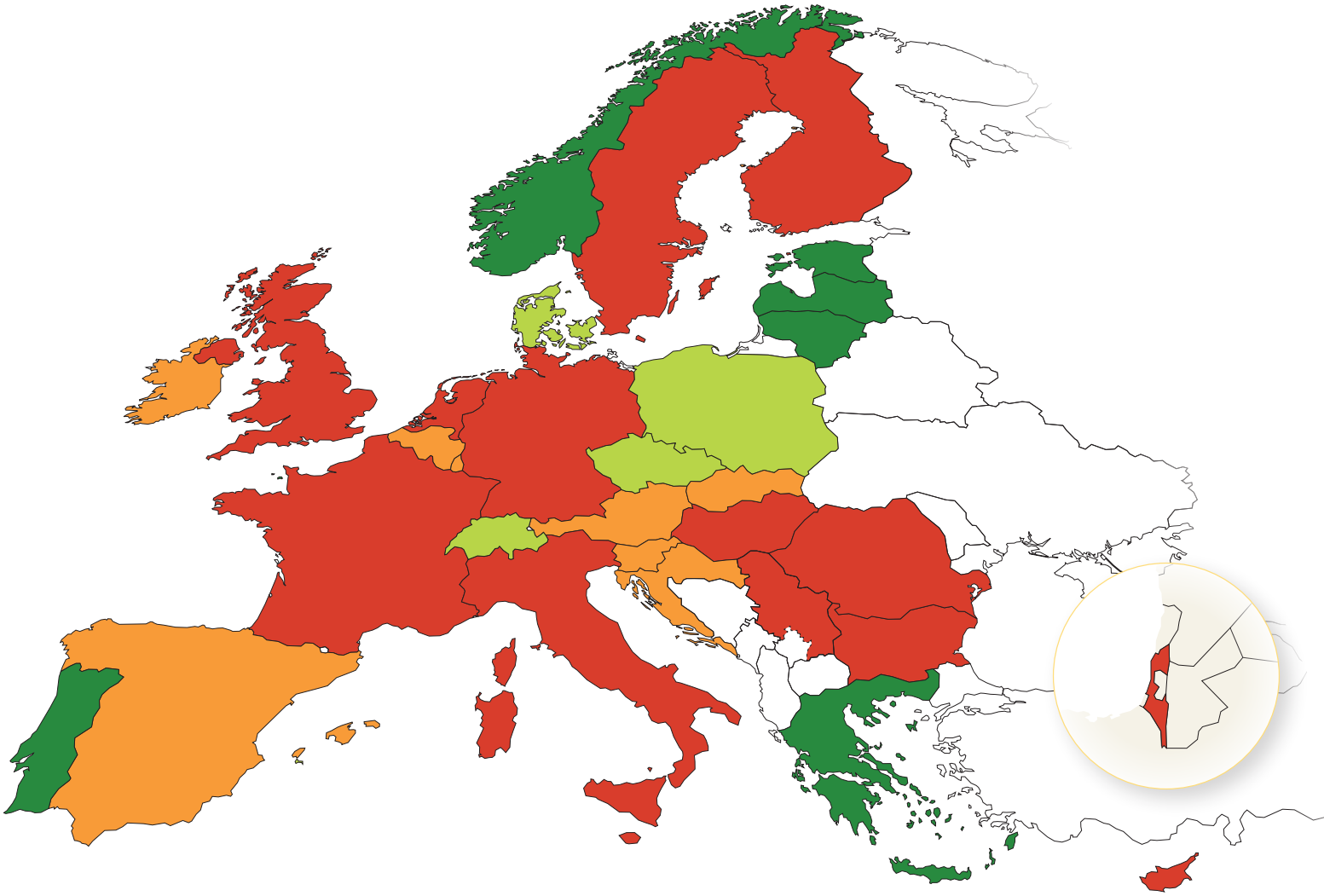
RANKING EU PROGRESS ON ROAD SAFETY

12th Road Safety Performance Index Report

June 2018



European Transport Safety Council

25 YEARS 1993-2018

Road Safety PIN

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RANKING EU PROGRESS ON ROAD SAFETY

12th ROAD SAFETY PERFORMANCE INDEX REPORT

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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 strengthen the accuracy and reliability of the findings.

ETSC is grateful for the financial support for the PIN programme provided by Toyota Motor Europe, Volvo Group, the Swedish Transport Administration, the German Road Safety Council and the Norwegian Public Roads Administration.

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.

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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 the number of road deaths by 2010. A new target to halve road deaths by 2030 compared to 2020 levels was announced by the European Commission on 17 May 2018.

25,250 people lost their lives on EU roads in 2017, representing a 2% reduction on the 2016 figure. This number has fallen by only 3% in the last four years.

Out of the 32 countries monitored by the PIN Programme, 22 reduced road deaths in 2017 (Fig.1). The best results were achieved by Estonia with a 32% decrease, Luxembourg with 22%[1], Norway with 21% and Slovenia with 20%. Road deaths increased in eight countries, while progress stagnated in Slovakia and Lithuania.

There has been progress over a longer period but it is not enough to meet the 2020 target. Since 2010, EU countries achieved an overall reduction in road deaths of 20%, which equals a 3.1% annual average reduction. A 6.7% year-to-year reduction was needed over the 2010-2020 period to reach the 2020 target through constant progress in annual percentage terms. This reduction was not achieved, so the EU must now reduce the number of road deaths by 14.5% each year between 2018 and 2020 to be on track for the target. Time is running out; the target is now highly unlikely to be met. Strong political will and urgent measures are still needed in all EU Member States to narrow the gap between the desired and the actual EU progress. Increased traffic law enforcement and treatment of high risk sites are among the measures that can have an immediate positive road safety effect.

On 17 May, the European Commission published a Strategic Action Plan on Road Safety that includes a new long-term target to halve road deaths by 2030 as well as, for the first time, a target to reduce serious injuries by the same proportion. EU Member States called for such targets last year in the Valetta Declaration on road safety[2], following years of campaigning by road safety and victim groups. The Strategic Action Plan on Road Safety came as part of a large package of transport policy proposals known as the 'Third Mobility Package'.[3] The package includes new vehicle safety standards; updated rules on road infrastructure safety management and a strategy for automated driving. Importantly, the European Commission proposed a package of new vehicle safety standards that could, by themselves, prevent more than 2000 road deaths every year by 2032, ten years after the measures come into force. It is now up to EU Member States and the European Parliament to give their backing to the plans and not give in to pressure from car manufacturers, who are already attempting to weaken parts of the vehicle safety proposal, or from others who may oppose aspects of the package. While the EU target of halving road deaths between 2010 and 2020 is now unlikely to be met, this long-awaited impetus from the European Commission could contribute significantly to resuming improvement soon and driving progress in the next decade.

Seven PIN countries[4] have started preparing national road safety strategies for the upcoming decade. Achieving the full potential of existing and new measures based on the safe system approach will be essential to future progress.

[1] The numbers of road deaths in low population countries such as Luxembourg are particularly small and, therefore, subject to substantial annual fluctuation.
[2] Malta EU2017 (29.03.2017), Valletta declaration on road safety, https://goo.gl/tcF6Xe
[3] European Commission (17.05.2018), Europe on the Move: Commission completes its agenda for safer, clean and connected mobility, https://goo.gl/8jTA9t
[4] Austria, Bulgaria, Cyprus, Spain, Lithuania, the Netherlands, Norway.

Main recommendations to Member States

- Seek to reach current targets by all available means, including applying proven enforcement strategies according to the EC Recommendation on Enforcement[5].
- Adopt and implement the safe system approach to road safety by addressing all elements of the road transport system in an integrated way and adopting shared overall responsibility and accountability between system designers and road users.[6]
- Provide sufficient government funds to allow the target-oriented setting of measures and set up financing and incentive models for the regional and local level.
- Start preparing post 2020 Road Safety Plans, including national targets for reducing serious injuries based on the MAIS3+ standard alongside the reduction of road deaths and 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 – consideration of cost effectiveness, while including serious injuries in the impact assessment of countermeasures.
- Support and seek to strengthen the European Commission's proposals published on 17 May for new vehicle safety standards and updated rules on road infrastructure safety management.

Main recommendations to the European Commission

Within the context of the 5th EU Road Safety Strategy:

- Deliver the actions listed in the Strategic Action Plan on Road Safety for 2018 and 2019, e.g. agree with Member States on a list of key performance indicators to monitor progress.[7]
- Adopt a long-term Operational Plan for 2030, including investments in measures, a timetable and structure for delivering the two targets already endorsed.

Within the context of the EU strategy on automated mobility[8]:

- Develop a coherent and comprehensive EU regulatory framework for the safe deployment of automated vehicles.[9]
- Revise type approval standards to cover all the new safety functions of automated vehicles, to the extent that an automated vehicle will pass a comprehensive test equivalent to a 'driving test'. This should take into account high risk scenarios for occupants and road users outside the vehicle.[10]

Main recommendation to the Council and the European Parliament

Within the context of the revision of Regulation 2009/661 concerning Type-Approval Requirements for the General Safety of Motor Vehicles and the revision of the Road Safety Management Directive 2008/96:

- Support and seek to strengthen the European Commission's proposals published on 17 May 2018 for new vehicle safety standards[11] and updated rules on road infrastructure safety management.[12]

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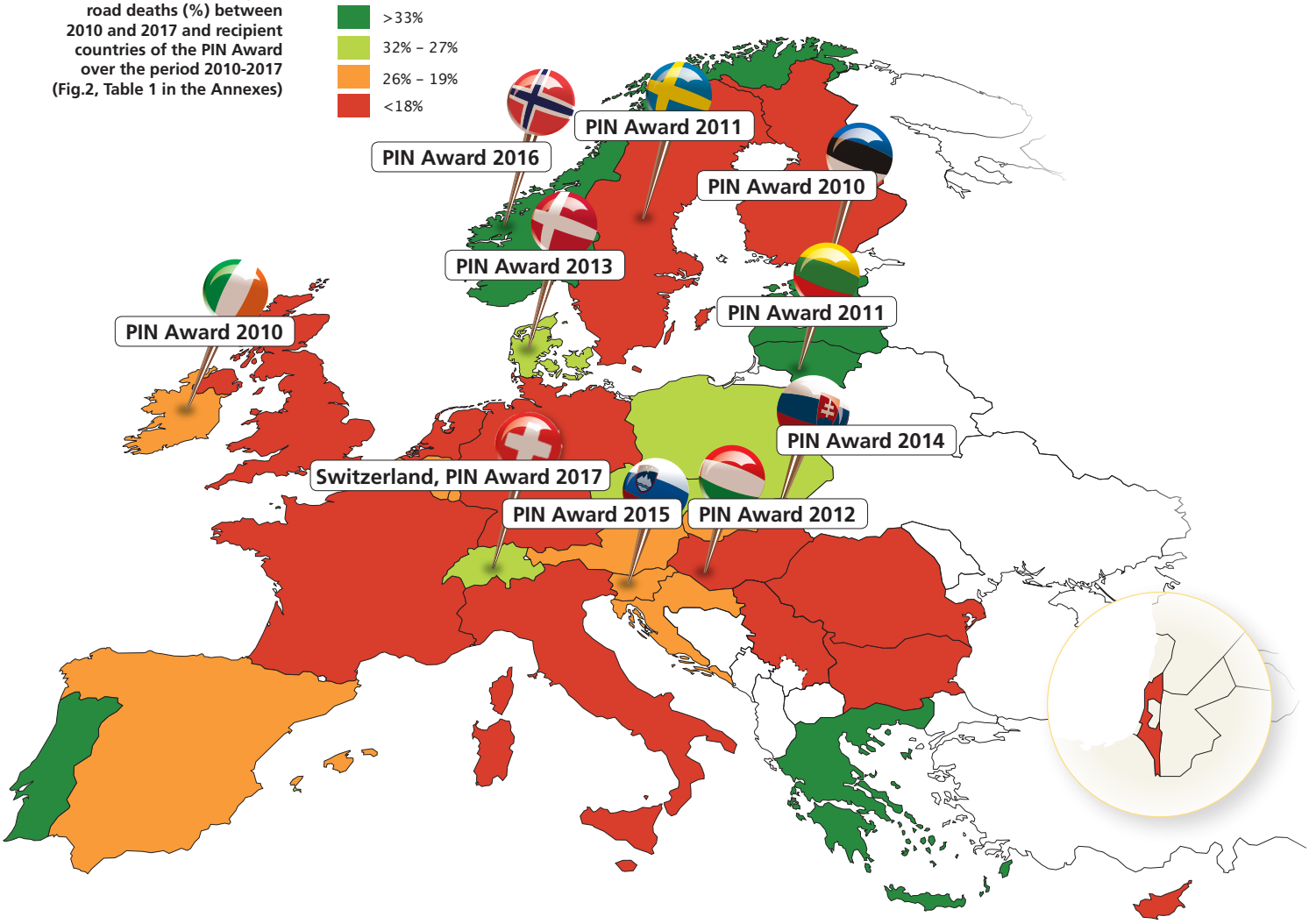
[5] EC Recommendation on Enforcement in the Field of Road Safety 2004/345, http://goo.gl/Vw0zhN
[6] OECD-ITF (2016), Zero Road Death and Serious Injuries, Leading a Paradigm Shift to a Safe System approach, https://goo.gl/hTE4BG
[7] European Commission (2018), Annex 1, Strategic Action Plan on Road Safety, Europe on the Move, Sustainable Mobility for Europe: safe, connected, clean, https://goo.gl/9dx2yC
[8] European Commission (17.05.2018), Communication from the European Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions On the road to automated mobility: An EU strategy for mobility of the future, https://goo.gl/kdqY6V
[9] ETSC (2016), Prioritising the Safety Potential of Automated Driving in Europe, https://goo.gl/TojCUL
[10] Ibid
[11] European Commission (17.05.2018), Proposal for a Regulation of the European Parliament and of the Council on type-approval requirements for motor vehicles and their trailers, and systems, components and separate technical units intended for such vehicles, as regards their general safety and the protection of vehicle occupants and vulnerable road users, amending Regulation (EU) 2018/… and repealing Regulation (EC) No 78/2009, (EC) No 79/2009 and (EC) No 661/2009, https://goo.gl/oVfLBP
[12] ETSC (2018), Position Paper, Revision of the Road Infrastructure Safety Management Directive 2008/96 and Tunnel Safety Directive 2004/54, https://goo.gl/mtpKto

Map 1: Relative change in road deaths (%) between 2010 and 2017 and recipient countries of the PIN Award over the period 2010-2017 (Fig.2, Table 1 in the Annexes)



PART I

NO BREAKTHROUGH ON ROAD DEATHS FOR THE FOURTH CONSECUTIVE YEAR

1.1 Only a 2% decrease in the number of road deaths in the EU in 2017

Out of 32 countries monitored by the PIN Programme, 22 registered a drop in the number of road deaths in 2017 compared to 2016 (Fig.1). Estonia leads the ranking with a 32% reduction in the number of road deaths between 2016 and 2017. It is followed by Luxembourg[13] with a 22% decrease, Norway with 21% and Slovenia with 20%. The number of road deaths went up in eight countries, while progress stagnated in Slovakia and Lithuania. The largest increase was registered in Cyprus with 15%[14], Portugal with 11%, Croatia with 8% and Switzerland with 6%.

