Reducing deaths from drink driving

This fourth ranking under the Road Safety Performance Index (PIN) looks at European countries' progress in reducing deaths from drink driving crashes, compared with progress in reducing other deaths, using each country's own method of identifying drink driving deaths. It shows that over the last decade, progress on drink driving has contributed most to overall reductions in deaths in the Czech Republic, Germany and Poland.

In the **Czech Republic,** road deaths from drink driving crashes dropped 11.3% faster than deaths from other crashes. For **Germany**, this figure is 6.2% and for **Poland** 5.6%.

Only about half of the 18 countries covered in this ranking have succeeded in reducing deaths from drink driving crashes at the same pace or faster than other deaths. In the other half of countries, changes in drink driving deaths have not contributed their share to overall reductions in traffic deaths but rather slowed down overall progress.

The report also points to the alarming lack of knowledge surrounding the issue of drink driving. It shows that only 2 in 3 countries are able to produce data that allow monitoring of the drink driving situation over time.

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Progress in drink driving contributes to overall progress – but not everywhere

In 9 of the 18 countries included in this ranking, percentage reductions in drink driving deaths have been greater than in other deaths. Beside the **Czech Republic**, **Germany** and **Poland** this includes **Slovakia**, the **Netherlands**, **Latvia**, **France**, **Austria** and **Greece**. In these countries, progress on drink driving has contributed more than its share to overall progress in reducing road deaths.

In the other half of countries, changes in numbers of deaths related to drink driving have contributed less than their share to reductions in road deaths. In these countries, deaths from drink driving crashes have dropped more slowly than deaths from other crashes, so that insufficient progress on drink driving has slowed down the overall progress in reducing road traffic deaths. These countries include **Spain**, **Hungary**, **Slovenia**, **Finland**, **Great Britain**, **Estonia**, **Denmark**, **Switzerland** and **Lithuania** (see Fig 1).

The evidence from 14 countries suggests that in Europe, reductions in drink driving deaths have been more substantial over the last decade than reductions in other deaths. Progress on drink driving has therefore contributed more than its share to overall progress in reducing road deaths (see Fig 2).

Partial achievement

This ranking estimates for each country the impact that changes in drink driving deaths have made on overall changes in road traffic deaths. It does not measure the decrease in deaths related to drink driving as such.

The reductions in deaths related to drink driving have been most impressive in the **Czech Republic**, **Germany** and the **Netherlands** where the number of drink driving related deaths has decreased since 1996-98 by more than 50%. Yearly reductions in drink driving deaths between 1996-98 and 2005 were of the order of 12.1% for the **Czech Republic**, 10.4% for **Germany** and 8.3% for the **Netherlands** on average. In **Hungary**, **Lithuania, Finland, Spain** and **Great Britain**, on the other hand, the drink driving problem actually worsened (see Fig. 3).

Figure 3 shows that the Netherlands perform better than Poland in terms of reduction in drink driving deaths, whereas Poland performs better in terms of relative reduction in drink driving

