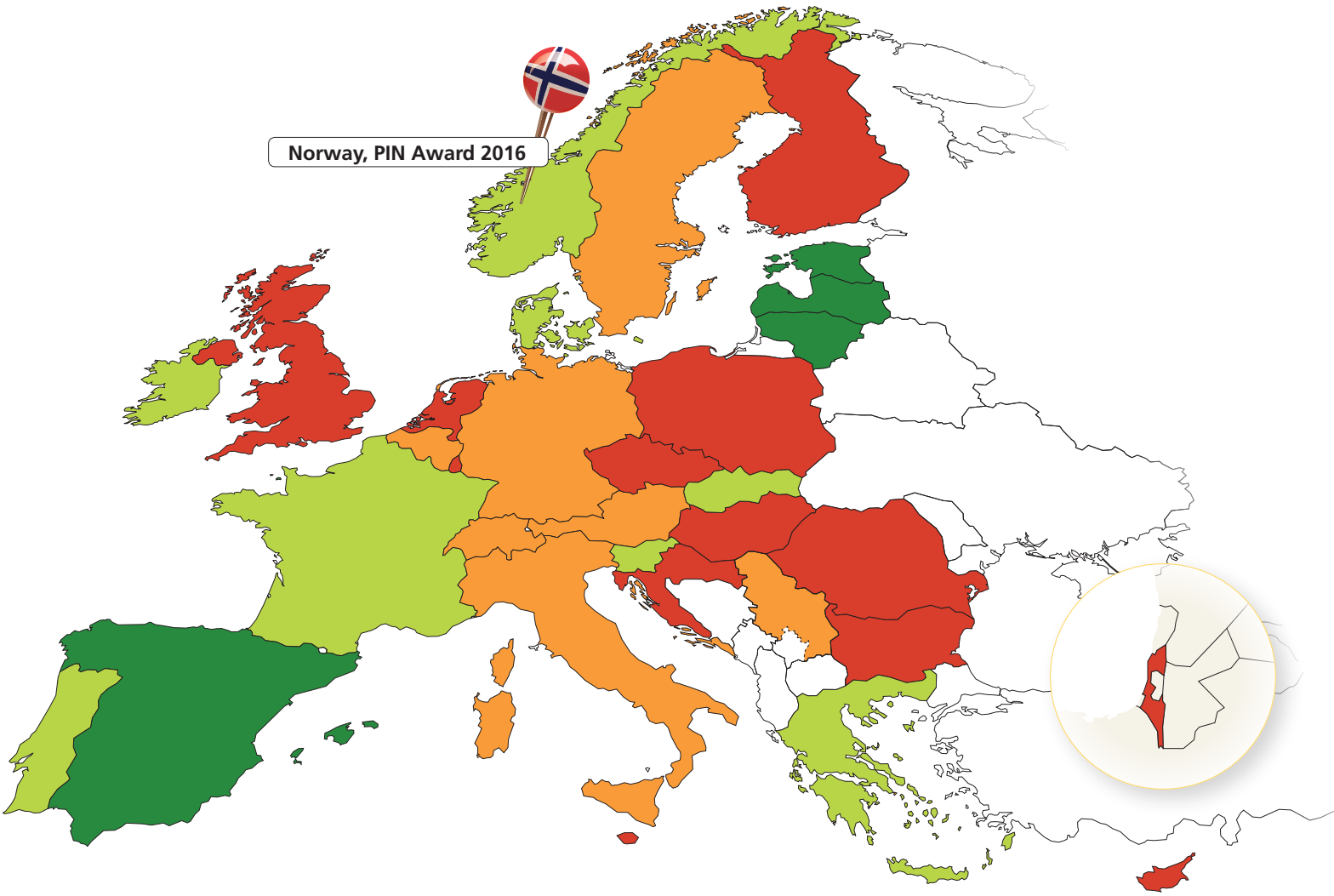
RANKING EU PROGRESS ON ROAD SAFETY

10th Road Safety Performance Index Report

June 2016



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10th ROAD SAFETY PERFORMANCE INDEX REPORT

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June 2016

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The PIN programme relies on panellists in the participating countries to provide data for their countries and to carry out quality assurance of the figures provided. This forms the basis for the PIN Flash reports and other PIN publications. In addition, all PIN panellists are involved in the review process of the reports to ensure the accuracy and reliability of the findings.

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About the European Transport Safety Council (ETSC)

ETSC is a Brussels-based independent non-profit organisation dedicated to reducing the numbers of deaths and injuries in transport in Europe. Founded in 1993, ETSC provides an impartial source of expert advice on transport safety matters to the European Commission, the European Parliament, and Member States. It maintains its independence through funding from a variety of sources including membership subscriptions, the European Commission, and public and private sector support.

CONTENTS

EXECUTIVE SUMMARY

In 2010, the European Union renewed its commitment to improve road safety by setting a target of reducing road deaths by 50% by 2020, compared to 2010 levels. This target followed an earlier target set in 2001 to halve road deaths by 2010.

2015 was the second consecutive poor year for road safety; 26,300 people lost their lives on EU roads in 2015 compared to 25,970 in 2014, representing an increase of 1%. Out of the 32 countries monitored by the PIN Programme, as many as 22 saw an increase in the number of road deaths between 2014 and 2015 (Fig.1) while progress stagnated in one country. Only nine countries registered a drop. The best reductions were reached in Norway, where the number of road deaths decreased by 20%, followed by Estonia and Ireland with 14% cuts between 2014-2015.

Road deaths must now be cut by 9.7% each year until 2020 in order for the EU to reach its target to halve road deaths.

Across the EU28, road deaths were cut by 17% between 2010 and 2015 (Fig.2), equivalent to a 3.6% average annual reduction. A 6.7% year-to-year reduction is needed over the 2010-2020 period to reach the target through constant progress in annual percentage terms. Yet the increase in 2015 means that the number of road deaths has to be reduced at a much faster average pace of about 9.7% each year between 2016 and 2020 for the EU to be on track for the target.

The political will to improve on this poor progress is important. The lack of it at EU member state level has contributed to a decline in levels of police enforcement, a failure to invest in safer infrastructure and limited action on tackling speed and drink driving in many countries.

At the EU and national level, there has been a distinct lack of action.

At the EU level, there has also been a distinct lack of action. Within the last year, the European Commission was expected to bring forward revisions of vehicle safety, pedestrian protection and infrastructure safety rules as well as a new target and measures to reduce serious road injuries. But the proposals on all four initiatives have been delayed and it is not clear when they will see the light of day. Measures that can reduce the number of road deaths quickly are known and urgently needed at both national and EU levels.

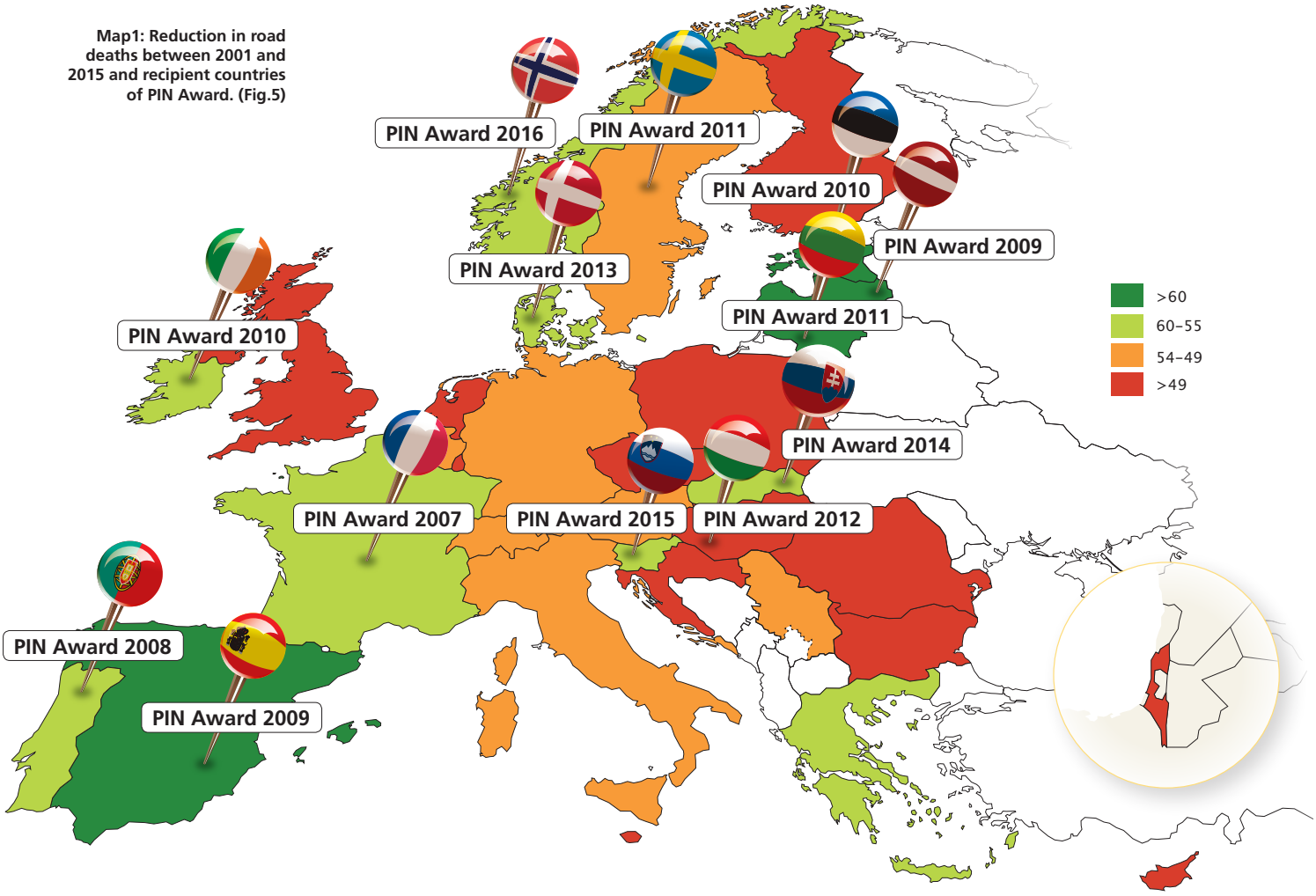
There were 20,580 fewer road deaths in the EU in 2011-2015 than there would have been if the number of road deaths had remained constant after 2010. According to ETSC estimates, this reduction is valued at 40.6 billion euro (Fig.4). Preventing road deaths and serious injuries by road safety measures on EU roads is a sound investment.

The European Commission has, for the first time, published an estimate of the number of people seriously injured on Europe's roads - 135,000 in 2014.[1] This follows the adoption, by all EU member states, of a common definition of what constitutes a serious road injury, i.e. an in-patient with an injury level of MAIS 3+ on this international classification scale. ETSC recommends that the European Commission adopts a target of a 35% reduction between 2014 and 2020 in the number of people seriously injured according to the MAIS3+ definition. A 35% reduction over the period 2014-2020 would be similarly ambitious and numerically comparable for Member States to the target to halve road deaths between 2010 and 2020 (see Part II). In addition, the EU should adopt a joint strategy on serious injury including measures against which delivery can be made accountable.[2]

[1] European Commission (March 2016), Press release: new statistics call for fresh efforts to save lives on EU roads, http://goo.gl/w0lQkv

[2] ETSC (2016), A Proposal for a strategy to reduce the number of people seriously injured on EU roads, http://goo.gl/J0HUrj

Map1: Reduction in road deaths between 2001 and 2015 and recipient countries of PIN Award. (Fig.5)



Key recommendations to Member States

- Seek to reach targets by all available means, including applying proven enforcement strategies according to the EC Recommendation on enforcement.[3]
- Provide adequate government funds that allow the target-oriented setting of measures and set up financing and incentive models for the regional and local level.
- Set quantitative sub-targets based on compliance indicators.
- Use the evidence gathered to devise and update relevant policies. Make the choice of measures based on sound evaluation studies and - where applicable - cost effectiveness consideration.
- Set national reduction targets for seriously injured based on MAIS3+ alongside the reduction of deaths.
- Include serious injuries in the impact assessment of countermeasures.
- Streamline the emergency response chain and increase quality of trauma management in order to mitigate collision consequences more effectively.

[3] ETSC (2016), PIN Flash 31, How traffic law enforcement can contribute to safer roads, http://etsc.eu/PIN-flash31

Key recommendations to EU Institutions

- Adopt a fully-fledged strategy to tackle serious injuries including measures against which delivery can be made accountable.
- Adopt a target to reduce by 35% between 2014 and 2020 the number of people seriously injured based on MAIS3+.
- Within the context of the revision of the General Safety Regulation prioritise the introduction and further extension of in-vehicle safety technologies linked to the key risk factors, which include Intelligent Speed Assistance, alcohol interlocks, seat belt reminders on all seats and Autonomous Emergency Braking. Mandate Event Data Recorders in all new vehicles.
- Within the context of the revision of the Infrastructure Safety Management Directive, extend the application of the instruments of the Directive to cover all motorways, rural and urban roads.
- Implement priorities for 2015-2020 put forward in ETSC's position paper on the mid-term review of the road safety policy orientations including improved infrastructure, vehicle safety, and tackling speeding and drink driving.

PART I

EU ROAD SAFETY PROGRESS HAS COME TO A STANDSTILL

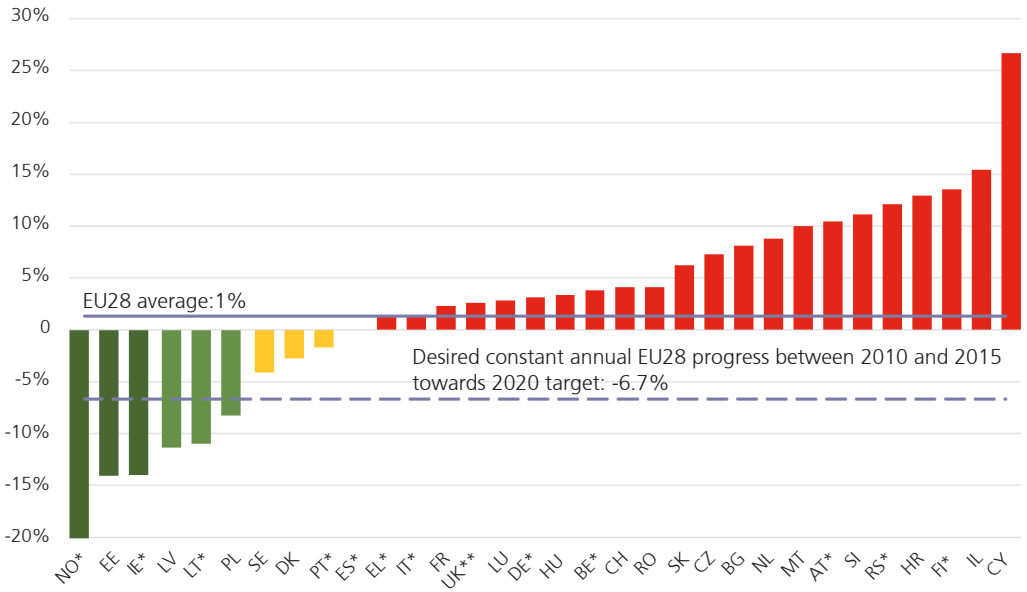
1.1 A few countries are still making progress

Only nine PIN countries registered a drop in road deaths in 2015.

