Bulgaria



Structure and Culture

Basic data



Basic data of Bulgaria	European average
 Population: 7.5 million inhabitants (2010) [5] 	17.1 million (2010) [1,2]
 Area: 111 002 km² (2010) [5] 	156 225 km ² (2010) [1,3]
(2.2% water) (2010)	3% water (2010) [4]
Climate and weather conditions (capital city; 2010):	(2010)
Average winter temperature (Nov. to April): 5°C	6°C
Average summer temperature (May to Oct.): 18°C	16°C
Annual precipitation level: 718 mm	747 mm
Exposure (2010): data on vehicle km not available	168 billion vehicle km (2010 ⁱⁱ) [1]
3.3 million vehicles (2010)	12 million vehicles (2010 ⁱⁱⁱ)
(79% passenger cars, 11% light goods vehicles, 2%	[1,2]
motorcycles)	
 0.4 motorised vehicles per person (2010) 	0.7(2010 ^{I, III}) [1,2]

Country characteristics

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

Characteristics of Bulgaria	European average
 Population density: 68 inhabitants/km² (2010) 	110 inhabitants km ² (2010 ¹) [1,2,3]
 Population composition (2010) [3]: 14% children (0-14 years), 69% adults (15-64 years), 18% elderly (65 years and over) 	16% children, 67% adults, 17% elderly (2009 ^{iv}) [1,2]
 Gross Domestic Product (GDP) per capita: €4 800 (2010) 	€26 100 (2010) [1,2]
- 78% of population lives inside urban area (2011) [3]	42% (2010 ^v) [1,2]
 Special characteristics: Bulgaria is building a motorway network to connect all large cities in the countries. 	



The road transport system in Bulgaria is developing.



Based on 30 European countries; data of HU = 2009.

^v Based on 29 European countries (excl. IS).



ii 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).

iii Based on 28 European countries (excl. CY and LT); data of EL, IT, PL, PT and UK = 2009; data of BE, EE, ES, RO and NO = 2008; data of IE = 2007; data of MT and SK (2002).

Based on 27 European countries (excl. LT, NO, PL); data of BE, UK (2008).

- Structure of road safety management
- Policy making is centralized in Bulgaria.
- Road safety implementation is decentralized.

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

Table 3: Key actors per function in Bulgaria. (Source: DG-TREN, 2010)		
Key functions	ey functions Key actors	
Formulation of national RS strategy Setting targets Development of the RS programme	 The Ministry of Transportation, Information Technologies and Communications (MTITC). Ministry of Interior (Mol) Ministry of Regional Development and Public Works (MRDPW). Ministry of Education, Youth and Science (MEYS) Ministry of Agriculture and Forestry (MAF) State Public Consultative Committee of Road Safety consisting of ministries, a secretary and 16 members. Regional road safety commissions. 	
2. Monitoring of the RS development in the country	 Mol. Other ministries whose deputy ministers are members of the State public consultative committee of road safety. State public consultative committee of road safety. 	
3. Improvements in road infrastructure	MTITCMRDPW.	
4. Vehicle improvement	MTITCMolMAFMinistry of Defence (MoD).	
5. Improvement in road user education	 MEYS, Mol, MTITC non-government organisations (NGOs). 	
6. Publicity campaigns	 Mol, MEYS, MTITC, State Public Consultative Committee of Road Safety, non-government organisations (NGOs) medias; 	
7. Enforcement of road traffic laws	 Mol, MTITC MRDPW MEYS Ministry of Economy, Energy and Tourism (MEET), MoD 	
8. Other relevant actors	 the National Road Infrastructure Fund (RIF); Ministries: Ministry of Health and Treatment and Rescue and Relief, MRDPW; Insurance companies; Municipalities; Consulting engineers, construction companies; industry non-government organisations (NGOs) Research: University of Architecture and Civil Engineering, and the Institute of the Ministry of Interior. 	

10 of the 28 regions have a road safety commission.



- Attitudes towards risk taking
- As Bulgaria is not part of the SARTRE-surveys, there is no information on attitudes that is comparable to other European countries.







Bulgaria follows the strategy of road safety as a shared responsibility.





Programs and measures

Road safety strategy of the country

Under the title `Safety is a shared responsibility' the strategy foresees the
participation of public institutions, regional and municipal authorities,
nongovernmental organizations, the private sector and civil society. It
targets relations and circumstances at the community level that have an
adverse effect on traffic safety.

