Estonia

Structure and Culture

- **Basic data**

Table 1: *Basic data of Estonia in relation to the European average. (Sources: [1] OECD/ITF, 2011; [2] Eurostat; [3] DG-TREN, 2005; [4] CIA; [5] national sources)*

Basic data of Estonia	European average
– Population: 1.3 million inhabitants (2010)	17.1 million (2010[i]) [1,2]
– Area: 43 400 km^2 (2010) (6.3% water) (2010)	156 225 km^2 (2010) [1,3] 3% water (2010) [4]
– Climate and weather conditions (capital city; 2010): Average winter temperature (Nov. to April): -2°C Average summer temperature (May to Oct.): 13°C Annual precipitation level: 62 mm	(2010) 6°C 16°C 747 mm
– Exposure: 8,4 billion vehicle km (2010)	168 billion vehicle km (2010[ii]) [1]
– 0.5 motorised vehicles per person (2010)	0.7(2010[i,iii]) [1,2]

Estonia has a very low population density.

- **Country characteristics**

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

Characteristics of Estonia	European average
– Population density: 31 inhabitants/km^2 (2010)	110 inhabitants km^2 (2010[i]) [1,2]
– Population composition (2010): 15% children (0-14) 68% adults (15-64) 17% elderly (65 and over)	16% children, 67% adults, 17% elderly (2009[iii]) [1,2]
– Gross Domestic Product (GDP) per capita: €10 800 (2010)	€26 100 (2010) [1,2]
– 45% of population lives inside urban area (2010) [3]	42% (2010[iv]) [1,2]
– Special characteristics: growth of transit freight traffic is one of the expected developments in Estonia, because of the well-accessible harbours.	

[i] Based on 30 European countries; data of HU = 2009.
[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 27 European countries (excl. LT, NO, PL); data of BE, UK (2008).
[iv] Based on 29 European countries (excl. IS).

Road Safety Country Overview - Estonia

The Ministry of Economic Affairs and Communications is the main actor responsible for RS policy making in Estonia.

- **Structure of road safety management**
  - Road safety activities are divided among different organisations in Estonia.

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

Table 3: *Key actors per function in Estonia. (Sources: national sources)*

Key functions	Key actors
1. – Formulation of national RS strategy – Setting targets – Development of the RS programme	– the Government: responsible for setting national RS targets; – The Ministry of Economic Affairs and Communications (MEC): responsible for strategic planning. – Estonian Road Administration (ERA; subordinate establishment of MEC): responsible for the formulation of a national RS strategy and development of multi-disciplinary action plans. – Regions: regional initiatives. – Municipalities: local RS programs.
2. Monitoring of the RS development in the country	Traffic Safety Program division of the Traffic Safety Department of ERA;
3. Improvements in road infrastructure	– ERA: national roads – Municipalities: local roads.
4. Vehicle improvement	– Motor Vehicle Registration Centre of ERA: driver licensing and motor vehicles registration activities (no car industry in Estonia).
5. Improvement in road user education	– The Ministry of Education and Research: responsible for adoption of national education curriculums, including traffic education. – The Traffic Education Division of The Traffic Safety Department of ERA.
6. Publicity campaigns	The Traffic Education Division of The Traffic Safety Department of ERA.
7. Enforcement of road traffic laws	– The Police – Border Guard Board (under The Ministry of the Interior).
8. Other relevant actors	– The Ministry of Social Affairs: driver health condition regulation; – Estonian Rescue Service under the Ministry of the Interior; – The Ministry of Justice; – Estonian Traffic Insurance Fund; – Research: e.g. Tallinn Technical University, the University of Tartu, the University of Tallinn, Tallinn University of Applied Sciences; – Private consultants.

Road Safety Country Overview - Estonia

Speed is admitted more often in Estonia than in other countries, except for speeding on motorways.

