tractor included in 'agricultural tractor' (LU).</p>
bus or coach	<p>Definition: Motor vehicle with at least four wheels, used for transporting people. Public or private use. Type DK driving licence required (BE, GB, IE, NI). Includes bus, more than 8 and 16 seats, minibus, trolley-bus (except LU), scheduled bus, unscheduled bus, school bus.</p> <p>Data availability: All countries.</p>
car	<p>Definition: Motor vehicle with three or four wheels. Used to transport only or mainly people. Seating for no more than 8 passengers. Type BE</p>

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	<p>driving licence required. Includes minibus (GB, NI).</p> <p>Note: Light vehicle used to approximate car (LU).</p> <p>Data availability: All countries except FI, IE before 1996, LU, PT</p> <p>Value included in another value: car or taxi (IE prior to 1996).</p>
car or taxi (not specified)	<p>Definition: Includes car, taxi. Motor vehicle with four wheels. Used to transport only or mainly people. Seating for no more than 8 passengers. Type BE driving licence required. Includes taxi-bus (NL).</p> <p>Data availability: AT, BE, FI, IE, LU, PT, SE, CH, CZ, SK, SI, LT, NO, MT, LV.</p>
Heavy goods vehicle	<p>Definition: Motor vehicle with at least four wheels, with a permissible gross vehicle weight of over 3.5 tonnes, used only for the transport of goods. With or without a trailer. Type C driving licence required. Includes lorry, over 3.5 tonnes ; road tractor ; road tractor with semi-trailer ; lorry with trailer ; tanker (except FI).</p> <p>Note: Lorries cannot systematically be categorised as over 3.5 tonnes (D, IT).</p> <p>Data availability: All countries.</p>
lorry, under 3,5 tonnes	<p>Definition: Motor vehicle with a permissible gross vehicle weight of less than 3.5 tonnes, used only for the transport of goods. Type BE driving licence required.</p> <p>Note: Lorries cannot systematically be categorised as less than 3.5 tonnes (D, IT).</p> <p>Data availability: All countries (except LU, PL, SI, RO).</p>
lorry, over 3,5 tonnes	<p>Definition: Motor vehicle with at least four wheels, with a permissible gross vehicle weight of over 3.5 tonnes, used only for the transport of goods. With or without a trailer. Type C driving licence required.</p> <p>Note: Lorries cannot systematically be categorised as over 3.5 tonnes (DK, IT).</p> <p>Data availability: All countries.</p>
moped	<p>Definition: Motor vehicle with two wheels, with an engine size of less than 50 cc. Design speed between 25 km/h and 50 km/h. One or two seats. Minimum age for driver between 14 and 18 (except IT). No driving licence required (ES, FR, FI, GB, IT, PT, SE). Unregistered vehicle (BE, DK, DK, ES, FR, SE).</p> <p>Data availability: All countries (except IE from 1996 onwards).</p>