The EU is still struggling to reach a breakthrough; the progress in reducing the number of road deaths has slowed down over the last four years. The 2% reduction in 2017 is the same as the reduction in 2016, and follows a 1% increase in 2015 and stagnation in 2014. As a result, the number of road deaths in the EU declined by only 3% since 2013.

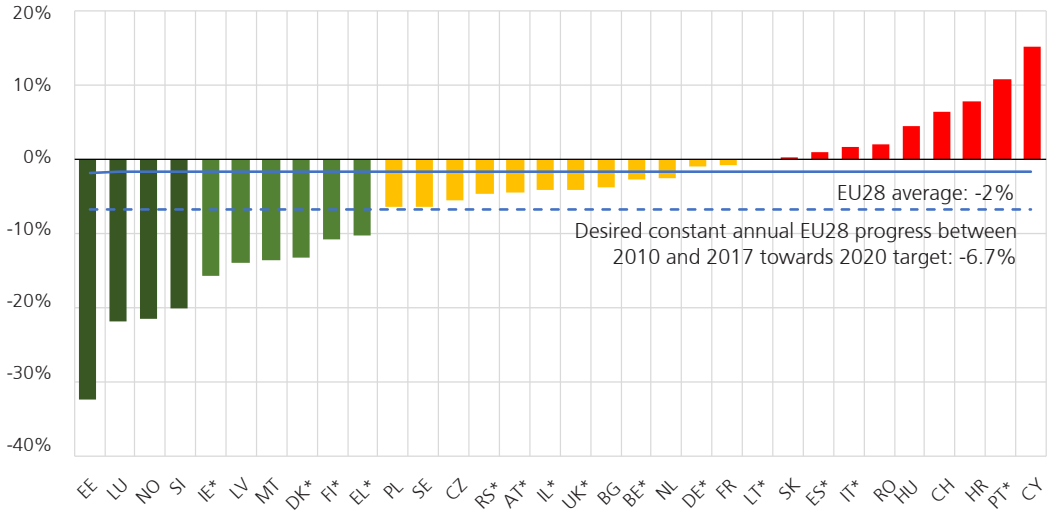


Fig.1 Relative change (%) in road deaths between 2016 and 2017. *National provisional estimates used for 2017, as final figures for 2017 are not yet available at the time of going to print. UK data for 2017 are the provisional total for Great Britain for the year ending September 2017 combined with the total for Northern Ireland for the calendar year 2017. Annual number of deaths in LU and MT are particularly small and, therefore, subject to substantial annual fluctuation. Annual numbers of deaths in CY and EE are also relatively small and, therefore, may be subject to annual fluctuations.

[13] Annual numbers of deaths in Luxembourg are particularly small and, therefore, subject to substantial annual fluctuation.

[14] Annual numbers of road deaths in Cyprus are also small and, therefore, may be subject to annual fluctuation.

INDICATOR

The EU has set a target to halve the number of road deaths by 2020, based on their level in 2010. In this chapter, we track progress against this target using, as main indicators, the relative changes in the numbers of people killed on the road between 2016 and 2017 (Fig.1), between 2010 and 2017 (Fig.2) and since 2001 (Fig.6).

A person killed in traffic is someone who was recorded as dying immediately or within 30 days from injuries sustained in a collision on a public road. We also use road mortality expressed as the number of road deaths per million inhabitants - as an indicator of the current level of road safety in each country (Fig.7). Additionally, the risk expressed as the number of road deaths per billion km travelled is presented in countries where the data are available (Fig.8).

The data used are from national statistics supplied by the PIN panellist in each country. The numbers of road deaths in 2017 in Austria, Belgium, Denmark, Finland, Germany, Greece, Ireland, Italy, Lithuania, Portugal, Spain, UK, Israel and Serbia are provisional as final figures were not yet available at the time this report went to print. Annual numbers of deaths in Luxembourg and Malta are particularly small and are, therefore, subject to substantial annual fluctuation. Annual numbers of deaths in Cyprus and Estonia are also relatively small and, therefore, may be subject to considerable annual fluctuation. The UK figure for 2017 is the provisional total for Great Britain for the year ending in September 2017 together with Northern Ireland's total for the calendar year 2017.

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

If progress continues, Estonia will reach the 2020 target

Estonia reduced road deaths by 32% in the past year, going down from 71 deaths in 2016 to 48 in 2017 (Fig.1). With 36 roads deaths per million inhabitants in 2017, Estonia is now well below the EU road mortality average of 50 per million (Fig.7). However, the number of serious road traffic injuries increased by 1%, from 469 in 2016 to 475 in 2017.

Since 2015 Estonia has been advocating and promoting 'Vision Zero' and shared responsibility among stakeholders. Local authorities are increasingly involved in road safety management. A combination of road safety measures, including traffic law enforcement, high risk site treatment, road network safety analysis and public safety campaigns are at the core of Estonia's recent road safety policy.

In 2015, the number of roadside alcohol breath tests per 1000 inhabitants in Estonia was the highest among the PIN countries.[15] The number of alcohol breath checks grew by almost five times from 105 per 1000 inhabitants in 2010 to 512 in 2017. Estonia was also active in enforcing speed limits. The first safety cameras were installed in 2010, in 2018 there were 68 safety cameras across the country. The proportion of drivers and riders exceeding speed limits by more than 5km/h on main roads dropped from 55% in 2011 to 33% in 2017.

In 2017, Estonia began in-depth accident investigations for all fatal collisions or collisions resulting in five or more injured road users. Results of in-depth accident investigations will further contribute to informed road safety policy-making.

[15] ETSC (2016), PIN Flash 31, How traffic law enforcement can contribute to safer roads, https://goo.gl/5CvDQF

"During the last three years, road network performance evaluation has evolved. Estonia has shifted from collision density and collision rate calculation to forecasting where collisions are likely to occur and taking actions to prevent them. The process of treating dangerous spots is evidence-based and well-structured."

"Road safety education activities and public campaigns have also positively contributed to a shift in road safety behaviour. As a result, 86% of adult pedestrians used reflectors during the hours of darkness in 2017, compared to 45% in 2003."
Erik Ernits, Road Administration, Estonia

Ireland: 2017 reductions in road deaths bring Ireland to the position of 4th safest EU country with 33 people killed per million inhabitants

A total of 157 people lost their lives on Ireland's roads in 2017 compared to 186 in 2016 (Fig.1). This represents 29 fewer road deaths or a 16% reduction. In 2017, there has been a decline in road deaths across all road user groups, except pedal cyclists, when compared to 2016. Road deaths have decreased by 26% since 2010 (Fig.2).

The implementation of improved legislation, such as new drug driving laws, greater traffic law enforcement activities and road safety campaigns played a part in reducing the number of road deaths.

The Irish police, in their 2017 plan, committed to increase the number of road traffic police by 10% annually until 2020, from 681 officers in 2017 to 997 in 2020.[16]

"Ireland is still a long way off achieving its road safety targets as set out in the Government Road Safety Strategy 2013 to 2020. The Strategy has set the task of making Ireland's roads as safe as the best performing countries in the European Union, specifically to reduce road deaths on Irish roads to 124 or fewer by 2020. This means there must be a further 22% reduction in road deaths on 2017 numbers over the next three years."
Moyagh Murdock, Irish Road Safety Authority (RSA)

France: 18 new road safety measures in response to the slowdown in reducing road deaths

The number of road deaths in France decreased by 1% in 2017 compared to 2016 (Fig.1). However, this has followed three years of increases, which brought the number of road deaths to 3448 in 2017. In an attempt to reverse the negative trend, the French government announced a set of 18 new measures to improve road safety.[17]

The measures primarily target speeding, drink-driving and distraction. Among the most important measures is a reduction of the speed limit on undivided rural roads from 90 km/h to 80 km/h. Undivided roads represent more than half of all road deaths in France. The government estimates that the lower speed limit could prevent 350 to 400 deaths a year. The move has sparked a sadly predictable backlash on social media and from groups representing some drivers. New research for the ITF by an international group of experts has examined speed limit changes or the introduction of enforcement camera systems in Hungary, Sweden, France and Italy. The conclusions were consistent with previous research: when speed goes down, deaths and injuries go down too.[18] A trial was run on three stretches of road, totalling 81km. According to a report by research institute Cerema, the reduction of the speed limit from 90 to 80 km/h has led to an average reduction of 4.7km/h in speeds driven by all vehicles on those roads.[19]

The action on drink-driving includes the intervention that drink-driving recidivists will only be allowed to drive a vehicle equipped with an alcohol interlock in the future. Until now alcohol interlocks were only used in a small number of cases.

[16] RSA (2018), Statement from Road Safety Authority (RSA), in response to 87 new Garda Members appointed to Roads Policing Units, https://goo.gl/HM4pLj
[17] Comité Interministériel de la sécurité routière (01.2018), Sauvons plus de vies sur nos routes, https://goo.gl/MHGWbH
[18] OECD-ITF (2018), Speed and Crash Risk, https://www.itf-oecd.org/speed-crash-risk
[19] ETSC (2018), France – 80km/h trial resulted in lower average speeds, https://goo.gl/ehNmpz

1.2 Only two EU countries on track to reach the 2020 target

The EU 28 collectively has reduced the number of road deaths by 20% over the period 2010-2017, far less than the 38% needed to stay on course to meet the 2020 target (Fig.2). Greece (-41%) and Estonia (-39%) are the only EU Member States that have achieved the required reduction. Norway, a non-EU country, has reduced the number of road deaths by 49% since 2010.

The UK, Sweden and the Netherlands have achieved the slowest progress in further reducing road deaths since 2010. In Malta the number of road deaths recorded in 2017 was actually higher than in 2010.[20]

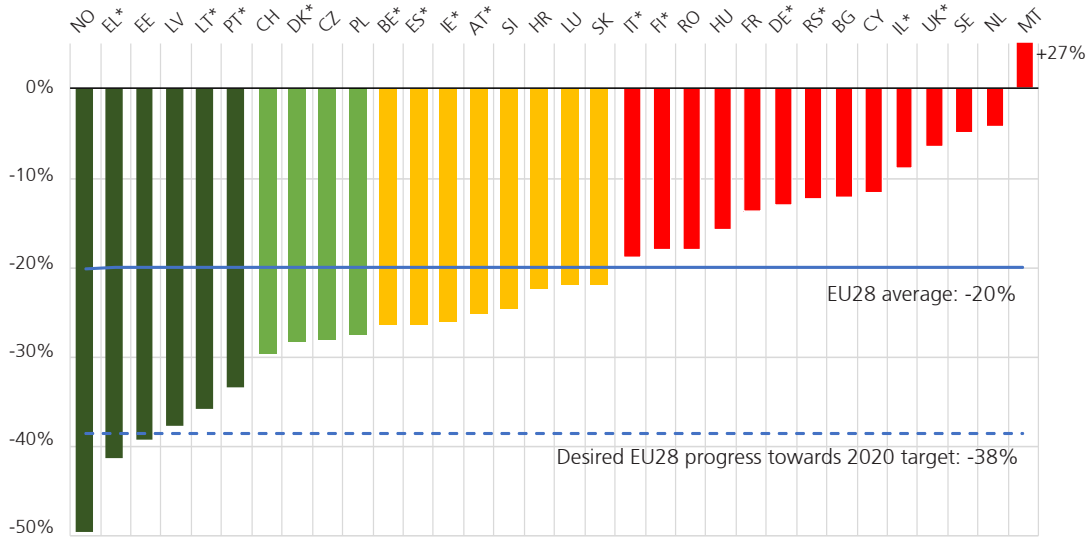


Fig.2 Relative change (%) in road deaths between 2010 and 2017. *National provisional estimates used for 2017, as final figures for 2017 are not yet available at the time of going to print. UK data for 2017 are the provisional total for Great Britain for the year ending September 2017 combined with the total for Northern Ireland for the calendar year 2017. Annual number of deaths in LU and MT are particularly small and, therefore, subject to substantial annual fluctuation. Annual numbers of deaths in CY and EE are also relatively small and, therefore, may be subject to annual fluctuations.