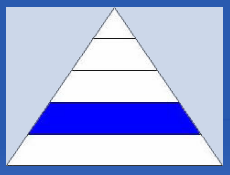
- **Attitudes towards risk taking**
  - Estonian drivers admit to often exceed the speed limit somewhat more than drivers in other countries, except for speeding on motorways.
  - Almost half of the Estonian drivers support higher penalties for speeding offences, which is higher than the European average.
  - In Estonia, the probability of being checked for speeding and drink-driving is perceived as somewhat higher than in other countries.

Table 4: *Road safety attitudes and behaviour of drivers (Source: SARTRE, 2004)*

	Estonia	SARTRE average
Self-reported driving behaviour	**% of drivers that show behaviour often or more**	
Too close following	7%	9%
Inappropriate overtaking	4%	5%
Exceeding speed limit on motorways	13%	25%
Exceeding speed limit on main inter-urban roads	25%	18%
Exceeding speed limit on country roads	20%	13%
Exceeding speed limit in built-up areas	12%	8%
Support of stricter legislation	**% of drivers that support stricter legislation**	
Higher penalties for speeding offences	47%	60%
Higher penalties for drink-driving offences	81%	88%
Lower BAC levels	9%	8%
Perceived probability of being checked	**% of drivers that believe that probability is high**	
Speeding	25%	18%
Alcohol use	11%	9%

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

- 2-9% better
- 10-19% better
- ≥ 20% better
- 2-9% worse
- 10-19% worse
- ≥ 20% worse



The Estonian 2015 target for road traffic fatalities was already met in 2009, and therefore, a more ambitious target will be set.

Estonia has no motorways and improves roads by means of black spot treatment; safety audits and inspections are recommended for all roads.

Programs and measures

- **National strategic plans and targets**

– The Estonian National Traffic Safety Program (2003-2015) is currently active. The latest aplication plan with RS measures covers the period 2012-2015.
– Targets (reference: 2013-2015 average):

Table 5: *Road safety targets for Estonia*

Year	Fatalities	Injuries
2015	Max. 100* *already reached in 2009	
2020	-62% Max. 75	-39% Max. 1500

– Priority topics:
  - Traffic safety management system;
  - Road safety supporting measures;
  - Education and training;
  - Traffic safety campaigns;
  - Traffic supervision (reduction of intoxicated driving, reduction of speeding, increased use of passive safety measures;
  - Post-crash activity;
  - Infrastructure safety.

(Source: DG-TREN, 2005; 2010; national sources)

- **Road infrastructure**

Table 6*: Description of the road categories and their characteristics in Estonia (Source: TiS.PT, 2003).*

Road type	Speed limit (km/h)
Urban roads	50
Rural roads	90/100/110

– Special rules for:
  - Novice drivers in passenger cars: 90 km/h (100 km/h or 110 km/h rural roads).
– Guidelines and strategic plans for infrastructure are available in Estonia.

Table 7: *Obligatory parts of infrastructure management in Estonia and other European countries. (Sources: DG-TREN, 2010)*

Obligatory parts for infrastructure:	European countries with obligation
Safety impact assessment: yes for TEN-T network	-
Road safety audits: yes for TEN-T network, recommended for other roads	50%
Road safety inspections: yes for TEN-T network, recommended for other roads	60%
Black spot treatment: yes	47%[v]

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

Road Safety Country Overview - Estonia

- Recent infrastructural actions have been addressing:
  - Reconstruction of dangerous crossings, intersections and road sections;
  - Cycle and pedestrian paths' construction;
  - Lightning outside built-up aria
  - Roundabouts' construction
  - Rumble strips
  - Safety barriers, etc.