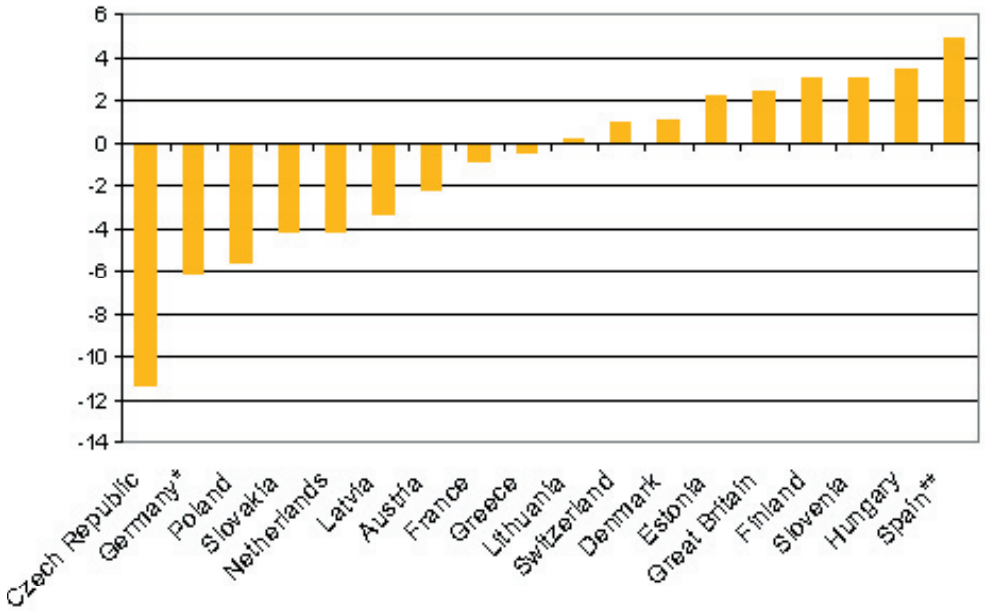


Fig. 1 Yearly percentage change in drink driving deaths relative to other road deaths between 1996-1998 and 2005. Source: National data
* Yearly percentage change in drivers involved in fatal drink driving crashes relative to drivers involved in other fatal crashes (Germany)
** Yearly percentage change in driver deaths from drink driving crashes relative to driver deaths from other crashes (Spain)

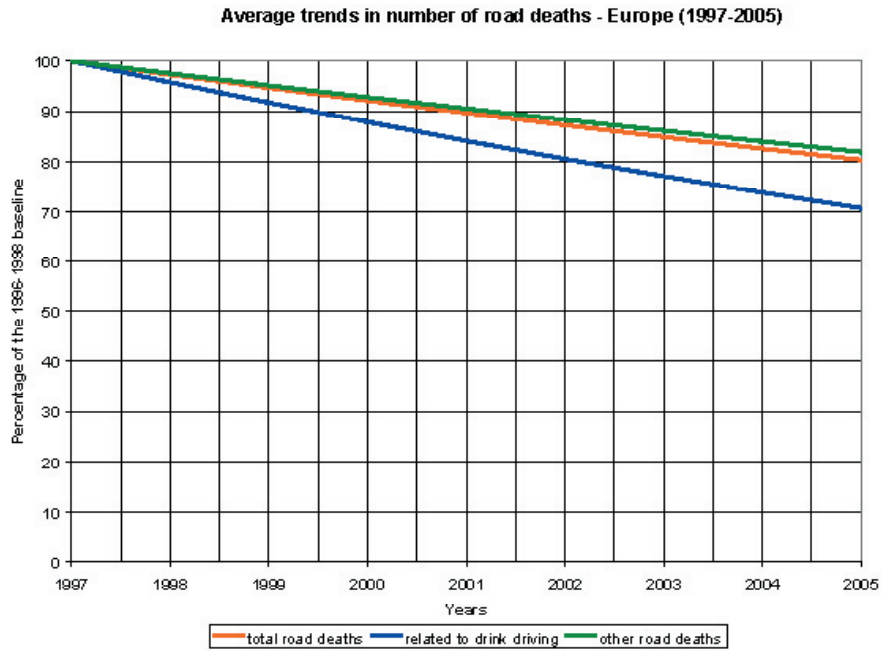


Fig. 2 Trends in road deaths in Europe, based on data from 14 countries, see Explanatory note. Source: National data

deaths, compared to other deaths (see Fig. 1). In the Netherlands, drink driving deaths dropped by 8.3% every year, on average. In Poland, this was 7.8%. However, as deaths from crashes not related to drink driving dropped by 4.3% every year in the Netherlands, and by 2.4% in Poland, the difference between these two developments was greater in Poland than in the Netherlands. The difference between the two trends is reflected in Figure 1 in which Poland ranks third.

