Directorate-General for Mobility and Transport

CARE DATABASE

CaDaS

Common Accident Data Set

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Authors:	Verma Saurabh (European Dynamics Consultant for the European Commission-DG MOVE)
Revised by:	Heymans Luc (European Commission–DG MOVE)
Approved by:	Sanz Villegas Maria Teresa (European Commission-DG MOVE)

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COMMON ACCIDENT DATA SET
Reference Guide
Version 3.7 - November 2018

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INTRODUCTION

1. Background

Since long, road accident data are collected in the European Union (EU) countries by the use of **their own national collection systems**. At European level, road accident data are also available since 1991 in disaggregate level in CARE, the Community database on road accidents resulting in death or injury. CARE comprises detailed data on individual accidents as collected by the Member States, using a structure which allows for maximum flexibility and potential with regard to analysing the information contained in the system.

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. Parts of the national data sets are integrated into the CARE database in their original national structure and definitions, however, as existing national accident data collection systems are not always compatible and comparable among the countries, the European Commission (EC) provides and applies a framework of transformation rules to the national data sets, allowing CARE to have compatible data.

Previous version of the CARE database (CARE v1.0 model) contained 55 common road accident variables. However, it is acknowledged that more variables and values are necessary to better describe and analyse the road accident phenomenon at EU level. Due to differences in the collected data variables and values, their definitions, the differences of the accident data collection forms structures and the relevant data formats among the existing national databases, both accident data quality and availability are affected. Consequently, lack of accident data uniformity among and within EU countries hinders the exploitation of CARE potential and limits data analyses and comparisons at EU level.

Under this perspective, the recommendation for a **C**ommon **A**ccident **Da**ta **S**et (**CADaS**) has been developed consisting of a minimum set of standardised data elements, which will allow for comparable road accident data to be available in Europe. In this way, more variables and values with a common definition will be added to those contained in the previous models of the CARE database, maximising thus the potential of CARE database and allowing for more detailed and reliable analyses at European level.

The CADaS model is based on the identification of the data required for accident analysis through the input of Experts participating in the CARE and/or SafetyNet research project, and on the analysis of the currently available national accident data collection systems in Europe. The variables and values included in the previous model of the CARE database were used as a basis for creating CADaS but other international data files were also considered (US - MMUCC, WHO).

Today CADaS is the only supported model for data since 2011.

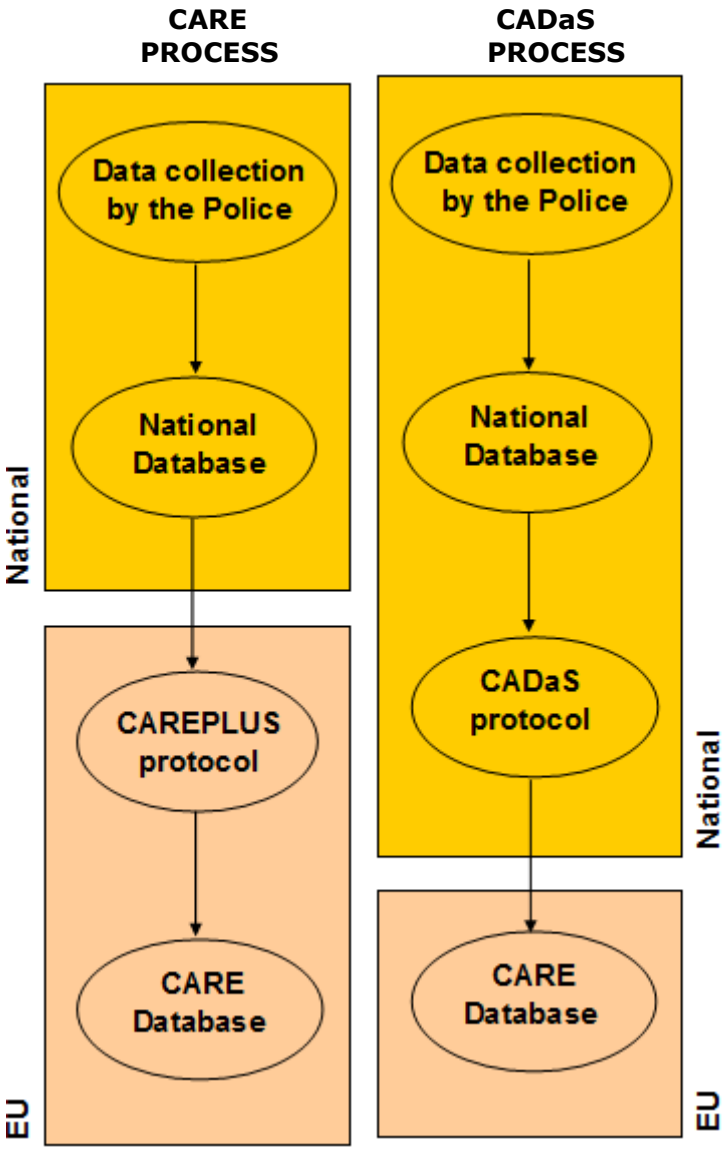
2. Scope and purpose

CADaS consists of a minimum set of standardised data elements, which allow for comparable road accident data to be available in Europe. **CADaS can be implemented on a voluntary basis** in the national accident collection systems and be gradually adopted by the EU countries. Thus, progressively, more and more common road accident data from the various countries will be available in a uniform format. In this way CARE, the European data base with disaggregate data on road accidents, will gradually contain more and more compatible and comparable data, allowing for more reliable analyses and comparisons across the EU countries.

CADaS refers to **the set of data to be voluntarily transmitted by each country to the EC (European Commission)**, which should be derived from the national road accident data collection system. This means, that the EU countries will not be legally obliged to adopt CADaS and can continue using their national systems. However, they are encouraged to do so so that they can in the meantime enhance their own database. In addition, the EC recommends the use of the CADaS model for data provided after 2010. In case the countries do not wish to adopt CADaS they should continue transmitting national road accident data to the EU in the current format. Moreover, if Member States wish to adopt CADaS, some variables might need to be collected under a different structure, in order to meet local/regional/national needs or particularities. Countries can continue using the particular variables and values for collecting national data and use appropriate tranformations when these data are transmitted to the EC in the CADaS format.

At Figure 1, the CARE & CADaS processes of the national road accident data files are presented. Between both approaches, the compatibility of the accident data among EU countries is ensured. The main difference of the two approaches is related to the **degree of involvement** of the country in the process. According to the CADaS process, transformation of the national accident data will be performed at the national level and the derived CADaS variables and values will be transmitted to the EC, where they will be included in a more automatic way into the CARE database. This process will allow for more common variables and values but also for higher quality, given that the national authorities better perceive any particularities related to national data collection. Therefore they can better identify the interrelation between the collected and the CADaS variables.

Figure 1: Accident data transformation processes



CADaS is structured in a simple way, without levels of hierarchy, constituting in fact the **record layout of the data set to be transferred to the EC**. The structure of the CADaS variables allows for various levels of detail to be selected for providing the requested data, by the use of alternative (aggregate) values. In this way, the data to be transferred can be more easily produced at national level. **However, the variables and values of CADaS may also be considered as recommendations for national police road accident data collection reports.** Moreover, CADaS variables and values can be further enhanced (derived variables to be added) inside the CARE database allowing for a wide range of analysis reports.

3. Selection criteria for CADaS data

The selection of the data variables and values incorporated in **CADaS** resulted from the balanced co-consideration of the following basic criteria:

- **Variables and values must be useful for road accident analysis**, especially at EU level.
- **The level of detail of the variables and values corresponds to all data useful for macroscopic data analysis** and not for detailed reconstruction of the scene of the accident, which is of local interest.
- **Each country should have the possibility to choose alternative level of detail** of the various variables and values.
- **Variables and values must be comprehensive and concise**. Each variable must include description and scope (importance to road safety) attribute values and their definitions and the data format.
- **Data which are impossible or very difficult to be collected are not retained in the CADaS**, independently of their value for road accident analysis; as such data might be of low quality.
- **The future perspective of using certain variables and values** was taken into account, even though those data are not currently collected by most of the countries due to current technical difficulties (i.e. latitude and longitude of the accident location, etc.).
- **Existing variables and values of CARE v1 are of first priority within CADaS.**
- **CADaS variables and values refer to casualty road accidents**, i.e. all road accidents involving at least one moving vehicle and one person injured or killed as a consequence of this accident. Not injured participants within an injury accident can optionally be recorded. Material damage-only accidents are not considered.

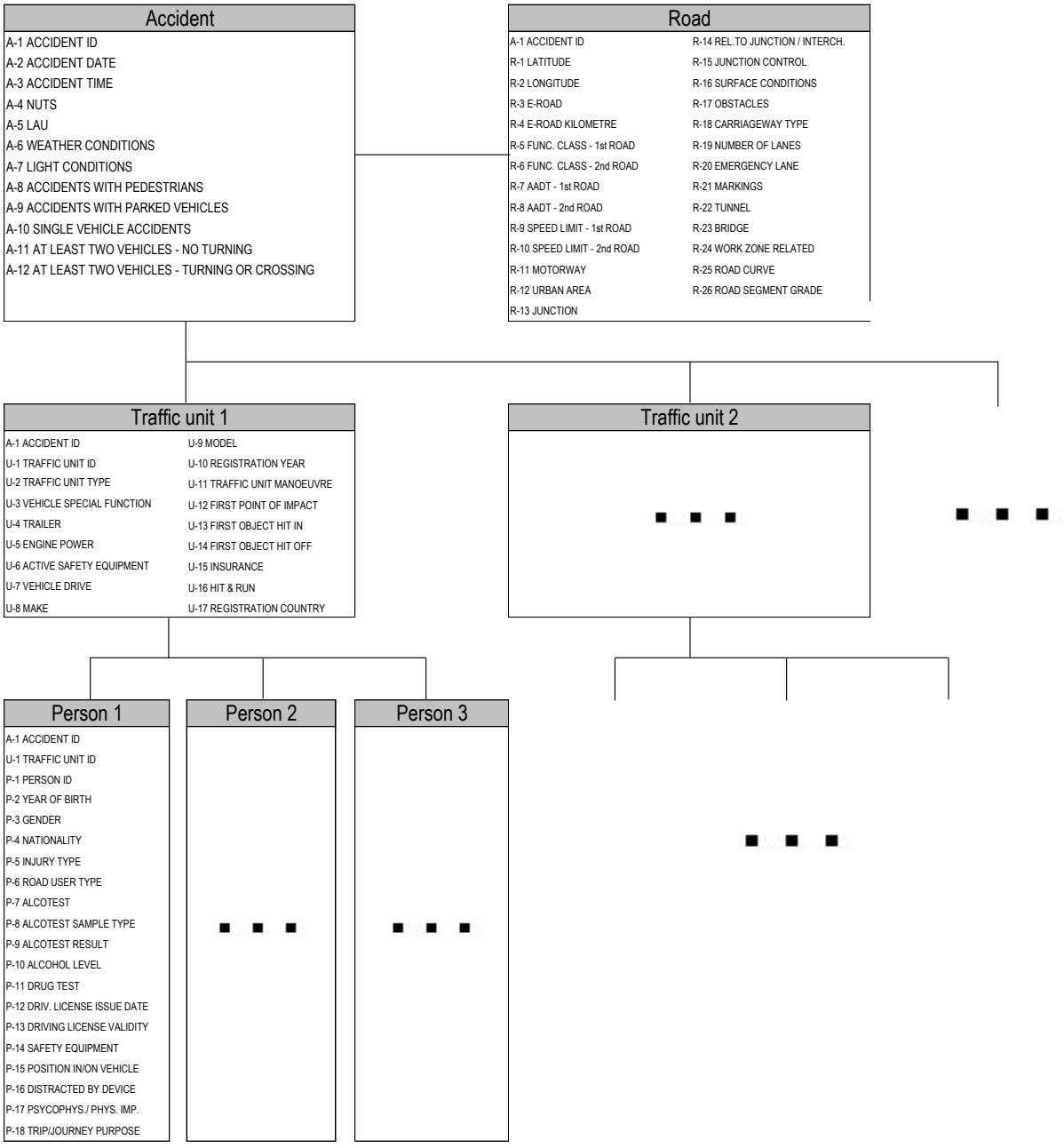
4. CADaS structure

The CADaS variables presented in this Reference Guide are divided into **four basic categories**. The category in which each variable is included can be identified by a unique letter (code) at the beginning of the name of the respective variable. The categories and the relevant codes used to describe each category are the following:

A, for **Accident** related variables,
R, for **Road** related variables,
U, for **Traffic Unit (vehicle and pedestrian)** related variables,
P, for **Person** related variables.

In Figure 2 the interrelation among the four basic categories is presented, clearly indicating the links of the various road accident variables included in CADaS.

Figure 2: CADaS structure



Several variables include two distinct types of values, referring to different level of detail:

1. **Detailed values:** concern information at the highest level of detail.
2. **Alternative values:** concern information at a more aggregate level of detail, when more detailed values are not available.

Alternative values do not differ from detailed values apart from their level of detail. These values are complementary and can be used when more detailed data are not available (for example concerning the "Traffic Unit type" variable, if a country does not collect the values "car" and "taxi" separately, it can provide this information through the "car or taxi" alternative value). Both detailed and alternative values have the same number of digits (letters or numbers) and occupy the same columns on the record layout. For alternative values, the **(A)** coding identifier is used next to the category code (e.g. AA, RA, UA, PA).

Due to the fact that the recommendation of CADaS is designed to be adopted gradually and on a voluntary basis by the EU countries, the recommended variables were separated into two broad categories, according to their importance for road accident analysis: **variables of high importance (H) and variables of lower importance (L)**. Apart from their importance for road safety analysis, CADaS variables are separated according to the current reliability the collected data and the related collection feasibility.

It should be clear that **all EU countries should continue using their national systems** and collect accident data in any way they find most appropriate. However, the European Commission is recommending countries to plan, e.g. when upgrading their national systems, the necessary adjustments allowing to provide the CADaS data to the EC. These data can be directly collected, or derived from collected data, or obtained through linkage to other national data bases (driving licenses, social security, road network, vehicle registry, etc.). Countries can certainly opt for the level of detail of CADaS data to collect and transmit, according to the various proposed CADaS alternative values.

The structure of CADaS allows for **maximum flexibility**. The proposed record layout allows for the data to be provided in a simple way without levels of hierarchy, irrespectively how these data are collected in each national system. Flexibility is also ensured by the use of the alternative values, which allow for the provision of information at different levels of detail, according to the existing national data collection system.

The proposed **value coding** is indicative and refers to the format, in which the CADaS data should be transmitted to the EU by the countries that wish to fully or partially adopt them. With reference to the proposed measurement units of various values (kms/miles, etc.), the most commonly used measurement units by the EU countries are retained. However, necessary adjustments of these measurement units can be adopted in case some countries use different metric systems (i.e. miles per hour instead of kilometres per hour for speed measurement).

For each of the variables included in **CADaS**, the following information is presented:

Variable Label: The label of the proposed variable, consisting from the category identifier (A, R, U or P), the numbering and the name of the variable. The importance of the variable for road safety analysis is also added: (H) for variables of high importance and (L) for variables of lower importance.

Variable definition and scope: A brief description of the variable is provided, followed by the importance and usefulness of the variable, explaining the rational lying behind its selection.

List of values: The attribute values to each variable are listed.

Value labels: Each value is identified by the code of the variable, followed by a number which corresponds to each value and its name. The (A) code is added next to the variable category code for the alternative value, when is the case.

Value definitions: The definition of each value of the variable is provided, indicating also any particularities of the value and any relevant assumptions regarding its collection.

Data Format: The way in which each variable has to be provided. Data formats concern:

- the possibility to attribute one or more values to a variable,
- the format of the value (code, number, text).

5. Summary of variables and values

The number of variable and values contained in the CADaS are presented at the following Table 1:

category	Code	Number of Variables			Number of Values		
		High (H) importance	Lower (L) importance	Total	Detailed values	Alternative values (A)	Total
Accident	**A**	7	6	13	91	13	104
Road	**R**	12	13	25	92	13	105
Traffic Unit	**U**	8	10	18	181	15	196
Person	**P**	13	8	21	92	10	102
Total		40	37	**77**	456	51	**507**

Table 1: CADaS variables and values in numbers

6. Acknowledgements

The recommendation for a Common Accident Data Set (CADaS) is **the result of collective work** of the partners of Task 1.4 of the EC co-funded SafetyNet Integrated Project under the coordination of the National Technical University of Athens. More specifically, these partners were:

- George Yannis, Petros Evgenikos, Antonis Chaziris, National Technical University of Athens - Greece
- Jeremy Broughton, Brian Lawton, Louise Walters, Transport Research Laboratory - United Kingdom
- Stefan Hoeglinger, Thomas Leitner, Andrea Angermann, Kuratorium fuer Verkehrssicherheit - Austria
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- Stig Hemdorff, Danish Road Directorate - Denmark
- Peter Hollo, Institute for Transport Sciences Ltd - Hungary
- Jan Tecl, Transport Research Centre - Czech Republic
- Lucy Rackliff, Vehicle Safety Research Centre - United Kingdom
- Jaime Sanmartin, Jean Francois Pace, Research Institute on Traffic and Road Safety – Spain

SafetyNet Integrated Project was finalised in 2009.

The officials of the Road Safety Unit and of the CARE team of the European Commission, as well as the national representatives of the 28 EU Member States in the CARE Experts Group contributed also significantly to the development of the CADaS by providing important input at the various stages of its development.

7. Cadas Load process checklist

STEP0:
If it is the first time the accident data will be sent to the European Commission (EC), it is possible to ask your contact person to provide you with a draft mapping file of the CADaS variables with your national country variables. If you don't have a contact person you can email your request to the functional mailbox MOVE-CADAS@ec.europa.eu. A contact person in the European Commission will be dedicated to your request and will help you through the process to successfully adopt the CADaS model to send the accident data.

STEP1:
The country will create the **four files** (1 per category) by transforming the national country data structure into the CADaS structure. The EC provides four example files that can be used as a template to deliver the data. You can download these files from CARE Business Objects from the following page : http://ec.europa.eu/transport/road_safety/specialist/statistics/index_en.htm - in Public Folders > CADaS Documentation > CADaS load templates & reference data.

The four excel files are XX_ACCIDENT_9999, XX_ROAD_9999, XX_TRAFFIC_UNIT_9999 and XX_PERSON_9999.
If the data doesn't fit the template because of too many rows, it is also possible to send the data in csv format. The first line of the file contains the variable names, use as separator ';'. The same naming convention as for the excel sheets can be used, except that the extension will be .csv instead off .xls.

The naming conventions for the files are as follow: XX has to be replaced by the two characters country code and 9999 has to be replaced by the representative year (e.g. LV_ACCIDENT_2008). The other files follow the same convention. For every year a separated file has to be created.

The **CADaS reference data file:** you can download the latest reference data (actually ***CADaS_Reference_File_v3_6_20170922.xls***) from the CARE Business Objects website (http://ec.europa.eu/transport/road_safety/specialist/statistics/index_en.htm - in Public Folders > CADaS Documentation > CADaS load templates & reference data). In total five sheets clubbed together in one excel file are available: one sheet for accident, one for road, one for traffic_unit, one for person and one that lists changes between versions. It is recommended every year to check for the latest CADaS reference data file before you start the transformation process.

Care Website url: https://webgate.ec.europa.eu/care_boxi/InfoViewApp/logon.jsp

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

STEP2:
The country has to send the 4 files via the eDAMIS web portal to the European Commission. It is recommended to add "CADaS" in the "Free Text" field. To access this website you need an ECAS account. If you don't have one, you can create one directly on the e-DAMIS web portal.

Website url: https://webgate.ec.europa.eu/edamis

STEP3:
After the European Commission has received the four files, they will be transferred internally to the 'CARE' team of the European Commission. The CARE team will take care of loading these files to the CADaS database. First they will perform quality checks on the data. If no problem is detected, the data will be loaded into the CADaS database.
If there are issues in the file ,these issue will be sent by email to the specific country for clarifications

This means that the country will have to solve the problem(s) in collaboration with their contact person of the European Commission.
Step 2 and Step3 will be repeated until the European Commission is able to load the data without any problems.

Website url: https://webgate.ec.europa.eu/care_boxi/InfoViewApp

STEP4:
The data is successfully loaded. The country will be informed by email and will receive a quick check report with the most important figures. The country can check the successful load also in the DataAvailability reports on the care website. (DataAvailability & DataAvailabilityOnObjectLevel (on the Care website).

Website url: https://webgate.ec.europa.eu/care_boxi/InfoViewApp

8. Cadas measurements and calculated objects

8.1 Correction factors (Up to 2010)

Calculation of corrected measurements for "Fatally Injured (at 30 days)" and for "Seriously Injured (at 30 days)" for countries where needed:

Member State	**Correcting factors**		
Spain	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 2010	Outside urban area	Inside 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 * 1.057 from 1994 up to 2004		
Italy	K(30) = K * 1.078 up to 1998		
Portugal	K(30) = K * 1.14 from 1998 up to 2009		

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

8.2 Measurements

Exposure data

Population
The population of a country available by year and by country. The population of the last year is not necessarily the real value but could be based on an estimation done by EUROSTAT. This means that when the estimated values are replaced by the real value your result can change a little bit. Source of the data EUROSTAT

GDP per capita
Gross Domestic Product per capita for all EU28 countries. Be careful for using this variable, it's possible some measurements are missing for some countries and years. Source of the data is EUROSTAT.

Facts data

Number of Accidents
Total number of accidents (damage accidents excluded).

Nbr Of traffic Units (also unknown)
Total number of traffic units involved in the accident. Pedestrians and unknown vehicles are also included.