- **Traffic laws and regulations**

***Table 8**: Description of the regulations in Estonia in relation to the most common regulations in other European countries. (Sources: [1] DG-TREN, 2005; [2] national sources; [3] DG-TREN, 2010; [4] DG-TREN, 2008)*

Regulations in Estonia	Most common in Europe (% of countries)
Allowed BAC level: 0.2‰; – Novice drivers: 0.2‰; – Professional drivers: 0.2‰. [1]	0.5‰ (60%) 0.5‰ and 0.2‰ (both 30%) 0.5‰ (30%) [1,2]
Phoning: – Hand held: prohibited – Hands free: allowed [3]	 Not allowed (97%) [2,3] -
Use of restraint systems: – Driver: obligatory – Front passenger: obligatory – Rear passenger: obligatory – Children: obligatory [3]	 Obligatory (all countries) Obligatory (all countries) Obligatory (all countries) Obligatory on all seats (73%) [2,3]
Helmet wearing: – Motor riders: obligatory – Moped riders: obligatory – Cyclists: obligatory for < 15 years old, recommended for others [2]	 Obligatory (all countries) Obligatory (all countries) Recommended (25%[vi]) [2,3]
– Mandatory DRL [4]	

The BAC level of 0,2‰ in Estonia is lower than the common limit of 0,5‰ in Europe.

- **Enforcement**

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

Issue	Score for Estonia	Most common in Europe (% of countries)
Speed legislation enforcement	6	7 (35%)
Seat-belt law enforcement	7	7 (43%)[vii]
Child restraint law enforcement	8	6 (27%[viii])
Helmet legislation enforcement	9	9 (39%[ix])

Especially speed enforcement is somewhat less effective than in most other European countries.

[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).

Road Safety Country Overview - Estonia

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

Issue	Score for Estonia	Most common in Europe (% of countries)
Speeding	Need to do more	Is improving (50%)
Drink driving	Is improving	Is improving (79%)[ix]
Seat belt use	Need to do more	Is improving (52%[x])

- **Road user education and training**

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

Education and training in Estonia	Most common in Europe (% of countries)
General education programmes: – Primary school: compulsory – Secondary school: compulsory – Other groups: voluntary (cyclists, teenagers, children, elderly)	 Compulsory (65%[xi]) Compulsory (50%[xii]) [1,2] -
Driving licences thresholds: – Passenger car: 18 years – Motorised two wheeler: 14 years (L1e, L2e, L6e), 16 years (11kW), 18 years (25kW), 20 years (>25kW) – Buses and coaches: 21 years – Lorries and trucks: 21 years	 18 years (79%) 18 years (low categories) and higher ages for faster vehicles (66%) 21 years (76%)[xiii] 21 years (79%[xiv]) [2,3]

Road safety education is compulsory in Estonia.

- **Public campaigns**

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

Campaigns in Estonia	Most common issues in Europe (% of countries)
Organisation: – Traffic Education Division of the Traffic Safety Department of ERA – Police and Border Guard Board	
Main themes: – Drink-driving – Seat-belt wearing (back seats and child restraint systems) – Speeding outside built-up area – Vulnerable road users in urban traffic – Reflectors' use – Helmet use and cyclists' safety – Safe railway crossings	 Drink-driving (83%) Seat-belt (73%) Speeding (53%) - - - -

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

Road Safety Country Overview - Estonia

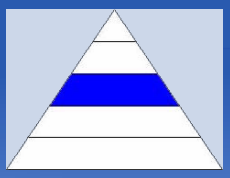
Estonia has an extensive scheme of mandatory vehicle inspection periods.

- **Vehicles and technology (national developments)**

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

Mandatory technical inspections	Most common in Europe (% of countries)
Passenger cars: 3-2-2-2-1-1-1 etc. years	Every 12 months (41%)
Motorcycles: 3-2-2-2-1-1-1 etc. years	Every 12 months (35%)
Busses or coaches: Every year and every 6 months after 10 year	Every 12 months (41%)
Lorries or trucks: Every year	Every 12 months (41%)[xv]

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



Speeding has increased on high speed rural roads in Estonia, but decreased on lower speed rural roads; mean speed shows the opposite pattern.

The amount of drink-driving test per population has increased between 2006 and 2011.