Out of 32 countries monitored by the PIN Programme, as many as 22 saw an increase in the number of road deaths between 2014 and 2015. Only nine countries registered a drop, while progress stood still in Spain (Fig.1). The biggest increase in the number of road deaths was registered in Cyprus with 27%, Israel with 15%, Finland with 14% and Croatia with 13%. More people were killed as a consequence of road collisions in the EU in 2015 than in 2014, the first increase since 2001 when the first EU common road safety target was agreed. 26,313 people lost their lives in the EU in 2015 compared to 25,970 in 2014, representing an increase of around 1%. This follows a 0.2% decrease between 2013 and 2014.

Some countries are doing better than others. Norway tops the ranking with a 20% reduction in the number of road deaths in 2015 compared to 2014. Estonia and Ireland recorded reductions of 14%, followed by Latvia and Lithuania with an 11% drop.

Fig.1: Relative change in road deaths between 2014 and 2015. *National provisional estimates used for 2015, as final figures for 2015 are not yet available at the time of going to print. **UK data for 2015 is GB provisional total for year ending September 2015 and Northern Ireland total for the calendar year 2015. Numbers of deaths in MT and LU are small and, therefore, subject to substantial annual fluctuation.



Norway's long-term performance on improving road safety was recognised by ETSC at the 10th Road safety PIN Conference with the 2016 Road Safety PIN Award. An interview with the Norwegian Minister for Transport and Communications Ketil Solvik-Olsen in Part III describes the background to this success.

Ireland: continued road safety efforts resulted in fewer child, passenger and pedestrian deaths in 2015

In 2015 the number of road deaths in Ireland decreased by 14% compared to 2014. It went down from 193 in 2014 to 166 in 2015.

"The overall reduction in road deaths observed in 2015 was extremely welcome and saw fewer child, passenger and pedestrian fatalities compared to 2014. There was continued close cooperation between the Road Safety Authority (RSA) and An Garda Síochána (AGS) and on-going work by the RSA on the Government Road Safety Strategy. The RSA held an International Conference on Child Safety in April 2015 which received wide media coverage. Interventions which may have contributed to the overall decline observed in 2015 were the RSA/AGS Go Slow Campaign being transferred to the high risk period of summer, the high profile launch of a Seven Month Fatality Review, road safety featured heavily in media reporting in the second half of 2015 and the launch of new RSA public awareness campaigns. In August 2014 there was an increase in penalty points for specific offences which would have had an impact into 2015."
Road Safety Authority (RSA), Ireland

Germany: call for better speed enforcement

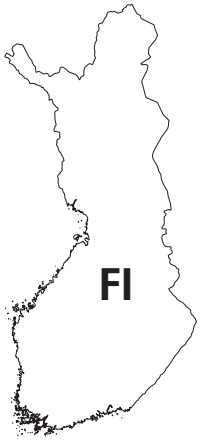
The number of road deaths increased for the second consecutive year; 3475 people lost their lives in Germany in 2015 compared to 3368 in 2014, representing an increase of 3%. This follows a 1% increase between 2013 and 2014.

"As before, nine people are killed every day on our roads and around 1000 are injured. On country roads, we count 60% of all killed. The developments in Germany show that continuous and major road safety efforts are needed. Inappropriate speeds, coupled with a lack of safe distance, repeatedly lead to serious accidents. Measures on speed monitoring are particularly relevant. The speed limit on narrow country roads should be lowered from 100km/h to 80km/ and overtaking rules have to be looked at."
Walter Eichendorf, German Road Safety Council (DVR)

Croatia: an increase in cyclist and PTW rider deaths in 2015

Road deaths increased by 13% in Croatia in 2015 compared to the 2014 level, going up from 308 to 348 people killed.

"Croatia registered an increase in the number of cyclist and powered two wheeler rider deaths in 2015. The winter was mild and we saw more PTW riders on the roads and, sadly, more of them being killed and injured. Each year we observe more and more people who cycle. Unfortunately, improvements in cycling infrastructure are slow and cannot meet the growing demand. In the meantime we are going to launch an education campaign aiming to improve cyclist awareness on road risks and a necessity to comply with traffic laws."
Sanja Veić, Ministry of Interior



Finland: head-on collisions, young drivers, drink driving and health-related factors led to an increase in the number of road deaths in 2015

The number of people killed on Finnish roads was 14% more in 2015 than in 2014, going up from 229 to 260.

"An increase or a halt in the decrease of fatalities is always alarming and background factors should be thoroughly investigated. In Finland this is done by the road accident investigation teams who investigate every fatal collision. According to the teams, fatal

head-on collisions on single carriageways and alcohol-related collisions increased in 2015. Furthermore the fatal accidents caused by young drivers went up for the first time in five years. Another important explanatory factor is driver's fitness; a health-related risk factor can be found in nearly half of fatal accidents. Most typical health-related risks are mental health issues, cardiovascular disease and psychoactive substance issues."
Ikka Nummelin, Finnish Motor Insurers' Centre (VALT)

Switzerland: an increase in elderly vulnerable road user deaths

Switzerland registered a 4% increase in the number of road deaths in 2015 compared to 2014, raising from 243 to 253.

"Even though we saw an increase in 2015, the overall trend is positive with a 23% drop in the number of road deaths since 2010. The mild weather in summer 2015 may have contributed to a 25% increase in the number of motorcyclist deaths. In the last year, the numbers of deaths also increased among electric bicycles users and pedestrians. About two thirds of them were over 65 years old. The increase in the number of fatally-injured users of electric bicycles can be explained by the growth in the use of such bikes and the fragility of elderly users."
Yvonne Achermann, Swiss Council for Accident Prevention

As the economy in Europe is recovering, even more efforts are needed to improve road safety.

A 2015 OECD report revealed that two thirds of the reductions between 2008 and 2010 may well have been due to the economic slowdown.[4] The main factor, the increase in unemployment, is accompanied by changes that are favourable to road safety, namely:

- fewer vehicle-kilometres may have been travelled,
- some of the vehicle-kilometres may be driven more safely,
- the proportion driven by young adults may by smaller.

Therefore, as the economy in Europe is recovering, even more efforts are needed to improve road safety.

INDICATOR

Following the adoption of the EU road safety target for 2020, this chapter uses as its main indicators the relative changes in the numbers of people killed on the road between 2014 and 2015 (Fig.1), between 2010 and 2015 (Fig.2) and since 2001 (Fig.5). A person killed in traffic is someone who was recorded as dying immediately or within 30 days from injuries sustained in a collision. We also use road mortality, the number of road deaths per million inhabitants, as an indicator of the current level of road safety in each country (Fig.6). Additionally, the risk, i.e. the number of road deaths per billion km travelled is presented where the data are available (Fig.7).

The data collected to calculate the indicators are from national statistics supplied by the PIN Panellist in each country. The numbers of road deaths in 2015 in Austria, Belgium, Germany, Finland, Greece, Ireland, Italy, Lithuania, Portugal, Spain, the UK, Norway and Serbia are provisional as final figures were not yet available at the time this report was going to print. Numbers of deaths in Luxembourg and Malta are small and are therefore subject to substantial annual fluctuation. UK data for 2015 is the GB provisional total for year ending September 2015 and the Northern Ireland total for the calendar year 2015.

The full dataset is available in the Annexes.
Population figures were retrieved from the EUROSTAT database.

[4] ITF OECD (2015), Why does road safety improve when economic times are hard?, http://goo.gl/xY2kn7

This new PIN report compares Member States' progress in reducing total numbers of road deaths.

Progress in reducing deaths among pedestrians, cyclists, powered two wheeler users and vehicle occupants up to 2013 can be found in the 29th PIN Flash report (2015), Making walking and cycling on Europe's roads safer at www.etsc.eu/pin. In the last ten years deaths among pedestrians decreased by 41%, those among cyclists by 37% and those among power two wheeler (PTW) users by 34% compared to a 53% decrease for vehicle occupants.

Achievements in vehicle safety, combined with other road safety measures, have been demonstrated to make a large contribution to improving car occupant safety. A large majority of pedestrian and cyclist deaths in the EU occur in collisions with cars. Unfortunately, improvements in pedestrian protection by car manufacturers have been slower compared to achievements in adult and child occupant protection and the take-up of new safety technologies.[5]

Exceeding speed limits, drink or distracted driving and failure to wear a seat belt are still the leading causes of death and serious injury on European roads. Despite legislation designed to prevent all four, many drivers involved in fatal traffic collisions clearly failed to comply with one or more road traffic laws at the time of their collision. Improvements in traffic law enforcement are part of an integrated road safety policy and will lead to rapid reductions in deaths and injuries when applying best practice.[6] Worryingly, in several countries, the number of police officers on the roads to enforce driving laws has dropped, following pressure to reduce public spending. Priorities set for the police might change and traffic law enforcement might shift down the list of priorities. As a result, in some EU member states, there is little chance of law-breakers being detected and sanctioned for offences other than speeding or running a red light: offences typically addressed via safety cameras. The number of speeding tickets has increased on average by 14% annually in Serbia, 10% in Lithuania and Estonia, around 9% in Poland, 8% in Portugal, 6% in Croatia and Denmark. All except two of these countries achieved better–than-average reductions in the number of road deaths over the same period. Serbia and Estonia have also reduced road deaths but not by more than the EU average.

[5] ETSC (2016), PIN Flash Report 30, How safe are new cars sold in the EU? An analysis of the market penetration of Euro NCAP-rated cars, http://goo.gl/DTEZ4g

[6] ETSC (2016), PIN Flash Report 31, How traffic law enforcement can contribute to safer roads, http://goo.gl/Qy7Kp0

1.2 The rate of progress needs to be considerably higher in the next four years

The EU28 collectively reduced the number of road deaths by 17% over the period 2010-2015, far less than the required reduction of 29% (Fig.2) needed to meet the 2020 target. Since the setting of the new road safety target Greece, Portugal, Spain and Denmark are the only EU member states that have maintained progress towards the 29% reduction. Norway (a non-EU country) made the most progress of all countries tracked by the PIN programme.

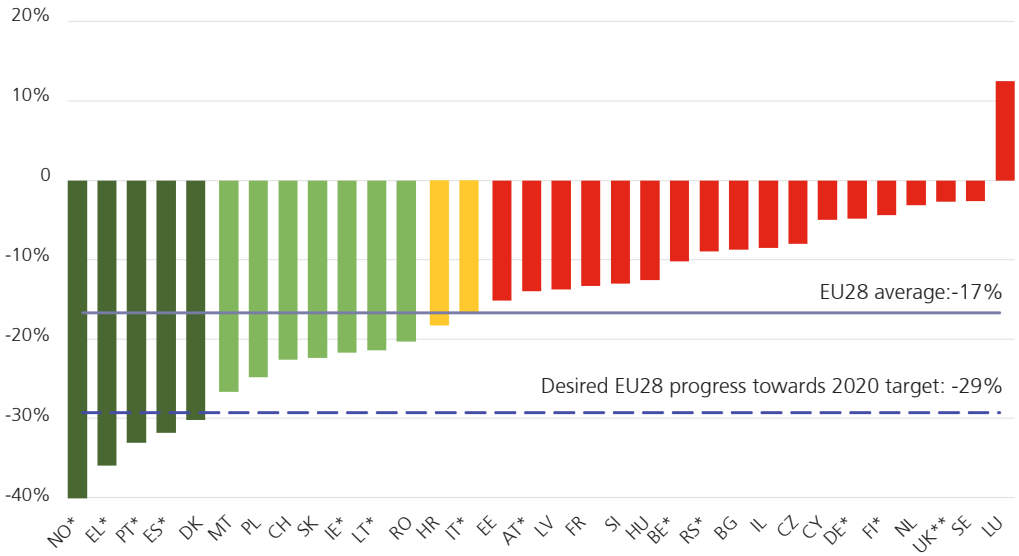


Fig.2: Relative change in road deaths between 2010 and 2015. *National provisional estimates used for 2015, as the final figures for 2015 are not yet available at the time of going to print. **UK data for 2015 are GB provisional total for year ending September 2015 and Northern Ireland total for the calendar year 2015. Numbers of deaths in LU and MT are small and therefore subject to substantial annual fluctuation.

France: 77 more people killed in 2015 than in 2014

Road deaths increased by 2%, from 3384 in 2014 to 3461 in 2015. This followed a 4% increase between 2013 and 2014.

"For the first time in 35 years road deaths in France have increased for a second year running. This increase is partly explained by the dramatic crash in October between a coach and a truck in which 41 people died."
Camille Painblanc, Ministry of Interior, France

The rise in deaths has come as mean speeds have increased by between 1 and 4km/h since 2012, according to analysis by the National Observatory for Road Safety (ONISR)[7]. To reverse the trend, 500 new safety cameras will be installed during the next three years, bringing the overall total to 4700 devices, compared to 4200 in 2016. The installation of 10,000 new dummy units will see the number of zones covered increase to 15,000. Since 2015, it is also easier for cities to adopt 30km/h as the default speed on all or part of their road network.[8]

Moreover, the government is working on removing a loophole in enforcement of speeding penalties when the vehicle driven is owned by a company.[9] France introduced a law in 2015 prohibiting drivers from using any device attached to the ear while behind the wheel, independently of whether it is used for phone calls, listening to music or radio. Wireless systems, i.e. those that rely on a Bluetooth connection, are still legal. Yet ticket numbers for illegal use of mobile phones have declined in France by 9% on average each year over the period 2010-2015, a similar trend to other EU countries.[10]

[7] Bilan définitif de l'accidentalité routière 2015, ONISR http://goo.gl/ZOat8O
[8] Grenoble in France is the first large French city to introduce a blanket 30km/h zone across the city – reduced from 50km/h. The measures, which came into force on 1 January, follow a large expansion of 30km/h zones in Paris. http://etsc.eu/grenoble-is-first-french-30kmh-city/
[9] A 2012 report by the administration inspectorate revealed that in 46% of the offences no point had been withdrawn from the driving licence, although it should have been the case, http://goo.gl/WKCfIH
[10] ETSC (2016), PIN Flash 31, How traffic law enforcement can contribute to safer roads, http://etsc.eu/PINflash31

Estonia: a new traffic safety program 2016-2025

The number of people killed on Estonian roads was 15% fewer in 2015 than in 2010, 67 compared to 79.

