THE KING AND THE BEAST

Once upon a time there was a famous King who was caring for his people and devoted his life to the improvement of their well being.

This King was very sad because a terrible Beast was free on the roads and was devouring the citizens of the Kingdom.
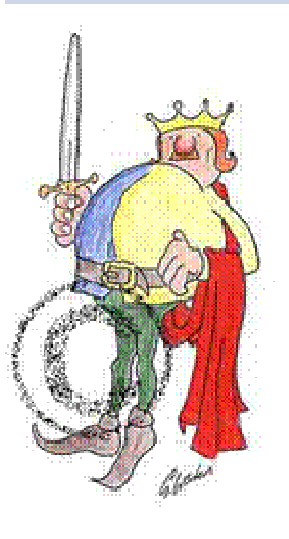
Everybody was afraid to pass from quite a few roads of the Kingdom because of the terrifying notorious "Road Beast".

THE KING AND HIS WARRIORS

The King sent his best Warriors to kill the "Road Beast" but nobody managed to exterminate it, as this "Road Beast" had thousands of hands and thousands of faces.

The Warriors were complaining that they did not know a lot about this "Road Beast". They were asking for more "knowledge" about this "Road Beast".

THE KING AND HIS COUNSELLORS

The King asked his Counsellors to bring him "knowledge" about this "Road Beast", but nobody could say a lot, as they all complained that they lack "data" about the "Road Beast".

The King asked his Feudal Lords to provide him "data" about the "Road Beast", but again the Counsellors complained that the "data" provided were unusable due to their incompatibility.
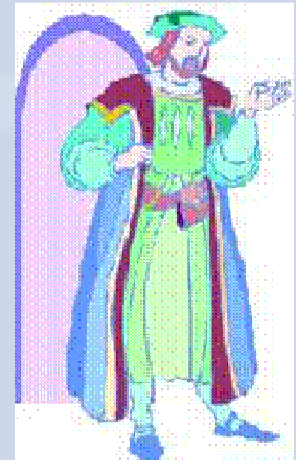
THE KING AND HIS FEUDAL LORDS

The King asked the Feudal Lords to change their "data" systems in order to have comparable "data" and allow to fighting the "Road Beast".

The Feudal Lords send a message to the King that they can fight the "Road Beast" alone in their Feuds and that they cannot change their "data" systems they were using since long.

THE KING AND THE "CAREPLUS" SYSTEM

The King respected the wishes of the Feudal Lords for not changing their "data" systems, but he decided to continue fighting the "Road Beast" and he asked his Counsellors to work with the existing "data".

The Counsellors worked for years and presented to the King the "CAREPLUS" system, in order to make the data compatible. The "CAREPLUS" system proved very beneficial for bringing "knowledge" to the Warriors of the "Road Beast".

THE KING AND THE CADaS SYSTEM

But the King decided to save more lives from the voracious "Road Beast" and he asked his Counsellors for more "knowledge" and more "data".

The Counsellors worked hard again and provided the King with the "CADaS" system. This system can provide more "data" and is relied to the optional use of the Feudal Lords.

And the King asked his Counsellors:
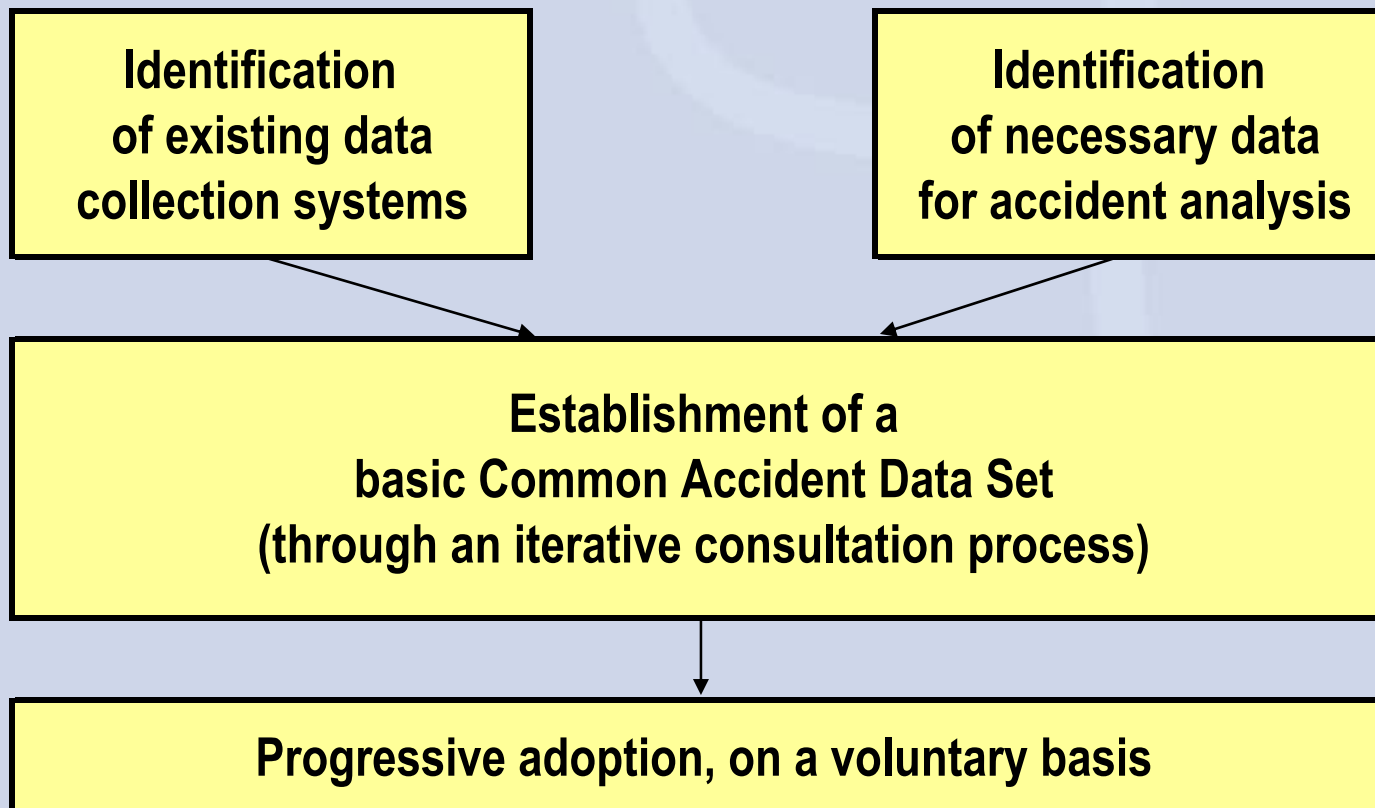
- what is this "CADaS" system?

