Road Safety Country Overview January 2013

Switzerland





The GDP is about 2 times higher than the average GDP for Europe.

Structure and Culture

Basic data

Table 1: Basic data of Switzerland in relation to the European average. (Sources: [1] OECD/ITF, 2011; [2] Eurostat; [3] DG-TREN, 2005; [4] CIA)

Basic data of Switzerland	European average
 Population: 7.8 million inhabitants (2010) 	17.1 million (2010 ¹) [1,2]
– Area: 41 277 km ² (2010)	156 225 km ² (2010) [1,3]
(3,1% water) (2010)	3% water (2010) [4]
 Climate and weather conditions (capital city; 2010): Average winter temperature (Nov. to April): 6°C Average summer temperature (May to Oct.): 13°C Annual precipitation level: 978 mm 	(2010) 6°C 16°C 747 mm
 Exposure: 62.3 billion vehicle km (2010) (86% cars, 4% motorcycles, 9% goods motor vehicles) (2009) 	168 billion vehicle km (2010 ⁱⁱ) [1]
 0.7 motorised vehicles per person (2009) 	0.7(2010 ^{1, 11}) [1,2]

Country characteristics

Table 2: Characteristics of Switzerland in comparison to the European average. (Sources: [1] OECD/ITF, 2011; [2] Eurostat; [3] national sources)

Characteristics of Switzerland	European average
 Population density: 189 inhabitants/km² (2010) 	110 inhabitants km ² (2010 ¹) [1,2,3]
 Population composition (2009): 15% children (0-14 years), 68% adults (15-64 years), 17% elderly (65 years and over) 	16% children, 67% adults, 17% elderly (2009 ⁱⁱⁱ) [1,2]
 Gross Domestic Product (GDP) per capita: €51 200 (2010) 	€26 100 (2010) [1,2]
 44% of population lives inside urban area (2010) 	42% (2010 ^{IV}) [1,2]
 Special characteristics: 50% of Switzerland is covered by the mountains of the Alps, 10% by the mountains of the Jura. 	



- Based on 30 European countries; data of HU = 2009.
- Based on 15 European countries (excl. BG, CY, EE, EL, ES, HU, IT, LT, LU, LV, MT, PL, PT, RO, SK); data of CZ,
 - IE, SE, NO (2009); data of AT, BE, DK (2008); Data of UK (2006); data of NL (2003). Based on 27 European countries (excl. LT, NO, PL); data of BE, UK (2008).

Structure of road safety management

 Policy making is centralized in Switzerland. However, part of the responsibilities is at the level of the cantons.

The following key-actors are responsible for road safety (RS) management:

Table 3: Key actors per function in Switzerland. (Sources: DG-TREN, 2010 ; national experts)

Key functions	Key actors
 Formulation of national RS strategy Setting targets Development of the RS programme 	 Federal Department of the Environment, Transport, Energy and Communications DETEC: responsible for road safety policy-making in Switzerland. Federal Roads Office (ASTRA): part of DETEC and executive agency. Swiss Council for Accident Prevention (BfU): public foundation; conducts road safety research and provides safety advice to local authorities, institutions, and individuals. Road Safety Fund: responsible for the financing of road safety prevention measures (campaigns).
2. Monitoring of the RS development in the country	– ASTRA – BfU
3. Improvements in road infrastructure	 ASTRA for federal roads, cantons for cantonal roads municipalities for municipal roads
4. Vehicle improvement	ASTRA
5. Improvement in road user education	The Swiss Traffic Safety Council (VSR)
6. Publicity campaigns	 Road Safety Fund BfU Focus group organisations
7. Enforcement of road traffic laws	Cantonal Police Forces
8. Other relevant actors	NGOs (Interest groups, focus groups

Institutions are foreseen to ensure the centralisation of RS management in Switzerland. Yet, part of the responsibilities is regionalized at the level of the cantons.



Attitudes towards risk taking

- Only 40% of the Swiss drivers is in favour of higher speeding penalties, which is one of the lowest proportions in Europe. They are also less in favour of higher drink-driving penalties than drivers in other countries. This could be related to much higher penalties for driving offences than in most other European countries.
- Swiss drivers admit to speeding in most instances somewhat more than drivers from other countries.
- The perceived probability of being checked for speeding is somewhat higher than for drivers in other countries.

