



IRTAD

International Traffic Safety Data
and Analysis Group



CADaS - A common road accident data framework in Europe

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4th IRTAD CONFERENCE
*Road safety data: collection and analysis
for target setting and monitoring performances and progress*



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SCOPE

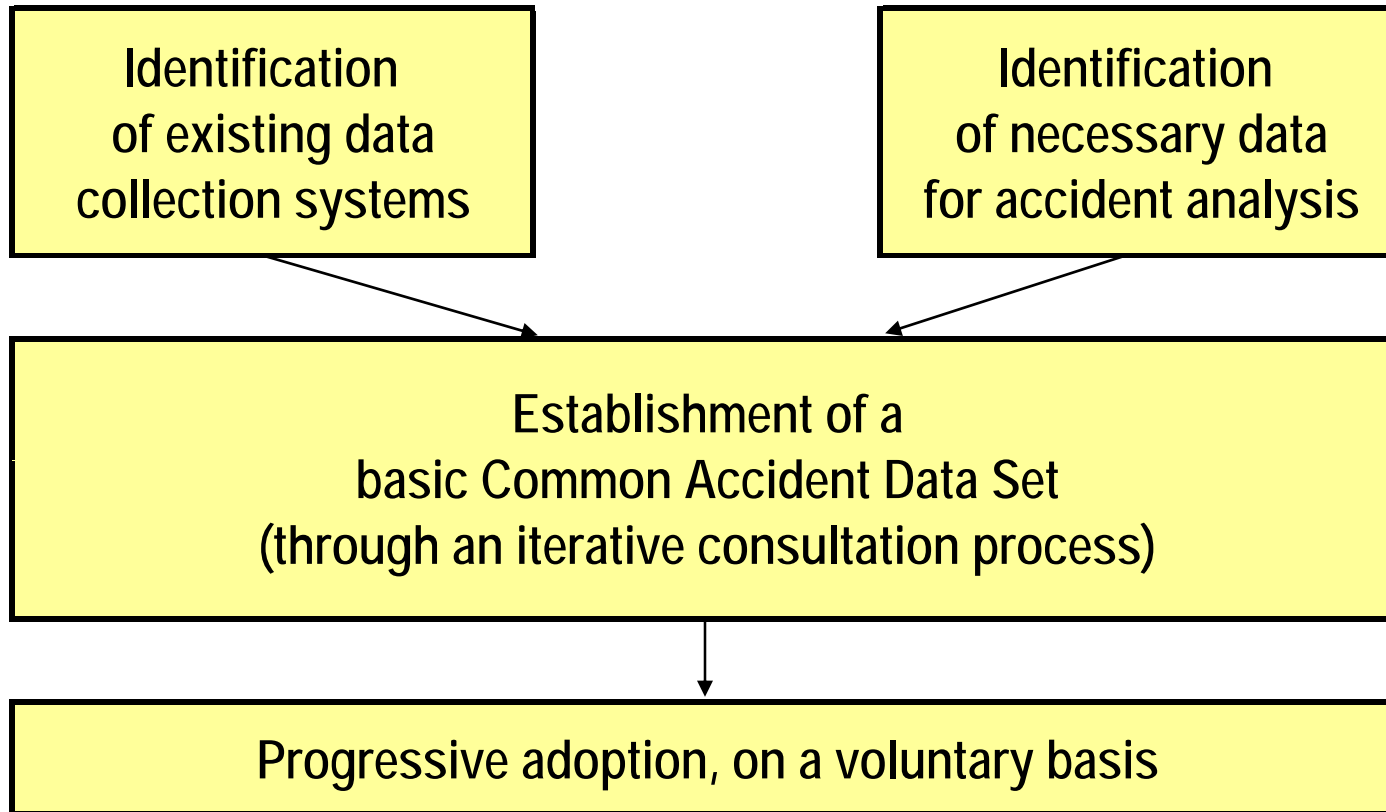
- The **Common Accident Data Set (CADaS)** allows for comparable road accident data to be available in Europe.
- The **CADaS** system will be implemented by the EU Member States:
 - on a voluntary basis
 - in pieces ("a la carte" system)
 - gradually

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



- SafetyNet partners: NTUA (EL), DRD (DK), TRL (UK), CDV (CZ), KfV (AT), KTI (HU), SWOV (NL), INTRAS (ES)
 - CARE Experts group
 - EC Road Safety Unit

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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.

