REDUCING CHILD DEATHS ON EUROPEAN ROADS

PIN Flash Report 34

February 2018

European Transport Safety Council

25 YEARS 1993-2018

Road Safety PIN

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

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.

ABOUT THE ROAD SAFETY PERFORMANCE INDEX PROJECT

ETSC's Road Safety Performance Index (PIN) programme was set up in 2006 as a response to the first road safety target set by the European Union to halve road deaths between 2001 and 2010. In 2010, the European Union renewed its commitment to reduce road deaths by 50% by 2020, compared to 2010 levels.

By comparing Member State performance, the PIN serves to identify and promote best practice and inspire the kind of political leadership needed to deliver a road transport system that is as safe as possible.

The PIN covers all relevant areas of road safety including road user behaviour, infrastructure and vehicles, as well as road safety policymaking. Each year ETSC publishes PIN Flash reports on specific areas of road safety. A list of topics covered by the PIN programme can be found on http://etsc.eu/projects/pin/.

Reducing Child Deaths on European Roads is the 34th PIN Flash report edition. The report covers 32 countries: the 28 Member States of the European Union together with Israel, Norway, the Republic of Serbia and Switzerland.

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ETSC
European Transport Safety Council
25 YEARS 1993-2018

EXECUTIVE SUMMARY

More than 8,100 children have been killed in road traffic collisions over the last ten years in the European Union. In 2016 alone, 630 died. Half (48%) were vehicle occupants, 30% were pedestrians and 13% cyclists.[1]

On average in the 27 countries of the EU that provided data, the road safety of children has improved faster than the road safety of the rest of the population over the past decade. The annual average reduction in child road mortality in the EU over the decade was 7.3% compared to 5.8% for other age groups, i.e. an average difference of 1.5 percentage points.

Child road deaths represent around 2.5% of overall road deaths and around 6% of all serious road traffic injuries in the EU, while children make up over one sixth of the population. So children are relatively safer than adults, probably because of lower exposure to road traffic.

Countries with a good child road safety record tend to have a good overall road safety performance characterised by a well-established and integrated approach.

Children do not benefit from the same level of safety everywhere in Europe. Countries with a good child road safety record tend to have a good overall road safety performance characterised by a well-established and integrated approach. The child mortality rate in Romania is seven times higher than in Norway, Sweden or the UK.

Norway has the lowest child road mortality rate among the PIN countries. Child road deaths in Norway have decreased by around 14% annually over the last ten years.

In the EU, 46% of all child road deaths occur on rural roads, 46% on urban roads and 7% on motorways.

Children aged 10-13 have higher road mortality than children aged 5-9. As part of normal child development, children aged 10-13 are more likely to move around unaccompanied by adults, in particular travelling to and from school. But, once they reach the age of 14 and progressively acquire access to powered two wheelers and cars, their road mortality starts to increase steeply.

The introduction of in-vehicle safety technologies such as Intelligent Speed Assistance and Automated Emergency Braking can mitigate or prevent traffic collisions and prevent the deaths of more children and other road users.

Every year 48% of all children killed on EU roads die as motor vehicle passengers. It is the responsibility of adults to keep children safe. A correctly installed child restraint system is the single most effective passive safety feature for a child travelling as a vehicle occupant.

Child restraint installation mistakes can drastically reduce the effectiveness of a child restraint system (CRS). Therefore, data on correct CRS usage are crucial when analysing child safety in vehicles but these data are available in only few PIN countries.

The introduction of in-vehicle safety technologies such as Intelligent Speed Assistance (ISA) and Automated Emergency Braking (AEB) can mitigate or prevent traffic collisions and prevent the deaths of more children and other road users.

[1] Transport mode for 9% of children killed on the roads was other or unknown.

Concerns over child safety and security have contributed to the increase in the number of parents driving their children to school. When car traffic increases, pedestrian and cyclist safety is reduced, together with the quality of life of children exposed to a polluted environment. This decline in safety in turn leads to more parents driving their children to school, resulting in a vicious cycle. Another cause of concern is that habits children develop in their youth may determine how they choose to travel later in their adult lives.