Norway: improved road infrastructure and focus on young road users have contributed to achieving substantial road safety progress

Norway has reduced the number of road deaths by 49% since 2010, going down from 210 in 2010 to 106 in 2017 (Fig.2). This is the highest relative reduction among the PIN countries. Norway has the lowest road mortality rate in Europe with 20 road deaths per million inhabitants in 2017 (Fig.7) and the lowest road death risk (Fig.8). The number of serious road traffic injuries decreased by 7% since 2010, from 714 in 2010 to 665 in 2017.

The new National Plan for Transport 2018-2029 sets Vision Zero as the final long-term goal, with an intermediate target to cut road deaths and severe injuries from 771 in 2017 to less than 350 by 2029.

The main areas targeted in Norway in the past years have been head-on collisions, young drivers and speeding. Road deaths in head-on collisions have gone down by 44%, from 86 in 2010 to 48 in 2017.[21] Investment in safe infrastructure including construction of new four lane motorways and installing median barriers on new and existing roads with high traffic volume have all contributed to the positive results.

To address the over-representation of young drivers in road collisions, the driver education and training system was improved and a speed campaign targeting young male drivers was launched. The number of young road user deaths (16 to 24 years old) went down by 73%, from 49 in 2010 to 13 in 2017.

[20] Annual numbers of road deaths in Malta are particularly small and, therefore, subject to substantial annual fluctuation.
[21] Statistics Norway, Road traffic accidents involving personal injury, https://goo.gl/PuRYj3

Greece: road safety progress partly related to the extension of the motorway network and the change in road user behaviour

Road deaths in Greece decreased by 10%, from 824 in 2016 to 739 in 2017 (Fig.1). Since 2010, road deaths have gone down by 41% (Fig.2). However, the mortality rate of 69 deaths per million inhabitants is still well above the EU average of 50 (Fig.7).

Much of the recent progress in reducing deaths on Greek roads has been attributed to travel and behaviour changes following the economic crisis. However, road safety improvements are also partly attributed to the significant extension of the motorway network from 900 km in 2007 to 2500 km at the end of 2017. Traffic from unsafe interurban roads has been shifted to new motorways, safest roads by design.

"Improvement in vehicle control inspections following privatisation, stricter implementation of EU legislation in the areas of vehicle safety and driver training, and city mobility and safety plans introduced by several local authorities focusing on infrastructure and campaigns have also contributed to an improvement in road safety in Greece"
George Yannis, Technical University of Athens

Poland: improved traffic law enforcement and increased local authority efforts bring down the number of road deaths

Road deaths decreased by 28% in Poland, from 3907 people killed in 2010 to 2831 in 2017 (Fig.2). This means there were 1076 fewer road deaths in 2017 compared to 2010.

Intensified traffic law enforcement activities played an important role in bringing the number of road deaths down. Roadside drink-driving checks increased by 81% over the period 2010-2017. The police performed almost 18 million drink-driving checks in 2018, i.e. 468 checks per 1000 inhabitants. The number of drivers sanctioned for endangering pedestrian safety increased from nearly 18,000 in 2010 to over 411,000 in 2017.

Local authorities are increasingly involved in road safety work. In Warsaw, home to 1.8 million inhabitants, an audit of 2000 pedestrian crossings without traffic lights has been completed. Recommendations regarding improved pedestrian crossing visibility, proper lighting, maintenance and the need to increase the density of pedestrian crossings are gradually being implemented. A new hierarchy of streets, putting pedestrians first, has been implemented in the city of Gdansk (around 500,000 inhabitants): 62% of roads in Gdansk are now limited to 30km/h, close to the 65% target set in its road safety plan. No one has been killed in the city of Jaworzno (90,000 inhabitants) in 2017, following years of infrastructure upgrades, implementation of traffic calming measures and public transport improvement.

"The examples of Warsaw, Gdansk and Joworzno are just three examples of the many local authorities trying to improve road safety. Yet the progress in reducing the number of road deaths in Poland could have been and could be faster. The implementation of proven effective road safety measures is too slow and the potential of already implemented solutions is not used in the most optimal way. There is a lack of a stable system to monitor the effects of implemented measures and there is an insufficient number of Polish scientific studies to form the basis for preventive activities. As a result, despite the positive changes, our country's position in the EU ranking in the last seven years has not changed significantly. Poland, along with Croatia, Bulgaria and Romania, belongs to the group of countries where participation in road traffic is associated with a relatively high risk. I do hope that the support declared by the state authorities for actions to reduce road risks will allow us to remove these shortcomings."
Ilona Butler, Motor Transport Institute (ITS)

Slovenia: 25% reduction in road deaths between 2010 and 2017

The number of road deaths in Slovenia went down from 138 in 2010 to 104 in 2017, representing a 25% reduction (Fig.2).

"A matter of concern is an increasing number of PTW rider deaths. In 2017, PTW riders accounted for as many as 28% of all road deaths compared to 18% in 2016."

"In 2016, we conducted in-depth accident investigations of 17 fatal collisions. The results of in-depth accident investigations will allow us to better understand the causes of the collisions and implement more effective road safety measures."
Vesna Marinko, Slovenian Traffic Safety Agency

Switzerland: cancellation of the alcohol interlock programme will make road safety targets harder to reach

230 people lost their lives on the Swiss roads in 2017, 14 more than in 2016, representing a 6% increase (Fig.1). This increase particularly concerns motorcyclists, cyclists and elderly pedestrians. Despite the increase in 2017, the road death number has decreased by 30% since 2010 (Fig.2). There were 131 fewer serious road traffic injuries, going down from 3785 in 2016 to 3654 in 2017.

The Federal Roads Office adopted ambitious targets for reducing the annual number of road deaths to 100 and serious injuries to 2500 by 2030. However, the recent decision of the Swiss government to cancel the alcohol interlock programme before it was rolled out could make road safety targets harder to reach. The alcohol interlock programme, part of Switzerland's Via sicura road safety plan, would have allowed repeated drink-driving offenders to get back behind the wheel if an alcohol interlock was fitted in their vehicle.

"The decision to cancel the alcohol interlock programme sends a very bad signal. According to an evaluation we carried out in 2012 – when the Parliament approved the Via sicura programme – the introduction of such a system would prevent up to 5 deaths and 60 serious injuries on Swiss roads each year."
Brigitte Buhmann, Swiss Council for Accident Prevention (bfu)

Romania: the number of road deaths increased for the third consecutive year

In 2017, the number of road deaths in Romania grew by 2%, going up from 1913 in 2016 to 1951 in 2017 (Fig.1). It was the third consecutive year of increases. Since 2010, numbers have decreased by 18% which is below the EU average of 20% (Fig.2). With 99 road deaths per million inhabitants, Romania has the highest road mortality rate in the EU (Fig.7).

Around 90% of the national road network consists of single carriageways with one lane in each direction or equivalent which has an effect on road safety.[22] Romania had only around 750 km of motorways in 2017. The World Bank characterises the road infrastructure network in Romania as being of poor condition, offering insufficient coverage and not maintained efficiently.[23] It also points out that in 2016 Romania adopted a General Transport Master Plan which foresees 27 billion euros investment in the road infrastructure by 2030, but many of the funding sources have not been identified.[24]

Lack of funding is also seen as a barrier to higher levels of traffic law enforcement. The number of tickets for traffic offences issued manually went down from more than one million in 2011 to 710,520 in 2017. The number of speeding tickets after detection by fixed safety cameras has gradually decreased from 32,679 in 2011 to 4,552 in 2014 and to zero after 2014. While there are some functioning fixed safety cameras in Romania, loopholes in the national legislative framework prevent the police from sanctioning traffic law offenders detected by fixed safety cameras.

[22] Politia Romana (2018), Buletinul siguranței rutiere, https://goo.gl/Pq27L3
[23] World Bank (2018) Combined Project Information Documents/Integrated Safeguards Datasheet (PID/ISDS), Ploiesti-Brasov Motorway Preparation Project, https://goo.gl/BtMhz6
[24] Ibid

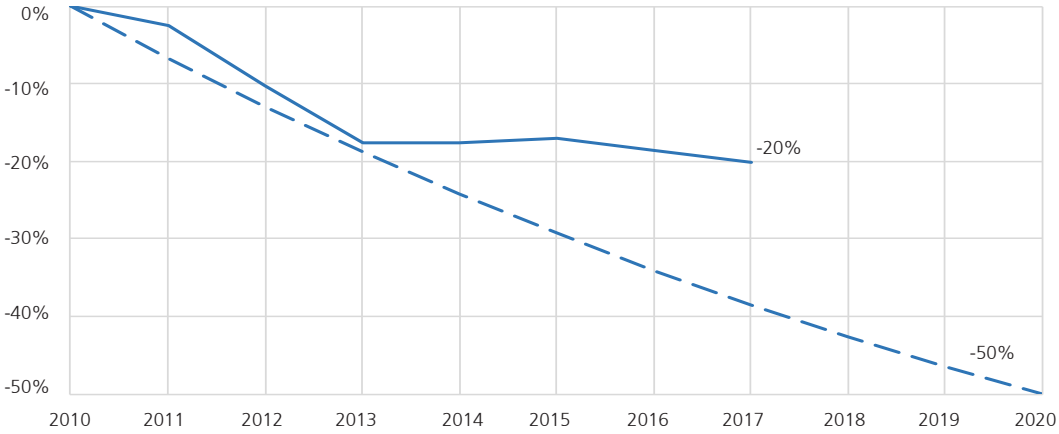
Moreover, fines collected from traffic offences go to the general local administrations' budget and not to the police. As a result, the traffic police do not have the resources to continue high levels of roadside checks.

According to the 2016 annual road safety report published by the Romanian police, the car fleet in the country is 26% larger now compared to 2011 and more than two thirds of registered vehicles are older than ten years. The same report identifies speed and pedestrian safety as the biggest road safety problems.[25]

1.3 The EU 2020 target is highly unlikely to be met

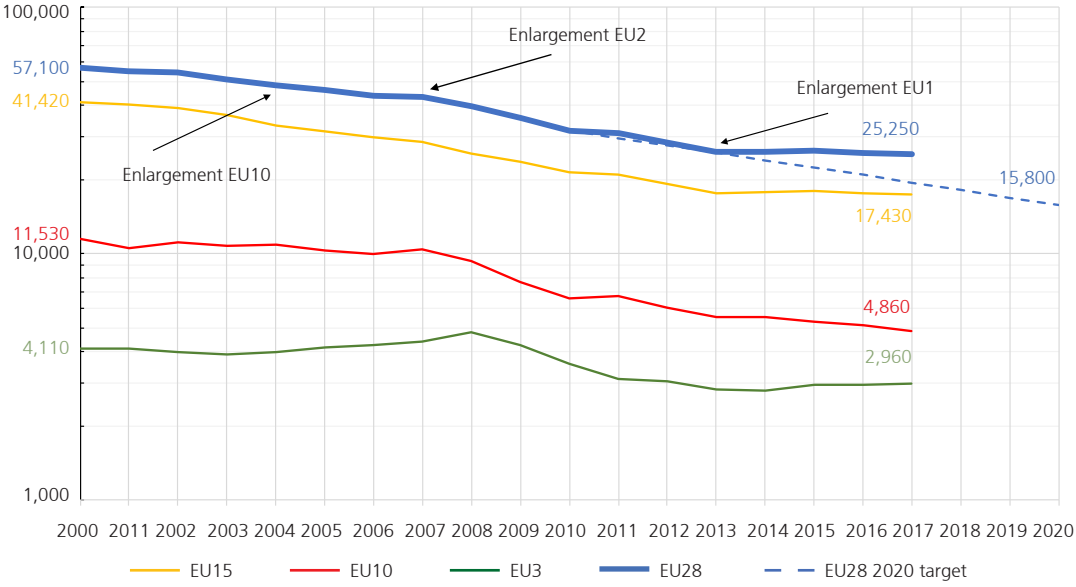
Since 2010, the average annual progress in reducing the number of road deaths in the EU has been 3.1%, equivalent to a 20% reduction between 2010 and 2017 (Fig.3). A 6.7% year-to-year reduction was needed over the 2010-2020 period to reach the 2020 target through consistent annual progress. As a consequence of the slow progress between 2014 and 2017, for the EU to reach the 2020 target, road deaths need to be reduced by around 14.5% annually in the upcoming three years – an almost impossible task.

Fig.3: Reduction in the number of road deaths since 2010 (blue line) plotted against the EU target for 2020 (blue dotted line).



The EU28 reduced the number of road deaths by 20% between 2010 and 2017 (Fig.4). The EU15[26] reduced the number of road deaths by 19% in the same period, the EU10[27] by 26% and the EU3[28] by 17%.

Fig.4: Reduction in road deaths since 2000 in the EU28 (blue line), the EU15 (yellow line), the EU10 (red line) and the EU3 (green line). The logarithmic scale is used to enable the slopes of the various trend lines to be compared.



[25] Politia Romana (2018), Buletinul siguranței rutiere, https://goo.gl/Pq27L3
[26] The EU15 were the first fifteen countries to join the EU: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom
[27] The EU10 were the group of countries that joined the enlarged EU in 2004: Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia.
[28] The EU3 includes the latest three countries to join the EU: Romania and Bulgaria in 2007 and Croatia in 2013.

