

1 General and methodological explanations on road traffic accidents statistics

1.1 Legal basis

The legal basis for compiling the tables of this publication is the Law on the Statistics of Road Traffic Accidents (StVUnfStatG) of 15 June 1990 last amended by the first Law changing the Law on the Statistics of Road Traffic Accidents (StVUnfG) of 23 November 1994 (BGBl.IP. 3491) and by the Ordinance on the exact definition of a severe accident involving material damages in the sense of the Law on the Statistics of Road Traffic Accidents of 21 December 1994 (BGBl.IP. 3970). Pursuant to these, federal statistics are compiled on accidents due to vehicular traffic on public roads or places, with persons killed or injured or involving material damage.

1.2 Coverage

According to the Law, the police authorities whose officers attended the accident are liable to report. This implies that the statistics cover only those accidents which were reported to the police. These are primarily accidents with serious consequences. Especially traffic accidents involving only material damage or slight personal injuries are to a relatively large extent not reported to the police.

Pursuant to Art. 1 of the Law on Statistics of Road Traffic Accidents only those accidents are recorded which are due to vehicular traffic, i.e. accidents involving only pedestrians are not covered by these statistics.

1.3 Course of reporting

Survey records for the statistics of road traffic accidents are the copies of the standard traffic accident notices (Verkehrsunfallanzeige) as used for the entire Federal Republic (see Annex) which are completed by the police officers attending the accident. After its transfer to data recording media, the information included in the accident notices is tabulated on a monthly and annual basis at the statistical offices of the "Länder" according to a standard programme for the entire Federal Republic. The Länder results are compiled to the federal result.

It is not always possible for the police and the statistical offices of the Länder to include in due time all accident notices in the monthly results, because in the case of missing or contradictory data it is often necessary to make queries which may take quite some time. Such accidents are included subsequently, so that the final annual results are higher than the sum total of the monthly figures.

1.4 Forms of publication

Quick report: (Press release) about 8 weeks after the end of the reference month.

Monthly report: (Subject-Matter Series 8, Series 7) Preliminary figures in comparison with the same period of the previous year (34 pages).

Annual report: (Subject-Matter Series 8, Series 7) Final results in detailed tables, full explanations, time series and reference data.

At irregular intervals: Special evaluations, press releases, brochures, articles published in "Wirtschaft und Statistik".

1.5 Basic topics of statistics of traffic accidents and their presentation in the table part

1.5.1 General remarks

The statistics of road traffic accidents traditionally distinguish between four basic topics, namely accidents, road users involved, casualties and causes of accidents. As from 1984, the users of vehicles involved in the accidents are also counted. The following diagram shows the interrelations between and the definitions of these categories.

1.5.2 Accidents

Accidents are subdivided according to the severity of the consequences, for example road traffic accidents involving personal injury, severe accidents involving material damage in the narrow sense (i.e.S.), other accidents under the influence of alcohol and other accidents involving material damage. The criterion for the allocation is in each case the most serious consequence of the accident, i.e. in an accident with material damage no casualties were involved. Accidents with personal injury imply that irrespective of the amount of the material damage persons were killed or injured.

Severe accidents involving material damage i.e.S. are accidents whose cause of accident is an irregularity or an offence concerning participation in road traffic. At the same time the motor vehicle has to be towed away from the place of accident because of a damage (motor vehicle not ready to drive). This includes accidents under the influence of alcohol. With full details recorded are all other accidents with material damage where a road user involved was under the influence of alcohol (other accidents under the influence of alcohol). All other accidents involving material damage are only numerically recorded by the locality of accidents (in town/village, out of town/village, on motorways). Here the locality of the accidents (Ortslage) is determined by the yellow placename signs. All accidents occurring on motorways, including city expressways, are considered to be accidents outside built-up areas. In the case of accidents at road junctions, the higher-class road is coded.

Till the end of 1994 all accidents involving material damage only, with the damage exceeding the limit of DM 4 000 for any of the parties involved, were considered to be severe accidents involving material damage. For that reason the accidents involving material damage are incomparable in its breakdown with the results of the preceding years since 1995.

Single-vehicle accidents (Alleinunfälle) involve only one vehicle, although several passengers may be injured or killed.