Number Of Pedestrians
Total number of pedestrians involved in the accident. Vehicles and unknown traffic units are not included.

Number Of Unknown traffic units
Total number of unknown traffic units.

Nbr Of Vehicles (no Pedestrians)
Total number of vehicles involved in the accident, pedestrians are not included.

Nbr Of Vehicles (no Pedestrians,no unknown)
Total number of vehicles involved in the accident, pedestrians and unknown traffic units are not included.

Fatally Injured (as reported)
Total number of persons fatally injured as reported by the country to the European Commission.
Death within 30 days of the road accident, confirmed suicide and natural death are not included.

Fatally Injured (at 30 days)
Total number of persons fatally injured corrected by correction factors when needed (see point 8.1).
Death within 30 days of the road accident, confirmed suicide and natural death are not included.

Seriously Injured (as reported)
Total number of persons seriously injured as reported by the country to the European Commission.
Injured (although not killed) in the road accident and hospitalized at least 24 hours.

Seriously Injured (at 30 days)
Total number of persons seriously injured corrected by correction factors when needed (see point 8.1).
Injured (although not killed) in the road accident and hospitalized at least 24 hours.

Slightly Injured
Total number of person slightly injured.
Injured (although not killed) in the road accident and hospitalized less than 24 hours or not hospitalized.

Injured (injury severity not known)

Total number of injured persons. The person was seriously or slightly injured (but not killed within 30 days) in the road accident.
This is only the total of the alternative value. This is an alternative value for seriously or slightly injured in case you don't know the severity.

Injury Type Not Known
Total number of persons with an unknown injury type.
The injury severity of the road user was not recorded or it was unknown.

Not Injured
Total number of persons not injured.
Not injured: Person participating in the accident although not injured.

8.3 Calculated dimension objects

The X in the object name indicates that the value is calculated based on the information the European Commission receives from the country.

A-X Accident Severity

The accident severity indicates the severity of the most injured person of the traffic accident. It uses the same values as "P-5 Injury Type".

R-X Area

Variable definition and scope

The variable indicates the accident area based on the two variables R-11 Motorway and R-12 Urban Area. Some manipulation rules are adopted to filter away unknown data.

Values

Unknown
Rural
Urban
Motorway

Values definitions

Unknown
Urban area unknown & motorway unknown

Rural
Outside urban area & no motorway/unknown

Urban
Inside urban area & no motorway/unknown/motorway

Motorway
Outside urban area/Unknown area & motorway

PART 1: ACCIDENT INFORMATION

Basic information concerning the accident is provided through this section. Moreover, the type of conflict and direction of impact that crashing parties have experienced is described.

The definition of an Injury Road Accident (referred as Accident here after) concerns an incident on a public road involving at least one moving vehicle and at least one casualty (person injured or killed). It is noted however, that the definition of "injury" varies considerably among the various EU countries affecting thus the reliability of cross country comparisons.

A1_ID	A2_DATE	A3_TIME	A4_NUTS	A5_LAU	A6_WEATHER	A7_LIGHT	A8_PEDESTRIAN	A9_PARKED	A10_SINGLE	A11_VEH_NO TURNING	A12_VEH_TURNING	A13_HIT RUN ACCIDENT	A5_LAU_1 (dismissed from 2017)	A5_LAU (or A5_LAU_2 dismissed from 2017)
XX2017000001	01022017	0423	XX006	00123456000000000	01	06	01	00	00	00	00	00	000000000	00123456
XX2017000002	01022017	0855	XX006	00123456000000000	01	01	00	00	05	00	00	00	000000000	00123456
XX2017000003	01022017	1530	XX006	00123456000000000	01	01	00	99	00	00	00	01	000000000	00123456
XX2017000004	01022017	1630	XX008	00125459000000000	01	05	00	00	00	06	00	00	000000000	00123459

A-1 ACCIDENT ID (H)

Variable definition and scope

The accident identification number is a number which will allow the accident record to be cross-referenced to road, traffic unit and person records. It consists of three distinct fields, the country code, the year and the accident number.

Values

A-1a Country code
A-1b Year
A-1c Accident number

Value definitions

A-1a Country code
A code consisting of two digits, indicating the specific country where the accident occurred (**country code** follows the standard **ISO 3166-1 alpha-2)**.

A-1b Year

A code consisting of four digits, indicating the year of the accident.

A-1c Accident number
A unique six digit number for each accident in a specific year and country.

Data format

Three codes are filled-in. The first two digit code indicates the country code, the next four digit code indicates the year and the last six digit code indicates the number of the accident (e.g. ES 2007 012976) This format is indicatively proposed to allow unique identification of the accident.

A-2 ACCIDENT DATE (H)

Variable definition and scope

The date (day, month and year) when the accident occurred. It allows for the identification of the timing of the accident and enables seasonal comparisons and time series analyses.

Values

A-2	Accident date
A-2.91XXXXXX	Monday (month known or unknown)
A-2.92XXXXXX	Tuesday (month known or unknown)
A-2.93XXXXXX	Wednesday (month known or unknown)
A-2.94XXXXXX	Thursday (month known or unknown)
A-2.95XXXXXX	Friday (month known or unknown)
A-2.96XXXXXX	Saturday (month known or unknown)
A-2.97XXXXXX	Sunday (month known or unknown)
A-2.99XXXXXX	Unknown day, month and year known
A-2.XX99XXXX	Unknown month (day known or unknown, year known)

Value definitions

A-2 Accident date
The date (day, month and year), during which the accident occurred.

Data format

An eight-digit number is filled-in, starting with the day and followed by the month and the year : ddmmyyyy .If a part of the accident date is unknown, the respective digits are filled in with 99 (for day and month) and 9999 (for year). Any part of the date can be provided irrespectively

whether the other parts are known or not; even if the full date of the accident (day, month and year) is not known, a part of it can still be provided. For example an accident that occurred on June 2005 with unknown day would be recorded as 99062005, while an accident where only the year is known (e.g.2003) would be recorded as 99992003. Only the year is the lowest level of detail for the accident date.

A-3 ACCIDENT TIME (H)

Variable definition and scope

The time of the day, when the accident occurred. Time recorded is the local time of the accident location and is expressed in period of 60 minutes, using the 24-hour clock format (00.00-23:59). Midnight is defined as 00:00 and represents the beginning of a new day, not the end of the preceding day. It allows for analyses of different time periods within the same day.

Values

A-3	Accident time
A-3.9999	Unknown

Value definitions

A-3 **Accident time**
The time during which the accident occurred.

A-3.9999 Unknown
The time during which the accident occurred was not stated.

Data format

A four digit number is filled-in according to the following format : hhmm The hour of the accident can be provided even if the minute is unknown. For example an accident that occurred between 10 and 11 o'clock day would be recorded as 1099 indicating that the exact minute is unknown.

A-4 NUTS (Nomenclature of Territorial Units for Statistics) (H)

Variable definition and scope

The individual region according to the Eurostat NUTS 3 classifications. This will allow for uniform and compatible statistics among the EU countries. If the country collects NUTS 2 and/or NUTS 1, this can also be provided through the alternative values. More details in the last version of CADaS reference data file ***CADaS_Reference_File_v3_6_20170922.xls*** (REF_ACCIDENT sheet). New version of NUTS codes containing the amendments to be used, are expected to be published by ESTAT every three years.

The latest valid NUTS codes - accordingly to NUTS version and year of accident dataset (i.e. *version 2010* for accident dataset from year 2012 to year 2014 and *version 2013* for accident dataset from year 2015) should be used.
See here: http://ec.europa.eu/eurostat/web/nuts/history

Values

A-4	NUTS 3 code
AA-4a	NUTS 2 code
AA-4b	NUTS 1 code
A-4.99999	Unknown

Value definitions

A-4: NUTS 3 code
The NUTS 3 codes developed by Eurostat corresponding to the individual region where the accident occurred.

AA-4a: NUTS 2 code
The NUTS 2 codes developed by Eurostat corresponding to the individual region where the accident occurred.

AA-4b: NUTS 1 code
The NUTS 1 codes developed by Eurostat corresponding to the individual region where the accident occurred.

A-4.99999: Unknown
The individual region where the accident occurred according to the NUTS codes developed by Eurostat was unknown at any level of detail.

Data format

A five digit code is filled in for the most detailed NUTS level available, from the relevant Eurostat list. The code includes country code (e.g. GR for Greece) followed by one, two or three digits, for NUTS levels 1, 2 or 3 respectively. If the regions corresponding to a NUTS level are more than nine, the digit is replaced by a letter (after 9 follows A, B, C etc). If NUTS 1 level is to be provided then the first two digits should be zeros, while for NUTS 2 level the first place should be zero in order to preserve the five digit format.

For more detailed information see:
http://ec.europa.eu/eurostat/web/nuts/overview

A-5 LAU (Local Administrative Units) (L)

Variable definition and scope

Starting from datasets containing Accidents of year 2017 referring therefore to Eurostat LAU unique codes published from version 2017 on, the relevant CADaS variable corresponds to a unique LAU administrative area.

For datasets containing accidents until year 2016 this was:

The individual administrative area according to the Eurostat LAU 2 and LAU 1 classifications. LAU codes directly refer to NUTS 3 codes.
LAU 1 can be considered as NUTS 4 while LAU 2 as NUTS 5.

This will allow for uniform and compatible statistics among the EU countries.

The latest valid LAU codes referring to the right NUTS 3 codes (see variable A-4 NUTS) must be used.
Eurostat publishes yearly a new version containing amendments, new codes and NUTS 3 codes of reference.

Values

A-5	LAU code (or until accidents of year 2016: LAU 2 code / LAU 1 code)
A-5.99...9	Unknown

Value definitions

A-5: LAU code (or until accidents of year 2016: LAU 2 code / LAU 1 code)

The LAU code as provided to Eurostat by the respective country, corresponding to the administrative area where the accident occurred.

A-5.99..9:Unknown

The administrative area where the accident occurred according to the national LAU codes was unknown at any level of detail.

Data format

LAU codes are not recorded using a single format across the EU. Some countries use numbers while others use numbers and letters while the number of digits used varies accordingly. In order to exploit this information, this variable should be linked with the respective country.

For compatibility reasons, from accidents of year 2017 on the maximum number of digits used to record LAU code is eight.

A seventeen digit code (numbers, letters or combination) should be filled in. The first eight digits refer to LAU while the next nine digits should be filled with zeros.
If less than eight digits are used by the LAU code, the leftmost part of the field should be filled with zeros.

For datasets containing accidents until year 2016 this was:

The maximum number of digits used to record LAU 1 is nine (Germany) while the maximum number of digits used to record LAU 2 is eight (also Germany).

A seventeen digit code (numbers, letters or combination) should be filled in. The first eight digits should refer to LAU 2 while the next nine digits should refer to LAU 1.
If less digits are used by a country for LAU 2 (or LAU 1) the rest of the digits should be filled in with zeros (for each LAU level respectively).

Please note:
If number of digits of LAU (or LAU1/LAU2 until accidents of year 2016) codes exceed the above limits, there is a possibility to enter LAU codes – (LAU1 and LAU2 until accidents of year 2016) LAU in the place of LAU2 – in this sequence separated by a semicolon
(i.e. from 2017 LAU code >> '000000000;00012345' or until 2016 LAU1/LAU2 codes >> '000000123'; 00012345')
at the end of Accident row after variable A-13 (or A-12 if last variable) and unpadded (not filled with zeroes).

For more detailed information see:
http://ec.europa.eu/eurostat/web/nuts/local-administrative-units

A-6 WEATHER CONDITIONS (H)

Variable definition and scope

This variable defines the atmospheric conditions at the accident location at the time of the accident and allows for the identification of the impact of weather conditions to the road safety. More details in the last version of ***CADaS_Reference_File_v3_6_20170922.xls*** (REF_ACCIDENT sheet) file.

Values

A-6.01	Dry / Clear
A-6.02	Rain
A-6.03	Snow
A-6.04	Fog, Mist, Smoke
A-6.05	Sleet, Hail
A-6.06	Severe winds
A-6.07	Other
A-6.99	Unknown

Value definitions

A-6.01: Dry / Clear
No hindrance from weather. Includes clear and cloudy sky.

A-6.02: Rain
Heavy or light rain at the time of the accident.

A-6.03: Snow
Snowing at the time of the accident.

A-6.04: Fog, Mist, Smoke
Existence of fog or mist or smoke at the time of the accident.

A-6.05: Sleet, Hail
Existence of sleet or hail at the time of the accident.

A-6.06: Severe winds
Presence of winds deemed to have an adverse effect on driving conditions.

A-6.07: Other
Atmospheric conditions that affected the drivers or the road environment are not included in the list of the previous values.

A-6.99: Unknown
Atmospheric conditions not recorded or unknown.

Data format

A two digit number corresponding to one of the values is filled-in to indicate the weather conditions.

A-7 LIGHT CONDITIONS (H)

Variable definition and scope

Defines the level of light at the accident location, at the time of the accident. Values related to natural lighting are included, indicating the level of light in each period of the day. Additionally values concerning artificial lighting, indicate the existence of light by street lights. Information about the presence of lighting is important element in analysis of spot location or in network analysis. Additionally, important for determining the effects of road illumination on night-time accidents to guide relevant future measures.

Values

A-7.01	Daylight
A-7.02	Twilight
A-7.03	Darkness street lights lit
A-7.04	Darkness street lights unlit
A-7.05	Darkness no street lights
A-7.06	Darkness street lights unknown
A-7.07	Darkness no street lights or street lights unlit
A-7.99	Unknown

Value definitions

A-7.01: Daylight
The natural lighting during daytime.

A-7.02: Twilight
The natural lighting during dusk or dawn. Periods of half-light.

A-7.03: Darkness street lights lit
Includes the period of the day when there is no natural lighting, street lights exist at the accident location and are lit.

A-7.04: Darkness street lights unlit

Includes the period of the day when there is no natural lighting, street lights exist at the accident location but are unlit

A-7.05: Darkness no street lights
Includes the period of the day when there is no natural lighting, and there are no street lights at the accident location.

A-7.06: Darkness street lights unknown
Includes the period of the day when there is no natural lighting, and information about street light is unknown.

A-7.07: Darkness no street lights or street lights unlit
Includes the period of the day when there is no natural lighting, and there are no street lights at the accident location, street lights exist at the accident location but are unlit. This alternative value when we cannot differentiate between A-7.04 and A-7.05

A-7.99: Unknown
The light conditions at the time of the accident were not stated.

Data format

A two digit number corresponding to one of the values is filled-in to indicate the light conditions.

ACCIDENT TYPE VARIABLES (A-8 - A-13)

The following variables describe the type of the accident in terms of parties involved, type of collision, vehicle / pedestrian manoeuvre just before the accident and hit&run accident. Each variable describes a specific accident type, while more than one type can be applicable in the same accident. In such accidents (e.g. collision between two vehicles, one of which finally hits a pedestrian) more than one variables should be selected; each one describing the respective accident type. For each of these accident types, only the first event should be recorded (e.g. in a collision between 2 vehicles, one of which hits a third moving vehicle, the first collision will only be indicated).
The value 99 in these variables refers to the fact that details of this specific accident type are unknown but the type of the accident is known (e.g. it is a pedestrian accident but no extra information is available then 99 is used), when no information at all is available on the accident type => 00 has to be used.

A-8 ACCIDENTS WITH PEDESTRIANS (L)

Variable definition and scope

This variable is applicable only in accidents with pedestrians and describes the pedestrian position and movement just before the accident, as well as the manoeuvre of the vehicle which hit the pedestrian. See Annex C for details.

Values

A-8.00 Not applicable

A-8.01 Pedestrian crossing street - no turning of vehicle - outside a junction
A-8.02 Pedestrian crossing street - no turning of vehicle - at a junction
AA-8.51 Pedestrian crossing street - no turning of vehicle - not specified

A-8.03 Pedestrians crossing - turning of vehicle turning right (left)
A-8.04 Pedestrians crossing - turning of vehicle turning left (right)
AA-8.52 Pedestrians crossing - turning of vehicle - not specified

A-8.05 Pedestrian stationery in the road
A-8.06 Pedestrian walking along the road
A-8.07 Pedestrians on pavement or bicycle lane
AA-8.53 Pedestrian walking along the road or stationary in the road

A-8.08 Pedestrian accident - other
A-8.99 Pedestrian accident – unknown details

Value definitions

A-8.00 Not applicable
The accident type cannot be described by this variable.

A-8.01 Pedestrian crossing street - no turning of vehicle - outside a junction
See Annex C for details

A-8.02 Pedestrian crossing street - no turning of vehicle - at a junction
See Annex C for details

AA-8.51 Pedestrian crossing street - no turning of vehicle - not specified
See Annex C for details.

A-8.03 Pedestrians crossing - turning of vehicle - turning right (left)
See Annex C for details

A-8.04 Pedestrians crossing - turning of vehicle - turning left (right)
See Annex C for details

AA-8.52 Pedestrians crossing - turning of vehicle - not specified

See Annex C for details.

A-8.05 Pedestrian stationery in the road
See Annex C for details

A-8.06 Pedestrian walking along the road
See Annex C for details

A-8.07 Pedestrians on pavement or bicycle lane
See Annex C for details

AA-8.53 Pedestrian walking along the road or stationary in the road
See Annex C for details.

A-8.08 Pedestrian accident - other
Not in the list of the previous values.

A-8.99 Pedestrian accident – unknown details
Accident involving pedestrian - unknown details

Data format

A two digit number corresponding to one of the values is filled-in, indicating the type of the accident.

A-9 ACCIDENTS WITH PARKED VEHICLES (L)

Variable definition and scope

This variable is applicable in accidents where one moving vehicle collides with a parked vehicle (including trailers). For other accident types this variable is not applicable. See Annex C for details.

Values

A-9.00 Not applicable

A-9.01 Hitting parked vehicles right (left) side of the road
A-9.02 Hitting parked vehicles left (right) side of the road
AA-9.51 Hitting parked vehicles - side of the road - not specified

A-9.03 Accidents with parked vehicles - opening doors
A-9.04 Other accidents with parked vehicles

A-9.99 Accidents with parked vehicles – unknown details

Value definitions

A-9.00 Not applicable
The accident type cannot be described by this variable.

A-9.01 Hitting parked vehicles right (left) side of the road
See Annex C for details

A-9.02 Hitting parked vehicles left (right) side of the road
See Annex C for details

AA-9.51 Hitting parked vehicles either side of the road
See Annex C for details.

A-9.03 Accidents with parked vehicles - opening doors
See Annex C for details.

A-9.04 Other accidents with parked vehicles
Not in the list of the previous values. See Annex C for details.

A-9.99 Accidents with parked vehicles – unknown details
Accidents involving parked vehicle(s) – unknown details.

Data format

A two digit number corresponding to one of the values is filled-in, indicating the type of the accident.

A-10 SINGLE VEHICLE ACCIDENTS (L)

Variable definition and scope

This variable is applicable in accidents including only one moving vehicle. Includes accidents with fixed, non-fixed obstacles and animals (pedestrians and parked vehicles are not included), accidents without obstacles (rollover, leaving the carriageway etc.). For other accident types (accidents with pedestrians, with parked vehicles and accidents including more than one moving vehicles) this variable is not applicable. See Annex C for details. While selecting the Values always give a priority to obstacles prior to place of accidents**. *(e.g. If a vehicle has an accident with an animal in a junction then prefer value-01- Single vehicle accidents with animals)***

Values

A-10.00 Not applicable
A-10.01 Single vehicle accidents with animals
A-10.02 Single vehicle accidents with obstacles on or above the road
A-10.03 Single vehicle accidents with roadwork materials
A-10.04 Accidents between train and vehicle
A-10.05 Single vehicle accidents with obstacles - others
AA-10.51 Single vehicle accidents with obstacles on the road - not specified

A-10.06 Single vehicle accident - Leaving straight road - either side of the road
A-10.07 Single vehicle accidents in a bend - going either side of the road
A-10.08 Single vehicle accidents on the road
A-10.09 Single vehicle accidents including rollover
A-10.10 Single vehicle accidents in junctions or entrances
A-10.11 Single vehicle accidents without obstacles - others

AA-10.52 Single vehicle accidents without obstacles on the road - not specified

A-10.99 Single vehicle accidents – unknown details

Value definitions

A-10.00 Not applicable
The accident type cannot be described by this variable.

A-10.01 Single vehicle accidents with animals
See Annex C for details

A-10.02 Single vehicle accidents with obstacles on or above the road
See Annex C for details

A-10.03 Single vehicle accidents with roadwork materials
See Annex C for details

A-10.04 Accidents between train and vehicle
See Annex C for details

A-10.05 Single vehicle accidents with obstacles - others
See Annex C for details

A-10.51 Single vehicle accidents with obstacles on the road - not specified
See Annex C for details.

A-10.06 Single vehicle accident - Leaving straight road - either side of the road
See Annex C for details

A-10.07 Single vehicle accidents in a bend - going either side of the road
See Annex C for details

A-10.08 Single vehicle accidents on the road
Often refers to accidents with two wheelers. See Annex C for details

A-10.09 Single vehicle accidents including rollover
See Annex C for details

A-10.10 Single vehicle accidents in junctions or entrances
See Annex C for details

A-10.11 Single vehicle accidents without obstacles - others
Not in the list of the previous values. See Annex C for details

AA-10.52 Single vehicle accidents without obstacles on the road - not specified
See Annex C for details.

A-10.99 Single vehicle accidents – unknown details
Accidents involving only one vehicle and no pedestrians – unknown details

Data format

A two digit number corresponding to one of the values is filled-in, indicating the type of the accident.

A-11 AT LEAST TWO VEHICLES - NO TURNING (L)

Variable definition and scope

This variable is applicable in accidents involving at least two vehicles and no turning manoeuvres just before the accident. For other accident types this variable is not applicable. See Annex C for details.

