

**WORKING GROUP ON
ACHIEVING AMBITIOUS ROAD SAFETY TARGETS**

COUNTRY REPORTS ON ROAD SAFETY PERFORMANCE

SUMMARY

August 2006

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ABSTRACT

Background

This report was prepared by the OECD/ECMT Working Group on Achieving Ambitious Road Safety Targets. At its first meeting held on 9-10 March 2005, the Working Group discussed the importance of cross-country comparisons and targeted performance assessment in identifying the priority areas for implementation of effective measures and areas for possible improvements.

It was decided to present and publish an overview of the safety evolution of individual countries, based on information collected through a survey. The survey was sent to all 50 OECD/ECMT countries to collect information on road safety trends, recent road safety measures implemented; key road safety issues, measures planned to address these issues and targets set and current results towards these targets. The responses to the survey are completed by other relevant data from other sources (e.g. IRTAD, ECMT statistics, and recent reports of the JTRC).

It should be noted that the survey focused on specific sectoral elements; it did not however address governance issues and high level policy issues, which will be analysed in the main report of the Working Group.

Responses were received from 38 out of the 50 OECD/ECMT countries. In addition, the states of Victoria and Western Australia also provided responses to the Questionnaire.

Content of the report

This report contains first a summary of road safety performance in OECD/ECMT countries. It presents an overview of road safety targets in OECD/ECMT countries, highlights the main road safety problems identified by member countries and provides some country comparisons.

The detailed responses from the 40 jurisdictions are set out later in this report.

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SUMMARY OF THE COUNTRY REPORTS

This summary of the country reports includes the following sections:

1. Road safety trends in Member countries
2. Targets in OECD/ECMT countries
3. Progress towards Targets
4. Key road safety problems
 - 4.1 Overview
 - 4.2 Speeding
 - 4.3 Drink Driving
 - 4.4 Seatbelt
 - 4.5 Young drivers
 - 4.6 Vulnerable road users
 - 4.7 Infrastructure
5. Conclusions

SUMMARY

1. Road Safety Trends in Member Countries

Evolution in the number of fatalities

Between 1970 and 2004, most OECD and ECMT countries have seen decreases in the number of road fatalities and injuries. Table 1 shows the reductions in absolute number of fatalities in all member countries, as well as average annual reductions / increases for each decade since 1970 and for the period 2000-2004.

Table 1. Absolute number of fatalities in member countries 1970-2004 and average annual reduction / increase

	1970	2004	Change 1970-2004	Average annual reduction / increase			
				1970-1980	1980-1990	1990-2000	2000-04
OECD Asia / Pacific							
Australia	3798	1 590	-58%	-1.5%	-3.3%	-2.4%	-3.4%
Japan	21795	8 492	-61%	-6.3%	2.5%	-3.3%	-4.9%
Korea	3529	6 563	86%	6.2%	8.2%	-3.2%	-10.5%
New Zealand	655	436	-33%	-0.9%	2.0%	-4.5%	-1.4%
Total OECD							
Asia / Pacific	29 777	17 081	-43%	-3.1%	3.9%	-3.2%	-7.1%
ECMT - CEECs							
Albania*		315					3.0%
Bosnia - H. *	no data						
Bulgaria*	838	943	13%	3.6%	2.7%	-4.3%	-1.7%
Croatia*	1166	608	-48%	3.2%	-1.5%	-7.2%	-1.8%
Czech Republic	1983	1 382	-30%	-4.4%	0.2%	1.4%	-1.8%
Estonia *	252	170	-33%	1.9%	3.7%	-7.3%	-4.5%
FYR Macedonia*	148	155	5%	4.1%	-0.7%	-2.4%	-1.1%
Hungary	1627	1 296	-20%	0.0%	4.1%	-6.8%	1.9%
Latvia*	646	516	-20%	0.1%	3.0%	-3.9%	-3.2%
Lithuania*	667	752	13%	1.6%	1.8%	-3.7%	4.1%
Malta*		13					
Poland	3446	5 712	66%	5.7%	2.0%	-1.5%	-2.4%
Romania*	1938	2 418	25%	-0.4%	7.3%	-4.1%	-0.8%
Serbia / Mont*	1425	953	-33%	3.3%	0.6%	-6.7%	-2.3%
Slovak Republic		608				-0.5%	-0.8%
Slovenia	620	274	-56%	-1.0%	-0.8%	-4.9%	-3.3%
Total CEECs, excl.	14 756	15 179	3%	2.0%	2.4%	-3.4%	-1.5%
Albania, Bosnia-H, Malta and Slovak Rep.							
ECMT - CIS							
Armenia*		259					
Azerbaijan*		811				-6.9%	8.0%
Belarus *		1718				-3.2%	+1.9%
Georgia*	795	637		1.3%	1.7%	-7.3%	6.2%
Moldavia*	585	405		4.8%	1.9%	-9.7%	-0.1%
Russia*		34 506			2.5%	-1.8%	3.9%
Ukraine*		6 966				-5.9%	7.7%
Total, ECMT-CIS		45 043				-2.4%	4.4%
excl. Armenia							

OECD North America								
Canada	5080	2730	-46%	0.7%	-3.2%	-3.0%	-1.7%	
Mexico	No data							
United States	52627	42 636	-19%	-0.3%	-1.3%	-0.6%	0.4%	
Total								
N.America, excl. Mexico	57707	45 366	-21%	-0.2%	-1.5%	-0.8%	0.3%	
Western Europe								
Austria	2574	878	-66%	-2.5%	-2.5%	-4.6%	-2.6%	
Belgium	3070	1 163	-62%	-2.4%	-1.9%	-2.9%	-5.7%	
Denmark	1208	369	-69%	-5.4%	-0.8%	-2.4%	-7.2%	
Finland	1055	375	-64%	-6.3%	1.7%	-4.8%	-1.4%	
France	16445	5 530	-66%	-2.0%	-1.8%	-3.2%	-9.0%	
Germany	21653	5 842	-73%	-3.6%	-3.0%	-3.8%	-6.1%	
Great Britain	7499	3221	-57%	-2.3%	-1.3%	-4.2%	-1.4%	
Greece	1099	1 619	47%	2.8%	3.6%	-0.1%	-5.6%	
Iceland	20	23	15%	2.3%	-0.4%	2.9%	-7.9%	
Ireland	540	374	-31%	0.4%	-1.6%	-1.4%	-2.6%	
Italy	11025	5 625	-49%	-1.8%	-2.5%	-0.7%	-4.1%	
Liechtenstein*	12	1	<i>n.a.</i>	-2.8%	-10.4%	0.0%	-24.0%	
Luxembourg	132	49	-63%	-2.9%	-3.3%	-0.8%	-10.4%	
Netherlands	3180	804	-75%	-4.6%	-3.7%	-2.4%	-7.2%	
Norway	560	259	-54%	-4.3%	-0.9%	0.3%	-6.6%	
Portugal	1615	1 294	-20%	4.8%	0.3%	-3.5%	-8.7%	
Spain	5456	4 741	-13%	1.8%	3.3%	-4.4%	-4.8%	
Sweden	1307	480	-63%	-4.2%	-0.9%	-2.6%	-5.1%	
Switzerland	1643	510	-69%	-3.0%	-2.6%	-4.4%	-3.7%	
Turkey								
Total Western Europe excl. Turkey	80 093	33 158	-59%	-2.1%	-1.3%	-3.1%	-5.6%	
Total OECD/ECMT		155 827						-1.2%
Exclu. Albania, Bosnia-H, Malta, Slovak Rep, Turkey, Mexico, Belarus, Armenia								
Source:	IRTAD (30 countries)							
*	ECMT Statistics (19 countries)							

As shown in Table 1 and in Figure 1, the greatest reductions in fatalities in the period 1970 to 2004 were observed in the Western European countries where overall the number of fatalities between 1970 and 2004 decreased by 59%. For a number of these countries, after a plateauing around the year 2000, there has been a new decreasing trend in the number of fatalities over the past 3-4 years (in 2002, 2003, 2004) and provisional data for 2005 also confirm this trend. For this region, on average the number of fatalities has decreased by 5.6% each year between 2000 and 2004.