"Lots of effort is being put in to bringing the number of road deaths down by making Estonian roads safer. In 2014 we prepared a new traffic safety program for the period 2016-2025 based on vision zero. The main focus is to improve the effectiveness of the measures that are already in place. A combination of activities, including road traffic law enforcement, high risk sites treatment, road network safety analysis and public safety campaigns, will be addressed in the upcoming years."
Erik Ernits, Road Administration, Estonia

The Netherlands: slow reductions in road deaths suggest road safety is shifting down the list of priorities

Since 2010, the Netherlands have reduced the number of road deaths by only 3%.

"In recent years, the Netherlands has been performing below expectations. While the number of car occupant and pedestrian deaths has, fortunately, still decreased until 2015, the number of bicycle fatalities remained constant for many years. In 2015, fatalities among car occupants and pedestrians also increased – which is disappointing."
Henk Stipdonk, SWOV, the Netherlands

The number of offenders being stopped for traffic offences in the last years has decreased in the Netherlands. Various factors may have contributed towards the decrease in traffic tickets, one of them being improved road user behaviour. Other factors include the abolishment of monthly traffic fine quotas. The police have also been emphasising crime prevention in traffic rather than enforcement of traffic rules. Traffic law fines were increased and, as a consequence, some drivers might have slowed down. Police officers may have issued a warning only instead of a fine. Finally, the increase in underreporting of collisions over the period 2001-2010 might have led local authorities to give traffic enforcement less priority.[11]

Moreover, the green vehicle tax shift in the Netherlands has failed to promote safer as well as cleaner cars, leading to higher sales of cars with lower safety ratings. As many as 17% of all new cars sold in 2013 and tested by Euro NCAP were ranked 3 and 4 stars only compared to 12% EU average.[12]

1.3 The EU target is at stake

Since 2010, the average annual progress in reducing the number of road deaths in the EU28 has been 3.6%. A 6.7% year-to-year reduction is needed over the 2010-2020 period to reach the target through consistent annual progress. Since the slowdown in 2014 and 2015, the number of road deaths over the period 2016-2020 now has to be reduced at a much faster average pace of about 9.7% each year for the EU to be on track to meet the target by 2020.

The EU15[13] collectively has reduced the number of road deaths by 16% from 2010 to 2015, the EU10[14] by 20% and the EU2 by 18%[15] (Fig.3).

[11] ETSC (2016), PIN Flash Report 31, How traffic law enforcement can contribute to safer roads, http://etsc.eu/PINflash31
[12] ETSC (2016), PIN Flash Report 30, How safe are new cars sold in the EU? An analysis of the market penetration of Euro NCAP-rated cars, http://goo.gl/DTEZ4g
[13] The EU15 comprise the following countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom.
[14] The EU10 comprise the following countries that joined the EU in 2004: Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia.
[15] The EU2 comprise Romania and Bulgaria that joined the EU in 2007.

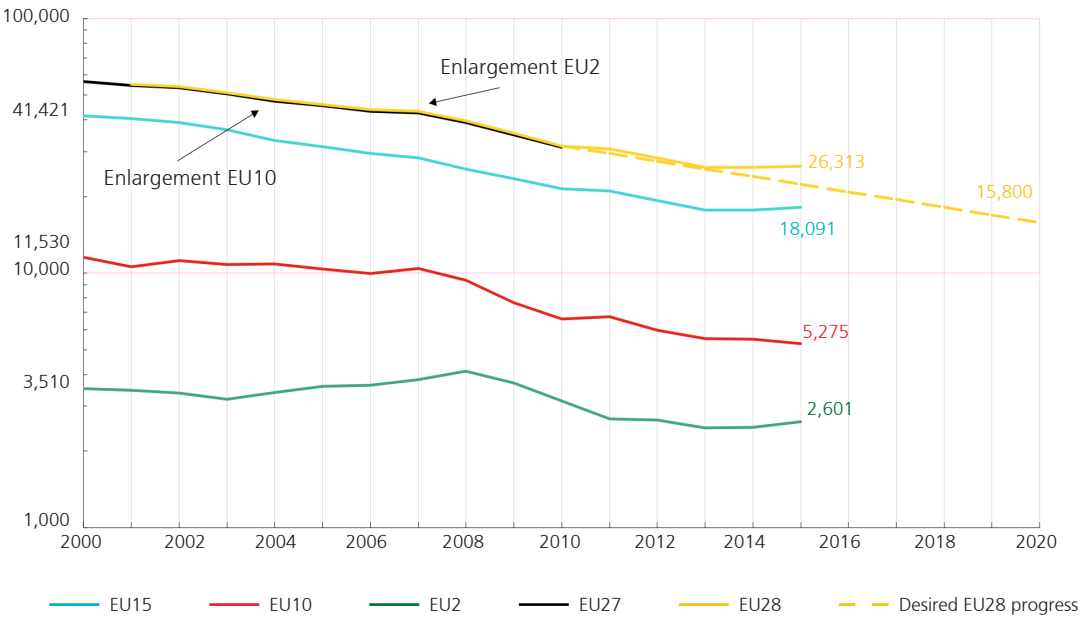


Fig.3: Reduction in road deaths since 2000 in the EU28 (yellow line), the EU27 (black line), the EU 15 (blue line), the EU10 (red line) and the EU2 (green line). The logarithmic scale is used to enable the slopes of the various trend lines to be compared.

1.4 Over 5280 road deaths prevented in the EU in 2015 compared to 2010

There were around 5280 fewer road deaths in 2015 than in 2010 in the EU28. This reduction is about 3980 road deaths short of the reduction that would have occurred in 2015 if the annual EU progress had been on track towards the 2020 road safety target by a constant year-to-year reduction of at least 6.7%. The reduction in the number of deaths over the period 2011-2015 compared with five years at the 2010 number was 20,580 which is 8470 fewer deaths prevented than if the annual reduction of 6.7% had been achieved.

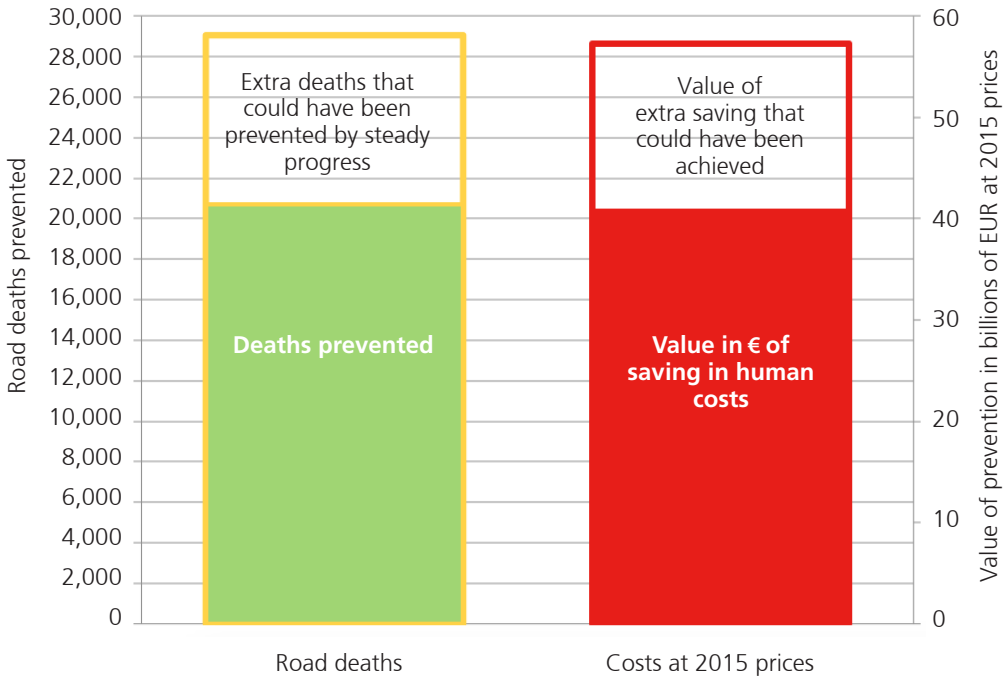
Putting a monetary value on prevention of loss of human life and limb can be debated on ethical grounds. However, doing so makes it possible to assess objectively the costs and the benefits of road safety measures and helps to make the most effective use of generally limited resources.

The Value of Preventing one road Fatality (VPF)[16] estimated for 2009 in the 5th PIN Report has been updated to take account of changes to the economic situation in the intervening years. As a result, we have taken the monetary value for 2015 of the human losses avoided by preventing one road fatality to be 1.97 million at factor cost.[17]

The total value of the reductions in road deaths in the EU28 for 2015 compared to 2010 is thus estimated at approximately 10.4 billion euro, and the value of the reductions in the years 2011-2015 taken together compared with four years at the 2010 rate is about 40.6 billion euro. If the EU countries had moved towards the 2020 road safety target through constant progress of 6.7%, the greater reductions in deaths in the years 2011-2015 would have increased the benefit to society by about 16.7 billion euro to about 57.3 billion euro over those years (Fig.4).

[16] In countries where the monetary Value attributed to human losses avoided by Preventing one Fatality (VPF) is estimated on the basis known as Willingness-To-Pay (WTP). The use of WTP valuations in transport safety has been advocated by ETSC since 1997. ETSC (1997) Transport Accident Costs and the Value of Safety.
[17] See Methodological Notes, PIN Report 2016, www.etsc.eu/PIN

Fig.4: Reduction in the number of road deaths in EU28 2011-2015 and valuation at 2015 prices and value, together with the additional savings – both in lives and in the EUR valuation of preventing this number of deaths – that could have been achieved if the EU had moved towards the 2020 road safety target by steady progress in percentage terms.



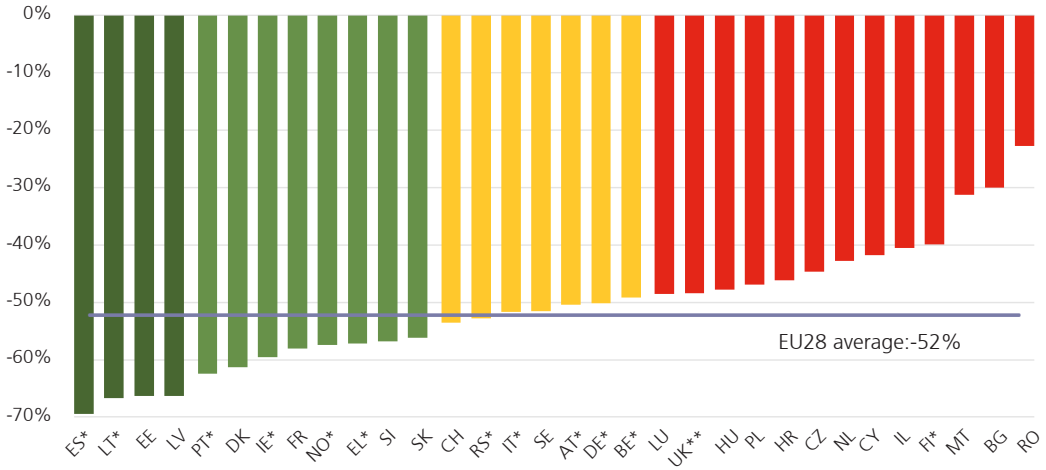
Unfortunately, following pressure to reduce public spending, the number of police officers on the roads enforcing driving laws has dropped in several countries, as well as budgets for road maintenance.

Given the financial difficulties that many EU countries face, the value to society of improving road safety should be taken into account in the policy and budgetary planning processes, expressing in monetary terms the moral imperative of reducing road risk. The high value of societal costs avoided during 2011-2015 shows once more that the saving potential offered by sustained road safety improvements is considerable, making it clear to policy-makers the potential for road safety policies to provide a sound investment. Unfortunately, following pressure to reduce public spending, the number of police officers on the roads enforcing driving laws has dropped in several countries[18], as well as budgets for road maintenance.

1.5 A 53% reduction in the number of road deaths since 2001

Since the first EU target for reducing the number of road deaths was introduced in 2001, Spain has achieved a reduction in the number of road deaths of 70% (Fig.5). Lithuania, Estonia, and Latvia follow with reductions of more than 65%. However, the progress has been slow in Romania, Bulgaria and Malta.

Fig.5: Relative change in road deaths between 2001 and 2015. *National provisional estimates used for 2015, as the final figures for 2015 are not yet available at the time of going to print. **UK data for 2015 is GB provisional total for year ending September 2015 and Northern Ireland total for the calendar year 2015. Numbers of deaths in Malta are small and are therefore subject to substantial annual fluctuation.



[18] ETSC (2016), PIN Flash Report 31, How traffic law enforcement can contribute to safer roads, http://etsc.eu/PINflash31

Road mortality still differs by a factor of three between the groups of countries with the highest and the lowest risk.

1.6 Road safety league: first - Norway, last - Bulgaria

In the EU28 the overall level of road mortality was 52 deaths per million inhabitants in 2015, compared with 63 in 2010 (Fig.6). The 2015 figure is one death per million inhabitants more than in 2014. As was the case in 2013 and in 2014, the mortality still differs by a factor of three between the groups of countries with the highest and the lowest risk.

In 2015, Norway holds the lead with 23 road deaths per million inhabitants, followed by Malta, Sweden and the UK with fewer than 30 deaths per million inhabitants. In Switzerland, Denmark, Spain, Ireland, the Netherlands and Israel, deaths per million inhabitants are between 35 and 38. The highest risk per head of being killed as a road user is in Bulgaria, Romania and Latvia with more than 90 deaths per million inhabitants.