Values

A-11.00 Not applicable

A-11.01 At least two vehicles - same direction - overtaking
A-11.02 At least two vehicles - same direction - rear end collisions
A-11.03 At least two vehicles - same direction - entering traffic
A-11.04 At least two vehicles - same direction - side collision
A-11.05 At least two vehicles - same direction - others
AA-11.51 At least two vehicles - same direction no turning - not specified

A-11.06 At least two vehicles - head on collision in general
A-11.07 At least two vehicles - opposite direction no turning - reversing
A-11.08 At least two vehicles - opposite direction no turning - others
AA-11.52 At least two vehicles - opposite direction no turning - not specified
A-11.09 At least two vehicles - others no turning

A-11.99 At least two vehicles - no turning – unknown details

Value definitions

A-11.00 Not applicable
The accident type cannot be described by this variable.

A-11.01 At least two vehicles - same direction - overtaking
See Annex C for details

A-11.02 At least two vehicles - same direction - rear end collisions
See Annex C for details

A-11.03 At least two vehicles - same direction - entering traffic
See Annex C for details

A-11.04 At least two vehicles - same direction - side collision
See Annex C for details

A-11.05 At least two vehicles - same direction - others
Not in the list of the previous values. See Annex C for details

AA-11.51 At least two vehicles - same direction no turning - not specified
See Annex C for details.

A-11.06 At least two vehicles - head on collision in general
See Annex C for details

A-11.07 At least two vehicles - opposite direction no turning - reversing
See Annex C for details

A-11.08 At least two vehicles - opposite direction no turning - others
Not in the list of the previous values. See Annex C for details

AA-11.52 At least two vehicles - opposite direction no turning - not specified
See Annex C for details.

A-11.09 At least two vehicles - Others no turning
See Annex C for details

A-11.99 At least two vehicles - no turning – unknown details
Accidents involving at least two vehicles and no turning - unknown details

Data format

A two digit number corresponding to one of the values is filled-in, indicating the type of the accident.

A-12 AT LEAST TWO VEHICLES - TURNING OR CROSSING (L)

Variable definition and scope

This variable is applicable for accidents involving at least two vehicles at least one of which performed a turning or crossing manoeuvre just before the accident. For other accident types this variable is not applicable. See Annex C for details.

Values

A-12.00	Not applicable
A-12.01	At least two vehicles - turning - same road - same direction - rear end collision
A-12.02	At least two vehicles - turning - same road - same direction - U-turn in front of other vehicle
A-12.03	At least two vehicles - turning - same road - same direction - turning right (left)
A-12.04	At least two vehicles - turning - same road - same direction - turning left (right)
A-12.05	At least two vehicles - turning - same road - same direction - others
AA-12.51	At least two vehicles - turning - same road - same direction - not specified
A-12.06	At least two vehicles - same road - opposite direction - turning left (right) in front of other vehicle
A-12.07	At least two vehicles - same road - opposite direction - U-turn in front of other vehicle
A-12.08	At least two vehicles - same road - opposite direction - turning into same road

A-12.09 At least two vehicles - same road - opposite direction - turning into opposite roads
A-12.10 At least two vehicles - same road - opposite direction - turning right (left) in front of other vehicle
A-12.11 At least two vehicles - same road - opposite direction - turning others
AA-12.52 At least two vehicles - turning or crossing - same road - opposite direction - not specified

A-12.12 At least two vehicles - crossing (no turning) - different roads

A-12.13 At least two vehicles - different roads - turning right (left) in front of vehicle from the left (right)
A-12.14 At least two vehicles - different roads - turning right (left) - head on collision
A-12.15 At least two vehicles - different roads - both vehicles turning
A-12.16 At least two vehicles - different roads - turning left (right) into traffic from the right (left) side
A-12.17 At least two vehicles - different roads - turning left (right) into traffic from the left (right) side
A-12.18 At least two vehicles - different roads - turning into traffic - others

AA-12.53 At least two vehicles - turning - different roads - not specified

A-12.19 At least two vehicles - crossing or turning - others

A-12.99 At least two vehicles - crossing or turning – unknown details

Value definitions

A-12.00 Not applicable
The accident type cannot be described by this variable.

A-12.01 At least two vehicles - turning - same road - same direction - rear end collision
See Annex C for details

A-12.02 At least two vehicles - turning - same road - same direction - U-turn in front of other vehicle
See Annex C for details

A-12.03 At least two vehicles - turning - same road - same direction - turning right (left)
See Annex C for details

A-12.04 At least two vehicles - turning - same road - same direction - turning left (right)
See Annex C for details

A-12.05 At least two vehicles - turning - same road - same direction - others
Not in the list of the previous values. See Annex C for details

AA-12.51 At least two vehicles - turning - same road - same direction - not specified
See Annex C for details.

A-12.06 At least two vehicles - same road - opposite direction - turning left (right) in front of other vehicle
See Annex C for details

A-12.07 At least two vehicles - same road - opposite direction - U-turn in front of other vehicle
See Annex C for details

A-12.08 At least two vehicles - same road - opposite direction - turning into same road
See Annex C for details

A-12.09 At least two vehicles - same road - opposite direction - turning into opposite roads
See Annex C for details

A-12.10 At least two vehicles - same road - opposite direction - turning right (left) in front of other vehicle
See Annex C for details

A-12.11 At least two vehicles - same road - opposite direction - turning others
Not in the list of the previous values. See Annex C for details

AA-12.52 At least two vehicles - turning or crossing - same road - opposite direction - not specified
See Annex C for details.

A-12.12 At least two vehicles - crossing (no turning) - different roads
See Annex C for details.

A-12.13 At least two vehicles - different roads - turning right (left) in front of vehicle from the left (right)
See Annex C for details

A-12.14 At least two vehicles - different roads - turning right (left) - head on collision
See Annex C for details

A-12.15 At least two vehicles - different roads - both vehicles turning
See Annex C for details

A-12.16 At least two vehicles - different roads - turning left (right) into traffic from the right (left) side
See Annex C for details

A-12.17 At least two vehicles - different roads - turning left (right) into traffic from the left (right) side
See Annex C for details

A-12.18 At least two vehicles - different roads - turning into traffic - others
Not in the list of the previous values. See Annex C for details

AA-12.53 At least two vehicles - turning - different roads - not specified
See Annex C for details.

A-12.19 At least two vehicles - crossing or turning - others
See Annex C for details.

A-12.99 At least two vehicles - crossing or turning – unknown details
Accidents involving at least two vehicles and crossing or turning - unknown details.

Data format

A two digit number corresponding to one of the values is filled-in, indicating the type of the accident.

A-13 HIT&RUN ACCIDENT (H - Optional variable)

Remark : This variable is optional if U-16 Hit&Run variable is filled and hit&run vehicles identified as such. In this case A-13 will be automatically filled in during loading process thanks to U-16 values.

Variable definition and scope

Indicates whether at least one vehicle left the accident scene right after the accident without being recorded or if all vehicles were recorded by the police at the accident location. The variable is **not applying to pedestrians leaving the accident scene**.

Values

A-13.00 Not applicable
A-13.01 Not Hit & Run

A-13.02 Hit & Run
A-13.99 Unknown

Value definitions

A-13.00 Not applicable
The traffic unit is pedestrian.

A-13.01: Not Hit & Run
All vehicles that should have stopped at the scene of the accident did stop.

A-13.02: Hit & Run
At least one vehicle that should have stopped at the scene of the accident failed to stop and was not recorded by the police at the accident scene.

A-13.99: Unknown
It was not recorded whether one or all vehicles stopped at the accident location or left the scene before being recorded by the police.

Data format

A two digit number corresponding to one of the values (1 or 2) is filled for each accident.

PART 2: ROAD INFORMATION

Basic information concerning the road environment is provided through this section. Especially in cases of an accident occurring at a junction, a part of this basic information is collected for the two roads, whereas the remaining variables are filled-in only for the road with priority or with higher functional class (first road).

A1_ID	R1_LATITUDE	R2_LONGITUDE	R3_E-ROAD	R4_E-ROAD KILOMETER	R5_ROAD FUNCTIONAL CLASS-FIRST ROAD	R6_ROAD FUNCTIONAL CLASS-SECOND ROAD	R9_SPEED LIMIT-FIRST ROAD	R10_SPEED LIMIT-SECOND ROAD	R11_MOTORWAY	R12_URBAN_AREA	R13_ACCIDENT_AT JUNCTION	R14_REL_TO_JUNCTION_INTERCHANGE	R15_JUNCTION_CONTROL	R16_SURFACE_CONDITION	R17_OBSTACLE	R18_CARRIIAGEWAY_TYPE	R19_NUMBER OF LANE	R20_EMERGENCY_LANE	R21_ROAD_MARKINGS	R22_TUNNEL	R23_BRIDGE	R24_WORK_ZONE_RELATED	R25_ROAD_CURVE	R26_ROAD_SEGMENT_GRADE
XX2015000001	+0359233	+0144771	0000	0000	02	04	503	502	02	01	03	01	04	01	02	02	02	02	02	02	02	02	02	02
XX2015000002	+0358578	+0144356	0000	0000	03	00	502	000	02	01	00	00	00	01	02	01	01	02	01	02	02	02	02	02
XX2015000003	+0359337	+0144151	0000	0000	03	03	503	501	02	01	03	06	04	01	02	03	02	02	01	02	02	02	02	02
XX2015000004	+0358465	+0144805	0000	0000	03	00	503	000	02	01	00	00	00	01	02	02	02	02	02	02	01	02	02	02
XX2015000005	+0360398	+0142815	0000	0000	02	00	503	000	02	01	00	00	00	06	01	02	02	02	02	02	02	02	01	01
XX2015000006	+0359124	+0145067	0000	0000	03	03	502	501	02	01	03	01	04	01	02	02	02	02	02	02	02	02	02	02
XX2015000007	+0359149	+0144200	0000	0000	03	04	503	502	02	01	01	01	04	01	02	02	02	02	02	02	02	02	02	02
XX2015000008	+0360356	+0142337	0000	0000	03	00	503	000	02	01	00	00	00	01	02	02	02	02	02	02	02	02	02	02

A-1 ACCIDENT ID (H)

Variable definition and scope

The accident identification number is a number which will allow the accident record to be cross-referenced to road, traffic unit and person records. It consists of three distinct fields, the country code, the year and the accident number.

Values

A-1a Country code
A-1b Year
A-1c Accident number

Value definitions

A-1a Country code

A code consisting of two digits, indicating the specific country where the accident occurred (**country code** following the standard **ISO 3166-1 alpha-2)**.

A-1b Year
A code consisting of four digits, indicating the year of the accident.

A-1c Accident number
A unique six digit number for each accident in a specific year and country.

Data format

Three codes are filled-in. The first two digit code indicates the country code, the next four digit code indicates the year and the last six digit code indicates the number of the accident (e.g. **ES**2007**012976**) This format is indicatively proposed to allow unique identification of the accident.

R-1 ACCIDENT LOCATION - LATITUDE (H)

Variable definition and scope

This variable indicates the latitude of the exact geographical location of the road accident. The geographical coordinates (latitude and longitude) will allow for more accurate identification of the accident location.
WGS84 is the system of reference to use. However, another system may be also used after informing us of it.

Values

R-1	Latitude
R-1.9999999	Unknown

Value definitions

R-1 Latitude
The latitude of the exact accident location in decimal degrees (as given by a GPS or other appropriate device).

OR

The Y-coordinate according to the local coordinate reference system used to register the exact location of the accident.

R-1.9999999 Unknown
The latitude and the Y-coordinate of the exact accident location were unknown.

Data format

If system is WGS84, a seven digit number is filled in (+ or – sign followed by three digits and four decimals). For other systems, size of each coordinate can be maximum 20 digits.

R-2 ACCIDENT LOCATION - LONGITUDE (H)

Variable definition and scope

This variable indicates the longitude of the exact geographical location of the road accident. The geographical coordinates (latitude and longitude) will allow for more accurate identification of the accident location.
WGS84 is the system of reference to use. However, another system may be also used after informing us of it.

Values

R-2	Longitude
R-2.9999999	Unknown

Value definitions

R-2 **Longitude**
The longitude of the exact accident location in decimal degrees (as given by a GPS or other appropriate device).

OR

The X-coordinate according to the local coordinate reference system used to register the exact location of the accident.

R-2.9999999 **Unknown**
The longitude and the X-coordinate of the exact accident location were unknown.

Data format

If system is WGS84, a seven digit number is filled in (+ or – sign followed by three digits and four decimals). For other systems, size of each coordinate can be maximum 20 digits.

R-3 E-ROAD (L)

Variable definition and scope

This variable indicates whether the accident took place on the European road network (not including accidents on entrances or exits according to the "Accident at junction" definition). In some cases a road part can have more than one E-road number (the maximum throughout Europe is three). In this case all E-road numbers are recorded within a unique CADaS code. For accidents not occurring in E-roads, this variable is not applicable. (E-roads, see Annex D for details and the latest CADaS reference data file version: i.e. ***CADaS_Reference_File_v3_6_20170922.xls***).

Please note:
If an E-Road is not available in the list, a new CADaS code based on the highest code of the list incremented by 1 should be assigned to the new E-Road and both (E-Road + code) should be transmitted to DG-MOVE.

Values

R-3.0000	Not applicable
R-3	E-road code
R-3.9999	Unknown

Value definitions

R-3.0000: Not applicable
The accident did not occur within the European (E-road) network.

R-3: E-road code
The international "E" network consists of a system of reference roads. An explanatory note on the E-roads is presented in Annex D. Code to be used is available in the CADaS reference file (CADaS Code to enter is different than E-Road number!)

R-3.9999: Unknown
It is not known whether the accident occurred within the European (E-road) network.

Data format

Regarding the mapping of the values, a specific code for converting your R-3 road data has to be assigned by using the latest CADaS reference data file version: ***CADaS_Reference_File_v3_6_20170922.xls*** (this file is available in Infoview and is constantly updated when a new version is published, an e mail to inform about this will be sent)

As an example: E-Road with number E75 has to be converted to code 0056 or E-Roads with number E77 and E22 (Road intersection) to code 0247 always by using reference file (***CADaS_Reference_File_v3_6_20170922.xls***).

R-4 E-ROAD KILOMETRE (L)

Variable definition and scope

This variable indicates the exact kilometre of the accident location in the E-road as given by the respective country. This variable is ranked as of low importance, because at the present time some inconsistencies concerning the E-road coding can be observed. More specifically, some road segments can have two or three E-road codes resulting in inconsistencies on the collected data. Moreover, the definition of kilometre is still not unique and is mostly based on national rather than European numbering. Nevertheless, the variable is included in the CADaS in order to be used after the implementation of a future version of a consistent and complete E-road code and E-road kilometre directory. For accidents not occurring in E-roads this variable is not applicable. The measurement unit of the variable is the kilometre; hence, countries using non-metric systems should transform their data accordingly.

Values

R-4.0000	Not applicable
R-4	E-road kilometre
R-4.9999	Unknown

Value definitions

R-4.0000: Not applicable
The accident did not occur within the European (E-road) network.

R-4: E-road kilometre
The exact kilometre in the E-road where the accident occurred.

R-4.9999: Unknown
It is not known whether the accident occurred within the European (E-road) network.

Data format

A four digit number is filled in, indicating the kilometre of the accident location.

R-5 ROAD FUNCTIONAL CLASS - FIRST ROAD (H)

Variable definition and scope

This variable describes the functional class of the road where the accident occurred. For accidents occurring at junctions the road with priority is indicated as first road (priority defined by traffic signs, traffic lights, policemen or any other type of junction control).

Values

R-5.01	Principal arterial
R-5.02	Secondary arterial
R-5.03	Collector
R-5.04	Local
R-5.05	Other
R-5.99	Unknown

Value definitions

R-5.01: Principal arterial
Roads serving long distance and mainly interurban movements. Includes motorways (urban or rural) and expressways (road which does not serve properties bordering on it and which is provided with separate carriageways for the two directions of traffic). Principal arterials may cross through urban areas, serving suburban movements. The traffic is characterized by high speeds and full or partial access control (interchanges or junctions controlled by traffic lights). Other roads leading to a principal arterial are connected to it through side collector roads.

R-5.02: Secondary arterial
Arterial roads connected to principal arterials through interchanges or traffic light controlled junctions supporting and completing the urban arterial network. Serving middle distance movements but not crossing through neighborhoods. Full or partial access control is not mandatory.

R-5.03: Collector
Unlike arterials, collectors cross urban areas (neighborhoods) and collect or distribute the traffic from/to local roads. Collectors also distribute traffic leading to secondary or principal arterials.

R-5.04 Local
Roads used for direct access to the various land uses (private property, commercial areas etc.). Low service speeds not designed to serve interstate or suburban movements.

R-5.05 Other
Roads whose functional class is not included in the list of the previous values.

R-5.99 Unknown
The road functional class was unknown or not stated.

Data Format

A two digit number corresponding to one of the values is filled-in to indicate the road functional class.

R-6 ROAD FUNCTIONAL CLASS - SECOND ROAD (H)

Variable definition and scope

This variable describes the functional class of the second road at the location where the accident took place. This variable is applicable **only for accidents occurring at junctions**. The road without priority is indicated as second (priority defined by traffic signs, traffic lights, policemen or any other type of junction control).

Values

R-6.00 Not applicable
R-6.01 Principal arterial
R-6.02 Secondary arterial
R-6.03 Collector
R-6.04 Local
R-6.05 Other
R-6.99 Unknown

Value definitions

R-6.00: Not applicable
There was no secondary road at the location where the accident occurred.

R-6.01: Principal arterial
Roads serving long distance and mainly interurban movements. Includes motorways (urban or rural) and expressways (road which does not serve properties bordering on it and which is provided with separate carriageways for the two directions of traffic). Principal arterials may cross through urban areas, serving suburban movements. The traffic is characterized by

high speeds and full or partial access control (interchanges or junctions controlled by traffic lights). Other roads leading to a principal arterial are connected to it through side collector roads.

R-6.02: Secondary arterial
Arterial roads connected to principal arterials through interchanges or traffic light controlled junctions supporting and completing the urban arterial network. Serving middle distance movements but not crossing through neighborhoods. Full or partial access control is not mandatory.

R-6.03: Collector
Unlike arterials, collectors cross urban areas (neighborhoods) and collect or distribute the traffic from/to local roads. Collectors also distribute traffic leading to secondary or principal arterials.

R-6.04 Local
Roads used for direct access to the various land uses (private property, commercial areas etc.). Low service speeds not designed to serve interstate or suburban movements.

R-6.05 Other
Roads whose functional class does is not included in the list of the previous values.

R-6.99 Unknown
The road functional class was unknown or not stated.

Data format

A two digit number corresponding to one of the values is filled-in to indicate the road functional class.

R-9 SPEED LIMIT - FIRST ROAD (H)

Variable definition and scope

The exact legal speed limit at the first road at the location of the accident is recorded for the respective road. Alternative values are also provided for countries collecting speed limit in groups. The measurement unit of the variable is kilometer per hour; hence, countries using non-metric systems should transform their data accordingly.

Values

R-9	Speed limit
R-9.001	No speed limit
R-9.999	Unknown
RA-9.501	<30 km/h
RA-9.502	30-50 km/h
RA-9.503	51-80 km/h
RA-9.504	81-100 km/h
RA-9.505	101-120 km/h
RA-9.506	>120 km/h

Value definitions

R-9: Speed limit
The legal speed limit as provided by road signs or by the respective country's traffic laws for each road category.

R-9.001: No speed limit
No speed limit exists at the accident location.

R-9.999: Unknown
The speed limit at the first road at the accident location was unknown.

RA-9.501: <30 km/h
The speed limit group at the first road at the accident location is less than 30 km/h

RA-9.502: 30-50 km/h
The speed limit group at the first road at the accident location is between 30 and 50 km/h

RA-9.503: 51-80 km/h
The speed limit group at the first road at the accident location is between 51 and 80 km/h

RA-9.504: 81-100 km/h

The speed limit group at the first road at the accident location is between 81 and 100 km/h

RA-9.505: 101-120 km/h
The speed limit group at the first road at the accident location is between 101 and 120 km/h

RA-9.506: >120 km/h
The speed limit group at the first road at the accident location is more than 120 km/h

Data format

The speed limit, in kilometres per hour is filled-in, in a three digit number format or an alternative value indicating the speed limit group is selected, or the "Unknown" value is selected (999).

R-10 SPEED LIMIT - SECOND ROAD (H)

Variable definition and scope

The exact legal speed limit at the second road at the location of the accident is recorded for the respective road. Alternative values are also provided for countries collecting speed limit in groups. The measurement unit of the variable is the kilometer; hence, countries using non-metric systems should transform their data accordingly.

Values

R-10.000	Not applicable
R-10	Speed limit
R-10.001	No speed limit
R-10.999	Unknown
RA-10.501	<30 km/h
RA-10.502	30-50 km/h
RA-10.503	51-80 km/h
RA-10.504	81-100 km/h
RA-10.505	101-120 km/h
RA-10.506	>120 km/h

Value definitions

R-10.000: Not applicable
There was no second road at the location where the accident occurred.

R-10: **Speed limit**
The legal speed limit as provided by road signs or by the respective country's traffic laws for each road category.

R-10.001: **No speed limit**
No speed limit exists at the accident location.

R-10.999: **Unknown**
The speed limit at the second road at the accident location was unknown.