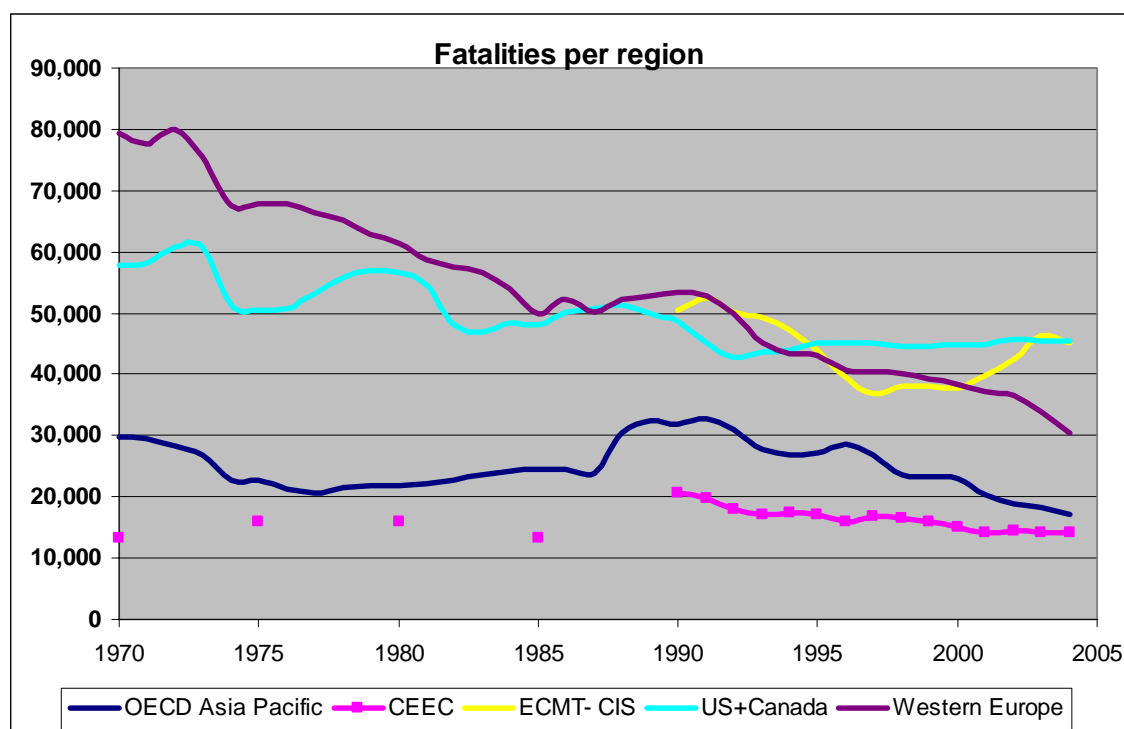
A similar trend is observed in Asia / Pacific. A 43% reduction in fatalities was achieved between 1970 and 2004. In most of the Asia Pacific countries included in this study, there was a slowing down of improvement during the 1980's, followed by greater reductions in the 1990-2004 period. During the period 2000-2004, there has been an average 7% annual reduction in road fatalities, largely due to the very good results recently achieved in Korea.

In North America (United States and Canada), where road fatalities decreased by 21% between 1970 and 2004 (-19% in the United States and -46% in Canada), there has been a slower decrease in the number of fatalities, mainly in the 1980s and 1990s. More recently, there has rather been a flattening in the curves.

In Eastern European countries, overall fatalities increased by 3% over the period 1970-2004. Most countries have shown the greatest improvement since 1990. For a number of these countries, historic peaks in road fatalities were reached in the beginning of the 1990s following the fall of the communist block.

The situation in the CIS countries is heavily influenced by the level of fatalities in Russia, which increased by 25% between 1980 and 2004. For most of the CIS countries, the peak in road fatalities may well not yet have been reached.

Figure 1. Evolution of fatalities per region



Evolution in the exposure to risk

The relative progress in road safety depends somewhat on what one uses as a measure of exposure to risk (i.e., population, registered vehicles, distance travelled). There has been a considerable debate in the past about which measure is most appropriate as an exposure measure. Those in the health sector prefer the use of population as the denominator since it permits comparisons with other causes of injury or with diseases. As the health and transport sector increase their level of co-operation, fatalities per 100 000 population are becoming more widely used.

In the transport sector, it has been common, where data are available, to use fatalities per distance travelled (e.g. fatalities per million vehicle-kilometres) as a principal measure or fatalities per 10 000 vehicles. Fatalities per distance travelled has traditionally been favoured by road transport authorities as it implicitly discounts fatality rates if travel is increased.

Figure 2. Risk of road fatalities per 100 000 inhabitants in 2004

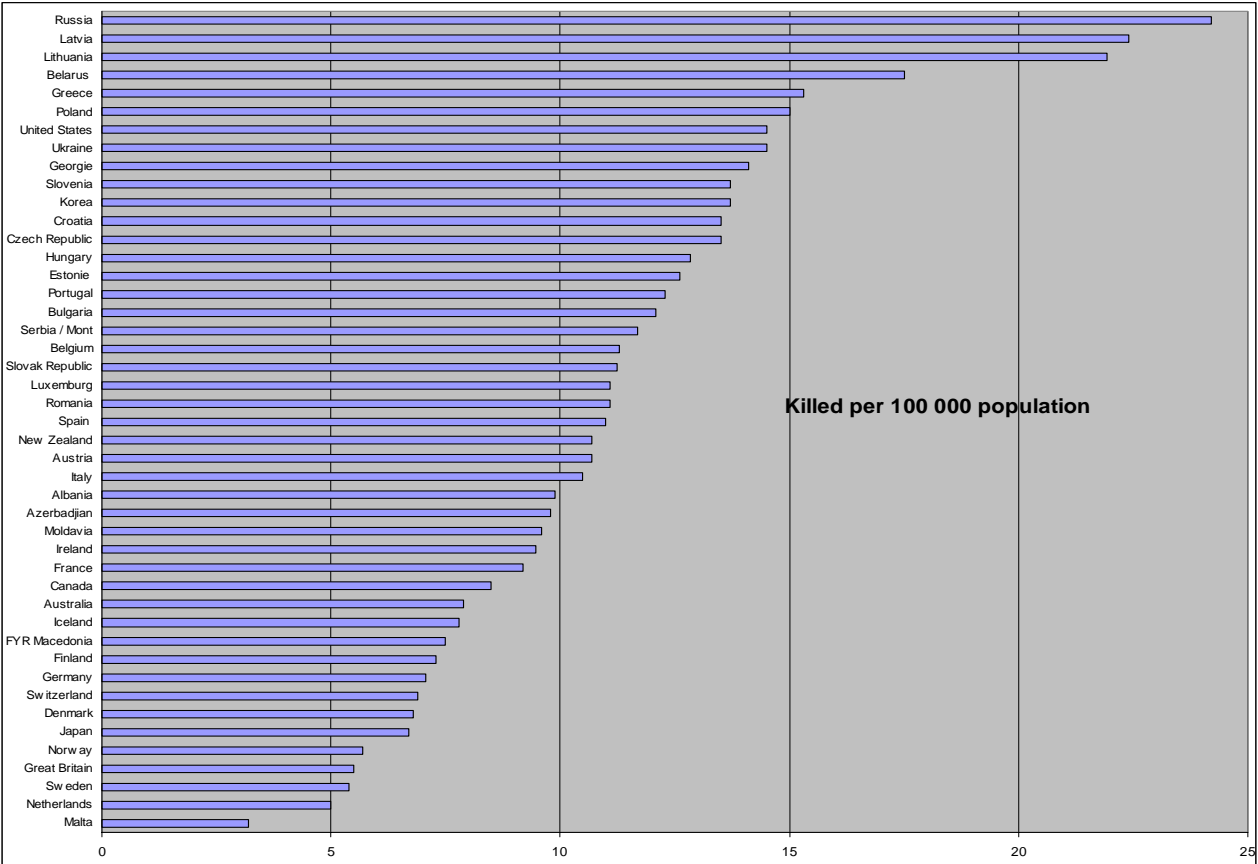
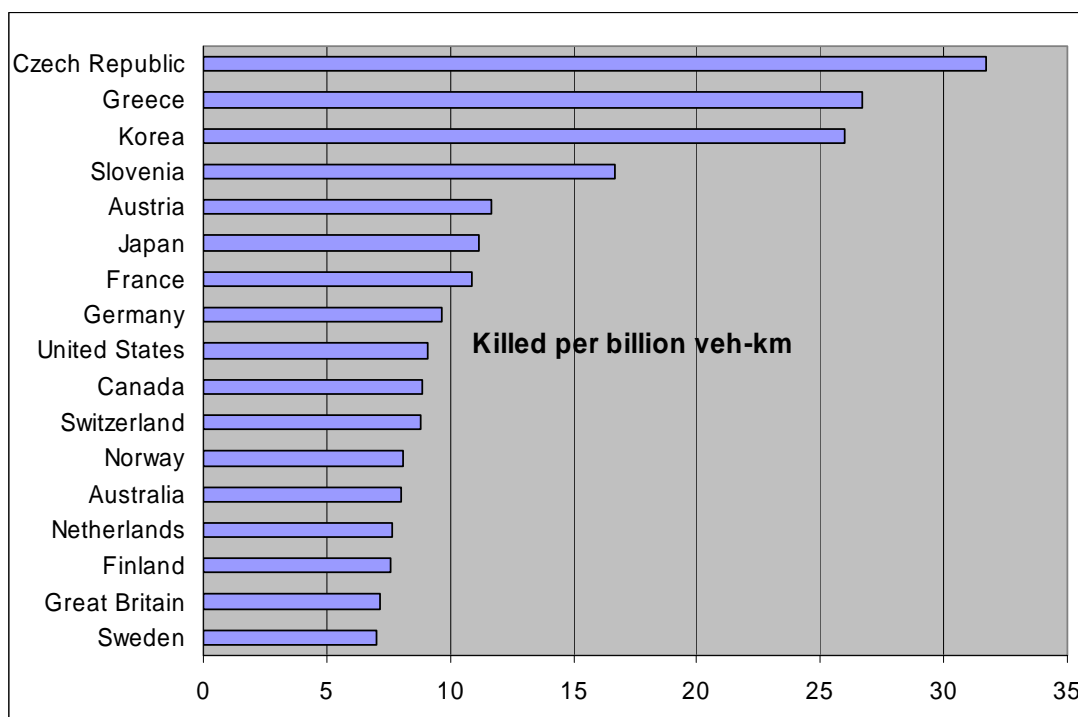


Figure 2 and Figure 3 show the number of fatalities per 100 000 population and per billion kilometres travelled for those countries providing this information. Based on fatalities per 100 000 population, most countries have shown considerable progress during the 1990-2004 period, with Sweden, Great Britain, Netherlands and Norway having rates in the 5 to 6 per 100 000 inhabitants range. Considering fatalities per billion kilometres travelled, the rates are lowest in Great Britain, the Nordic countries, and the Netherlands, and most countries have shown improvements on this measure as well.