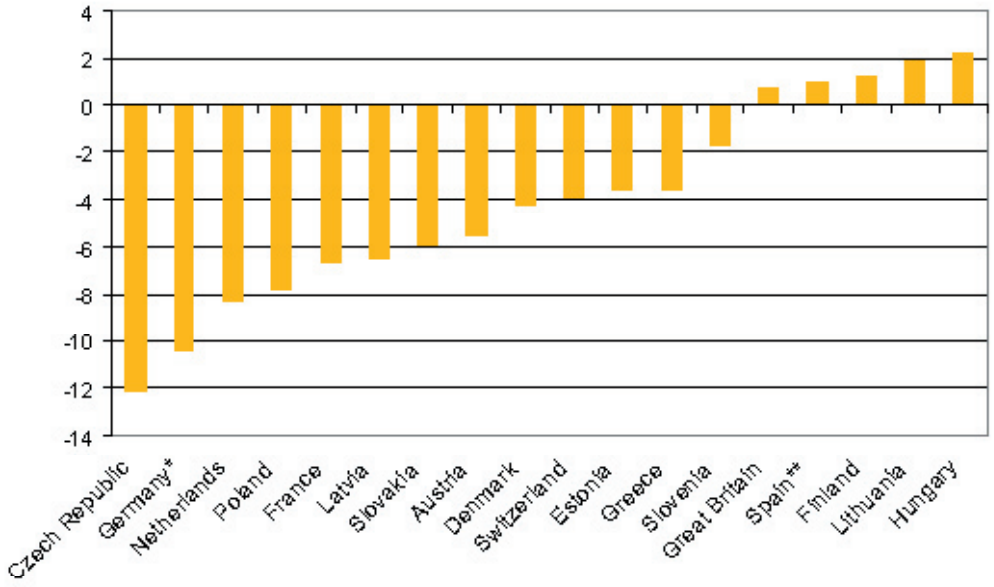


Fig. 3 Average yearly percentage change in road deaths resulting from crashes related to drink driving. Source: National data
* Average yearly percentage change in drivers involved in fatal drink driving crashes (Germany)
** Average yearly percentage change in driver deaths from drink driving crashes (Spain)

The indicator

Researchers in the European research project SafetyNet have proposed to compare the drink driving situations in European countries using the percentage of fatalities resulting from crashes involving at least one driver impaired by alcohol. The researchers recognise however the limitations of this indicator at this point in time when data collection methods vary widely across Europe. "Strict harmonisation of definitions, data collection and data analysis methods is required" to ensure comparability of data, according to the latest report.

In the absence of such harmonisation, this ranking takes as a starting point developments over time in numbers of fatalities attributed by each country to crashes involving at least one driver impaired by alcohol. Rates of change are comparable across countries in so far as procedures for recording deaths have remained consistent in all countries during the reporting period.

Like the definition proposed by SafetyNet, this ranking considers only crashes related to drink driving, ie. crashes involving an impaired driver. However, other road users such as pedestrians and cyclists also cause traffic accidents when they are drunk. The SafetyNet project proposes to extend the indicator in time to fatalities resulting from crashes involving at least one impaired active road user. A manual on data collection will be published later this year.

Hakkert A.S., Gitelman V. and Vis M. A. (Eds) (2007) *Road Safety Performance Indicators: Theory*. Deliverable D3.6 of the EU FP6 project SafetyNet

Comparison between countries

This ranking uses as a starting point developments over time in deaths resulting from drink driving crashes. There are however large differences in the way in which countries define and record a 'crash related to drink driving'. In **Great Britain**, these are crashes in which at least one driver or rider involved tested positive in a breath or blood test or refused to give a breath test specimen when requested to do so by the police. In **Switzerland**, drink driving crashes are those for which police reports show that drink driving was involved, based on breath test results. In **Hungary**, the driver responsible for the crash must have tested positive. In **France, Great Britain** and the **Netherlands** numbers of drink driving crashes and victims are estimated using different methods of calculation.

Moreover, the definition of 'impaired' is different for each country. It ranges from 0.1g/l in our data from **Sweden** over 0.2g/l in **Hungary** and **Denmark** and 0.3g/l in **Germany** (in accidents) to 0.8g/l in **Great Britain**. A comparison of countries based on numbers of deaths from drink driving crashes is therefore impossible at this moment.

An incomplete picture

From 7 out of 27 countries, insufficient data, in some cases no data, are available at this point to measure from year to year the changes in drink driving deaths. These countries are **Belgium, Ireland, Italy, Malta, Norway, Portugal** and **Sweden**. In these countries, the numbers of deaths attributed to drink driving are not usually published, and where numbers are shown in Table 1 they are available only for 2005. For **Cyprus** and **Luxembourg** the numbers of drink driving deaths are available for the relevant years but cannot be used in this ranking because the numbers are too small, and therefore too variable, for the percentage changes to be estimated reliably.