RA-10.501: **<30 km/h**
The speed limit group at the second road at the accident location is less than 30 km/h

RA-10.502: **30-50 km/h**
The speed limit group at the second road at the accident location is between 30 and 50 km/h

RA-10.503: **51-80 km/h**
The speed limit group at the second road at the accident location is between 51 and 80 km/h

RA-10.504: **81-100 km/h**
The speed limit group at the second road at the accident location is between 81 and 100 km/h

RA-10.505: **101-120 km/h**
The speed limit group at the second road at the accident location is between 101 and 120 km/h

RA-10.506: **>120 km/h**
The speed limit group at the second road at the accident location is more than 120 km/h

Data format

The speed limit, in kilometers per hour is filled-in, in a three digit format or an alternative value indicating the speed limit group is selected, or one of the "Unknown" or "Not applicable" values is selected (999 or 000 respectively).

R-11 MOTORWAY (H)

Variable definition and scope

The variable provides information on whether the accident occurred on a motorway. Important to assess the impact of motorway special road design characteristics on road safety and conduct comparative analyses between motorway and non-motorway road segments.

Values

R-11.01 Yes
R-11.02 No
R-11.99 Unknown

Value definitions

R-11.01: Yes
Public road with dual carriageways and at least two lanes each way. All entrances and exits are signposted and all interchanges are grade separated. Central barrier or median present throughout the road. No crossing is permitted, while stopping is permitted only in an emergency. Restricted access to motor vehicles, prohibited to pedestrians, animals, pedal cycles, mopeds, agricultural vehicles. The minimum speed is not lower than 50 km/h and the maximum speed is not higher than 130 km/h(Except Germany where there is no speed limit is defined). (CARE definition)

R-11.02: No
All other roads not described by the definition above.

R-11.99: Unknown
It was not specified whether the accident occurred on a motorway.

Data format

A two digit number corresponding to one of the values is filled-in (1 or 2 indicating "yes" or "no" respectively).

R-12 URBAN AREA (H)

Variable definition and scope

It is indicated whether the accident occurred inside or outside an urban area. The difference in the frequency, severity and the specific characteristics of road accidents occurring inside and outside urban areas can be analyzed.

Values

R-12.01 Inside
R-12.02 Outside
R-12.99 Unknown

Value definitions

R-12.01: Yes
Area inside urban boundary signs.

R-12.02: No
Area outside urban boundary signs.

R-12.99: Unknown
Unknown whether the accident occurred inside or outside an urban area.

Data format

A two digit number corresponding to one of the values is filled-in (01, 02 or 99) indicating "inside", "outside" or unknown respectively).

R-13 JUNCTION (H)

Variable definition and scope

If the accident occurred at a junction, this variable indicates whether the accident occurred at an at-grade junction or at an interchange and the type of junction / interchange (see Annexes A and B).

Values

R-13.00 Not at junction
R-13.01 At-grade - crossroad
R-13.02 At-grade - roundabout
R-13.03 At-grade - T or staggered junction
R-13.04 At-grade - multiple junction
R-13.05 Not at grade (interchange)

R-13.06 Other
R-13.07 At level crossing
R-13.99 Unknown
R-13.51 At a junction-Not specified

Value definitions

R-13.00: Not at junction
The accident has not occurred at a junction (or it has occurred at a distance greater than 20m from a junction).

R-13.01: Crossroad
Road intersection with four arms. Includes arm sections within 20m distance.

R-13.02 Roundabout
Circular road. Includes sections leading to it, within 20m distance.

R-13.03 T or staggered junction
Road intersection with three arms. Includes T, or staggered junction (a junction with an acute angle). Includes arm sections within 20m distance.

R-13.04 Multiple Junction
A junction with more than four arms (except roundabouts). Includes arm sections within 20m distance.

R-13.05 Interchange
Not all roads intersect at the same level.

R-13.06 Other
Other junction type not in the list of the previous values. Includes arm sections within 20m distance.

R-13.07 At level crossing
The accident occurred at level crossing(railway crossing)

R-13.99 Unknown
The accident occurred at a junction, although it was not stated whether it was an at-grade junction or an interchange.

R-13.51 At a junction-Not specified
The accident occurred at a junction-details not specified.

Data format
A two digit number corresponding to one of the values is filled-in.

R-14 RELATION TO JUNCTION / INTERCHANGE (L)

Variable definition and scope

Indicates the exact site of the junction / interchange where the accident occurred. Important for site-specific safety studies to identify actual or potential safety problem locations (see Annex A and B).

Values

R-14.00	Not applicable
R-14.01	Approaching (20m)
R-14.02	Acceleration / deceleration lanes
R-14.03	Through Roadway
R-14.04	Entrance / exit ramps
R-14.05	Crossover related
R-14.06	Intersection
R-14.99	Unknown

Value definitions

R-14.00: Not applicable
The accident has not occurred at a junction or interchange (occurred in a distance >20m).

R-14.01 Approaching (20m)
The approaching area of the junction within 20 meters distance.

R-14.02 Acceleration / deceleration lanes
The accident occurred on acceleration or deceleration lane.

R-14.03 Through roadway
Road segments between intersection areas when the distance separating these areas is more than 10 meters (see Annex A and B).

R-14.04 Entrance / exit ramps
The accident occurred on an entrance or exit ramp of the interchange. This value is not applicable for junctions at grade.

R-14.05 Crossover related
The area in the median of a divided roadway where vehicles are permitted to cross the opposing lanes or perform a u-turn.

R-14.06 Intersection
The common area of connection of two or more carriageways. When the distance between two intersection areas is less than 10 meters, it is also considered as an intersection area (see Annex A).

R-14.99 Unknown
The relation to the junction / interchange is not recorded.

Data format

A two digit number corresponding to one of the values is filled-in (e.g. 05).

R-15 JUNCTION CONTROL (L)

Variable definition and scope

Applied only to accidents occurring at junctions (as defined in "Junction" variable) to indicate the existence and the type of traffic control at the accident location. The variable is filled-in for the road in which the traffic unit with priority was moving.

Values

R-15.00	Not applicable
R-15.01	Authorized person
R-15.02	Give way signs or markings/stop signs
R-15.03	Automatic traffic signal
R-15.04	Uncontrolled
R-15.99	Unknown

Value definitions

R-15.00: Not applicable
The accident has not occurred at a junction

R-15.01: Authorized person
Police officer or traffic warden at intersection who is controlling the traffic. Includes cases when an authorized person is controlling the traffic even if traffic signals (traffic lights) or other junction control systems are present.

R-15.02: Give way signs or markings/stop sign
Priority is determined by give way sign(s) or markings or stop signs.

R-15.03: Automatic traffic signals
Priority is defined by automatic traffic signals (which are operational).

R-15.04: Uncontrolled
The junction is not controlled by an authorized person, signs, markings, automatic traffic signals (which may be present but

out of order) or other means. Includes any other case where traffic from the right has priority.

R-15.99: Unknown
Junction control at the accident location was unknown or not specified.

Data format
A two-digit number corresponding to each one of the values is filled-in.

R-16 SURFACE CONDITIONS (H)

Variable definition and scope

The effect of the prevailing atmospheric conditions on the road surface at the accident scene is indicated. Important to identify and correct high wet-surface crash locations and provide information for setting coefficient of pavement friction standards.

Values

R-16.01	Dry
R-16.02	Snow, frost, ice, slush
R-16.03	Slippery
R-16.04	Wet, damp
R-16.05	Flood
R-16.06	Other
R-16.99	Unknown

Value definitions

R-16.01: Dry
Dry and clean road surface.

R-16.02: Snow, frost, ice, slush
Snow, frost, ice or slush on the road.

R-16.03: Slippery
Slippery road surface due to existence of sand, gravel, mud, leaves, oil on the road. Does not include snow, frost, ice or wet road surface.

R-16.04 Wet, damp
Wet road surface. Does not include flood.

R-16.05 Flood
Still or moving water on the road.

R-16.06 Other
Other road surface conditions not included in the list of the previous values..

R-16.99 Unknown
Road surface conditions at the accident location were unknown.

Data format

A two digit number corresponding to one of the values is filled-in (e.g. 05).

R-17 OBSTACLES (L)

Variable definition and scope

The presence of obstacles **on** the carriageway is indicated. Includes any animal standing or moving (either hit or not) within the carriageway. Also includes any object not supposed to be on the road, which obstructed the movement of the traffic unit(s) involved (or traffic units that contributed) in the accident. Does not include pedestrians. Does not include obstacles on the side of the carriageway such as poles, trees etc.

Values

R-17.01 Yes
R-17.02 No
R-17.99 Unknown

Value definitions

R-17.01 Yes
Road obstacle(s) was (were) present at the accident site.

R-17.02 No
No road obstacle(s) was (were) present at the accident site.

R-17.99 Unknown
It was not stated whether any road obstacle(s) was (were) present at the accident site.

Data format

A two digit number corresponding to one of the values (01 or 02 or 99) is filled in.

R-18 CARRIAGEWAY TYPE (H)

Variable definition and scope

Indicates whether the accident occurred at one-way or two-way street, whether the road has two directions of travel and whether the carriageway is divided by a central reservation (single or dual carriageway). For accidents at junctions the variable is filled-in for the first road.

Values

R-18.01	Single carriageway - one way street
R-18.02	Single carriageway - two way street
R-18.03	Dual carriageway
R-18.04	**Single carriageway - not specified**
R-18.99	Unknown

Value definitions

R-18.01: One way street
The road traffic is carried out in one direction only, on a single, undivided carriageway.

R-18.02: Two way street
The road traffic is carried out in two directions, on a single, undivided carriageway.

R-18.03: Dual carriageway
The road traffic is carried out on a carriageway divided by a central reservation, separating the two directions of travel.

R-18.04 Single carriageway - not specified
The road traffic is carried out on a single carriageway, with no of direction not specified.

R-18.99 Unknown
It was not stated whether the carriageway of the road was single or dual.

Data format

A two digit number corresponding to one of the values is filled-in.

R-19 NUMBER OF LANES (H)

Variable definition and scope

The number of traffic lanes of the carriageway is recorded. For single carriageway, the total number of lanes in both directions of travel is recorded. In dual carriageway where the two directions of travel are separated, the number of lanes in the direction of travel in which the accident occurred is recorded. If the country does not distinguish between single and dual carriageways, the total number of lanes is provided by the alternative value. For accidents at junctions the variable is filled-in for the first road.

Values

R-19.[01 to nn]	Number of lanes (in one or two directions)
R-19.99	Unknown

RA-19 Total number of lanes

Value definitions

R-19:__ Number of lanes
In single carriageway the number of lanes in both directions of travel is recorded. In dual carriageway the number of lanes in the direction of travel in which the accident occurred is recorded.*(e.g. 02 for two lanes)*

R-19.99 Unknown
The number of lanes at the accident location was unknown or not stated.

RA-19 Total number of lanes
For countries recording the total number of lanes irrespectively whether the carriageway was single or dual.

Data format

The number of lanes is filled-in in a two digit format.

R-20 EMERGENCY LANE (L)

Variable definition and scope

To provide information concerning the presence (or not) of an emergency lane at the location of the accident. For accidents at junctions the variable is filled-in for the first road.

Values

R-20.01	Yes
R-20.02	No
R-20.99	Unknown

Value definitions

R-20.01: Yes
An extra lane available to the traffic for stopping in cases of emergency existed at the location of the accident.

R-20.02: No
An extra lane available to the traffic for stopping in cases of emergency did not exist at the location of the accident.

R-20.99 Unknown
The presence of an emergency lane at the accident location was unknown.

Data format

A two digit number corresponding to one of the values is filled-in.

R-21 MARKINGS (L)

Variable definition and scope

Indicates the presence (or absence) of markings painted on the road surface in order to guide vehicles, or denote the presence of road works at the accident location. For accidents at junctions the variable is filled-in for the first road.

Values

R-21.01	None or faded / deleted
R-21.02	Only separating travel directions
R-21.03	Separating travel directions and lanes
R-21.04	Only separating lanes
R-21.05	Other
R-21.99	Unknown

Value definitions

R-21.01: None or faded / deleted
No road markings were present on the accident scene or were faded / deleted.

R-21.02: Only separating travel directions
Lines separating the two directions of travel.

R-21.03: Separating travel directions and lanes
Lines separating the two directions of travel and the traffic lanes in the direction of travel.

R-21.04: Only separating lanes
Lines separating the traffic lanes in the direction of travel.

R-21.05: Other
Other road markings not included in the list of the previous values.

R-21.99: Unknown
Road marking presence is unknown (also in cases where the existent of markings is uncertain).

Data format

A two digit number corresponding to one of the values is filled-in**.**

R-22 TUNNEL (L)

Variable definition and scope

This variable indicates whether the accident took place inside a tunnel.

Values

R-22.01 Yes
R-22.02 No
R-22.99 Unknown

Value definitions

R-22.01: Yes
The road accident occurred inside a tunnel. Accidents on the entrances or exits of tunnels are included.

R-22.02: No
The road accident did not occur inside, or in an entrance or exit of a tunnel.

R-22.99: Unknown
It is unknown whether the accident occurred inside, or in an entrance or exit of a tunnel.

Data format

A two digit number corresponding to one of the values is filled-in.

R-23 BRIDGE (L)

Variable definition and scope

This variable indicates whether the accident took place on a bridge. It does not refer to accidents occurring under bridges or collisions with bridge supporting elements (i.e. collision with bridge pillars).

Values

R-23.01 Yes
R-23.02 No
R-23.99 Unknown

Value definitions

R-23.01:Yes
The road accident occurred on a bridge. Accidents on the entrances or exits of bridges are included.

R-23.02:No
The road accident did not occur on a bridge.

R-23.99:Unknown
It is unknown whether the accident occurred on a bridge.

Data format

A two digit number corresponding to one of the values is filled-in.

R-24 WORK ZONE RELATED (H)

Variable definition and scope

The presence of a work zone near the accident location is indicated. Construction or maintenance work zones are included. An accident is also considered to be related to a work zone when vehicles slowed down, stopped or changed their course outside the boundaries of the work zone, as a result of the presence of the work zone.

Values

R-24.01 Yes
R-24.02 No
R-24.99 Unknown

Value definitions

R-24.01:Yes
The road accident occurred near or inside a work zone. Accidents occurring outside the boundaries of the work zone are considered "near" when events that contributed to the road accident (vehicle slowing down, changing its course etc.) occurred as a result of the presence of the work zone.

R-24.02:No
No work zone was located near the accident location.

R-24.99:Unknown
The presence of a work zone near the accident location was not stated.

Data format

A two digit number corresponding to one of the values is filled-in.

R-25 ROAD CURVE (L)

Variable definition and scope

Indication whether the accident occurred inside a curve. Curve data is used in searching for and diagnosing dangerous locations. Important for determining relationship between horizontal alignment related crashes to guide future highway design, speed limits, and driver skill training (motorcycle curve entering speed, etc.). For accidents occurring at junctions, the eventual road curvature refers to the first road.

Values

R-25.01	Yes
R-25.02	No
R-25.99	Unknown

Value definitions

R-25.01: Yes
The accident occurred inside a road curve.

R-25.02: No
The accident has not occurred inside a road curve.

R-25.99: Unknown
It is not recorded whether the accident occurred inside a road curve.

Data format

A two digit number corresponding to one of the values is filled-in.

R-26 ROAD SEGMENT GRADE (L)

Variable definition and scope

Indication whether the accident occurred at a road section with high grade. For accidents at junctions the variable is filled-in for the first road.

Values

R-26.01	Yes
R-26.02	No
R-26.99	Unknown

Value definitions

R-26.01: Yes
The accident occurred at a road segment with grade higher or equal than 6%. This information can either be provided after linking the accident location with a national road database (only for countries able to perform this linkage) or after estimation by the policeman filling-in the national accident form.

R-26.02: No
The accident occured at a road segment with grade lower than 6%. This information can either be provided after linking the accident location with a national road database (only for countries able to perform this linkage) or after estimation by the policeman filling-in the national accident form.

R-26.99: Unknown
No data concerning road segment grade were collected.

Data format

A two digit number corresponding to one of the values is filled-in.

PART 3: TRAFFIC UNIT INFORMATION

The list of variables presented through this section is used to describe the traffic units (vehicles and pedestrians) involved in the road accident. Pedestrians are included in this section in a broader sense as **accident elements**. This set of variables is filled-in for each traffic unit separately.

A1_ID	U1_TRAFFIC UNIT ID	U2_TRAFFIC_UNIT_TYPE	U3_VEHICLE_SPECIAL_FUNCTION	U4_TRAILER	U5_ENGINE_POWER	U6_ACTIVE_SAFETY_EQUIPMENT	U7_VEHICLE_DRIVE	U8_MAKE	U9_MODEL	U10_REGISTRATION_YEAR	U11_TRAFFIC_UNIT_MANOEUVRE	U12_FIRST_POINT_OF_IMPACT	U13_FIRST_OBJECT_HIT_IN	U14_FIRST_OBJECT_HIT_OFF	U15_INSURANCE	U16_HIT_AND_RUN	U17_REGISTRATION_COUNTRY
XX2015000001	01	05	01	01	999	99	02	PEUGEOT	207 XSPR1.6HDI	2006	99	51	99	99	01	01	501
XX2015000001	02	18	00	00	000	00	00	000	000	0000	99	51	00	00	00	00	000
XX2015000002	01	10	01	01	999	99	02	MITSUBISHI	SHOGUN	2009	99	51	99	99	01	01	501
XX2015000002	02	18	00	00	000	00	00	000	000	0000	99	51	00	00	00	00	000
XX2015000003	01	06	01	01	999	99	02	FORD	TRANSIT	2015	99	51	99	99	01	01	501
XX2015000003	02	18	00	00	000	00	00	000	000	0000	99	51	00	00	00	00	000
XX2015000004	01	05	01	01	999	99	02	SUBARU	VIVIO	1998	99	51	99	99	01	01	501
XX2015000004	02	10	01	01	999	99	02	TOYOTA	HIACE	2004	99	51	99	99	01	01	501

A-1 ACCIDENT ID (H)

Variable definition and scope

The accident identification number is a number which will allow the accident record to be cross-referenced to road, traffic unit and person records. It consists of three distinct fields, the country code, the year and the accident number.

Values

A-1a Country code
A-1b Year
A-1c Accident number

Value definitions

A-1a Country code
A code consisting of two digits, indicating the specific country where the accident occurred (**country code** following the standard **ISO 3166-1 alpha-2)**.

A-1b Year
A code consisting of four digits, indicating the year of the accident.

A-1c Accident number
A unique six digit number for each accident in a specific year and country.

Data format

Three codes are filled-in. The first two digit code indicates the country code, the next four digit code indicates the year and the last six digit code indicates the number of the accident (e.g. **ES**2007**012976**).This format is indicatively proposed to allow unique identification of the accident.

U-1 TRAFFIC UNIT ID (H)

Variable definition and scope

The traffic unit identification number will allow the traffic unit record to be cross-referenced to accident and person records. Together with the Accident ID and Person ID, a unique linkage will be established. Vehicles and pedestrians are regarded as traffic units. The units are numbered according to the national registration. If a country links pedestrians to vehicles the pedestrian is just given the next number in the row when entered into the traffic unit information.

Values

U-1 Traffic Unit ID

Value definitions

U-1: Traffic Unit ID
A two-digit number indicating the number of the traffic unit involved in the specific road accident.

Data format

A two digit number (01-99) is filled-in.

U-2 TRAFFIC UNIT TYPE (H)

Variable definition and scope

Indicates the type of traffic unit involved in the accident. Important to assess the variations in road accident risk for the various traffic unit types.

Values

U-2.01 Pedal cycle
U-2.02 Moped
U-2.03 Motorcycle up to 125cc
U-2.04 Motorcycle over 125cc
U-2.05 Passenger car
U-2.06 Minibus
U-2.07 Bus
U-2.08 Coach
U-2.09 Trolley

U-2.10 Goods vehicle under 3.5t mgw
U-2.11 Goods vehicle over 3.5t mgw
U-2.12 Road tractor
U-2.13 Agricultural tractor
U-2.14 Tram/light rail
U-2.15 Ridden animal
U-2.16 Other motor vehicle
U-2.17 Other non-motor vehicle
U-2.18 Pedestrian
U-2.19 quad up to 50cc
U-2.20 quad over 50cc
U-2.99 Unknown

UA-2.51 Two wheel motor vehicle
UA-2.52 Bus or minibus or coach or trolley
UA-2.53 Goods vehicle
(UA-2.54 Motorcycle not specified) => used for migration purposes

Value definitions

U-2.01: Pedal cycle
Vehicle with at least 2 wheels, without engine. In some cases it can also use electric power.

U-2.02: Moped
Two or three wheeled vehicle equipped with internal combustion engine, with size less than 50 cc and maximum speed that does not exceed 45 km/h (28mph).

U-2.03: Motorcycle up to 125cc

Two or three wheeled motor vehicle, with engine size up to 125 cc, or maximum speed exceeding 45km/h (28 mph).

U-2.04: Motorcycle over 125cc
Two or three wheeled motor vehicle, with engine size more than 125 cc.

U-2.05: Passenger car
Motor vehicle with 3 or 4 wheels, mainly used to transport people, seating for no more than 8 occupants. Motor vehicles with these characteristics used as taxis as well as motor caravans are also included.

U-2.06: Minibus
Passenger-carrying vehicle, having between 9 and 16 seats for passengers. Motor vehicles with these characteristics used as taxis are also included.

U-2.07: Bus
Passenger-carrying vehicle, most commonly used for public transport, having more than 16 seats for passengers.

U-2.08: Coach
Passenger-carrying vehicle, having more than 16 seats for passengers. Most commonly used for interurban movements and touristic trips. To differentiate from other types of bus, a coach has a luggage hold separate from the passenger cabin.

U-2.09: Trolley
Passenger-carrying vehicle, most commonly used for public transport, having more than 16 seats for passengers and powered by a permanent electric installation.

U-2.10: Goods vehicle under 3.5t mgw
Smaller motor vehicle used only for the transport of goods.

U-2.11: Goods vehicle over 3.5t mgw
Larger motor vehicle used only for the transport of goods.