Figure 3. Risks of road fatalities per billion veh-km in 2003



Source: IRTAD

Respective evolution in injury accidents and road fatalities

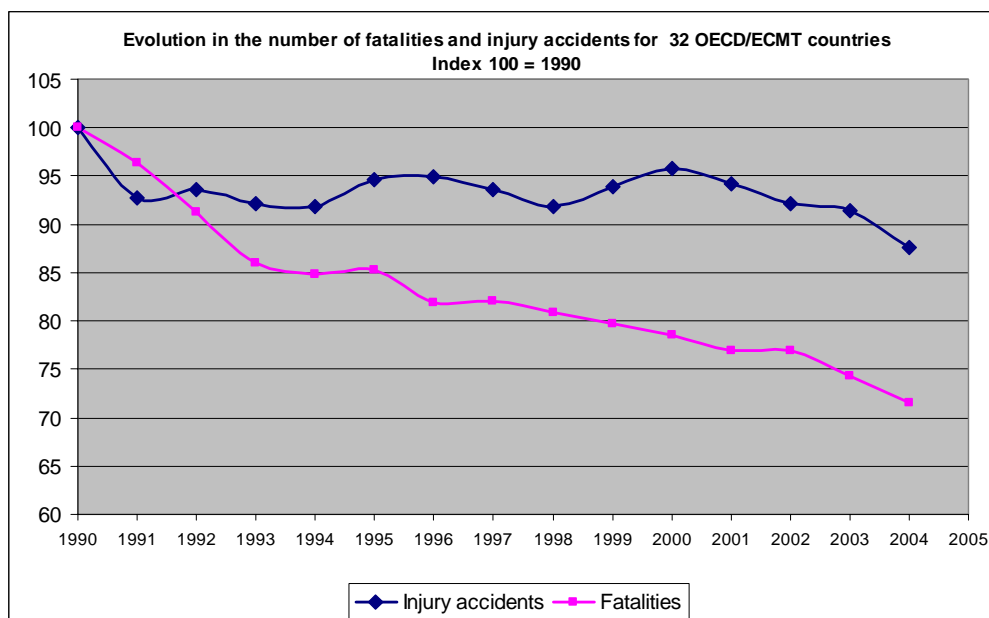
In assessing road safety risks, developing countermeasures and evaluating their effectiveness, it is useful to focus not only on fatal crashes but also on serious injury crashes which result in the injured being admitted at least overnight to the hospital.

The definitions of “injury accidents” and “hospitalised” vary greatly from one country to another and comparable serious injury data between jurisdictions is very difficult to obtain. However, what is important is that this data is collected in each country/region from year to year in a consistent way and any trends are identified and analysed. As well, for a given jurisdiction, it is important to monitor the injury severity of accidents, by analysing data from hospitals (when available). A jurisdiction where the severity of accidents is decreasing can be considered as having a successful safety policy from a health perspective.

Overall, from 1990 to 2003, there has been a drop in fatalities of about 25% among OECD/ECMT countries while for injuries the reduction has only been about 8% as shown in Figure 4. These

reductions occurred despite about a 30% increase in the number of registered vehicles in member countries. This gap between road fatalities and injury accidents could actually even be greater, as injury accidents are often very significantly under-reported.

Figure 4. Overall changes in fatalities and injury accidents (1990-2004)



2. Targets in OECD/ECMT countries

International targets

The worrying number of accidents and their social and economic consequences led the ECMT Council of Ministers, in Bucharest in 2002, to unanimously adopt a common quantitative objective for all ECMT Member countries. ECMT Ministers of Transport adopted the target of a 50% reduction in the number of victims killed in road traffic accidents by 2012 in comparison with 2000.

Subsequently, the European Commission set a target for EU Members of reducing by 50% the number of road fatalities by the year 2010 compared to 2000.

National targets

Some countries have adopted national targets rather than ECMT targets and still others have adopted both ECMT and national targets. Most countries have targets for fatalities, while a few countries such as Canada, Great Britain, and Hungary have targets for injuries, as well as fatalities. Some countries have only overall national targets, while others have sub-targets as well. There are also differences in what measure is used. Some countries have targets based on the percentage change in absolute numbers of fatalities and/or injuries, while others have adopted targets based on percentage change of fatality/injury rates using some measure of exposure (e.g., population, vehicle distance travelled). Furthermore, some targets are short-term (e.g., to be achieved in five years), whereas others are longer term (e.g., by 2012).

Table 2 shows the targets adopted in the 50 OECD/ECMT countries.

Table 2. Road Safety Targets in Member Countries

<i>Country</i>	<i>ECMT target</i>	<i>National fatalities target*</i>
Albania		<i>Did not respond to the survey</i>
Armenia		<i>Did not respond to the survey</i>
Australia		-40% in fatalities per 100 000 population by 2010 compared to 1999
Austria		-50% fatalities by 2010 compared to 1998-2000 Other specific targets
Azerbaijan		<i>Did not respond to the survey</i>
Belarus		<i>Did not respond to the survey</i>
Belgium		-50% fatalities by 2010 compared to 1998-2000
Bosnia H		<i>Did not respond to the survey</i>
Bulgaria		-50% fatalities by 2010 compared to 1991-2004
Canada		-30% in fatalities and serious injuries by 2010 + many sub targets
Croatia		<i>Did not respond to the survey</i>
Czech Republic		-50% in fatalities by 2010 compared to 2002
Denmark		-40% fatalities and seriously injured by 2012 compared to 1998
Estonia		<i>Did not respond to the survey</i>
Finland		Less than 250 fatalities by 2010
France		No national targets
FYR Macedonia		<i>Did not respond to the survey</i>
Georgia		Currently under consideration
Germany		No national targets
Greece		-50% fatalities by 2010 compared to 2000
Hungary		-50% fatalities and injury accidents by 2015 compared to 2001
Iceland		Fatalities per 100 000 population should not be higher than the best performing countries by 2016. -5% reduction every year in killed and seriously
Ireland		-25% fatalities by 2006 compared to 1998-2003 several sub targets
Italy		No national target
Japan		Less than 5 750 fatalities in 2012
Korea		-35% fatalities by 2006 compared to 2002 Several sub targets
Latvia		-50% fatalities and -20% injured persons by 2006 compared to 1999
Liechtenstein		<i>Did not respond to the survey</i>
Lithuania		-50% fatalities and -20% injury accidents by 2010 compared to 2004
Luxembourg		<i>Did not respond to the survey</i>
Malta		-50 % fatalities and -50% injury accidents by 2014 compared to 2004
Mexico		-27% fatalities by 2015 compared to 2002
Moldavia		No national targets
Netherlands		Less than 580 fatalities by 2020. Several sub targets
New Zealand		Less than 300 fatalities in 2010 Several sub targets
Norway		-30% killed and seriously injured by 2015 compared to 2004.
Poland		<i>Less than 3500 fatalities in 2010 (compared to 5640 in 2003, ie -38%)</i>
Portugal		-50% fatalities by 2010 compared to 1998-2000 Several sub targets
Romania		-50% fatalities by 2012 compared to 2002.
Russia		<i>Did not respond to the survey</i>
Serbia/Montenegro		<i>Did not respond to the survey</i>
Slovak Republic		-50% fatalities by 2010 compared to 2002.
Slovenia		-50% fatalities by 2005 compared to 1995. Several sub targets
Spain		-40% fatalities by 2008 compared to 2003.
Sweden		-50% fatalities by 2007 compared to 1996
Switzerland		-50% fatalities and -50% seriously injured by 2010 compared to 2000.
Turkey		-40% fatalities by 2011 compared to 1999.
Ukraine		No targets yet.

United Kingdom (Great Britain).	-40% in fatalities and serious injuries. Several sub targets
United States	1.0 fatalities / 100 million vehicle-miles by 2008 Several sub targets

* A number of countries have also set up different sub targets. Please refer to the individual responses of each country for more detail.

3. *Progress towards targets*

For the ECMT countries for which data are available, Table 3 shows the average annual reduction (or increase) in fatalities achieved for 2000-2004. The table also shows the average annual reduction required over the period 2005-2012 to reach the ECMT (-50% fatalities) target, on the basis of a constant annual rate.

Based on a constant average rate, aggregate fatalities would need to decrease by 5.6% per year from 2000 to 2012 on average to reach the -50% target by 2012.

The analysis of the latest results as set out in this table suggests that only around a quarter of ECMT member countries appear to be on track to achieve the targets that have been set. Of course, conclusions reached on the basis of an in-depth analysis may well differ.