One reason for this differentiation according to the severity of the consequences is the intention not to excessively inflate the statistics of accidents and to record the large number of minor accidents only numerically in a breakdown by the locality of accidents. As a second reason, the definition of an accident involving personal injury is comparatively well suited for both international comparisons and the compilation of long-term time series. It is further presumed that the accuracy of the accident reports increases in proportion to the severity of the consequences of the accidents and that the data of accidents resulting in personal injury are more reliable than those of accidents causing only material damage. The structure of the characteristics of an accident however also changes in relation to its severity. Thus the share of unprotected road users (pedestrians and two-wheel riders) involved in personal injury road accidents is greater than in accidents with material damage only.

1.5.3 Road users involved (Beteiligte)

As road users involved in a road traffic accident are recorded all drivers, vehicles riders and pedestrians who themselves - or whose vehicle-have suffered or caused damages. Passengers injured or killed are therefore not considered to be involved in the accident.

The road user mainly responsible (Hauptverursacher) is the person who in the opinion of the police is chiefly to blame for the accident. Road users involved in single-vehicle accidents are always regarded as mainly responsible.

1.5.4 Vehicle users

The users of the vehicles involved in accidents are counted, i.e. injured or uninjured persons in or on the vehicle. These data may be used not only for calculating the average number of vehicle occupants.

The ratio of road users who are potentially endangered (vehicle users) to road users actually injured or killed shows for the individual types of vehicles the risk of sustaining injuries.

1.5.5 Casualties/other persons suffering damages

Casualties are persons (incl. passengers) injured or killed in the accident. There are covered as

- killed
all persons who died within 30 days as a result of the accident,
- seriously injured
all persons who were immediately taken to hospital for inpatient treatment (of at least 24 hours),
- slightly injured
all other injured persons.

Other persons suffering damages are persons who sustained material damages but are not involved in the accident as road users (e.g. house owners, public road transport undertakings, etc.). They are not recorded by the accident statistics.

1.5.6 Causes of accidents

Proceeding from their personal judgement, the police officers recording the accident describe the causes of the accident in the survey form according to the list of possible causes which has been in force since 1975. A distinction is made between general causes (among other things, road conditions, weather factors, obstacles), which are attributed to the accident and not to the individual road user involved, and person-related misbehaviour (such as failure to give precedence, driving too fast, etc.), which is attributed to the individual driver, vehicle rider or pedestrian, i.e. the road user involved. This means that up to 8 causes per accident can be registered.

Up to two general causes may be reported per accident. It is possible to state 3 causes each for the first road user involved (road user mainly responsible) and one other road user involved. This means that up to 8 causes per accident can be registered.

1.6.2 Kind of accident (Unfallart)

The kind of accident describes of the entire course of events in an accident the direction into which the vehicles involved were heading when they first collided on the carriageway or, if there was no collision, the first mechanical impact on a vehicle. The following 10 kinds of accidents can be distinguished:

1. Collision with another vehicle which starts, stops or is stationary.

Starting or stopping are here to be seen in connection with a deliberate stopover which is not caused by the traffic situation. Stationary vehicles within the meaning of this kind of accident are vehicles which stop or park at the edge of a carriageway, on shoulders, on marked parking places directly at the edge of a carriageway, on footpaths or parking sites. The traffic to or from parking spaces with a separate driveway belongs to No. 5 kind of accidents.

2. Collision with another vehicle moving ahead or waiting.

Accidents caused by a rear-end collision with a vehicle which either was still moving or stopping due to the traffic situation. Rear-end collisions with starting or stopping vehicles belong to the No. 1 kind of accidents.

3. Collision with another vehicle moving laterally in the same direction.

Accidents occurring when driving side by side (sideswipe) or when changing lanes (cutting in on someone).

4. Collision with another oncoming vehicle.

Collisions with oncoming traffic, none of the colliding partners having had the intention to turn and cross over the opposite lane.

5. Collision with another vehicle which turns into or crosses a road.

This kind of accident includes collisions with crossing vehicles and with vehicles which are about to enter or leave from/to other roads, paths or premises. A rear-end collision with vehicles waiting to turn belongs to the No. 2 kind of accidents.

6. Collision between vehicle and pedestrian

Persons who work on the carriageway or still are in close connection with a vehicle, such as road workers, police officers directing the traffic, or vehicle occupants who got out of a broken down car are not considered to be pedestrians. Collisions with these persons are recorded under the No. 10 kind of accidents.

7. Collision with an obstacle in the carriageway.

These obstacles include for instance fallen trees, stones, lost freight as well as unleashed animals or game. Collisions with leashed animals or riders belong to the No. 10 kind of accidents.