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motor cycle	<p>Definition: Motor vehicle with two or three wheels (not three wheeled in DK), with an engine size of more than 50 cc. With a trailer possible (except DK). With a sidecar possible. Registered vehicle (except PT). Type AT driving licence required. Includes motor scooter (except FR).</p> <p>Data availability: All countries.</p>
other	<p>Definition: Other vehicle</p> <p>Data availability: AT (1992-2005), BE, DK, ES, FI, FR, GB (1999-2004), GR, IE (1996-2003), IT, NI (1991-1998), NL, PT (1991-2000;2002), SE, CZ, SK, LT, MT, RO.</p>
other motor vehicle	<p>Definition: Other vehicle with an engine. Includes ambulance (DK, GB, IE, LU), fire engine (DK, GB, IE, LU).</p> <p>Data availability: AT, DK (1997-2004), FI, GB,EE, IE (1991-2005), IT, LU, NI (1999-2002), NL, PT, SE, CH, CZ, SK, SI, LT, CY, LV.</p>
other non motor vehicle	<p>Definition: Other vehicle without an engine. Includes animal or horse drawn vehicle (DK, DK, ES, FI, GB, IT, IE, NL, PT, SE), horse with rider (DK, DK, GB, NL, SE), train or tram (DK, ES, FI, GR, IT, NL, PT, SE).</p> <p>Data availability: All countries (except FR,GR,IE 1996 onwards,NI before 2000, NO, MT, LV)</p>
pedal cycle	<p>Definition: Vehicle with at least two wheels, without engine, moved by pedals or hand cranks. With or without a trailer. With or without passengers. Ridden in the carriageway. Ridden on the pavement (except DK, LU).</p> <p>Data availability: All countries.</p>
pedestrian	<p>Definition: Wherever a person's person class has been identified as being pedestrian, its vehicle type is "pedestrian". This as opposed to oldest version of Care where a pedestrian didn't have a vehicle type.</p> <p>Data availability: All countries</p>
road tractor	<p>Definition: Motor vehicle with at least four wheels. Without a semi-trailer. Used for towing semi-trailers. Used for towing other vehicles (except AT, FR). Type ES or C+ES driving licence required.</p> <p>Data availability: All countries except ES,FI,GB,IE before 1996,LU,NI,PT 1998 onwards,SE, PL, CZ, SK, LT, CY, MT.</p>
taxi	<p>Definition: Motor vehicle with four wheels for public use in the transport of people.</p> <p>Data availability: All countries except AT,BE,EE,FI,IE before 1996,PT,SE, HU, SI</p>

Chapter 2 – Predefined conditions classes

5.7 ACCIDENT TYPE ITEMS

Class / Sub-Class	Universe's predefined conditions	Description	Definition
Carriageway Type	Dual Carriageway	All accidents happening on a dual carriageway	Carriageway Type= 'dual carriageway'
Carriageway Type	Single Carriageway	All accidents happening on a single carriageway	Carriageway Type IN ('one way street','single carriageway')
Carriageway Type	Carriageway Type - Unknown	All accidents happening on an unknown carriageway	Carriageway Type IN ('no data collected','unknown')
Carriageway Type	Carriageway Type - Others	All accidents happening on an other carriageway types	Carriageway Type IN ('not applicable','others')
Junction Control	JC - Controlled	All accidents happening at controlled junction	Junction Control IN ('controlled','authorised person','automatic traffic signal','give way sign or markings','stop sign','give way sign or stop sign')
Junction Control	JC - Uncontrolled or unknown	All accidents happening at uncontrolled or unknown junction	Junction Control IN ('uncontrolled','unknown')
Junction Control	JC – Others	All accidents happening at other types of junction	Junction Control = 'others'

5.8 COUNTRY ITEMS

Universe's predefined conditions	Description	Definition
EU15	Group of the European Member States before the enlargement	DIMENSION_GEOGRAPHY.DIM_COUNTRY_KEY IN ('AT','BE','DE','DK','FR','FI','GR','IE','ES','IT','LU','NL','PT','SE','GB','NI')