Safe walking and cycling routes in a wide area around schools, with low speed road design for motorised traffic, are essential for keeping children in traffic safe.

By walking or cycling to school, children can become more aware of their surroundings, develop road safety skills, and also improve their ability to anticipate other road users' actions. Besides the road safety benefits, walking and cycling contribute to improved physical and mental health of children by tackling child obesity and increased socialisation. Keeping children healthy, safe and mobile requires a balance between encouraging and allowing them to move about freely and safeguarding them in the road environment. Safe walking and cycling routes in a wide area around schools, with low speed road design for motorised traffic, are essential for keeping children in traffic safe.

30% of all children killed on EU roads are pedestrians and 13% are cyclists. Most serious collisions involving child pedestrians and cyclists are collisions with motorised vehicles. Due to their small stature, children are less visible to drivers.

In such collisions, the vehicle's speed and its ability to protect those outside the vehicle are the most important factors determining the severity of the injury. Road infrastructure should take into account the needs of the communities it serves: enhancing safety and liveability of these communities. Ensuring a safe environment around residential and school areas is an important measure for boosting road safety for children. The road environment must be designed in a way that recognises and takes account of the capabilities and limitations of children.

A bicycle helmet offers the best available protection against head injury for impact speeds up to approximately 20km/h. The use of a bicycle helmet reduces the risk of severe head injury by more than 65%.

Young children have physical and cognitive limitations that make them more vulnerable in road traffic than adults.

Young children have physical and cognitive limitations that make them more vulnerable in road traffic than adults. Children under around 12 years lack the perceptual judgement and skills to interact with a complex traffic environment. Traffic education for children of 6 to 12 years old should be attempted in actual or simulated conditions rather than theoretically in the classroom. Difficulties for children arise when dealing with complex situations which require simultaneous processing of more than one feature. Children also find it challenging to apply abstract knowledge to concrete situations and to use what they have learned in new situations.

Child road safety education is important at all levels from pre-school on for preparing children properly for traffic participation, but measurable effects are limited. The evaluation data on the effectiveness of child road safety education are scarce. Moreover, education can only partially speed up the mental development of children.

The recommended minimum age for the new moped or scooter driving license category (AM) is 16 years but Member States may lower it down to 14 years or raise it up to 18 years old. The AM category thus has the largest variation in minimum age requirements. Recent research on human brain development indicates that adolescents may be inherently less prepared for the responsibilities of solo driving than older people. Raising, or not lowering, the minimum age for solo driving will save lives, by virtue of the fact that it prevents young and inexperienced drivers from solo driving until they are older.

Main recommendations to Member States

- Achieve high levels of overall road safety. Important road safety benefits for children will result from measures aimed at improving overall road safety. Safer cars, safer road infrastructure, safer behaviour of other road users will reduce the risks to which children are exposed in traffic.
- Implement 30km/h zones together with infrastructure measures to reduce vehicle speeds in residential areas, on the way to schools and around bus stops.
- Mandate alcohol interlocks in all school buses and other buses transporting children.
- Implement safe bicycle infrastructure separated from motorised traffic to make cycling to school safer.
- Set national indicator targets for the proportion of children correctly fitted in the appropriate child restraint systems. Monitor progress to assess the need for more information campaigns and training activities on correct installation of child restraint systems.
- Increase availability and affordability of child restraints, by including them in the category of essential products (permitting a lower rate of VAT) as EU Directive 77/388/EEC allows.
- Set enforcement plans with yearly targets for numbers of checks and compliance with traffic laws, including failing to fit children in the appropriate child restraint systems.

Main recommendations to the EU

- Within the framework of the 5th EU Road Safety Action Programme, adopt a separate target for reducing road deaths and serious injuries among children and develop accompanying measures.
- Make rear-facing child seats mandatory for as long as possible, preferably until the child is 4 years old.
- Encourage Member States to introduce lower VAT for child restraints by including them in the category of essential products as EU Directive 77/388/EEC allows.
- Introduce common indicators for the proportion of children correctly fitted in the appropriate child restraint systems.
- Revise standards for testing bicycle helmets to increase the safety standard currently in use to offer higher levels of protection.
- Make theoretical and practical training as well as a practical test mandatory to obtain an AM driving license.

