Road Safety Country Overview October 2012

Finland





Finland has a low population density, with most people living in the southern part of the country.



Transport

Structure and Culture

• Basic data

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

Basic data of Finland		European average
- Population: 5.3	51.427 inhabitants (2010)	17.1 million (2010 ¹) [1,2]
- Area: 500 304 k	² (2010)	156 225 km ² (2010) [1,3]
(10.2% water) (2010)	3% water (2010) [4]
- Climate and we	ather conditions (capital city; 2010):	(2010)
Average winter	temperature (Nov. to April): -0°C	6°C
Average summ	er temperature (May to Oct.): 9°C	16°C
Annual precipit	ation level: 889 mm	747 mm
- Exposure: 53.8	billion vehicle km (2010)	168 billion vehicle km
(86% cars, 13%	goods motor vehicles)	(2010") [1]
- 0.72 motorised	vehicles per person (2010).	0.7(2010 ^{^{i, iii}}) [1,2]

Country characteristics

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

Characteristics of Finland	European average	
 Population density: 18 inhabitants/km² (2010) 	110 inhabitants km ² (2010 ¹) [1,2,3]	
 Population composition (2010): 17% children (0-14 years), 66% 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: €33 600 (2010) 	€26 100 (2010) [1,2]	
 25% of population lives inside urban area (2010) 	42% (2010 ^{iv}) [1,2]	
 Special characteristics: most roads and cities of Finland are located in the southern part. 		

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

^{iv} Based on 29 European countries (excl. IS).

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

Structure of road safety management

 In Finland, road safety work is carried out at national, regional and local level.

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

Key functions	Key actors
1.	- The Ministry of Transport and Communication:
 Formulation of national RS 	responsible for road safety.
strategy	 The Consultative Committee on Road Safety:
 Setting targets 	advisory body to the Ministry of Transport and
 Development of the RS 	Communications. It is responsible for preparing
programme	national strategies. It comprises representatives
	from all non-transport governmental bodies, the
	Finnish National Road Administration, the road
	safety research community, main road-user
	organisations and other stakeholders.
	- Traffic Planning Departments (Provincial State
	Offices): set road safety goals for each province.
	- The State Provincial Offices: coordination of road
	safety work of municipalities (via the Provincial
	Traffic Safety Committees).
2. Monitoring of the RS	The Consultative Committee on Road Safety
development in the country	
3. Improvements in road	- The Finnish Road Administration (FinnRa): public
infrastructure	roads.
	 Municipalities: local roads.
4. Vehicle improvement	The Finnish Vehicle Administration (AKE):
	administration, service and information centre
	operating under the auspices of the Ministry of
	Transport and Communications. Responsible for
	vehicle and driving licenses, driving tests and
	supervision on inspections etc.
5. Improvement in road user	 The AKE: driving training
education	 Central Organisation for Traffic Safety in Finland
	(Liikenneturva): general RS information and
	education
6. Publicity campaigns	– Liikenneturva
	– The police
7. Enforcement of road traffic	The police
laws	
8. Other relevant actors	 Other ministries: The Ministry of Justice, the
	Ministry of the Interior, the Ministry of Education,
	the Ministry of Social Affairs and Health, the
	Ministry of the Environment;
	 Road-user organizations: Finnish Transport
	vvorkers Union, Central Organisation for Motor
	Traffic, Confederation of Finnish Industry and
	Employers;
	- Other stakeholders: Association of Finnish Local
	and Regional Authorities, Finnish Motor Insurers'
	Centre; Desservely Technical Desservely Contra of Fisher I
	- Research: Lechnical Research Centre of Finland,
	University of Tampere, University of Helsinki.

The Ministry of Transport and Communication is responsible for road safety in Finland.



Attitudes towards risk taking

- Finnish drivers admit to unsafe driving behaviour less than drivers in other countries.
- Eighty per cent of the car drivers in Finland support a stricter legislation for speeding, which is much more than in most other countries. There is also more support for stricter drink-driving legislation but less support for lower BAC-levels.
- In Finland, perceived probability of being checked is lower than in other countries.