Table 4: Road safe	y attitudes and behaviour of drive	rs (Source: SARTRE, 2004)
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	Switzerland	SARTRE average
Self-reported driving behaviour	% of drivers that show behaviour	
	often or more	1
Too close following	6%	9%
Inappropriate overtaking	4%	5%
Exceeding speed limit on motorways	32%	25%
Exceeding speed limit on main inter-urban roads	ceeding speed limit on main inter-urban roads 21%	
Exceeding speed limit on country roads	18%	13%
Exceeding speed limit in built-up areas	4%	8%
Support of stricter legislation	% of drivers that support stricter legislation	
Higher penalties for speeding offences	40%	60%
Higher penalties for drink-driving offences	81%	88%
Lower BAC levels	2%	8%
Perceived probability of being checked	% of drivers that believe that	
	probability is	high
Speeding	22%	18%
Alcohol use	9%	9%

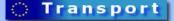
Legend

(comparison of country attitude in relation to average attitude of other SARTRE countries):





Swiss drivers are less supportive for stricter RS legislation than drivers from other countries.





The Swiss program 'Via Sicura' has been approved in 2012, and has still to be implemented.



infrastructure.



Programs and measures

National strategic plans and targets

- On 20 October 2010, the Swiss Federal Council submitted the 'Via Sicura programme' (2005) to the Parliament for approval. The Parliament approved this programme in June 2012. Some measures foreseen in the programme still require legal amendments. The process will therefore take time and implementation is not expected before the end of 2012.
- Targets (referred to 2010):

Table 5: Road safety targets for Switzerland

Yea	ar	Fatalities	Serious injuries
-		No quantified targets	No quantified targets

- Priority topics will be:
 - o Prevention of road crashes
 - o Better enforcement of existing regulations
 - o Harsher penalties for severe offences
 - Improvement of infrastructure
 - o Improvement of accident statistics
 - o Strict penalties for particularly reckless drivers

All specific measures under these priorities have undergone cost-benefit analysis.

(Sources: national experts; OECD/ITF, 2011)

Road infrastructure

Table 6: Description of the road categories and their characteristics in Switzerland (Source: TiS.PT, 2003; national source).

Road type	Speed limit (km/h)
Urban roads	50
Rural roads	80
Motorways	120

- Special rules for:
 - Light motorcycles (A1): No special rules
- Guidelines and strategic plans for infrastructure are under consideration in Switzerland.

Table 7: Obligatory parts of infrastructure management in Switzerland and other European countries. (Sources: national sources)

Obligatory parts in Switzerland:	European countries with obligation
Safety impact assessment: No	-
Road safety audits: No	50%
Road safety inspections: No	60%
Black spot treatment: No	47% ^v

- Recent infrastructural actions have been addressing: guidelines (not obligatory) and the construction of a toolbox; these are provide to the cantons.

^v Based on data of 18 countries (excl. AT, BE, CH, CZ, FI, FR, HU, IE, MT, NO, RO, SE).



Switzerland has a zero tolerance for drink-driving of professional drivers, which is stricter than regulations in the rest of Europe.

Effectiveness of child restraint law enforcement is assessed as more effective in Switzerland than on average in Europe.

• Traffic laws and regulations

Table 8: Description of the regulations in Switzerland in relation to the most common regulations in other European countries. (Sources: [1] DG-TREN, 2005; [2] national sources; [3] DG-TREN, 2010)

Regulations in Switzerland	Most common in Europe (% of countries)
 Allowed BAC level: 0.5‰; 	0.5‰ (60%)
Novice drivers: 0.5%;	0.5‰ and 0.2‰ (both 30%)
Professional drivers: 0.0% (during	0.5‰ (30%) [1,2]
work and six hours before). [1, 2]	
– Phoning:	
Hand held: prohibited	Not allowed (97%) [2,3]
Hands free: allowed [3]	-
 Use of restraint systems: 	
Drivers: obligatory	Obligatory (all countries)
Front passengers: obligatory	Obligatory (all countries)
Rear passengers: obligatory	Obligatory (all countries)
Children: obligatory [3, 2]	Obligatory on all seats (73%) [2,3]
 Helmet wearing: 	
Motor riders: obligatory	Obligatory (all countries)
Moped riders: obligatory	Obligatory (all countries)
Cyclists: obligatory [3, 2]	Recommended (25% ^{vi}) [2,3]