In **Germany** and **Spain**, numbers of drink driving deaths are not available in official statistics. For these countries we used in place of the number of deaths the number of drivers involved in fatal accidents (Germany) and the number of drivers killed in fatal accidents (Spain).

But also in many of the countries included in the ranking, there are serious gaps in the reporting of crashes related to drink driving.

The extent to which testing is done and results are known varies considerably among countries. While authorities in **Latvia** and **Poland** say they have test results for all drivers involved in fatal crashes, results are available for all drivers involved in fatal crashes in about 3/4 of cases in **France, Hungary, Denmark** and **Slovenia**, and in about 1/4 of fatal crashes in the **Netherlands**. Authorities in **Austria, Germany** and **Switzerland** do not actually know how many drivers involved in

Country	Total road traffic deaths	Deaths in crashes related to drink driving	Proportion of drink driving deaths in total deaths
Austria	768	46	6.0
Belgium	1089	n/a	n/a
Cyprus	102	23	22.5
Czech Republic	1286	71	5.5
Denmark	331	76	23.0
Estonia	169	48	28.4
Finland	379	89	23.5
France	5318	1532	28.8
Germany*	7863	399	5.1
Greece	1658	177	10.7
Hungary	1278	112	8.8
Ireland (2003)**	301	85	28.2
Italy (2004)**	5082	93	1.8
Latvia	442	96	21.7
Lithuania	760	90	11.8
Luxembourg	46	0	0.0
Malta	17	n/a	n/a
Netherlands	817	115	14.0
Norway**	202	50	24.7
Poland	5444	458	8.4
Portugal	1247	n/a	n/a
Slovakia	560	67	12.0
Slovenia	258	83	32.2
Spain (2004)***	2861	398	13.9
Sweden***	209	71	34.0
Switzerland	409	79	19.3
Great Britain	3201	560	17.5

Countries included in the ranking

* Number of drivers of motor vehicles involved in fatal accidents.
** Number of fatal crashes. The figure for Norway refers to the suspected use of both alcohol or drugs.
*** Number of killed drivers.

Table 1. Proportion of drink driving deaths in the total of traffic deaths, based on each countries own procedure (2005). These values cannot be compared between countries. Source: National data

fatal accidents have been tested as only positive test results are retained.

The reasons for this lack of knowledge are manifold, including legal conditions. In **Spain**, only results of autopsies are used in the statistics. In **Sweden**, results of autopsies do not appear in the statistics. In the **Netherlands** and **Germany**, drivers killed on the spot in single vehicle accidents are not generally tested as they are beyond legal reach. In **Austria, Estonia, Germany** and **Switzerland**, testing will only occur when police suspect the presence of alcohol.

This means that accident reports in many countries fail to give a realistic picture of the drink driving situation, and numbers of deaths from drink driving related crashes cannot be taken at face value (see Table 1).

In-depth studies carried out in several countries have shown that actual numbers of drink driving deaths are considerably higher than reflected in reports from police and medical staff.

A study carried out in the federal state of **Lower Austria**, in which most of the fatal road traffic accidents were investigated for alcohol, showed that alcohol rates were found to be at least one third higher than in official accident statistics. Thirty-one percent of drivers involved in single vehicle crashes were found to be over the limit[(1)].

In **Ireland** where no official data on numbers of drink driving crashes are available, an in-depth study of 2003 accident reports found that drink driving was a factor in 28% of all fatal crashes [(2)].

France, Great Britain and the **Netherlands** publish yearly estimates of crashes and casualties linked to drink driving. These estimated numbers of deaths from drink driving accidents are in the order of 14% (Netherlands), 17.5% (Great Britain) or 29% (France) of all road traffic deaths in 2005.

Another indicator

To monitor progress in drink driving, some countries such as the **Netherlands, Belgium, Finland** and **Estonia** measure the distribution of alcohol levels among the driver population (see Fig. 4). These surveys are carried out either in addition, or as an alternative (e.g. Belgium) to recording deaths from drink driving crashes. To establish this performance indicator, random breath testing actions are repeated regularly at selected times and locations. The Netherlands use the data from these surveys also to estimate the yearly number of deaths from drink driving.