National strategic plans and targets

- The latest national RS plan of Bulgaria was accepted in 2011 (Road Safety Plan 2011-2020).
- Targets (compared to 2010):

Table 4: Road safety targets for Bulgaria

Year	Fatalities	Serious injuries
2020	-50%	-20%

- Priority topics:

- Road safety management
- Education & awareness raising
- Enforcement
- Infrastructure: Self explaining & forgiving roads
- Safety of vehicle fleet
- E-Safety
- o Trauma care.

(Source: national sources)

Road infrastructure

Table 5: Description of the road categories and their characteristics in Bulgaria (Source: TiS.PT. 2003).

Road type	Speed limit (km/h)
Urban roads	50
Rural roads	90
Motorways	140

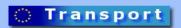
- Special rules for: no information available
- Guidelines and strategic plans for infrastructure are available in Bulgaria.

Table 6: Obligatory parts of infrastructure management in Bulgaria and other European countries. (Sources: DG-TREN, 2010)

Obligatory parts in Bulgaria:	European countries with obligation
Safety impact assessment: -	-
Road safety audits: yes	50%
Road safety inspections: yes	60%
Black spot treatment: yes	47% ^{vi}

Recent infrastructural actions have been addressing: no information

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



Regulations in Bulgaria are similar to regulations in most European countries.

The effectiveness of seat-belt law enforcement is assessed as somewhat more effective than the European average; enforcement of other topics is assessed as somewhat less effective.

Traffic laws and regulations

Table 7: Description of the regulations in Bulgaria 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 Bulgaria	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: 0.5‰. [1]	0.5% (30%) [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: obligator 	Obligatory (all countries)
 Rear passengers: obligatory 	Obligatory (all countries)
Children: obligatory [3]	Obligatory on all seats (73%) [2,3]
Helmet wearing:	
 Motor riders: obligatory 	Obligatory (all countries)
 Moped riders: obligatory 	Obligatory (all countries)
Cyclists: not obligatory [3]	Recommended (25% ^{vii}) [2,3]
Demerit point system [3]	

Enforcement

Table 8: Effectiveness of enforcement effort in Bulgaria according to an international respondent consensus (scale = 0-10) (Source: DG-TREN, 2010)

Issue	Score for Bulgaria	Most common in Europe (% of countries)
Speed legislation enforcement	6	7 (35%)
Seat-belt law enforcement	8	7 (43%) ^{viii}
Child restraint law enforcement	4	6 (27% ^{ix})
Helmet legislation enforcement	3	9 (39% ^{ix})

Table 9: Performance of enforcement effort in Bulgaria according to an international respondent consensus (scale = is good, is improving, needs to do more) (Source: DG-TREN, 2010)

Issue	Score for Bulgaria	Most common in Europe (% of countries)
Speeding	No information available	Is improving (50%)
Drink driving	No information available	Is improving (79%) ^x
Seat belt use	No information available	Is improving (52%xi)



vii Based on data of 24 countries (excl. CH, CY, HU, LU, NO, PT).

xi Based on data of 25 countries (excl. BG, CH, IS, NO and RO).



viii Based on data of 23 countries (excl. DE, DK, IE, IS, LU, NL and UK).

^{ix} Based on data of 22 countries (excl. DE, DK, IE, IS, LU, NL, RO and UK).

^x Based on data of 24 countries (excl. BG, CH, IS, NO, PL and RO).

Road user education and training

Table 10: Road user education and training in Bulgaria, compared to the situation in other European countries. (Sources: [1] ROSE25, 2005; [2] ETSC, 2011; [3] national sources)

Education and training in Bulgaria	Most common in Europe (% of countries)
General education programmes:	vii
 Primary school: yes 	Compulsory (65%)
 Secondary school: yes 	Compulsory (50%xiii) [1,2]
 Other groups: teachers, principals, 	-
members of teacher committees	
Driving licences thresholds:	
 Passenger car: 18 years 	18 years (79%)
 Motorised two wheeler: 18 -21 years 	18 years (low categories) and higher ages for faster vehicles (66%)
 Busses and coaches: 21 years 	21 years (76%) ^{xiv}
 Lorries and trucks: 21 years 	21 years (79% ^{xv}) [2,3]

In Bulgaria, road safety education is available at primary and secondary school.