Within the context of the revision of Regulation 2009/661 concerning Type-Approval Requirements for the General Safety of Motor Vehicles:

- Adopt mandatory fitment of overridable assisting Intelligent Speed Assistance and Automated Emergency Braking systems with pedestrian and cyclist protection in all new vehicles, including trucks.
- Develop mandatory requirements for safer goods vehicles for improved cabin design and direct vision.

INTRODUCTION

More than 8000 children have been killed in road traffic collisions over the last ten years in the EU.

Every day in the European Union, more than thirty children are seriously injured and two are killed in road traffic collisions. More than 8,100 have died over the last decade.

The impact of these deaths and life-changing injuries on families and communities is immeasurable. But they also carry an economic cost, which diverts resources that could have been used for education, improving health or other social goods.

Children are particularly vulnerable road users. They lack experience and are less visible to other road users due to their small stature. Children are also often unaware of the risks they take unintentionally, and more easily become innocent victims in collisions.

But these numbers of deaths and injuries are not inevitable. Indeed road deaths amongst this group have declined over the last decade, and at a slightly faster rate than deaths amongst the general population.

Improving road safety for children can be achieved through a combined set of measures to address the behaviour of all road users: upgrading the road environment, designing vehicles that better protect both their occupants and those outside the vehicle, enforcing traffic laws, promoting correct use of appropriate child restraint systems, improving road traffic education and awareness raising.

A policy focus on child safety resulting in actual safety measures might also lead to a general improvement in road safety for all road users.

Part I of this report examines the latest data on child road deaths from across the EU and other countries that form part of ETSC's Road Safety Performance Index (PIN) programme. As well as showing the differences that still exist between countries, it gives examples of policies that have led to faster progress and areas for improvement.

Part II looks at the main measures for reducing the risks to children including vehicle safety, child restraint systems, improved infrastructure, mobility policies and education, helmet use, pre-hospital care and licensing of young drivers who, in some countries, are able to ride a moped or scooter at the age of 14.

Recommendations for national and EU policymakers are made throughout, and a shorter list of priority measures is given at the end of the executive summary.

Why children and why up to 14 years old?

In this report we consider children to be those aged 0 to 14 (inclusive). While this definition is somewhat arbitrary, 15 is in many EU countries the age at which one finishes compulsory school attendance. Up to 14, the ways children travel are often dictated by the choice of parents, environment and policies in general. Moreover, in some countries, 15 is the age at which one is considered to be responsible for ones actions (legal responsibility). In some figures road safety data for adolescents aged 15-17 are presented for comparison reasons.

PART I
COUNTRY COMPARISON

1.1 Children are safer today than ten years ago

The road safety of children has improved considerably in almost all the PIN countries over the past decade. Yet, 630 children were killed in the EU in 2016 alone and more than 8,100 have been killed over the last ten years.

In Lithuania there has been around 16% annual reduction in child deaths over the last ten years (Fig.1). Greece follows closely with around 15%, Hungary, Croatia and Norway with around 14% annual reductions.

In contrast, in France, Estonia, Bulgaria, Switzerland and Israel child road deaths have been reduced by an annual average of less than 5%. In Finland the number of child road deaths increased by 4% annually.

These results may all be related to overall road safety developments and may have many different explanations.