8./9. Leaving the carriageway to the right or left.

These kinds of accidents do not involve a collision with other road users. There may however be further parties involved in the accident, e.g. when the vehicle involved in the accident veered off the road trying to avoid another road user and did not hit him.

10. Accident of another kind.

This category covers all accidents which cannot be allocated to one of the kinds of accidents listed under Nos. 1 to 9.

1.6 Other definitions and explanations

1.6.1 Type of accident (Unfalltyp)

The type of accident describes the conflict situation which resulted in the accident, i.e. a phase in the traffic situation where the further course of events could no longer be controlled because of improper action or some other cause. Unlike the kind of accident (Unfallart), the type of accident does not describe the actual collision but indicates how the conflict was touched off before this possible collision.

The determination of the type of accident also plays an important role for local accident analysis since the type of accident is marked by coloured pins on the maps of the local police authorities.

The following seven types of accidents are distinguished:

1. Driving accident (Fahrunfall)

The accident was caused by the driver's losing control of his vehicle (due to unadapted speed or misjudgement of the course or condition of the road, etc.), without other road users having contributed to this. As a result of uncontrolled vehicle movements, however, a collision with other road users may have happened.

A driving accident however does not include accidents in which the driver lost control of his vehicle due to a conflict with another road user, an animal or an obstacle on the carriageway, or because of a sudden physical incapacity or a sudden defect of the vehicle. In the course of the driving accident, this vehicle may collide with other road users, so that this is not necessarily a single vehicle accident.

2. Accident caused by turning off the road (Abbiege-Unfall)

The accident was caused by a conflict between a vehicle turning off and another road user approaching from the same or opposite direction (incl. pedestrians) at crossings, junctions and entries to premises or car parks. Whoever follows the priority turn of a main road is not considered as turning off.

3. Accident caused by turning into a road or by crossing it (Einbiegen-/Kreuzen-Unfall)

The accident was caused by a conflict between a road user turning into a road or crossing it and

having to give way and a vehicle having the right of way at crossings, junctions, or exits from premises and car parks.

4. Accident caused by crossing the road (Überschreiten-Unfall)

The accident was caused by a conflict between a vehicle and a pedestrian on the carriageway, unless the pedestrian walked along the carriage-way and unless the vehicle turned off the road. This applies also where the pedestrian was not hit by the vehicle.

Even if the pedestrian who caused the accident was not hit, the accident is classified as caused by crossing the road. A collision with a pedestrian walking along the carriageway is recorded as a No. 6 type of accident.

5. Accident involving stationary vehicles (Unfall durch ruhenden Verkehr)

The accident was caused by a conflict between a moving vehicle and a parked/stopping vehicle or a vehicle manoeuvred in connection with parking/stopping.

Accidents with vehicles waiting just because of the traffic situation are not included.

6. Accident between vehicles moving along in carriageway (Unfall im Längsverkehr)

The accident was caused by a conflict between road users moving in the same or opposite direction, unless this conflict belongs to a different type of accident.