Public campaigns

Table 11: Public campaigns in Bulgaria, compared to the situation in other European countries. (Sources: DG-TREN, 2010; SUPREME, 2007; national sources)

Campaigns in Bulgaria	Most common issues in Europe (% of countries)
Organisation:	
 The National Road Safety Commission (NRSC) 	
Main themes (nation-wide):	
 Drink-driving 	Drink-driving (83%)
Seat-belt	Seat-belt (73%)
- Speeding	Speeding (53%)
 School start & children safety 	-
 Light use 	

Vehicles and technology (national developments)

Table 12: Developments of vehicles and technology in Bulgaria, 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: every 12 months	Every 12 months (41%)
Motor cycles: every 24 months	Every 12 months (35%)
Busses or coaches: every 6 months	Every 12 months (41%)
Lorries or trucks: every 6 months	Every 12 months (41%) ^{xvi}

Mandatory inspection periods in Bulgaria vary between vehicle types.



xii Based on data of 26 countries (excl. BG, CH, NO and RO).

xvi Based on data of 17 countries (excl.BG, CH, CY, CZ, EE, HU,LT, MT, NO, RO, SI, SK).



xiii Based on data of 24 countries (excl. BG, CH, MT, NO, RO and SK).

xiv Based on data of 29 countries (excl. NO).

xv Based on data of 28 countries (excl. IE and NO).



Mean speed on motorways hardly changed between 2004 and 2006 in Bulgaria; other speed data is not available.

Road Safety Performance Indicators

Speed

Table 13: Number of speed checks in Bulgaria 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 ^{xvii}

Table 14: Percentage of speed offenders per road type in Bulgaria compared to the European average (Source: ETSC, 2010)

Road type	2001	2010	Average annual change	European average
Motorways	Not available	Not available	Not available	Not available
Rural roads	Not available	Not available	Not available	Not available
Urban roads	Not available	Not available	Not available	Not available

Table 15: Mean speed per road type in Bulgaria compared to the European average (Source: ETSC, 2010)

Road type	2004	2006	Average annual change	European average
Motorways	120 km/h	120 km/h	0%	Not available
Rural roads	Not available	Not available	Not available	Not available
Urban roads	Not available	Not available	Not available	Not available

Alcohol

Table 16: Road side surveys for drink-driving in Bulgaria 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 ^{xviii}
% tested over the limit	Not available	Not available	Not available	Not available

No known road side surveys on drink driving exist in Bulgaria.



xvii Based on data of 21 countries (excl. BE, CH, DE, EE, IE, IS, MT, PT and UK).

Based on data of 17 countries (excl. BE, BG, CH, CZ, DE, IS, LU, LV, MT, NL, RO, SK and UK.).



Bulgaria has one of the highest proportion of old cars in Europe.

Front seat-belt wearing is average in Bulgaria, but rear seat-belt wearing is much lower than the European average.

Vehicles

Table 17: State of the vehicle fleet in Bulgaria compared to the European average (Source: ETSC, 2009)

Vehicle fleet in Bulgaria	European average
Cars per age group (2008):	Passenger cars (2008) ^{xix}
 8% ≤ 5 years 	16% ≤ 2 years,
_	15% 2 to 5 years,
 10% 6 to 10 years, 	21 % 6 to 10 years,
- 82% > 10 year.	33% >10 years
EuroNCAP occupant protection score of cars (new cars	
sold in 2008):	
- 5 stars: 34%	49%
- 4 stars: 37%	35%
- 3 stars: 13%	6%
- 2 stars:4%	1% ^{xx}

Protective systems

Table 18: Protective system use in Bulgaria versus the average in Europe (Source: Vis & Eksler, 2008; national sources)

Use of protective systems in Bulgaria	European average
Daytime seat belt wearing in cars and vans (2007):	(2007)
- 85% front	85% front ^{xxi} ,
 No information on % driver 	Not available
 No information on % front passenger 	Not available
- 3% rear	60% rear ^{xxii} ,
 30% child restraint systems 	Not available
Helmet use:	
 85% motor riders 	Not available
 60% moped riders 	Not available
- 5% cyclists	Not available



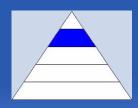
xix Based on data of 22 countries (excl. CH, CY, DE, EL, IS, LT, NO and SK).

xxii 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).



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

xxi 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)



Bulgaria has the third most road fatalities per million inhabitants from Europe; only last years, there is a drop in these numbers.

Road Safety Outcomes

General positioning

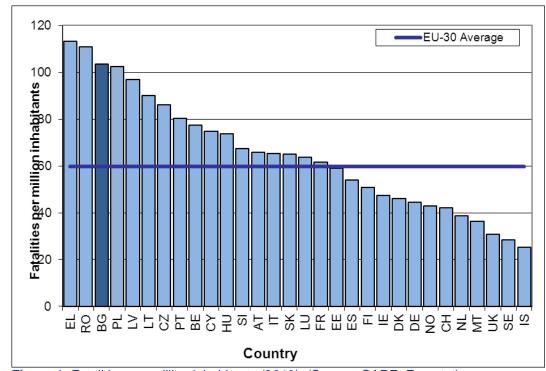


Figure 1: Fatalities per million inhabitants (2010). (Source: CARE, Eurostat).