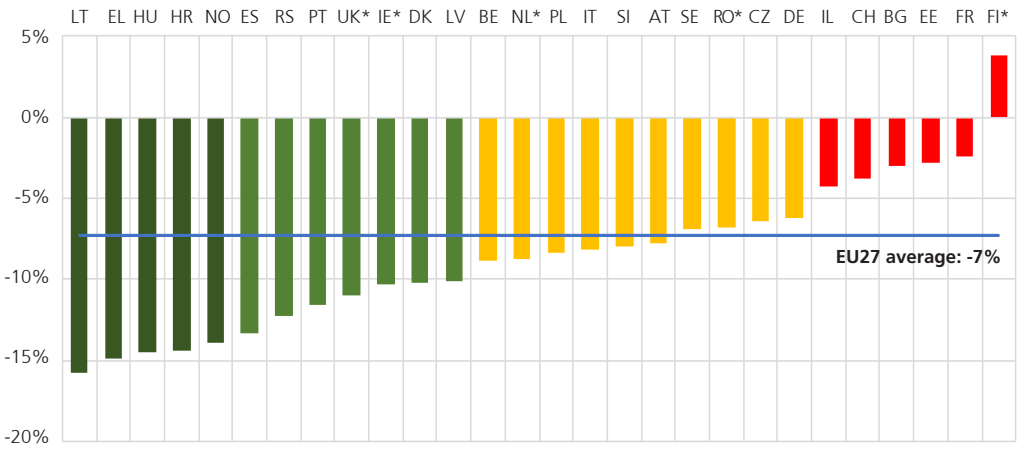


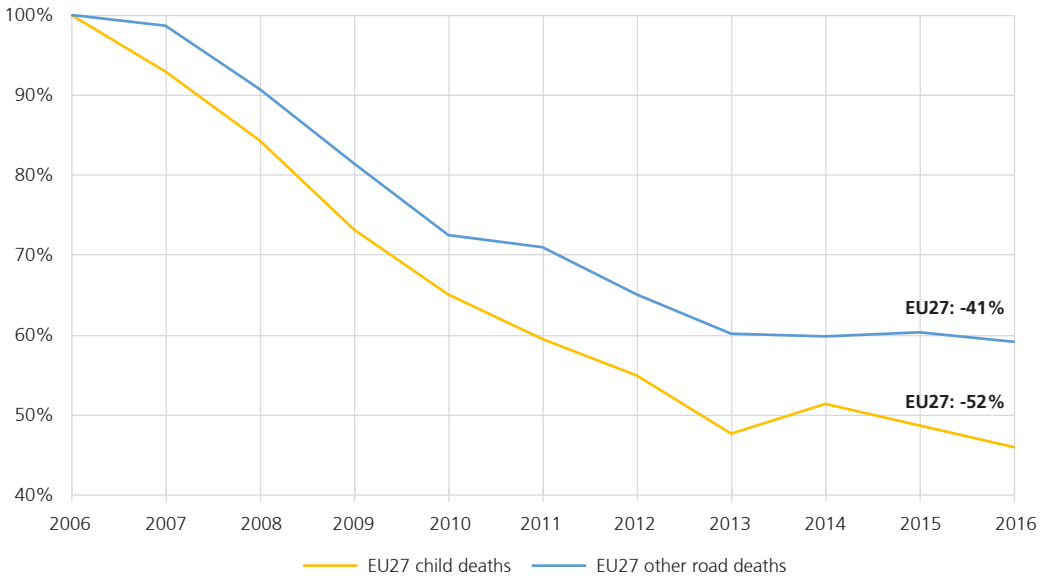
Fig.1 Average annual change (%) in the number of child road deaths (0-14 years old) over the period 2006-2016.
*NL, RO, UK – 2006-2015 data; *IE – provisional data for 2015-2016; *FI – provisional data for 2016. CY, LU and MT are excluded from the figure due to fluctuation in particularly small numbers of child deaths. SK is excluded from the figure and the EU average due to insufficient data.

The number of children killed on the roads in Estonia, Slovenia and Norway do not exceed 10 in any given year over the period 2006-2016, therefore, the average annual reduction in child road deaths can be affected by fluctuations.

1.2 Child road deaths have decreased faster than other road deaths

On average in the 27 countries of the EU that provided data, the road safety of children has improved faster than the road safety of the rest of the population over the past decade. The annual average reduction in child road mortality in the EU over the decade was 7.3% compared to 5.8% for other age groups, i.e. an average difference of 1.5 percentage points. Child road deaths have been cut by 52% since 2006, while other road deaths have only decreased by 41% over the same period (Fig.2).