5.9 PERSON TYPE ITEMS

Class / Sub-Class	Universe's predefined conditions	Description	Definition
Alcohol	Alcohol Level - Less than 0.5 g/l	All accidents with driver's blood alcohol level was less than 0.5 grams per litre of blood (or breath equivalent).	Alcohol Level IN ('0.0','0.1','0.2','0.3','0.4','less than 0.5')
Alcohol	Alcohol Level - Less than 0.8 g/l	All accidents with driver's blood alcohol level was less than 0.5 grams per litre of blood (or breath equivalent).	Alcohol Level IN ('0.0','0.1','0.2','0.3','0.4','0.5','0.6','0.7','less than 0.5','less than 0.8')
Alcohol	Alcohol Level - More than 0.5 g/l	All accidents with driver's blood alcohol level was more than 0.5 grams per litre of blood (or breath equivalent).	Alcohol Level IN ('0.5','0.6','0.7','0.8','0.9','1.0','1.1','1.2','1.3','1.4','1.5','more than 0.5','more than 0.8','more than 1.5')
Alcohol	Alcohol Level - More than 0.8 g/l	All accidents with driver's blood alcohol level was more than 0.8 grams per litre of blood (or breath equivalent).	Alcohol Level IN ('0.8','0.9','1.0','1.1','1.2','1.3','1.4','1.5','more than 0.8','more than 1.5')
Alcohol	Alcohol Level - More than 1.5 g/l	All accidents with driver's blood alcohol level was more than 1.5 grams per litre of blood (or breath equivalent).	Alcohol Level IN ('1.5','more than 1.5')
Alcohol	Alcohol Level - Unknown or others	All accidents with driver's blood alcohol level was unknown, no collected or other.	Alcohol Level IN ('unknown','others')
Psychophysical Circumstances	PC - Drugs or medicine or fatigue	All accidents with driver influenced by (legal or illegal) drugs, medicine or fatigue.	Psychophysical Circumstances IN ('drugs or medicine','drugs or medicine or fatigue','fatigue')
Psychophysical Circumstances	PC - Others, none	All accidents with driver which sudden illness (e.g.: heart attack) caused the accident.	Psychophysical Circumstances IN ('sudden illness','others, none')
Psychophysical Circumstances	PC – Others	All accidents with driver's psychophysical circumstances are others than above situation.	Psychophysical Circumstances IN ('others')
Psychophysical Circumstances	PC – Unknown	All accidents with driver's psychophysical circumstances are	Psychophysical Circumstances IN ('unknown')

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		unknown.	
Security Equipment	SE - Crash helmet (Driver)	All accidents wherein a crash helmet is used/not used or unknown.	Security Equipment IN ('crash helmet not used', 'crash helmet unknown', 'crash helmet used') and Person Class = 'driver'
Security Equipment	SE - Seat Belt (Driver)	All accidents wherein a seat belt is used/not used or unknown.	Security Equipment IN ('seat belt not used', 'seat belt unknown', 'seat belt used') and Person Class = 'driver'
Security Equipment	SE – Unknown	All accidents wherein a security equipment is unknown.	Security Equipment IN ('unknown')
Security Equipment	SE – Others	All accidents wherein a security equipment is not collected or not applicable.	Security Equipment IN ('no data collected', 'not applicable')

5.10 SPECIAL COMPLEX CONDITIONS

Universe's predefined conditions	Description	Definition
At least one type of veh. in Acc	All accidents in which a vehicle of type given in the user prompt is involved.	DIMENSION_VEHICLE2.VEHICLE_TYPE in @Prompt('Choose vehicle type involved in the accident','A','Vehicle type',MULTI,CONSTRAINED)
At least one group of veh. in Acc	All accidents in which a vehicle of group given in the user prompt is involved.	fact_accident.accident_key in (select fact_accident.accident_key from fact_accident, dimension_vehicle where Vehicle Group in @Prompt('01-factChoose vehicle group involved in the accident ','A','Vehicle Group',MULTI,CONSTRAINED) and fact_accident.dim_vehicle_key = dimension_vehicle.dim_vehicle_key)
At least one pedestrian	All accidents in which only one pedestrian is involved!	DIMENSION_VEHICLE2.VEHICLE_TYPE = 'pedestrian'
Without pedestrian	All accidents in which no pedestrian is involved!	fact_accident.accident_key not in (select fact_accident.accident_key from fact_accident, dimension_person_1 where dimension_person_1.person_class = 'pedestrian' and fact_accident.dim_person_1_key = dimension_person_1.dim_person_1_key)

