

## Dutch road safety in international perspective

### Summary

Worldwide the road safety level in the Netherlands has been one of the highest for many years already. And the country occupies fourth place in terms of traffic fatalities per million inhabitants. Only Malta, Sweden and the United Kingdom are (slightly) safer in this respect. Within Europe, the level of road safety is also high in Norway, Switzerland and Iceland. Over approximately the last two decades, developments in the number of fatalities in the Netherlands was slightly better than the average of the fifteen original European Union (EU) Member States. Development in the twelve new EU Member States has on average been somewhat slower. The Netherlands has not achieved the European target of having halved the number of fatalities in 2010, relative to 2001. With a reduction of 41%, the Netherlands occupies seventeenth place and is slightly below the European average. From the mid-1990s, the number of fatalities among cyclists, moped and light moped riders in the Netherlands decreased somewhat slower than the average in the other 'old' EU countries. However, for motorcyclists the development in the Netherlands was somewhat more favourable. If the population is categorized according to age, the traffic mortality rate in the Netherlands is lower than the average in the other 'old' Member States for almost all age groups. The rate is only higher in the Netherlands for the ages 12 and 13 and the 75 and over age group.

### Background and content

In comparison with many other countries, the Netherlands has excellent road safety performance and is currently one of the safest countries in Europe and the world in this respect, and, as stated in the *Strategic Plan Road Safety 2012*, the Netherlands intends to continue to be so in the future. This fact sheet compares the Netherlands with other EU countries and a range of other European and non-European countries by a number of measures of road safety. With respect to EU countries a distinction is sometimes made between the 'old' fifteen Member States (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom) and the twelve new Member States (Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovenia, Slovakia from May 2004 and Bulgaria and Romania from January 2007). This fact sheet discusses, in this order, mortality rate, risk, development of the number of fatalities over the years, the European road safety target, development of the number of fatalities for various methods of transport and traffic mortality rate for different age groups. For a further analysis of international road safety trends and a description of the situation in 32 countries worldwide, we refer to a recent report by International Traffic Safety Data & Analysis Group (IRTAD, 2010).

It must be borne in mind that the road safety data of different countries is often difficult to compare. In order to compare countries, numbers of crashes or fatalities must be related to, for example, a country's population or distances travelled. Moreover, when interpreting such data, gaps in information and differences in definitions of, for example, crashes, fatalities, severities of injury and road types must always be taken into account. For the Netherlands, this fact sheet works with the real number of fatalities: for other countries it works with the registered number, but most countries assume that this is almost equal to the real number. Documentation on those definitions is available, thus making comparison possible in broad terms. Numerous initiatives have recently been developed to improve the quality and comparability of data. For further information on the subject, please see the SWOV Fact sheet [International comparability of road safety data](#).

### Fatality rate: what is the position of the Netherlands in an international perspective?

To compare road safety in different countries, use is often made of the so-called mortality rate: the number of fatalities per million inhabitants. *Figure 1* presents the average mortality figure of the three most recent years (2008-2010) for the 27 EU Member States, and the individual averages of these countries (EU 27). The data for a number of other, non-EU countries are shown for purposes of

comparison. By this measure, the Netherlands occupies fourth place in the EU; only Malta, Sweden and the United Kingdom have been performing slightly better. The non-EU countries Iceland, Switzerland and Norway likewise follow closely. Outside Europe, Japan and Israel have similar mortality rates due to road crashes.