Road Safety Performance Indicators

- **Speed**

Table 14: *Number of speed checks in Estonia 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 Estonia compared to the European average (Source: national sources)*

Road type	2001	2010	Average annual change	European average
Rural roads (110 km/h)	3%	2%	-20%	Not available
Rural roads (90 km/h)	23%	57%	23%	Not available
Urban roads	Not available	41%	-3%	Not available

Table 16: *Mean speed per road type in Estonia compared to the European average (Source: ETSC, 2010; national sources)*

Road type	2001	2010	Average annual change	European average
Rural roads (110 km/h)	99 km/h	106 km/h	3%	Not available
Rural roads (90 km/h)	93 km/h	87 km/h	-4%	Not available
Urban roads	Not available	Not available	Not available	Not available

- **Alcohol**

Table 17: *Road side surveys for drink-driving in Estonia compared to the European average (Source: ETSC, 2010; national sources).*

Measure	2006	2011	% change	European average (2008)
Number of tests/1000 population	76	103	7%	145.8[xvii]
% tested over the limit	0.9%	0.6%	13%	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.).

Road Safety Country Overview - Estonia

Estonia has a relatively old passenger car park; more than 60% of the cars is older than 10 years.

About 70% of children cycling wear a helmet in Estonia.

• Vehicles

Table 18: *State of the vehicle fleet in Estonia compared to the European average (Source: ETSC, 2009; national sources)*

Vehicle fleet in Estonia	European average
Cars per age group (2010): – 3% ≤ 2 years, – 15% 2 to 5 years, – 19% 6 to 10 years, – 63% > 10 year.	Passenger cars (2009)[xviii] 12% ≤ 2 years, 19% 2 to 5 years, 27 % 6 to 10 years, 42% >10 years
EuroNCAP occupant protection score of cars (new cars sold in 2008)[xix]: – 5 stars: 43% – 4 stars: 40% – 3 stars: 2% – 2 stars: 1%	 49% 35% 6% 1%[xx]

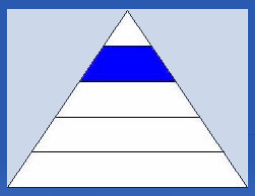
• Protective systems

Table 19: *Protective system use in Estonia versus the average in Europe (Source: national sources)*

• Protective systems	European average
Daytime seat belt wearing in cars and vans (2010): – No information front – 93% drivers – 85% front passenger – 58% rear – 90% child restraint systems	(2007) 85% front[xxi], Not available Not available 60% rear[xxii], Not available
– Helmet use (2011): – No information % motor rides – No information % moped riders – 69% children cyclists, 24% of adult cyclists	 Not available Not available Not available

[xviii] Based on data of 22 countries (excl. BG, DK, EL, FR, IS, MT, PT and SK).
[xix] Occupant protection score.
[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)
[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).

Road Safety Country Overview - Estonia



Only recently, Estonia reached the European average level of fatalities per million inhabitants.