U-2.12: Road tractor
Road motor vehicle designed, exclusively or primarily, to haul other road vehicles which are not power-driven (mainly semi-trailers).

.

U-2.13: Agricultural tractor
Motor vehicle for agricultural use.

U-2.14: Tram/light rail
Tram or light rail vehicle.

U-2.15: Ridden animal
Animal with human rider.

U-2.16: Other motor vehicle
Other vehicle with engine not included in the list of the previous values.

U-2.17: Other non-motor vehicle
Other vehicle without engine not included in the list of the previous values.

U-2.18: Pedestrian
Person on foot; person pushing or holding bicycle, Person who uses a wheel chair ,a pram or a pushchair, leading or herding an animal, riding a toy cycle on the footway, person on roller skates, skateboard or skis.
Does not include persons in the act of boarding or alighting from a vehicle.

U-2.19: quad up to 50cc
Four wheeled motor vehicle, with engine size up to 50 cc.

U-2.20: quad over 50cc
Four wheeled motor vehicle, with engine size more than 50 cc.

U-2.99: Unknown
The type of the vehicle was unknown or not recorded.

UA-2.51: Two wheel motor vehicle
Motor vehicle moving on two wheels. Includes mopeds and motorcycles but not bicycles.

UA-2.52: Bus or minibus or coach or trolley
Passenger-carrying vehicle, having more than 9 seats for passengers most frequently used for public transport.

UA-2.53: Goods vehicle
Motor vehicles used only for the transport of goods (irrespectively from vehicle weight). May include Goods vehicles when weight is not specified. May Includes road tractors and road tractors with semi-trailers (if U-2.12 is not used).

Data format

A two digit number corresponding to one of the values is filled-in.

U-3 VEHICLE SPECIAL FUNCTION (L)

Variable definition and scope

The type of special function being served by the vehicle regardless of whether the function is marked on the vehicle. Important to evaluate the outcome of vehicles used for special uses that are involved in accidents. The variable is **not applicable if the traffic unit is a pedestrian**.

Values

U-3.00 Not applicable
U-3.01 No special function
U-3.02 Taxi
U-3.03 SUV/Off-road vehicle
U-3.04 Vehicle used as school bus
U-3.05 Vehicle used as scheduled bus
U-3.06 Military
U-3.07 Police
U-3.08 Ambulance
U-3.09 Fire-truck
U-3.10 Dangerous goods vehicle
U-3.99 Unknown

UA-3.52 Special vehicle

Value definitions

U-3.00: Not applicable
The traffic unit is a pedestrian.

U-3.01: No special function
No special function of the vehicle.

U-3.02: Taxi
Motor vehicle with 4 wheels for public use in the transport of people.

U-3.03: SUV/Off-road vehicle
A motor vehicle other than a motorcycle or bus consisting primarily of a transport device designed for carrying ten or fewer persons, and generally considered a multi-purpose vehicle that is designed to have off-road capabilities. These vehicles are generally four-wheel-drive (4x4) and have increased ground clearance.

U-3.04: Vehicle used as school bus

Motor vehicle with 4 wheels used for the transport of pupils/students.

U-3.05: Vehicle used as scheduled bus
Motor vehicle with 4 wheels used for the transport of persons (includes public transport buses, tourist coaches etc).

U-3.06: Military
Motor vehicle used for military purposes.

U-3.07: Police
Motor vehicle used for police purposes.

U-3.08: Ambulance
Motor vehicle used for medical purposes.

U-3.09: Fire-truck
Motor vehicle used for fire brigade purposes.

U-3.10: Dangerous goods vehicle
Motor vehicle used for carrying dangerous goods (e.g. lorries carrying explosive materials or flammable liquids).

U-3.99: Unknown
It was not possible to record a special function.

UA-3.52: Special vehicle
Road motor vehicle designed for purposes other than the carriage of passengers or goods. This category includes e.g. fire brigade vehicles, ambulances, police vehicles, mobile cranes, self-propelled rollers, bulldozers with metallic wheels or track, vehicles for recording film, radio and TV programmes, mobile library vehicles, towing vehicles for vehicles in need of repair, and other road vehicles not specified elsewhere.

Data format

A two digit number corresponding to one of the values is filled-in (e.g. 01). The alternative values (if any is selected) should also be filled in a two digit format.

U-4 TRAILER (H)

Variable definition and scope

Indicates whether the vehicle was towing a trailer or semi-trailer when involved in the accident. The variable is **not applicable if the traffic unit is a pedestrian**.

Values

U-4.00 Not applicable
U-4.01 Without trailer
U-4.02 With trailer
U-4.99 Unknown

Value definitions

U-4.00: Not applicable
The traffic unit is a pedestrian.

U-4.01: Without trailer
Vehicle with no trailer or semi-trailer.

U-4.02: With trailer
Vehicle with trailer or semi-trailer.

U-4.99: Unknown
It was unknown or not recorded whether the vehicle was towing a trailer or a semi-trailer.

Data format

A two digit number corresponding to one of the values is filled-in, indicating whether a trailer was connected to the vehicle.

U-5 ENGINE POWER (L)

Variable definition and scope

The power of the vehicle's engine is recorded in kW. If any other measurement unit is used the appropriate transformation should be made. Important to identify the impact of the motor vehicle power to the accident risk. The variable is **not applicable if the traffic unit is a pedestrian or a non-motorised vehicle**.

Values

U-5.000 Not applicable
U-5 Engine power
U-5.999 Unknown

Value definitions

U-5.000: Not applicable
The vehicle is not powered by an engine (pedal cycles, animals) or the traffic unit is a pedestrian.

U-5: Engine power
The power of the vehicle's engine in kW.

U-5.999: Unknown
The power of the vehicle's engine was unknown or not recorded.

Data format

A three digit number corresponding to one of the values is filled-in, indicating the engine power.

U-6 ACTIVE SAFETY EQUIPMENT (L)

Variable definition and scope

Indicates whether the vehicle was equipped with active safety features such as ABS, ESP, etc.). Important to identify the existence of active safety equipment for evaluation and analysis purposes (See Annex E for the detailed active safety equipment list). The variable is **not applicable if the traffic unit is a pedestrian**.

Values

U-6.00	Not applicable
U-6	Active safety equipment
U-6.98	Other
U-6.99	Unknown

Value definitions

U-6.00: Not applicable
The vehicle could not have any active safety equipment or the traffic unit is a pedestrian.

U-6: Active safety equipment
The vehicle was equipped with at least one active safety feature.

U-6.98 Other
Other active safety equipment not included in the list of the previous values.

U-6.99: Unknown
Existence of active safety equipment was not recorded.

Data format

A two digit number is chosen from the respective list for each active safety feature. Multiple values can be chosen. It's important to put the two digit numbers in ascending order (e.g. 010609, 0298, 040512).

U-7 VEHICLE DRIVE (L)

Variable definition and scope

The position of the steering wheel in the vehicle, from the drivers' perspective. The variable is **not applicable if the traffic unit is a pedestrian**.

Values

U-7.00	Not applicable
U-7.01	Left hand drive
U-7.02	Right hand drive
U-7.99	Unknown

Value definitions

U-7.00: Not applicable
Variable not applicable for two wheel vehicles, ridden animals and tram/light rail and for pedestrians.

U-7.01: Left hand drive
The steering wheel is on the left side of the vehicle.

U-7.02: Right hand drive
The steering wheel is on the right side of the vehicle.

U-7.99: Unknown
The location of the steering wheel was not recorded.

Data format

A two digit number corresponding to one of the values is filled-in, indicating whether the vehicle drive was left or right hand.

U-8 MAKE (L)

Variable definition and scope

The make of the motor vehicle is indicated, so that accident analyses related to the various motor vehicle makes can be made. For non-motor vehicles (pedal cycles, animal powered vehicles etc.) and for pedestrians this variable is not applicable. .
More details are available in the last version of ***CADaS_Reference_File_v3_6_20170922.xls*** (REF_TRAFFIC_UNIT sheet).

Values

U-8.000 Not applicable
U-8 Motor vehicle make
U-8.999 Other / Unknown

Value definitions

U-8.000 Not applicable
The vehicle was non-motorised (pedal cycles, animal powered vehicles etc.) or the traffic unit is a pedestrian.

U-8: Motor vehicle make
The make of the motor vehicle. Refer to . CADAS reference data file ***CADaS_Reference_File_v3_6_20170922.xls*** (ref TRAFFIC_UNIT sheet)) for the list of motor vehicle makes and the respective codes.

U-8.999: Other / Unknown
The make of the motor vehicle could not be specified or was not recorded.

Data format

A three digit number corresponding to one of the values is filled-in to indicate each motor vehicle's make respectively.

U-9 MODEL (L)

Variable definition and scope

The model of the motor vehicle is indicated, so that accident analyses related to the various motor vehicle models can be made. The variable is **not applicable if the traffic unit is a pedestrian**.

Values

U-9.00	Not applicable
U-9	Motor vehicle model
U-9.99	Unknown

Value definitions

U-9.00 Not applicable
The vehicle was non-motorised (pedal cycles, animal powered vehicles, etc.) or the traffic unit is a pedestrian.

U-9: Motor vehicle model
The name of the model is provided, as referred to the country in which the accident occurred.

U-9.99: Unknown
The model of the motor vehicle could not be specified or was unknown.

Data format

The model of the motor vehicle is provided in text format. A list of models for each vehicle make (in order to provide a code instead of text) is too long and difficult to be complete. Such a complete list though could be considered in a future version of CADaS.

U-10 REGISTRATION YEAR (H)

Variable definition and scope

The year when the motor vehicle was first registered, so that accident analyses relating to motor vehicle age can be made. The variable is **not applicable if the traffic unit is a pedestrian or a pedal cycle**.

Values

U-10.0000	Not applicable
U-10	Registration year
U-10.9999	Unknown

Value definitions

U-10.0000 Not applicable
No registration year is supposed to be recorded for specific vehicles (e.g. pedal cycles, animal powered vehicles) or if the traffic unit is a pedestrian.

U-10: Registration year
The year of the first registration of the vehicle. Estimate if necessary.

U-10.9999: Unknown
The year of the first registration of the vehicle was unknown or not recorded.

Data format

A four digit number is filled-in, indicating the year of the vehicle registration.

U-11 TRAFFIC UNIT MANOEUVRE (H)

Variable definition and scope

To be filled for each traffic unit, indicating the respective manoeuvre prior to the accident. If the vehicle was still, the variable is not applicable

Values

Vehicle manoeuvres

U-11.00 Not applicable
U-11.01 Reversing
U-11.02 Parked
U-11.03 Entering a parking position
U-11.04 Leaving a parking position
U-11.05 Waiting to go ahead but held up
U-11.06 Slowing or stopping
U-11.07 Moving off
U-11.08 U turn
U-11.09 Waiting to turn left
U-11.10 Turning left
U-11.11 Waiting to turn right
U-11.12 Turning right
U-11.13 Changing lane to left
U-11.14 Changing lane to right
U-11.15 Avoidance manoeuvre
U-11.16 Overtaking vehicle on its left
U-11.17 Overtaking vehicle on its right
U-11.18 Going round left hand bend
U-11.19 Going round right hand bend
U-11.20 Straight forward/normal driving

UA-11.51 Entering or leaving a parking position
UA-11.52 Waiting to turn
UA-11.53 Turning
UA-11.54 Changing lane
UA-11.55 Overtaking

Pedestrian manoeuvres

U-11.21 Crossing (on pedestrian crossing)
U-11.22 Crossing (on other point)
U-11.23 Walking on the carriageway, facing traffic
U-11.24 Walking on the carriageway, back to traffic
U-11.25 Standing or playing on the carriageway
U-11.26 Not on the carriageway (on sidewalk, pedestrian road, etc.)
U-11.27 Lying on the carriageway
U-11.28 Entering or getting out of a vehicle

UA-11.56 Crossing

UA-11.57 Walking or standing on the carriageway

U-11.98 Other
U-11.99 Unknown

Value definitions

U-11.00: Not applicable
The vehicle not moving - no manoeuvre was executed. Includes cases where the vehicle is waiting at traffic light, a vehicle is stopped at STOP sign etc.

U-11.01: Reversing
The vehicle was reversing.

U-11.02: Parked
Vehicle was parked and stationary.

U-11.03: Entering a parking position
The vehicle was entering a parking position

U-11.04: Leaving a parking position
The vehicle was leaving a parking position

U-11.05: Waiting to go ahead but held up
The vehicle was waiting to go ahead but held up

U-11.06: Slowing or stopping
The vehicle was slowing or stopping

U-11.07: Moving off
The vehicle was still and started moving. Does not include vehicle leaving or entering a parking position.

U-11.08: U-turn
The vehicle was performing a U-turn

U-11.09: Waiting to turn left
The vehicle was stationary, waiting to turn left

U-11.10: Turning left
The vehicle was turning left

U-11.11: Waiting to turn right
The vehicle was stationary, waiting to turn right

U-11.12: Turning right
The vehicle was turning right.

U-11.13: Changing lane to left
The vehicle was changing lane to left

U-11.14: Changing lane to right
The vehicle was changing lane to right

U-11.15: Avoidance manoeuvre
The vehicle changed its course in order to avoid an object on the carriageway (including other vehicle or pedestrian)

U-11.16: Overtaking vehicle on its left
The vehicle was overtaking another vehicle on its left.

U-11.17: Overtaking vehicle on its right
The vehicle was overtaking another vehicle on its right.

U-11.18: Going round left hand bend
The vehicle was going round a left hand bend

U-11.19: Going round right hand bend
The vehicle was going round a right hand bend

U-11.20: Going ahead not at bend
The vehicle was going ahead away from any bend.

UA-11.51: Entering or leaving a parking position
The vehicle was entering or leaving a parking position

UA-11.52: Waiting to turn
The vehicle was stationary, waiting to turn

UA-11.53: Turning
The vehicle was turning

UA-11.54: Changing lane
The vehicle was changing lane

UA-11.55: Overtaking vehicle
The vehicle was overtaking another vehicle.

U-11.21 Crossing (on pedestrian crossing)
The pedestrian was crossing the road from a pedestrian crossing. Includes crossing masked and crossing not masked.

U-11.22 Crossing (on other point)
The pedestrian was crossing the road, but not from a pedestrian crossing. Includes crossing masked and crossing not masked.

U-11.23 Walking on the carriageway, facing traffic
The pedestrian was walking in the side of the road, where the vehicles are going in the opposite direction

U-11.24 Walking on the carriageway, back to traffic
The pedestrian was walking in the side of the road, where the vehicles are going in the same direction

U-11.25 Standing or playing on the carriageway
The pedestrian was either standing or playing on the carriageway

U-11.26 Not on the carriageway
The pedestrian was standing or moving on the sidewalk, pedestrian road.

U-11.27 Lying on the carriageway
The pedestrian was lying down on the carriageway.

U-11.28 Entering or getting out of a vehicle
The pedestrian was entering or was getting out of a vehicle.

UA-11.56 Crossing
The pedestrian was crossing the carriageway.

UA-11.57 Walking or standing on the carriageway
The pedestrian was walking on the carriageway (irrespectively to the traffic direction), or the pedestrian was either standing, or playing on the carriageway.

U-11.98: Other
The vehicle (or pedestrian) was performing a manoeuvre not included in the list of the previous values.

U-11.99 Unknown
The pedestrian movement or vehicle movement was unknown or not recorded.

Data format

A two digit number corresponding to one of the values is filled-in, indicating the respective vehicle manoeuvre.

U-12 FIRST POINT OF IMPACT (L)

Variable definition and scope

The first point of impact on the vehicle during the accident is filled-in. In case of pedestrians, front, right side, rear and left side are only applicable.

Values

U-12.01 No impact
U-12.02 Left front
U-12.03 Centre front
U-12.04 Right front

U-12.05 Right side
U-12.06 Right rear
U-12.07 Centre rear
U-12.08 Left rear
U-12.09 Left side
U-12.99 Unknown

UA-12.51 Front - not specified
UA-12.52 Rear - not specified

Value definitions

U-12.01 No impact
No impact between vehicles or between vehicle and object took place during the accident.

U-12.02: Left front
The first contact point with the first opponent is on the left front.

U-12.03: Centre front
The first contact point with the first opponent is on the centre front.

U-12.04: Right front
The first contact point with the first opponent is on the right front.

U-12.05: Right side
The first contact point with the first opponent is on the right side.

U-12.06: Right rear
The first contact point with the first opponent is on the right rear.

U-12.07: Centre rear
The first contact point with the first opponent is on the centre rear.

U-12.08: Left rear
The first contact point with the first opponent is on the left rear.

U-12.09: Left side
The first contact point with the first opponent is on the left side.

U-12.99: Unknown
The first point of impact of the vehicle was not recorded or it was unknown.

UA-12.51: Front - not specified

The first contact point with the first opponent is on the front side of the car.

UA-12.52: Rear - not specified
The first contact point with the first opponent is on the rear side of the car.

Data format

A two digit number corresponding to one of the values is filled in for each point of impact respectively.

U-13 FIRST OBJECT HIT IN CARRIAGEWAY (L)

Variable definition and scope

Indicates whether the vehicle hit any object in the carriageway during the accident, and if so what was the first object hit. Another traffic unit of the accident (moving vehicles or pedestrians) is not considered as an object. The variable is **not applicable if the traffic unit is a pedestrian**.

Values

U-13.00 Not applicable
U-13.01 None
U-13.02 Object from previous accident
U-13.03 Parked vehicle
U-13.04 Bridge
U-13.05 Bollard/refuge
U-13.06 Central island of roundabout
U-13.07 Kerb
U-13.08 Animal (except ridden animal)
U-13.09 Other object
U-13.10 Train

U-13.99 Unknown

Value definitions

U-13.00 Not applicable
The traffic unit is a pedestrian.

U-13.01: None
Vehicle did not hit an object in the carriageway (includes single vehicle accidents and collisions between moving vehicles, without hitting any other object)

U-13.02: Previous accident

Vehicle hit an object left in the carriageway following a previous accident.

U-13.03: Parked vehicle
Vehicle hit a parked vehicle.

U-13.04: Bridge
Vehicle hit a bridge (including bridge's supporting elements)

U-13.05: Bollard/refuge
Vehicle hit a bollard or refuge

U-13.06: Central island of roundabout
Vehicle hit the central island of a roundabout

U-13.07: Kerb
Vehicle hit a kerb

U-13.08: Animal (except ridden animal)
Vehicle hit an animal (except a ridden animal, which would be coded as a vehicle)

U-13.09: Other object
Vehicle hit another object not included in the list of the previous values.

U-13.10: Train
Vehicle hit a train crossing the road. Because train is not considered as a traffic unit in care it's an object.

U-13.99: Unknown
It was unknown whether the vehicle hit any object in the carriageway.

Data format

A two digit number corresponding to one of the values is filled-in to indicate the first object hit in carriageway.

U-14 FIRST OBJECT HIT OFF CARRIAGEWAY (L)

Variable definition and scope

Indicates whether the vehicle left the carriageway and hit any object, and if so what was the first object hit. Another traffic unit of the accident (moving vehicles or pedestrians) is not considered as an object. The variable is **not applicable if the traffic unit is a pedestrian**.

Values

U-14.00 Not applicable
U-14.01 None
U-14.02 Road sign/traffic signal
U-14.03 Lamp post
U-14.04 Pole
U-14.05 Tree
U-14.06 Bus stop/shelter
U-14.07 Central crash barrier
U-14.08 Crash barrier beside carriageway
U-14.09 Ditch
U-14.10 Parked vehicle
U-14.11 Stone/rock/mountain side
U-14.12 Fence
U-14.13 Submerged in water
U-14.14 Other permanent object
U-14.99 Unknown

Value definitions

U-14.00 Not applicable
The traffic unit is a pedestrian.

U-14.01: None
Vehicle hit no object off the carriageway (includes single vehicle accidents and collisions between moving vehicles, without hitting any other object)

U-14.02: Road sign/traffic signal
Vehicle hit a road sign or traffic signal after leaving the carriageway

U-14.03: Lamp post
Vehicle hit a lamp post after leaving the carriageway

U-14.04: Pole
Vehicle hit a pole (e.g. telegraph or electricity pole) after leaving the carriageway

U-14.05: Tree
Vehicle hit a tree after leaving the carriageway

U-14.06: Bus stop/shelter
Vehicle hit a bus stop or shelter after leaving the carriageway

U-14.07: Central crash barrier
Vehicle hit a central crash barrier after leaving the carriageway

U-14.08: Crash barrier beside carriageway
Vehicle hit a crash barrier beside the carriageway after leaving the carriageway, **can also include crash barrier with position is not specified.**

U-14.09: Ditch
Vehicle entered a ditch after leaving the carriageway

U-14.10: Parked vehicle
Vehicle hit another parked vehicle on or off the carriageway.

U-14.11 Stone/rock/mountain side
Vehicle hit a stone or a rock or a mountain side/wall.

U-14.12 Fence
Vehicle hit a fence beside the carriageway.

U-14.13: Submerged in water
Vehicle was completely or partially submerged in water after leaving the carriageway

U-14.14: Other permanent object
Vehicle hit another type of permanent object after leaving the carriageway not included in the list of the previous values.

U-14.99 Unknown
It was unknown whether the vehicle hit any object off the carriageway.

Data format

A two digit number corresponding to one of the values is filled-in to indicate the first object hit off carriageway.

U-15 VEHICLE INSURANCE FOR DRIVER/RIDER (L)

Variable definition and scope

Indicates whether the driver/rider was insured to drive the specific type of vehicle. The variable is **not applicable if the traffic unit is a pedestrian**.