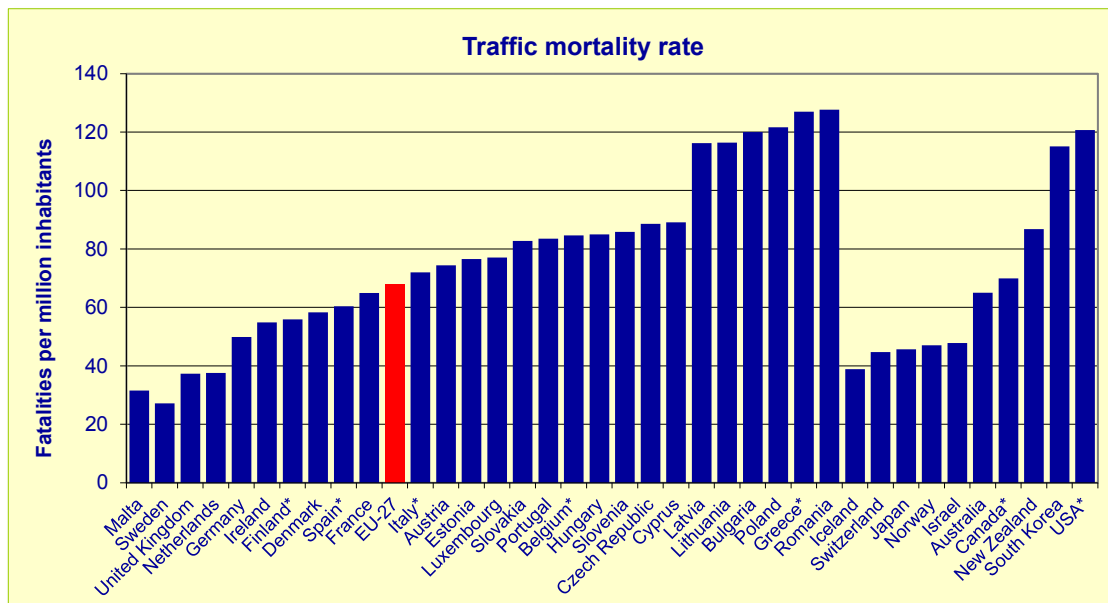


Figure 1. Number of fatalities per million inhabitants (mortality rate) in different European and non-European countries. 2008-2010 average. Source: IRTAD/CARE/Eurostat.

**Level of risk: what is the position of the Netherlands in an international perspective?**

The mortality rate does not take the quantity of traffic, motorized or otherwise, in a country into account. To an extent, dissimilarities between countries can therefore be caused by differences in the degree of motorization and/or mobility. The risk, here defined as the number of fatalities per motor vehicle kilometre, does take this into account (Figure 2). Unfortunately, only a limited number of countries have reliable data on the annual distance travelled. Insofar as data is available, it indicates that Sweden has the lowest number of fatalities per motor vehicle kilometre within the EU, followed closely by the United Kingdom and the Netherlands., Outside the EU, the road safety performance of, once more, Iceland Norway and Switzerland is also good.

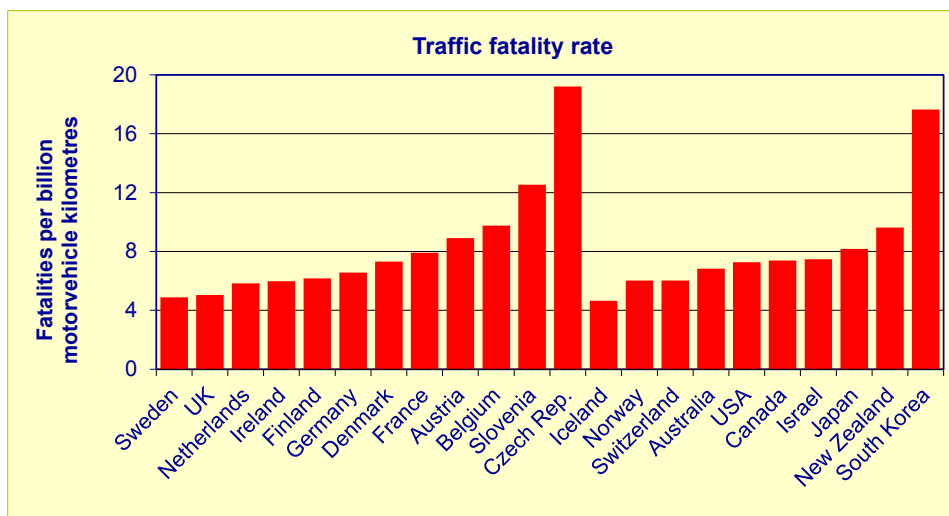


Figure 2. Number of fatalities per billion motor vehicle kilometres in different European and non-European countries (2007-2009 average). Source: IRTAD.