1.4 Some 6350 fewer road deaths in the EU in 2017 than in 2010 is of considerable value to the people of the EU

There were around 6350 fewer road deaths in 2017 than in 2010 in the EU28. This reduction is about 5800 road deaths short of the reduction that would have occurred in 2017 if annual EU progress had been on track towards the 2020 road safety target by a constant year-to-year reduction of 6.7%.

32,740 road deaths have been prevented in the EU over the period 2011-2017 compared to 2010. 19,210 more lives could have been saved if the annual reduction of 6.7% had been achieved (Fig.5, left column).

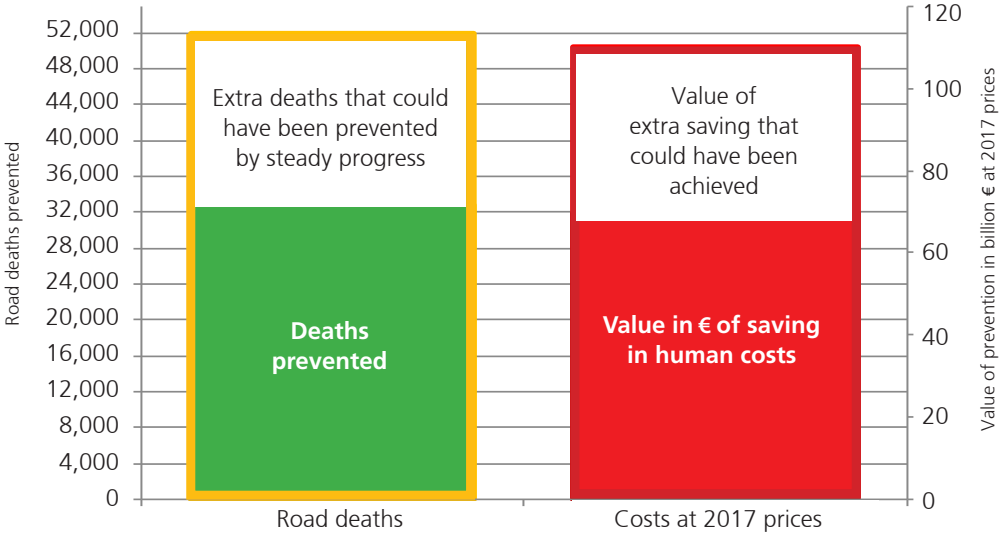
Putting a monetary value on prevention of loss of human life and limb can be debated on ethical grounds. However, doing so makes it possible to assess objectively the costs and the benefits of road safety measures and helps to make the most effective use of generally limited resources.

The Value of Preventing one road Fatality (VPF) estimated for 2009 in the 5th PIN Annual 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 2017 of the human losses avoided by preventing one road death to be € 2.11 million at factor cost.

The total value of the reductions in road deaths in the EU28 for 2017 compared to 2010 is thus estimated at approximately € 13 billion, and the value of the reductions in the years 2011-2017 taken together compared with five years at the 2010 rate is about € 70 billion (Fig.5, right column).

If the EU had moved towards the 2020 road safety target through constant progress of 6.7%, the greater reductions in road deaths in the years 2011-2017 would have increased the valuation of the benefit to society by about € 40 billion to about € 110 billion over those years (Fig.5, right column).

Fig.5 Reduction in the number of road deaths in EU28 over the period 2011-2017 and valuation at 2017 prices and value, together with the additional savings – both in deaths prevented and in value in € 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 (%).



Given the financial constraints 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 imperative of reducing road risk. The high value of societal costs avoided during 2011-2017 shows once more that the saving potential offered by sustained road safety improvements is considerable, making 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, as well as budgets for road maintenance.

1.5 A 54% 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, the three Baltic States achieved the highest reductions. Estonia and Latvia reduced the number of road deaths by 76% and Lithuania by 73% (Fig.6). They are followed by Spain with 66% reduction, Luxembourg with 64%, Portugal and Slovenia with 63%. However, the progress has been slow in Romania, Bulgaria, Israel, the Netherlands and Cyprus.

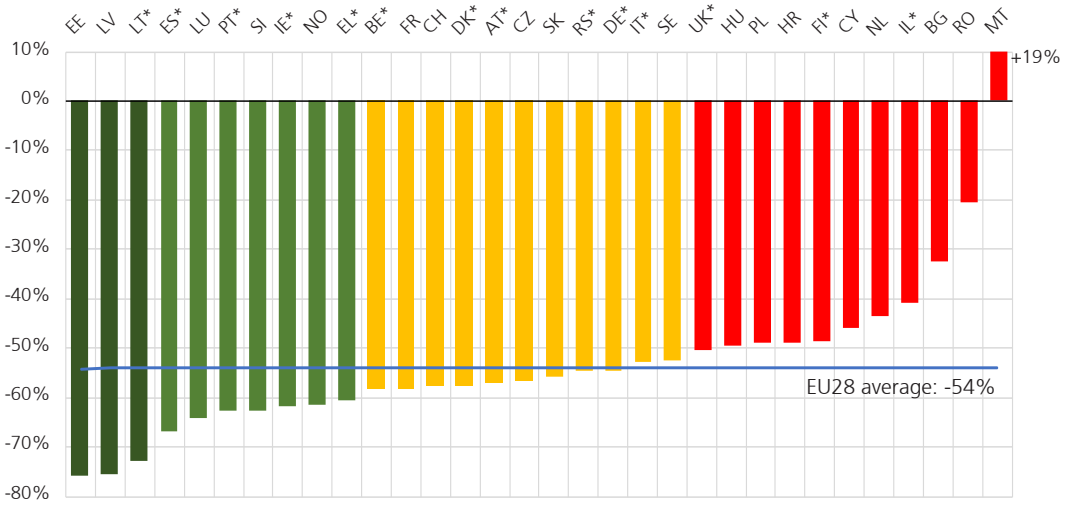


Fig.6: Relative change in road deaths (%) between 2001 and 2017. *National provisional estimates used for 2017, as final figures for 2017 are not yet available at the time of going to print. UK data for 2017 are the provisional total for Great Britain for the year ending September 2017 combined with the total for Northern Ireland for the calendar year 2017. Annual number of deaths in LU and MT are particularly small and, therefore, subject to substantial annual fluctuation. Annual numbers of deaths in CY and EE are also relatively small and, therefore, may be subject to annual fluctuations.

1.6 Norway and Sweden are the safest countries for road users

In the EU28 the overall level of road mortality was 50 deaths per million inhabitants in 2017, compared with 63 per million in 2010 (Fig.7). The mortality in the PIN countries still differs by a factor of three and a half between the groups of countries with the highest and the lowest risk.

Norway is the leader with 20 road deaths per million inhabitants, followed by Sweden, the UK and Switzerland with less than 28 per million inhabitants in 2017. These countries are also leaders in terms of road risk per billion vehicle-km (Fig.8). In Denmark, Ireland, the Netherlands, Estonia, Israel, Germany and Spain mortality is between 32 and 39 per million. The highest road mortality is in Romania and Bulgaria, with 99 and 96 road deaths per million inhabitants respectively.

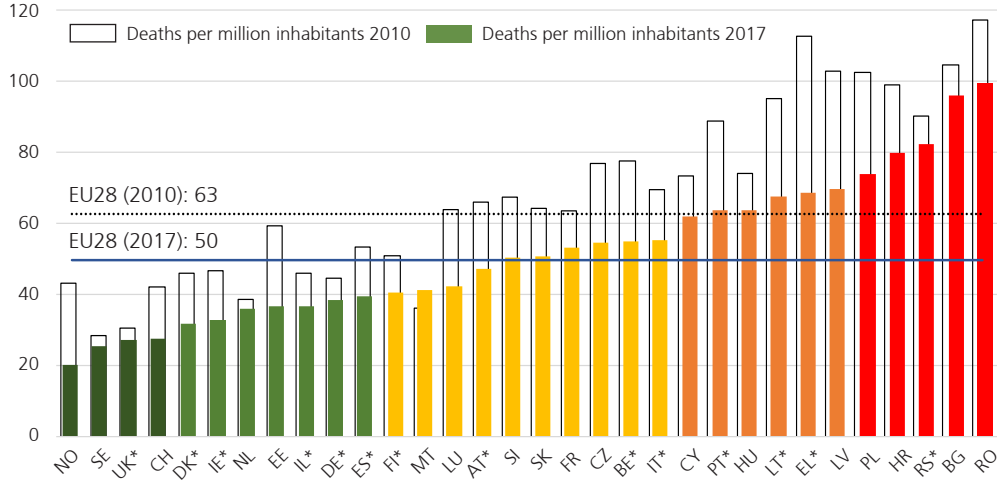
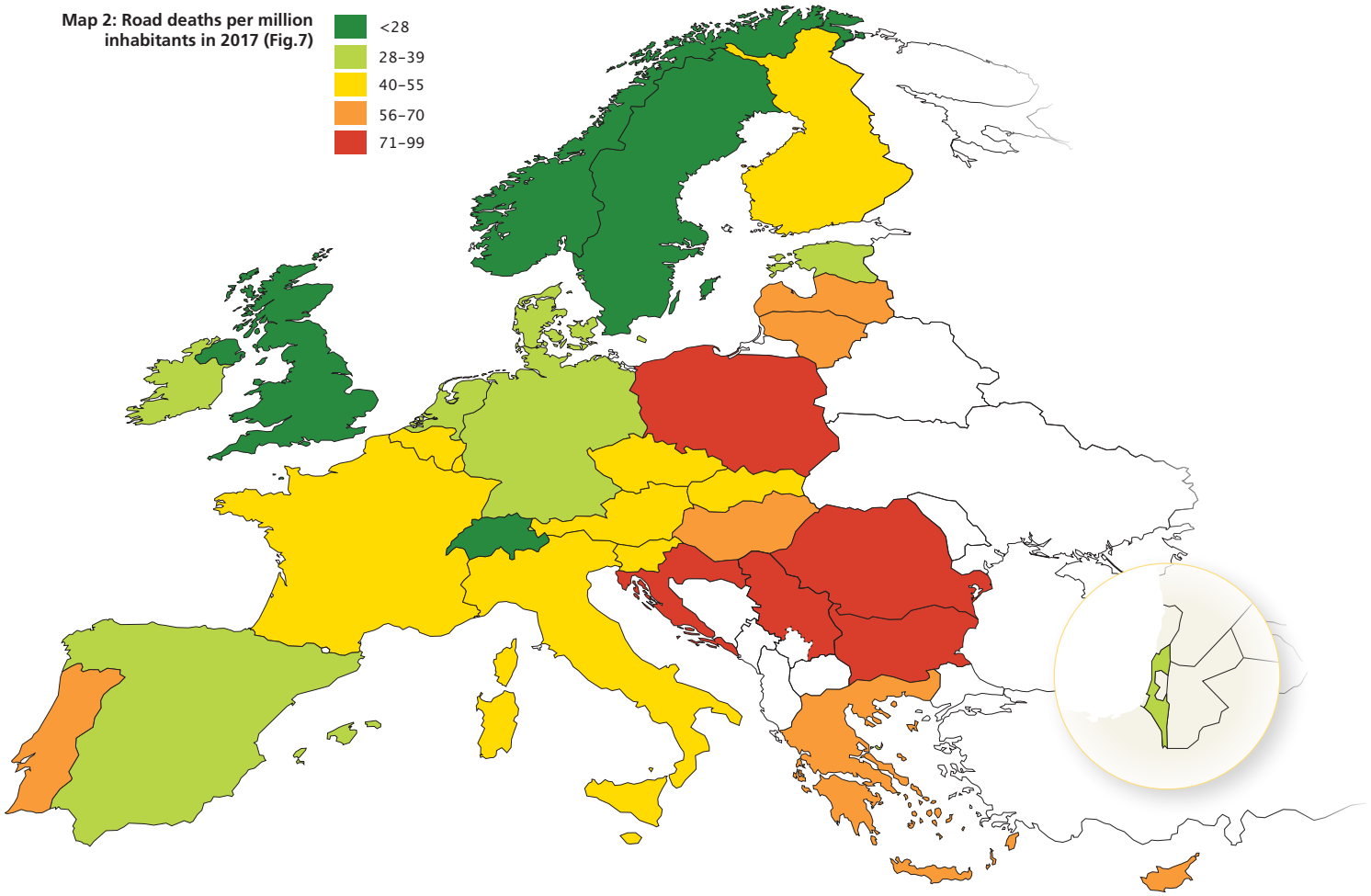


Fig.7: Mortality (road deaths per million inhabitants) in 2017 (with mortality in 2010 for comparison). *National provisional estimates used for 2017, as final figures for 2017 are not yet available at the time of going to print. UK data for 2017 are the provisional total for Great Britain for the year ending September 2017 combined with the total for Northern Ireland for the calendar year 2017. Numbers of deaths in LU and MT are particularly small and, therefore, particularly subject to substantial annual fluctuation. Annual numbers of deaths in CY and EE are also relatively small and, therefore, may be subject to annual fluctuations.