Enforcement

Table 9: Effectiveness of enforcement effort in Switzerland according to an international respondent consensus (scale = 0-10) (Source: DG-TREN, 2010)

Issue	Score for Switzerland	Most common in Europe (% of countries)
Speed legislation enforcement	7	7 (35%)
Seat-belt law enforcement	7	7 (43%) ^{vii}
Child restraint law enforcement	7	6 (27% ^{viii})
Helmet legislation enforcement	9	9 (39% ^{ix})

Table 10: Performance of enforcement effort in Switzerland according to an international respondent consensus (scale = is good, is improving, needs to do more) (Source: DG-TREN, 2010)

Issue	Score for Switzerland	Most common in Europe (% of countries)
Speeding	Not available	Is improving (50%)
Drink driving	Not available	ls improving (79%) ^{ix}
Seat belt use	Not available	Is improving (52% ^x)

^{vi} Based on data of 24 countries (excl. CH, CY, HU, LU, NO, PT).

- ^{vii} Based on data of 23 countries (excl. DE, DK, IE, IS, LU, NL and UK).
- viii Based on data of 22 countries (excl. DE, DK, IE, IS, LU, NL, RO and UK).
- ^{ix} Based on data of 24 countries (excl. BG, CH, IS, NO, PL and RO).
- ^x Based on data of 25 countries (excl. BG, CH, IS, NO and RO).



Road user education and training

Table 11: Road user education and training in Switzerland, compared to the situation in other European countries. (Sources: [1] ROSE25, 2005; [2] ETSC, 2011; [3] national sources).

Education and training in Switzerland	Most common in Europe (% of countries)
 General education programmes: Primary school: is applied in all cantons. Secondary school: is applied in some cantons 	Compulsory (65% ^{xi}) Compulsory (50% ^{xii}) [1,2]
 Other groups: not available 	-
Driving licences thresholds:	
 Passenger car: 18 years 	18 years (79%)
 Motorised two wheeler: 16 years for A1; 18 years for restricted A or unrestricted after 2 years; 25 years for unrestricted A 	18 years (low categories) and higher ages for faster vehicles (66%)
 after 2 years; 25 years for unrestricted A Busses and coaches: 21 years Lorries and trucks: 18 years 	21 years (76%) ^{xili} 21 years (79% ^{xiv}) [2,3]

Public campaigns

Table 12: Public campaigns in Switzerland, compared to the situation in other European countries. (Sources: SUPREME, 2007; national sources).

Campaigns in Switzerland	Most common issues in Europe (% of countries)
Organisation:	
 Road Safety Fund 	
– BfU	
 Focus group organisations 	
Main themes:	
 Drink-driving 	Drink-driving (83%)
 Seat belt 	Seat-belt (73%)
- Speeding	Speeding (53%)
 Driver assistance systems 	-
– Sleepiness	

Vehicles and technology (national developments)

Table 13: Developments of vehicles and technology in Switzerland, compared to the situation in other European countries. (Sources: TiS.PT, 2003; national sources)

Technical inspections mandatory for:	Most common in Europe (% of countries)
Passenger cars: 4-3-2-2 years	Every 12 months (41%)
Taxi's: every 12 months	
Motorcycles: 4-3-2-2 years	Every 12 months (35%)
Busses or coaches: Every 12 months	Every 12 months (41%)
Lorries or trucks: Every 12 months	Every 12 months (41%) ^{xv}

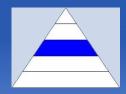


- xii Based on data of 24 countries (excl. BG, CH, MT, NO, RO and SK).
 - xiii Based on data of 29 countries (excl. NO).
 - xiv Based on data of 28 countries (excl. IE and NO).
 - ^{xv} Based on data of 17 countries (excl.BG, CH, CY, CZ, EE, HU,LT, MT, NO, RO, SI, SK).

Driving licence thresholds and campaign themes are similar as in most other European countries.

Mandatory inspection periods are similar to the most common periods in Europe for busses and lorries but have intervals for passengers cars and motorcycles.





A large decrease has been registered in the percentage of speed offenders on Swiss motorways and rural roads between 2003 and 2004. Mean speed showed a small decrease on these roads.

No information is available on drinkdriving in Switzerland, other than information from road crashes where alcohol was involved.