Values

U-15.00 Not applicable
U-15.01 Insured for vehicle
U-15.02 Not insured for vehicle
U-15.99 Unknown

Value definitions

U-15.00: Not applicable
Driver/rider insurance was not necessary for the vehicle or the traffic unit is a pedestrian.

U-15.01: Insured for vehicle
Driver/rider had insurance that was appropriate for the vehicle type.

U-15.02: Not insured for vehicle
Driver/rider did not have insurance that was appropriate for the vehicle type.

U-15.99: Unknown
Not known whether driver/rider had insurance appropriate for vehicle type.

Data format

A two digit number corresponding to one of the values is filled-in to indicate vehicle insurance for the driver/rider.

U-16 HIT & RUN (H)

Variable definition and scope

Indicates whether the vehicle was recorded by the police at the accident location or left the accident scene right after the accident. The variable is **not applicable if the traffic unit is a pedestrian**.

Values

U-16.00	Not applicable
U-16.01	Not Hit & Run
U-16.02	Hit & Run
U-16.99	Unknown

Value definitions

U-16.00 Not applicable
The traffic unit is pedestrian.

U-16.01: Not Hit & Run
Vehicle that should have stopped at the scene of the accident did stop.

U-16.02: Hit & Run
Vehicle that should have stopped at the scene of the accident failed to stop and was not recorded by the police at the accident scene.

U-16.99: Unknown
It was not recorded whether the vehicle stopped at the accident location or left the scene before being recorded by the police.

Data format

A two digit number corresponding to one of the values (1 or 2) is filled for each vehicle.

Please note that if variable **A-13 HIT&RUN ACCIDENT (H)** is not provided, values of variable **U-16 HIT & RUN (H)** will be used by the loading process to fill it (see remarks for variable A-13).
A-13 should be used if you have information on hit&run accident but no information on the hit&run vehicle itself.

U-17 REGISTRATION COUNTRY(H)

Variable definition and scope

The country in which the vehicle involved in the accident is registered at the time of the accident (See the CADaS reference data file (***CADaS_Reference_File_v3_6_20170922.xls*** (REF_TRAFFIC_UNIT sheet)) for details). The variable is **not applicable if the traffic unit is a pedestrian or a pedal cycle**.

Values

U -17.000	Not applicable
U -17	Country code
UA -17.501	National
UA -17.502	Foreign

Value definitions

U-17.000: Not applicable
The traffic unit is pedestrian or a pedal cycle.

U-17: Country code
The country of registration of the vehicle is indicated by a code in accordance to ISO 3166-1.

UA-17.501: National

The vehicle involved is registered in the same country where the accident takes place.

UA-17.502: Foreign

The vehicle involved is registered in a different country than the country where the accident takes place.

Data format

A three digit number corresponding to the country code is filled-in to indicate vehicle registration country. If the country of registration is not collected in disaggregate form the alternative values can be used to indicate whether the vehicle was national or foreign (501 and 502 are not used in the ISO 3166-1 by any country). If the country does not collect this information at all, 999 is filled in.

PART 4: PERSON INFORMATION

The list of variables presented through this section is used to describe the road users involved in the road accident. This set of variables is provided for each person separately. The following variables and values can be recorded both for injured and not injured participants of the accident. However, for all drivers involved in an accident, person information should be recorded and transmitted independently if they are injured or not. For passengers and pedestrians involved in an accident, person information should be recorded and transmitted when they are injured. For not injured passengers/pedestrians involved in an accident, if one country is already collecting person related data it will be able to provide them to the EC using the CADaS protocol, maximizing thus the potential for person orientated road safety analyses.

A1_ID	U1_VEHICLE IDENTIFICATION (NO. OF VEHCILE IN ACCIDENT)	P1_PERSON_ID	P2_DATE_OF_BIRTH	P3_GENDER	P4_NATIONALITY	P5_INJURY_TYPE	P6_ROAD_USER_TYPE	P7_ALCOHOL_TEST	P8_ALCOTEST_SMPLE_TYPE	P9_ALCOTEST_RESULT	P10_ALCOHOL_LEVEL	P11_DRUG_TEST	P12_DRIVING_LICENSE_ISSUE_DATE	P13_DRIVING_LICENCE_VALIDITY	P14_SAFETY EQUIPMENT	P15_POSITION_IN_ON_VEHICLE	P16_DISTRACTRD_BY_DEVICE	P17_PSYHO_PHYS_IMPERMENT	P18_TRIP_JOURNEY_PURPOSE	P19 INJURY MAIS SCALE
XX2015000001	01	01	02121976	01	470	04	01	99	00	00	000	99	999999	01	99	01	99	99	99	00
XX2015000001	02	01	13032004	01	954	01	03	99	00	00	000	99	000000	00	00	00	99	99	00	06
XX2015000002	01	01	02061990	01	470	04	01	99	00	00	000	99	999999	01	99	01	99	99	99	00
XX2015000002	02	01	10121952	01	470	01	03	99	00	00	000	99	000000	00	00	00	99	99	00	06
XX2015000003	01	01	16101945	01	470	04	01	99	00	00	000	99	999999	01	99	01	99	99	99	00
XX2015000003	02	01	14121937	01	470	01	03	99	00	00	000	99	000000	00	00	00	99	99	00	06
XX2015000004	01	01	19041951	02	470	01	01	99	00	00	000	99	999999	01	99	01	99	99	99	06
XX2015000004	01	02	14022011	01	470	02	02	00	00	00	000	00	000000	00	99	99	00	00	00	53

A-1 ACCIDENT ID (H)

Variable definition and scope

The accident identification number is a number which will allow the accident record to be cross-referenced to road, traffic unit and person records. It consists of three distinct fields, the country code, the year and the accident number.

Values

A-1a Country code
A-1b Year

A-1c Accident number

Value definitions

A-1a Country code
A code consisting of two digits, indicating the specific country where the accident occurred (**country code** following the standard **ISO 3166-1 alpha-2)**.

A-1b Year
A code consisting of four digits, indicating the year of the accident.

A-1c Accident number
A unique six digit number for each accident in a specific year and country.

Data format

Three codes are filled-in. The first two digit code indicates the country code, the next four digit code indicates the year and the last six digit code indicates the number of the accident (e.g. **ES**2007**012976**) This format is indicatively proposed to allow unique identification of the accident.

U-1 TRAFFIC UNIT ID (H)

Variable definition and scope

The traffic unit identification number will allow the traffic unit record to be cross-referenced to accident and person records. Together with the Accident ID and Person ID, a unique linkage will be established. Vehicles and pedestrians are regarded as traffic units. The units are numbered according to the national registration. If a country links pedestrians to vehicles the pedestrian is just given the next number in the row when entered into the traffic unit information.

Values

U-1 Traffic Unit ID

Value definitions

U-1: Traffic Unit ID
A two-digit number indicating the vehicle where the respective person was abroad or the pedestrian (if the person was a pedestrian).

U-1.99 Unknown traffic unit

Data format

A two digit number (01-99) is filled-in. If the person is linked to an unknown traffic unit the CADaS load process will link this person to and unknown traffic unit. For every accident country and every year where persons are linked to unknown traffic units a dummy unknown traffic unit will be generated. Only one per accident, year and country. So when 99 is used in the person file you don't have to add this in the traffic unit file.

P-1 PERSON ID (H)

Variable definition and scope

The person identification number will allow the person record to be cross-referenced to accident, road and traffic unit records and distinguish persons within each traffic unit. Together with the Accident ID and the Traffic Unit ID, a unique ID will be established. The person numbering will follow the same rule as in the traffic unit numbering. For each unit, the driver will be recorded first, followed by the passengers.

Values

P-1 Person ID

Value definitions

P-1: Person ID
A two-digit number indicating the number of the person involved in the specific road accident, in the specific vehicle.

Data format

A two digit number is filled-in.

P-2 DATE OF BIRTH (H)

Variable definition and scope

Indicates the date of birth of each person involved in the road accident. Important to study the impact of the persons' age in road accident risk.

Values

P-2.9999XXXX Year of birth
P-2.99XXXXXX Year and month of birth (day unknown)
P-2.XXXXXXXX Date of Birth
P-2.99999999 Unknown
PA- 2.0000XXXX Age of person

Value definitions

P-2:XXXXXXXX **Date of Birth**
Year of birth of the person involved in the accident. Determined on the basis of identity documents/ personal ID number or determined by the police.(e.g. **03071994** stands for 03rd July 1994)

P-2:9999XXXX **Year of Birth**
Only the year of birth is known (e.g **99991994**)

P-2.99XXXXXX **Year and month of birth** (day unknown)
Only year and month of birth is known (e.g **99071994**)

P-2.99999999 **Unknown**
The casualty's year of birth or age is unknown.

PA-2:0000XXXX **Age of person**
The age (in years and months) of the person is filled-in, derived from the date of birth.(e.g. **00002302** stands for 23 years old and 2 months, if months unkown, it may be set to 99 : 00002399)

Data format

An eight digit number indicates the person's date of birth. **Alternatively** the years and months of the age of a person can be provided by filling in the alternative variable with a eighth digit number where the first four digits are zeros, the next two digits indicate the years of the person (e.g. 07) and the last two digits indicate the months of person (e.g. 09).

P-3 GENDER (H)

Variable definition and scope

Indicates the gender of each person who was involved in the accident. Important to evaluate the effect of the gender of the persons involved on occupant protection systems and motor vehicle design characteristics.

Values

P-3.01 Male
P-3.02 Female
P-3.99 Unknown

Value definitions

P-3.01: Male
On the basis of identification documents/ personal ID number or determined by the police.

P-3.02: Female
On the basis of identification documents/ personal ID number or determined by the police.

P-3.99: Unknown
Gender could not be determined (hit and run accident, police unable to trace person, not specified).

Data format

A two digit number corresponding to one of the values is filled in (01, 02 or 99 for unknown) to indicate the person's gender.

P-4 NATIONALITY (H)

Variable definition and scope

Indicates the nationality of each person who was involved in the accident in a disaggregate form. The country of origin of each person can be obtained (see CADaS reference data file (***CADaS_Reference_File_v3_6_20170922.xls*** (sheet ref_person)) for details). The nationality can alternatively be provided in an aggregate form by filling-in the alternative value.
Please comply with ISO 3166-1-Numeric (3) while sending the nationality, if no nationality available with you use the below codes.

Values

P-4	Nationality
PA-4.951	National
PA-4.952	Foreigner, within the EU
PA-4.953	Foreigner, outside the EU
PA-4.954	Foreigner, not specified
PA-4.999	Unknown

Value definitions

P-4 Nationality
The country of origin of each person is indicated by a respective code in accordance to ISO 3166-1.

PA-4.951: National
The person involved has the nationality of the country where the accident takes place.

PA-4.952: Foreigner, within the EU
The person has an EU country nationality, but not the nationality of the country where the accident takes place.

PA-4.953: Foreigner, outside the EU
The person has a non-EU country nationality.

PA-4.954: Foreigner, not specified
The person involved does not have the nationality of the country where the accident takes place (it is not specified whether it is inside or outside the EU).

PA-4.999: Unknown
The person involved has "unknown" nationality and / or in cases of "hit and run" or police was unable to trace the person.

Data format

A three digit number is filled-in to indicate the country of origin (e.g. 300 for Greece) in disaggregate form. Fill 999 for "Unknown". Alternatively the nationality can be provided in groups.

P-5 INJURY SEVERITY AS REPORTED (H)

Variable definition and scope

Indicates to what extent a person (driver, passenger or pedestrian) was injured or not during a road accident. On that purpose various injury classification systems such as ISS, AIS etc. can be used. Although the severity of injury can be extensively described using these systems, their use in most of the European countries is still limited in road accident injury recording not allowing for a common definition to be adopted. Therefore a simpler definition based on the hours of hospitalization is proposed, while a definition based on an injury classification system should be considered in the future.

Values

P-5.01	Fatally injured
P-5.02	Seriously injured
P-5.03	Slightly injured
P-5.04	Not injured
P-5.99	Unknown

PA-5.51 Injured

Value definitions

P-5.01: Fatally injured
Death within 30 days of the road accident, confirmed suicide and natural death are not included.

P-5.02: Seriously injured
Injured (although not killed) in the road accident and hospitalized at least 24 hours.

P-5.03: Slightly injured
Injured (although not killed) in the road accident and hospitalized less than 24 hours or not hospitalized.

P-5.04: Not injured
Person participating in the accident although not injured.

P-5.99: Unknown
The injury severity of the road user was not recorded or it was unknown.

P-5.51: Injured
The road user was seriously or slightly injured (but not killed within 30 days) in the road accident.

Data format

A two digit number corresponding to one of the values is filled-in to indicate the severity for each person.

P-6 ROAD USER TYPE (H)

Variable definition and scope

Indicates the class of the person involved in a road accident. For accidents with pedestrians, the vehicle which collided with the pedestrian can be identified as the traffic unit with the previous Traffic Unit ID from the pedestrian.

Values

P-6.01	Driver
P-6.02	Passenger
P-6.03	Pedestrian
P-6.99	Unknown

Value definitions

P-6.01: Driver
Person driving or riding any motorised vehicle or bicycle. Includes person riding an animal.

P-6.02: Passenger
Person on or in a vehicle, who is not the driver. Includes person in the act of boarding or alighting from a vehicle.

P-6.03: Pedestrian
Person on foot; Person pushing or holding bicycle, Person who uses a wheel chair, a pram or a pushchair, leading or herding an animal, riding a toy cycle on the footway, Person on roller skates, skateboard or skis.
Does not include persons in the act of boarding or alighting from a vehicle.

P-6.99: Unknown
The type of the road user was not recorded.

Data format

A two digit number corresponding to one of the values is filled-in to indicate the road user type.

P-7 ALCOTEST (L)

Variable definition and scope

Indicates whether or not **a driver or Pedestrian** who was involved in a road accident was tested on alcohol. If the road user was a passenger this variable is not applicable.

Values

P-7.00	Not applicable
P-7.01	Tested
P-7.02	Not tested
P-7.99	Unknown

Value definitions

P-7.00 Not applicable
The road user was a passenger.

P-7.01 Tested
An alcohol test was conducted to the person.

P-7.02 Not tested
No alcohol test was conducted to the person.

P-7.99 Unknown

It is unknown whether an alcohol test was conducted to the person.

Data format

A two digit number corresponding to one of the values is filled-in (e.g. 01) to indicate whether an alcohol test was conducted.

P-8 ALCOTEST SAMPLE TYPE (L)

Variable definition and scope

This variable is filled only if 'Tested" was selected in "Alcotest" variable, otherwise "not applicable" is chosen.

Values

P-8.00	Not applicable
P-8.01	Blood sample
P-8.02	Breath sample
P-8.99	Unknown

Value definitions

P-8.00 Not applicable
The person was not tested for alcohol, or the person was a passenger.

P-8.01 Blood sample
The person was tested for alcohol by a blood sample.

P-8.02 Breath sample
The person was tested for alcohol by a breath sample.

P-8.99 Unknown
It is not known wheter it wasa breath sample or blood sample.

Data format

A two digit number corresponding to one of the values is filled-in to indicate the sample type, if applicable.

P-9 ALCOTEST RESULT (H)

Variable definition and scope

This variable is filled **only if "Tested" was selected in "P-7 Alcotest" variable** otherwise "not applicable" is chosen.

Values

P-9.00	Not applicable
P-9.01	Positive
P-9.02	Negative
P-9.99	Unknown

Value definitions

P-9.00 Not applicable
The person was not tested for alcohol, or the person was a passenger.

P-9.01 Positive
The person consumed alcohol above the respective national legal limit.

P-9.02 Negative
The person consumed alcohol below the respective national legal limit or did not consume alcohol at all.

P-9.99 Unknown
The result of the alcohol test was unknown or not recorded.

Data format

A two digit number corresponding to one of the values is filled-in (e.g. 1) to indicate the alcotest result, if applicable.

P-10 ALCOHOL LEVEL (H)

Variable definition and scope

This variable is applicable only if "Tested" was selected in "Alcotest" variable, otherwise "not applicable" is chosen. The variable should be interpreted in conjunction with "Alcotest sample type" variable.

Values

P-10.000 Not applicable
P-10 Level
P-10.999 Unknown

Values definitions

P-10.000 Not applicable
The person was not tested for alcohol, or the person was a passenger.

P-10 Level
For blood samples, the alcohol concentration is measured in grammars of alcohol per liter of blood. For breath samples the alcohol concentration is measured in milliliters of alcohol per liter of air.

P-10.999 Unknown
The alcohol level was unknown or not recorded.

Data format

A three digit number is filled-in, one integer followed by two decimals (both for blood and breath samples). For blood samples the measurement unit is grammars while for breath samples the measurement unit is milliliters. For example, for a blood sample if the alcohol level is 0,52 gr/l , the number 052 is filled in. For not applicable 000 is filled-in.

P-11 DRUG TEST (L)

Variable definition and scope

Indicates whether or not a driver who was involved in a road accident was tested on drugs and whether was found positive or negative. If the road user was a passenger this variable is not applicable.

Values

P-11.00 Not applicable
P-11.01 Positive
P-11.02 Negative
P-11.03 Not tested
P-11.99 Unknown

Value definitions

P-11.00 Not applicable
The person was a passenger.

P-11.01 Positive
A drug test was conducted to the person and he/she was found positive.

P-11.02 Negative
A drug test was conducted to the person and he/she was found negative.

P-11.03 Not tested
No drug test was conducted to the person and he/she was found negative.

P-11.99 Unknown
It is unknown whether a drug test was conducted to the person.

Data format

A two digit number corresponding to one of the values is filled-in (e.g. 01) to indicate whether a drug test was conducted.

P-12 DRIVING LICENSE ISSUE DATE (H)

Variable definition and scope

This variable is applicable only for drivers otherwise "Not applicable" should be selected. Indicates the month and year of issue of the first driving licence (provisional or full) of drivers / riders who are involved in a road accident, for the vehicle they are driving. The driving experience of the driver in terms of months and years can be provided through the alternative value.

Values

P-12.000000 Not applicable
P-12.99XXXX Only the Year (e.g. if 2008 => 99**2008**)
P-12.XXXXXX Year/Month (e.g. if 2008 February => **200802**)
P-12.999999 Unknown

PA-12.00XXXX Number of years and months of driving experience (e.g. 10 years, 2 months => **001002**)

Value definitions

P-12.000000: Not applicable
The person was not a driver.

P-12:XXXXXX Year/month

Issue year and month of the first driving license of driver / rider.

P-12.999999: Unknown
The issue year and month of the first driving license of the driver/rider was unknown or not recorded.

PA-12:00XXXX Years and months of driving experience
The years and months of the driving experience are filled-in, derived from the issue date of the driving license.

Data format

A six digit number is filled-in where the first four digits indicate the year of issue and the last two digits indicate the month of issue. If the variable is not applicable, 000000 is filled. Alternatively the years and months of driving experience can be provided by filling in the alternative variable with a six digit number where the first two digits are zeros, the next two digits indicate the number of years of driving experience (e.g. 07) and the last two digits indicate the number of months of driving experience (e.g. 09). **If only the issue year of the driving licence is known, first two digits are 99 the next for digits are the driving licence issue year.**

P-13 DRIVING LICENSE VALIDITY (L)

Variable definition and scope

The variable is applicable for drivers only. It indicates whether or not the driving license of driver / rider is valid for the specific vehicle.

Values

P-13.00	Not applicable
P-13.01	With appropriate driving license
P-13.02	With inappropriate driving license
P-13.03	Only driving lesson or driving test
P-13.04	Invalid or suspended driving license
P-13.05	No driving license
P-13.06	No license required
P-13.99	Unknown

PA-13.51 Invalid (or no) driving license

Value definitions

P-13.00 Not applicable
The person was not a driver.

P-13.01 With appropriate driving license

Driving license shown to the police at the scene or after the accident. Driver who did not carry the driving license at the time of the accident is also included.

P-13.02 With inappropriate driving license
The person had a driving license but it was inappropriate for the vehicle he/she was driving during the accident.

P-13.03 Only driving lesson or driving test
The driver did not have a driving license and had taken driving lessons, or the accident happened during a driving test.

P-13.04 Invalid or suspended driving license
The driving license was invalid, suspended or has expired.

P-13.05: No driving license
Without driving license or the driving license was not presented to the police.

P-13.06: No license required
Pedal cycle, vehicle drawn by animal, ridden animal or any other vehicle that does not require a driving license.

P-13.99: Unknown
In cases of "hit and run" or police was unable to trace the person.

PA-13.51: Invalid (or no) driving license
The driver did not have a valid or had no driving license for the vehicle driven. Includes values 20.02, 20.03, 20.04, 20.05.

Data format

A two digit number corresponding to one of the values is filled-in (e.g. 04) to indicate the driving license validity, if the person was a driver.

P-14 SAFETY EQUIPMENT (H)

Variable definition and scope

Indicates the use of safety equipment of drivers/riders and passengers during the accident.

Values

P-14.00 Not applicable
P-14.01 Seat belt worn no airbag in vehicle
P-14.02 Seat belt worn and airbag released
P-14.03 Seat belt worn and airbag not released

P-14.04 Seat belt not worn and airbag released
P-14.05 Crash helmet worn
P-14.06 Child safety seat facing forwards used
P-14.07 Child safety seat facing backwards used
P-14.08 No use of safety equipment (seat belt - helmet)
P-14.09 Other (appropriate equipment for bikers and cyclists e.g. protective pads, reflective clothing, lighting)
P-14.99 Unknown (it was not recorded)

PA-14.51 Seat belt worn - not specified
PA-14.52 Child safety seat used - not specified

Value definitions

P-14.00 Not applicable
No safety equipment could be used on the specific vehicle (e.g. agricultural tractors).

P-14.01: Seat belt worn no airbag in vehicle
Seat belt was worn during accident and there was no airbag.

P-14.02: Seat belt worn and airbag released
Seat belt was worn and airbag released during accident.