Fable 4: Road safety	v attitudes and behaviour of attitudes and behaviour of attitudes.	of drivers	(Source: SARTRE, 2004)
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	Finland	SARTRE average
Self-reported driving behaviour	% of drivers that show behaviour	
	often or more	
Too close following	6%	9%
Inappropriate overtaking	1%	5%
Exceeding speed limit on motorways	17%	25%
Exceeding speed limit on main inter-urban roads	11%	18%
Exceeding speed limit on country roads	10%	13%
Exceeding speed limit in built-up areas	6%	8%
Support of stricter legislation	% of drivers that	at support stricter
	legislation	
Higher penalties for speeding offences	80%	60%
Higher penalties for drink-driving offences	94%	88%
Lower BAC levels	1%	8%
Perceived probability of being checked	% of drivers that	at believe that
		5.4 C
	probability is h	ign
Speeding	probability is h	gn 18%

Legend

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

- 2-9% better
- 10-19% better
- \geq 20% better
- 2-9% worse
- 10-19% worse
- \geq 20% worse



The perceived probability of being checked in Finland is lower than in other countries, especially for speeding.





Finland has adopted a zero vision, which aims at an inherently safe transport system.

Road audits and inspections are obligatory for infrastructure management in Finland.



Programs and measures

Road safety strategy of the country

- In the previous road safety program, Finland adopted a long-term ambition for the road transport system to facilitate a development towards no fatalities or serious injuries on the road network (vision zero).
- This is elaborated in raising safety awareness, influence exposure (traffic growth, strategic transport choices, investment decisions), and use evidence based measures and technology.

National strategic plans and targets

- The current road safety plan of Finland was accepted in 2011 and covers the period 2011-2014.

Target:

Table 5: Road safety targets for Finland

Year	Fatalities
2025	Max. 100

- Priority topics (short term):
 - Increasing road safety awareness among professionals and citizens; 0
 - Improving safety in built-up areas; 0
 - Reducing dangerous driving behaviour; 0
 - Reducing head-on collisions and off-the-road accidents, and 0 minimising their consequences.

(Sources: DG-TREN, 2005; 2010; OECD/ITF, 2011)

Road infrastructure

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

Road type	Speed limit (km/h)
Urban roads	50/40
Rural roads	80/100
Motorways	100/120

Special rules for:

- Winter time: lower speed limits.
- Light motorcycles (A1; until 18 years): 80 km/h
- Guidelines and strategic plans for infrastructure are available in Finland.

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

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

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

Major improvements in infrastructure;

Traffic laws and regulations

Table 8: Description of the regulations in Finland 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 Finland	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. 	-
Use of restraint systems:	
 Driver: obligatory 	Obligatory (all countries)
 Front passenger: obligatory 	Obligatory (all countries)
 Rear passenger: obligatory 	Obligatory (all countries)
- Children: obligatory, excluding rear seat	Obligatory on all seats (73%) [2,3]
[3]	
Helmet wearing:	
 Motor riders: obligatory 	Obligatory (all countries)
 Moped riders: obligatory 	Obligatory (all countries)
 Cyclists: not obligatory [3] 	Recommended (25% ^{vi}) [2,3]
 Mandatory DRL [4]. 	

Enforcement

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

Issue	Score for Finland	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})





^{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).



Recent infrastructural actions have been addressing:
 Major improvements in infrastructure:

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

Issue	Score for Finland	Most common in Europe (% of countries)
Speeding	Is improving	Is improving (50%)
Drink driving	Is improving	Is improving (79%) ^{ix}
Seat belt use	Is improving	Is improving (52% ^x)

Road user education and training

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

Education and training in Finland	Most common in Europe (% of countries)
General education programmes:	
 Primary school: compulsory 	Compulsory (65% ^{xi})
 Secondary school: compulsory 	Compulsory (50% ^{XII}) [1,2]
 Other groups: not available 	-
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%) ^{xiii}
 Lorries and trucks: 21 years 	21 years (79% ^{***}) [2,3]

Public campaigns

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

Campaigns in Finland	Most common issues in Europe (% of countries)
Organisation:	
 Central Organisation for Traffic Safety in Finland 	
(Liikenneturva);	
– The police.	
Main themes:	
– Drink-driving,	Drink-driving (83%)
– Seat-belt,	Seat-belt (73%)
– Speeding,	Speeding (53%)
 Young driver offences, 	-
 Driver responsibilities. 	-



- ^{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 education, driving licence thresholds and public campaigns are similar as in the majority of the European countries.