SCOPE

- The **C**ommon **A**ccident **Da**ta **S**et (**CADaS**) allows for comparable road accident data to be available in Europe, as is the case at Federal level in the United States of America (MMUCC).

- The **CADaS** system will be implemented by the EU Member States:
  - on a voluntary basis
  - in pieces ("a la carte" system)
  - gradually

PURPOSE

- CARE will contain increasingly more compatible and comparable data.

- More common road accident data from the EU countries will be available to the European Road Safety Community.

A FOUR STEP METHODOLOGY FOR THE CADaS DEVELOPMENT

Identification of existing data collection systems

Identification of necessary data for accident analysis

Establishment of a basic Common Accident Data Set (through an iterative consultation process)

Progressive adoption, on a voluntary basis

THE CADaS PARTNERS

- Identification of existing
  systems and needs
- Commenting CADaS

- SafetyNet partners:
  NTUA (EL)   DRD (DK)
  TRL (UK)   CDV (CZ)
  KfV (A)   KTI (HU)
  SWOV (NL)   INTRAS (ES)

- CARE Experts group

- EC Road Safety Unit

Preparation of variables
and values

Accident variables: **SWOV**

Road variables: **NTUA**

Vehicle variables: **TRL**

Person variables: **KfV**

Synthesis and compilation: **NTUA**

FROM CAREPLUS OF TODAY TO CADaS OF TOMORROW

CAREPLUS
(data transformed at EU level)

National data are sent to the EC without any elaboration.
The EC applies transformation rules in order to transform them into the CAREPLUS common definition values.
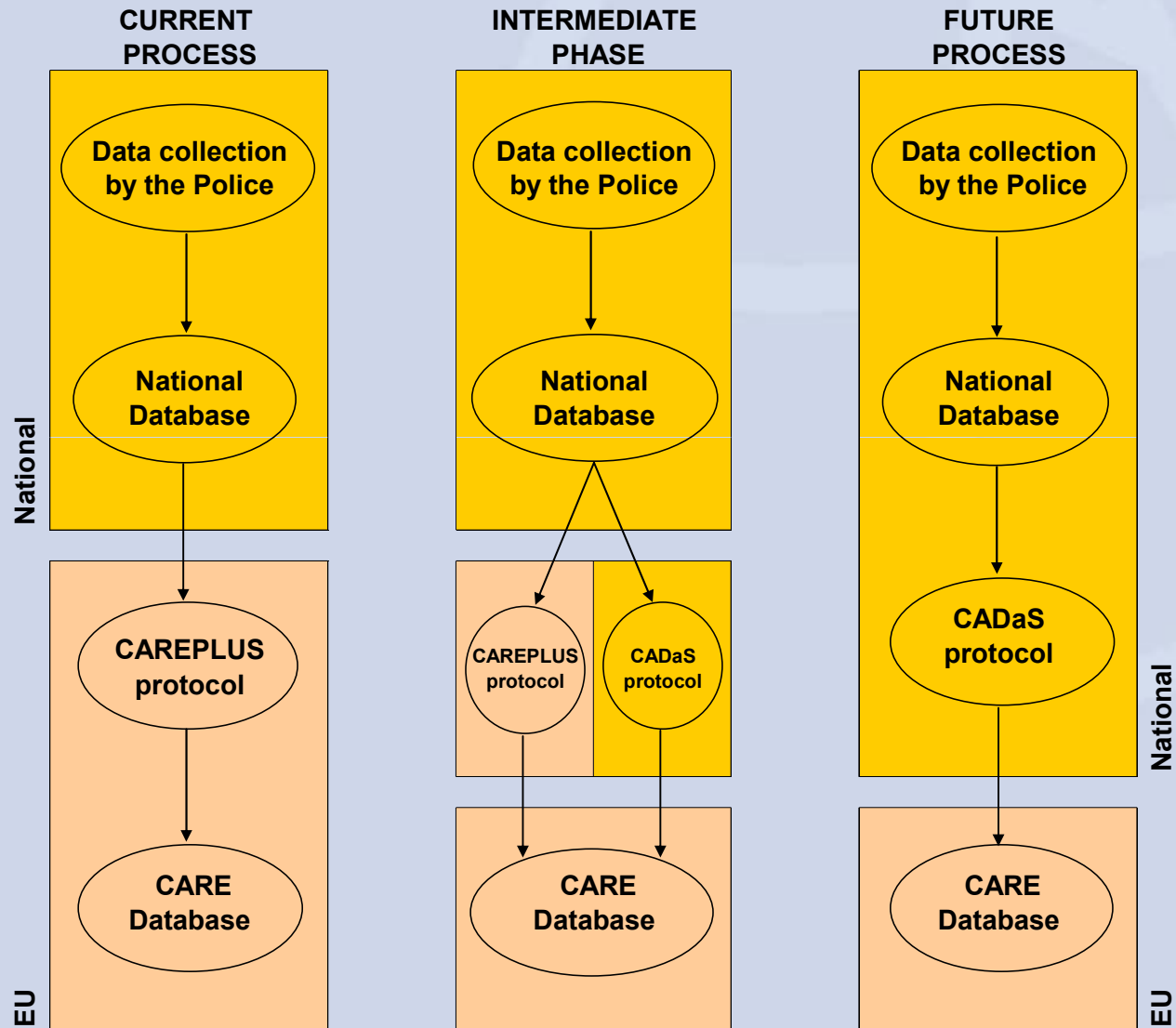
CADaS
(data transformed at national level)

National data are further processed and transformed in accordance to the CADaS definitions and structure (record layout) in each country.
Then, each country transmits the CADaS data to the EC.