7. Other accident

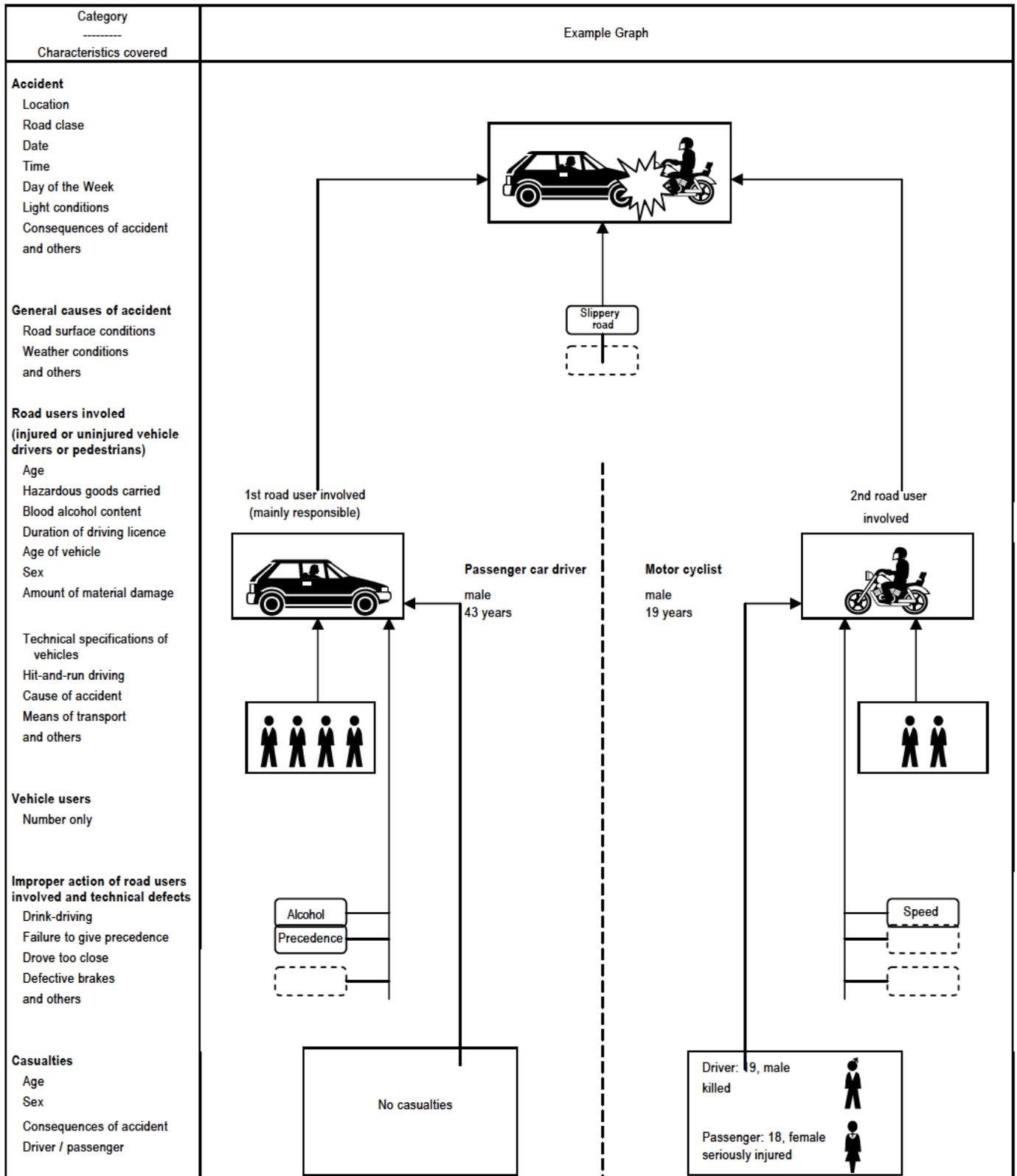
This includes all accidents that cannot be allocated to any other type of accident.

Examples: U-turning, reversing, accidents between parked vehicles, obstacle or animal on the carriageway, sudden failure of the vehicle (brake failure, defective tyre, etc.).

1.6.6 Connections between accidents, road users involved, causes of accidents and casualties

Example:

An intoxicated car driver overshoots a stop sign upon entering a main road. He hits a motorcycle exceeding the speed limit on the main road. The road surface is wet of rain. The police accuses the car driver to be the main responsible for the accident.



In the above example are counted:

- 1 personal injury accident (with persons killed)
- 2 road users involved (in personal injury accident)
- 6 vehicle users
- 2 casualties

- 4 causes of accident
 - 1 general cause of accident
 - 3 improper action of vehicle drivers

1.6.5 Categories of accidents

Category/denomination	Most serious consequence
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Road traffic accident involving personal injury

1 = accident with persons killed	at least one road user killed
2 = accident with seriously injured persons	at least one seriously injured road user, but no persons killed
3 = accident with slightly injured persons	at least one slightly injured road user, but no persons killed or seriously injured

Severe road traffic accident involving material damage

4 = severe accident involving material damage in the narrow sense (criterion: operating condition)	Accident cause is a criminal offence (also influence of alcohol) or an irregularity to be punished by a fine and at least one motor vehicle cannot be operated due to the damage caused by the accident
6 = other accident involving material damage under the influence of alcohol	person involved in the accident was under the influence of alcohol and - if motor vehicles were involved - all of these were still fit to be operated

Road traffic accident involving material damage not under the influence of alcohol

5 = other accident involving material damage	all other accidents involving material damage - which can be punished by an on-the-spot cautionary fine, irrespective of the operating condition of motor vehicles involved - criminal offences (not under the influence of alcohol) with all motor vehicles involved fit to be operated - irregularities to be punished by a fine with all motor vehicles involved fit to be operated
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1.6.4 List of accident causes