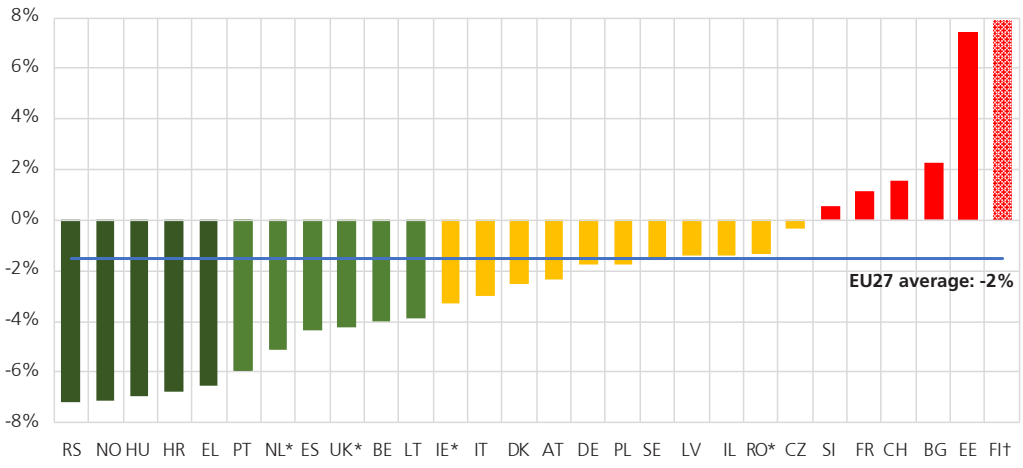
Fig.2 Relative development in the number of child road deaths and other road deaths in 27 EU countries over the period 2006-2016. SK is excluded from the EU average due to insufficient data.



In Serbia, Norway, Hungary, Croatia and Greece the annual average reduction in the number of child road deaths was 7% higher than the corresponding reduction for the rest of the population over the period 2006-2016 (Fig.3). In Portugal child road deaths decreased by 6% faster each year compared to other road deaths, in the Netherlands by 5%. All these countries reached better than the EU average results in the annual reduction of child road deaths in the last 10 years (Fig.1).

In Estonia, Bulgaria, Switzerland, France and Slovenia the situation was the reverse – child road deaths decreased more slowly compared to deaths of other road users (Fig.3). In Estonia the number of child road deaths decreased by 7% more slowly per year compared to other road user deaths over the period 2006-2016. In Bulgaria the corresponding figure was 2.3%, in Switzerland 1.6%, in France 1.1% and in Slovenia 0.6%.

Fig.3 Difference between the average annual change (%) in the number of child road deaths and the corresponding change in the number of other road deaths over the period 2006-2016. *NL, RO, UK – 2006-2015 data; *IE – provisional data for 2015-2016; †FI – provisional data for 2016. The case of FI is further discussed in the paragraph below. CY, LU and MT are excluded from the figure due to fluctuation in particularly small numbers of child deaths. SK is excluded from the EU average due to insufficient data.



Finland was the only country where the annual number of child road deaths increased over the period 2006-2016 by 4% while the number of other road deaths went down by 4% each year creating an annual 8 percentage points difference presented in figure 3. The number of child road deaths in Finland varied from 5 to 14 in the last ten years.

INDICATOR

The safety of children on the road is expressed in terms of road mortality, i.e. the number of children between 0 to 14 years old killed in road collisions divided by their population size. Road deaths by population give a good estimate of the overall impact of road safety on the age group, while taking account of changes of birth rates in time. Child mortality from road collisions is also compared with child mortality from all other causes of death.

Data concerning child road deaths and serious injuries were retrieved by the European Commission from its CARE database upon ETSC's request and confirmed or complemented by the PIN Panellists. The full dataset is available in the Annexes. Population figures and child mortality from all causes of deaths were retrieved from the Eurostat database and confirmed or complemented by the PIN Panellists.

Children (0-14 years old) are mainly killed as car passengers, pedestrians or cyclists. Unfortunately, estimation of time spent in traffic or the amount of travel by children is available for only few countries. Distance travelled resulting from different mobility needs and patterns are therefore not taken into consideration in this publication when comparing countries.