DaCoTA

Transport

Road Safety Performance Indicators

Speed

Table 14: Number of speed checks in Switzerland versus the European average (Source: ETSC, 2010).

Measure	2006	2008	% change	European average (2008)
Number of tests/1000 population	Not available	Not available	Not available	90.8 ^{xvi}

Table 15: Percentage of speed offenders per road type in Switzerland compared to the European average (Source: ETSC, 2010)

Road type	2003	2004	% change	European average
Motorways	38%	30%	-21%	Not available
Rural roads	24%	19%	-21%	Not available
Urban roads	21%	19%	-10%	Not available

Table 16: Mean speed per road type in Switzerland compared to the European average

 (Source: ETSC, 2010)

Road type	2003	2004	% change	European average
Motorways	111 km/h	110 km/h	-1%	Not available
Rural roads	75 km/h	73 km/h	-3%	Not available
Urban roads	43 km/h	43 km/h	0%	Not available

Alcohol

Table 17: Road side surveys for drink-driving in Switzerland compared to the European average (Source: ETSC, 2010)

Measure	2006	2008	% change	European average (2008)
Number of tests/1000 population	Not available	Not available	Not available	145.8 ^{xvii}
% tested over the limit	Not available	Not available	Not available	Not available

^{xvi} Based on data of 21 countries (excl. BE, CH, DE, EE, IE, IS, MT, PT and UK). ^{xvii} Based on data of 17 countries (excl. BE, BG, CH, CZ, DE, IS, LU, LV, MT, NL, RO, SK and UK.).

66% of the Swiss car fleet is made of cars under 10 years of age, which is about the European average.

Seat-belt wearing rates are higher than the European average.

• Vehicles

Table 18: State of the vehicle fleet in Switzerland compared to the European average (Source: ETSC, 2009)

Vehicle fleet in Switzerland	European average
Cars per age group (year):	Passenger cars (2009) ^{xviii}
– 14% ≤ 2 years,	12% ≤ 2 years,
 19% 2 to 5 years, 	19% 2 to 5 years,
- 33% 6 to 10 years,	27 % 6 to 10 years,
- 34% > 10 year.	42% >10 years
EuroNCAP occupant protection score of cars (new cars	
sold in 2008):	
- 5 stars: 49%	49%
- 4 stars: 33%	35%
- 3 stars: 5%	6%
 2 stars: less than 1% 	1% ^{xix}

Protective systems

Table 19: Protective system use in Switzerland versus the average in Europe (Sources: Vis & Eksler, 2008, national sources)

Protective systems	European average
Seat belt wearing in cars and vans (2010):	(2007)
– 89% front,	85% front ^{xx} ,
– 89% driver	Not available
 88 % front passenger 	Not available
– 79% rear,	60% rear ^{xxi} ,
 85% child restraint systems (2005) 	Not available
Helmet use:	
 99% motor riders 	Not available
 94% moped riders 	Not available
– 38% cyclists	Not available



^{xviii} Based on data of 22 countries (excl. BG, DK, EL, FR, IS, MT, PT and SK).

xix Based on data of 27 countries (excl. CY, IS and MT).

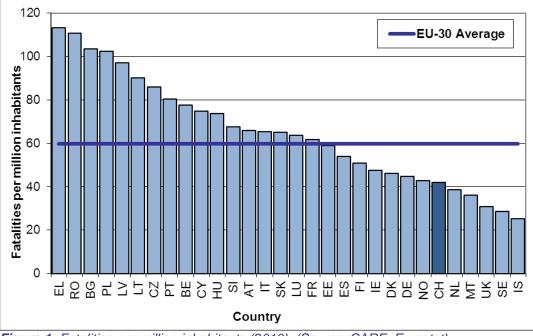
^{xx} Based on data of 25 countries (excl. AT, EL, IS, LT and RO); data of SK (2008); data of BE, CH, DK, IE, MT, NL (2006); data of HU, IT, NO, PT (2005); data of LU (2003)

^{xxi} Based on data of 22 countries (excl. CY, EL, ES, IS, IT, LT, RO and SK); data of BE, CH, DK, IE, MT, NL (2006); data of HU, NO, PT (2005); data of LU (2003).