Map 2: Road deaths per million inhabitants in 2017 (Fig.7)

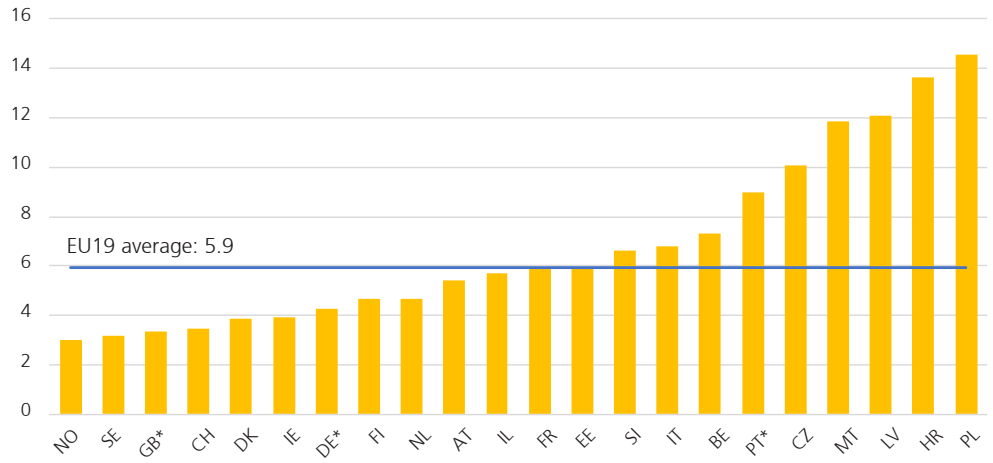


1.7 Road deaths per vehicle-distance travelled

Fig.8 shows the road risk measured in deaths per billion vehicle-km travelled for the 22 countries where up-to-date data are available. This indicator complements the well-established indicator of road mortality (Fig.7).

Measured in this way, Norway, Sweden, Great Britain and Switzerland have the lowest risk among the countries collecting up-to-date data (Fig.8) and risk in Poland and Croatia is around four times higher than in Norway, Sweden, Great Britain and Switzerland.

Fig.8: 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. 2015-2017 CZ, DE, EE, GB, HR, LV, MT, PT, SE, CH, NO, 2014-2016 AT, DK, FI, FR, IE, IT, NL, SI, IL; 2013-2015 BE, PL. *Provisional figures for road deaths in 2017. Data for GB is used instead of the UK as since 2014 data on distance travelled in Northern Ireland are not available.



Differences between the relative positions of countries in Fig.7 and Fig.8 can arise from differences in aspects such as the levels of motorcycling, cycling or walking, the traffic volume, the proportions of traffic on (safe) motorways or rural roads and different methods for estimating the distance travelled.

Recommendations to Member States

- Seek to reach current targets by all available means, including applying proven enforcement strategies according to the EC Recommendation on enforcement[29].
- Adopt and implement the safe system approach to road safety by addressing all elements of the road transport system in an integrated way and adopting shared overall responsibility and accountability between system designers and road users.[30]
- Provide sufficient government funds that allow the target-oriented setting of measures and set up financing and incentive models for the regional and local level.
- Start preparing post 2020 Road Safety Plans, including national targets for reducing serious injuries based on MAIS3+ alongside the reduction of road deaths and 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, including serious injuries in the impact assessment of countermeasures.
- Support and seek to strengthen the European Commission's proposals published on 17 May 2018 for new vehicle safety standards and updated rules on road infrastructure safety management.

[29] EC Recommendation on Enforcement in the Field of Road Safety 2004/345, http://goo.gl/Vw0zhN
[30] OECD-ITF (2016), Zero Road Death and Serious Injuries, Leading a Paradigm Shift to a Safe System approach, https://goo.gl/hTE4BG

PART II

LACK OF PROGRESS IN REDUCING SERIOUS ROAD TRAFFIC INJURIES, BUT THE TARGET GIVES HOPE FOR THE UPCOMING DECADE

2.1 The first EU target to halve serious road traffic injuries between 2020 and 2030

A long awaited new target for reducing serious road traffic injuries by 50% between 2020 and 2030 was announced by the European Commission on 17 May 2018.[31] The announcement follows the adoption of the Valletta declaration in 2017 by EU transport ministers who formally called for an EU-wide serious injury reduction target.[32]

In 2016, the European Commission announced that an estimated 135,000 people were seriously injured on EU roads in 2014, the first time an EU-wide figure had been published. This move required the adoption by all EU Member States of a common definition of what constitutes a serious road injury - an in-patient with an injury level of MAIS3 or more (see box below).

The official numbers for the seriously injured road users after 2014 according to the MAIS3+ definition has not been published by the European Commission by the time this report goes to press. Similarly, there are no data available for earlier years except for a few countries.

MAIS3+ definition

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.

How is serious injury data collected across the EU?

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 based on samples;
2. report the number of injured based on data from hospitals;
3. create a link between police and hospital data.

All methods used for estimating the number of serious traffic injuries (MAIS3+) are in one way or another based on hospital records. Even when applying correction to

[31] Communication from the Commission to the European Parliament, the Council and the European Economic and Social Committee and the Committee of the Regions, Europe on the Move, Sustainable Mobility for Europe: safe, connected, and clean, https://goo.gl/cEL1Cr

[32] Malta EU2017 (29.03.2017), Valletta declaration on road safety, https://goo.gl/tcF6Xe

police data, it is necessary to have samples of hospital data to derive the correction factors.[33] 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 2 or, if that is not possible nationwide, option 1. Within the framework of the SafetyCube project financed by the European Commission, a study was published on serious road traffic injury data reporting practices. The study provides guidelines and recommendations for each of the three main ways to estimate the number of serious road traffic injuries in order to assist Member States in MAIS3+ data collection.[34]

The numbers of serious injuries based on MAIS3+ are not yet fully comparable between the EU Member States due to different methods used for MAIS3+ data collection and varying quality of the data: this is why, in Fig.9 and 10, the numbers of seriously injured according to the prevailing national definition are used instead.

2.2 EU progress in reducing serious road traffic injures since 2010 is lacking

In addition to MAIS3+ data, Member States should also continue collecting data based on their previous national definitions. This will enable monitoring 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.

It is not possible to compare the number of seriously injured between PIN countries according to national definitions of serious injury as both the definitions and the levels of underreporting vary widely. Our comparison therefore takes as a starting point the changes in the numbers of seriously injured according to the national definitions since 2010 (Fig.9).

In most of the PIN countries serious road injuries based on the national definition are recorded by the police. Sample studies have shown that the actual number of serious injuries is often considerably higher than the officially recorded number based on police reports. In general, the lower the injury severity, the higher the underreporting in police 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. Single vehicle collisions with no other road users involved may also be underreported.

Fig.9 shows the relative change in the number of seriously injured over the period 2010-2017 using current national definitions of serious injury. National definitions supplied by PIN panellists are available in the Annexes.

The number of recorded serious road traffic injuries based on national definitions decreased in 16 out of 23 EU countries that collect data. However, in the EU23 collectively the progress in reducing serious road traffic injures has stagnated since 2010 (Fig.9). Serious injuries recorded in the Netherlands, Bulgaria, Germany and the UK have increased and this has had a significant effect on the EU average as recorded serious injuries in these countries represent over 50% of all recorded serious road traffic injuries in the EU23. The number of seriously injured increased by 44% in Malta, 12% in the Netherlands, 7% in Bulgaria, 6% in Germany and the UK since 2010.

[33] SafetyCube (2016), Practical guidelines for the registration and monitoring of serious traffic injuries, Deliverable 7.1, https://goo.gl/hWHPCG
[34] Ibid

At the other end of the ranking is Greece – it achieved the biggest decrease in the number of recorded serious road injuries since 2010 with 59% reduction, followed by Cyprus with 34% and Belgium with 31%.

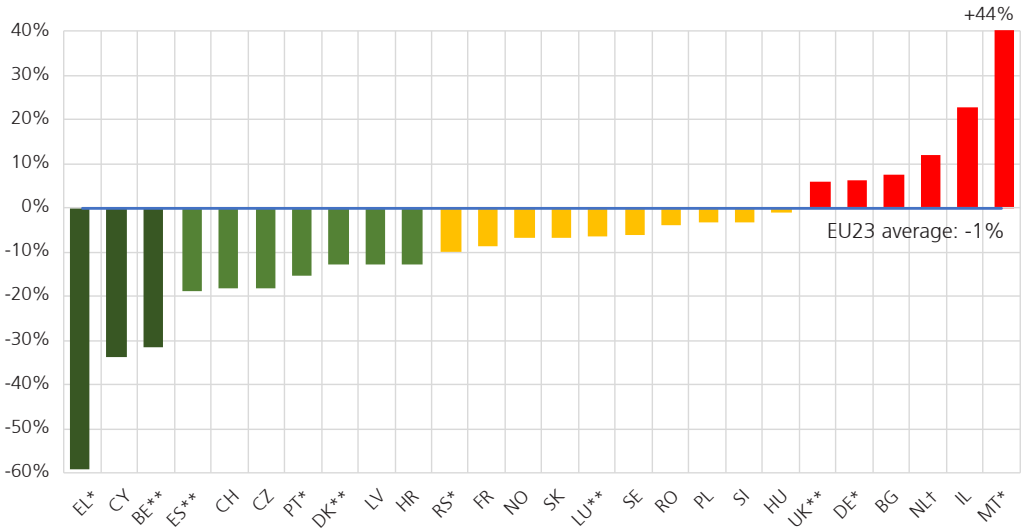


Fig.9 Relative change (%) in recorded serious injuries (national definitions) over the period 2010 and 2017 for countries where data are available. *National provisional estimates used for 2017, as final figures for 2017 are not yet available at the time of going to print.**2010-2016. †National definition is MAIS2+, linked police and hospital records, 2010-2016. Substantial changes in reporting system were introduced in AT in 2012 and in IE in 2014, therefore AT and IE are excluded from the figure. Numbers of serious injuries from AT are included in the EU average. EU countries using a definition of seriously injured similar to having injuries requiring at least one night in a hospital as an in-patient: BE, CY, DE, EE, ES, FR, EL, IE, LV, LU, PT, UK, CH, IL.

2.3 Annual reduction in serious injuries continues to lag behind road death reduction

Fig.10 gives an overview of national progress in reducing the number of road deaths and the numbers 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, while the EU averages are shown by dotted lines. Green markers are used for countries having performed better than the EU average in both deaths and serious injury reduction, 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.

Denmark, Spain, Greece, Norway, Croatia, Latvia, Poland, Slovakia, Portugal, Slovenia, Switzerland, the Czech Republic, the UK, Cyprus and Belgium have performed better than the EU average in reducing both seriously injured and road deaths. Greece, Cyprus and Belgium reduced serious road injuries at a faster pace than road deaths. The annual reduction rates of serious road traffic injuries are also related to reporting rates.

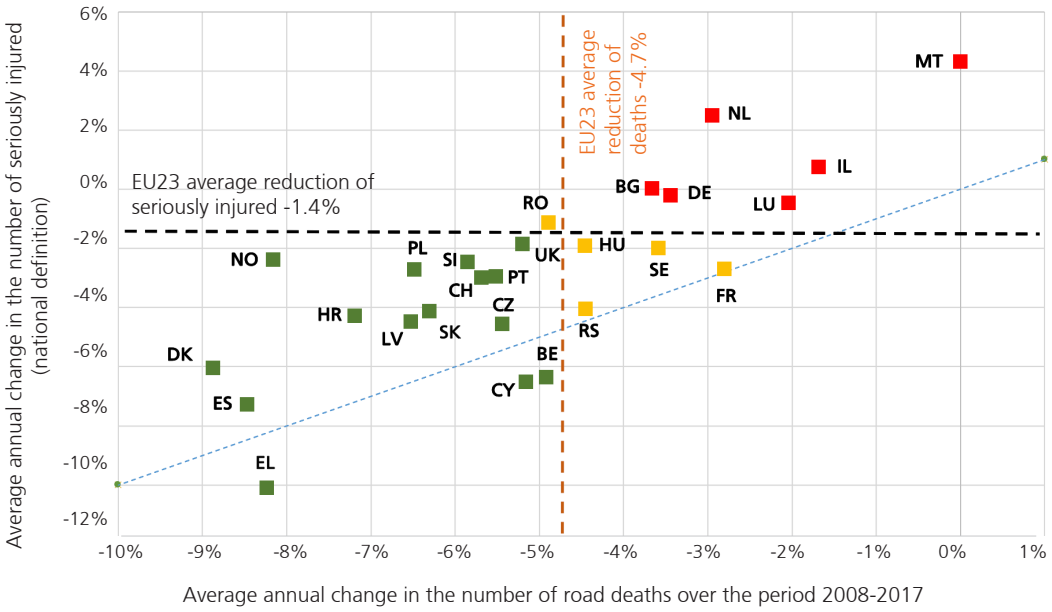


Fig.10 Estimated average annual change in the numbers of serious injured by national definition over the period 2008-2017 for countries where data are available, plotted against the estimated average annual change in road deaths over the same period. Countries below blue dotted line reduced the number of serious road traffic injuries at a faster pace than the number of road deaths. BE, DK, ES, LU, NL and UK 2007-2016 as serious injury data for 2017 are not available, NL – data on MAIS2+ or more, SE – hospital data. Substantial changes in reporting system were introduced in AT in 2012 and in IE in 2014, therefore AT and IE are excluded from the figure. Numbers of serious injuries from AT are included in the EU average.

INDICATOR Fig.9 and 10

The numbers of seriously injured were supplied by the PIN panellists in each country using the prevailing national definition. The full dataset, together with the national definitions, is available in the Annexes. The numbers of people seriously injured based on national definitions in 2017 are provisional in Germany, Greece, Malta, Portugal and Serbia. 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 is 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.

Recommendations to Member States

- Set national reduction targets for seriously injured based on MAIS3+ alongside the reduction of deaths.
- Collect serious injury data according to the MAIS3+ definition. Allow professionals responsible for collecting serious injury data to have access to hospital data.
- Include serious injuries in the impact assessment of countermeasures.
- Streamline the emergency response chain and increase the quality of trauma management in order to mitigate collision consequences more effectively.