Table 3. Average annual reduction (increase) in fatalities since 2000 and average annual reduction required to reach the ECMT targets (ECMT countries only)

<i>Average annual reduction to reach -50% target between 2000 and 2012 : -5.60%</i>				
Country	Fatalities in 2000	Fatalities in 2004	Average annual reduction (or increase) achieved in 2000-2004	Average annual reduction required during 2005-2012 to reach the -50% target in 2012
Azerbaijan	596	811	8.0%	-11.8%
Ukraine	5200	6966	7.6%	-11.6%
Georgia	500	637	6.2%	-11.0%
Lithuania	641	752	4.1%	-10.1%
Russia	29594	34506	3.9%	-10.0%
Albania	280	315	3.0%	-9.6%
Turkey *	3941	4428	3.0%	-9.6%
Hungary	1200	1296	1.9%	-9.2%
Belarus	1594	1718	1.9%	-9.2%
Moldavia	406	405	-0.1%	-8.3%
Slovak	628	608	-0.8%	-7.9%
Romania	2499	2418	-0.8%	-7.9%
FYR Macedonia	162	155	-1.1%	-7.8%
Finland	396	375	-1.4%	-7.7%
Great Britain	3409	3221	-1.4%	-7.6%
Bulgaria	1012	943	-1.7%	-7.5%
Czech Republic	1486	1382	-1.8%	-7.5%
Croatia	655	608	-1.8%	-7.4%
Serbia	1048	953	-2.3%	-7.2%
Poland	6294	5712	-2.4%	-7.2%
Ireland	415	374	-2.6%	-7.1%
Austria	976	878	-2.6%	-7.1%
Latvia	588	516	-3.2%	-6.8%
Slovenia	313	274	-3.3%	-6.8%
Switzerland	592	510	-3.7%	-6.6%
Italy	6649	5625	-4.1%	-6.4%
Estonia	204	170	-4.5%	-6.2%
Greece	2037	1670	-4.8%	-6.0%
Spain	5776	4741	-4.8%	-6.0%
Sweden	591	480	-5.1%	-5.9%
Belgium	1470	1163	-5.7%	-5.6%
Germany	7503	5842	-6.1%	-5.4%
Norway	341	259	-6.6%	-5.1%
Netherlands	1082	804	-7.2%	-4.8%
Denmark	498	369	-7.2%	-4.8%
Portugal	1860	1294	-8.7%	-4.0%
France	8079	5530	-9.0%	-3.8%
Luxembourg	76	49	-10.4%	-3.1%
Armenia	214	no data		
Bosnia	No data			
Iceland	32	23	Too much variability for a meaningful analysis	
Liechtenstein	3	1	Too much variability for a meaningful analysis	
Malta	15	13	Too much variability for a meaningful analysis	

* Network operated by the National Police EGM (not representative of the whole territory of Turkey)

Even though OECD non ECMT countries do not have such a -50% reduction target, Table 4 presents similar data for these countries, for comparison purposes i.e. the average annual reduction or increase achieved in the period 2000-04, and the average annual reduction that would be required during the period 2005-2012 to achieve a 50% reduction in fatalities over the period 2000-2012.

Table 4. Average annual reduction (increase) in fatalities since 2000 and average annual reduction required to reach a 50% reduction by 2012 (OECD non ECMT countries)

Country	Fatalities in 2000	Fatalities in 2004	Average annual reduction (or increase) achieved in 2000-04	Average annual reduction required during 2005-2012 to reduce fatalities by -50% by 2012
Australia	1824	1590	-3.4%	-6.7%
Canada	2927	2730	-1.7%	-7.5%
Japan	10 403	8 492	-4.9%	-5.9%
Korea	10 236	6 563	-10.5%	-3.1%
Mexico				
New Zealand	462	436	-1.4%	-7.6%
United States	41 945	42 636	0.4%	-8.5%

4. Key road safety problems

In the survey circulated by the JTRC Secretariat to all 50 OECD/ECMT members, countries were asked to identify the key road safety problems they were facing.

The question was left open, with no suggestions or indications on the possible responses. The responses received were therefore much diversified and around 40 different problems were cited (see Table 5). The advantage of this approach includes the opportunity to identify types of problems which may not have appeared in a more structured survey. A disadvantage is that the responses obtained are more difficult to compile and structure.

Table 5. List of key problems as identified by the 39 responding jurisdictions (alphabetical order)

Accidents with animals	Infrastructure aspects: conflict potential, condition of roads: black spots; safety barriers; separation, obstacle on roadside, inadequate maintenance; small investment in infrastructure [alphabetical order?]	Railway crossing
Bus safety		Rural roads / Narrow roads / overtaking in rural roads/ head-on collisions on rural roads
Children		Seatbelt (front and rear); child restrain system; seatbelt in buses
Drink Driving	Institutional problem / Lack of co-ordination / Lack of political will / developing a strategy	Single vehicle accidents / roadway departure crashes / roadside hazards/ run off crash
Drugs	Inter vehicle Distance	Slower rate of reduction of fatal casualties
Education / training / road safety awareness / Long life education	International co-ordination	Speed, speeding, speed limits
Elderly drivers	Intersection; left turn at junctions	Traffic signal violations
Enforcement: Non compliance of rules / low level of enforcement / implementation of new tech for enforcement, serious offenders	Investment (lack of) infrastructure	Under reporting of injury accidents
Evaluation / Monitoring of road safety	License (driving without)	Urban areas
Fatigue	Making use of scientific potential	Vehicle inspection / safety of vehicle / safety equipment of vehicle / no ESP in smaller vehicles
Foreign drivers	Media not used as they should	Vulnerable road users, cyclist
Frontal accidents	Medical Care / trauma management	Weather conditions
Hazardous driving, poor attention while driving, aggressive driving	Mobile phone	Young Driver / novice drivers/lack of driving experience / unsafe behaviour / negligent driving
HGV / commercial vehicles	Motorcycles / mopeds / helmet and protecting gears	
Improvised rule making	Motorways	
	Pedestrian	

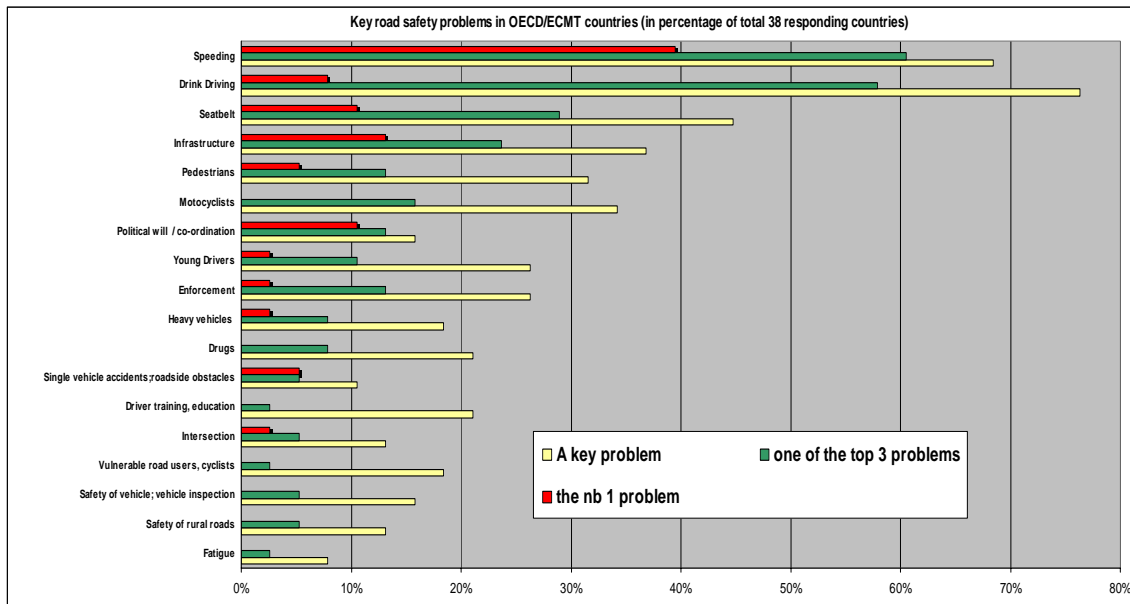
4.1 Overview

The key road safety problems, as cited by the 38 responding countries are set out in Figure 5 – which shows the "number 1" problem, the top 3 problems and the problems the most often cited by the 38 responding countries – provides a clear indication of the priority problems faced by the responding countries.

Based on the responses from the 38 countries:

- the number 1 problem is speeding (39 % of the responding countries)
- the "top 3" problems, based on the responses from these countries, are:
 - Speeding (including excessive and inappropriate speeds) (for 61% of the responding countries)
 - Drink driving (for 58% of the responding countries)
 - Non wearing of seatbelts (for 29% of the responding countries).
- Other key road safety problems commonly cited by responding countries are:
 - Infrastructure (including rural roads, inadequate maintenance, run-off the road crashes, etc.)
 - Political will, lack of co-ordination
 - Vulnerable road users (in particular motorcyclists and pedestrians)
 - Young drivers (doesn't include education etc)
 - Drugs and driving
 - Heavy vehicles
 - Fatigue

Figure 5. Key road safety problems, as cited by responding countries



Interpretation of the responses

High level issues

The responses received include relatively little mention of the fundamental high level aspects of road safety policy e.g.: institutions, court system, and political awareness. The respondents focused more on practical issues and measures. Of course, high level aspects of road safety (leadership, institutional aspects, etc.) are crucial and will be addressed in detail in the main report of the Working Group. .

Young drivers / education

Some issues which were identified separately are closely related. For example, “driver training” and “young drivers” responses are closely related. If combined, young drivers / training and education responses would rank in the top 3 issues. Young Drivers / driver education combined should therefore probably be regarded as a one of the key road safety problems.

Vulnerable road users

Similarly, responses received separated pedestrians and motorcyclists from vulnerable road users. This is due to the fact that in many countries, pedestrians' safety is a growing issue and was cited as a distinct problem. As well, in several countries, the number of motorcyclists killed has increased sharply over the past few years. If grouped into one heading, vulnerable road users would also rank very highly.

Infrastructure

Rural roads, single-vehicle accidents and intersections were cited by several countries as key and distinct problems; they were kept separated in Figure 5. However they are all infrastructure related issues. If all responses that made reference to infrastructure and infrastructure-related aspects were combined, the ranking of this combined category would rise to priority 3, after speed and alcohol and before seat-belt wearing. Experience across member countries suggests that infrastructure-related aspects are a key problem, but not necessary more important than seat-belt wearing.

Vehicle safety

Vehicle safety was not cited as a major road safety issue; however it should be noted that road safety professionals recognise that greater use of recent modern vehicles, with safety features (e.g. Electronic Stability Control) can make a very large contribution to improving road safety. Presumably responses to the survey did not see this being in the scope of the questions to be asked, or it reflects a lack of awareness of the potential benefits of the recently developed safety devices.