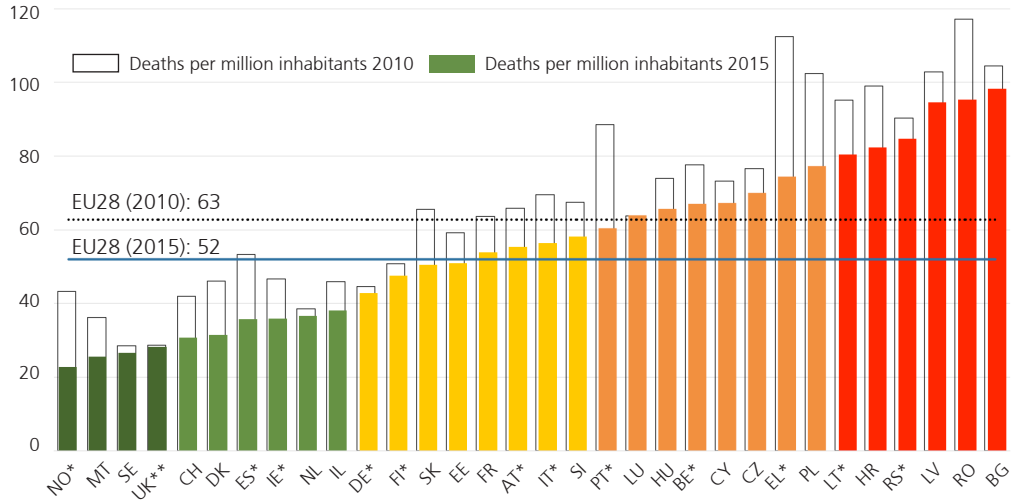
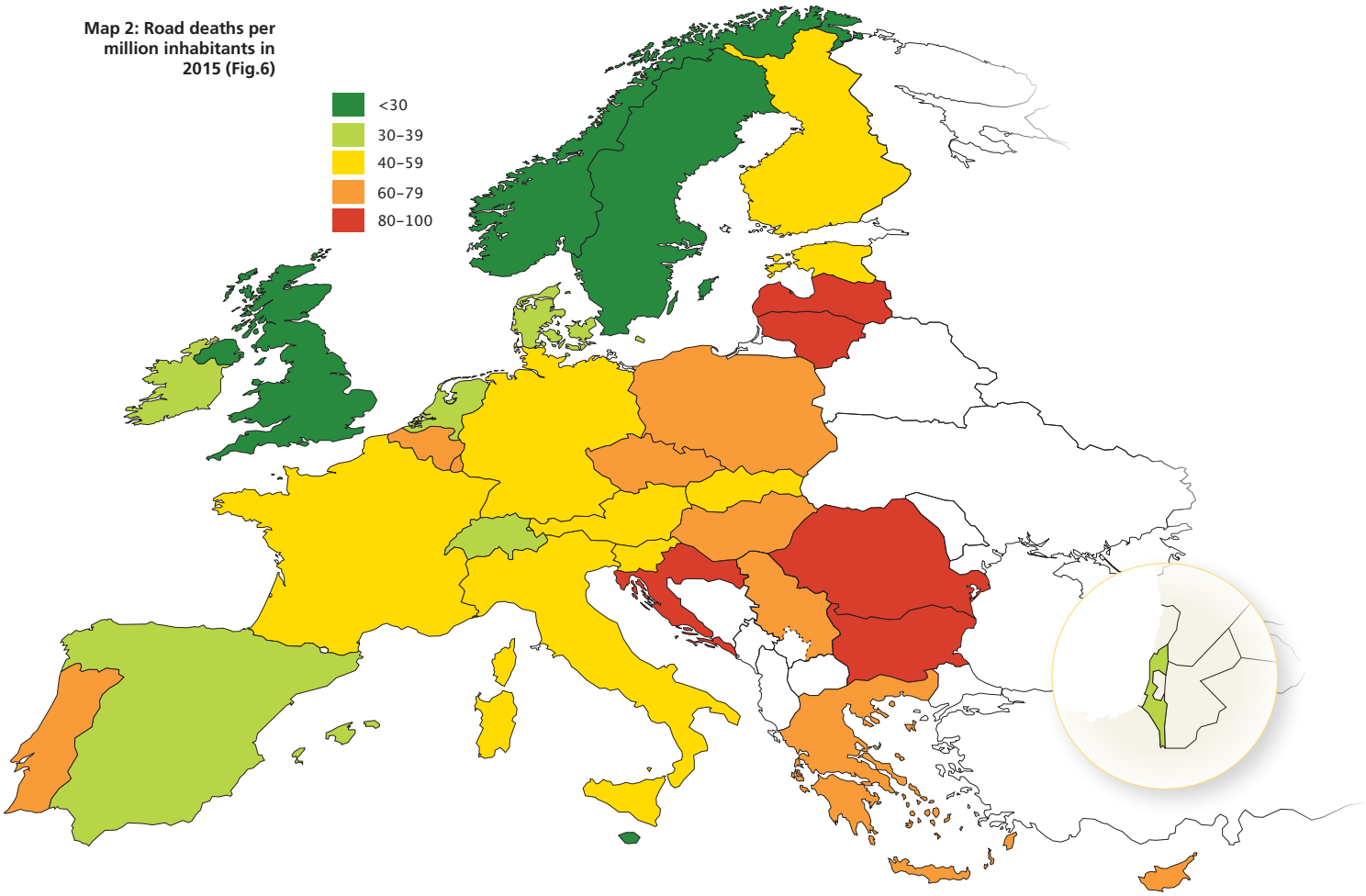


Fig.6: Mortality (road deaths per million inhabitants) in 2015 (with mortality in 2010 for comparison). *National provisional estimates used for 2015, as the final figures for 2015 are not yet available at the time of going to print. **UK data for 2015 are GB provisional total for year ending September 2015 and Northern Ireland total for the calendar year 2015. Numbers of deaths in Luxembourg and Malta are small and are therefore subject to substantial annual fluctuation.



Map 2: Road deaths per million inhabitants in 2015 (Fig.6)

1.7 Road deaths per vehicle-distance travelled

Fig.7 shows the road risk, i.e. deaths per billion vehicle-km travelled for the 21 countries where up-to-date data on distance travelled are available. This indicator complements the well-established indicator of road mortality (Fig.6).

Sweden, the UK, Norway, Denmark and Switzerland have the lowest numbers of road deaths per vehicle-km driven among the countries collecting up-to-date data. Road risk in Poland and Latvia is almost five times higher than in Sweden, the UK and Norway.

Differences between the relative positions of countries in Fig.6 and Fig.7 can arise from differences in aspects such as usage of motorcycling, cycling or walking, the traffic volume, the proportions of traffic on motorways or rural roads and different methods for estimating the distance travelled.

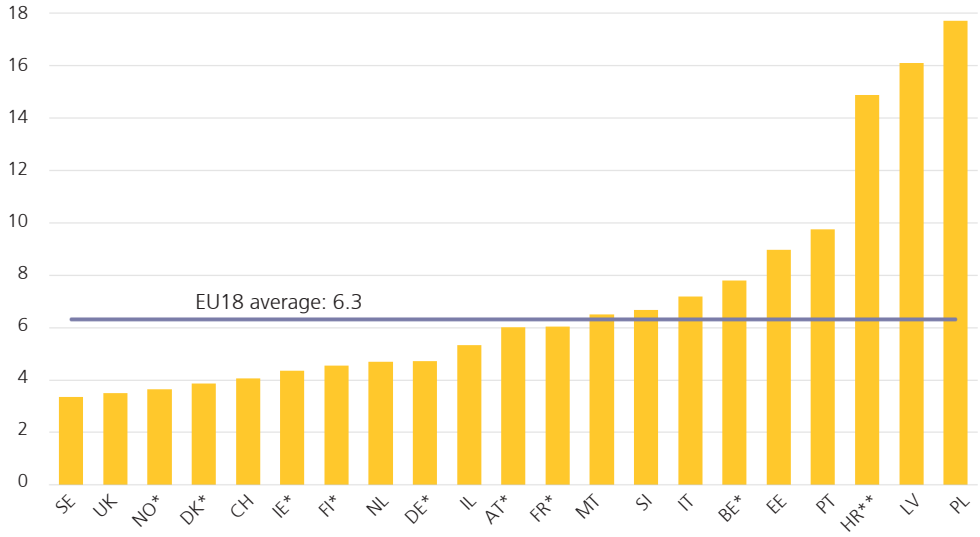


Fig.7: Road deaths per billion vehicle-km. Average for the latest three years for which both the road deaths and the estimated data on distance travelled are available. 2013-2015 (HR, LV, SE, CH), 2012-2014 (AT, SE, DK, FI, FR, IE, NL, PT, UK, IL, NO), 2011-2013 (BE, PL), 2014-2015 (MT). *Provisional figures for road deaths in 2015. **Road deaths per billion vehicle-km travelled by cars only.

PART II

AT LEAST 135,000 PEOPLE SERIOUSLY INJURED IN 2014 IN THE EU

2.1 First ever EU-wide estimate of the annual number of serious road injuries based on the MAIS3+ definition

Earlier this year, the European Commission, for the first time, published an estimate for the number of people seriously injured on Europe's roads: 135,000 in 2014.[19] This move required the adoption by all EU member states of a common definition of what constitutes a serious road injury, i.e. an in-patient with an injury level of MAIS 3 or more.

The Abbreviated Injury Scale (AIS) is a globally accepted trauma classification of injuries, which ranges from 1 (minor injuries) to 6 (non-treatable injuries) and is used by medical professionals to describe the severity of injury for each of the nine regions of the body (Head, Face, Neck, Thorax, Abdomen, Spine, Upper Extremity, Lower Extremity, External and other). As one person can have more than one injury, the Maximum Abbreviated Injury Score (MAIS) is the maximum AIS of all injury diagnoses for a person.

The High Level Group on Road Safety representing all EU member states identified three main ways member states can choose to collect the data in accordance with the MAIS3+ definition:

1. continue to use police data but apply a correction coefficient;
2. report the number of injured based on data from hospitals;
3. create a link between police and hospital data.

ETSC recommends the third option but, as matching police and hospital data is not straightforward, member states that have not yet started this process should make use of option 1 or 2. Member states should also continue collecting data based on their previous definitions so as to be able to monitor rates of progress in the same way as prior to 2014 at least until these rates of progress can be compared with those under the new definition.

2.2 A target to reduce the number of people seriously injured

Since 2010, the European Commission has been committed to introducing an EU-wide strategic target to reduce serious road traffic injuries.[20] In its White Paper on the future of transport, the European Commission committed to following a vision to move close to zero road deaths in the EU by 2050 and to help in this it intends to "develop a comprehensive strategy of action on road injuries and emergency services, including common definitions and standard classifications of injuries and fatalities, in view of adopting an injury reduction target".[21]

[19] The study is expected by the end of 2016, http://goo.gl/w0lQkv
[20] European Commission (2010), Towards a European road safety area: policy orientations on road safety 2011-2020, http://goo.gl/hU5jnw and European Commission (2011), Transport White Paper, http://goo.gl/Bc3YZ9
[21] Ibid.

There is strong political support to take action on serious injury. In 2010, the Council of the European Union underlined the 'urgent need to address serious injuries, supporting the development of a common definition and agreeing to the principle of a specific quantitative target'.[22] The transport ministers of the Czech Republic, Hungary, Poland, Slovakia and Slovenia have added to calls for the EU to come forward with a target to reduce the numbers of people seriously injured in road collisions in a declaration of the Visegrad group of countries in May 2016.[23]

At least 14 EU member states have adopted national targets to reduce the number of people seriously injured.

The European Parliament's report on the Mid Term Review of the Transport White Paper supports "the adoption of a 2020 target of a 40% reduction in the number of people seriously injured, accompanied by a fully-fledged EU strategy".[24] 275 MEPs from across the political spectrum signed a Written Declaration of the European Parliament earlier this year repeating the call for such a target.

The United Nations adopted its first formal target to "halve the number of global deaths and injuries from road traffic accidents [between 2010 and 2020]" in September 2015, as part of a far-reaching package of sustainable development goals (SDGs). The UN target, in line with that agreed by the EU in 2010, goes further as it also includes serious injuries. The ambitious global target applies to all member states of the UN, including the EU28 member states.

The role of road safety targets in the current progress in reducing road deaths is known to be effective, as is confirmed both by the OECD[25] and scientists[26]. At the EU level, a quantitative serious road injury target would provide a stimulus for EU actions in areas where the EU has exclusive responsibility for road safety such as vehicle safety standards. An EU target would also inspire competition and knowledge sharing between member states, as it has done for the prevention of deaths. At least 14 EU member states have adopted national targets to reduce the number of people seriously injured.[27]

ETSC recommends that the EU should adopt a 35% reduction target between 2014 and 2020 in the number of people seriously injured.[28] A 35% reduction over the period 2014-2020 would be similarly ambitious and numerically comparable for Member States to the target to halve road deaths between 2010 and 2020. In addition, the EU should adopt a joint strategy including measures against which delivery can be made accountable. The European Commission has launched a study to identify the most common road collision scenarios causing serious injury and to assess the influences on injury severity.[29] The analysis of the information collected should make it easier to identify effective injury prevention measures. In 2016, ETSC published a proposal for an EU strategy to reduce the number of people seriously injured on EU roads.[30]

[22] Council conclusions on road safety, 3052th Transport, Telecommunications and Energy Council meeting, Brussels, 2–3 December 2010, http://goo.gl/zrinpE
[23] ETSC (2016), Press release: Five transport minister say it's time for Europe to tackle serious road injuries, http://goo.gl/rmWWvn
[24] European Parliament (2015), on the implementation of the 2011 White Paper on Transport: taking stock and the way forward towards sustainable mobility, http://goo.gl/f08mTy
[25] OECD (2008), Towards zero: achieving ambitious road safety targets and the safe system approach, http://goo.gl/My7G0p
[26] Elvik (1993), Quantified road safety targets: a useful tool for policy making, Accident analysis and prevention.
[27] Source: PIN Panellists.
[28] ETSC (2016), A Proposal for a strategy to reduce the number of people seriously injured on EU roads, http://goo.gl/J0HUrj
[29] The study is expected in October 2016, http://goo.gl/L0VhUs
[30] ETSC (2016), A Proposal for a strategy to reduce the number of people seriously injured on EU roads http://etsc.eu/JtVp3

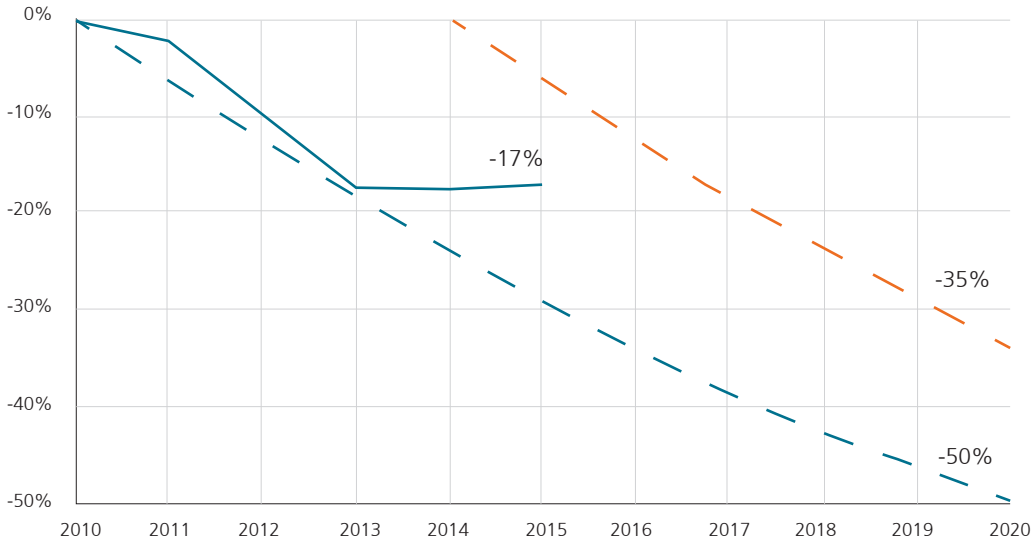


Fig.8: Reduction in the number of road deaths since 2010 (dark blue line) plotted against the EU target for 2020 (light blue dotted line), with ETSC's recommended target for reduction in the number seriously injured (orange dotted line) – in each case an annual reduction of 6.7%.