P-14.03: Seat belt worn and airbag not released
Seat belt was worn and airbag did not release during accident.

P-14.04: Seat belt not worn and airbag released
Seat belt was not worn and airbag released during accident.

P-14.05: Crash helmet worn
Crash helmet was worn during accident.

P-14.06: Child safety seat facing forwards used
Childs safety seat facing forwards was used during accident.

P-14.07: Child safety seat facing backwards used
Childs safety seat facing backwards was used during accident.

P-14.08: No use of safety equipment
No seat belt or helmet was used during accident. Includes cases where seat belt was not worn and the airbag was released.

P-14.09: Other
Other safety equipment, not included in the list of the previous values.

P-14.99: Unknown
The use of any safety equipment by the road user was unknown.

PA-14.51: Seat belt worn - not specified
Seat belt was worn during accident, it was not specified whether an airbag was present and whether it was released.

PA-14.52: Child safety seat used
Childs safety seat was used during accident, it was not specified whether it was facing forwards or backwards.

Data format

A two digit number corresponding to one of the values is filled-in (e.g. 05) to indicate the use of safety equipment by the road user.

P-15 SEATING POSITION IN/ON VEHICLE (H)

Variable definition and scope

Describes the seating position of the driver/ passenger at the time of the accident. For pedestrians and two wheel vehicle occupants this variable is not applicable.

Values

P-15.00	Not applicable
P-15.01	Driver
P-15.02	Front seat
P-15.03	Rear - seated
P-15.04	Rear - standing
PA-15.51	Rear - not specified
P-15.05	Elsewhere
P-15.99	Unknown

Value definitions

P-15.00: Not applicable
The road user was a pedestrian or motorcycle/moped/bicycle occupant.

P-15.01: Driver
Person who is the driver of the vehicle. Seating position in vehicle prior to the accident.

P-15.02: Front seat passenger
Person in the front of a vehicle who is not the driver. Seating position in vehicle prior to the accident.

P-15.03: Rear passenger - seated
Person in the back of a vehicle who is seating. Does not include rear seats on two wheel vehicles or animals.

P-15.04: Rear passenger - standing
Person in the back of a vehicle who is standing. Includes standing passengers on public transport (buses, trams, coaches) or other vehicles (e.g. mini vans).

PA-15.51: Rear passenger - not specified
Person in the back of a vehicle.

P-15.05: Elsewhere
Any other seating or standing positions of passengers prior to the accident which are not included (e.g. on the trailer of agricultural tractor).

P-15.99: Unknown
Seating position of passenger prior to the accident is unknown (in case of hit and run, other).

Data format

A two digit number corresponding to one of the values is filled-in (e.g. 05) indicating the seating position of the driver / rider / passenger in the vehicle (if applicable).

P-16 DISTRACTED BY DEVICE (L)

Variable definition and scope

Indicates whether a driver's or pedestrian's attention was distracted by an electronic device. The on-going increase of the use of mobile phone, navigation devices, televisions and other electronic devices in vehicles implies the inclusion of this variable in order to examine the relation of electronic device use while driving, with road accidents. If the road user was not a driver or a pedestrian this variable is not applicable.

Values

P-16.00	Not applicable
P-16.01	Not distracted by device
P-16.02	Telecommunication device
P-16.03	Other electronic device
P-16.99	Unknown

Value definitions

P-16.00 Not applicable
The road user was a passenger.

P-16.01: Not distracted by device
The driver/pedestrian was not using, or watching at any electronic devices (Includes any electronic device, cell phone, television, navigation device or electronic panel attached on the car).

P-16.02: Telecommunication device
The driver/pedestrian was distracted by a telecommunication device (any device used as mobile phone, irrespectively of hands-free, Bluetooth or other use of such devices).

P-16.03: Other electronic device
The driver/pedestrian was distracted by any other electronic device except mobile phones or other telecommunication devices (includes navigators, televisions, electronic panel attached on the car).

P-16.99: Unknown
It is not known whether the driver/pedestrian was distracted by any electronic device.

Data format

A two digit number corresponding to one of the values is filled-in (e.g. 03) indicating whether the participant was distracted by an electronic device (if applicable).

P-17 PSYCHOPHYSICAL / PHYSICAL IMPAIRMENT OR CONDITION (L)

Variable definition and scope

Describes the psychophysical / physical circumstances with the highest impact to the driver or rider just before the accident. If the road user is not a driver/rider this variable is not applicable.

Values

P-17.00 Not applicable
P-17.01 Good
P-17.02 Inattention / absence of mind / Worried

P-17.03 Tired / fell asleep
P-17.04 Illness / Sudden illness / Lost consciousness
P-17.05 Defective eyesight or hearing
P-17.06 Dazzled by sunlight / vehicle headlights
P-17.07 Others
P-17.99 Unknown

Value definitions

P-17.00: Not applicable
The road user is not a driver/rider.

P-17.01: Good
No conspicuousness was found

P-17.02: Inattention / absence of mind / worried
Driver/rider was inattentive to driving due other thoughts.

P-17.03: Tired / fall asleep
Driver/rider who was tired or fell asleep

P-17.04: Illness / Sudden illness / Lost consciousness
Driver/rider with sudden illness (e.g. heart attack). Includes cases where the driver lost his consciousness or was ill when started driving.

P-17.05: Defective eyesight / hearing
Driver/rider with defective eyesight and/or hearing.

P-17.06: Dazzled by sunlight
Driver/rider was dazzled by glaring sunlight.

P-17.06: Others
Other, psychophysical or physical circumstances of Driver/rider not included in the list of the previous values.

P-17.99: Unknown
The psychophysical or physical circumstances of Driver/rider were unknown.

Data format

A two digit number corresponding to one of the values is filled-in, to indicate the psychophysical / physical impairment or condition of the Driver/rider (if applicable).

P-18 TRIP / JOURNEY PURPOSE (L)

Variable definition and scope

Indicates the journey purpose of the driver or rider involved in the accident. If the road user is not a driver/rider this variable is not applicable.

Values

P-18.00	Not applicable
P-18.01	Route to/from school - education / route to / from work
P-18.02	Driving as part of the work
P-18.03	Leisure/Entertainment
P-18.04	Holiday
P-18.05	Driving lesson
P-18.06	Other
P-18.99	Unknown

Value definitions

P-18.00: Not applicable
The road user is not a driver/rider.

P-18.01: Route to / from school - education / route to/from work
The person was on his/her way to school (university) or working place. This trip purpose aims to record each persons every day-routine routes.

P-18.02 Driving as part of the work
The person was driving on a route for professional purposes. (e.g. goods vehicle drivers, delivery drivers etc)

P-18.03: Leisure/Entertainment
The trip purpose was leisure or entertainment (free time activities - shopping, sports training etc).

P-18.04: Holiday
The person was on his/her way to holiday (includes one day trips).

P-18.05: Driving lesson
The person was in a vehicle while a driving lesson was taking place.

P-18.06: Other
Other trip purpose not included in the list of the previous values.

P-18.99: Unknown

The trip purpose could not be specified (Includes hit & run accidents).

Data format

A two digit number corresponding to one of the values is filled-in to indicate the journey purpose of the road user.

P-19 Injury MAIS Scale (L – Optional variable)

Variable definition and scope

MAIS scale is the maximum of the AIS(Abbreviated Injury scale) scores for each region of the body. It is used to assess the overall severity of the various injuries. Indicates to what extent a person (driver, passenger or pedestrian) was injured or not during a road accident.

Values

P-19.00	Not Injured
P-19.01	Minor
P-19.02	Moderate
P-19.03	Serious
P-19.04	Severe
P-19.05	Critical
P-19.06	Maximum
P-19.51	MAIS Minor
p-19.53	MAIS 3 Plus
P-19.99	Unknown

Value definitions

P-19.00: Not Injured
Person participating in the accident although not injured.

P-19.01: Minor
Injured in road accident but no hospitalization required, only first aid.

P-19.02 Moderate
Injured (although not killed) in the road accident and hospitalized less than 24 hours or not hospitalized.

P-19.03: Serious
Injured (although not killed) in the road accident and hospitalized at least 24 hours.

P-19.04: Severe
Injured (although not killed) in the road accident causing great discomfort, damage to the body and hospitalized for more than 24 hours.

P-19.05: Critical
Injured (although not killed) in the road accident & injured person in very serious condition, may need surgery or a long hospital stay to survive.

P-19.06: Maximum
Death within 30 days of the road accident.

PA-19.51: MAIS Minor

This value may be used when the severity degrees for minor and moderate are grouped into a single definition or when the exact degree is not known among Minor(01) or Moderate(02)

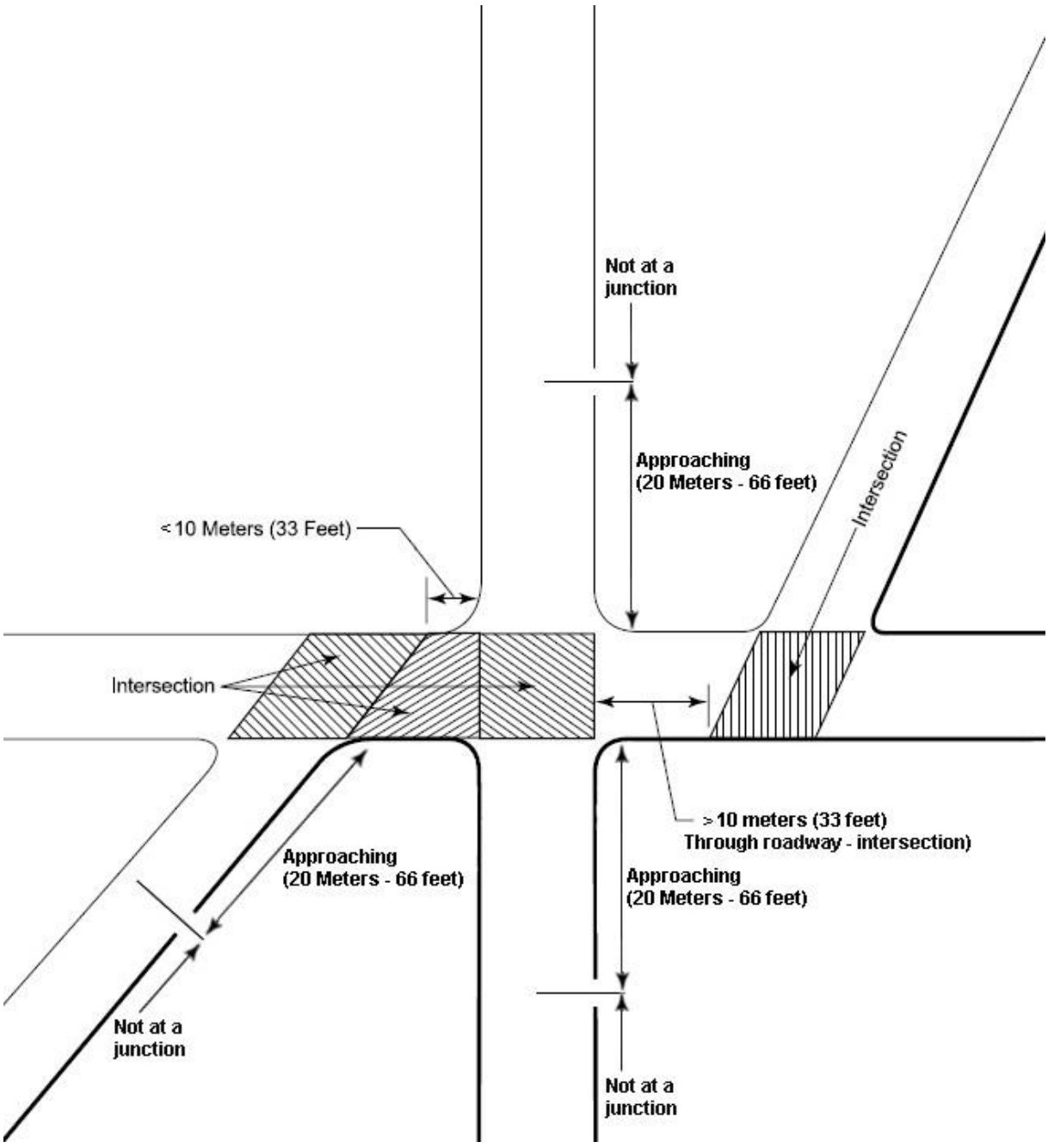
PA-19.53: MAIS 3 Plus

This value may be used when the severity degrees above 2 are grouped into a single "3 PLUS" definition or when the exact degree is not known among "Serious"(03) or "Severe"(04) or "Critical"(05)

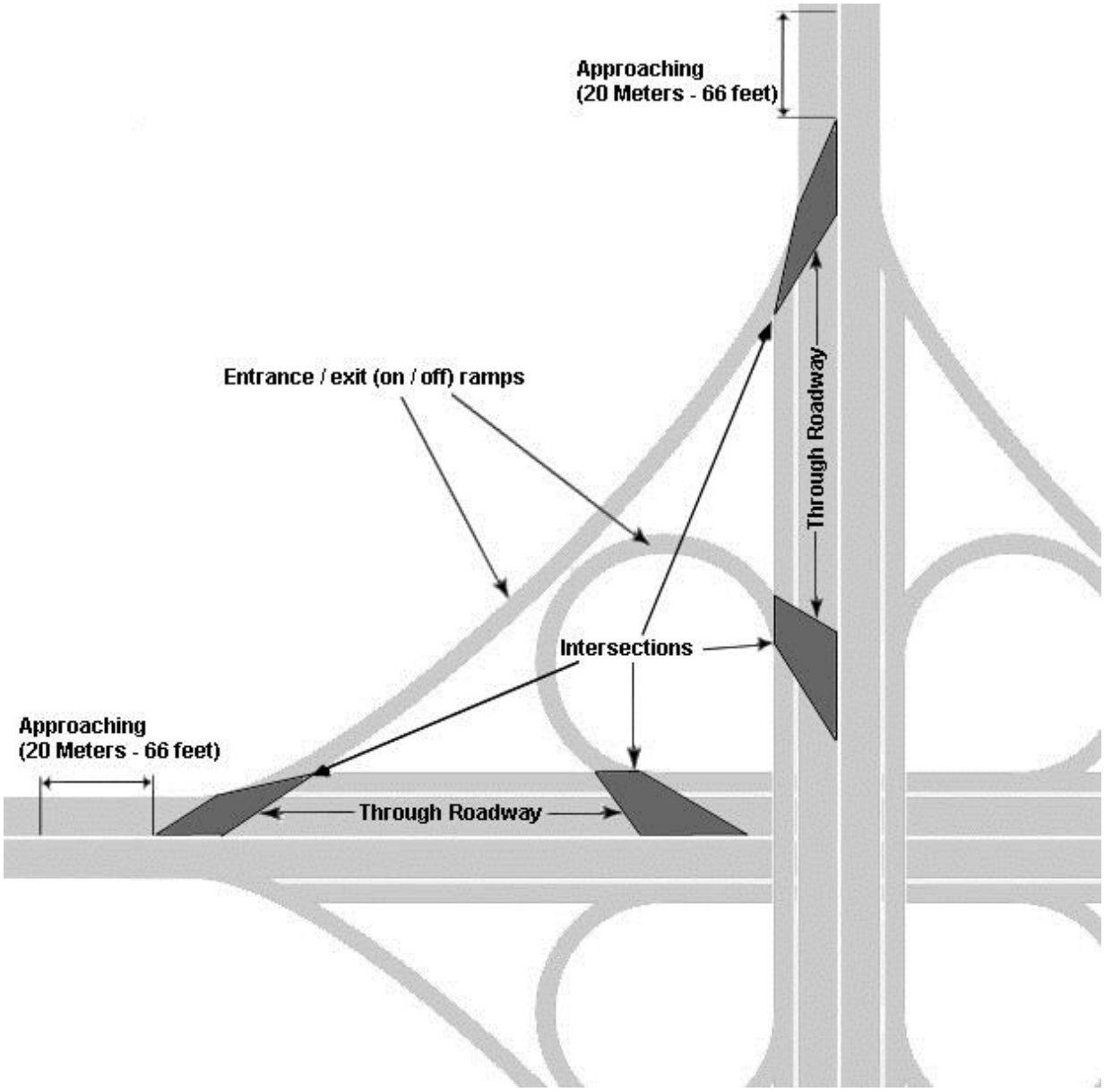
P-19.99: Unknown

Injured in road accidents although the injury level has not been specified.

ANNEX A: Junction at grade diagram

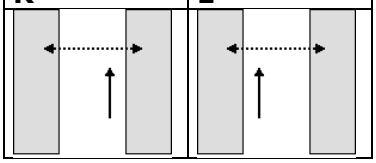


ANNEX B: Interchange diagram



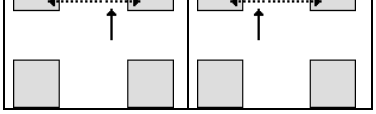
ANNEX C: Accident type sketches

A-8.01	
R	L



Pedestrian crossing street – no turning of vehicle - outside a junction

A-8.02	
R	L

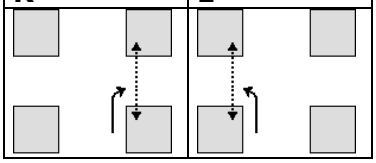


Pedestrian crossing street – no turning of vehicle - at a junction

AA-8.51	
R	L

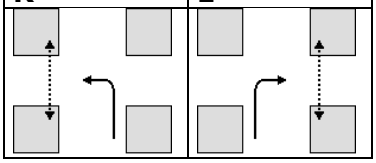
Pedestrian crossing street - no turning of vehicle – not specified

A-8.03	
R	L



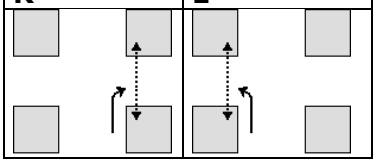
Pedestrians crossing - turning of vehicle turning right (left)

A-8.04	
R	L



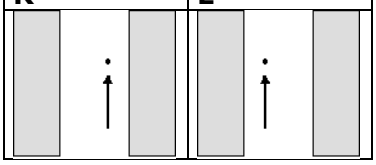
Pedestrians crossing - turning of vehicle turning left (right)

AA-8.52	
R	L



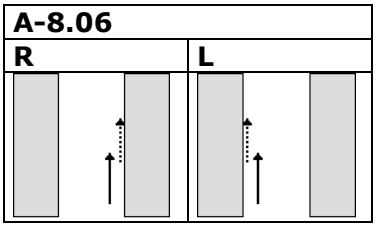
Pedestrians crossing - turning of vehicle – not specified

A-8.05	
R	L



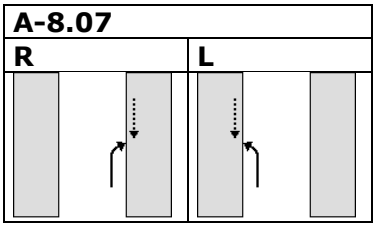
Pedestrian stationery in the road

A-8.06	
R	L



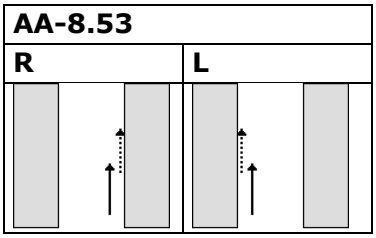
Pedestrian walking along the road

A-8.07	
R	L



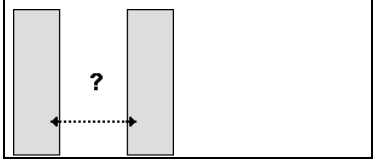
Pedestrians on pavement or bicycle lane

AA-8.53	
R	L



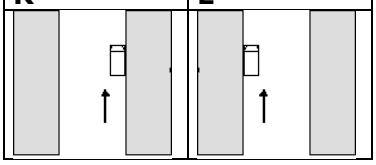
Pedestrian walking along the road or stationary in the road

A-8.08



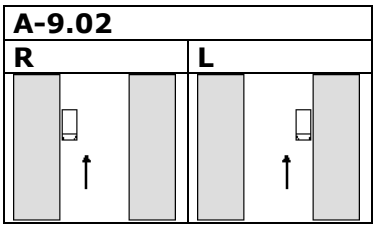
Pedestrian others

A-9.01	
R	L



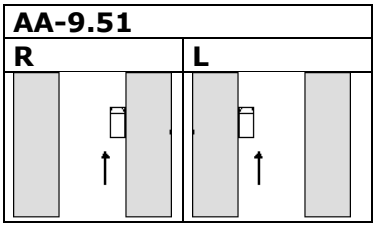
Hitting parked vehicles right (left) side of the road

A-9.02	
R	L



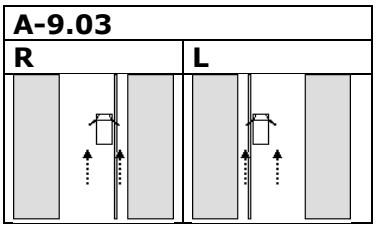
Hitting parked vehicles left (right) side of the road

AA-9.51	
R	L



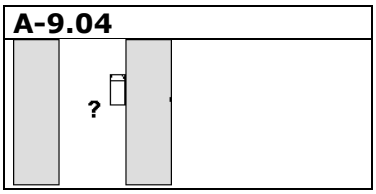
Hitting parked vehicles either side of the road

A-9.03	
R	L

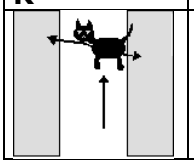
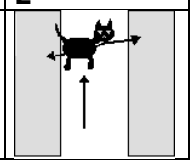


Accidents with parked vehicles - opening doors

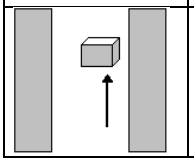
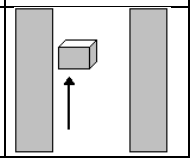
A-9.04