55 Variables and 255 Values

83 Variables and 508 Values

Almost all CAREPLUS values are included in the CADaS

CURRENT, INTERMEDIATE AND FUTURE PROCESSES

CURRENT PROCESS

INTERMEDIATE PHASE

FUTURE PROCESS

National

- Data collection by the Police
- National Database
- CAREPLUS protocol
- CARE Database

National

- Data collection by the Police
- National Database
- CAREPLUS protocol
- CADaS protocol
- CARE Database

National

- Data collection by the Police
- National Database
- CADaS protocol
- CARE Database

EU

EU

OPTIONAL ADJUSTMENTS
OF THE NATIONAL SYSTEMS (1)

- EU countries continue using their national accident data collection systems. They collect data in the way they find it more suitable (manually, electronically, links with other databases, etc.).

- Whenever they wish they can implement adjustments in order to be able to transform data according to the CADaS protocol and provide to the EU more data compatible throughout Europe.

- Some variables might need to be collected under a different structure to meet local/regional/national needs. Countries continue using the particular variables and use appropriate transformations to transmit them to the EC.

OPTIONAL ADJUSTMENTS
OF THE NATIONAL SYSTEMS (2)

- The EU countries can choose to adopt as many CADaS variables and values as they wish.

- The 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 EU

- CADaS may also be considered as recommendation for national police road accident data collection reports.

- CADaS can be further enhanced (derived variables to be added) inside the CARE database allowing for a wide range of analysis reports.

SELECTION CRITERIA FOR CADaS VARIABLES AND VALUES (1)

1. **Variables and values must be useful** for road accident analysis, especially at EU level.

2. **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.

3. Each country should have the possibility to choose **alternative level of detail** of the various values.

4. **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.

SELECTION CRITERIA FOR
CADaS VARIABLES AND VALUES (2)

5. **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.

6. **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.)

7. **Existing variables and values of CAREPLUS** are of first priority within CADaS

8. CADaS variables and values **refer to casualty road accidents**; material damage-only accidents are not considered. Not injured participants within an injury accident can optionally be recorded.

VARIABLE CATEGORIES

The **CADaS** variables are divided into four basic categories, identified by a unique letter (code) at the beginning of the name of the respective variable:

A, for Accident related variables,

R, for Road related variables,

V, for Vehicle related variables,

P, for Person related variables

Example: **A-2   ACCIDENT DATE**

THREE LEVEL STRUCTURE

Accident

Accident

- A-1 ACCIDENT ID
- A-2 ACCIDENT DATE
- A-3 ACCIDENT TIME
- A-4 NUTS
- A-5 LAU
- A-6 WEATHER CONDITIONS
- A-7 LIGHT CONDITIONS
- A-8 ACCIDENTS WITH PEDESTRIANS
- A-9 ACCIDENTS WITH PARKED VEHICLES
- A-10 SINGLE VEHICLE ACCIDENTS
- A-11 AT LEAST TWO VEHICLES - NO TURNING
- A-12 AT LEAST TWO VEHICLES - TURNING OR CROSSING

Road

Road

A-1 ACCIDENT ID	R-18 ROAD SURFACE CONDITIONS
R-1 LATITUDE	R-19 ROAD OBSTACLES
R-2 LONGITUDE	R-20 CARRIAGEWAY TYPE
R-3 E-ROAD	R-21 SINGLE CARRIAGEWAY TYPE
R-4 E-ROAD KILOMETRE	R-22 NUMBER OF LANES
R-5 FUNC. CLASS - 1st ROAD	R-23 TRAFFIC LANE WIDTH
R-6 FUNC. CLASS - 2nd ROAD	R-24 EMERGENCY LANE
R-7 AADT - 1st ROAD	R-25 ROAD MARKINGS
R-8 AADT - 2nd ROAD	R-26 WORK ZONE RELATED
R-9 SPEED LIMIT - 1st ROAD	R-27 REL.TO THE WORK ZONE
R-10 SPEED LIMIT - 2nd ROAD	R-28 TYPE OF WORKS
R-11 MOTORWAY	R-29 ROAD CURVE
R-12 URBAN AREA	R-30 ROAD CURVATURE
R-13 ACCIDENT AT JUNCTION	R-31 ROAD CURV. LENGTH
R-14 AT GRADE JUNCTION TYPE	R-32 ROAD CURV. SUPERELEV.
R-15 REL.TO THE AT GRADE JUNC.	R-33 ROAD SEGMENT GRADE
R-16 REL. TO THE INTERCHANGE	R-34 GRADE
R-17 JUNCTION CONTROL	