ETSC's recommendations to the EU

- Adopt a target of a 35% reduction between 2014 and 2020 in the number of people seriously injured. A 35% reduction over the period 2014-2020 would be similarly ambitious and numerically comparable to the target to halve road deaths between 2010 and 2020.
- Involve all relevant directorates general, in particular DG Health and Food Safety (SANTE), in identifying preventive measures, adopting the joint strategy to tackle serious injuries and implementing it. The joint strategy should include measures against which delivery can be made accountable.
- Allocate the resources necessary to the implementation of the strategy and encourage member states to do the same.
- Prioritise short-term measures that can be implemented with existing knowledge, e.g. measures to improve speed limit compliance will reduce injury severity and have immediate effect.
- Support member states with an exchange of best practice in recording procedures and in training of data-handling professionals.
- Continue to review the procedures used by member states to estimate the number of people seriously injured with a view to achieving comparability even though a variety of methods will be used in practice to implement the common definition.
- Include numbers of seriously injured in the impact assessment of countermeasures.
- Treat road injuries and deaths as a public health problem as well as a mobility issue.
- Adopt a new EU Health strategy including road traffic injury prevention measures.

2.3 Progress in reducing serious injuries

Austria, Italy, the Netherlands, Poland, Portugal, Spain and Sweden are taking the lead in collecting data on the total number of people seriously injured based on MAIS3+ (see Annexes). Later this year Finland will have data on MAIS3+ for 2014. Other countries are discussing the method for adapting their data collection and reporting systems to the new EU-wide definition.

It is, however, too early to use only data based on MAIS 3+ for country comparisons. Fig.9 therefore shows the relative change in the number of seriously injured over

the period 2010-2015 using current national definitions of serious injury. National definitions supplied by PIN Panellists are available in the Annexes.

Greece achieved the biggest reduction since 2010 in the number of recorded serious road injuries (-37%), followed by Cyprus (-36%) and Belgium (-25%). The number of seriously injured however increased by 45% in Malta, 20% in Luxembourg, 11% in Bulgaria and 8% in the Netherlands and Germany. Collectively the number of serious injuries in the EU24 has decreased by 1% since 2010 compared to a 17% decrease in the number of road deaths.

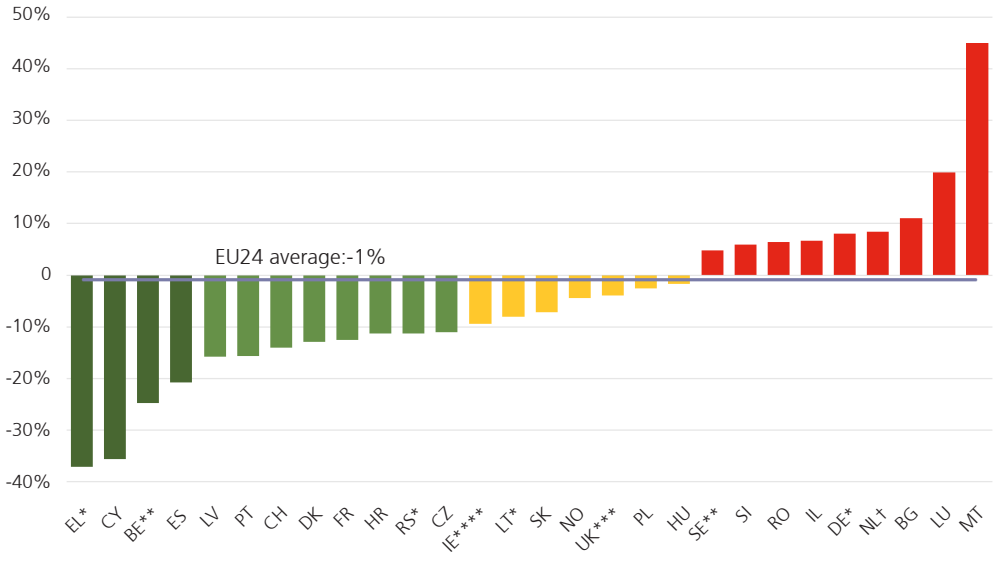


Fig.9: Relative change in recorded serious injuries (national definitions) between 2010 and 2015.
*2015 data are provisional. **2010-2014. ***UK data for 2015 is GB provisional total for year ending September 2015 and Northern Ireland total for the calendar year 2015. ****2010-2013. †National definition is MAIS2+, linked police and hospital records. AT is excluded from the figure due to substantial changes in the police reporting system in 2012 but its number of serious injuries is included in the EU average.
EU countries using a definition of seriously injured similar to having injuries requiring at least 24 hours as an in-patient: BE, CY, DE, EE, ES, FR, EL, IE, LV, LU, PT, UK, CH, IL.

INDICATOR

Fig 9,10,11

It is not yet possible to compare the number of seriously injured between Member States because of the different national definitions of serious injury, together with differing levels of underreporting. It is also too early to use data based on MAIS 3+ for comparing countries over time. The comparison therefore takes as a starting point the changes in the numbers of seriously injured (national definition) since 2010 (Fig.9). The changes in these numbers since 2006 are compared to the corresponding changes in the numbers of deaths since 2006 (Fig.11).

The numbers of seriously injured were supplied by the PIN panellist in each country, using the prevailing national definition. The full dataset, together with the national definitions, are available in the Annexes. All PIN countries collect data on "serious" injuries with the exception of Lithuania and Italy. Numbers of people seriously injured in 2015 are provisional in France, Germany, Greece, the UK, Norway and Serbia. In the UK, 2015 figures are provisional based on the 12 months ending September 2015.

Fourteen countries (BE, CY, DE, EE, ES, FR, EL, IE, LV, LU, PT, UK, CH, IL) use similar definitions of severe injuries, spending at least one night in hospital as an in-patient or a close variant of this. In practice, however, in most European countries, there is unfortunately no standardised communication between police and hospitals and the categorisation as "serious" is often made by the police.

Within each country, a wide range of injuries are categorised by the police as serious under the applicable definition. They range from lifelong disablement with severe damage to the brain or other vital parts of the body to injuries whose treatment takes only a few days and which have no longer-term consequences.

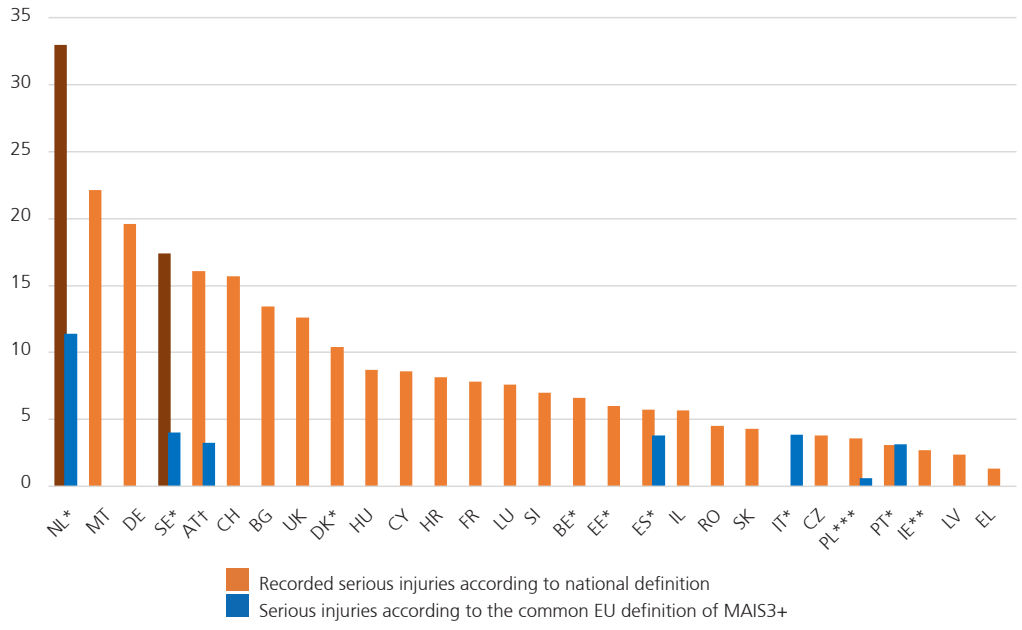
2.4 Large differences in the numbers recorded injured due to varying data collection methods

The actual number of people injured in road collisions is not yet known in all EU countries, but sample studies have shown it to be considerably higher than the official recorded number based on police reports. For serious injuries it can be estimated by comparing the number of injured road users treated in hospitals to the number recorded by the police. This was done within the SafetyNet project for eight participating countries and the results were published in the report "Estimating the real number of road accident casualties".[31] In general, the lower the injury severity, the higher the underreporting in accident statistics tends to be. The level of reporting tends also to be lower for pedestrians, cyclists and motorcyclists than for car occupants. This is especially the case when no motor vehicle is involved in a collision. Underreporting also occurs when a collision between one motor vehicle and a pedestrian or a cyclist does not result in the immediate death of a victim. In such cases the driver involved or eyewitnesses call the emergency services but not necessarily the police.

The reporting level of serious injuries recorded by the police according to the national definition varies greatly among countries. This results from differences in legislation, insurance policy, police resources and the quality of data collection and processing. In some countries, reporting is better because the police have to attend all collisions with personal injury (e.g. Germany) or because insurance compensation can only be claimed if there is a report by the police.

While only around two seriously injured people are registered by the police for every recorded death on the roads in Greece and Latvia, the figure is around 20 in Malta and Germany. The differences in seriously injured per death do not mean that fewer people are injured for every road death in Greece or Latvia than in Malta and Germany but that seriously injured survivors are better reported by the police in the latter countries. These disparities may also stem from differences in travel behaviour: the ratio of injured per death strongly depends on the travel mode.

Fig.10: Number of seriously injured recorded in national statistics per one road death. 2013-2015 average or the latest three years available.
*2012-2014. **2011-2013. ***2012-2013. †orange bar - 2012-2014, blue bar - 2014. SE (brown bar) - hospital data. NL (brown bar) - MAIS2+, hospital data.



[31] Broughton et.al. (2008), Estimating the real number of road accident casualties, Final deliverable D.1.15, SafetyNet, http://goo.gl/0R8Cgk. Participating countries: Austria, the Czech Republic, France, Greece, Hungary, the Netherlands, Spain and the UK.

There are around 11 seriously injured people (MAIS3+) for each road death in the Netherlands, four in Sweden, Spain and Italy, three in Austria and Portugal and less than one in Poland (Fig.10, blue bars). As for serious injury based on police records, the differences in serious injury (MAIS3+) per death do not mean that fewer people are injured for every road death in Poland. Poland as well as other countries is in the process of improving the quality of the data on the numbers seriously injured. The challenge is to capture all injuries that occur in traffic collisions, because hospitals record injuries from all causes.

In the SafetyNet report "Estimating the real number of road accident casualties", conversion factors for underreporting in police records were estimated for eight EU countries. It was originally envisaged that the conversion factors would be generalised to other EU countries to allow for European comparison. The authors came to the conclusion however that conversion factors differed too widely among countries and that comparable studies should be conducted in as many countries as possible.

2.5 Reductions in serious road injuries have to be accelerated urgently

Fig.11 looks at national progress in reducing the number of road deaths and the number of seriously injured (based on each national definition) in the last ten years. The figure aims to indicate to what extent the two have moved at a similar pace. The average annual relative change in road deaths is plotted on the horizontal axis, and the average annual relative change in seriously injured on the vertical axis, with the EU averages shown by dotted lines. Green markers are used for countries having performed better than the EU average in both deaths and serious injury, red markers for those below the EU averages in both deaths and serious injury and amber markers for all the others - better than average in deaths but not in serious injury or vice-versa. Ireland, Slovakia, Spain, Slovenia, Greece, Denmark, Latvia, Hungary, Croatia, Cyprus, Norway, Poland and the UK have performed better than the EU average both in reducing seriously injured and road deaths. The majority of countries – 24 out of 27 – have reduced road deaths at a faster pace than seriously injured.

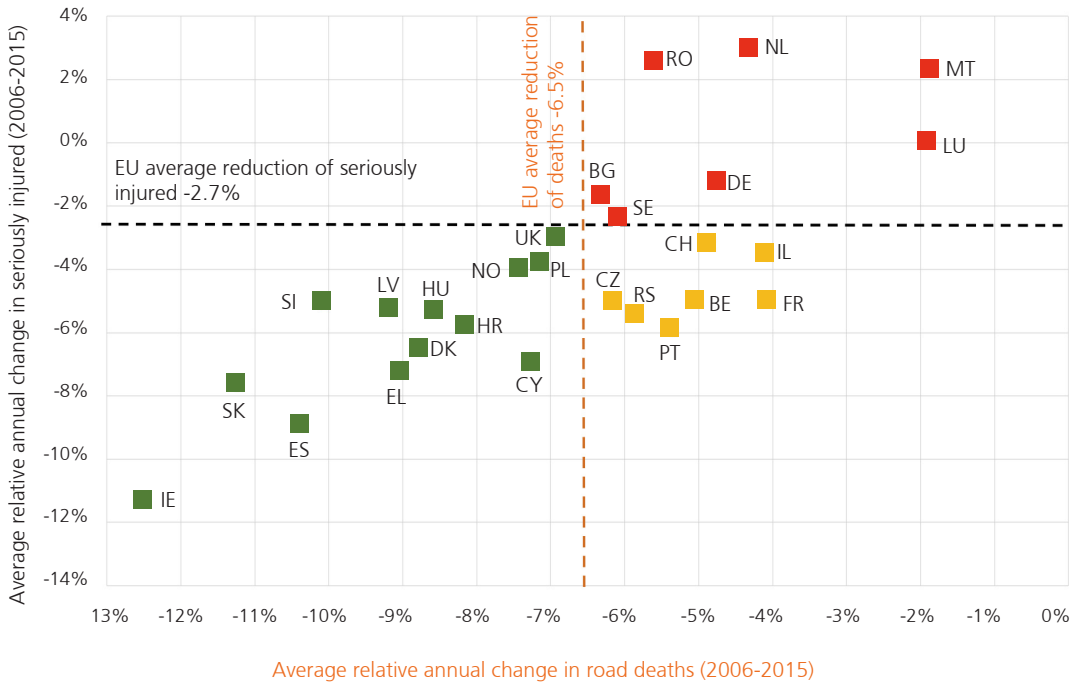


Fig. 11: Estimated average annual change in the numbers of seriously injured by national definition over the period 2006-2015 for countries where data are available, plotted against the estimated average annual change in road deaths over the same period.
BE, DK, IE, LT, NL 2005-2014 as serious injury data for 2015 are not available,
NL – data on MAIS2+;
SE – 2007-2014, hospital data.
IE – 2005-2013.
AT is excluded from the figure due to substantial changes in the police reporting system in 2012 but its number of serious injuries is included in the EU average.