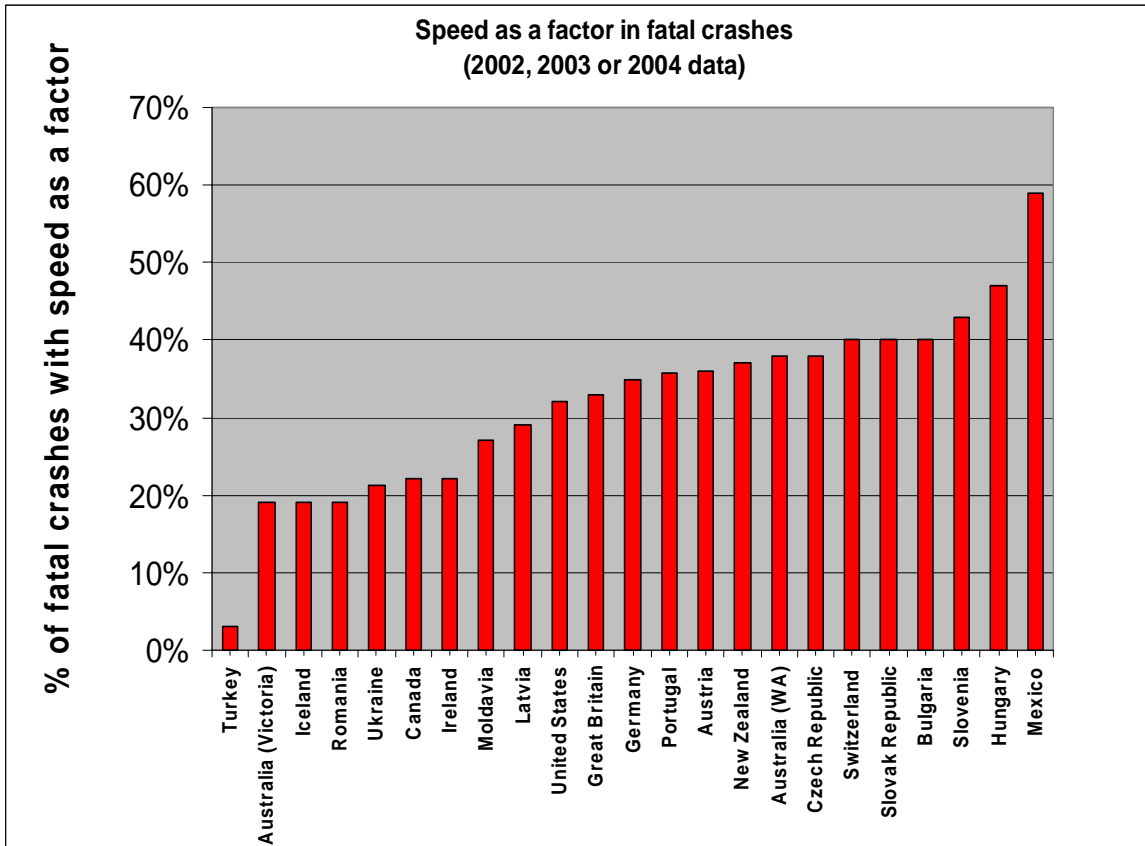
4.2 Speeding

Speeding (i.e. excessive speed or inappropriate speed) is the "number 1" problem for almost 40% of the responding jurisdictions.

Speeding - which encompasses *excessive speed* (i.e. driving above the speed limits) or *inappropriate speed* (driving too fast for the prevailing conditions, but within the limits) – is dangerous. As well as being a causation factor in around one third of fatal accidents, speed is an aggravating factor in all accidents. Vulnerable road users are particularly exposed to vehicle impacts at speeds above the limits of human tolerance - especially in urban areas.

Figure 6 below shows that speed (excess or inappropriate) was identified in crash reports as a contributing factor in between 19 and 60 per cent of fatal crashes in 23 countries. One country (Turkey) identified speed as being responsible for only 3% of fatal accidents.

Figure 6. Speed as a factor in fatal crashes¹



Excessive speed is a widespread social problem. Excessive speed affects the entire road network (motorways, main highways, rural roads, urban roads). Typically, at any time, 50% of drivers are above the speed limits. Table 6 below shows the proportion of drivers above the speed limits for different types of roads.

¹ It should be noted that this indicator is often based on the subjective assessment of the police officer at the scene of the crash. The "percentage of fatal crashes where speed is a causation factor" is a potentially misleading statistic as it does not capture the relevance of speed to crash severity and is often based on somewhat subjective and imprecise criteria (which can vary between jurisdictions and over time). The number of accidents where speed is a factor could therefore be much greater.

Table 6. Proportion of drivers of passenger cars above the speed limits on different types of roads in a selection of OECD/ECMT countries in 2003

	Motorways		Rural roads		Urban roads	
	Limit	% above the limit	Limit	% above the limit	Limit	% above the limit
Austria (2004)	130 km/h	23%	100km/h	18%	50 km/h 30km/h	51% 78%
Canada	110 km/h 100 km/h	15 to 53% 15 to 81%	80 km/h	15 to 45%		
Denmark	110 km/h 130 km/h	56% 18%	80 km/h	61%	50 km/h	55%
Iceland	90 km/h	80%	90 km/h	77%		
Ireland	70 mph	23%	60 mph	8%	40 mph (arterial rd) 30 mph (arterial rd) 30 mph (local str.)	75% 86% 36%
Korea	100-110 km/h	50%	60km/h	not available		
Lithuania		42%		47%		
Netherlands	100 km/h 120km/h	45% 40%	80 km/h	45%	50 km/h (arterial rd) 50 km/h (local str.)	73% approx.45%
Poland (2005)				57%	50 km/h	81%
Portugal	120 km/h	46%	90 km/h	55%	80 km/h (arterial rd) 50 km/h (collector streets)	50% 70%
Sweden	110 km/h	68%	30 to 110 km/h	58% (all state roads)		
Switzerland	120 km/h	38%	80 km/h	24%	50 km/h (arterial rd)	21%
United Kingdom	70 mph	57%	60 mph	9%	40 mph (arterial rd) 30 mph (local str)	27% 58%
United States	65-75 mph vary from state to state	41-66%	55 mph	47%	40 mph (arterial rd) 30 mph (local str)	73% 74%

Source: OECD/ECMT (2006). Report on Speed Management. Responses to the survey of the Target Working Group

4.3 Drink Driving

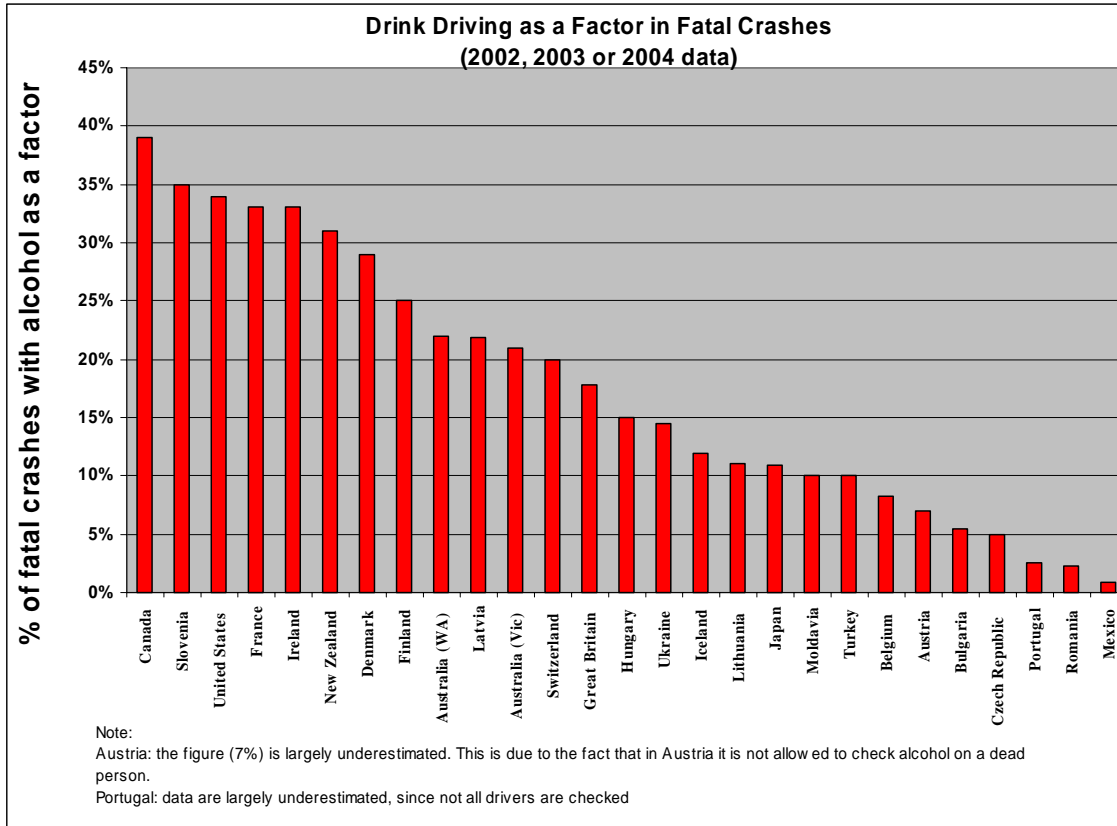
Impaired driving due to alcohol is a major contributor to road crashes in many countries. Research has shown that the risk of crashing is double for a driver with a blood alcohol concentration of 0.5 g/l compared to driver with no alcohol. The risk of crashing is 7-8 times higher for a driver with a BAC of 0.8g/l and 30 plus times for a driver with a BAC of 1.5 g/l compared to a driver with no alcohol.