### How does the development in the Netherlands compare to other countries?

Table 1 shows the annual average development in the number of fatalities during the period 1991 to 2006/2007. A distinction is made between the fifteen original EU Member States (EU 15) and the twelve new Member States (NMS 12) as well as a few other countries or groups of countries. The number of fatalities in the Netherlands decreased by an average of 4.7% in this period, a rate of decrease slightly greater than the average of the original fifteen Member States (4.1% rate of decrease). An even more favourable development could be seen in a number of countries in this group, namely Austria, Portugal, Sweden, Germany and France. The average annual decrease in the new Member States during the same period was 2.3%. The rate of decrease was higher than the average of the original EU 15 in three of these Member States, namely Estonia (-6.4%), Latvia (-5.8%) and Slovenia (-5.4%). The average annual decrease in the number of fatalities of Asian countries for which data is available was 4.8%. After a slightly increasing trend in the number of fatalities in the United States until 2005, the United States are now showing a light decrease.

Country	Annual development in the number of fatalities for the period 1991 up to and including 2010 (* up to and including 2009)	Country	Annual development in the number of fatalities for the period 1991 up to and including 2010	Country	Annual development in the number of fatalities for the period 1991 up to and including 2010 (* up to and including 2009)
Portugal	-7,2%	Estonia	-6,4%	Switzerland	-4,6%
Sweden	-6,2%	Latvia	-5,8%	Israel	-1,8%
Germany	-5,4%	Slovenia	-5,4%	Norway*	-1,7%
France	-5,1%	Hungary	-3,7%	Iceland	-1,3%
Netherlands	-4,7%	Lithuania	-3,6%	<b>Rest of Europe</b>	<b>-2,8%</b>
Austria	-4,5%	Cyprus	-2,8%	South Korea	-5,6%
Spain*	-4,4%	Czech Republic	-2,6%	Japan	-4,9%
Luxembourg	-3,8%	Poland	-2,5%	New Zealand	-3,0%
Denmark	-3,7%	Bulgaria	-1,7%	Australia	-1,9%
Belgium*	-3,3%	Slovakia	-1,7%	<b>Asia</b>	<b>-4,8%</b>
United Kingdom	-3,0%	Romenia	-0,6%	Canada*	-2,1%
Finland*	-2,9%	Malta	0,3%	United States *	-0,2%
Ireland	-2,9%	<b>NLS-12</b>	<b>-2,3%</b>	<b>North America</b>	<b>-0,3%</b>
Northern Ireland	-2,8%	<b>EU-27</b>	<b>-3,5%</b>		
Italy*	-2,6%				
<b>EU-15</b>	<b>-4,1%</b>				

Table 1. Average annual trend in the number of fatalities between 1991 and 2010 (\* or 2009) (South Korea starting from 1993; the Netherlands from 1996; Sweden from 2001) in different European and non-European countries. Sources: CARE/IRTAD/Eurostat.

### Has the Netherlands achieved the first European road safety target?

From the beginning of this millennium, the EU has set ambitious targets for road safety. The first target was set in 2001 (Commission of the European Communities, 2001): its goal was having halved the number of fatalities in Member States by 2010 relative to 2001. A survey of the European Transport Safety Council ETSC, partly based on preliminary or estimated numbers (Jost et al., 2011) indicates that eight countries have achieved this target: Latvia, Estonia, Lithuania, Spain, Luxembourg, Sweden, France and Slovenia. Portugal has almost achieved the target with a reduction of more than 49%. The Netherlands (with a reduction of 41%) takes seventh place in these statistics and was slightly below

the European average (a reduction of 43%). The goal of the European Union is to again halve the number of fatalities in the coming ten years (European Commission, 2010). The target is not compulsory and a number of individual countries, including the Netherlands, have maintained their own road safety targets instead of European ones (see Weijermars et al., 2008: 97-98 for an overview).

### How do the modes of transport involved in the Netherlands relate to those in other countries?

It is not possible to provide an accurate picture of the safety of different modes of transport in the Netherlands as compared with those in other countries. The number of casualties per million inhabitants is not a good measure, as it is not corrected for use of the respective modes of transport. In the Netherlands, for example, more cycling is done than in most other countries. Proportionally speaking, per million inhabitants, the Netherlands therefore has more fatalities among cyclists than other European countries. A more realistic picture would be obtained if it were possible to correct for distance travelled with the different modes of transport. However, insufficient data is available internationally to enable such a comparison.