PART III

NORWAY: WINNER OF THE 2016 ROAD SAFETY PIN AWARD

Road deaths in Norway have been cut by 57% since 2001, going down from 275 in 2001 to 117 in 2015 (Fig.5). Between 2010 and 2015, the country recorded the best reduction among the PIN countries with a 44% decrease in the number of road deaths (Fig.2). Norway registered an impressive 20% drop in 2015 compared to 2014 levels (Fig.1).

Norway has the lowest road mortality rate in Europe with 23 road deaths per million inhabitants. Yet, five years ago it was just the 6th best performing country in Europe with 43 road deaths per million inhabitants. In this interview, Norway's Minister for Transport and Communications Ketil Solvik-Olsen gives his insights into the country's recent success and future plans.

Ketil Solvik-Olsen
Minister of Transport and Communications

Interview with Ketil Solvik-Olsen, Minister of Transport and Communications

ETSC: Norway's example shows that countries leading in road safety can still achieve substantial progress. Which measures yielded the best results in the last five years?

In general, the good progress is the result of a committed, systematic and knowledge-based approach which targeted the areas where there is still a large potential for improvement: head-on collisions, young drivers and speeding.

Since 2010, we have seen a substantial reduction in head-on collisions, the accident type with the most fatalities in Norway. This is the result of building new four lane motorways, establishing median barriers on new and existing high volume, high speed two and three lane roads, and extended use of fortified rumble strips on two lane country roads. The number of fatalities in head-on collisions reduced from 86 in 2010 to 29 in 2015.

As in most other countries, young drivers are over-represented in the death statistics. To meet this challenge, we have renewed our driver education and training and launched a speed campaign, specifically targeting young male drivers. The number of young people between the age of 16 and 24 years killed in traffic reduced from 49 in 2010 to 32 in 2015. The number of children aged 0-15 killed in traffic is very low, and has been so for many years. In 2015, two children were killed, one ten-year-old pedestrian and a fifteen-year-old car occupant.

ETSC: What are Norway's medium and long-term plans to improve road safety?

In the National Transport Plan (NTP) 2014-2023 the Norwegian Parliament presented the targets and key priorities. One of the four main goals is that no one should be killed or seriously injured i.e. Vision Zero. The vision presupposes long-term, systematic and targeted efforts by all stakeholders in road safety work. Vision Zero further implies that particular attention is given to the most severe accidents with killed or seriously injured persons rather than to the mere number of road accidents. The Parliament set an interim target of halving the number of fatalities and severe

injuries in road traffic compared to the period 2008-2011, to a maximum of 500 in 2024. The National Plan of Action for Road Traffic Safety 2014-2017 is the collective plan of how the main road safety stakeholders are going to contribute to reach this target.

The action plan has been compiled by the Norwegian Public Roads Administration (NPRA), the Police Service, the Directorate of Health, the Directorate of Education and Training, the Norwegian Council for Road Safety, the 19 county administrations and seven large city municipalities. In addition, 19 other non-governmental organisations have made contributions to the plan.

The objective of the plan is to demonstrate the challenges we are facing and to describe the measures that will be implemented in order to reach the interim target for 2024. All in all there are 122 concrete measures targeted at the infrastructure, the road users, the vehicles, control measures, improved treatment of injuries and the use of accident data and organisational measures.

ETSC: How do you ensure smooth coordination between authorities responsible for the implementation of the action plan?

The NPRA has overall responsibility to coordinate the work and track the progress of all the contributing partners. They will publish a progress report every other year.

In addition, there are high level meetings four times a year where the authorities and the Council for Road Safety meet to share information and discuss challenges.

Even though there is well-functioning cooperation across sectors today, there is still room for further improvements. The government will present a White Paper on road safety this autumn, which will focus mainly on better cross-sectoral cooperation.

ETSC: How does research contribute to improving road safety in Norway?

All our road safety efforts should be knowledge-based. The research tells us where the challenges are and which measures are the most effective to address them. This enables us to target our efforts even better. We also strive to evaluate every measure we introduce in order to determine whether it has the desired effect. In addition, we want to learn from what went wrong, thus we conduct in-depth investigations of all fatal road accidents.

At the moment, the NPRA runs a five-year research programme called BEST – Better Safety in Traffic. The main goal of this programme is to bring forward knowledge decisive to prioritising effective road safety measures in the future National Transport Plan for the period 2018-2027. The research programme is focusing on areas with substantial potential for improvement: speed and accidents involving pedestrians and bicycles.

ETSC: What has Norway done in order to reduce speed, one of the main killers on the roads?

Our speed campaigns target young drivers but also the general population. These have resulted in very positive developments in recent years. In 2010 excessive speed was named as a contributing factor to 41 % of all fatal accidents. In 2014 this number was reduced to 23%.

Tackling speed is clearly a key element in improving the level of road safety. In addition to effective police mobile speed controls and strict fines, we have, over several years, introduced different measures to better align speed limits to the quality of the road,

as well as reduce speeding. These include new criteria for speed limits on roads with high traffic volumes and severe collisions, automatic speed controls – including section controls measuring the average speed over a longer distance, a penalty point system and awareness campaigns. All punishable speed offences are treated as a criminal offence and followed-up through the police criminal case registry. Recent research shows that the average speed was reduced by 1 km/h from 2008 to 2015, which has had a major impact on road safety.

ETSC: Norway has cut the number of drink driving deaths 4% faster than other deaths each year since 2010. How are you tackling the drink driving problem?

After years of continued and persistent traffic police enforcement of drink driving (and drug driving), it appears that, when combined with other educational measures, it has had a substantial impact on compliance and the reduction of drink driving related deaths. The two main tests the police will use to determine if the driver is impaired are a roadside breath test (RBT) and a field sobriety test. To optimise drink driving deterrence, drivers must always give a breath test when stopped roadside by the police.

In addition, we believe lowering the BAC limit to 0.2g/l in 2001 had a highly preventive long-term effect in reducing drink driving in Norway.

In 2012 Norway introduced a legal limit for 20 (now 28) illegal drugs and medicines with an abuse potential. These are per se limits for the concentration one can have of these substances in the blood when driving, equivalent to the drink driving limit of 0.2g/l. We believe it has also led to a significant reduction in drink driving. However, it should be mentioned that the official drink driving death figures most likely are underreported due to the fact that less than 50% of road deaths undergo a post-mortem blood alcohol examination.

ETSC: What has been done in Norway to improve the safety of the most vulnerable road user groups, pedestrians and cyclists?

Vulnerable road users are a relatively small proportion in our fatality statistics. In 2015, 12 pedestrians and five bicyclists (out of a total of 117) were killed in road traffic accidents. However, as there is an overarching goal in Norwegian transport policies that the traffic growth inside major urban areas should be taken by walking, cycling or public transport, we expect to see increasing numbers of fatal and serious injuries among vulnerable road users if we do not take specific actions. An ageing population will accentuate this challenge even further.

In our biggest cities, there is a major focus on building a safe and attractive road system for cyclists. This is essential if we want to reach the national goal, on both road safety and growth in environmentally friendly transport.

To make it safer for the pedestrians, we are doing safety audits of pedestrian crossings. We are also revising our manuals and guidelines on both pedestrian crossings and speed reducing measures.

ETSC: Around one in three killed road users in Norway are elderly people, above 65 years old. As the number of elderly in Norway rises, so does the need to ensure their safety in traffic. What measures are undertaken in order to sustain elderly mobility and ensure traffic safety at the same time?

Even though we saw a drop in elderly fatalities (65+ year) in 2015 (24 out of 117 or 21 %) compared with 2014 (47 out of 147 or 32 %), the general trend is a growing and more active elderly population. To ensure their sustained and improved safety in traffic, we need to address this challenge.

One preventive measure is the Drivers 65+ course. This national program aims at contributing to sustained safety and mobility by refreshing knowledge about driving and creating awareness of age-related limitations. All drivers above 70 are invited to participate in courses held at local Driver and Vehicle Licensing Offices. Another preventive measure under development is aimed at elderly pedestrians. In cooperation with The Norwegian Pensioners Association and The Norwegian Council for Road Safety, the NPRA has developed a course guide available online.

The medical requirements in the EU Driving Licence Directive are implemented in Norwegian regulations. In 2016, the national medical regulations have been revised. Even though the medical regulations cover all driving licence categories and age groups, a special focus has been on elderly drivers due to the growth in the elderly population. A mandatory medical examination for drivers is required when passing 75 years and must be repeated within 1-3 year to uphold the entitlement to drive. From 78 years a yearly examination is required. The doctor's responsibility for correct medical examination is underlined in the revision and a special regulation ensures withdrawal of the driving licence if the driver no longer fulfils the medical requirements.

ETSC: How do you see Norway's role in the European Union in terms of knowledge sharing and best practice exchange in road safety? Which EU road safety legislation has been adopted in Norway?

Norway has a long history of participation at the European level, in the relation to the European Union as well as other arenas such as the UNECE and different informal settings. Norway participates as an observer in the EU High Level Group on Road Safety and other "comitology" and expert groups under the European Commission, where we share our experience and discuss road safety related issues. The Norwegian Police Service is a member of TISPOL (European Traffic Police Network).

Norwegian researchers also participate in several EU research programmes. We are proud of the Handbook of Road Safety Measures, edited by researchers at the Institute of Transport Economics, which is a catalogue of the effect of more than 100 road safety measures. The book has been published in English, Spanish, Russian and Portuguese.

As a full member of the European Economic Area (EEA) and the EU internal market, Norway incorporates all EU road safety legislation. This include, for example, the road Infrastructure Management Directive, the Directive on Minimum Safety Requirements for Tunnels in the TEN-T network, the driving licence Directive, the Directive on initial qualification and periodic training of drivers of certain road vehicles for the carriage of goods or passengers, legislation on driving and resting time, the Roadworthiness package, eCall, and all technical vehicle legislation.

ANNEXES

Country	ISO Code
Austria	AT
Belgium	BE
Bulgaria	BG
Czech Republic	CZ
Denmark	DK
Germany	DE
Estonia	EE
Ireland	IE
Greece	EL
Spain	ES
France	FR
Croatia	HR
Italy	IT
Cyprus	CY
Latvia	LV
Lithuania	LT
Luxembourg	LU
Hungary	HU
Malta	MT
The Netherlands	NL
Poland	PL
Portugal	PT
Romania	RO
Slovenia	SI
Slovakia	SK
Finland	FI
Sweden	SE
United Kingdom	UK-GB
Serbia	RS
Israel	IL
Norway	NO
Switzerland	CH

Table 1 (Fig.1,2) Road deaths and relative change in road deaths between 2014 and 2015 and between 2010 and 2015.

	2010	2011	2012	2013	2014	2015	Fig.1 2014-2015	Fig.2 2010-2015
NO*	210	168	145	187	147	117	-20.4%	-44.3%
EE	79	101	87	81	78	67	-14.1%	-15.2%
IE*	212	186	162	188	193	166	-14.0%	-21.7%
LV	218	179	177	179	212	188	-11.3%	-13.8%
LT*	299	297	301	258	264	235	-11.0%	-21.4%
PL	3,907	4,189	3,571	3,357	3,202	2,938	-8.2%	-24.8%
SE	266	319	285	260	270	259	-4.1%	-2.6%
DK	255	220	167	191	183	178	-2.7%	-30.2%
PT*(1)	937	891	718	637	638	627	-1.7%	-33.1%
ES*(2)	2,478	2,060	1,903	1,680	1,688	1,688	0.0%	-31.9%
EL*	1,258	1,141	988	879	795	805	1.3%	-36.0%
IT*	4,114	3,860	3,753	3,401	3,381	3,430	1.4%	-16.6%
FR	3,992	3,963	3,653	3,268	3,384	3,461	2.3%	-13.3%
UK*(3)	1,905	1,960	1,802	1,769	1,807	1,854	2.6%	-2.7%
LU	32	33	34	45	35	36	2.9%	12.5%
DE*	3,651	4,009	3,601	3,340	3,368	3,475	3.2%	-4.8%
HU	740	638	605	591	626	647	3.4%	-12.6%
BE*	841	862	770	724	727	755	3.9%	-10.2%
CH	327	320	339	269	243	253	4.1%	-22.6%
RO	2,377	2,018	2,042	1,861	1,818	1,893	4.1%	-20.4%
SK	353	324	295	223	258	274	6.2%	-22.4%
CZ	802	773	742	654	688	738	7.3%	-8.0%
BG	776	658	605	601	655	708	8.1%	-8.8%
NL(4)	640	661	650	570	570	620	8.8%	-3.1%
MT	15	17	9	18	10	11	10.0%	-26.7%
AT*	552	523	531	455	430	475	10.5%	-13.9%
SI	138	141	130	125	108	120	11.1%	-13.0%
RS*	660	731	688	650	536	601	12.1%	-8.9%
HR	426	418	393	368	308	348	13.0%	-18.3%
FI*	272	292	255	258	229	260	13.5%	-4.4%
IL	352	341	263	277	279	322	15.4%	-8.5%
CY	60	71	51	44	45	57	26.7%	-5.0%
EU28	**31,595**	**30,804**	**28,280**	**26,025**	**25,970**	**26,313**	**1.3%**	**-16.7%**

Source: National statistics provided by the PIN panellists for each country

*National provisional estimates used for 2015, as the final figures for 2015 are not yet available at the time of going to print.

(1) Increases in Portugal 2010 and 2011 are partly due to change in reporting methods. Like Spain prior to 2010 the number of people killed are people killed on the spot multiplied by a coefficient of 1.14. Since 2010 Portugal is able to collect deaths according to the EU common definition of any person killed immediately or dying within 30 days as a result of an injury accident. The number of people killed in 2010 would have been 845 in 2010, 785 in 2011 and 653 in 2012 using the old methodology.

(2) Decrease in 2011 in Spain is partly due to change in reporting methods. Like Portugal, prior to 2010 the number of people killed are people killed on the spot multiplied by a coefficient. Since 2011 Spain is able to report data according to the EU common definition of any person killed immediately or dying within 30 days as a result of an injury accident by matching police and national deaths register.