5.11 VEHICLE TYPE ITEMS

Class / Sub-Class	Universe's predefined conditions	Description	Definition
Manoeuvre (Vehicle or Driver)	VM - Changing Lanes, Overtaking	All accidents wherein a vehicle is changing lanes or overtaking another vehicle.	Manoeuvre (Vehicle or Driver) IN ('changing lane','overtaking','overtaking on the left','overtaking on the right')
Manoeuvre (Vehicle or Driver)	VM - Reversing	All accidents wherein a vehicle is reversing.	Manoeuvre (Vehicle or Driver) = 'reversing'
Manoeuvre (Vehicle or Driver)	VM - Stopped/Stopping	All accidents wherein a vehicle is stopping or stopped.	Manoeuvre (Vehicle or Driver) IN ('stopped','stopped/stopping','stopping')
Manoeuvre (Vehicle or Driver)	VM - Straight Ahead	All accidents wherein a vehicle is moving straight ahead.	Manoeuvre (Vehicle or Driver)='straight ahead'
Manoeuvre (Vehicle or Driver)	VM - Turning	All accidents wherein a vehicle is turning.	Manoeuvre (Vehicle or Driver) IN ('turning left','turning right','u turn')
Manoeuvre (Vehicle or Driver)	VM - Other	All accidents wherein a vehicle manoeuvre is not all of above cases (other) or not applicable.	Manoeuvre (Vehicle or Driver) IN ('other','not applicable')
Manoeuvre (Vehicle or Driver)	VM - Unknown	All accidents wherein a vehicle manoeuvre is unknown.	Manoeuvre (Vehicle or Driver) IN ('unknown')

Chapter 3 : Notes

5.12 TYPE OF INVOLVED PERSON

Killed	<p>Definition: Death within 30 days of a road accident (UN/ECE Geneva 1995 -Statistics of Road Traffic Accidents in Europe and North America, annex 1), except A (3 days before 1992), E (24 hours in CARE; 24 hours before 1993 in publication), F (6 days), GR (24 hours), I (7 days), P (24 hours). Suicide not included (except E, F). Natural death not included (except L, S).</p> <p>Data availability:: All countries.</p>
Injured	<p>Definition: Injured in a road accident. Hospitalisation or medical treatment not necessarily required (except F). Self declaration of injury (D if slight; FIN, GB, I, IRL, NI). Opinion of the police.</p> <p>Note : see 'seriously injured', 'slightly injured' definitions.</p> <p>Data availability : All countries.</p>
Seriously injured	<p>Definition: Injured in a road accident. Hospitalised at least 6 days (F). Hospitalised at least 24 hours (B, D, E from 1993 onwards, GR, L, P). Hospitalised as in-patient (DK, NL). Not hospitalised, hospitalised for observation or as in-patient (GB, IRL, NI). No reference to hospitalisation (A, S). Opinion of the police (except B, E from 1993 onwards, F, L, NL, P). Police guidance provided (DK, E before 1993, GB, IRL, NI). Persons died 30 days after accident included (except F, L, P).</p> <p>Data availability: All countries (except FIN, I, EE, LT).</p>
Slightly injured	<p>Definition: Injured in a road accident. Hospitalised 6 days or less (F). Hospitalised less than 24 hours (B, D, E, GR, P). Not hospitalised (DK, GB, IRL, NI, NL). Medical treatment required (DK, F, L, P). Police guidance provided (DK, E before 1993, GB, IRL, NI). Opinion of the police.</p> <p>Data availability: All countries (except FIN, I, EE, LT).</p>

5.13 DEFINITION OF MEASURES

1.1.1 Accident

Definition: Occurs on a public road or on a private road to which the public has right of access (except B, NL, P). Involves atleast one moving vehicle (except P, UK). Involves at least one injured or killed person. Is reported by the police. Self reporting possible (B, EL, IRL, I, UK). Self reporting not possible (DK, D, NL, A, P, FIN). Confirmed suicides excluded (B, D, DK, IRL, NL, A, P, UK). Confirmed suicides included (E, I, L).

Note : The variation in the types of road and the coverage of the injury categories included in injury accidents, together with differences in the level of self reported accidents, will lead to significant variations in the number of injury accidents reported, and their reporting rate, between Member States.