Figure 7 shows for a wide range of countries the percentage of fatal crashes where drink driving is a reported factor. The percentage ranges from lows of around 1-5% in Mexico, Bulgaria, Czech Republic, Portugal and Romania to highs around 30-40% in Canada, Slovenia, United States, France, Ireland and New Zealand.

A number of those countries with low reported incidences of drink driving crashes did report problems with surveillance, recording and reporting of drink driving crashes resulting in significant under estimates of the problem. In these countries, the number of fatal crashes where drink driving is a factor is often largely underestimated, either because not all drivers are checked in case of a crash or because of specific regulations related to tests on a dead body. In Austria, for example, it is not allowed to test a dead body for alcohol level, which explains the low figure.

It should be highlighted that accurate and comprehensive data on the extent of the drink driving problem are a prerequisite to the development of well targeted and effective counter measures.

Figure 7. Drink driving as a factor in fatal crashes



* Fatal crashes, where at least one of the collision partner has a BAC above the legal limit.

Table 7 shows the maximum permissible Blood alcohol content in the responding countries. Maximum BAC level varies from 0.0 g/l to 0.8 g/l. A majority of countries have a maximum BAC at 0.5 g/l. Some countries have a lower differentiated maximum BAC level for young drivers and / or for professional drivers.

Table 7. Maximum permissible blood alcohol content in the responding countries as of 1 January 2006

Country	BAC levels	Comment
Australia	0.5 g/l 0.2 g/l for novice drivers, truck and bus drivers, taxi drivers	
Austria	0.5/l for general drivers 0.1 g/l for : <ul style="list-style-type: none"> • Moped drivers < 20 years • Novice drivers • Truck drivers • Bus drivers 	
Belgium	0.5 g/l for all drivers	
Bulgaria	0.5 g/l for all drivers	
Canada	0.8 g/l 0.2 g/l for novice drivers	All provinces/territories but one have administrative sanctions (e.g. short term licence suspensions of 12-24 hours) for drivers with BAC's between 50-80 mg%
Czech Republic	0.0 g/l for all drivers	
Denmark	0.5 g/l for all drivers	No BAC max for mopeds
Finland	0.5 g/l for all drivers	
France	0.5 g/l 0.2 g/l for bus/coach drivers	
Georgia	There is no maximum BAC.	There is no maximum BAC, but it is not allowed to drive under the influence of alcohol.
Germany	0.5 g/l	
Greece	0.5 g/l 0.2 g/l for : <ul style="list-style-type: none"> • novice drivers • drivers of heavy vehicles • drivers of public vehicles • motorised 2-wheelers. 	
Hungary	0.0 g/l	0.2 g/l in practice
Iceland	0.5 g/l	
Ireland	0.8 g/l	
Italy	0.5 g/l	
Japan	0.3 g/l	Usually checked by 0.15 mg / 1 liter of air
Korea	0.5 g/l	
Latvia	0.5 g/l 0.2 g/l for novice drivers 1 g/l for mopeds and cyclists	
Lithuania	0.4 g/l	
Malta	0.8 g/l	
Mexico	0.8 g/l	
Moldova	0.0 g/l	
Netherlands	0.5 g/l 0.2 g/l for novice drivers (as of 2006)	

New Zealand	0.8 g/l 0.3 g/l for drivers under 20	
Norway	0.2 g/l	
Poland	0.2 g/l	
Portugal	0.5 g/l	
Romania	0.0 g/l	Criminal offence if above 0.8 g/l.
Slovak Republic	0.0 g/l	
Slovenia	0.5 g/l	
Spain	0.5 g/l 0.3 g/l for novice drivers and professional drivers	
Sweden	0.2 g/l	
Switzerland	0.5 g/l	(it was 0.8 g/l until 2004) There is discussion to reduce BAC level to 0 for professional drivers and young drivers.
Turkey	0.5 g/l	
Ukraine	0.0 g/l	
United Kingdom	0.8 g/l	
United States	0.8 g/l 0.2 g/l for drivers under 21	All 50 States have enacted zero tolerance laws (primarily, per se laws at .02% BAC or lower) that make it illegal for drivers under the age of 21 to have any detectable amount of alcohol in their bodies. As of August 2005, all 50 states, the District of Columbia, and Puerto Rico have enacted .08 BAC per se laws. Additionally, as of January 2005, 32 States have enacted high BAC laws

4.4 Seatbelt wearing

When a crash does occur failure to use seatbelts is a major risk factor for vehicle occupants. While wearing a seatbelt in front seats is mandatory in almost all countries. This is not the case regarding rear seats. Table 8 summarises the seatbelt requirements in the responding countries.

Seatbelt wearing is compulsory in front seats in all countries, except in Georgia, where a law should be adopted soon, and in the United States, where legislation varies from one state to another. Most countries also have legislation for wearing seatbelts in rear seats. However this has been introduced later and in many countries it is not enforced. This explains the much lower wearing rates in rear seats, even in countries where there is a very good rate for front seats.

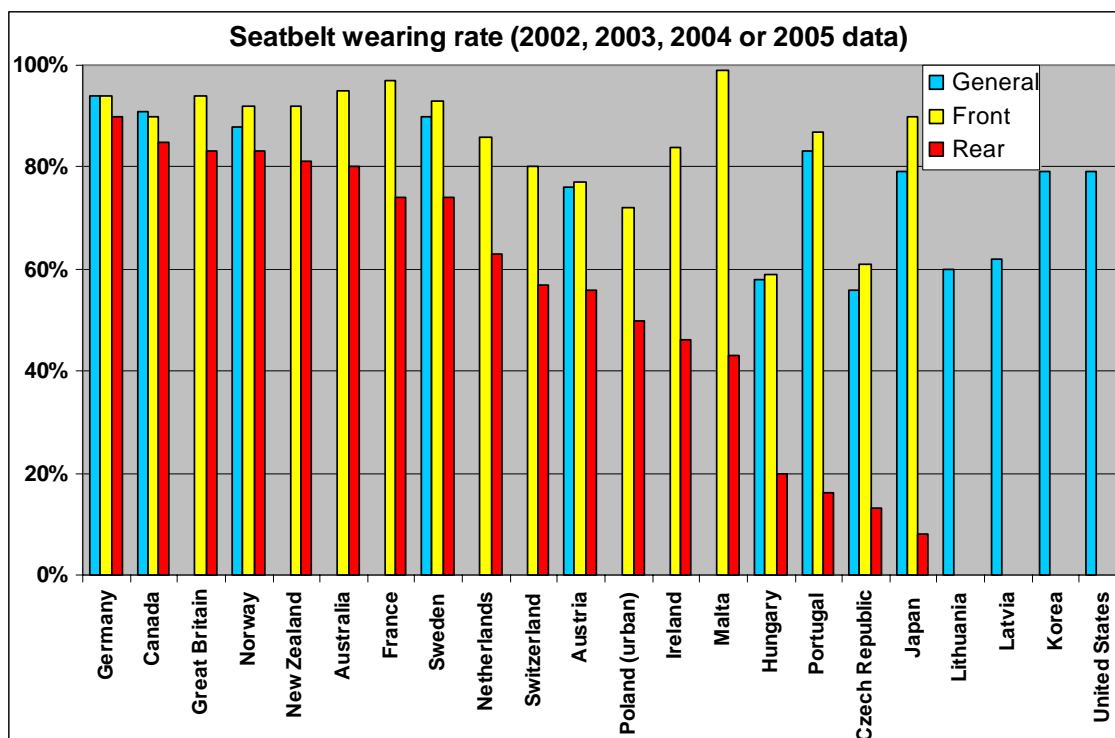
Table 8. Seatbelt legislation in front seats and rear seats and wearing rates as of 2006

Country	Front seats	Rear seats	Wearing rate (estimation – 2004 or 2003)
Australia	Yes	Yes	Front : > 95% Rear > 80%
Austria	Yes	Yes	76% (general)
Belgium	Yes	Yes	51-77% (driver)
Bulgaria	Yes	Yes	
Canada	Yes	Yes	91% (general) 90% (front seat) 85% (rear seat)
Czech Republic	Yes	Yes	56% (general) 61% (front seat) 13% (rear seat)
Denmark	Yes	Yes	Around 90%
Finland	Yes	Yes	Around 92% in front seats
France	Yes	Yes	Front seats: 97% Rear seats: 74%
Georgia	Yes, on highways only	No	
Germany	Yes	Yes	Front seats: 94-5% Rear seats: 90%
Greece	Yes	Yes	
Hungary	Yes	Yes	58% (general)
Iceland	Yes	Yes	
Ireland	Yes	Yes	Front seats: 84% Rear seats: 46%
Italy	Yes	Yes	
Japan	Yes	No	General: 79% Front seats: 90% Rear seats: 8%
Korea	Yes	Yes, but only on freeways	79% in 2003 (23% in 2003)
Latvia	Yes	Yes	62% in 2002
Lithuania	Yes	Yes	Around 60% in 2004
Malta	Yes	Yes Since 2004	Front : 90-99% Rear : 20-43% in 2004
Mexico	Yes	No	
Moldova	Seatbelt wearing is mandatory for drivers and all passengers, except: <ul style="list-style-type: none"> • driver executing a manoeuvre • driving instructor during instruction • pregnant women • drivers (police, emergency, etc.). 	Yes	No statistics. Seatbelt wearing is not enforced.
Netherlands	Yes	Yes	90% (front seats) 69% (rear seats)
New Zealand	Yes	Yes	92% front seats in 2003 91% rear seats in 2003
Norway	Yes	Yes	General 88% in 2003 Front seats: 92% Rear seats: 83%
Poland	Yes, since 1983	Yes, since 1997	Urban areas (2005) 72% (front seats) 46% (rear seats)
Portugal	Yes	Yes	83% in general in 2004 87% front seats in 2004 16% rear seats in 2004
Romania	Yes	Yes	
Slovak Republic	Yes	Yes	
Slovenia	Yes	Yes	92-96% (driver) in 2003