(3) UK 2015 estimate is based on GB provisional total for the year ending September 2015 (1,780) and the final data for Northern Ireland for the calendar year 2014 (74 deaths).

(4) NL - figures have been corrected for police underreporting. In the Netherlands, the reported number of deaths is checked by Statistics Netherlands (CBS) and compared individually to the Death certificates and Court files of unnatural death.

Table 2 (Fig.5,11) Road deaths and relative change in road deaths between 2001 and 2015 and estimated average relative annual change 2006-2015.

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Fig,5 2001-2015	Annual relative change Fig,11 2006-2015	
ES*[1]	5,517	5,347	5,399	4,741	4,442	4,104	3,823	3,100	2,714	2,478	2,060	1,903	1,680	1,688	1,688	-69.4%	-10.4%	
LT*	706	697	709	752	773	760	740	499	370	299	297	301	258	264	235	-66.7%	-13.3%	
EE	199	223	164	170	169	204	196	132	100	79	101	87	81	78	67	-66.3%	-10.9%	
LV	558	559	532	516	442	407	419	316	254	218	179	177	179	212	188	-66.3%	-9.2%	
PT*[2]	1,670	1,668	1,542	1,294	1,247	969	974	885	840	937	891	718	637	638	627	-62.5%	-5.3%	
DK	431	463	432	369	331	306	406	406	303	255	220	167	191	183	178	-61.3%	-8.7%	2005-2014
IE*	411	376	335	374	396	365	338	279	238	212	186	162	188	193	166	-59.9%	-12.5%	2005-2013
FR[3]	8,253	7,742	6,126	5,593	5,318	4,709	4,620	4,275	4,273	3,992	3,963	3,653	3,268	3,384	3,461	-58.0%	-4.0%	
NO*	275	310	280	258	224	242	233	255	212	210	168	145	187	147	117	-57.5%	-7.4%	
EL*	1,880	1,634	1,605	1,670	1,658	1,657	1,612	1,553	1,456	1,258	1,141	988	879	795	805	-57.2%	-9.0%	
SI	278	269	242	274	257	262	293	214	171	138	141	130	125	108	120	-56.8%	-10.1%	
SK	625	626	653	608	600	608	661	606	385	353	324	295	223	258	274	-56.2%	-11.2%	
CH	544	513	546	510	409	370	384	357	349	327	320	339	269	243	253	-53.5%	-4.8%	
RS*	1,275	854	868	960	843	910	968	905	810	660	731	688	650	536	601	-52.9%	-5.8%	
IT*	7,096	6,980	6,563	6,122	5,818	5,669	5,131	4,725	4,237	4,114	3,860	3,753	3,401	3,381	3,430	-51.7%	-5.6%	
SE[4]	534	515	512	463	423	428	454	380	341	266	319	285	260	270	259	-51.5%	-6.0%	2007-2014
AT*	958	956	931	878	768	730	691	679	633	552	523	531	455	430	475	-50.4%	-6.3%	2005-2014
DE*	6,977	6,842	6,613	5,842	5,361	5,091	4,949	4,477	4,152	3,651	4,009	3,601	3,340	3,368	3,475	-50.2%	-4.7%	
BE*	1,486	1,355	1,213	1,162	1,089	1,073	1,071	944	943	841	862	770	724	727	755	-49.2%	-5%	2005-2014
LU	70	62	53	50	47	43	45	35	48	32	33	34	45	35	36	-48.6%	-1.9%	
UK*[5]	3,598	3,581	3,658	3,368	3,337	3,300	3,056	2,718	2,337	1,905	1,960	1,802	1,769	1,807	1,854	-48.5%	-6.9%	
HU	1,239	1,429	1,326	1,296	1,278	1,303	1,232	996	822	740	638	605	591	626	647	-47.8%	-8.5%	
PL	5,534	5,827	5,640	5,712	5,444	5,243	5,583	5,437	4,572	3,907	4,189	3,571	3,357	3,202	2,938	-46.9%	-7.1%	
HR	647	627	701	608	597	614	619	664	548	426	418	393	368	308	348	-46.2%	-8.1%	
CZ	1,334	1,431	1,447	1,382	1,286	1,063	1,222	1,076	901	802	773	742	654	688	738	-44.7%	-6.1%	
NL[6]	1,083	1,069	1,088	881	817	811	791	750	720	640	661	650	570	570	620	-42.8%	-4.3%	2005-2014
CY	98	94	97	117	102	86	89	82	71	60	71	51	44	45	57	-41.8%	-7.2%	
IL	542	525	445	467	437	405	382	412	314	352	341	263	277	279	322	-40.6%	-4.0%	
FI*	433	415	379	375	379	336	380	344	279	272	292	255	258	229	260	-40.0%	-4.4%	
MT	16	16	16	13	16	10	14	15	21	15	17	9	18	10	11	-31.3%	-1.8%	
BG	1,011	959	960	943	957	1,043	1,006	1,061	901	776	658	605	601	655	708	-30.0%	-6.3%	
RO	2,450	2,412	2,229	2,444	2,629	2,587	2,800	3,065	2,797	2,377	2,018	2,042	1,861	1,818	1,893	-22.7%	-5.6%	
EU 28	55,092	54,174	51,165	48,017	45,981	43,781	43,215	39,713	35,427	31,595	30,804	28,280	26,025	25,970	26,313	-52.2%	EU 24 -2.7%	

Source: National statistics provided by the PIN panellists for each country.

*National provisional estimates used for 2015, as the final figures for 2015 are not yet available at the time of going to print.

[1] ES - decrease in 2011 in Spain is partly due to change in reporting methods. Like Portugal, prior to 2010 the number of people killed are people killed on the spot multiplied by a coefficient. Since 2011 Spain is able to report data according to the EU common definition of any person killed immediately or dying within 30 days as a result of an injury accident by matching police and national deaths register.

[2] PT - increases in Portugal 2010 and 2011 are partly due to change in reporting methods. Like Spain prior to 2010 the number of people killed are people killed on the spot multiplied by a coefficient of 1.14. Since 2010 Portugal is able to collect deaths according to the EU common definition of any person killed immediately or dying within 30 days as a result of an injury accident. The number of people killed in 2010 would have been 845 in 2010, 785 in 2011 and 653 in 2012 using the old methodology.

[3] FR - data for years 2001-2004 were recalculated: estimation of the number of persons killed within 30 days from the number of persons killed within 6 days, by applying a coefficient of 1.069.

[4] SE - the definition of road deaths changed in 2010 to exclude suicides. The time series was adjusted so figures for previous years exclude suicides as well.

[5] UK 2015 estimate is based on GB provisional total for the year ending September 2015 (1,780) and the final data for Northern Ireland for the calendar year 2014 (74 deaths).

[6] NL - Figures have been corrected for police underreporting. In the Netherlands, the reported number of deaths is checked by Statistics Netherlands (CBS) and compared individually to the Death certificates and Court files of unnatural death.

Table 3 (Fig.6) Road deaths per million inhabitants in 2015 and 2010.

	2015			2010		
	Road deaths	Inhabitants	Deaths per mln inhabitants	Road deaths	Inhabitants	Deaths per mln inhabitants
NO*	117	5,179,469	23	210	4,858,199	43
MT	11	429,300	26	15	414,027	36
SE	259	9,747,400	27	266	9,340,682	28
UK*	1,854	64,767,100	29	1,905	62,510,197	30
CH	253	8,236,600	31	327	7,785,806	42
DK	178	5,659,700	31	255	5,534,738	46
IE*	166	4,625,900	36	212	4,549,428	47
ES*	1,688	46,439,900	36	2,478	46,486,619	53
NL	620	16,900,700	37	640	16,574,989	39
IL(1)	322	8,464,100	38	352	7,695,100	46
DE*	3,475	81,174,000	43	3,651	81,802,257	45
FI*	260	5,471,800	48	272	5,351,427	51
SK	274	5,421,300	51	353	5,390,410	65
EE	67	1,313,300	51	79	1,333,290	59
FR(1)	3,461	64,277,242	54	3,992	62,765,235	64
AT*	475	8,584,900	55	552	8,375,290	66
IT*	3,430	60,795,600	56	4,114	59,190,143	70
SI	120	2,062,900	58	138	2,046,976	67
PT*	627	10,374,800	60	937	10,573,479	89
LU	36	563,000	64	32	502,066	64
HU	647	9,849,000	66	740	10,014,324	74
BE*	755	11,258,400	67	841	10,839,905	78
CY	57	847,000	67	60	819,140	73
RS*	601	7,095,383	85	660	7,306,677	90
CZ	738	10,538,300	70	802	10,462,088	77
EL*	805	10,812,500	74	1,258	11,183,516	112
PL	2,938	38,005,600	77	3,907	38,167,329	102
LT*	235	2,921,300	80	299	3,141,976	95
HR	348	4,225,300	82	426	4,302,847	99
LV	188	1,986,100	95	218	2,120,504	103
RO	1,893	19,861,400	95	2,377	20,294,683	117
BG	708	7,202,200	98	776	7,421,766	105
EU28	**26,313**	**506,115,942**	**52**	**31,595**	**503,402,952**	**63**

Source: National statistics provided by the PIN panellists for each country, completed with Eurostat for population figures.

*National provisional estimates used for 2015, as the final figures for 2015 are not yet available at the time of going to print.
(1) National population data.

Table 4 (Fig.7) Road deaths per billion vehicle-kilometres.
Average of the last three years available.

	Average number of road deaths	Average distance travelled (in millions)[1]	Deaths per billion vehicle-km	Time period covered
SE	263	78,694	**3**	2013-2015
UK	1,793	512,100	**4**	2012-2014
NO	160	43,868	**4**	2012-2014
DK	180	46,669	**4**	2012-2014
CH	255	62,923	**4**	2013-2015
IE	166	41,617	**4**	2012-2014
FI	247	54,328	**5**	2012-2014
NL	597	127,333	**5**	2012-2014
DE	3,436	728,500	**5**	2012-2014
IL	322	51,238	**6**	2012-2014
AT	472	78,481	**6**	2012-2014
FR	3,435	567,967	**6**	2012-2014
MT	11	1,617	**7**	2014-2015
SI	117	17,437	**7**	2013-2014
IT	3,382	470,387	**7**	2012-2014
BE	785	100,686	**8**	2011-2013
EE	82	9,153	**9**	2012-2014
PT	634	64,964	**10**	2013-2015
HR	341	22,934	**15**	2013-2015
LV	193	11,994	**16**	2013-2015
PL	3,706	209,134	**18**	2011-2013
EU18	**3,143,996**	**19,854**	**6**	
BG	655	n/a		2013-2015
CY	49	n/a		2013-2015
CZ	693	n/a		2013-2015
ES	1,685	n/a		2013-2015
EL	826	n/a		2013-2015
HU	621	n/a		2013-2015
LU	39	n/a		2013-2015
LT	252	n/a		2013-2015
RO	1,857	n/a		2013-2015
SK	252	n/a		2013-2015
RS	596	n/a		2013-2015

[1] Data provided by PIN panellists. Member States are using different methods for estimating the numbers of distance travelled.

Table 5 (Fig. 9,11) Seriously injured according to national definition (see table 7 for definition) and relative change in serious injuries between 2010-2015 and annual average relative change 2006-2015
Some countries are taking the lead in collecting number of people seriously injured as MAIS3+

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Fig.9 relative change 2010-2015	Fig. 11 Annual relative change 2006-2015[1]	
EL*	2,270	2,021	1,821	1,872	1,676	1,709	1,626	1,399	1,212	1,016	1,074	-37.2%	-7.3%	
CY*	741	730	717	661	647	586	561	551	407	467	377	-35.7%	-7.0%	
BE*	7,272	6,999	6,997	6,782	6,647	5,982	6,168	5,277	4,947	4,502	n/a	-24.7%	-4.5%	2005-2014
ES*	21,859	21,382	19,295	16,488	13,923	11,995	11,347	10,444	10,086	9,574	9,503	-20.8%	-9.0%	
ES MAIS3+						7,331	7,420	7,047	6,613	6,343	n/a			
LV*	810	630	638	791	681	569	531	493	452	434	479	-15.8%	-5.3%	
PT*	3,762	3,483	3,116	2,606	2,624	2,475	2,265	1,941	1,946	2,010	2,089	-15.6%	-6.0%	
PT MAIS3+						2,290	2,368	2,111	2,074	2,046	n/a			
CH*	5,059	5,066	5,235	4,780	4,708	4,458	4,437	4,202	4,129	4,043	3,830	-14.1%	-3.2%	
DK	3,072	2,911	3,138	2,831	2,498	2,063	2,172	1,952	1,891	1,797	n/a	-12.9%	-6.6%	2005-2014
FR*	39,811	40,662	38,615	34,965	33,323	30,393	29,679	27,142	25,966	26,635	26,595	-12.5%	-5.0%	
HR	4,178	4,308	4,544	4,029	3,905	3,182	3,409	3,049	2,831	2,675	2,822	-11.3%	-5.9%	
RS	4,401	4,778	5,318	5,197	4,638	3,883	3,777	3,544	3,422	3,275	3,447	-11.2%	-5.5%	
CZ	4,237	3,883	3,861	3,725	3,467	2,774	3,026	2,925	2,711	2,703	2,468	-11.0%	-5.1%	
SK	1,974	2,032	2,036	1,806	1,408	1,207	1,168	1,122	1,086	1,057	1,121	-7.1%	-7.7%	
NO	977	940	879	867	751	714	679	639	640	674	682	-4.5%	-4.0%	
UK*	30,027	29,884	28,871	27,024	25,725	23,552	23,947	23,834	22,377	23,517	22,631	-3.9%	-3.0%	
PL	15,790	14,659	16,053	16,042	13,689	11,491	12,585	12,049	11,669	11,696	11,200	-2.5%	-3.9%	2005-2014
PL MAIS3+									1,859	2,263	n/a			
HU	8,320	8,431	8,155	7,227	6,442	5,671	5,152	4,921	5,369	5,331	5,574	-1.7%	-5.4%	
SE			5,470	5,594	5,208	4,662	4,518	4,450	4,826	4,889	n/a	4.9%	-2.4%	2007-2014
SE MAIS3+			1,394	1,570	1,480	1,217	1,102	1,032	1,091	1,159	n/a			
SI	1,292	1,259	1,295	1,100	1,061	880	919	848	708	826	936	6.4%	-5.1%	
RO	5,885	5,780	7,091	9,403	9,097	8,509	8,768	8,860	8,156	8,122	9,056	6.4%	2.6%	
IL*	2,363	2,304	2,096	2,063	1,741	1,683	1,340	1,611	1,624	1,562	1,796	6.7%	-3.5%	
DE*	76,952	74,502	75,443	70,644	68,567	62,620	68,985	66,279	64,045	67,709	67,681	8.1%	-1.3%	
NL	16,000	15,400	16,600	17,600	18,800	19,100	19,700	19,500	18,800	20,700	n/a	8.4%	3.0%	
NL MAIS3+	4,800	4,500	5,000	5,300	5,500	5,700	6,100	6,400	6,500	7,500	n/a	31.6%		
BG	10,112	10,215	9,827	9,952	8,674	8,080	8,303	8,193	8,776	8,640	8,971	11.0%	-1.7%	
AT	6,922	6,774	7,147	6,783	6,652	6,370	6,397	8,017	7,344	7,434	n/a	16.7%	0.8%	2005-2014
AT MAIS3+										1,410	n/a			
LU*	307	319	286	290	288	266	317	339	316	245	319	19.9%	0.0%	
MT	257	277	246	248	199	211	235	300	265	292	306	45.0%	2.3%	
EE*	n/a							490	515	467	n/a			
FI	n/a					1,326	1,308	n/a	n/a	519	n/a			
IE*	1,021	907	860	835	640	561	472	474	508	n/a	n/a		-11.4%	2005-2013
IT	n/a													
IT MAIS3+								13,112	12,899	14,943	n/a			
LT	n/a													
EU24[2]	**268,341**	**262,918**	**262,122**	**249,298**	**235,841**	**214,908**	**222,250**	**214,359**	**206,694**	**212,779**	**213,028**	**-0.9%**	**-2.7%**	

Source: National statistics provided by the PIN panellists for each country.