No.	Denomination of cause		obstacles and/or without timely and clearly indicating the intention to swerve out
	Driving fitness		
01	Influence of alcohol		
02	Influence of other intoxicating substances (e.g. drugs, narcotics)	26	Driving side by side
03	Overfatigue		Incorrectly changing the lane when driving side by side or failure to observe the "zip method" (merging of two queues with alternate priority of the respective cars (§ 7) (except pos. 20, 25)
04	Other physical or mental faults		
	Improper driving		Priority, precedence
	Use of the road	27	Failure to observe the rule "right has priority over left"
10	Use of wrong carriageway (or lane) or unlawful use of other parts of the road	28	Failure to observe the traffic signs regulating the priority (§ 8) (except pos. 29)
11	Violation of the rule of driving on the right side	29	Failure to observe the priority of the passing traffic on motorways or motor vehicle roads (§ 18, para. 3)
	Speed	30	Failure to observe the priority by vehicles coming from dirt roads
	Unadapted speed	31	Failure to observe the traffic control by policemen or traffic lights (except pos. 39)
12	and exceeding at the same time the speed limit	32	Failure to observe the priority of oncoming vehicles (traffic sign No. 208 of Road Traffic Regulations)
13	in other cases	33	Failure to observe the priority of rail vehicles at railway crossings
	Distance		Turning, U-turn, reversing, entering the flow of traffic, starting off the edge of the road
14	Insufficient safety distance (Other causes leading to a traffic accident should be allocated to the respective positions, such as speed, overfatigue, etc.)	35	Mistakes made when turning (§ 9) (except pos. 33, 40)
15	Abrupt braking without compelling reason by the vehicle in front	36	Mistakes made when making U-turn or reversing
	Overtaking	37	Mistakes made when entering the flow of traffic (e.g. from premises, from another part of the road or when starting off the edge of the road)
16	Unlawful right-hand overtaking		Improper behaviour towards pedestrians
17	Overtaking in spite of oncoming traffic	38	at pedestrian crossings
18	Overtaking in spite of unclear traffic situation	39	at central islands
19	Overtaking in spite of insufficient visibility	40	when turning
20	Overtaking without observing the rear traffic and/or without timely and clearly indicating the intention to swerve out	41	at stops (also at school busses stopping with the warning flasher device flashing)
21	Mistake made when returning to right lane	42	at other places
22	Other mistakes made when overtaking (e.g. without sufficient lateral distance; at pedestrian crossings, (cf. pos. 38, 39)		Stationary vehicles, safety measures
23	Mistakes made when being overtaken	43	Unlawful stopping or parking
	Driving past	44	Insufficient safety measures in the case of vehicles stopping or broken down and accident sites or with regard to school busses with children getting on or off the bus
24	Failure to observe the priority of oncoming cars when driving past stationary vehicles, barriers or obstacles (§ 6) (except pos. 32)		
25	Failure to observe the rear traffic when driving past stationary vehicles, barriers or		

45	Behaviour contrary to traffic regulations when getting on or off a vehicle, loading or unloading	68	Playing on or near carriageway
46	Failure to observe lighting regulations (except pos. 50)	69	Other improper behaviour of pedestrians
	Load, number of passengers		Road surface conditions
47	Overload, maximum number of passengers exceeded	70	Slippery carriageway
48	Insufficient safety measures with regard to load or vehicle accessories	71	Impurity through oil leakage
		72	Other impurities caused by road users
		73	Snow, ice
		74	Rain
			Other influences (among others, leaves, loam washed up)
49	Other mistakes made by driver		Road condition
	Technical or maintenance faults	75	Grooves in connection with rain, snow or ice
50	Lighting	76	Other road condition
51	Tyres	77	Irregular condition of traffic signs or installations
52	Brakes	78	Insufficient road lighting
53	Steering mechanism	79	Insufficiently secured railway crossings
54	Towing equipment		Influence of the weather
55	Other faults		Obstruction of visibility by:
	Improper behaviour of pedestrians	80	Fog
	Improper behaviour when crossing the carriageway	81	Heavy rain, hail, flurry of snow and the like
60	at places where the pedestrian traffic was controlled by policemen or traffic lights	82	Dazzling sunshine
61	on pedestrian crossings without control by policemen or traffic lights	83	Side wind
62	near junctions, traffic lights or pedestrian crossings with heavy traffic	84	Storm or other weather influences
63	at other places:		
64	by suddenly emerging from behind obstacles obstructing the visibility		
65	without paying attention to the traffic		
66	by other improper behaviour		
67	Failure to use footway	85	Obstacles
67	Failure to use proper side of the road	86	Road construction site on carriageway not or not sufficiently secured
		87	Wild animals on the carriageway
		88	Other animal on the carriageway
		89	Other obstacle on the carriageway (except pos. 43, 44)
			Other causes
			(list and briefly describe)