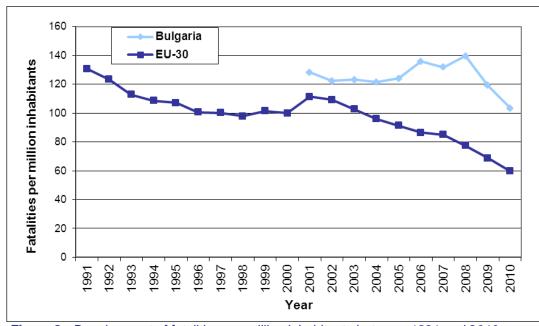
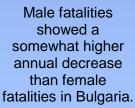


Figure 2: Development of fatalities per million inhabitants between 1991 and 2010. (Source: CARE, Eurostat).



Pedestrian fatalities decreased by more than 40% between 2001 and 2010; car occupants have the highest share in fatalities, and higher than the European average.



Most fatal crashes

– even more than
the European
average – happen
on rural roads in
Bulgaria.



• Transport mode

Table 19: Reported fatalities by mode of road transport in Bulgaria 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 ^{xxiii})
Pedestrians	311	174	-5.6%	22%	18%
Car occupants	505	475	-0.1%	61%	47%
Motorcyclists	42	42	2.5%	5%	13%
Mopeds	12	6	4.2%	1%	2%
Cyclists	55	27	-6.4%	3%	5%
Bus/coach occupants	11	03	6.3%	0%	<1%
Lorries or truck occupants	24	29	5.1%	4%	4%

Age, gender and nationality

Table 20: Reported fatalities by age, gender and nationality in Bulgaria versus the European average of the last year available (Source: CARE, national sources).

Age and gender	2001	year	Average annual change	% in year	European average (2009 ^{VIII})
Females	256	197	-2.2%	25%	24%
0-14 years	n.a.	n.a.	n.a.	n.a.	1%
15 – 17 years	n.a.	n.a.	n.a.	n.a.	1%
18 – 24 years	n.a.	n.a.	n.a.	n.a.	4%
25 – 49 years	n.a.	n.a.	n.a.	n.a.	7%
50 – 64 years	n.a.	n.a.	n.a.	n.a.	3%
65+ years	n.a.	n.a.	n.a.	n.a.	7%
Males	755	576	-2.6%	74%	75%
0-14 years	n.a.	n.a.	n.a.	n.a.	2%
15 – 17 years	n.a.	n.a.	n.a.	n.a.	2%
18 – 24 years	n.a.	n.a.	n.a.	n.a.	13%
25 – 49 years	n.a.	n.a.	n.a.	n.a.	31%
50 – 64 years	n.a.	n.a.	n.a.	n.a.	12%
65+ years	n.a.	n.a.	n.a.	n.a.	12%
Nationality of driver or	rider kille	d			
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 21: Reported fatalities by location in Bulgaria 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	482	312	-3.6%	40%	33%
Rural areas	529	463	-0.4%	60%	49%
Motorways	48	37	2.4%	5%	5%
Junctions	160	80	-6.0%	10%	12%

xxiii Based on data of 28 countries (excl. NO, LT); data of FR, IE, MT, SE (2008).



Most fatal crashes happen during daylight and somewhat more than the European average.

Lighting and weather conditions

Table 22: Reported fatalities by lighting and weather conditions in Bulgaria 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 ^{xxiv})
Lightning conditions					
During daylight	581	479	-1.5%	62%	55%
During nighttime	430	296	-3.3%	38%	39%
Weather condition					
While raining	n.a.	71	n.a.	9%	10%

Single vehicle crashes

Table 23: Reported fatalities by type in Bulgaria 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 ^{VIIIxxv})
Single vehicle crash	303	293	0.3%	38%	40%

Under-reporting of casualties

- Fatalities: no information.

Hospitalised: no information



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

xxv Based on 27 countries (excl. IE, LT, NO); data of AT, BE, DK, EE, FI, FR, MT, SE (2008).



Risk figures



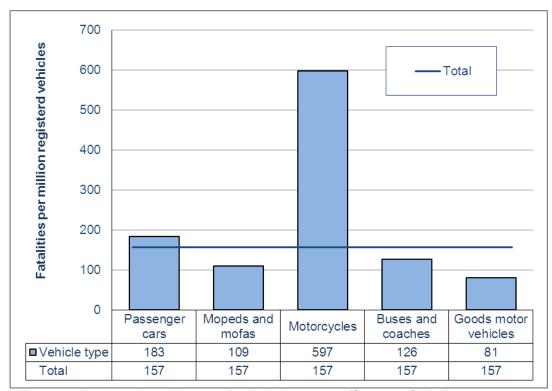
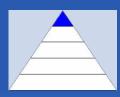


Figure 3: Fatalities by vehicle type for Bulgaria in 2010 (Sources: CARE).