It is possible, however, to consider the relative developments within the different modes of transport. In the period 1996-2009 (*Table 2*), the average annual decrease in the number of fatalities among cyclists and moped and light moped riders was somewhat smaller in the Netherlands than it was in the other 'old' EU Member States. For motorcyclists, on the other hand, the development in the Netherlands was greater than it was in other Member States. The differences may have to do with developments in the crash rate of the different modes of transport as well as with developments in the mobility of those modes of transport.

Mode of transport	Annual trend in the Netherlands in the period 1996-2009	Annual trend in the EU 14 in the period 1996-2009
Pedestrian	-5.7%	-5.3%
Bicycle	-2.3%	-4.2%
Moped/light moped	-4.6%	-7.0%
Motorcycle	-3.0%	+0.6%
Other	-0.7%	-3.0%
Total	-4.3%	-4.3%

Table 2. Average annual trend in the number of fatalities for different modes of transport between 1996 and 2009 (2006) in the Netherlands and in fourteen other 'old' Member States. Sources: CARE/IRTAD.

### How does the distribution of fatalities according to age in the Netherlands relate to that in other countries?

*Figure 3* shows the number of fatalities according to age per million inhabitants of that age for the Netherlands, for the other fourteen 'old' EU countries and for all EU countries together excluding the Netherlands (and except Bulgaria, Cyprus and Lithuania for which countries data is lacking). The figure displays the total number of fatalities in the EU Member States for 2009 as compared with the average number in the Netherlands during the period 2008-2010.

The number of fatalities per million inhabitants in the Netherlands is lower than in other countries for almost all age groups. Road safety performance in the Netherlands is worse than the average in the other EU countries only for the ages 12 and 13 and for the 75 and over age group. This probably can be explained by the degree of bicycle mobility. Bicycle mobility is certainly higher in the Netherlands than in other countries with respect to these age groups and, compared to motor vehicles, bicycle mobility has a higher crash rate.

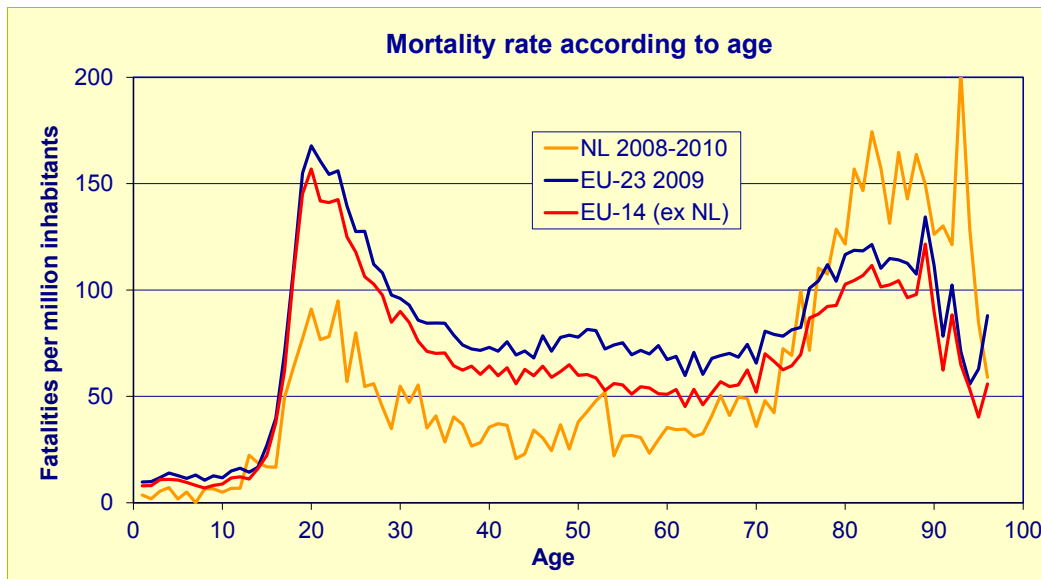


Figure 3. Number of fatalities according to the age of the casualty per million inhabitants of that age. The Netherlands (2008-2010 average) as compared with the 14 'old' EU countries and with 23 EU countries in 2009. Sources: CARE/Eurostat.