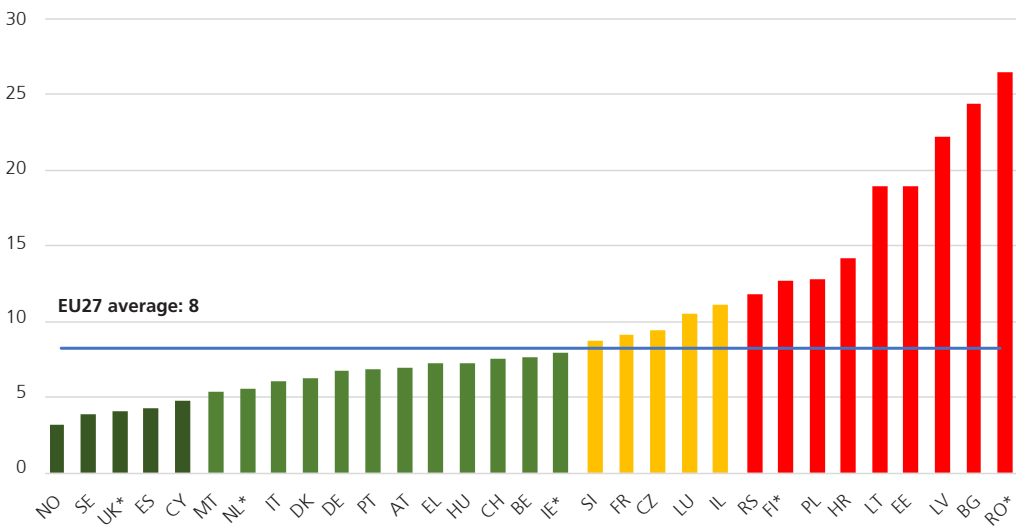
This report builds on previous rankings on child road safety to be found in ETSC's 3rd Road Safety PIN report (2009). The publication can be downloaded from http://etsc.eu/projects/pin.

1.3 Child mortality differs by a factor of seven between countries

The mortality of children from road collisions is about one-seventh of the corresponding mortality for road users aged 15 and above. In the EU, there were eight child deaths per million child population on average over the three recent years, compared to 59 deaths for the rest of the population.

But children do not benefit from the same level of safety everywhere in Europe. The child mortality rate in Romania is seven times higher than in Norway, Sweden or the UK. Countries with a good child road safety record tend to have a good overall road safety performance.

Fig.4 Child road deaths per million child population. Average number for 2014-2016 or the last three years available.
*NL, RO, UK – 2013-2015 data; *IE – provisional data for 2015-2016; *FI – provisional data for 2016. SK is excluded from the figure and the EU average due to insufficient data.



NO Norway moves towards vision zero for children by setting indicator targets

Norway has the lowest child road mortality rate among the PIN countries. Two children were killed on Norway's roads in 2016, 53 since 2006. Child road deaths in Norway have decreased by around 14% annually over the last ten years.

The Norwegian National Plan of Action for Road Traffic Safety 2014-2017 sets out three indicator targets for improved child safety to be reached by 2018:

- 60% of children aged 1 to 3 years should be secured in rear facing child seats compared to 41% in 2013. 54% of children aged 1 to 3 years were secured in rear facing child seats in 2016. The proportion is 85% for one year olds, 64% for two year olds and 25% for three year olds.
- 60% of children aged 4 to 7 years should be properly secured in cars compared to 40% in 2012. Norway achieved this target in 2016 when 64% of children aged 4 to 7 were properly secured.
- 90% bicycle helmet use for children under 12 years old, compared to 75% in 2013. The bicycle helmet use for children under 12 years old was 82% in 2016.