Except for motorcycles, mandatory vehicle inspection periods are similar to the most common periods in Europe.

Vehicles and technology (national developments)

Table 13: Developments of vehicles and technology in Finland, 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: 12 months	Every 12 months (41%)
Motorcycles: not submitted for checks	Every 12 months (35%)
Busses or coaches: 12 months	Every 12 months (41%)
Lorries or trucks: 12 months	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).



Project co-financed by the European Commission, Directorate-General for Mobility and Transport 7/17



The amount of speed checks has increased over time in Finland, and the amount of speed offences have decreased.



Road Safety Performance Indicators

Speed

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

Measure	2006	2008	% change	European average (2008)
Number of tickets/1000 population	38	50	31.6%	90,8 ^{xvi}

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

Road type	2001	2005	Average annual change	European average
Motorways	Not available	Not available	Not available	Not available
Rural roads	54%	52%	Not available	Not available
Urban roads	Not available	Not available	Not available	Not available

Table 16: Mean speed per road type in Finland compared to the European average (Source: ETSC, 2010)

Road type	2001	2008	Average annual change	European average
Motorways	110 km/h	110 km/h	0.07%	Not available
Rural roads	98 km/h	97 km/h	-0.15%	Not available
Urban roads	Not available	Not available	Not available	Not available

Alcohol

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

Measure	2006	2008	% change	European average (2008)
Amount of tests/1000 population	Not available	385	Not available	145.8 ^{xvii}
% found over the limit	Not available	1.3%	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.).

The vehicle fleet in Finland is somewhat older than the European average but the occupant protection score is somewhat better than average.

Seat-belt wearing rates are higher than the European average and also helmet-wearing rates are high in Finland.

• Vehicles

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

Vehicle fleet in Finland	European average
Cars per age group (2009):	Passenger cars (2009) ^{xviii}
– 10% ≤ 2 years,	12% ≤ 2 years,
 17% 2 to 5 years, 	19% 2 to 5 years,
- 26 % 6 to 10 years,	27 % 6 to 10 years,
– 47% > 10 year.	42% >10 years
EuroNCAP occupant protection scores of cars (new cars	
sold in 2008):	
- 5 stars: 60%	53%
– 4 stars: 29%	31%
- 3 stars: 1%	7%
– 2 stars: 0%	1%**

• Protective systems

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

Use of protective systems in Finland	European average
Daytime seat belt wearing in cars and vans (2009):	(2007)
 92% front, 	85% front ^{xx} ,
 No information on % driver 	Not available
 No information on % front passenger 	Not available
 87% rear (in urban areas only) 	60% rear ^{xxi} ,
 No information on % child restraint systems 	Not available
Helmet use:	
 99% motorcycle rides, 	Not available
 99% moped riders, 	Not available
- 31% cyclists (2008)	Not available



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

^{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).

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

General positioning



Finland has fewer fatalities per million population than the European average and also a larger decrease rate.



Road Safety Outcomes





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



The share of fatalities among car occupants is much higher in Finland than on average in Europe.