Recommendations to EU institutions

- Allocate the resources necessary for 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.
- Engage with Eurostat and the World Health Organisation to improve the data already collected by Eurostat, allowing it to be used for estimating the number of serious injuries as well.
- 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.

PART III

EU ROAD SAFETY STRATEGIC ACTION PLAN 2021-2030

3.1 Targets and framework of the strategy 2021-2030

On 17 May 2018, the European Commission (EC) published the "Third Mobility Package" including the EU Strategic Action Plan on Road Safety. The document outlines the main measures to be taken before the end of the current Commission's mandate ending in 2019 with a corresponding timetable, as well as envisaged actions post-2019.[35]

While the published document is only a preamble to the EU road safety policy framework 2021-2030 planned for next year, it gives a glimpse into what can be expected in the upcoming decade. The EU 10-year action programme will be guided by the long term Vision Zero and embody the Safe System approach. The progress will be monitored with the help of key performance indicators (KPI).

As a follow up to the Valletta Declaration[36], the EC Strategic Action Plan on Road Safety includes a new long-term target to halve road deaths between 2020 and 2030 as well as, for the first time, a target to reduce serious injuries by the same proportion.[37] Serious injury trends will be followed using the common MAIS3+ definition. In 2014, around 135,000 people were seriously injured in the EU based on the common EU definition MAIS3+ according to estimates by the European Commission. The estimation has not been updated because of lack of progress in MAIS3+ data collection across the EU. Researchers in the SafetyCube project have made a series of concrete recommendations to the European Commission and Member States, which should be followed up.[38] Researchers highlighted the urgent need for the EU to help road safety professionals responsible for collecting MAIS data to get access to hospital data. Eurostat, World Health Organisation, DG-MOVE and DG Health and Food Safety should collaborate to improve the data already collected by Eurostat, allowing it to be used for estimating the number of serious injuries as well. The European Commission should facilitate the exchange of best practice in recording procedures and support the training of professionals working with data.

3.2 Priority actions

ETSC proposes that priorities for the next decade's Strategic Plan are split between the continued work on reducing 'traditional' risks such as drink-driving, excessive or inappropriate speed, distraction and failure to wear a seat belt and tackling the new and rapidly evolving challenges of automation and connectivity. Measures should be implemented applying the principles of the safe system approach to prevent serious road collisions and where not possible – limit their consequences.

The European Commission proposes to mandate important vehicle safety features as standard, such as overridable Intelligent Speed Assistance and Automated Emergency Braking with pedestrian and cyclist detection. In the area of infrastructure it proposes

[35] European Commission (17.05.2018), Europe on the Move: Commission completes its agenda for safer, clean and connected mobility, https://goo.gl/8jTA9t
[36] Malta EU2017 (29.03.2017), Valletta declaration on road safety, https://goo.gl/tcF6Xe
[37] European Commission Communication (17.05.2018), Europe on the Move, Sustainable Mobility for Europe: safe, connected, and clean, https://goo.gl/6yoq9m
[38] Pérez, K (2016) Practical guidelines for the registration and monitoring of serious traffic injuries, D7.1 of the H2020 project SafetyCube, p. 77-78.

revisions to the current Directive to define general performance standards for road markings and road signs to ensure a coherent travel experience for all road users and to contribute to the roll-out of connected and autonomous mobility systems.

3.3 Actions to reduce serious injury

ETSC welcomes the proposed measures regarding serious road traffic injuries, such as the evaluation of eCall and the possible eCall extension to other vehicle categories.[39] However, more focus should be given to specific measures for reducing serious injuries.

Many serious injuries could be avoided by reducing speed, thus actions such as ISA, speed enforcement and infrastructure to reduce speed should all be prioritised. Given the high numbers of serious injuries in urban areas, actions could include preparing guidelines to promote best practice in traffic calming measures, supporting area-wide urban safety management, in particular when 30km/h zones are introduced and mainstreaming road safety in sustainable urban mobility plans. The EC should actively encourage Member States to develop effective post-collision care to ensure that all countries offer equally high standards of rescue, hospital care and long-time rehabilitation following a road collision. More should be done on tertiary safety enabling swift access to victims in case of a crash by providing information to rescue services on vehicle construction.

3.4 Financial support for road safety

Between 1.5 and 2 billion € of the EU budget is spent every year on building roads in the EU. The TEN-T guidelines and accompanying Connecting Europe Facility fund, put into place in 2014, include a specific reference to the two main infrastructure directives: Directive 2008/96 and Directive 2004/54. The TEN-T Guidelines need to be strengthened to prioritise upgrading road infrastructure to meet safety requirements. Similarly strong 'conditionality' to comply with EU infrastructure safety legislation which exists now in the TEN-T Guidelines and road safety policy priorities should be extended to all EU funds including the European regional development funds and the cohesion fund including projects in urban areas.[40]

In the next decade the EC will encourage the use of EU financial support for road safety upgrades of infrastructure - especially in Member States with poor road safety performance - and encourage the use of the Connecting Europe Facility and the regional funds. The EC is going to streamline and strengthen funding for road safety actions, such as joint cross-border traffic law enforcement operations. Moreover, the EC is investigating possibilities to financially support capacity building at Member State level, such as development of a methodology for key performance indicator data collection.[41]

3.5 Enforcement

The EC's Strategic Action Plan on Road Safety recognises the importance of enforcing safe behaviour. The EC will assess the option to improve the effectiveness of the Cross-Border Enforcement Directive. The EC will also produce guidance on the use of alcohol interlocks and will start investigation into how to strengthen the EU recommendation on permitted BAC limits, for example by recommending stricter limits for professional drivers and/or novice drivers.[42] This is already included in the Recommendation dating from 2001[43] and at the present time nine EU Member States have still not introduced lower BAC limits for these groups. The EC needs to see what other incentives could be identified to encourage countries to implement the recommendations.

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[39] European Commission (17.05.2018), Europe on the Move: Commission completes its agenda for safer, clean and connected mobility, https://goo.gl/8jTA9t

[40] ETSC (2018), Position Paper, EU Funds for Road Safety in the Multiannual Financial Framework 2021-2027, https://goo.gl/FxcZRG

[41] Ibid

[42] Ibid

[43] Commission recommendation of 17 January 2001 on the maximum permitted blood alcohol content (BAC) for drivers of motorised vehicles, https://goo.gl/gggZEg

3.6 Work-related road safety and procurement

Up to 40% of all road deaths in the EU are work-related.[44] Given the scope of the problem, the European Commission should foresee more actions on this important issue than simply seeking voluntary commitments.

At present vans are not covered by several pieces of EU legislation, particularly related to driving and resting times. Urban freight logistics have shifted towards vans and van use in Europe will continue to rise.[45] Thus, the EU should ensure a level playing field for all commercially used vehicles across Member States, as mandating different safety technologies for different categories will increase adverse effects on road safety.

Duty of care, occupational safety and health (OSH) and road safety compliance are legal necessities in all EU Member States and employers must take them into consideration. The EU Directive 89/391/EEC on health and safety of workers requires every employer in Europe to undertake a risk assessment according to the principle of prevention.[46] This includes employees travelling for work. The Commission should be outlining clearly the best ways for national governments to provide guidance to employers. This should include how to conduct work-related road risk assessments and examples of good practice. If done properly, the application of the Directive 89/391/EEC on health and safety of workers would cover the suggested development of a company road safety policy.

Under procurement ETSC welcomes the proposal of the EC to explore how public authorities could access financial support for procuring safer fleets. At the same time, the Commission should be revising its existing legislation on public procurement 2014/24/EU by including "safe workers" under the social clause.[47] ETSC advocates a more precise interpretation of the clause so as to include reducing road risk. That would encourage or even oblige procurers to develop and apply criteria on work-related road safety. For example, obliging public authorities to adopt safety criteria when procuring cars so that they all have a Euro NCAP five-star rating. The EU itself should be leading by example by implementing work-related road safety management programmes for the EU institutions and their own vehicle fleets.[48]

3.7 In defence of EU road safety legislation

A large number of the proposed actions under each of the headings of the EC's Strategic Action Plan on Road Safety come under 'voluntary commitments' from stakeholders. Voluntary commitments are welcome, especially in new areas as a precursor to legislation. However, non-binding actions may not be completed or the scope of such actions might be very limited. For example, the EC proposes that driving schools should train new and existing drivers and riders in how to use new vehicle safety features. The ETSC is calling for a revision of the EU Directive 2006/126 on driving licences to make sure all novice drivers are trained to use the new technologies and semi or fully automated vehicles.

Regulation is needed to ensure that safety benefits are spread faster among the entire fleet of new vehicles and that safety improvements are not limited to better informed or wealthier consumers.[49]

[44] ETSC (2017), Tapping the potential for reducing work-related road deaths and injuries, https://goo.gl/1aELxh
[45] ETSC (2013), 7th Road Safety PIN Report. Chapter 2: Towards safer transport of goods and passengers in Europe, https://goo.gl/6JJ2Lh
[46] Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work, https://goo.gl/TAJiSg
[47] Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC, https://goo.gl/nCxpXx
[48] ETSC (2015) Reducing Road Risk at Work through Procurement, https://goo.gl/hVUsNZ
[49] ETSC Position (2017) Review of the General Safety Regulation 2009/661, https://bit.ly/2kpqYC0

Recommendations to the European Commission

Within the context of the 5th EU Road Safety Strategy:

- Deliver the actions listed in the Strategic Action Plan on Road Safety for 2018 and 2019, e.g. agree with Member States on a list of key performance indicators to monitor progress.[50]
- Adopt a long-term operational Plan for 2030, including investments in measures, a timetable and structure for delivering the two targets already endorsed.[51]

Within the context of the EU strategy for automated mobility[52]:

- Develop a coherent and comprehensive EU regulatory framework for the deployment of automated vehicles.[53]
- Revise type approval standards to cover all the new safety functions of automated vehicles, to the extent that an automated vehicle will pass a comprehensive test equivalent to a 'driving test'. This should take into account high risk scenarios for occupants and road users outside the vehicle.[54]

Within the context of the revision of the Cross-Border Enforcement Directive 2015/413[55]:

- Strengthen the enforcement chain, including mandatory notification of the owner of the vehicle by the country of offence.
- Work towards consistent levels of enforcement of Driving and Resting times across the EU.

Within the context of the revision of the Driving Licence Directive 2006/126[56]:

- Ensure that the Directive remains valid for new technologies and autonomous and semi-autonomous driving.

Within the context of the revision the Regulation 561/2006/EC concerning driving times and rest periods:

- Extend the current legislative framework for professional driver training, driving and resting hours to van drivers.

Recommendations to the Council and the European Parliament

Within the context of the revision of Regulation 2009/661 concerning Type-Approval Requirements for the General Safety of Motor Vehicles[57] and the revision of the Road Safety Management Directive 2008/96[58]:

- Support and seek to strengthen the European Commission's proposals published on 17 May 2018 for new vehicle safety standards[59] and updated rules on road infrastructure safety management.[60]

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[50] European Commission (2018), Annex 1 Strategic Action Plan on Road Safety, Europe on the Move, Sustainable Mobility for Europe: safe, connected, clean, https://goo.gl/9dx2yC
[51] ETSC (2018) Briefing: 5th EU Road Safety Action Programme 2020-2030, https://goo.gl/ZX33s1
[52] European Commission (17.05.2018), Communication from the European Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions On the road to automated mobility: An EU strategy for mobility of the future, https://goo.gl/kdqY6V
[53] ETSC (2016), Prioritising the Safety Potential of Automated Driving in Europe, https://goo.gl/TojCUL
[54] Ibid
[55] Directive (EU) 2015/413 of the European Parliament and of the Council of 11 March 2015 facilitating cross-border exchange of information on road-safety-related traffic offences, https://goo.gl/iZgQys
[56] Directive 2006/126/EC of the European Parliament and of the Council of 20 December 2006 on driving licences, https://goo.gl/cDJt8i
[57] European Commission (17.05.2018), Proposal for a Regulation of the European Parliament and of the Council on type-approval requirements for motor vehicles and their trailers, and systems, components and separate technical units intended for such vehicles, as regards their general safety and the protection of vehicle occupants and vulnerable road users, amending Regulation (EU) 2018/… and repealing Regulation (EC) No 78/2009, (EC) No 79/2009 and (EC) No 661/2009, https://goo.gl/5yS8RE
[58] European Commission (17.05.2018), Proposal for a Directive of the European Parliament and of the Council amending Directive 2008/96/EC on road infrastructure safety management, https://goo.gl/mEvRVf
[59] ETSC (2017), Position Paper, Position Paper: Revision of the General Safety Regulation, https://goo.gl/EidxmS
[60] ETSC (2018), Position Paper, Revision of the Road Infrastructure Safety Management Directive 2008/96 and Tunnel Safety Directive 2004/54, https://goo.gl/mtpKto

ANNEXES

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

Table 1 (Fig.1,2) Road deaths and relative change in road deaths between 2016 and 2017 and between 2010 and 2017.