Spain	Yes	Yes	
Sweden	Yes	Yes	90% (general) in 2003 93% : front seats 73% rear seats, adults 90% rear seats, children
Switzerland	Yes	Yes	80% (front seats) in 2003 57% (rear seats)
Turkey	Yes	Yes	Around 93 % for long distance trips Around 16% for local/short trips.
Ukraine	Yes (when vehicle fitted with seatbelts)	Yes (when vehicles fitted with seatbelts)	
United Kingdom	Yes	Yes	83% (rear seats in GB) 94% (front seats) in GB in 2003
United States	No national law Requirements under each State law vary as to applications and exceptions. As of April 2005, 21 States, plus the District of Columbia and Puerto Rico, have enacted primary belt laws	No national law. Requirements under each State law vary as to applications and exceptions.	79% (general) in 2003

Figure 8 shows seatbelt wearing rates for the responding countries, for which data are available.

Figure 8. Seatbelt wearing in the responding countries



4.5 Young drivers

Young drivers represent the age group most at risk. They are clearly overrepresented in crash fatalities and young male are particularly exposed. Young drivers account for about 27% of driver fatalities

across OECD countries, although people in the same age group represent only about 10% of the population (see figure 9).

Traffic crashes are the single greatest killer of 15-24 year-olds in OECD countries. It is estimated that over 9 000 young drivers of passenger vehicles were killed in OECD countries in 2004. This included over 750 in Germany, 645 in France, over 300 in Japan, over 300 in Spain, and almost 4 000 in the US. Across the OECD, death rates for 18-24 year old drivers are typically more than double those of older drivers. Death rates for young men are consistently much higher than those of their female counterparts, often by a factor of three.

4.6 Vulnerable road users

While in most countries the occupants of motor vehicles make up the majority of road trauma victims there are significant numbers of people injured as so called vulnerable road users i.e. as pedestrians, cyclists and motorised 2-wheelers. Table 9 shows the share of road fatalities by user group.

Table 9. Share of fatalities by user group in 2004

Country	Passenger Car occupants (%)	Pedestrian (%)	Motorised 2-wheelers (%)	Cyclists (%)	Others *(%)
Australia	71% include SUVs and trucks	14%	12%	3%	
Austria	55%	15%	16%	7%	8%
Belgium	60%	10%	17%	8%	5%
Bulgaria	30%	28%	5%	6%	31%
Canada	50%	13%	7%	2%	26%
Czech Republic	56%	20%	7%	9%	6%
Denmark	52%	12%	7%	9%	4%
Finland	59%	13%	9%	7%	12%
France	60%	11%	22%	3%	4%
Germany	55%	14%	17%	8%	5%
Great Britain	52%	21%	18%	4%	5%
Greece (2003)	47%	16%	23%	1%	13%
Hungary	47%	25%	7%	14%	7%
Ireland (2003)	51%	19%	16%	3%	11%
Italy	50%	13%	26%	5%	6%
Japan	25%	31%	18%	14%	11%
Korea	22%	39%	17%	4%	17%
Lithuania	27% (car drivers)	34%			
Netherlands	46%	8%	18%	19%	8%
New Zealand	77%	9%	8%	2%	5%
Norway	68%	8%	17%	4%	3%
Poland	45%	36%	4%	13%	1%
Portugal	41%	18%	23%	4%	14%
Slovak Republic	77%	9%	6%	5%	4%
Slovenia	62%	13%	11%	8%	6%
Spain	57%	14%	16%	2%	11%
Sweden	59%	14%	15%	6%	6%
Switzerland	45%	19%	24%	8%	4%
United States	45% (does not include SUV)	11%	9%	2%	33%
Ukraine	60%	26%	10%	4%	

Source: IRTAD. For Ukraine and Bulgaria, response to the Questionnaire.

* Others include: trucks, coaches, tractors (also include SUV for the United States)

Pedestrians

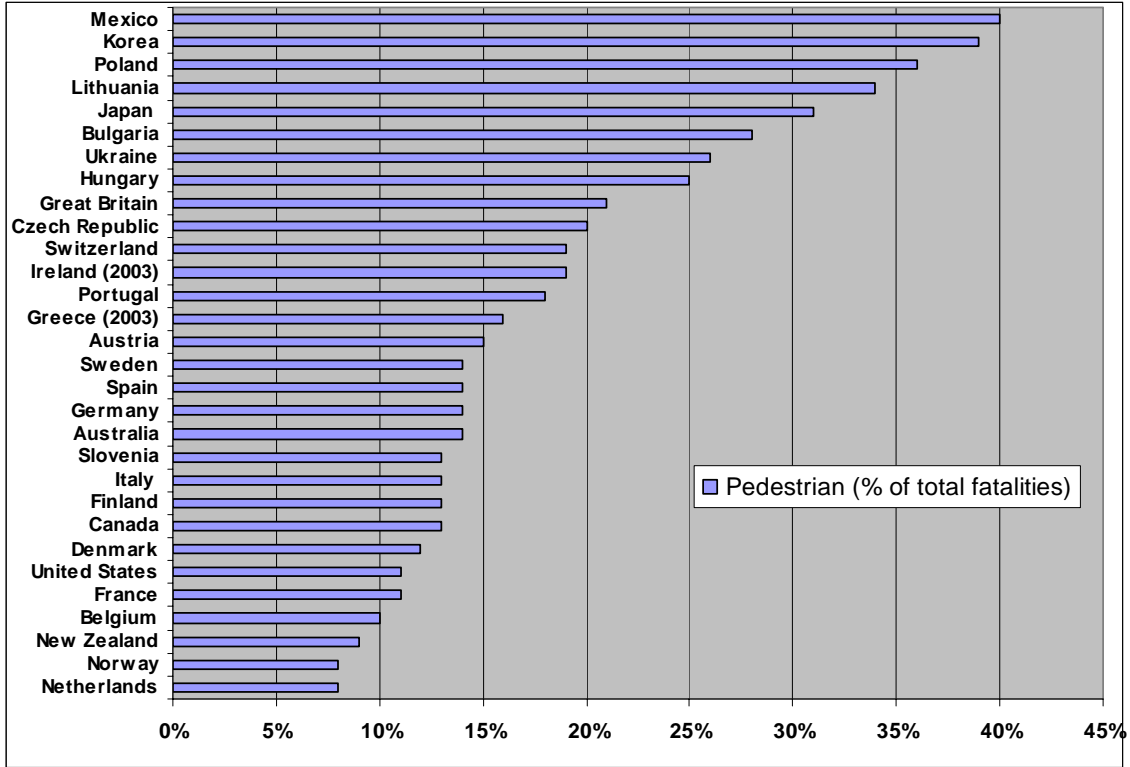
In many countries, pedestrian safety is an increasing concern.

There is however a large variation in the proportion of pedestrians killed in OECD/ECMT countries (see figure 9). The percentage of pedestrians killed as a proportion of the total number of fatalities varies from 8-10% (in Netherlands, Norway, New Zealand and Belgium) to 31% in Japan, 34% in Lithuania, 36% in Poland and a high of 39% in Korea and 40% in Mexico.

In the less industrialised countries of the OECD/ECMT region, there is usually a relatively high rate of pedestrian fatalities (around 25-30%), which can be partly explained by the relatively low level of motorisation, the lack of adequate infrastructure for pedestrian safety, the lack of awareness of the danger caused by vehicles and the speed of vehicles, especially in urban areas.

The high rate of pedestrian fatalities in some industrialised countries (e.g. Japan) is due a number of factors, including the ageing of the population².

Figure 9. Percentage of annual road fatalities that are pedestrians in 2004



Motorcyclists

While for several countries, motorcycles fatalities followed the general decreasing trends in road fatalities in the 1980s and 1990s, more recently, in many countries, one has observed an increase in motorcycle fatalities. As an example, between 2000 and 2004, the number of motorcyclists killed increased by 34% in the United States, (while the overall number of fatalities increased by 2%) (see Figure 10 and Table 10).

² The Joint OECD/ECMT Transport Research Centre will undertake in the framework of its 2007-09 Programme of Work a study on the *Pedestrian safety, urban space and health*, which should give further insights on the recent trends of pedestrians' risks. .