Vehicle

Vehicle 1

A-1 ACCIDENT ID	V-9 MODEL
V-1 VEHICLE ID	V-10 REGISTRATION YEAR
V-2 VEHICLE TYPE	V-11 VEHICLE MANOEUVRE
V-3 VEHICLE SPECIAL FUNCTION	V-12 FIRST POINT OF IMPACT
V-4 TRAILER	V-13 FIRST OBJECT HIT IN
V-5 ENGINE POWER	V-14 FIRST OBJECT HIT OFF
V-6 ACTIVE SAFETY EQUIPMENT	V-15 INSURANCE
V-7 VEHICLE DRIVE	V-16 HIT & RUN
V-8 MAKE	V-17 REGISTRATION COUNTRY

Vehicle 2

· · ·   · · ·

Person

Person 1

- A-1 ACCIDENT ID
- V-1 VEHICLE ID
- P-1 LINKED VEHICLE
- P-2 PERSON ID
- P-3 DATE OF BIRTH
- P-4 GENDER
- P-5 NATIONALITY
- P-6 INJURY TYPE
- P-7 ROAD USER TYPE
- P-8 ALCOTEST
- P-9 ALCOTEST SAMPLE TYPE
- P-10 ALCOTEST RESULT
- P-11 ALCOHOL LEVEL
- P-12 DRUG TEST
- P-13 DRUG TEST RESULT
- P-14 DRIV. LICENSE ISSUE DATE
- P-15 DRIVING LICENSE VALIDITY
- P-16 SAFETY EQUIPMENT
- P-17 POSITION IN/ON VEHICLE
- P-18 PARTIC. DISTR. BY DEVICE
- P-19 PSYCOPHYS./ PHYS. IMPAIRMENT OR CONDITION
- P-20 TRIP/JOURNEY PURPOSE

Person 2

· · ·

Person 3

· · ·

· · ·

VARIABLE COMPONENTS

Variable Label:

- Section identifier (A, R, V or P)
- Numbering and Name
- Variable rating (H or L)

Variable definition and scope:

- Variable definition
- Brief description
- Importance and usefulness (rational lying behind its selection)

Values list

VALUE COMPONENTS

Value Labels:

Each value is further identified by the code of the variable, followed by a number which corresponds to each value and its name.

Value definitions:

The definition of each value is given, indicating also any particularities and any relevant assumptions regarding its collection.

Data format, concerning:

- The possibility to attribute one or more values to a variable
- The format of the value (number of digits, decimal places etc)

DATA FORMAT

The format of each variable included in the CADaS can vary, depending on the data collection needs

Various data formats were considered:

- Single numbers, corresponding to specific values
  (e.g. "1" corresponding to "driver"),

- Numbers with a straightforward meaning (date, age, engine power etc),

- Multiple numbers (each corresponding to a specific value), adopted in cases where several choices can be made,

- Codes (using a relevant value list, and the respective codes), e.g. Eurostat NUTS or E-road codes.

VARIABLE EXAMPLE

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.

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 affect on driving conditions.
A-6.07: Other
    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

Up to two values can be selected. A four digit number is filled in where the first two digits refer to the first choice and the rest refer to the second (if any). If only one value is to be selected the first two digits are filled in and the rest two digits are filled in with zeros.

VALUE CATEGORIES

- For several variables, two main distinct types of values are defined (according to the detail in which these data can be obtained):

  1. **Detailed**: concern information at the highest level of detail.

  2. **Alternative**: concern information of 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.

Especially for alternative values, the A identifier is used
(e.g. AA, RA, VA, PA),

EXAMPLE OF ALTERNATIVE VALUES

Variable: NATIONALITY

Values:

Detailed:
P-5.XXX Nationality code (one code corresponding to each country)

Alternative:
P-5.951 National
P-5.952 Foreigner, within the EU
P-5.953 Foreigner, outside the EU
P-5.954 Foreigner, not specified
P-5.999 Unknown

The detailed value indicates the person nationality at a disaggregate level (country code).

If the person nationality is not available at this level of detail, one of the alternative (aggregate) values can be selected.

CLASSIFICATION OF THE VARIABLES

At a first stage, each country can adopt (if they wish) only a subset of variables of the CADaS. This selection can be based on the importance of the recommended variables.

For that reason, all variables were separated into two broad categories, according to their importance for road accident analysis, as estimated by the SafetyNet partners:
- Variables of high importance (H)
- Variables of lower importance (L)

SUMMARY OF CADaS VARIABLES AND VALUES

Variable category	Code	Number of Variables			Number of Values		
		High (H) importance	Lower (L) importance	Total	Detailed values	Alternative values (A)	Total
Accident	**A**	7	5	12	84	13	97
Road	**R**	14	20	34	143	16	159
Vehicle	**V**	8	9	17	130	16	146
Person	**P**	14	6	20	95	11	106
Total		43	40	**83**	452	56	**508**

ACCIDENT TYPE SKETCHES
(CAREPLUS LEVEL 3)

Pedestrian crossing street outside a junction

Pedestrian crossing street at a junction

Hitting pedestrian - turning right (left)

Hitting pedestrian - turning left (right)

Pedestrian in the road

Pedestrian walking along the road

Pedestrians on pavement or bicycle lane

Hitting parked vehicles right (left) side of the road

Hitting parked vehicles left (right) side of the road

Single vehicle accident - Leaving straight road - either side of the road

Single vehicle accidents on the road

Single vehicle accidents in a bend - going either side of the road

Single vehicle accidents In junctions or entrances

Single vehicle accidents - others

Single vehicle accidents with animals

Single vehicle accidents with obstacles on or above the road

Single vehicle accidents with roadwork materials

Accidents between train and vehicle

Single vehicle accidents with obstacles - others

At least two vehicles - same direction - overtaking

At least two vehicles - same direction - rear end collisions

At least two vehicles - same direction - entering traffic

At least two vehicles - same direction - side collision

At least two vehicles - same direction - U-turn in front of other vehicle

At least two vehicles - same direction - others

At least two vehicles - head on collision in general

At least two vehicles - U-turn in front of other vehicle

At least two vehicles - opposite direction no turning - reversing

At least two vehicles - opposite direction no turning - others

At least two vehicles - turning or crossing - same road - same direction - rear end collision