Road Safety Outcomes

General positioning





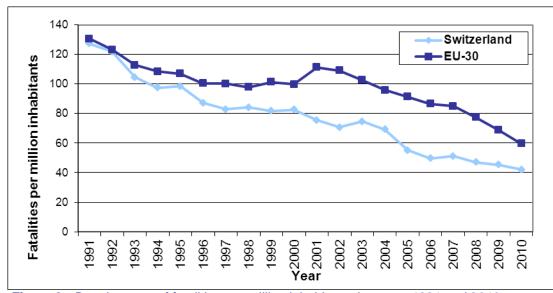


Figure 2: Development of fatalities per million inhabitants between 1991 and 2010. (Source: CARE, Eurostat).





The largest share of fatalities is among car occupants, pedestrians and motorists, and these shares are larger in Switzerland than the European average.

Especially fatalities among middle aged males have decreased a lot between 2001 and 2010 in Switzerland.

In Switzerland, relative many fatalities happen on rural roads, and relative few on junctions.



Transport mode

Table 20: Reported fatalities by mode of road transport in Switzerland compared to the European average of the last year available (Source: CARE, national sources).

Transport mode	2001	2010	Average annual change	% in 2010	European average (2009 ^{xxii})
Pedestrians	104	75	-2%	23%	18%
Car occupants	245	129	-6%	39%	47%
Motorcyclists	94	67	-3%	20%	13%
Mopeds	22	4	-2%	1%	2%
Cyclists	38	33	7%	10%	5%
Bus/coach occupants	6	4	-28%	1%	<1%
Lorries or truck occupants	19	2	2%	1%	4%

• Age, gender and nationality

Table 21: Reported fatalities by age, gender and nationality in Switzerland versus the European average of the last year available (Source: CARE, national sources).

Age and gender	2001	2010	Average annual change	% in 2010	European average (2009 ^{VIII})
Females	135	83	-5%	25%	24%
0-14 years	11	1	-6%	0%	1%
15 – 17 years	1	3	41%	1%	1%
18 – 24 years	15	7	-5%	2%	4%
25 – 49 years	36	20	-4%	6%	7%
50 - 64 years	27	18	-<1%	6%	3%
65+ years	45	34	-3%	10%	7%
Males	409	244	-5%	75%	75%
0-14 years	11	7	5%	2%	2%
15 – 17 years	19	9	-4%	3%	2%
18 – 24 years	73	29	-6%	9%	13%
25 – 49 years	162	85	-6%	26%	31%
50 – 64 years	62	47	-2%	14%	12%
65+ years	82	67	-1%	20%	12%
Nationality of driver of					
National	n.a.	n.a.	n.a.	n.a.	Not available
Non-national	n.a.	n.a.	n.a.	n.a.	Not available

Location

Table 22: Reported fatalities by location in Switzerland compared to the European average of the last year available (Source: CARE, national sources). Motorways and junctions are part of built-up and rural areas.

Location	2001	2010	Average annual change	% in 2010	European average (2009 ^{VIII})
Built-up areas	204	114	-5%	35%	33%
Rural areas	340	213	-5%	65%	49%
Motorways	36	25	-<1%	8%	5%
Junctions	71	23	-6%	7%	12%

^{xxii} Based on data of 28 countries (excl. NO, LT); data of FR, IE, MT, SE (2008).

• Lighting and weather conditions

Table 23: Reported fatalities by lighting and weather conditions in Switzerland compared to the European average of the last year available (Source: CARE, national sources).

Conditions	2001	2010	Average annual change	% in 2010	European average (2009 ^{xxiii})
Lightning conditions					
During daylight	325	198	-5%	61%	55%
During nighttime	184	108	-5%	33%	39%
Weather condition					
While raining	68	29	-8%	9%	10%

• Single vehicle crashes

Table 24: Reported fatalities by type in Switzerland compared to the European average of the last year available (Source: CARE, national sources).

Crash type	2001	2010	Average annual change	% in 2010	European average (2009 ^{xxiv})
Single vehicle crash	196	120	-4%	37%	40%

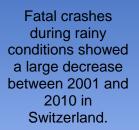
• Under-reporting of casualties

- Fatalities: All fatalities in 2008 were reported. This is suspected since adequate alternative registration systems are missing for a check.
- Hospitalised: Switzerland has started a project in which crash data are matched to hospital figures in order to find out underreporting rates.