Road Safety Outcomes

- **General positioning**

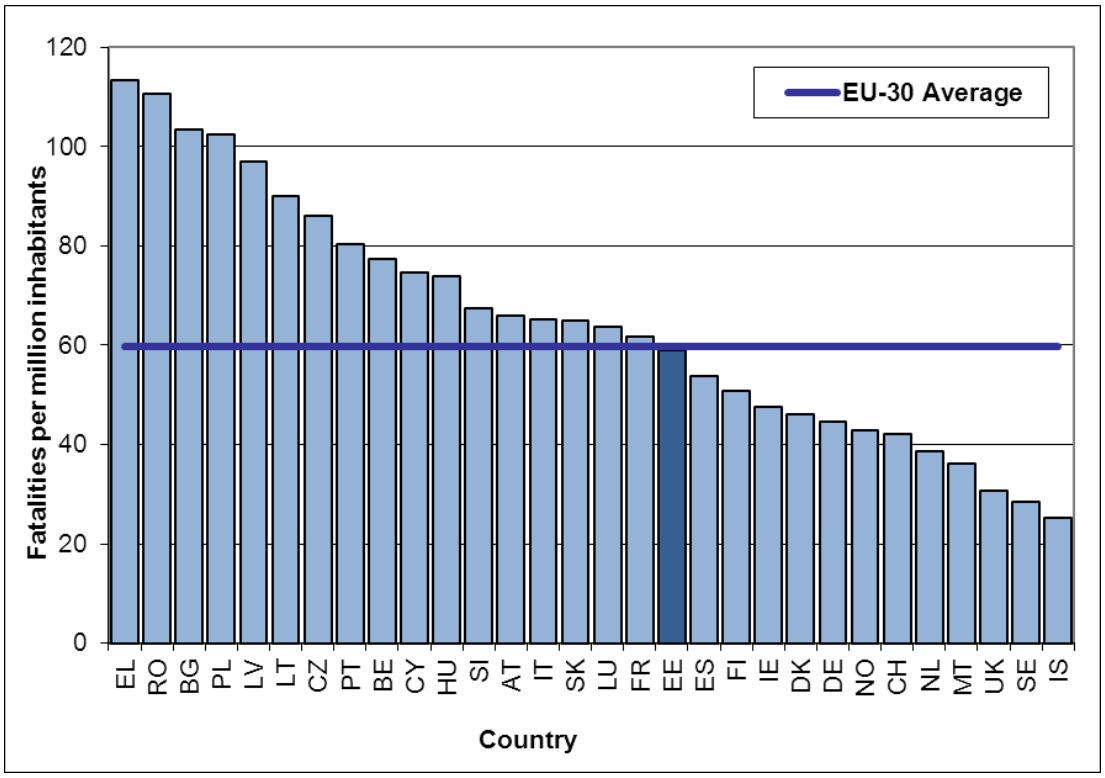


Figure 1: *Fatalities per million inhabitants (2010). (Source: CARE; Eurostat).*

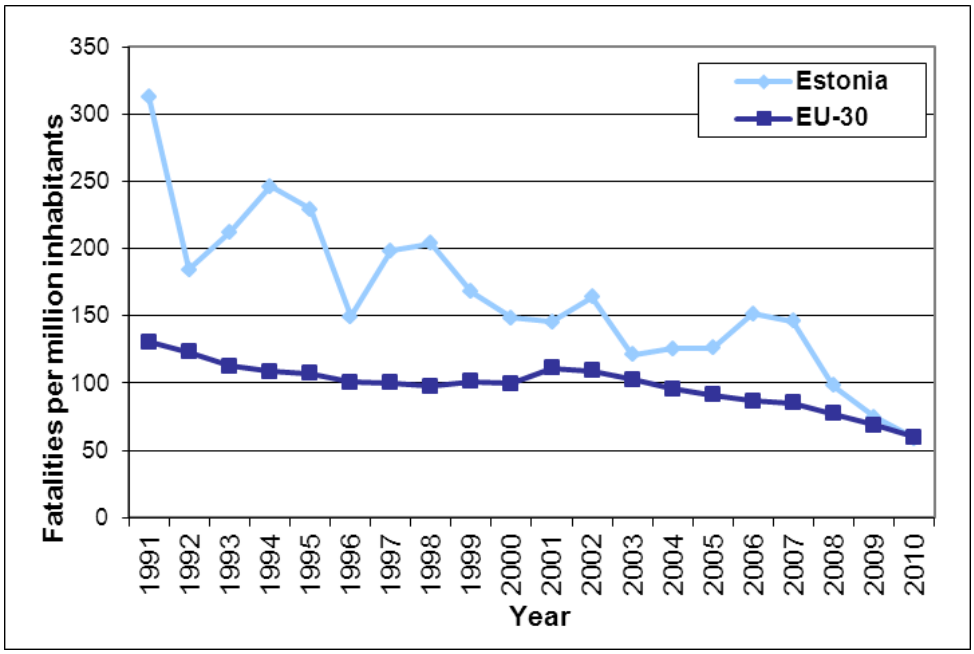


Figure 2: *Development of fatalities per million inhabitants between 1991 and 2010. (Source: CARE; Eurostat).*

Road Safety Country Overview - Estonia

Estonia has a high share of cyclists and also car occupants in the number of fatalities.