55 Variables and 255 Values

CADaS

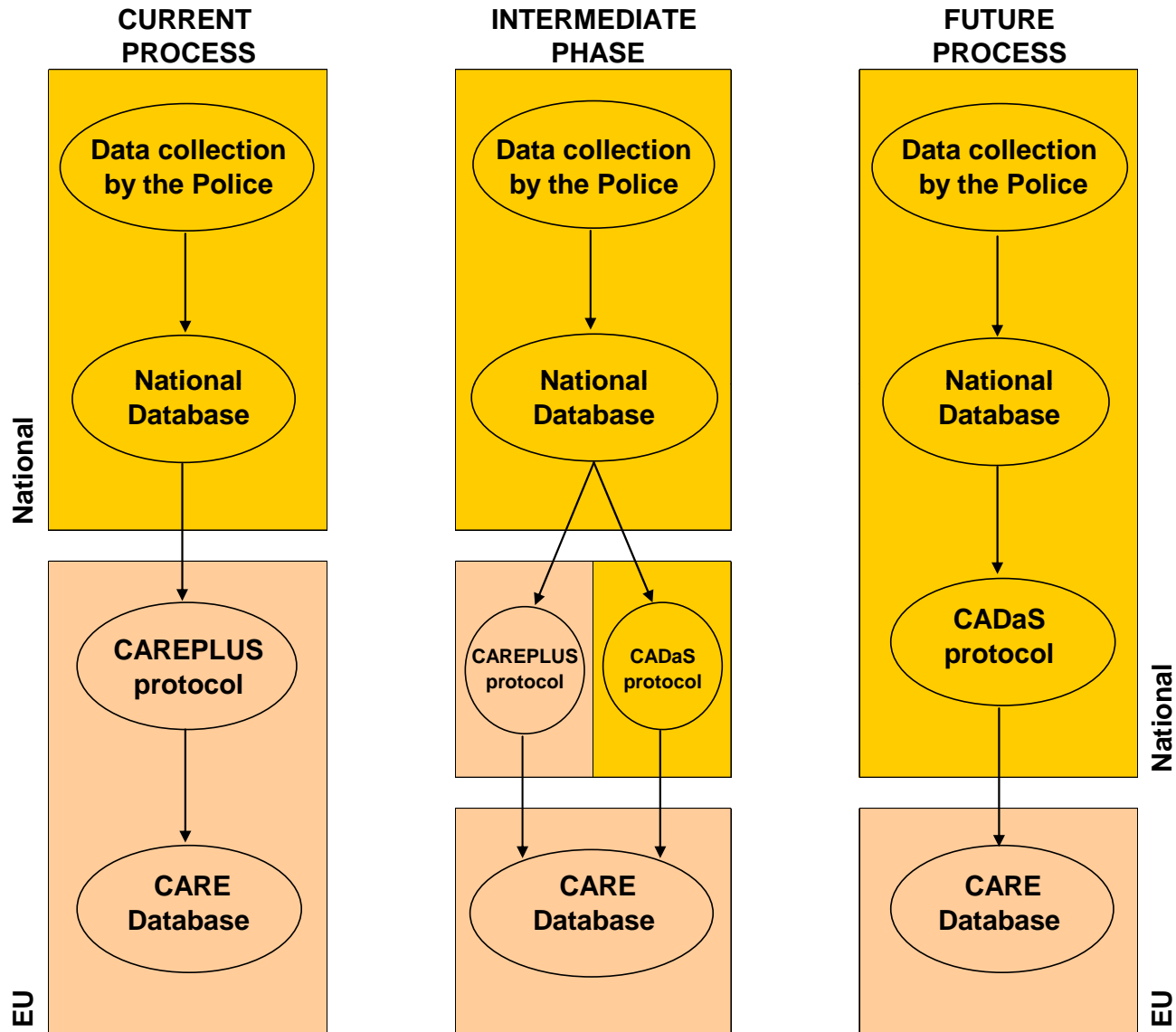
(data transformed at national level)

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.

73 Variables and 471 Values



CURRENT, INTERMEDIATE AND FUTURE PROCESSES



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, attribute values, their definitions and data format.

SELECTION CRITERIA FOR CADaS VARIABLES AND VALUES (2)

5. Data 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 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 can optionally be recorded.