5.13.1 All Persons

Definition: Sum of all victims and all unknowns. Therefore, aggregation of the following injury severities:

- SERIOUSLY INJURED AS REPORTED
- SLIGHTLY INJURED
- INJURED



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- KILLED AS REPORTED
- UNKNOWN

5.13.2 Injured (not specified)

Definition: INJURED (no specification of slight or serious injury). Injured in a road accident. Hospitalisation or medical treatment not necessarily required (except F). Self declaration of injury (D if slight; FIN, GB, I, IRL, NI). Opinion of the police. Aggregation of the following. injury severities:
- SERIOUSLY_INJURED_AS_REPORTED + SLIGHTLY_INJURED + INJURED

Note : see 'seriously injured', 'slightly injured' definitions.

Data availability : All countries.

5.13.3 Injured at 30 days

Definition : Injured with application of correcting coefficient as stated for the 'Killed at 30 days'. Aggregation of the following. injury severities:
- SERIOUSLY INJURED AS REPORTED + SLIGHTLY INJURED + INJURED - 1 COEFFICIENT

5.13.4 Killed

Definition : Death within 30 days of a road accident (UN/ECE Geneva 1995 - Statistics of Road Traffic Accidents in Europe and North America, annex 1), except A (3 days before 1992), E (24 hours in CARE ; 24 hours before 1993 in publication), F (6 days), GR (24 hours), I (7 days), P (24 hours). Suicide not included (except E, F). Natural death not included (except L, S).

Data availability : All countries.

5.13.5 Killed at 30 days

Definition : Death within 30 days with application of correcting factors. Aggregation of the following. injury severities:
- KILLED AS REPORTED + 1 COEFFICIENT

5.13.6 Not Injured

Definition: Not injured in an accident. Person does not require medical treatment (A, DK, E, F, FIN, IRL, L). Opinion of the police (A, B, DK, IRL, S).

Note : Uninjured drivers are included. Uninjured passengers may be included (A, E, F, FIN, IRL, L). Uninjured pedestrians may be included (except GR, I, P).

Data availability : All countries (except GB, NI, NL : not injured drivers implicitly included in vehicle record, EE, MT).

5.13.7 Seriously Injured

Definition: Injured in a road accident. Hospitalised at least 6 days (F). Hospitalised at least 24 hours (B, D, E from 1993 onwards, GR, L, P). Hospitalised as in-patient (DK, NL). Not hospitalised, hospitalised for observation or as in-patient (GB, IRL, NI). No reference to hospitalisation (A, S). Opinion of the police (except B, E from 1993 onwards, F, L, NL, P). Police guidance provided (DK, E before 1993, GB, IRL, NI). Persons died 30 days after accident included (except F, L, P).

Data availability : All countries (except FIN, I, EE, LT)



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5.13.8 Seriously Injured at 30 days

Definition: Seriously injured with application of correcting coefficient as stated for the 'Killed at 30 days'. Aggregation of the following injury severities:
- SERIOUSLY_INJURED_AS_REPORTED + 1 COEFFICIENT

5.13.9 Slightly Injured

Definition: Injured in a road accident. Hospitalised 6 days or less (F). Hospitalised less than 24 hours (B, D, E, GR, P). Not hospitalised (DK, GB, IRL, NI, NL). Medical treatment required (DK, F, L, P). Police guidance provided (DK, E before 1993, GB, IRL, NI). Opinion of the police.

Data availability : All countries (except FI, IT,EE, LT).

5.13.10 Unknown

Definition: Sum of the cases for which no injury severities were reported.

5.13.11 Vehicles

Definition: Number of vehicles reported regardless its type.

1.1.2 Victims

Definition: Aggregation of the following injury severities:
- SERIOUSLY INJURED AS REPORTED
- SLIGHTLY INJURED
- INJURED
- KILLED AS REPORTED