Estonia has a higher share of fatalities among older women and old men.

Estonia has a higher share of fatal crashes at junctions and on rural roads than average in Europe.

• Transport mode

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

Transport mode	2005	2010	Average annual change	% in 2010	European average (2009[xxiii])
Pedestrians	50	14	-18%	18%	18%
Car occupants	88	44	-10%	56%	47%
Motorcyclists	5	6	-62%	8%	13%
Mopeds	2	1	7%	1%	2%
Cyclists	7	9	12%	11%	5%
Bus/coach occupants	1	0	-	0%	<1%
Lorries or truck occupants	7	4	34%	5%	4%

• Age, gender and nationality

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

Age and gender	2005	2010	Average annual change	% in 2010	European average (2009[viii])
Females					24%
0-14 years	7	1	-	1%	1%
15 – 17 years	2	0	-3%	0%	1%
18 – 24 years	8	2	-9%	3%	4%
25 – 49 years	10	7	-4%	9%	7%
50 – 64 years	7	6	27%	8%	3%
65+ years	8	7	8%	9%	7%
Males					75%
0-14 years	5	0	-35%	0%	2%
15 – 17 years	3	3	45%	4%	2%
18 – 24 years	18	8	-6%	11%	13%
25 – 49 years	62	17	-20%	22%	31%
50 – 64 years	25	19	6%	24%	12%
65+ years	13	9	-1%	11%	12%
Nationality of driver or rider killed					
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 Estonia compared to the European average of the last year available (Source: CARE, national sources). Junctions are part of built-up and rural areas.*

Location	2005	2010	Average annual change	% in 2010	European average (2009[viii])
Built-up areas	46	13	-17%	17%	33%
Rural areas	124	66	-10%	83%	49%
Junctions	33	11	-7%	14%	12%

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

Road Safety Country Overview - Estonia

Relative many fatalities happen during daylight en rainy conditions compared to the European average.

- **Lighting and weather conditions**

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

Conditions	2005	2010	Average annual change	% in 2010	European average (2009[xxiv])
Lightning conditions					
During daylight	92	54	-7%	68%	55%
During nighttime	76	25	-18%	32%	39%
Weather condition					
While raining	11	12	5%	15%	10%

- **Single vehicle crashes**

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

Crash type	2005	2010	Average annual change	% in 2010	European average (2009[xxv])
Single vehicle crash	87	17	-22%	22%	40%

Under-reporting of casualties

- Fatalities: 100%. This amount is suspected since adequate alternative registration systems are missing for a check.
- Hospitalised: not available