VARIABLES 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,

U, for **Traffic Unit** 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	

Traffic Unit

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/VN 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, U 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:

- Possibility to attribute one or more values to a variable
- Format of the value (nr. 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.

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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:** information at the highest level of detail.
 2. **Alternative:** 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, UA, 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.

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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 VAULES

Variable category	Code
Accident	A
Road	R
Traffic Unit	U
Person	P
Total	

Number of Variables		
High (H) importance	Lower (L) importance	Total
7	5	12
11	15	26
7	10	17
11	7	18
36	37	73

Number of Values		
Detailed values	Alternative values (A)	Total
86	13	98
106	13	119
137	15	152
91	10	102
420	51	471



ACCIDENT TYPE SKETCHES

<p>Pedestrian crossing street outside a junction</p>	<p>Hitting parked vehicles left (right) side of the road</p>	<p>Single vehicle accidents with animals</p>	<p>At least two vehicles - same direction - rear end collisions</p>	<p>At least two vehicles - U-turn in front of other vehicle</p>	<p>At least two vehicles - turning or crossing - same road - same direction - turning left (right)</p>	<p>At least two vehicles - same road - opposite direction - turning right (left) in front of other vehicle</p>	<p>At least two vehicles - different roads - turning right (right) into traffic from the right (left) side</p>
<p>Pedestrian crossing street at a junction</p>	<p>Single vehicle accident - Leaving straight road - either side of the road</p>	<p>Single vehicle accidents with obstacles on or above the road</p>	<p>At least two vehicles - same direction - entering traffic</p>	<p>At least two vehicles - opposite direction no turning - reversing</p>	<p>At least two vehicles - turning or crossing - same road - same direction - others</p>	<p>At least two vehicles - same road - opposite direction - turning others</p>	<p>At least two vehicles - different roads - turning left (right) into traffic from the left (right) side</p>
<p>Hitting pedestrian - turning right (left)</p>	<p>Single vehicle accidents on the road</p>	<p>Single vehicle accidents with roadwork materials</p>	<p>At least two vehicles - same direction - side collision</p>	<p>At least two vehicles - opposite direction no turning - others</p>	<p>At least two vehicles - turning or crossing - same road - opposite direction - others</p>	<p>At least two vehicles - same road - opposite direction - turning right (left) in front of vehicle from the left (right)</p>	<p>At least two vehicles - different roads - turning left (right) into traffic from the left (right) side</p>
<p>Hitting pedestrian - turning left (right)</p>	<p>Single vehicle accidents in a bend - going either side of the road</p>	<p>Accidents between train and vehicle</p>	<p>At least two vehicles - same direction - U-turn in front of other vehicle</p>	<p>At least two vehicles - opposite direction no turning - others</p>	<p>At least two vehicles - same road - opposite direction - turning right (left) in front of other vehicle</p>	<p>At least two vehicles - different roads - turning right (left) in front of vehicle from the left (right)</p>	<p>At least two vehicles - different roads - turning into traffic - others</p>
<p>Pedestrian in the road</p>	<p>Single vehicle accidents in junctions or entrances</p>	<p>Single vehicle accidents with obstacles - others</p>	<p>At least two vehicles - same direction - U-turn in front of other vehicle</p>	<p>At least two vehicles - turning or crossing - same road - same direction - rear end collision</p>	<p>At least two vehicles - same road - opposite direction - turning into same road</p>	<p>At least two vehicles - different roads - turning right (left) - head on collision</p>	<p>At least two vehicles - different roads - both vehicles turning</p>
<p>Pedestrian walking along the road</p>	<p>Single vehicle accidents on pavement or bicycle lane</p>	<p>At least two vehicles - same direction - overtaking</p>	<p>At least two vehicles - same direction - others</p>	<p>At least two vehicles - turning or crossing - same road - same direction - turning right (left)</p>	<p>At least two vehicles - same road - opposite direction - turning into opposite roads</p>	<p>At least two vehicles - different roads - turning right (left) - head on collision</p>	<p>At least two vehicles - different roads - both vehicles turning</p>
<p>Hitting parked vehicles right (left) side of the road</p>	<p>Single vehicle accidents - others</p>	<p>At least two vehicles - same direction - head on collision in general</p>	<p>At least two vehicles - head on collision in general</p>	<p>At least two vehicles - turning or crossing - same road - same direction - turning right (left)</p>	<p>At least two vehicles - same road - opposite direction - turning into opposite roads</p>	<p>At least two vehicles - different roads - turning right (left) - head on collision</p>	<p>At least two vehicles - different roads - both vehicles turning</p>