### Why do countries develop similarly or differently?

It is clear that developments in road safety differ per country. Three successive international projects examined the determinative factors in this respect, the lessons that could be learned by other countries and the way in which these factors could be made concrete and measurable. These so-called SUNflower projects (see also [www.sunflower.swov.nl](http://www.sunflower.swov.nl)) were co-ordinated by SWOV and carried out with financial support from the European Commission.

The first SUNflower study focused on Sweden, the United Kingdom and the Netherlands, the 'SUN' countries, which have been among the safest in Europe for a long time already. The study (Koorstra et al., 2002) revealed that while all three countries have taken targeted measures in relation to driving under influence, speeding violations, the use of seat belts and safer roads, policies are implemented in different ways. In addition, quantitative targets – that is, a percentage by which the number of road casualties must decrease within a set period of time – are used in all of the countries referred to.

Six countries from Southern and Central Europe joined the second study. This SUNflower+6 study (Wegman et al., 2005) revealed that different factors influenced the development in the number of casualties and underlying performance indicators in the different countries. With respect to the three SUN countries, for example, the Netherlands stands out in a negative sense in terms of the safety of moped riders and young drivers. A comparison of the measures taken in Sweden and the United Kingdom with those taken in the Netherlands for these groups led to a number of concrete recommendations. Among other things, the Netherlands could ensure that young drivers have more experience prior to taking the driving test through, for example, supervised driving. For moped riders, more stringent training requirements should be applied, the correct use of a helmet should be more strictly enforced and mopeds should be issued with registration numbers to simplify monitoring in relation to speed and other matters. Meanwhile, many of these recommendations have been implemented in the Netherlands or are otherwise the subject of well-advanced implementation plans.

The third, and for the time being last, SUNflower study, SUNflowerNext, set out the way in which SUNflower would like to study road safety in Europe in the future (Wegman et al., 2008). Countries are usually compared by means of data on casualties or relevant road user behaviour, the so-called performance indicators. The SUNflowerNext study attempted to develop a composite road safety performance index based on a range of different indicators. Such a composite index would enable a far more complete picture of countries' respective road safety performances and would clarify what countries could still learn from each other. Within the so-called DaCoTa project (<http://www.dacota-project.eu/>), such a composite index is now being developed at the European level.

## Conclusion

The level of road safety in the Netherlands has been one of the highest in the world for many years already and the country occupies fourth place in terms of the number of fatalities per million inhabitants. Only Malta, Sweden and the United Kingdom are safer in this respect. Within Europe, the level of road safety is also high in Iceland, Norway and Switzerland. During approximately the last two decades, the development in the number of fatalities in the Netherlands has been somewhat better than the average of the fifteen 'old' EU Member States. The development in the twelve new EU Member States is somewhat slower on average. Eight out of 27 Member States have achieved the ambitious European target for road safety: having halved the number of fatalities by 2010 relative to 2001. The Netherlands, which achieved a reduction of 41%, is not one of these countries and performed slightly under the EU average.

In comparison with the 'old' Member States, the development in safety in the Netherlands over the last few years was somewhat less favourable for cyclists and moped and light moped riders and slightly better for motorcyclists. If the population is categorized according to age, the mortality rate in the Netherlands is lower than the average in the other 'old' Member States for almost all age groups. The rate is only higher in the Netherlands for the ages 12 and 13 and 75 and over age groups.

The monitoring of road safety and relevant road user behaviour, preferably in relation to other factors that influence road safety, such as degree of mobility, weather conditions and the like, can provide greater insight into the how and why of developments in different countries. Such insight would make it possible to identify success factors and enable countries which are developing less quickly to learn from the faster developing countries. The SUNflower projects and the present DaCoTa project have contributed and are working on the development of a sound method for that purpose.

## Publications and sources

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[CARE](#): Community database on Accidents on the Roads in Europe

[IRTAD](#): International Road Traffic and Accident Database

[Eurostat](#): The European Bureau of Statistics in Luxembourg