(Source: CARE; WHO, 2009)



^{xxiii} Based on 25 countries (excl. IE, IT, LT, NO, SI); data of AT, BE, DK, EE, FI, FR, MT, SE (2008). ^{xxiv} Based on 27 countries (excl. IE, LT, NO); data of AT, BE, DK, EE, FI, FR, MT, SE (2008).



• Risk figures

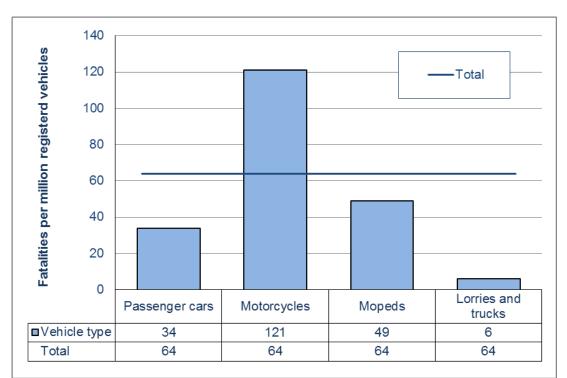


Figure 3: Fatalities by vehicle fleet mode for Switzerland in 2009 (Sources: CARE).

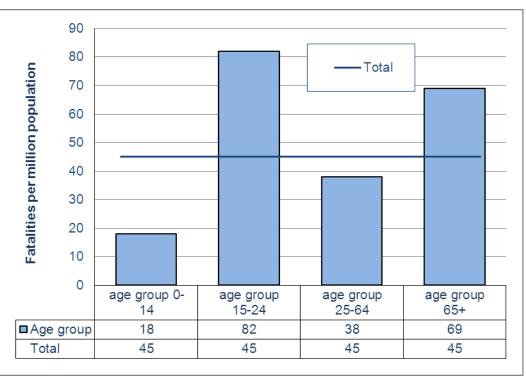
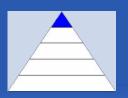


Figure 4: Fatalities in Switzerland by number of inhabitants in 2009 (Sources: CARE, OECD/ITF, 2011).

The fatality risk is particularly high for motorcycles and inside urban areas.





Social Cost

- Total costs of road crashes: 9.1 billion euros (2003)
- Percentage of GDP: 3%

Table 25: Cost (in million Euro) per injury type in Switzerland versus the European average (Source: Bickel et al., 2006).

Injury type	Value	European average ^{xxv}
Fatal	2.57	1.28
Hospitalised	0.35	0.18
Slightly injured	0.03	0.02

Estimated cost of road injuries are much higher in Switzerland than on average in Europe.



xxv Based on data of 20 countries (excl. BG, DE, FI, FR, HU, IS, LT, NO, RO and SK).





The proposed national road safety programme "Via Sicura" involves measures that have been selected on the basis of costbenefit analysis, but it still awaits approval.



Synthesis

Safety position

- Switzerland is the 6th country with the lowest fatality rate in Europe.

• Scope of problem

- The largest share of fatalities is among car occupants, pedestrians and motorists, and these shares are larger in Switzerland than the European average.
- As it is the case in most European countries, the fatality rate is higher for 15-24 year olds and for the seniors (65+) than for other age categories.
- In Switzerland, relative many fatalities happen on rural roads, and relative few on junctions. The fatality risk is the highest inside urban areas and the lowest on motorways.

Recent progress

- The decrease of the number of fatalities per million inhabitants in Switzerland has been faster than the decrease of the average number of fatalities per million inhabitants in Europe since 1992. While the fatality rate was around 130 fatalities per million inhabitants in 1991 it was more than 3 times lower in 2010 (42 fatalities per million inhabitants).
- A large decrease has been registered in the percentage of speed offenders on Swiss motorways and rural roads between 2003 and 2004. Mean speed showed a small decrease on these roads.

Remarkable road safety policy issues

- Although RS management in Switzerland is decentralized to some extent (cantons, different national languages), the Federal Roads Office ensures a national guidance and coordination of road-safety efforts.
- Switzerland has a zero tolerance for drink-driving of professional drivers, which is stricter than regulations in the rest of Europe.
- Effectiveness of child restraint law enforcement is assessed as more effective in Switzerland than on average in Europe, and seat-belt wearing rates are higher than the European average.



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