At least two vehicles - turning or crossing - same road - same direction - turning right (left)

At least two vehicles - turning or crossing - same road - same direction - turning left (right)

At least two vehicles - turning or crossing - same road - same direction - others

At least two vehicles - same road - opposite direction - turning left (right) in front of other vehicle

At least two vehicles - same road - opposite direction - turning into same road

At least two vehicles - same road - opposite direction - turning into opposite roads

At least two vehicles - same road - opposite direction - turning right (left) in front of other vehicle

At least two vehicles - same road - opposite direction - turning others

At least two vehicles - different roads - turning right (left) in front of vehicle from the left (right)

At least two vehicles - different roads - turning right (left) - head on collision

At least two vehicles - different roads - turning left (right) into traffic from the right (left) side

At least two vehicles - different roads - turning left (right) into traffic from the left (right) side

At least two vehicles - different roads - turning into traffic - others

At least two vehicles - different roads - both vehicles turning

ACCIDENT RELATED VARIABLES (1)

A-1 ACCIDENT ID	H	xxxxxxxxxxx

A-2 ACCIDENT DATE		H
Date		xxxxxxxx
Unknown		99999999

A-3 ACCIDENT TIME	H
Time	hhmm
Unknown	9999

A-4 NUTS		H
NUTS 3		code
NUTS 2 (A)		code
NUTS 1 (A)		code
Unknown		99999

A-5 LAU		H
LAU 2 / LAU 1		code
Unknown		99...9

A-6 WEATHER CONDITIONS	H
Dry/Clear	01
Rain	02
Snow	03
Fog, Mist, Smoke	04
Sleet, Hail	05
Severe Winds	06
Other	07
Unknown	99

A-7 LIGHT CONDITIONS	H
Daylight	01
Twilight	02
Darkness street lights lit	03
Darkness street lights unlit	04
Darkness no street lights	05
Unknown	99

ACCIDENT TYPE (Variables A-8 - A-12 refer to corresponding sketches)

A-8 ACCIDENTS WITH PEDESTRIANS		L
Not applicable		00
Pedestrian crossing street - no turning of vehicle - outside a junction		01
Pedestrian crossing street - no turning of vehicle - at a junction		02
Pedestrian crossing street - no turning of vehicle - not specified	(A)	51
Pedestrians crossing - turning of vehicle - turning right (left)		03
Pedestrians crossing - turning of vehicle - turning left (right)		04
Pedestrians crossing - turning of vehicle - not specified	(A)	52
Pedestrian stationery in the road		05
Pedestrian walking along the road		06
Pedestrians on pavement or bicycle lane		07
Pedestrian walking along the road or stationary in the road	(A)	53
Pedestrian others		08
Pedestrian accident - unknown		99

A-9 ACCIDENTS WITH PARKED VEHICLES		L
Not applicable		00
Hitting parked vehicles right (left) side of the road		01
Hitting parked vehicles left (right) side of the road		02
Hitting parked vehicles-side of the road-not specified	(A)	51
Accidents with parked vehicles - opening doors		03
Other accidents with parked vehicles		04
Accidents with parked vehicles - unknown		99

ACCIDENT RELATED VARIABLES (2)

A-10 SINGLE VEHICLE ACCIDENTS		L
Not applicable		00
With animals		01
With obstacles on or above the road		02
With roadwork materials		03
Accidents between train and vehicle		04
With obstacles - others		05
With obstacles on the road - not specified	(A)	51
Leaving straight road - either side of the road		06
In a bend - going either side of the road		07
On the road		08
Including rollover		09
In junctions or entrances		10
Without obstacles - others		11
Without obstacles on the road	(A)	52
Single vehicle accidents - unknown		99

A-11 AT LEAST TWO VEHICLES - NO TURNING		L
Not applicable		00
Same direction - overtaking		01
Same direction - rear end collisions		02
Same direction - entering traffic		03
Same direction - side collision		04
Same direction - others		05
Same direction no turning - not specified	(A)	51
Head on collision in general		06
Opposite direction no turning - reversing		07
Opposite direction no turning - others		08
Opposite direction no turning - not specified	(A)	52
Others no turning		09
At least two vehicles - no turning - unknown		99

A-12 AT LEAST TWO VEHICLES - TURNING OR CROSSING		L
Not applicable		00
Same road - same direction - rear end collision		01
Same road - same direction - U-turn in front of other vehicle		02
Same road - same direction - turning right (left)		03
Same road - same direction - turning left (right)		04
Same road - same direction - others		05
Same road - same direction - not specified	(A)	51
Same road - opposite direction - turning left (right) in front of other vehicle		06
Same road - opposite direction - U-turn in front of other vehicle		07
Same road - opposite direction - turning into same road		08
Same road - opposite direction - turning into opposite roads		09
Same road - opposite direction - turning right (left) in front of other vehicle		10
Same road - opposite direction - turning others		11
Same road - opposite direction - not specified	(A)	52
Crossing (no turning) - different roads		12
Different roads - turning right (left) in front of vehicle from the left (right)		13
Different roads - turning right (left) - head on collision		14
Different roads - both vehicles turning		15
Different roads - turning left (right) into traffic from the right (left) side		16
Different roads - turning left (right) into traffic from the left (right) side		17
Different roads - turning into traffic - others		18
Turning - different roads - not specified	(A)	53
Crossing or turning - others		19
At least two vehicles - turning or crossing - unknown		99

**Alternative (A) values in variables A-8 - A-12
are of high priority (H)**

ROAD RELATED VARIABLES (1)