	2010	2011	2012	2013	2014	2015	2016	2017
AT*	552	523	531	455	430	479	432	413
BE*	841	862	770	724	727	732	637	620
BG	776	658	605	601	655	708	708	682
CY	60	71	51	44	45	57	46	53
CZ	802	773	742	654	688	737	611	577
DE*	3,651	4,009	3,601	3,340	3,368	3,459	3,206	3,177
DK*	255	220	167	191	183	178	211	183
EE	79	101	87	81	78	67	71	48
ES*[1]	2,478	2,060	1,903	1,680	1,688	1,689	1,810	1,827
FI*	272	292	255	258	229	270	250	223
FR	3,992	3,963	3,653	3,268	3,384	3,461	3,477	3,448
EL*	1,258	1,141	988	879	795	793	824	739
HR	426	418	393	368	308	348	307	331
HU	740	638	605	591	626	607	597	624
IE*	212	186	163	188	193	162	186	157
IT*	4,114	3,860	3,753	3,401	3,381	3,428	3,283	3,340
LU	32	33	34	45	35	36	32	25
LV	218	179	177	179	212	188	158	136
LT*	299	297	302	258	267	242	192	192
MT	15	17	9	18	10	11	22	19
NL[3]	640	661	650	570	570	620	629	613
PL	3,907	4,189	3,571	3,357	3,202	2,938	3,026	2,831
PT*	937	891	718	637	638	593	563	624
RO	2,377	2,018	2,042	1,861	1,818	1,893	1,913	1,951
SE	266	319	285	260	270	259	270	253
SI	138	141	130	125	108	120	130	104
SK	353	328	352	251	295	310	275	276
UK[2]	1,905	1,960	1,802	1,769	1,854	1,804	1,860	1,783
CH	327	320	339	269	243	253	216	230
IL*	352	341	263	277	279	322	335	321
NO	210	168	145	187	147	117	135	106
RS*	660	731	688	650	536	599	607	579
EU28	**31,595**	**30,808**	**28,339**	**26,053**	**26,057**	**26,189**	**25,726**	**25,249**

	Fig.1 2016-2017
EE	-32.4%
LU	-21.9%
NO	-21.5%
SI	-20.0%
IE*	-15.6%
LV	-13.9%
MT	-13.6%
DK*	-13.3%
FI*	-10.8%
EL*	-10.3%
PL	-6.4%
SE	-6.3%
CZ	-5.6%
RS*	-4.6%
AT*	-4.4%
IL*	-4.2%
UK[2]	-4.1%
BG	-3.7%
BE*	-2.7%
NL[3]	-2.5%
DE*	-0.9%
FR	-0.8%
LT*	0.0%
SK	0.4%
ES*[1]	0.9%
IT*	1.7%
RO	2.0%
HU	4.5%
CH	6.5%
HR	7.8%
PT*	10.9%
CY	15.2%
EU28	**-1.9%**

	Fig.2 2010-2017
NO	-49.5%
EL*	-41.3%
EE	-39.2%
LV	-37.6%
LT*	-35.8%
PT*	-33.4%
CH	-29.7%
DK*	-28.2%
CZ	-28.1%
PL	-27.5%
BE*	-26.3%
ES*[1]	-26.3%
IE*	-25.9%
AT*	-25.2%
SI	-24.6%
HR	-22.3%
LU	-21.9%
SK	-21.8%
IT*	-18.8%
FI*	-18.0%
RO	-17.9%
HU	-15.7%
FR	-13.6%
DE*	-13.0%
RS*	-12.3%
BG	-12.1%
CY	-11.7%
IL*	-8.8%
UK[2]	-6.4%
SE	-4.9%
NL[3]	-4.2%
MT	26.7%
EU28	**-20.1%**

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

* National provisional estimates used for 2017, as the final figures for 2017 were 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] UK - 2017 estimate is based on GB provisional total for the year ending September 2017 (1720 deaths) and the final data for Northern Ireland for the calendar year 2017 (63 deaths).

[3] 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.6,10) Road deaths and relative change in road deaths between 2001 and 2017 and estimated average relative annual change 2008-2017.

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
AT*	958	956	931	878	768	730	691	679	633	552	523	531	455	430	479	432	413
BE*	1,486	1,355	1,213	1,162	1,089	1,073	1,071	944	943	841	862	770	724	727	732	637	620
BG	1,011	959	960	943	957	1,043	1,006	1,061	901	776	658	605	601	655	708	708	682
CY	98	94	97	117	102	86	89	82	71	60	71	51	44	45	57	46	53
CZ	1,334	1,431	1,447	1,382	1,286	1,063	1,222	1,076	901	802	773	742	654	688	737	611	577
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	3,459	3,206	3,177
DK*	431	463	432	369	331	306	406	406	303	255	220	167	191	183	178	211	183
EE	199	223	164	170	169	204	196	132	100	79	101	87	81	78	67	71	48
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	1,689	1,810	1,827
FI*	433	415	379	375	379	336	380	344	279	272	292	255	258	229	270	250	223
FR	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	3,477	3,448
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	793	824	739
HR	647	627	701	608	597	614	619	664	548	426	418	393	368	308	348	307	331
HU	1,239	1,429	1,326	1,296	1,278	1,303	1,232	996	822	740	638	605	591	626	607	597	624
IE*	411	376	335	374	396	365	338	279	238	212	186	163	188	193	162	186	157
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	3,428	3,283	3,340
LU	70	62	53	50	47	43	45	35	48	32	33	34	45	35	36	32	25
LV	558	559	532	516	442	407	419	316	254	218	179	177	179	212	188	158	136
LT*	706	697	709	752	773	760	740	499	370	299	297	302	258	267	242	192	192
MT	16	16	16	13	16	10	14	15	21	15	17	9	18	10	11	22	19
NL[3]	1,083	1,069	1,088	881	817	811	791	750	720	640	661	650	570	570	620	629	613
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	3,026	2,831
PT*[4]	1,670	1,668	1,542	1,294	1,247	969	974	885	840	937	891	718	637	638	593	563	624
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	1,913	1,951
SE[5]	534	515	512	463	423	428	454	380	341	266	319	285	260	270	259	270	253
SI	278	269	242	274	257	262	293	214	171	138	141	130	125	108	120	130	104
SK	625	626	653	608	600	608	661	606	385	353	328	352	251	295	310	275	276
UK[2]	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	1,854	1,804	1,860	1,783
CH	544	513	546	510	409	370	384	357	349	327	320	339	269	243	253	216	230
IL*	542	525	445	467	437	405	382	412	314	352	341	263	277	279	322	335	321
NO	275	310	280	258	224	242	233	255	212	210	168	145	187	147	117	135	107
RS*	1,275	854	868	960	843	911	968	905	809	660	731	688	650	536	599	607	579
EU28	55,092	54,174	51,165	48,017	45,981	43,781	43,215	39,713	35,427	31,595	30,808	28,339	26,053	26,057	26,189	25,726	25,249

	Fig.6 2001-2017
EE	-75.9%
LV	-75.6%
LT*	-72.8%
ES*[1]	-66.5%
LU	-64.3%
PT*[4]	-62.6%
SI	-62.6%
IE*	-61.8%
NO	-61.1%
EL*	-60.7%
BE*	-58.3%
FR	-58.2%
CH	-57.7%
DK*	-57.5%
AT*	-56.9%
CZ	-56.7%
SK	-55.8%
RS*	-54.6%
DE*	-54.5%
IT*	-52.9%
SE[5]	-52.6%
UK[2]	-50.4%
HU	-49.6%
PL	-48.8%
HR	-48.8%
FI*	-48.5%
CY	-45.9%
NL[3]	-43.4%
IL*	-40.8%
BG	-32.5%
RO	-20.4%
MT	18.8%
EU28	-54.1%

	Fig,10 Annual average change in the number of road deaths over the period 2008-2017	
DK*	-8.9%	2007-2016
LT*	-8.5%	
ES*[1]	-8.5%	2007-2016
EL*	-8.2%	
NO	-8.2%	
EE	-7.7%	
HR	-7.2%	
LV	-6.5%	
PL	-6.5%	
SK	-6.3%	
SI	-5.9%	
CH	-5.7%	
PT*[4]	-5.5%	
CZ	-5.4%	
AT*	-5.4%	2007-2016
UK[2]	-5.2%	2007-2016
CY	-5.2%	
BE*	-4.9%	2007-2016
RO	-4.9%	
IE*	-4.7%	
HU	-4.5%	
RS*	-4.4%	
IT*	-3.8%	
BG	-3.7%	
SE[5]	-3.6%	
DE*	-3.4%	
FI*	-3.2%	
NL[3]	-2.9%	2007-2016
FR	-2.8%	
LU	-2.0%	2007-2016
IL*	-1.7%	
MT	0.0%	
EU23	-4.7%	

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

* National provisional estimates used for 2017, as the final figures for 2017 were 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] UK - 2017 estimate is based on GB provisional total for the year ending September 2017 (1720) and the final data for Northern Ireland for the calendar year 2017 (63 deaths).

[3] 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.

[4] 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

[5] 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.

Table 3 (Fig.7) Road deaths per million inhabitants in 2017 and 2010.

	2017			2010		
	Road deaths	Inhabitants	Deaths per mln inhabitants	Road deaths	Inhabitants	Deaths per mln inhabitants
NO	106	5,258,317	20	210	4,858,199	43
SE	253	9,995,153	25	266	9,340,682	28
UK[2]	1,783	65,808,573	27	1,905	62,510,197	30
CH	230	8,419,550	27	327	7,785,806	42
DK*	183	5,748,769	32	255	5,534,738	46
IE*	157	4,784,383	33	212	4,549,428	47
NL[3]	613	17,081,507	36	640	16,574,989	39
EE	48	1,315,635	36	79	1,333,290	59
IL*	321	8,796,800	36	352	7,695,100	46
DE*	3,177	82,800,000	38	3,651	81,802,257	45
ES*	1,827	46,528,024	39	2,478	46,486,619	53
FI*	223	5,503,297	41	272	5,351,427	51
MT	19	460,297	41	15	414,027	36
LU	25	590,667	42	32	502,066	64
AT*	413	8,772,865	47	552	8,375,290	66
SI	104	2,065,895	50	138	2,046,976	67
SK	276	5,443,120	51	353	5,390,410	65
FR	3,448	65,018,096	53	3,992	62,765,235	64
CZ	577	10,578,820	55	802	10,462,088	77
BE*	620	11,322,088	55	841	10,839,905	78
IT*	3,340	60,589,445	55	4,114	59,190,143	70
CY	53	854,802	62	60	819,140	73
PT*	624	9,809,414	64	937	10,573,479	89
HU	624	9,797,561	64	740	10,014,324	74
LT*	192	2,847,904	67	299	3,141,976	95
EL*	739	10,768,193	69	1,258	11,183,516	112
LV	136	1,950,116	70	218	2,120,504	103
PL	2,831	38,432,992	74	3,907	38,167,329	102
HR	331	4,154,213	80	426	4,302,847	99
RS*	579	7,040,272	82	660	7,306,677	90
BG	682	7,101,859	96	776	7,421,766	105
RO	1,951	19,638,309	99	2,377	20,294,683	117
EU 28	**25,249**	**509,761,997**	**50**	**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 2017, as the final figures for 2017 were not yet available at the time of going to print.

Table 4 (Fig.8) Road deaths per billion vehicle-kilometers, average years 2015-2017 or the last three years available.

	Road deaths three years average	Average distance travelled (in millions)	Deaths per billion vehicle-km[1]	Time period covered
NO	119	44,887	**2.7**	2015-2017
SE	261	82,560	**3.2**	2015-2017
GB[2]	1,747	518,133	**3.4**	2015-2017
CH	233	66,660	**3.5**	2015-2017
DK	191	48,914	**3.9**	2014-2016
IE	180	45,639	**4.0**	2014-2016
DE*	3,281	768,467	**4.3**	2015-2017
FI	250	53,362	**4.7**	2014-2016
NL	606	129,047	**4.7**	2014-2016
AT	447	82,746	**5.4**	2014-2016
IL	312	54,813	**5.7**	2014-2016
FR	3,441	585,633	**5.9**	2014-2016
EE	62	10,391	**6.0**	2015-2017
SI	119	18,034	**6.6**	2014-2016
IT	3,364	495,115	**6.8**	2014-2016
BE	728	99,076	**7.3**	2013-2015
PT*	593	68,019	**8.7**	2015-2017
CZ	642	52,908	**10.1**	2015-2017
MT	17	1,460	**11.9**	2015-2017
LV	161	13,264	**12.1**	2015-2017
HR	329	24,145	**13.6**	2015-2017
PL	3,166	217,315	**14.6**	2013-2015
EU19	**19,584**	**3,314,230**	**5.9**	
BG	699	n/a		2015-2017
CY	52	n/a		2015-2017
ES*	1,775	n/a		2015-2017
EL*	785	n/a		2015-2017
HU	609	n/a		2015-2017
LU	31	n/a		2015-2017
LT*	209	n/a		2015-2017
RO	1,919	n/a		2015-2017
SK	287	n/a		2015-2017
UK*	1,816	n/a		2015-2017
RS	595	n/a		2015-2017

EU19 average: EU28 excluding BG, CY, ES, EL, HU, LU, LT, SK and RO due to lack of data on vehicle distance travelled.
*National provisional estimates used for 2017, as the final figures for 2017 were not yet available at the time of going to print.
[1] Data provided by PIN panellists. Member States are using different methods for estimating the numbers of distance travelled.
[2] GB - data for Great Britain is used instead of the UK as since 2014 data on distance travelled in Northern Ireland are not available.