1.6.3. Categories of road users*)

Code-number		Code-number	
01	Kleinkraftrad (Mopeds and motor-assisted bicycles) with an engine capacity not exceeding 50 cc and a maximum design speed not exceeding 50 km/h, bearing an identification mark	51,52	Sattelschlepper (Semi-trailer truck) with or without trailer
		53	Landwirtschaftliche Zugmaschine (Farm tractor)
02	Mofa 25 Bicycles fitted with an auxiliary motor (incl. Leichtmofas) with an engine capacity not exceeding 50 cc and a maximum design speed not exceeding 25 km/h, bearing an identification mark	54, 55	Andere Zugmaschine (Other tractor)
		41, 43, 45, 48, 51, 52, 54, 55, 57 58	Güterkraftfahrzeug (Goods road vehicle)
12	Leichtkraftrad Motorcycles/motor scooters of over 50 up to 125 cc piston capacity and a power not exceeding 11 kW	59	Übriges Kraftfahrzeug (Other motor vehicle) ambulance, fire engine, road sweeper, refuse vehicle, breakdown van, mobile crane, self-propelling working machine, excavator, invalid carriage, etc.
11	Kraftrad Motorcycles with an engine capacity of over 125 cc or a power of more than 11 kW	01 - 59	Kraftfahrzeug (Motor vehicle)
15	Kraftroller Motor scooters with an engine capacity of over 125 cc or a power of more than 11 kW	61	Straßenbahn (Tramway)
		62	Eisenbahn (Railway)
11,12,15	Motorrad Two-wheeled motor cycles bearing an official registration number	71	Fahrrad (Bicycle)
		91	Fuhrwerk, Tiergespann (Cart)
01 - 15	Motorisierte Zweiräder (Motorized two-wheelers)	92	Sonstiges und unbekanntes Fahrzeug (Other and unknown vehicle)
21	Personenkraftwagen (Passenger car) seating not more than 9 persons (including the driver)	81	Fußgänger (Pedestrian) also with dogs or baby-carriages, skiers, inline-skaters, children with scooters, sledges or roller skates, etc. as well as children in baby-carriages
31	Kraftomnibus (Motor coach or bus) Seating more than 9 persons including the driver	82	Handwagen, Handkarren (Handcart, wheel-barrow)
32	Reisebus (Tourist Bus)	83	Tierführer, Tiertreiber (Person leading or herding animals)
33	Linienbus (Bus of the line)	93	Andere Person (Other person) Persons walking who are to be distinguished from a normal pedestrian because of their specific behaviour or due to the traffic rules, such as road workers, policemen on point duty or recording accidents, march columns, riders or persons carrying goods as well as persons involved in an accident who are not using the road or a footpath
34	Schulbus (School Bus)		
31- 34	Kraftomnibus (Motor coach or bus)		
35	Oberleitungsomnibus (Trolleybus)		
41, 43, 45, 48	Liefer- und Lastkraftwagen (Delivery van and motor lorry) with a standard body		
57, 58	Lastkraftwagen mit Spezialaufbau (Motor-truck with a special body) Tank trucks, silo trucks, stock carriers, trucks designed to carry long materials, etc., i.e. all special vehicles designed to carry goods		

*) Vehicles with a trailer or side-car are allocated according to the towing vehicle

Ordn.- Nr.	Sonstige Geschädigte Name, Vorname, PLZ Wohnort, Straße	Alter u. Geschl. (m=männl.) (w=weibl.)	1. Art des Sachschadens und der bekannten Verletzungen 2. Angabe, ob getötet a) schwerverletzt b) leichtverletzt c)	Sach- schaden (volle DM)
Schäden oder Spuren an Fahrzeugen, die auf den Unfallhergang schließen lassen, techn. Mängel der beteiligten Fahrzeuge unter Angabe der Ordn.-Nr.:				
Besonderheiten zur Verkehrslage, zum Unfallort, zur Verkehrsregelung usw., soweit nicht auf Blatt 1 vermerkt:				