In **Belgium**, bi-annual measurements were started in 2003. The proportion of drivers found over the 0.5g/l BAC limit was 3.3% in 2003 and 2.8% in 2005 on average. During weekend nights this was 7.0% in 2005. Belgium has a stated objective to have no more than 3% of drivers over the legal BAC limit at any moment of the day by 2008.

IBSR/BIVV (2007) ***Rapport de la Commission Fédérale pour la Sécurité Routière***

Measures that work

At the core of the measures there is the legal blood alcohol limit for drivers. The European Commission has recommended a European-wide blood alcohol limit not exceeding 0.5g/l for all drivers and 0.2g/l for novice and truck drivers. More and more countries are following this advice. **Cyprus** lowered its 0.9g/l BAC limit to 0.5g/l last year, and similar discussions are underway as regards the 0.8g/l in **Luxembourg**. **France** recently lowered its BAC limit for drivers of buses and coaches, and the **Netherlands** introduced in 2006 a BAC limit of 0.2 g/l for novice drivers. In **Germany**, the government decided in February 2007 to lower the limit for novice drivers. The 0.5g/l limit was introduced in 1998.

(1) Bartl, G. and Kaba, A. (Eds) (1998) Alkohol im Straßenverkehr. Forschungsergebnisse zur Grenzwertdiskussion, Vienna, pp. 59-74.
(2) Health Service Executive (2006) Alcohol in Fatal Road Crashes in Ireland in 2003

The enforcement of these limits is another issue. In Europe, being checked for alcohol is rather the exception than the rule. In the SARTRE 3 driver survey carried out in 2002 in 23 countries, 71% of drivers declared that they had not been checked for drink driving over the past three years, and the likelihood of being tested was estimated very low.

A recent ETSC report shows that in those countries where numbers of drink driving deaths have dropped most rapidly, there has also been an increase in drink driving enforcement. The report also stresses that enforcement needs to be coupled with awareness raising, as outlined by the European Commission in its 2004 Recommendation on enforcement in the field of road safety.

"For years, alcohol has been portrayed in the media as the main cause of accidents, and there has been strong public support for measures to tackle drink driving. In 2006, drink driving related deaths dropped by 44%. I hope we will manage to maintain this trend for the coming years."

Ilona Buttler, Motor Transport Institute (ITS), Poland

Did you know that ...

A recent Eurobarometer survey has shown that in most countries a majority of respondents know what the legal BAC limit for drivers is in their country. However, in some countries, such as Ireland and the U.K., the majority of respondents replied "don't know" to this question.

European Commission (2007) ***Attitudes towards alcohol***

In the **Czech Republic**, screening tests increased from 410,500 tests in 2002 to over 420,000 in 2005. The Czech "Domluveny" campaign is a variation of the Belgian BOB campaign.

For **Germany**, the numbers of screening tests are not known. Number of offences goes down steadily. Police tests have been simplified by the introduction of evidential breath testing devices for BAC levels up to 1.1g/l. Campaigns are run at all levels of government.

In the **Netherlands**, the number of screening tests nearly doubled between 2000 and 2005. This increase was coupled with the BOB campaign. Drink driving sanctions were also increased to new levels that range between EUR 220 for BAC levels up to 0.8g/l and to EUR 480 for levels up to 1.3 g/l. There has been a marked drop in the number of drivers over the limit during weekend nights from 4.2% in 1999 to 2.8% in 2005.

In **France**, the number of preventative breath tests increased over the last years to reach just over 9 million in 2005. France also conducted the Belgian-modelled "Capitaine de soirée" campaign.

In **Poland**, the number of detected alcohol offences continued to increase over the last years. In 2001, sanctions for drink driving offences were increased dramatically. More recently, shortened court procedures were introduced to enable quick penalisation of offenders.