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ACCIDENT RELATED VARIABLES (1)

A-1 ACCIDENT ID		H	A-4 NUTS		H	A-6 WEATHER CONDITIONS		H	A-7 LIGHT CONDITIONS		H
Country code		xx	NUTS 3	code		Dry/Clear	01		Daylight	01	
Year		xxxx	NUTS 2 (A)	code		Rain	02		Twilight	02	
Accident ID		xxxxxx	NUTS 1 (A)	code		Snow	03		Darkness street lights lit	03	
			Unknown	99999		Fog, Mist, Smoke	04		Darkness street lights unlit	04	
						Sleet, Hail	05		Darkness no street lights	05	
A-2 ACCIDENT DATE		H	A-5 LAU		H	Severe Winds	06		Unknown	99	
Date		xxxxxxxx	LAU 2 / LAU 1	code		Other	07				
			Unknown	99...9		Unknown	99				
A-3 ACCIDENT TIME		H									
Time		hhmm									
Unknown		9999									
A-8 ACCIDENTS WITH PEDESTRIANS					L	A-9 ACCIDENTS WITH PARKED VEHICLES					L
Not applicable					00	Not applicable					00
Pedestrian crossing street - no turning of vehicle - outside a junction					01	Hitting parked vehicles right (left) side of the road					01
Pedestrian crossing street - no turning of vehicle - at a junction					02	Hitting parked vehicles left (right) side of the road					02
Pedestrian crossing street - no turning of vehicle - not specified (A)					51	Hitting parked vehicles-side of the road-not specified (A)					51
Pedestrian crossing - turning of vehicle - turning right (left)					03	Accidents with parked vehicles - opening doors					03
Pedestrian crossing - turning of vehicle - turning left (right)					04	Other accidents with parked vehicles					04
Pedestrian crossing - turning of vehicle - not specified (A)					52	Accidents with parked vehicles - unknown					99
Pedestrian hit by reversing vehicle					05						
Pedestrian stationery in the road					06						
Pedestrian walking along the road					07						
Pedestrians on pavement or bicycle lane					08						
Pedestrian walking along the road or stationary in the road (A)					53						
Pedestrian others					09						
Pedestrian accident - unknown					99						



ACCIDENT RELATED VARIABLES (2)

A-10 SINGLE VEHICLE ACCIDENTS		L	A-11 AT LEAST TWO VEHICLES - NO TURNING		L
Not applicable		00	Not applicable		00
With animals		01	Same direction - overtaking		01
With obstacles on or above the road		02	Same direction - rear end collisions		02
With roadwork materials		03	Same direction - entering traffic		03
Accidents between train/tram and vehicle		04	Same direction - side collision		04
With obstacles - others		05	Same direction - others		05
With obstacles on the road - not specified	(A)	51	Same direction no turning - not specified	(A)	51
Leaving straight road - either side of the road		06	Head on collision in general		06
In a bend - going either side of the road		07	Opposite direction no turning - reversing		07
On the road		08	Opposite direction no turning - others		08
Including rollover		09	Opposite direction no turning - not specified	(A)	52
In junctions or entrances		10	Others no turning		09
Without obstacles - others		11	At least two vehicles - no turning - unknown		99
Without obstacles on the road	(A)	52			
Single vehicle accidents - 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



ROAD RELATED VARIABLES (1)

A-1 ACCIDENT ID		H	R-1 LATITUDE		L	R-2 LONGITUDE		L	R-3 E-ROAD		L	R-4 E-ROAD		L
Country code		xx	Latitude	+/-xxx.xxxx		Longitude	+/-xxx.xxxx		n/a	0000/0000/0000		KILOMETRE		
Year		xxxx	Unknown	9999999		Unknown	9999999		Code(s)	xxxx/xxxx/xxxx		n/a		0000
Accident ID		xxxxxx							Unknown	9999/9999/9999		Kilometre		xxxx
												Unknown		9999

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

R-11 MOTORWAY		H
Yes		01
No		02
Unknown		99

R-12 URBAN AREA		H
Inside		01
Outside		02
Unknown		99



ROAD RELATED VARIABLES (2)