Table 5 (Fig.9,10) Number of seriously injured according to national definition (see table 6 for definition) and relative change in serious injuries between 2010-2017 and annual average relative change over the period 2008-2017.
Some countries are taking the lead in collecting number of people seriously injured as MAIS3+.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
AT	7,147	6,783	6,652	6,370	6,397	8,017	7,344	7,434	7,486	7,566	
AT MAIS3+				1,516	1,522	1,554	1,405	1,410	1,309	1,389	
BE*	6,997	6,782	6,647	5,982	6,168	5,277	4,947	4,502	4,201	4,103	
BE MAIS3+								3,979			
BG	9,827	9,952	8,674	8,080	8,303	8,193	8,776	8,640	8,971	9,374	8,680
BG MAIS3+				2,451	2,366	2,204	2,034	2,175	2,295	2,503	1,943
CY*	717	661	647	586	561	551	407	467	377	406	388
CY MAIS3+								83			
CZ	3,889	3,747	3,491	2,788	3,045	2,934	2,721	2,714	2,487	2,530	2,286
DE*	75,443	70,644	68,567	62,620	68,985	66,279	64,045	67,709	67,706	67,426	66,495
DE MAIS3+								14,645			
DK	3,138	2,831	2,498	2,063	2,172	1,952	1,891	1,798	1,780	1,797	
EE*						476	501	455	449	469	475
ES*	19,295	16,488	13,923	11,995	11,347	10,444	10,086	9,574	9,495	9,755	
ES MAIS3+				7,331	7,420	7,047	6,613	6,343			
FI[2]				1,326	1,308			519	477	460	
FR*	38,615	34,965	33,323	30,393	29,679	27,142	25,966	26,635	26,595	27,187	27,732
FR MAIS3+								25,500			
EL*	1,821	1,872	1,676	1,709	1,626	1,399	1,212	1,016	999	879	702
HR	4,544	4,029	3,905	3,182	3,409	3,049	2,831	2,675	2,822	2,746	2,776
HU	8,155	7,227	6,442	5,671	5,152	4,921	5,369	5,331	5,574	5,540	5,621
IE*	860	835	639	561	472	474	508	755			
IE MAIS3+								343			
IT MAIS 3+						13,112	12,899	14,943	15,901		
LU*	286	290	288	266	317	339	316	245	319	249	
LU MAIS3+									69	69	
LV*	638	791	681	569	531	493	452	434	479	525	496
LT									142	97	110
LT MAIS3+								128	142	66	124
MT	246	248	199	211	235	300	265	292	306	294	304
NL	16,600	17,600	18,800	19,100	19,700	19,500	18,800	20,700	21,300	21,400	
NL MAIS3+	5,000	5,300	5,500	5,700	6,100	6,400	6,500	7,500	7,800	8,100	
PL	16,053	16,042	13,689	11,491	12,585	12,049	11,669	11,696	11,200	12,109	11,103
PL MAIS3+							1,859	2,263			
PT*	3,116	2,606	2,624	2,475	2,265	1,941	1,946	2,010	2,148	1,999	2,093
PT MAIS3+				2,290	2,368	2,111	2,074	2,055	2,171		
RO	7,091	9,403	9,097	8,509	8,768	8,860	8,156	8,122	9,057	8,285	8,181
SE	5,470	5,594	5,208	4,662	4,518	4,450	4,826	4,889	4,313	4,472	4,371
SE MAIS3+	1,394	1,570	1,480	1,217	1,102	1,032	1,091	1,159	906	962	903
SI	1,295	1,100	1,061	880	919	848	708	826	926	850	851
SK	2,036	1,806	1,408	1,207	1,168	1,122	1,086	1,057	1,121	1,057	1,127
UK*	28,871	27,024	25,725	23,552	23,947	23,834	22,377	23,517	22,855	24,929	
UK MAIS3+								5,070			
CH*	5,235	4,780	4,708	4,458	4,437	4,202	4,129	4,043	3,830	3,785	3,654
CH MAIS3+					3,428	3,262	3,204	2,899	2,887		
IL*	2,096	2,063	1,741	1,683	1,340	1,611	1,624	1,562	1,796	1,845	2,067
NO	879	867	751	714	679	639	640	674	693	656	665
RS	5,318	5,197	4,638	3,883	3,777	3,544	3,422	3,275	3,448	3,362	3,504
EU 23	**261,290**	**248,485**	**235,225**	**214,361**	**221,797**	**213,894**	**206,196**	**212,283**	**212,517**	**215,478**	**213,005**

	Fig.9 2010-2017	Time period
EL*	-58.9%	
CY*	-33.8%	
BE*	-31.4%	2010-2016
ES*	-18.7%	2010-2016
CH	-18.0%	
CZ	-18.0%	
PT*	-15.4%	
DK	-12.9%	2010-2016
LV*	-12.8%	
HR	-12.8%	
RS	-9.8%	
FR	-8.8%	
NO	-6.9%	
SK	-6.6%	
LU*	-6.4%	2010-2016
SE	-6.2%	
RO	-3.9%	
PL	-3.4%	
SI	-3.3%	
HU	-0.9%	
UK*	5.8%	2010-2016
DE*	6.2%	
BG	7.4%	
NL†	12.0%	2010-2016
AT	18.8%	2010-2016
IL*	22.8%	
MT	44.1%	
EU 23	**-0.6%**	

	Fig.10 Annual average change in the number serious injuries over the period 2008-2017[1]	
EL*	-10.1%	
ES*	-7.3%	2007-2016
CY*	-6.5%	
BE*	-6.4%	2007-2016
DK	-6.0%	2007-2016
CZ	-4.6%	
LV*	-4.5%	
HR	-4.3%	
SK	-4.1%	
RS	-4.1%	
CH*	-3.0%	
PT*	-3.0%	
FR*	-2.7%	
PL	-2.7%	
SI	-2.5%	
NO	-2.1%	
SE	-2.01%	
HU	-1.9%	
UK*	-1.9%	2007-2016
RO	-1.1%	
LU*	-0.5%	2007-2016
DE*	-0.2%	
BG	0.0%	
IL*	0.7%	
AT	1.5%	2007-2016
NL	2.5%	2007-2016
MT	4.3%	
EU 23	**-1.4%**	

Source: national statistics provided by the PIN panellists for each country. MAIS3+ data source for BE, CY, DE, FR, SI and UK: SafetyCube publication https://goo.gl/hWHPCG.

National provisional estimates used for 2017 for DE, EL, MT, PT, RS, as the final figures for 2017 were not yet available at the time of going to print.
* Similar national serious injury definition.
EU23 average: EU28 excluding EE, FI, IE, IT and LT due to insufficient data.
EU23: seriously injured according to each country national definition.

[1] The relative change shown in Fig.9 is calculated only from the numbers of serious injuries in 2010 and 2017 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.10 has been estimated for each country from its numbers of serious injuries in each of the 10 years 2008-2017.

[2] FI - the 2010-2011 figures are not comparable with years 2014 onwards because different tools have been used in conversion from ICD-codes to MAIS.

Table 6 Current national definitions of a seriously injured person in a road collision as used in Fig.9 and 10.

	National definition of a seriously injured person (before introducing MAIS 3+ definition) in a road collision corresponding to the data Fig.9 and Fig.10
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. In practice no communication between police and hospitals take place so in most cases allocation is made by the police without the feedback from the hospitals. Police records.
BG	The level of "body damage" is defined in the Penalty code. There are 3 – light, medium and high levels of body damage. Prior to introducing MAIS in the Police records the first level is "light injured", the second and third is "heavy injured". The medium and high level corresponded to MAIS 3+ levels, as it is defined in the CADaS Glossary.
CY*	Hospitalised for at least 24 hours. Police records.
CZ	Determined by the treating 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 are used to find out how long the person involved in collision (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. ICD-10 codes from hospital data are converted to MAIS.
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.
IT	Separate statistics on serious and slight injuries are n/a in the Road accidents dataset. Despite that, Italy calculated the number of serious injured according to EU reccomendations (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: seriously injured person loses more than 30% of his/her working capacity or/and his or her body is being incurably injured.
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	Person seriously injured in traffic accident, person who has suffered: a) loss of a sense or organ or cessation of their operation; b) permanent physical or mental disability; c) a serious and permanent aesthetic wound; d) an abortion; e) fractures, except for nasal or zygomatic bone fractures, fingers, claviculus, monofocal fractures of 1-3 ribs or 1-3 tooth pulsations, if they did not require hospitalization for more than 24 hours; f) shock, concussion, internal injuries, crushing, severe cuts and tears or polytrauma that required hospitalization for more than 24 hours; g)abrasions, sprains, contusions or other such injuries that required hospitalization for more than two working days. 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, 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*	Up to 2014: Hospitalised for at least 24 hours or if the injury prevented the person from doing its daily activity for 24 hours. Since 2015: Hospitalised for at least 24 hours. Police records. In Switzerland, injury severity is still assessed by means of a simple definition by the police force present at the scene. Nothing is known of the type and long-term outcome of injuries. In order to improve the assessment of injury severity a first step was taken: since January 2015 the definition of injury severity was further specified and the police officers were trained. Also a new category "life-threatening injury" was introduced. For a further standardization the severity scale was linked to the NACA-Codes, used by all emergency services in Switzerland.
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. Categorisation of an injury as a "serious injury" is made on the basis of expert assessment given by doctors during admission to hospital, during hospitalisation or after the hospitalisation. The Republic of Serbia has not yet adopted a definition for serious injury. Police records.

Source: national definition provided by the PIN panellists for 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 7 Countries' progress in collecting data on seriously injured based on MAIS3+.

AT	The KFV carried out a feasibility study on MAIS3+ assessment on behalf of the Austrian Transport Ministry (bmvit) in 2014 and 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, the number of MAIS3+ injuries was estimated for the first time (at 1410) for the year 2014. For the same year, the number of fatalities was 430, resulting in a ratio of 3.28 between serious injuries and fatalities. The estimation was thereupon also carried out for 2010-2016.
BE	We are finetuning our procedure of MAIS3+ estimation on the basis of hospital discharge data (coverage: 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	The only source is Police records.
CY	It is expected that data based on MAIS will be available within the current year.
CZ	In 2017 first preparation steps for MAIS3+ police registration have been done.
DE	An MAIS3+ injured persons estimation 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	ICD-10 diagnose info exists, technologically ready to link accident data with health registry data. Need to change legislation and due to that issue we cannot start linking process. We haven't got any possibility to test EU proposed ICD - AIS convertion tool yet.
ES	Data available from 2010. 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. The 2010-2011 figures are not comparable with years 2014 onwards because different tools have been used in conversion from ICD-codes to MAIS.
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. Estimates of the number of people in road traffic crashes with a MAIS3+ injury are currently being evaluated.
EL	Hospitals do not systematically collect data on the injury severity of road casualties.
HR	Link between police and hospital is based on the law. Only ICD based number is available.
HU	The real possibility can only be the transformation of ICD codes to AIS ones thus Hungary started modification of the legislation in 19.12.2016. The current data architecture does not provide direct linkage between police and hospital data. The National Healthcare Services Center started to upgrade the information system but the required time for the development of the necessary IT systems is not known yet.
IE	Serious injury figures were estimated by converting hospital data to MAIS3+ but were found to be lower than that of police data which is counterintuitive. The RSA and the Health Intelligence Unit (HIU) of the Health Services Executive are working on refining the methodology. Matching of hospital and police data continues to be the long term goal.
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. An estimate of the number of seriously injured has been calculated for years 2012-2015 according to the conversion tables made available by EC.
LU	MAIS3+ will be used in the near future.
LV	MAIS3+ under discussion.
LT	MAIS3+ data already available since 2014.
MT	Some ICD diagnosis information exists, working on linking the data from ICD to MAIS and working on improving the data quality to enable statistical reporting by end 2018.
NL	Data on MAIS3+ already available 1993-2015.

PL	The work is coordinated by the National Road Safety Council, National Institute of Public Health and Motor Transport Institute. Poland transfer data from 2013 and 2014 according to the recomendations of the CARE group (DG MOVE). In recent years, work on MAIS 3+ in Poland has been stopped. The method proposed by DG MOVE (conversion of ICD-10 scale on the MAIS 3+ scale) in our opinion has errors and leads to incorrect results. Unfortunately, due to a lack of financing, Poland could not launch a national project to develop a methodology for assessing the severity of injuries of road accident victims according to the MAIS 3+ scale.
PT	A methodology was developed in 2015 to estimate the number of MAIS3+ serious injuries, using the national hospital discharge database. The Health Ministry applies the EC's AAAM converter to the ICD9-CM codes to calculate the MAIS score. This method is being improved, as Health Ministry is currently using ICD-10-CM/PCS injury codes, since mid-2016. Also, recommendations from SafetyCube D7.1, on external causes codes for road accident victims are being analysed. Under the new Road Safety Strategy (2017-2020), a new working group will establish a procedure to collect in the police data the required information while preserving the victim's privacy.
RO	Under discussion.
SE	Data already available since 2007.
SI	We have made experimental linking between police and hospital data. MAIS3+ data are incomplete and not ready for publication and still under discussion.
SK	n/a
UK	MAIS 3+ serious injuries collection methodology under review.
CH	Linking of health and police data has started in 2014. This allows to code the recommended maximum AIS score based on ICD-10. According to ASTRA (Federal Roads Office), the number of serious injuries (MAIS3+) for the years 2011 to 2014 were reported to the European Commission on July 2016.
IL	Israel currently uses ISS data, and is considering collecting data based on MAIS 3+ in the future.
NO	Under consideration.
RS	The Road Traffic Safety Agency has begun activities to introduce the MAIS 3+ scale to record serious injuries. During 2017, an analysis of the possibilities for the most efficient introduction of the MAIS 3+ scale was performed. Road Traffic Safety Agency intends to continue activities on introduction MAIS3+ definition of serious injuries in road traffic accidents in the next period.

Source: information provided by the PIN panellists for each country.

NOTES

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