Figure 10. Evolution of motorcyclist fatalities

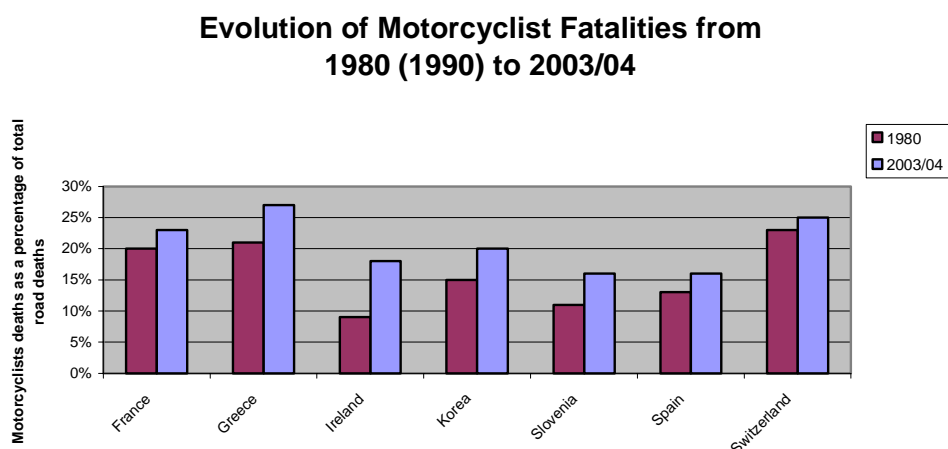


Table 10. Comparative evolution in the total number of fatalities and the number of motorcyclists killed for a selection of countries between 2000 and 2004

France	<ul style="list-style-type: none"> - Total: fatalities -32% - Motorcyclist: -14%
United States	<ul style="list-style-type: none"> - Total: fatalities +2% - Motorcyclists: +34%
Australia	<ul style="list-style-type: none"> - Total fatalities: -13% - Motorcyclists: +3%
Switzerland	<ul style="list-style-type: none"> - Total fatalities: -14% - Motorcyclists: +11%

Helmet wearing is compulsory in all the responding countries, except the United States (see Table 9). In the United States, legislation varies from one state to another. There are large variations in wearing rate across the responding countries. Wearing rate is usually not measured, except in those countries with a high rate.

Cyclists

Cyclist fatalities very much depend on the level of cycling in the member countries. In most countries, they represent less than 10% of the total road fatalities. In countries, like the Netherlands, the share is larger because cycling is a widespread means of transport.

Table 11 presents the situation regarding helmet legislation in the responding countries. In most countries, cyclists are not obliged to wear helmets. Helmet laws exist in some countries, either for all cyclists (Australia, Finland, New Zealand, some jurisdictions in Canada) and for children only (some jurisdictions in Canada, Czech Republic, Iceland, some localities in the US).

Table 11. Legislation regarding motorcycle helmet and cycle helmet

Country	Compulsory for motorised 2-wheelers	Compulsory for cyclists
Australia	Yes	Yes
Austria	Yes	No
Belgium	Yes	No
Bulgaria	Yes	No
Canada	Yes	Some jurisdictions have helmet use laws for cyclists but these vary in application. In some cases, the law only applies to children and young adults up to age 18.
Czech Republic	Yes	Yes for children up to 15.
Denmark	Yes	No
Finland	Yes	Yes, there is a regulation to wear helmet, but it is not enforced. Wearing rate: 29% in 2005
France	Yes Wearing rate: almost 100%	No
Germany	Yes Wearing rate: 98% in 2004	No. Wearing rate: 6% in 2004
Georgia	Yes	No
Greece	Yes	No
Hungary	Yes	
Iceland	Yes	Yes for children up to 14
Ireland	yes	No
Italy	Yes	No
Japan	Yes	No
Korea	Yes	No
Latvia	Yes	No
Lithuania		
Malta	Yes Wearing rate: almost 100%	No
Mexico	Yes Also compulsory for all motorised 3-wheelers	No
Moldova	Yes	No
Netherlands	Yes, including mopeds (max 50 cc, max speed: 45 km/h). Not compulsory for mofas (max 50 cc, maximum speed: 25 km/h).	No
New Zealand	Yes Wearing rate around 99%	Yes, Wearing rate: 92% in 2004
Norway	Yes	No
Poland	Yes	No
Portugal	Yes	No
Romania	Yes	No
Slovak Republic	Yes	No
Slovenia	Yes	No
Spain	Yes	Yes, outside urban areas
Sweden	Yes	From 1 Jan 2005 for children < 15 years
Switzerland	Yes	No
Turkey		
Ukraine		
United Kingdom	Yes	No
United States	No national law. In 20 states: helmet mandatory. In 27 states, only a specific population segment is required to wear helmets In 3 states: no helmet use law.	As of December 2004, 20 States (including the District of Columbia) have enacted age-specific bicycle helmet laws and more than 131 localities have enacted some form of bicycle helmet legislation.

4.7 Road infrastructure

The survey found that the greatest percentage of fatal road crashes occurred on rural roads, ranging from about 27% of all crashes in Ukraine, 48% in Portugal to between 70 and 75% of all crashes in Ireland, Finland, New Zealand and Spain (see table 12). On average around 60% of fatalities occur on rural roads

This reflects the inherent nature of increased risk that travelling at higher speeds on rural roads brings where mistakes often result in severe injury or death because of the higher impact speeds.

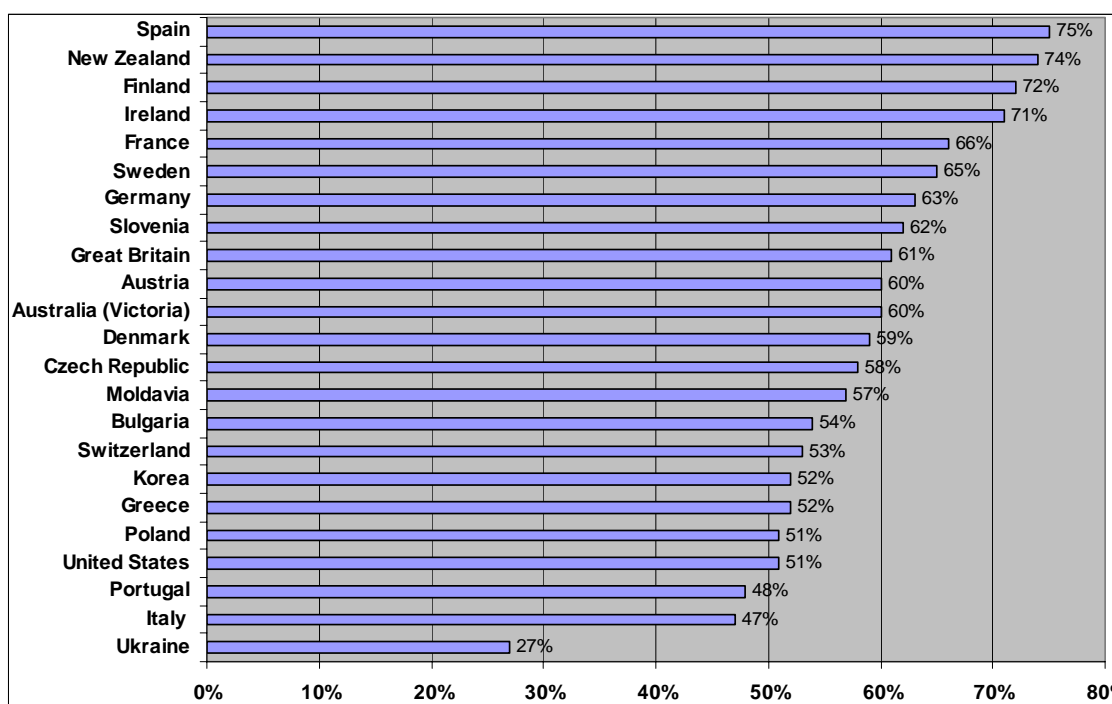
Motorways is unsurprisingly the safest type of roads, as - with the exception of Ukraine—less than 14% of fatalities occur on this class of roads.

Of course, a more in-depth analysis would require to compare the fatality rate on each class of roads with the number of veh-kilometres on each of these.

Table 12. Share of fatalities by class of roads in 2004

Country	Rural roads	Built-up areas	Motorways
Australia (Victoria)	60%	32%	8%
Austria	60%	26%	14%
Bulgaria	54%	41%	5%
Belgium	55%	25%	11%
Czech Republic	58%	38%	4%
Denmark	59%	33%	8%
Finland	72%	27%	2%
France	66%	28%	6%
Germany	63%	25%	12%
Great Britain	61%	34%	5%
Greece	52%	45%	4%
Ireland	71%	27%	3%
Italy	47%	41%	12%
Korea	52%	40%	8%
Moldavia	57%	43%	0%
New Zealand	74%	26%	2%
Poland	51%	48%	1%
Portugal	48%	43%	9%
Slovenia	62%	30%	8%
Spain	75%	19%	6%
Sweden	65%	26%	9%
Switzerland	53%	37%	10%
United States	51%	35%	14%
Ukraine	27%	43%	31%

Figure 11. Percentage of road fatalities occurring on rural roads in 2004



5 Conclusions

Overall the road safety situation has improved since 1990 in OECD/ECMT countries with a 26% reduction in the total number of fatalities between 1990 and 2004. This decrease in road fatalities has in general benefited to all types of roads and all types of road users.

There are however wide variations among regions and among countries, some of them having not yet reached their peak in the number of road fatalities. The reader will find in the main report details of the road safety situation for the 37 countries which responded.

It should be noted that despite the progress made, in 2004 more than 180 000 persons were killed on the roads of OECD/ECMT countries, which corresponds to a death every 3 minutes.

Much remains to be done to reduce the dramatic burden caused by road crashes. Speeding, drink driving and seatbelt wearing remain 3 main key problems for most countries. Fully addressing these issues could lead to a reduction by up to 50% of fatalities in many countries. Other key issues concern the infrastructure, the young drivers, the vulnerable road users (especially pedestrians and motorcyclists) as well as the political will and the co-ordination needed to implement a road safety policy.

The OECD/ECMT Working Group on Achieving Ambitious Road Safety Targets will continue its research work in 2006-07 and its final results will be published in 2007. It will identify best practices to address traditional road safety problems as well as emerging issues. It will identify and analyse road accident types which have appeared to be immune to road safety measures. It will also address issues associated with successful implementation of a road safety strategy and analyse the different approaches to road safety funding and resource allocation in OECD/ECMT countries.