R-13 JUNCTION		H	R-14 REL. TO JUNCTION-INTERCHANGE		L	R-15 JUNCTION CONTROL		L
Not at junction		00	Not applicable		00	Not applicable		00
At grade - crossroad		01	Approaching (20m)		01	Authorised person		01
At grade - roundabout		02	Acceleration / deceleration lanes		02	Give way/stop signs-markings		02
At grade - T or staggered junction		03	Through roadway		03	Automatic traffic signals		03
At grade - multiple junction		04	Entrance - exit ramps		04	Uncontrolled		04
Not at grade (interchange)		05	Crossover related		05	Unknown		99
Other		06	Intersection		06			
Unknown		99	Unknown		99			

R-16 SURFACE CONDITIONS		H	R-17 OBSTACLES		L	R-19 NUMBER OF LANES		H
Dry		01	Yes		01	Nr of lanes (1 or 2 directions)		xx
Snow, frost, ice, slush		02	No		02	Nr of lanes (total) (A)		xx
Slippery		03	Unknown		99	Unknown		99
Wet,damp		04						
Flood		05						
Other		06						
Unknown		99						

R-18 CARRIAGEWAY TYPE		H	R-20 EMERGENCY LANE		L
Single carriageway - one way street		01	Yes		01
Single carriageway - two way street		02	No		02
Dual carriageway		03	Unknown		100
Unknown		99			

R-21 MARKINGS		L	R-22 TUNNEL		L	R-23 BRIDGE		L
None or faded / deleted		01	Yes		01	Yes		01
Only separating travel directions		02	No		02	No		02
Separating travel directions and lanes		03	Unknown		99	Unknown		99
Only separating lanes		04						
Other		05						
Unknown		99						

R-24 WORK ZONE RELATED		H	R-25 ROAD CURVE		L	R-26 ROAD SEGMENT GRADE		L
Yes		01	Yes		01	Yes		01
No		02	No		02	No		02
Unknown		99	Unknown		99	Unknown		99



TRAFFIC UNIT RELATED VARIABLES (1)

A-1 ACCIDENT ID		H	U-2 TRAFFIC UNIT TYPE		H	U-3 VEHICLE SPECIAL FUNCTION		L
Country code		xx	Pedal cycle		01	Not applicable		00
Year		xxxx	Moped		02	No special function		01
Accident ID		xxxxxx	Motorcycle up to 125cc		03	Taxi		02
			Motorcycle over 125cc		04	SUV / off road vehicle		03
U-1 TRAFFIC UNIT ID		H	Passenger car		05	Vehicle used as school bus		04
		xx	Minibus		06	Vehicle used as scheduled bus		05
U-4 TRAILER		H	Bus		07	Military		06
Not applicable		00	Coach		08	Police		07
Without trailer		01	Trolley bus		09	Ambulance		08
With trailer		02	Goods vehicle under 3.5t		10	Fire truck		09
Unknown		99	Goods vehicle over 3.5t		11	Dangerous goods vehicle		10
			Road tractor		12	Unknown		99
U-5 ENGINE POWER		L	Agricultural tractor		13	Special vehicle	(A)	52
Not applicable		000	Tram/light rail		14			
Engine power		xxx	Ridden animal		15	U-7 VEH. DRIVE		L
Unknown		999	Other motor vehicle		16	Not applicable		00
			Other non-motor vehicle		17	Left hand drive		01
			Pedestrian		18	Right hand drive		02
			Unknown		99	Unknown		99
			Two wheel motor vehicle	(A)	51	U-8 MAKE		L
			Bus/minibus/coach/trolley	(A)	52	Not applicable		000
			Goods vehicle	(A)	53	Make		xxx
						Unknown		999
U-6 ACTIVE SAF. EQUIPM.		L				U-9 MODEL		L
Not applicable		00				Not applicable		00
Active safety equipment		code				Model	name	
Other		98				Unknown		99
Unknown		99				U-10 REGIST.		H
						Year		xxxx
						Unknown		9999



TRAFFIC UNIT RELATED VARIABLES (2)