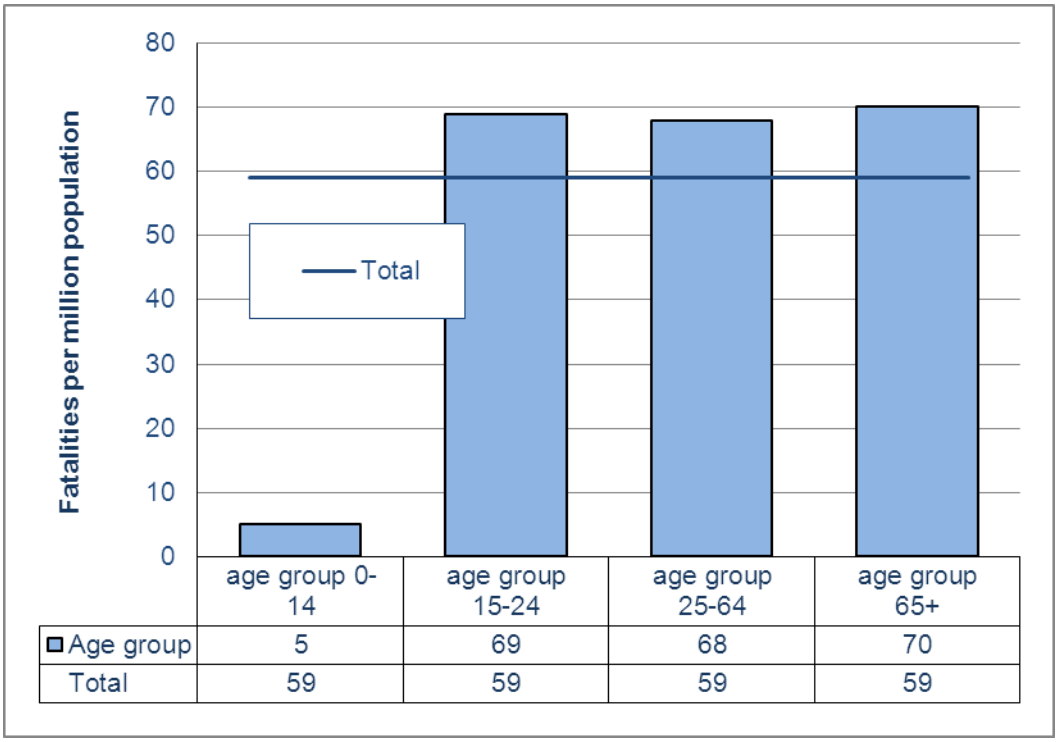
(Source: national source)

[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).

Road Safety Country Overview - Estonia

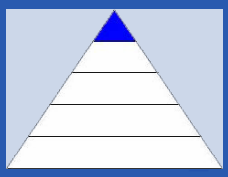
- **Risk figures**

Children have a relative low fatality risk in Estonia.



	age group 0-14	age group 15-24	age group 25-64	age group 65+
Age group	5	69	68	70
Total	59	59	59	59

Figure 3: *Fatalities by number of inhabitants in Estonia in 2010 (Sources: national sources; Eurostat).*



Estimated costs of road fatalities and slight injuries are lower in Estonia than on average in Europe, but are higher for severe injuries.

Social Cost

- Total costs of road crashes: 149 million euro (2010)
- Percentage of GDP: 1% (2010)

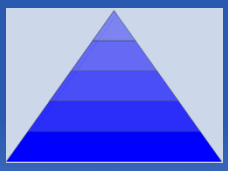
(Source: national source)

Table 25: *Cost (in million Euro) per injury type in Estonia versus the European average (Source: Bickel et al., 2006; national source).*

Injury type	Value	European average[xxvi]
Fatal	0.45	1.28
Hospitalised	0.52	0.18
Slightly injured	0.01	0.02

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

Road Safety Country Overview - Estonia



Estonia has set more ambitious targets, has obligatory road inspections and a lower drink-driving limit than most other European countries.

Synthesis

- **Safety position**
  - The number of fatalities per million inhabitants is currently at the same level as the European average.

- **Scope of problem**
  - A large number of fatalities are car occupants, followed by pedestrians, which have a remarkably high share of dying in traffic in Estonia.
  - Estonia has a somewhat higher share of fatalities among older women and old men relative to the European average.
  - Estonia has a higher share of fatal crashes at junctions and on rural roads than average in Europe.
  - Relatively more people get killed in a road crash during daytime and during rain in Estonia than on average in Europe.
  - Mean speed and speeding has slightly increased over the years in Estonia but especially speed enforcement is somewhat less effective than in most other European countries.
  - Estonia has a relatively old passenger car park; more than 60% of the cars is older than 10 years.

- **Recent progress**
  - The number of fatalities per million inhabitants dropped slightly since 2006 and recently reached the European average.
  - The amount of drink-driving test has increased between 2006 and 2008.

- **Remarkable road safety policy issues**
  - The Estonian 2015 target for road traffic fatalities was already met in 2009.
  - Road inspections are obligatory parts of Estonian infrastructure management.
  - The BAC level of 0.2‰ in Estonia is lower than the common limit of 0.5‰ in Europe.

DaCoTA

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