ETSC (2007) ***Traffic Law Enforcement across the EU - Time for a Directive***

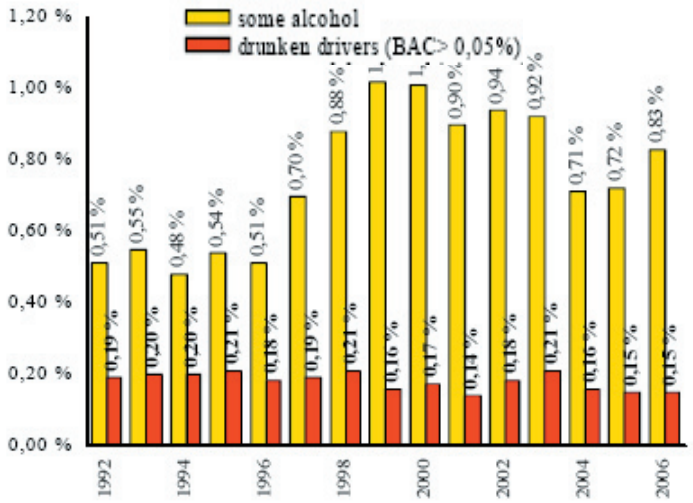


Fig. 4 Proportion of drivers impaired by alcohol in all drivers in Finland. Source: Monitoring of traffic behaviour 2006, Liikkenneturva 2007

The Czech experience

Half a century of zero tolerance

The ranking of countries based on progress due to reductions in drink driving related deaths shows that in the Czech Republic, deaths from drink driving crashes have dropped 11% faster over the last 9 years than other deaths. The drop in drink driving related deaths therefore contributed substantially to the overall progress in reducing road deaths. ETSC has asked Dr. Josef Mikulik, Director of the Czech Transport Research Centre (CDV), about the background to this development.

ETSC: The legal BAC limit is and has been 0.0g/l in the Czech Republic. However, this is also the case in Hungary where the drink driving problem has got worse over the last years. What do you think is the impact of the 0.0 BAC limit? How is it perceived in the Czech Republic?

In the Czech Republic, we have had half a century of zero tolerance for drink driving. The 0.0g/l limit was introduced in 1953. Despite individual attempts at increasing the BAC limit, this limit has never been changed and the consumption of alcohol prior to driving remains forbidden.

The message sent by this limit is very clear: "never drive after drinking". Other legal limits can be interpreted in different ways. Moreover, this limit is very well accepted. The SARTRE study has shown that only about 13% of drivers are in favour of increasing the BAC limit. Today, drinking and driving is socially unacceptable in the Czech Republic, and the 0.0g/l has been decisive in this.

In Hungary, a strict enforcement policy was applied in the 1990s and drink driving was reduced significantly. But the promising trend slowed and the level of enforcement dropped. This confirms that the level of enforcement is very important, and good results cannot be achieved without strict enforcement.

ETSC: What has been the role of police enforcement? Have levels of checks increased over the years? Have police strategies changed?

Police enforcement was strengthened significantly after the approval of the Road Safety Strategy in 2004. The police had been strongly involved in setting up this strategy. Since 2004, there has also been more money to buy police equipment including screening devices.

Overall, the level of drink driving enforcement in the Czech Republic is not higher than the European average. In the first half of the 1990s there was only little police enforcement but the situation is improving slowly, and we are approaching the enforcement levels we had in the late 1980s.

> Today, drinking and driving is socially unacceptable in the Czech Republic, and the 0.0g/l has been decisive in this.

ETSC: What are the sanctions for drink driving offences?

We introduced a penalty point system on 1 July 2006. Driving with a BAC level higher than 0.3g/l now carries 6 points, on a total of 12 points. All drink driving offences, also those under 1.0g/l, are now criminal offences and go to court.

In 2006, there has been another 17% decrease in drink driving related crashes. Deaths from drink driving accidents dropped by 29%, whereas the total of deaths decreased by 15%.

ETSC: Education and awareness raising also have a great role to play in reducing drink driving. Have there been any specific efforts over the last decade?

The Ministry of Transport has made drink driving a priority, focussing especially on young drivers. It introduced in 2003 the Belgian-modelled BOB campaign. Since 2006 we have also had a road show for young people called "The Action" that is based on a Dutch example. The show gives teenagers information on road accidents and their consequences through the stories of a fireman, policeman, paramedic and a victim. The young people react very strongly to this show.