U-11 TRAFFIC UNIT MANOEUVRE				H	
Vehicle manoeuvres:		Changing lane to left	13	Pedestrian manoeuvres:	
Not applicable		00 Changing lane to right	14	Crossing (on pedestrian crossing)	21
Reversing		01 Avoidance manoeuvre	15	Crossing (on other point)	22
Parked		02 Overtaking vehicle on its left	16	Walking on the carriageway, facing traffic	23
Entering a parking position		03 Overtaking vehicle on its right	17	Walking on the carriageway, back to traffic	24
Leaving a parking position		04 Going round left hand bend	18	Standing or playing on the carriageway	25
Waiting to go ahead but held up		05 Going round right hand bend	19	Not on the carriageway	26
Slowing or stopping		06 Straight forward/normal driving	20	Lying on the carriageway	27
Moving off		07 Entering/leaving parking position (A)	51	Entering or getting out of a vehicle	28
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	Other	98
Turning right		12		Unknown	99

U-12 FIRST POINT OF IMPACT		L	U-13 FIRST OBJECT HIT IN		L	U-14 FIRST OBJECT HIT OFF		L
No impact		01	CARRIAGEWAY			CARRIAGEWAY		
Left front		02	Not applicable		00	Not applicable		00
Centre front		03	None		01	None		01
Right front		04	Object from previous accident		02	Road sign/traffic signal		02
Right side		05	Parked vehicle		03	Lamp post		03
Right rear		06	Bridge		04	Pole		04
Centre rear		07	Bollard/refuge		05	Tree		05
Left rear		08	Central island of roundabout		06	Bus stop/shelter		06
Left side		09	Kerb		07	Central crash barrier		07
Unknown		99	Animal (except ridden animal)		08	Crash barrier beside carriageway		08
Front - not specified (A)		51	Other object		09	Ditch		09
Rear - not specified (A)		52	Unknown		99	Parked vehicle		10
						Stone/rock/mountain side		11
						Fence		12
						Submerged in water		13
						Other permanent object		14
						Unknown		99

U-15 INSURANCE		L	U-16 HIT & RUN		H	U-17 REG. COUNTRY		H
Not applicable		00	Not applicable		00	Not applicable		000
Insured for vehicle		01	Not Hit & Run		01	Country code		xxx
Not insured for vehicle		02	Hit & Run		02	National (A)		501
Unknown		99	Unknown		99	Foreign (A)		502



PERSON RELATED VARIABLES (1)

A-1 ACCIDENT ID		H	U-1 TRAFFIC UNIT ID		H	xx	P-2 AGE		H	P-3 GENDER		H
Country code	xx						Age	xxx		Male	01	
Year	xxxx		P-1 PERSON ID		H	xx	Unknown	999		Female	02	
Accident ID	xxxxxx									Unknown	99	

P-4 NATIONALITY		H	P-5 ROAD USER TYPE		H	P-6 INJURY SEVERITY		H
Nationality code	xxx		Driver	01		Fatally injured	01	
National	(A) 951		Passenger	02		Seriously injured	02	
Foreigner, within the EU	(A) 952		Pedestrian	03		Slightly injured	03	
Foreigner, outside the EU	(A) 953		Unknown	99		Not injured	04	
Foreigner, not specified	(A) 954					Unknown	99	
Unknown	999					Injured (A)	51	

P-7 ALCOHOL TEST		L	P-8 ALC. TEST SAMPLE TYPE		L	P-9 ALCOHOL TEST RESULT		H
Not applicable	00		Not applicable	00		Not applicable	00	
Tested	01		Blood sample	01		Positive	01	
Not tested	02		Breath sample	02		Negative	02	
Unknown	99		Unknown	99		Unknown	99	

P-10 ALCOHOL LEVEL		H	P-11 DRUG TEST		L	P-12 DRIVING LICENSE ISSUE DATE		H
Not applicable	000		Not applicable	00		Not applicable	000000	
Level	xxx		Positive	01		Year / month	xxxxxx	
Unknown	999		Negative	02		Unknown	999999	
			Not tested	03		Years&months of driv. exp. (A)	00xxxx	
			Unknown	99				



PERSON RELATED VARIABLES (2)