Transport mode

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

Transport mode	2001	2008	Average annual change	% in 2008	European average (2009 ^{xxii})
Pedestrians	62	53	0.6%	15%	18%
Car occupants	371	291	-2.9%	85%	47%
Motorcyclists	16	36	14.3%	10%	13%
Mopeds	7	13	34.9%	4%	2%
Cyclists	59	18	-11.3%	5%	5%
Bus/coach occupants	3	0	-58.3%	0%	<1%
Lorries or truck occupants	15	14	7.6%	4%	4%

• Age, gender and nationality

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

Age and gender	2001	2008	Average annual change	% in 2008	European average (2009 ^{VIII})
Females	137	79	-6.8%	23%	24%
0-14 years	7	1	-8.5%	0%	1%
15 – 17 years	8	8	7.8%	2%	1%
18 – 24 years	13	11	9.4%	3%	4%
25 – 49 years	36	24	-5.0%	7%	7%
50 – 64 years	30	10	-11.1%	3%	3%
65+ years	43	25	-6.4%	7%	7%
Males	296	265	-1.1%	77%	75%
0-14 years	12	7	48.5%	2%	2%
15 – 17 years	12	18	12.0%	5%	2%
18 – 24 years	71	39	-5.1%	11%	13%
25 – 49 years	101	87	0.5%	25%	31%
50 – 64 years	47	46	0.8%	13%	12%
65+ years	53	68	6.2%	20%	12%
Nationality of driver or rider killed					
Non-national drivers	Not available	8	Not available	2%	Not available
Non-national riders	Not available	1	Not available	0%	Not available



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

Older men have a higher share in road fatalities in Finland than in other countries in Europe.

Relative many fatal crashes happen in Finland on rural roads and on junctions.

Location

Table 22: Reported fatalities by location in Finland 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	2008	Average annual change	% in 2008	European average (2009 ^{VIII})
Built-up areas	113	108	0.9%	31%	33%
Rural areas	320	236	-3.4%	69%	49%
Motorways	11	9	15.4%	3%	5%
Junctions	104	72	-4.3%	21%	12%

• Lighting and weather conditions

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

Conditions	2001	2008	Average annual change	% in 2008	European average (2009 ^{xxiii})
Lightning conditions					
During daylight	244	217	-0.9%	63%	55%
During nighttime	146	102	-4.9%	30%	39%
Weather condition					
While raining	30	29	10.7%	8%	10%

Single vehicle crashes

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

Crash type	2001	2008	Average annual change	% in 2008	European average (2009 ^{xxiv})
Single vehicle crash	183	176	-0.4%	51%	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: CARE)



^{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).

Relative many crashes in Finland happen during daylight and as single vehicle crash.

• Risk figures



Motorcycles, older vehicles, adolescents and roads outside urban areas have the highest risk.





Figure 4: Fatalities in Finland by population in 2010 (Sources: CARE, OECD/ITF, 2011).













Social Cost

- Total costs of road crashes: 2.53 billion Euros (2007)
- Percentage of GDP: 1.4%

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

Injury type	Value	European average ^{xxv}
Fatal	Not available	1.28
Hospitalised	Not available	0.18
Slightly injured	Not available	0.02





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





Finland has adopted vision zero and has an effective enforcement system.

Synthesis

Safety position

Finland keeps the 11th position among the 30 European countries, in terms of total road accidents fatalities per population, which is better than the European average.

• Scope of problem

- The share of fatalities among car occupants is much higher in Finland than on average in Europe. Motorcyclists are the highest risk group.
- Older men have a higher share in road fatalities in Finland than in other countries in Europe. Youngsters and elderly have the highest risk.
- Relative many fatal crashes happen in Finland on rural roads and on junctions. The highest risks are on roads outside urban areas.
- Relative many crashes in Finland happen during daylight and as single vehicle crash.

Recent progress

- Over the last two decades, the number of fatalities per population in Finland has decreased by 59%. This decrease took particularly place among car and bus occupant, and cyclist.
- The amount of speed checks has increased over time in Finland, and the amount of speed offences have decreased.

Remarkable road safety policy issues

- Finland has adopted a zero vision, which aims at an inherently safe transport system.
- A systematic approach is applied for road infrastructure improvements, including the adoption of obligatory parts of the EU Directive: safety audits of new roads, safety inspections of existing roads and black-spot treatment, and creating a research-based long-term development programme for road safety.
- Effectiveness of enforcement is at or above the European average and the number of roadside alcohol breath tests per population in Finland is among the highest in the EU.





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