Between 2000 and 2005, more than one-and-a-half percent of the GDP were costs related to road crashes in Bulgaria.



- Total costs of road crashes: > 2000 million Euros (2000 to 2005), without taking the human losses into account.
- Percentage of GDP: 1.8% (sum of 2000 to 2005).

(Source: Mogens et al., 2008)

Table 24: Cost (in million Euro) per injury type in Bulgaria versus the European average (Source: Bickel et al., 2006).

Injury type	Value	European average ^{xxvi}
Fatal	n.a.	1.28
Hospitalised	n.a.	0.18
Slightly injured	n.a.	0.02



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





After a devastating review of the national road safety management in 2008, strong efforts are now undertaken to improve road safety.

Synthesis

Safety position

 With more than 100 road traffic fatalities per million inhabitants Bulgaria has the third highest mortality rate in Europe.

Scope of problem

- The major share of the fatalities goes to the car occupants (61%), which is even higher than the European average.
- The pedestrians also form a large portion of the victims (22%), while all other types of road users only represent a small portion of the registered fatalities.
- Most fatal crashes even more than the European average happen on rural roads in Bulgaria.

Recent progress

- While since 2001, the number of fatalities has been decreasing in almost all European countries, Bulgaria saw a rise in fatalities until 2008. In 2009 and 2010, the fatalities did show a strong reduction, however.
- We see a strong decrease in fatalities in built up areas and a somewhat less strong decrease in rural areas. In line with this we see a strong decrease in pedestrian fatalities but much less decrease in fatalities due to single vehicle accidents.

Remarkable road safety policy issues

- Since 2011, Bulgaria follows the strategy of road safety as a shared responsibility. It targets relations and circumstances at the community level that have an adverse effect on traffic safety.
- Road audits and inspections are already obligatory in Bulgaria.
- Front seat-belt wearing is average in Bulgaria, but rear seat-belt wearing
 is much lower than the European average. The effectiveness of seat-belt
 law enforcement is assessed as somewhat more effective than the
 European average; enforcement of other topics is assessed as somewhat
 less effective.
- No known road side surveys on drink driving exist in Bulgaria.
- Bulgaria has one of the highest proportions of old cars in Europe.







Literature

- Bickel, P. et al (2006) HEATCO deliverable 5. Proposal for harmonised guidelines. EU-project developing harmonised European approaches for transport costing and project assessment (HEATCO). Institut für Energiewissenschaft und Rationelle Energieanwendung, Stuttgart.
- CARE database
- CIA database
- DG-TREN (2005) Road safety country profiles (on website http://ec.europa.eu/transport/road_safety/observatory/country_profiles_en.htm)
- DG-TREN (2010). Technical Assistance in support of the Preparation of the European Road Safety Action Program 2011-2020. Final Report. DG-TREN, Brussels
- ETSC (2009). Boost the market for safer cars across Europe. + Background tables PIN Flash no.13. ETSC, Brussels
- ETSC (2010). Tackling the three main killers on the road. A priority for the forthcoming EU Road Safety Action Program + Background tables. PIN Flash no.16. ETSC, Brussels
- ETSC (2011) <u>www.etsc.eu/faq.php</u> (FAQ on driving licensing has been removed now)
- Eurostat database
- Mogens, W., Ross, A. & Mertner, J. (2008) Review of road safety management capacity in Bulgaria for the World Bank. Report no. 1, issue 2. COWI, Kongens Lyngby, Denmark
- National sources: via CARE national experts
- OECD/ITF (2011). IRTAD Road Safety 2010. Annual Report. OECD/ITF, Brussels
- ROSE25 (2005). Inventory and compiling of a European good practice guide on road safety education targeted at young people. Final report. KfV, Vienna
- SUPREME (2007) Final Report Part F1. Thematic Report: Education and Campaigns. European Commission, Brussels.
- TiS.PT (2003). Study on Road Traffic Rules and Corresponding Enforcement Actions in the Member States of the European Union. European Commission Directorate-General Energy and Transport, Brussels.
- Vis, M.A. and Eksler, V. (Eds.) (2008) Road Safety Performance Indicators: Updated Country Comparisons. Deliverable D3.11a of the EU FP6 project SafetyNet.