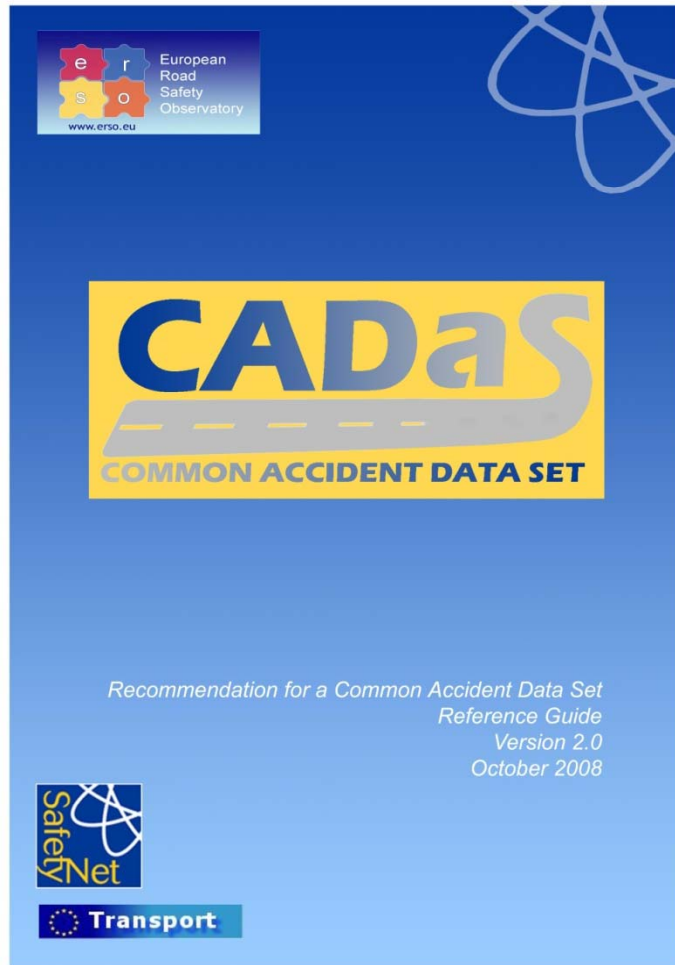
P-13 DRIVING LICENSE VALIDITY		L	P-15 SEATING POSITION IN/ON VEHICLE		H	P-16 DISTRACTED BY DEVICE		L
Not applicable		00	Not applicable		00	Not applicable		00
Appropriate driving license		01	Driver		01	Not distracted by device		01
Inappropriate driving license		02	Front seat		02	Telecommunication device		02
Only driving lesson or driving test		03	Rear - seated		03	Other electronic device		03
Invalid or suspended driving license		04	Rear - standing		04	Unknown		99
No driving license		05	Rear - not specified (A)		51			
Unknown		99	Elsewhere		05			
Invalid or no driving license (A)		51	Unknown		99			

P-14 SAFETY EQUIPMENT		H	P-17 PSYCHOPHYSICAL / PHYSICAL IMPAIRMENT OR CONDITION		L
Not applicable		00	Not applicable		00
Seat belt worn no airbag in vehicle		01	Good		01
Seat belt worn and airbag released		02	Inattention / absence of mind / Worried		02
Seat belt worn and airbag not released		03	Tired / fall asleep		03
Seat belt not worn and airbag released		04	Illness / Sudden illness / Lost consciousness		04
Crash helmet worn		05	Defective eyesight / hearing		05
Child safety seat facing forwards used		06	Dazzled by sunlight / headlights		06
Child safety seat facing backwards used		07	Others		07
No use of safety equipment		08	Unknown		99
Other		09			
Unknown		99			
Seat belt worn - not specified (A)		51			
Child safety seat used - not specified (A)		52			

P-18 TRIP / JOURNEY PURPOSE		L
Not applicable		00
Route to / from school - education / work		01
Driving as part of the work		02
Leisure / Entertainment / Shopping		03
Holiday		04
Driving lesson		05
Other		06
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: Accident type sketches
- Annex E: Motor vehicle makes
- Annex F: Countries of the world
- Annex G: E-roads
- Annex H: Active safety equipment systems
- Annex I: List of variables and values

CONCLUSIONS

- Use of a holistic approach.
- Complete proposal of 73 variables and 471 values grouped into four basic categories.
- Flexible format to allow gradual adoption.
- Minimum set of comparable among countries accident data.
- Tool for benchmarking road accident data collection.
- Need for a pilot phase for the CADaS implementation.

CADaS could be a solid basis for the development of the respective **World CADaS**





IRTAD

International Traffic Safety Data
and Analysis Group



Thank you for your attention!

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