Chapter 4 : History Document

Version	Comments/Remarks/what changed?
1.9	<i>YB (10/9/2007) : Correction in the text made: Suicide was never included in DK.</i>
1.8	<i>AB (17/1/2007) : Added EE.</i>
1.7	<i>AB (24/8/2006) : Changed data availability all variables.</i>
1.6	<ul style="list-style-type: none"> - In chapter 3, the '1.12 Summarizing measures' section has been removed from the document - In Chapter 3, sections 'type of involved persons' and 'Definition of measures' are given in another way. First the definition of type of involved persons and next, the definition of measures. - A text 'Situation at: 15/07/2006' has been added in the footer. The situation date is the date when the definitions of all objects/variables/values were updated in the Glossary. - Due to the fact that only a few countries provided information about alcohol test and alcohol level, those data are not enough representative of the variables. For all those reasons, these variables have been temporarily deactivated. Their definition are set in grey in the glossary
1.5	<ul style="list-style-type: none"> - Change description of Road Surface condition variable: add value "snow", "frost/ice" and "snow, frost or ice" - Reference to Care Plus 1 and Care Plus 2 have been removed and changed into 'Care'. - The old glossary provided short definitions for each common variable derived in both the CARE PLUS 1 and CARE PLUS 2 projects, and includes short definitions of CARE common values. The glossary was being implemented in the CARE system as an important on-line support for users. The CARE PLUS glossary had been derived from CARE PLUS definition grids which contain detailed information on each common value for each Member State. The glossary has two components: <ul style="list-style-type: none"> a) A definition of the common value b) The availability of the common value in the data file for each Member State. From now on, Care Plus 1 and Care Plus 2 variables have been merged in one section and the glossary has been renamed in 'Care glossary'. - Add definition of Care on the first page - Take out "Sum of xxxx" and "Number of xxxx" from the glossary and BO objects - Reorder the variables in the document taking into account the importance, and group the variables by their meaning (see BO order) - Vehicle group values : all "includes " must be converted in Uppercase format.
1.4	<ul style="list-style-type: none"> - Content table changed. - Nationality and Nationality group have been moved to section 'Person Type Item' - add sentence about coefficient for accidents - add definition of accidents, killed - Merge of CP1 and CP2 sections - Person Severity/Severity renamed in Person Injury/Accident Severity

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	<ul style="list-style-type: none"> - <i>Motorway definition</i> - <i>'not applicable' mentioned for Car passenger type, Alcohol level, Alcohol test, Alcohol Level, Psychophysical circumstances, Pedestrian movement, Driving license age, Security equipment in the glossary.</i> - <i>'Not a passenger' is a value of car passenger type</i> - <i>Pedestrian movement <> not a pedestrian</i>
1.3	<p><i>Here are modifications made in the glossary document :</i></p> <ul style="list-style-type: none"> - <i>change definition of following variables:</i> <ul style="list-style-type: none"> - <i>Carriageway Type</i> - <i>Registration Country Group</i> - <i>Psychophysical Circumstances</i> - <i>add chapter about predefined conditions</i> - <i>format changes of table of content</i>
1.2	<p><i>Here are modifications made in the glossary document :</i></p> <ul style="list-style-type: none"> - <i>format changes of table of content</i> - <i>add new variables and new definitions :</i> <ul style="list-style-type: none"> - <i>Severity</i> - <i>Junction</i> - <i>Age Group</i> - <i>Age Group05</i> - <i>Age Group10</i> - <i>Driving Licence Age Group</i> - <i>Speed Limit Group</i> - <i>Vehicle Group</i> - <i>Registration Country Group</i> - <i>Nationality Group</i> - <i>Lighting</i> - <i>Change definition of following variables :</i> <ul style="list-style-type: none"> - <i>Road Surface Condition : add value 'Wet, damp, flood'</i> - <i>Junction Control : add 'authorised person' and 'Automatic traffic system'</i> - <i>Movement Pedestrian : new values replacing old ones.</i> - <i>Alcohol Test : 'refused' value has been removed</i> - <i>Vehicle Age</i> - <i>Registration Country</i> - <i>Speed Limit</i> - <i>Manoeuvre Vehicle or Driver</i> - <i>Vehicle Type : Bus or Coach replaces 'bus, more...' and pedestrian has been added</i> - <i>Nationality</i>
1.1	<i>Correction made</i>
1.0	<i>initial version</i>

ANNEX 2 (*electronic format*): National definitions

ANNEX 3 (*electronic format*): Transformation Rules

ANNEX 4 (*electronic format*): Updated Grids