A-1 ACCIDENT ID	H
Accident ID xxxxxxxxxxxx	

R-1 LATITUDE	L
Latitude +/-xxx.xxxx	
Unknown 9999999	

R-3 E-ROAD	L
Not applicable	000
E-road code	xxx
Unknown	999

R-4 E-ROAD KILOMETRE	L
Not applicable	0000
E-road kilometre	xxxx
Unknown	9999

R-2 LONGITUDE	L
Longitude +/-xxx.xxxx	
Unknown 9999999	

R-5 ROAD FUNCTIONAL CLASS - FIRST ROAD	H
Principal arterial	01
Secondary arterial	02
Collector	03
Local	04
Other	05
Unknown	99

R-6 ROAD FUNCTIONAL CLASS - SECOND ROAD	H
Not applicable	00
Principal arterial	01
Secondary arterial	02
Collector	03
Local	04
Other	05
Unknown	99

R-7 AVERAGE ANNUAL DAILY TRAFFIC - FIRST ROAD	L
A.A.D.T.	xxxxxx
Unknown	999999

R-8 AVERAGE ANNUAL DAILY TRAFFIC - SECOND ROAD	L
Not applicable	000000
A.A.D.T.	xxxxxx
Unknown	999999

R-9 SPEED LIMIT - FIRST ROAD	H
Speed limit	xxx
No speed limit	001
Unknown	999
<30 km/h (A)	501
30-50 km/h (A)	502
51-80 km/h (A)	503
81-100 km/h (A)	504
101 - 120 km/h (A)	505
>120 km/h (A)	506

R-10 SPEED LIMIT - SECOND ROAD	H
Not applicable	000
Speed limit	xxx
No speed limit	001
Unknown	999
<30 km/h (A)	501
30-50 km/h (A)	502
51-80 km/h (A)	503
81-100 km/h (A)	504
101 - 120km/h (A)	505
>120 km/h (A)	506

ROAD RELATED VARIABLES (2)

R-11 MOTORWAY — H

Yes	01
No	02
Unknown	99

R-12 URBAN AREA — H

Inside	01
Outside	02
Unknown	99

R-13 ACCIDENT AT JUNCTION — H

Not at junction	00
At grade	01
Interchange	02
Unknown	99

R-14 AT GRADE JUNCTION TYPE — H

Not applicable	00
Crossroad	01
Roundabout	02
T or staggered junction	03
Multiple junction	04
Other	05
Unknown	99

R-15 RELATION TO THE AT GRADE JUNCTION — L

Not applicable	00
Approaching (20m)	01
Acceleration / decelerration lanes	02
Thru roadway (on intersection)	03
Crossover related	04
Intersection	05
Unknown	99

R-16 RELATION TO THE INTERCHANGE — L

Not applicable	00
Approaching (20m)	01
Acceleration / decelerration lanes	02
On-off ramp	03
Thru roadway (on interchange)	04
Intersection	05
Unknown	99

R-17 JUNCTION CONTROL — L

Not applicable	00
Authorised person	01
Give way signs or markings/stop sign	02
Automatic traffic signals	03
Uncontrolled	04
Unknown	99

R-18 ROAD SURFACE CONDITIONS — H

Dry	01
Snow, frost, ice, slush	02
Slippery	03
Wet,damp	04
Flood	05
Other	06
Unknown	99

R-20 CARRIAGEWAY TYPE — H

Single carriageway	01
Dual carriageway	02
Unknown	99

R-21 SINGLE CARRIAGEWAY TYPE — H

Not applicable	00
One way street	01
Two way street	02
Unknown	99

R-22 NUMBER OF LANES — H

Nr of lanes	xx
Unknown	99

R-23 TRAFFIC LANE WIDTH — L

Traffic lane width	xxxx
Unknown	9999

ROAD RELATED VARIABLES (3)

R-19 ROADSIDE OBSTACLES	L
Yes	01
No	02
Unknown	99

R-24 EMERGENCY LANE	L
Yes	01
No	02
Unknown	99

R-25 ROAD MARKINGS		L
None		01
Centerline skip-dash		02
Centerline solid,single		03
Centerline solid,double		04
Lane line skip-dash		05
Lane line solid		06
Edge line left		07
Edge line right		08
Turn arrow symbols		09
Other		10
Unknown		99
Centerline	(A)	51
Lane line	(A)	52
Edge line	(A)	53

R-26 WORK ZONE RELATED	H
Yes	01
No	02
Unknown	99

R-28 TYPE OF WORKS	L
Not applicable	00
Lane closure	01
Lane shift / crossover	02
Work on shoulder or median	03
Intermittent or moving work	04
Other	05
Unknown	99

R-27 RELATION TO THE WORK ZONE		L
Not applicable		00
Before the boundaries of the work zone		01
Transition area		02
Activity area		03
Termination area		04
Unknown		99
Inside the work zone	(A)	51

R-29 ROAD CURVE	L
Yes	01
No	02
Unknown	99

R-30 ROAD CURVATURE	L
Not applicable	00
Tight	01
Open	02
Unknown	99

R-31 ROAD CURVATURE LENGTH	L
Not applicable	0000
Length	xxxx
Unknown	9999

R-32 ROAD CURVATURE SUPERELEVATION	L
Not applicable	000
Superelevation	xxx
Unknown	999

R-33 ROAD SEGMENT GRADE	L
Yes	01
No	02
Unknown	99

R-34 GRADE	L
Not applicable	000
Rise (or fall) per 100 meters	xxx
Unknown	999

VEHICLE RELATED VARIABLES (1)