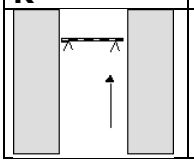
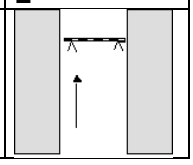
Other accidents with parked vehicles

A-10.01	
R	L
	

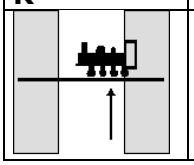
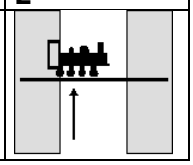
Single vehicle accidents with animals

A-10.02	
R	L
	

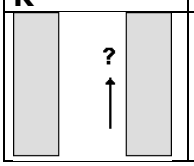
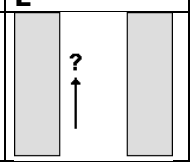
Single vehicle accidents with obstacles on or above the road

A-10.03	
R	L
	

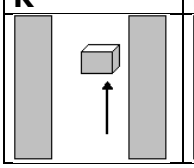
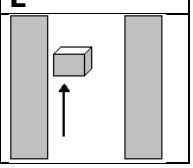
Single vehicle accidents with roadwork materials

A-10.04	
R	L
	

Accidents between train and vehicle

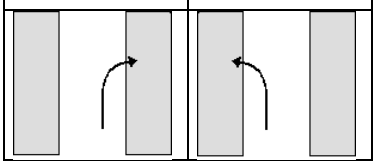
A-10.05	
R	L
	

Single vehicle accidents with obstacles - others

AA-10.51	
R	L
	

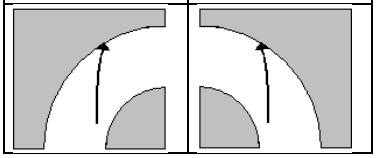
Single vehicle accidents with obstacles on the road - not specified

A-10.06	
R	L



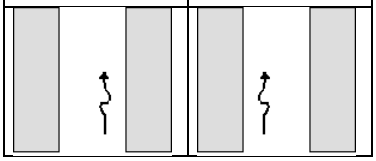
Single vehicle accident - Leaving straight road - either side of the road

A-10.07	
R	L



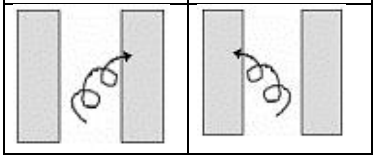
Single vehicle accidents in a bend - going either side of the road

A-10.08	
R	L



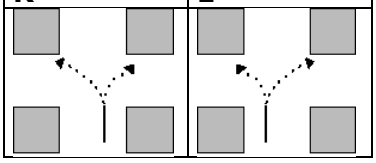
Single vehicle accidents on the road

A-10.09	
R	L



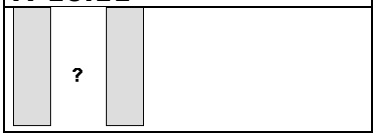
Single vehicle accidents including rollover

A-10.10	
R	L



Single vehicle accidents in junctions or entrances

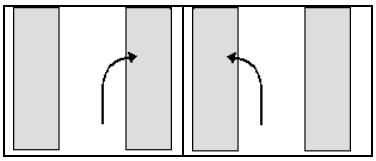
A-10.11

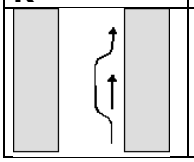
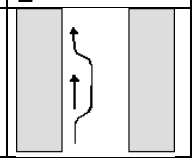


Single vehicle accidents without obstacles - others

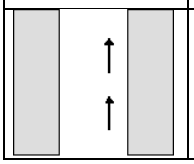
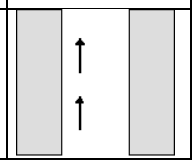
AA-10.52	
R	L

Single vehicle accidents without obstacles on the road

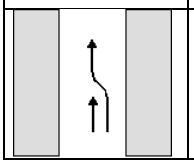
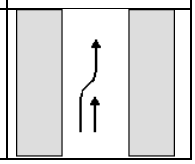


A-11.01	
R	L
	

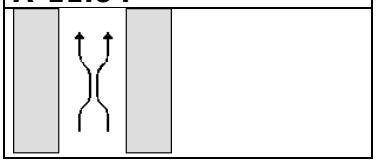
At least two vehicles - same direction - overtaking

A-11.02	
R	L
	

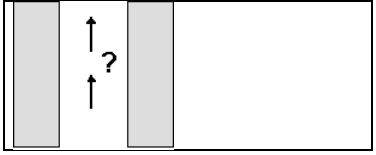
At least two vehicles - same direction - rear end collisions

A-11.03	
R	L
	

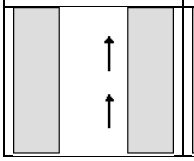
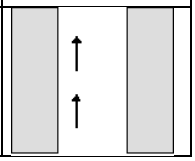
At least two vehicles - same direction - entering traffic

A-11.04


At least two vehicles - same direction - side collision

A-11.05


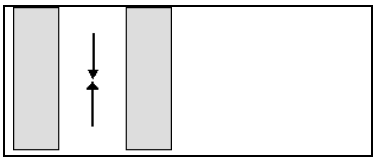
At least two vehicles - same direction - others

AA-11.51	
R	L
	

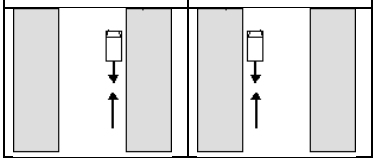
At least two vehicles - same direction no turning - not specified

A-11.06

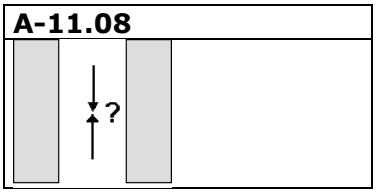
At least two vehicles - head on collision in general



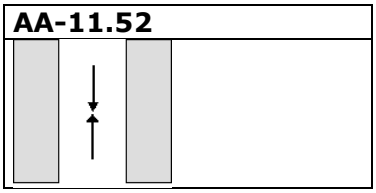
A-11.07	
R	L



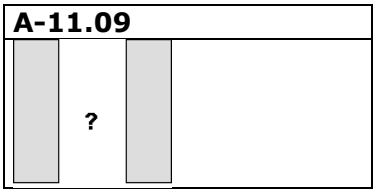
At least two vehicles - opposite direction no turning - reversing



A-11.08 **At least two vehicles - opposite direction no turning - others**

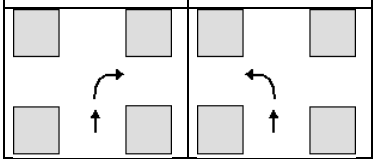


AA-11.52 **At least two vehicles - opposite direction no turning - not specified**



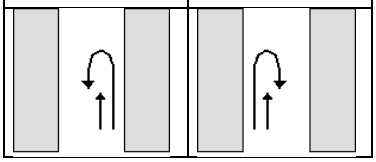
A-11.09 **At least two vehicles - Others no turning**

A-12.01	
R	L



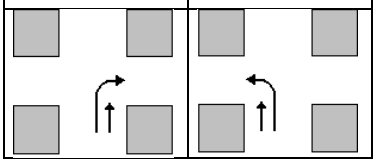
At least two vehicles - turning - same road - same direction - rear end collision

A-12.02	
R	L



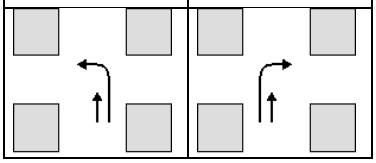
At least two vehicles - turning - same road - same direction - U-turn in front of other vehicle

A-12.03	
R	L



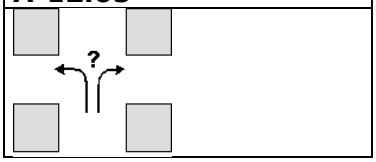
At least two vehicles - turning - same road - same direction - turning right (left)

A-12.04	
R	L



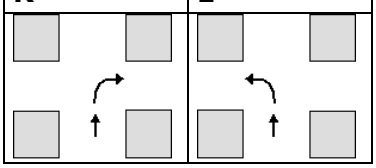
At least two vehicles - turning - same road - same direction - turning left (right)

A-12.05



At least two vehicles - turning - same road - same direction - others

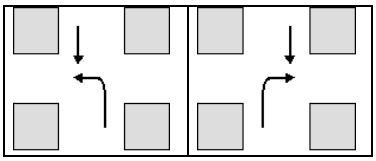
AA-12.51	
R	L



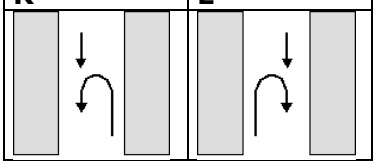
At least two vehicles - turning - same road - same direction - not specified

A-12.06	
R	L

At least two vehicles - same road - opposite direction - turning left (right) in front of other vehicle

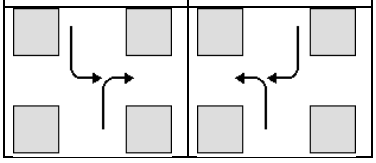


A-12.07	
R	L



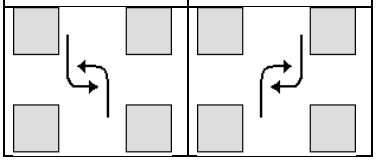
At least two vehicles - same road - opposite direction - U-turn in front of other vehicle

A-12.08	
R	L



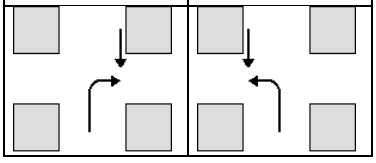
At least two vehicles - same road - opposite direction - turning into same road

A-12.09	
R	L



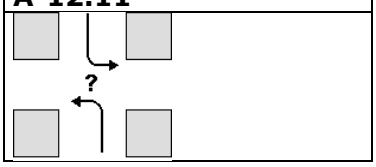
At least two vehicles - same road - opposite direction - turning into opposite roads

A-12.10	
R	L



At least two vehicles - same road - opposite direction - turning right (left) in front of other vehicle

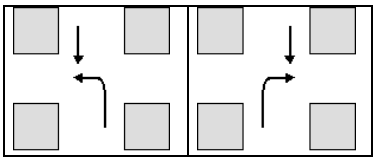
A-12.11

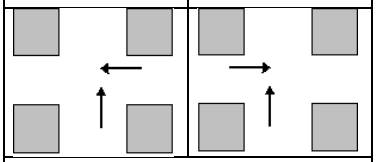


At least two vehicles - same road - opposite direction - turning others

AA-12.52	
R	L

At least two vehicles - turning or crossing - same road - opposite direction - not specified



A-12.12	
R	L
	
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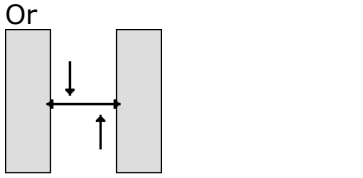
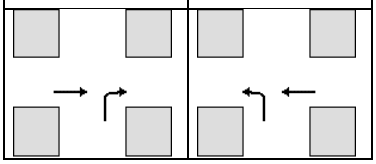
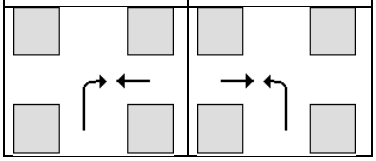
	

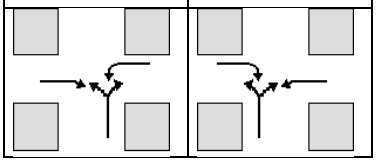
At least two vehicles - crossing (no turning) - different roads

A-12.13	
R	L
	

At least two vehicles - different roads - turning right (left) in front of vehicle from the left (right)

A-12.14	
R	L
	

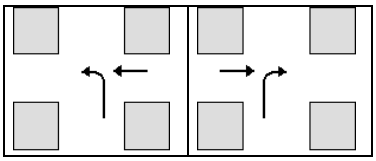
At least two vehicles - different roads - turning right (left) - head on collision

A-12.15	
R	L
	

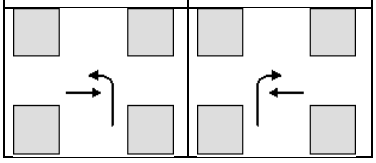
At least two vehicles - different roads - both vehicles turning

A-12.16	
R	L

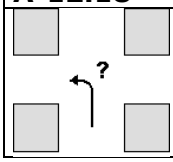
At least two vehicles - different roads - turning left (right) into traffic from the right (left) side



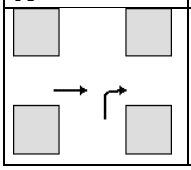
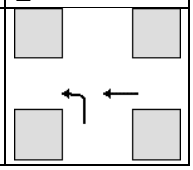
A-12.17	
R	L



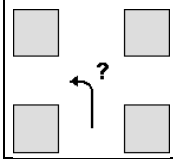
At least two vehicles - different roads - turning left (right) into traffic from the left (right) side

A-12.18


At least two vehicles - different roads - turning into traffic - others

AA-12.53	
R	L
	

At least two vehicles - turning - different roads - not specified

A-12.19


At least two vehicles - crossing or turning - others

ANNEX D: E - roads

Source: UNECE / ECE/TRANS/SC.1/384

Explanatory notes

1. Reference roads and intermediate roads, called class-A roads, have two-digit numbers; branch, link and connecting roads, called class-B roads, have three-digit numbers.

2. North-south orientated reference roads have two-digit odd numbers terminating in the figure 5 and increasing from west to east. East-west orientated reference roads have two-digit even numbers terminating in the figure 0 and increasing from north to south. Intermediate roads have respectively two-digit odd and two-digit even numbers comprised within the numbers of the reference roads between which they are located. Class-B roads have three-digit numbers, the first digit being that of the nearest reference road to the north of the B-road concerned, and the second digit being that of the nearest reference road to the west of the B-road concerned; the third digit is a serial number.

3. North-south oriented class A roads located eastward from road E 99 have three-digit odd numbers from 101 to 129. Other rules mentioned in paragraph 2 above apply to these roads.

4. Branch, link and connecting roads located eastwards of E 101 have 3-digit numbers, beginning with 0, from 001 to 099.

ANNEX E: Active safety equipment systems

01. **Adaptive Brake Lights**
Triggered by the strengths of brake activation the rear brake lights are illuminated in different kinds to indicate emergency braking manoeuvres to the following vehicles.

02. **Antilock Braking System (ABS)**
ABS, originally developed for aircraft braking systems, uses computer-controlled valves to limit the pressure delivered to each slave cylinder.

03. **Adaptive Head Lights**
The system consists of electromechanical controlled headlights to ensure optimum illumination of the lane in bends. The headlight is directed into the bend as soon as the vehicle begins cornering. A reduction of the glare to the upcoming vehicles is possible. Vehicle speed, yaw-rate and steering wheel angel can be used as input data for the controller of the system.

04. **Alcohol (inter)lock**
The system checks the alcohol intoxication of the driver (breath test) when starting the vehicle and prevents the start of the vehicle when driver is intoxicated. During driving, the system also checks intoxication at specific intervals and takes preventive actions with pre-warning.

05. **Automatic Headlight Activation**
When activated, the system switches on the headlights automatically when major environmental conditions for the use of headlights are present. The system detects the darkness and the light conditions in the environment.

06. **Blind spot monitoring**
At both sides of a vehicle normally there are some blind spots, if using a mirror for backward view. Different systems can either provide better vision into the blind spot area or supplemental information regarding an obstacle being there, e.g. by warning signals.

07. **Driver Condition Monitoring**
The system monitors the condition of the driver. Discussed parameters today are drowsiness, distraction, and inattention.

08. **Dynamic control systems**
Active Front Steering, Electronic Stability Program, Active Body Control etc

09. **Lane departure warning system (LDW)**
Warning given to the driver in order to avoid leaving the lane unintentionally. Video image processing is the most important technology.

10. **Lane Keeping Assistant**
Active lane-keeping support through additional and perceptible force e.g. in the steering wheel.

11. **Obstacle & Collision Warning**
System detects obstacles and gives warning when collision is imminent. Current solutions with limited performance are a separate feature of Adaptive Cruise Control systems, which use information obtained from radar sensors to give visual and acoustic warnings. Future systems will use long/near range radar sensors or LIDAR and video image processing.

12. **Runflat Indicator/ Tire Pressure Monitoring System**

In case of an air loss in a tire the system gives a warning to the driver. With the runflat indicator the system detects the different rotation speed of the tire, which is under-inflated. In case of a tire pressure-monitoring system the air pressure in each tire is directly measured and displayed if necessary.

13. **Vision enhancement**
Assistance Functions with camera techniques like infra-red which enhances the perception of pedestrians and other relevant objects at night or in otherwise bad vision conditions.

14. **e-Call**
The emergency-call gives precise coordinates of the location of an accident to the emergency services which are responsible for the help. The service is a multi-stakeholder function of public organisations, telecom companies, service providers and car manufacturers.

15. **Event data recorder**
On-board EDR collect certain vehicle parameters to be stored in case of an accident. Those data, before, during and after the event, can be used for scientific, technical and legal purposes. Driver awareness of such a system might reduce the number and severity of drivers' crashes.

16. **Extended environmental information**
Data from different sources of the vehicle e.g. switched on lights, windscreen wipers on, fog lights on, information from ABS, stability control systems, can be used to create useful information about the environmental situation where the vehicle is driving.

17. **High quality traffic information**
This is information to the driver about the traffic (congestion) and weather conditions for choosing the most effective route or for preparing to cope with the foreseeable situation ahead on the route.

18. **Infrastructure Based Warning Systems/Local Danger Warning**
Warning systems about dangerous locations or situations do not necessarily have to rely on vehicle-based technology. There are solutions, which are only based on the

infrastructure to warn the drivers. Spot-wise warning can be given via variable message signs, flashing or electronic beacons, radar based excessive speed information.

19. **Inter-vehicle Hazard Warning**
To transmit warnings about hazards and extended data to other vehicles in the vicinity, the function uses technologies of wireless local area networks between cars. Vehicle can be used as sender, receiver and relay stations for that information. Other technologies using communication infrastructure can provide local hazard warnings with the help of extended floating car data too.

20. **SpeedAlert**
The system alerts the driver with audio, visual and/or haptic feedback when the speed exceeds a limit set by the driver or the legal fixed speed limit. The speed limit information is either received from transponders in speed limit signs or from a digital road map, requiring reliable positioning information.

21. **Traffic signs recognition**
The function uses camera technologies and image processing to perceive the traffic signs and give an alert about the content of the sign to the driver. The HMI is an important aspect for the information process.

22. **Dynamic traffic management**

Influencing traffic flow by influencing speeds, lane use, route choice, merging operations by employing variable message sings (VMS) in order to improve safety and network utilisation.

23. **Dynamic Vehicle Safety Management Systems (DVSMS)**
By helping drivers avoid accidents, these systems help reduce fatigue and stress, allowing the driver to feel more confident and in control.

24. **Adaptive Cruise Control (ACC)**
Since 2000, ACC has provided drivers with extra support: with the help of a radar sensor, the system recognises preceding vehicles, calculates their speed and keeps the distance required by acting on the brakes and engine.

25. **Perceiving vehicle surroundings**
System which involves recording a complete take of all surroundings (360 degrees) using all available sensory data and combining this data to create a holistic model of the vehicle environment.

26. **Roll Stability Control system (RSC)**
By continuously monitoring the vehicle's movement and its relationship to the road surface, the RSC system automatically applies brakes and/or reduces engine power when a potential rollover situation is identified.

27. **Attention control system**

A camera installed in the cockpit to monitor the driver's blinking movements will eventually help to save lives, given that 25 percent of all road deaths are attributable to the sleepiness of drivers.

28. **ESP/ESC**
Electronic Stability Programme/Control

29. **RTTI**
Real-time traffic and travel information

ANNEX F: Unmatching national definition to CADaS definitions

P-5 Injury Type

Bulgaria

A description of serious bodily harm and average bodily harm is given by the Bulgarian Criminal code:

Art 128 (2) The bodily harm shall be considered serious if it has caused: a continuous mental disorder; a continuous blindness of one or two eyes; a permanent deafness; loss of speech; generative disability; disfiguring when it causes a permanent disorder of the speech or of a sense organ; loss of one kidney, the spleen or a branch of the lung; loss or crippling of a leg or a hand; permanent general health disorder dangerous for the life.

Art 129 (2) The bodily harm shall be considered average if it has caused: a permanent weakening of the sight or hearing; permanent speech difficulty, difficulty of moving the limbs, the body or the neck, the functions of the genitals without causing generative disability; braking of jaw or knocking out teeth without which the chewing or the speech is impeded; disfiguring of the face or other parts of the body; permanent health disorder, not dangerous for the life or a health disorder temporarily dangerous for the life; injuries penetrating the skull, the chest and the abdominal cavity.

By this reason the number of **heavy injured** is not the same with the number of **seriously injured** in CADaS format (person who have injured in road traffic accident and hospitalized at least 24 hours).
Moreover the determination of injury severity is without direct connection with the process of hospitalization.

It is the same situation with "**Light injury**" in the Bulgarian RADB and "**Slightly injured**" in CADaS:

"Light injured" is the person with a light bodily harm who nave injured in road traffic accident.

A description of light bodily harm is given by the Bulgarian Criminal code Art.130 (1) and (2):
- health disorder in cases other than those under art. 128 and 129 or bodily harm expressed in causing pain or suffering, without health disorder.

Regarding the fatalities there are close in meaning definitions and we can match "**killed**"- code 3 from Bulgarian RADB with "**Fatally injured**" in CADaS-code 01.