[1] The relative change shown in Fig.9 is calculated only from the numbers of serious injuries in 2010 and 2015 and comparison between countries can be misleading if these two numbers are unusually high or low in different ways in the countries compared. To assist such comparison, the average annual percentage change shown in Fig.11 has been estimated for each country from its numbers of serious injuries in each of the 10 years 2006-2015.
* Similar national serious injury definition.
EU24[2] Seriously injured according to each country national definition.

Table 6 (Fig.10) Number of a seriously injured recorded in national statistics per one road death (2013-2015 average or the latest three years available)

	Average number of serious injuries	Average number of road deaths	Serious injuries per one road death	Time period covered
NL[1]	19,667	597	33	2012-2014
NL MAIS3+	6,800	597	11	2012-2014
MT	288	13	22	2013-2015
DE	66,478	3,394	20	2013-2015
SE[1]	4,722	272	17	2012-2014
SE MAIS3+	1,094	272	4	2012-2014
AT	7,598	472	16	2012-2014
AT MAIS3+	1,410	430	3	2014
CH	4,001	255	16	2013-2015
BG	8,796	655	13	2013-2015
UK	22,842	1,810	13	2013-2015
DK	1,880	180	10	2012-2014
HU	5,425	621	9	2013-2015
CY	417	49	9	2013-2015
HR	2,776	341	8	2013-2015
FR	26,399	3,372	8	2013-2015
LU	293	39	8	2013-2015
SI	823	118	7	2013-2015
BE	4,909	740	7	2012-2014
EE	491	82	6	2012-2014
ES	10,265	1,792	6	2012-2013
ES MAIS 3+	6,668	1,792	4	2012-2013
RS	3,381	596	6	2013-2015
IL	1,661	293	6	2013-2015
RO	8,445	1,857	5	2013-2015
NO	665	150	4	2013-2015
SK	1,088	252	4	2013-2015
CZ	2,627	693	4	2013-2015
PL	11,683	3,280	4	2013-2014
PL MAIS3+	2,061	3,280	1	2013-2014
PT	1,966	664	3	2012-2014
PT MAIS3+	2,077	664	3	2012-2014
IE	485	179	3	2011-2013
LV	455	193	2	2013-2015
FI	519	229	2	2012
EL	1,101	826	1	2013-2015
IT	n/a	3,381	n/a	2013-2015
IT MAIS 3+	13,651	3,512	4	2012-2014
LT	n/a	252	n/a	2013-2015

Source: National statistics provided by the PIN panellists for each country.

[1] National serious injury definition based on hospital data.

Table 7. Current national definition of a seriously injured person in a road collision as used in Fig.9, 10 (orange bars) and 11

AT	Whether an injury is severe or slight is determined by §84 of the Austrian criminal code. A severe injury is one that causes a health problem or occupational disability longer than 24 days, or one that "causes personal difficulty". Police records. As of 1.1.2012, only 2 instead of 3 degrees of severities, slight, degree unknown, severe. Therefore and because of lower underreporting due to the new police recording system, the figure increased substantially
BE*	Hospitalised more than 24 hours. But in practice no communication between police and hospitals so in most cases allocation is made by the police. Police records.
BG	n/a. Police records.
CY*	Hospitalised for at least 24 hours. Police records.
CZ	Determined by a doctor, if serious health harm (specified approximatelly along the types by the law) occurs. Police records.
DE*	Hospitalised for at least 24 hours. Police records.
DK	All injuries except "slight". Police records.
EE*	Hospitalised for at least 24 hours. Hospital data is used to find out how long the person (involved in an accident according to the police data) was hospitalised.
ES*	Hospitalised for at least 24 hours. Police records.
FI	Serious injury in official statistics is defined as MAIS3+ (AAAM, Association for the Advancement of Automotive Medicine). The number of seriously injured MAIS3+ is formed by combining the official road accident participant statistics maintained by Statistics Finland and the Hospital Discharge Register (HILMO), using personal identity numbers as the link.
FR*	Until 2004: hospitalised for at least 6 days. From 2005: hospitalised for at least 24 hours. Police records. People injured are asked to go to the police to fill in information about the collision, in particular if they spent at least 24 hours as in-patient.
EL*	Injury and injury severity are estimated by police officers. It is presumed that all persons who spent at least one night at the hospital are recorded as seriously injured persons. Police records.
HR	ICD-International Classification of Deseases- used by medical staff exclusively, after admission to the hospital.
HU	Serious injury which necessitates hospitalisation for more than 48 hours within seven days after occurrence or caused fracture, except for finger, toe, nose fractures; or caused cut wounds, which resulted in serious bleeding or nerve, muscle or tendon injuries; or caused injury of inner organs; or caused burn of second or third degree or burn affecting more than 5% of body surface.
IE*	Hospitalised for at least 24 hours as an in-patient, or any of the following injuries whether or not detained in hospital: fractures, concussion, internal injuries, crushing, severe cuts and lacerations, several general shock requiring medical treatment. Police records.
IT	Separate statistics on seriously and slightly injuries are n/a in the Road accidents dataset. Despite that, Italy calculated the number of serious injured according to EU recommendations (MAIS 3+) and using data based on hospitals discharge records.
LU*	Hospitalised for at least 24 hours as in-patient. Police records.
LV*	From 2004: hospitalised more than 24 hours as in-patient. Police records.
LT	'Serious' injury is the same as injury accident. Hospitalised per 24 hours
MT	An injury accident is classified as 'Serious' injury (referred to in Malta accident statistics as 'Grievous' injury) if the person does not recover his/her previous health condition with 30 days. Police records.
NL	Definition: "A serious road injury is a road crash casualty who has been admitted to hospital with a minimum MAIS (Maximum Abbreviated Injury Score5) injury severity of at least 2 on a scale of 6, and who has not died within 30 days from the consequences of the crash." Method: MAIS=2 or higher. Linked Police-Hospital records + remainder file + estimate of unobserved C/RC. MAIS3+ is a subset of MAIS2+
PL	A person who sustained a serious disability, a serious incurable disease or a chronic life threatening disease, permanent mental disease, complete or substantial permanent incapacity to work in their current occupation or a permanent or substantial scarring or disfiguration of the body; the definition also includes persons who have suffered other injuries incapacitating their bodies or causing ill health for longer than 7 days. Police records.

PT*	Hospitalised for at least 24 hours. Police records.
RO	Injuries requiring hospitalisation or any of the following injuries: Organ injuries, permanent physical or psychological disability, body disfiguration, abortion, fractures, concussions, internal wounds, serious shock, or any other injury which leads to death more than 30 days after the collision. Police records.
SE	The definition of seriously injured was updated in 2007. A serious injury is now defined as a health loss following a traffic injury reflecting that a person does not recover the previous health condition within a reasonable amount of time. This series is used in the national annual follow up and there is a goal for 2020 (-25 % since 2007). Hospital records.
SI	Any injured persons who were involved in a road traffic accident and sustained injuries due to which their lives were in danger or due to which their health was temporarily or permanently damaged or due to which they were temporarily unable to perform any work or their ability to work was permanently reduced (Penal Code of the Republic of Slovenia). Police records.
SK	Serious bodily harm or serious disease, which is a) mutilation, b) loss or substantial impairment of work capacity, c) paralysis of a limb, d) loss or substantial impairment of the function of a sensory organ, e) damage to an important organ, f) disfigurement, g) inducing abortion or death of a foetus, h) agonising suffering, or i) health impairment of longer duration. Health impairment of longer duration is an impairment, which objectively requires treatment and possibly involves work incapacity of not less than forty-two calendar days, during which it seriously affects the habitual way of life of the injured party.
UK*	Hospitalised for at least 24 hours or any of the following injuries whether or not they are detained in hospital: fractures, concussion, internal injuries, crushing, burns (excluding friction burns), severe cuts and lacerations, severe general shock.
CH*	Hospitalised for at least 24 hours or if the injury prevented the person from doing its daily activity for 24 hours. Police records.
IL*	Hospitalised more than 24 hours as in-patient. Police records.
NO	Very serious injury: Any injury that is life-threatening or results in permanent impairment. Serious injury: Any injury from a list of specific injuries; these would normally require admission to hospital as an in-patient. Police records.
RS	Using of the ICD-International Classification of Diseases. Categorization of an injury as a "serious injury" is made on the basis of expert assessment given by doctors during admission to hospital, during hospitalization or after the hospitalization. The Republic of Serbia has not yet adopted a definition for serious injury. Police records.

Source: National definition provided by the PIN Panellists in each country.

* Group of countries considered as using similar definitions of serious injuries, spending at least one night in hospital as in-patient or a close variant of this. The definition may include also a quite wide list of injuries and the allocation of "serious" is made by the police officer at the scene. Errors in the categorisation cannot be excluded.

Table 8 Countries' progress in collecting data on seriously injured based as MAIS3+

AT	The KFV carried out a feasibility study on MAIS3+ assessment on behalf of the Austrian Transport Ministry (bmvit) in 2014-2015. The study covered two methods to estimate the number of serious road injuries: a) application of a (hospital data based) correction factor to the police reported number of serious injuries, and b) use hospital data alone to arrive at an estimate for serious injuries. The latter method was selected for further use. In late 2015, it was estimated for the first time that 1410 people had been seriously injured as MAIS3+ in 2014. 430 people had died on the roads that year. There were therefore 3.3 seriously injured per one road death in 2014.
BE	We are finetuning our estimation procedure of number of people seriously injured as MAIS3+ on the basis of hospital discharge data for the whole of Belgium and the conversion of (all) diagnoses from ICD-9-CM to AIS. We will be able to provide breakdowns according to age, road user type, gender, month, year, accident type. We use option one (correction factors applied to police data) and option two (use of hospital data) that are proposed by the European Commission.
BG	n/a
CY	Under consideration, in the context of the reorganisation of the public health sector, which is in progress.
CZ	Under discussion.
DE	An estimation of the number of MAIS 3+ injured people based on GIDAS data, data from the German Trauma Register and data from the official accidsent statistcs is being calculated by Bast.
DK	No systematic linkage between police and hospital data. Denmark is working on a process to convert ICD diagnose codes into AIS and MAIS
EE	Investigating the possibility of data conversion based on existing ICD data.
ES	Data available from 2010 (see Table 5). Since 2011 MAIS3+ is published in official reports. In a near future Spain will add MAIS3+ to the current definition of seriously injured.
FI	MAIS3+ is used in official data (from 2014 onwards). A pilot study has been made in 2014. In this study the number of seriously injured MAIS3+ was formed by combining the official road accident participant statistics maintained by Statistics Finland and the Hospital Discharge Register (HILMO), using personal identity numbers as the link. Number of serious injuries (MAIS3+) in road traffic were estimated for the years 2010-2011.
FR	Linking between police and health data is done in the Rhone county and then used to build an estimate comparing the structure of Rhone and national accident data.
EL	Greece is not planning to collect hospital data for the time being.
HR	Linking between police and hospital databases is mandated by the law. Croatia is working on a process to convert ICD into MAIS.
HU	Hungary is investigating the possibility of data conversion based on existing ICD data. This will require a change in the legislation. According to the latest information, conversion will be possible as from the first half of 2017.
IE	The Road Safety Authority's study examining the feasibility of adopting MAIS+3 definition of serious injury and hospital and police data linkage is complete and recommendations are being implemented.
IT	The current data architecture does not provide direct linkage between police and hospital data. MAIS3+ will be adopted for coding the level of injury and calculated on the basis of data sources such as the hospital discharge register. Data for the years 2012-2014 were estimated according to the conversion tables made available by the EC.
LU	MAIS3+ will be used in the near future, but is still under discussion. ICD codes not provided by all hospitals yet.
LV	Under discussion.
LT	Under discussion.
MT	n/a
NL	Data on MAIS3+ already available for 1993-2014.
PL	The work is coordinated by the National Road Safety Council, the National Institute of Public Health and ITS (Motor Transport Institute). Data for 2013 and 2014 were sent to the European Commission, following the recommendations from CARE (DG MOVE).
PT	A technical working group was created by Ministerial Order no. 3578/2015 including the National Authority for Road Safety (ANSR), General Health Directorate (DGS), National Institute for Medical Emergency (INEM), Public Security Police (PSP), National Republican Guard (GNR) and the National Statistical Institute (INE). This work group will define the most adequate methodology to estimate the number of seriously injured for 2014 and also study the best way to adjust the national road safety statistics definition, change the data collection protocols, and develop the necessary tools for this new definition.

RO	Under discussion.
SE	Data available for years 2007-2014 (see Table 5)
SI	We made a trial linking police and hospital data. Data on seriously injured as MAIS3+ are incomplete and not yet ready for publication. Improvements to our methodology are being discussed.
SK	n/a
UK	Not available due to review of methodology.
CH	Linking of health and police data has started in 2014. This will allow to code the recommended maximum AIS score based on ICD-10. According to ASTRA (Federal Roads Office), the number of seriously injured (MAIS3+) for the years 2011 to 2014 will be reported to the European Commission on July 2016.
IL	Israel currently uses Injury Severity Score (ISS) data and is considering collecting data based on MAIS 3+ in the future.
NO	Under consideration.
RS	The Road Traffic Safety Agency intends to initiate the work this year.

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