A-1 ACCIDENT ID	H	xxxxxxxxxxx

V-1 VEHICLE ID	H	xx

V-2 VEHICLE TYPE — H

Pedal cycle	01
Moped	02
Motorcycle	03
Passenger car	04
Minibus	05
Bus	06
Coach	07
Trolley	08
Goods vehicle under 3.5t	09
Goods vehicle over 3.5t	10
Road tractor	11
Agricultural tractor	12
Tram/light rail	13
Ridden animal	14
Other motor vehicle	15
Other non-motor vehicle	16
Pedestrian	17
Unknown	99
Two wheel motor vehicle (A)	51
Bus or coach or trolley (A)	52
Goods vehicle (A)	53

V-3 VEHICLE SPECIAL FUNCTION — L

Not applicable	00
No special function	01
Taxi	02
SUV / off road vehicle	03
Vehicle used as school bus	04
Vehicle used as other bus	05
Military	06
Police	07
Ambulance	08
Fire truck	09
Dangerous goods vehicle	10
Unknown	99
Vehicle used as bus (A)	51
Special vehicle (A)	52

V-4 TRAILER — H

Not applicable	00
Without trailer	01
With trailer	02
Unknown	99

V-5 POWER — H

Not applicable	000
Engine power	xxx
Unknown	999

V-6 ACTIVE SAFETY EQUIPMENT — L

Not applicable	00
Active safety equipment	code
Other	98
Unknown	99

V-7 VEH. DRIVE — L

Not applicable	00
Left hand drive	01
Right hand drive	02
Unknown	99

V-8 MAKE — L

Not applicable	000
Make	xxx
Unknown	999

V-9 MODEL — L

Not applicable	00
Model	name
Unknown	99

V-10 REGISTRATION YEAR — H

Not applicable	0000
Year	xxxx
Unknown	9999

VEHICLE RELATED VARIABLES (2)

V-11 VEHICLE MANOEUVRE				H
Vehicle manoeuvres:		Changing lane to right	14	**Pedestrian manoeuvres:**
Reversing	01	Avoidance manoeuvre	15	Crossing (on pedestrian crossing) 21
Parked	02	Overtaking vehicle on its left	16	Crossing (on other point) 22
Entering a parking position	03	Overtaking vehicle on its right	17	Walking on the carriageway, facing traffic 23
Leaving a parking position	04	Going round left hand bend	18	Walking on the carriageway, back to traffic 24
Waiting to go ahead but held up	05	Going round right hand bend	19	Standing or playing on the carriageway 25
Slowing or stopping	06	Straight forward/normal driving	20	Not on the carriageway 26
Moving off	07	Entering/leaving parking position (A)	51	Lying on the carriageway 27
U turn	08	Waiting to turn (A)	52	Crossing (A) 56
Waiting to turn left	09	Turning (A)	53	Walking or standing on the carriageway (A) 57
Turning left	10	Changing lane (A)	54	
Waiting to turn right	11	Overtaking (A)	55	
Turning right	12			Other 98
Changing lane to left	13			Unknown 99

V-12 FIRST POINT OF IMPACT	L
Not applicable	00
No impact	01
Left front	02
Centre front	03
Right front	04
Right side	05
Right rear	06
Centre rear	07
Left rear	08
Left side	09
Unknown	99
Front - not specified (A)	51
Rear - not specified (A)	52

V-13 FIRST OBJECT HIT IN CARRIAGEWAY	L
Not applicable	00
None	01
Object from previous accident	02
Parked vehicle	03
Bridge	04
Bollard/refuge	05
Central island of roundabout	06
Kerb	07
Animal (except ridden animal)	08
Other object	09
Unknown	99

V-14 FIRST OBJECT HIT OFF CARRIAGEWAY	L
Not applicable	00
None	01
Road sign/traffic signal	02
Lamp post	03
Pole	04
Tree	05
Bus stop/shelter	06
Central crash barrier	07
Crash barrier beside carriageway	08
Ditch	09
Parked vehicle	10
Stone/rock/mountain side	11
Fence	12
Submerged in water	13
Other permanent object	14
Unknown	99

V-15 INSURANCE	L
Not applicable	00
Insured for vehicle	01
Not insured for vehicle	02
Unknown	99

V-16 HIT & RUN	L
Not applicable	00
Not Hit & Run	01
Hit & Run	02
Unknown	99

V-17 REG. COUNTRY	H
Not applicable	000
Country code	xxx
National (A)	501
Foreign (A)	502

PERSON RELATED VARIABLES (1)

A-1 ACCIDENT ID	H	xxxxxxxxxxx

V-1 VEHICLE ID	H	xx

P-1 LINKED VEHICLE	H
Not applicable	00
Linked vehicle	xx

P-2 PERSON ID	H	xx

P-3 DATE OF BIRTH	H
Date	xxxxxxx
Age (A)	00000xxx
Unknown	99999999

P-4 GENDER	H
Male	01
Female	02
Unknown	99

P-5 NATIONALITY	
Nationality code	x
National	(A)	9
Foreigner, within the EU	(A)	9
Foreigner, outside the EU	(A)	9
Foreigner, not specified	(A)	9
Unknown		9

P-6 INJURY TYPE	H
Fatally injured	01
Seriously injured	02
Slightly injured	03
Not injured	04
Unknown	99
Injured (A)	51

P-7 ROAD USER TYPE	H
Driver	01
Passenger	02
Pedestrian	03
Unknown	99

P-8 ALCOTEST	L
Not applicable	00
Tested	01
Not tested	02
Unknown	99

P-9 ALCOTEST SAMPLE TYPE	L
Not applicable	00
Blood sample	01
Breath sample	02
Unknown	99

P-10 ALCOTEST RESULT	H
Not applicable	00
Positive	01
Negative	02
Unknown	99

P-11 ALCOHOL LEVEL	H
Not applicable	000
Level	xxx
Unknown	999

P-12 DRUG TEST	L
Not applicable	00
Tested	01
Not tested	02
Unknown	99

P-13 DRUG TEST RESULT	L
Not applicable	00
Positive	01
Negative	02
Unknown	99

P-14 DRIVING LICENSE ISSUE DATE	H
Not applicable	000000
Year / month	xxxxx
Unknown	999999
Years&months of driv. exp. (A)	00xxxx