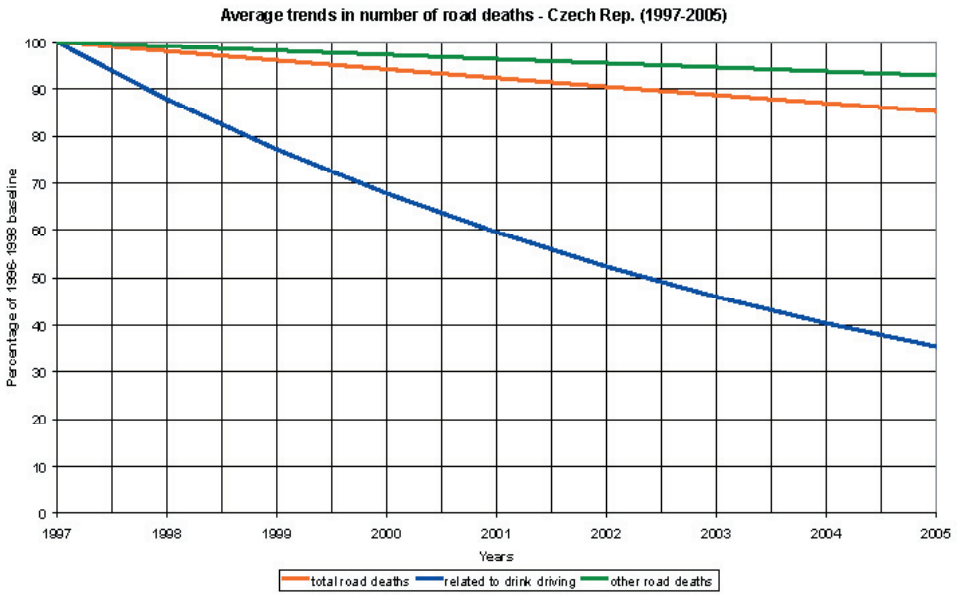


Fig. 5 Trends in road deaths in the Czech Republic, see Explanatory note. Source: National data

ETSC: How about the shift to non-alcoholic beer?

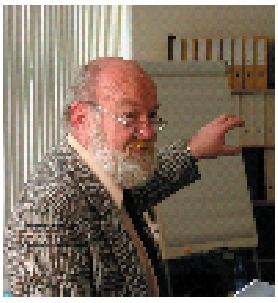
It is true that the consumption of non-alcoholic beer doubled in the Czech Republic between 2000 and 2006. It now represents about 2% of the total beer consumption. I think the wider choice and increased quality of non-alcoholic beer certainly facilitates the drivers' decision not to drink alcohol. But this issue has not been studied yet.

ETSC: While the number of deaths related to drink driving could be reduced successfully, the overall number of deaths did not fall very much in the Czech Republic. What are the reasons for this? Which are the other aspects of road safety that must be given higher attention in the future?

An area in which we still need to do a lot is speeding. We have some cameras but still no legislation to enable owner liability. This is why police enforcement is very inefficient, as police have to do the checks in the traditional way and staff is limited. Our speed surveys show a very slight decrease in average speed and speeding drivers but this is really not significant. Really, the issue in front of us is speeding.

The other issue is the infrastructure. We have set up guidelines for road safety audits and training courses for auditors. Audits have been carried out on some 60-70 road schemes but are not yet applied on all schemes. We hope for the European Directive to boost this policy area in our country.

We have also achieved good progress in some other areas of road user behaviour. We were even surprised by the huge increase in seat belt wearing. Also the use of daytime running lights is very high. Of course we have to keep up the effort following the successful start of the penalty point system. The police and administration must do their work properly to reap the benefits of this system.



Dr Josef Mikulík, Director of the Czech Transport Research Centre (CDV), has been working in transport safety research since 1976, when he first joined the Transport Research Institute of the former Czechoslovakia.

Dr Mikulík has been actively involved in road safety work both at national and international level. He has represented the Czech Republic in the Joint OECD/ECMT Transport Research Committee, the PIARC Road Safety Committee, FERSI, ECTRI and ERTRAC. Dr Mikulík is the chairman of the OECD/ECMT-IRTAD Operational Committee.

European Transport Safety Council

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