PERSON RELATED VARIABLES (2)

P-15 DRIVING LICENSE VALIDITY	L
Not applicable	00
Appropriate driving license	01
Inappropriate driving license	02
Only driving lesson or driving test	03
Invalid or suspended driving license	04
No driving license	05
No license required	06
Unknown	99
Invalid or no driving license (A)	51

P-16 SAFETY EQUIPMENT	H
Not applicable	00
Seat belt worn no airbag in vehicle	01
Seat belt worn and airbag released	02
Seat belt worn and airbag not released	03
Seat belt not worn and airbag released	04
Crash helmet worn	05
Child safety seat facing forwards used	06
Child safety seat facing backwards used	07
No use of safety equipment	08
Other	09
Unknown	99
Seat belt worn - not specified (A)	51
Child safety seat used - not specified (A)	52

P-17 POSITION IN/ON VEHICLE	H
Not applicable	00
Driver	01
Front seat passenger	02
Rear seat passenger seated	03
Rear seat passenger standing	04
Rear seat passenger not specified (A)	51
Elsewhere	05
Unknown	99

P-18 PARTICIPANT DISTRACTED BY DEVICE	L
Not applicable	00
Not distracted by device	01
Telecommunication device	02
Other electronic device	03
Unknown	99

P-20 TRIP / JOURNEY PURPOSE	L
Not applicable	00
Route to school - education / work	01
Driving as part of the work	02
Leisure / Entertainment	03
Holiday	04
Driving lesson	05
Other	06
Unknown	99

P-19 PSYCHOPHYSICAL / PHYSICAL IMPAIRMENT OR CONDITION	L
Not applicable	00
Good	01
Inattention / absence of mind / Worried	02
Tired / fall asleep	03
Illness / Sudden illness / Lost consciousness	04
Defective eyesight / hearing	05
Dazzled by sunlight	06
Others	07
Unknown	99

CADaS REFERENCE GUIDE
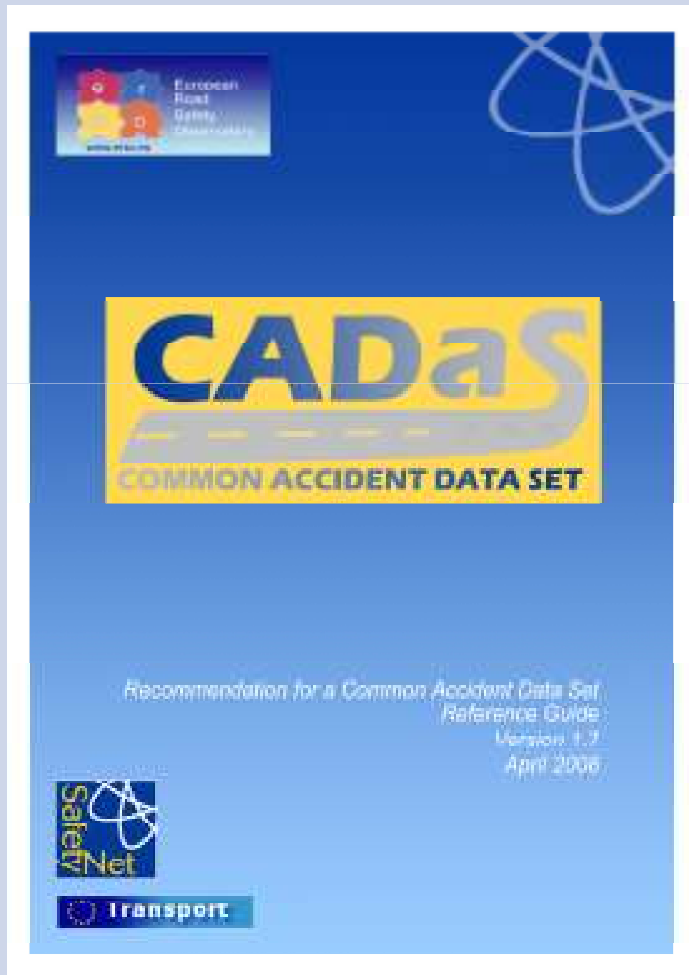
The CADaS uses comprehensive annexes (diagrams, sketches, free text, value lists)

- Annex A: Eurostat NUTS
- Annex B: Junction at grade diagram
- Annex C: Interchange diagram
- Annex D: Work zone diagram
- Annex E: Accident type sketches
- Annex F: Vehicle Makes
- Annex G: Countries of the world
- Annex H: E-roads
- Annex I: Active safety equipment systems
- Annex J: List of variables and values

THE KING AND HIS FIGHT

The King was satisfied by the new flexible and complete "data" system, the "CADaS" system, and he sent it to his Feudal Lords with the request to use it whenever they can to fight the "Road Beast".

The Feudal Lords started suspiciously to examine it, and some of them started complaining for this "cursed" new data system.

Some other Feudal Lords welcomed it, and one by one started using parts of the "CADaS" system.

THE KING AND THE "ROAD BEAST"

The King did his best to provide more "knowledge" to his Warriors and the Warriors of the Feudal Lords and hopes that the Feudal Lords will make good use of the new CADaS system.

The King and his people will continue struggling for more efficiency in this tremendous fight against the "Road Beast", hoping to make their children live happily thereafter.

Attaining road accident uniformity at EU level

George Yannis, Petros Evgenikos, Antonis Chaziris
National Technical University of Athens (NTUA)

Project co-financed by the European Commission, Directorate-General Transport & Energy

www.erso.eu