"Norway has had an impressive reduction in the number of children killed in traffic in the last 10 years, and an even more impressive reduction compared to the numbers at the beginning of the 1970s when almost 100 children were killed in traffic every year. The three main reasons are safer behaviour of parents, improved pedestrian and car occupant safety. Parents as well as kindergarten and school teachers supervise children when they play outside or walk, many safe playgrounds have been established, the speed and traffic volume have been reduced in residential areas, safety in cars has in general been improved significantly, rules on child restraints have been introduced and intensified, safety of child restraint systems in cars has improved and their usage rates have increased."
Michael Sørensen, Institute of Transport Economics (TOI)

ES Spanish Road Safety Strategy – three key objectives for improved child safety

There were 28 children killed on the roads in Spain in 2016, and 554 over the last 10 years. Child road deaths in Spain have decreased by around 13% each year since 2006.

There is a set of specific indicators foreseen in the Spanish Road Safety Strategy 2020 addressing child safety. The strategy outlines three objectives related to child road safety: providing safe school environments and safe journeys to school, making sure no child deaths arise because a child is not using a correctly fitted child restraint system and promoting road safety in the school curriculum. A number of measures have been implemented in Spain, including close cooperation with municipalities and schools through specialised trained staff working at the provincial offices of the Directorate General for Traffic (DGT), production and dissemination of didactic manuals, promotion of 'safe paths' to school (signalled, fixed routes that can be used by children who walk or cycle to school), education activities for parents on correct fitment of child restraints; enforcement of the use of seatbelts and child restraint systems, particularly in school buses, mandatory use of helmet for cyclists under 16 years old.

IT

Italian Road Safety Plan - Vision Zero for children

The Vision Zero for children is set out in the Italian National Road Safety Plan Horizon 2020. It aims to create a road system that ensures maximum safety for children. A number of measures are foreseen to achieve this goal:

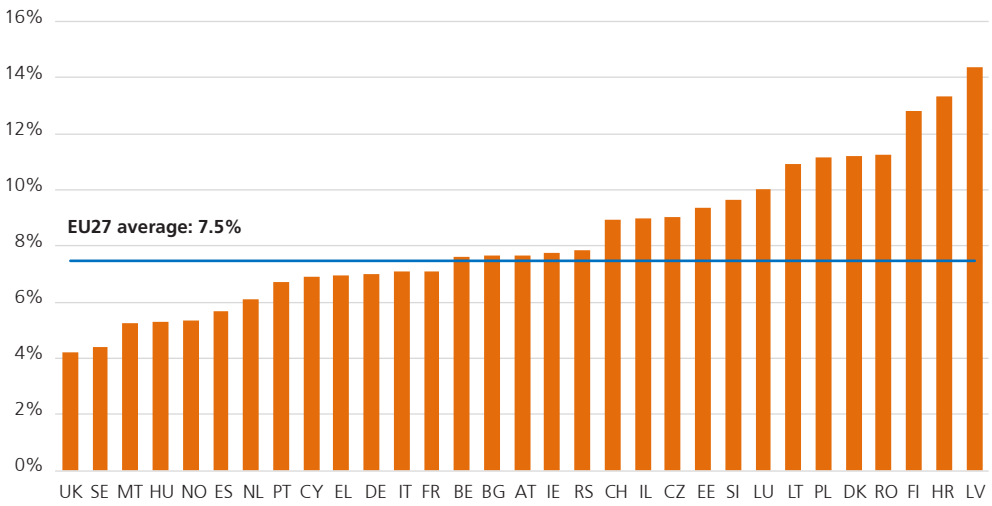
- Improved visibility of children who walk and cycle, especially on their way to and from school.
- Increased enforcement and use of child restraint systems.
- Compensating lack of child experience in traffic by shifting the responsibility to adult road users.

1.4 Every thirteenth child death results from a road collision

On average in the EU, one in thirteen child deaths after the first birthday results from a road collision. Ten years ago one in ten child deaths occurred after a road collision in the EU. This shows that progress in reducing child road deaths is going faster than progress in reducing other child deaths.

Child road deaths as a proportion of child deaths from all causes varies from 4% in the UK and Sweden to over 14% in Latvia and around 13% in Croatia and Finland (Fig.5).

Fig 5. Child road deaths as a proportion (%) of child deaths from all causes in age group 1-14 years in 2013-2015.
SK is excluded from the figure and the EU average due to insufficient data.

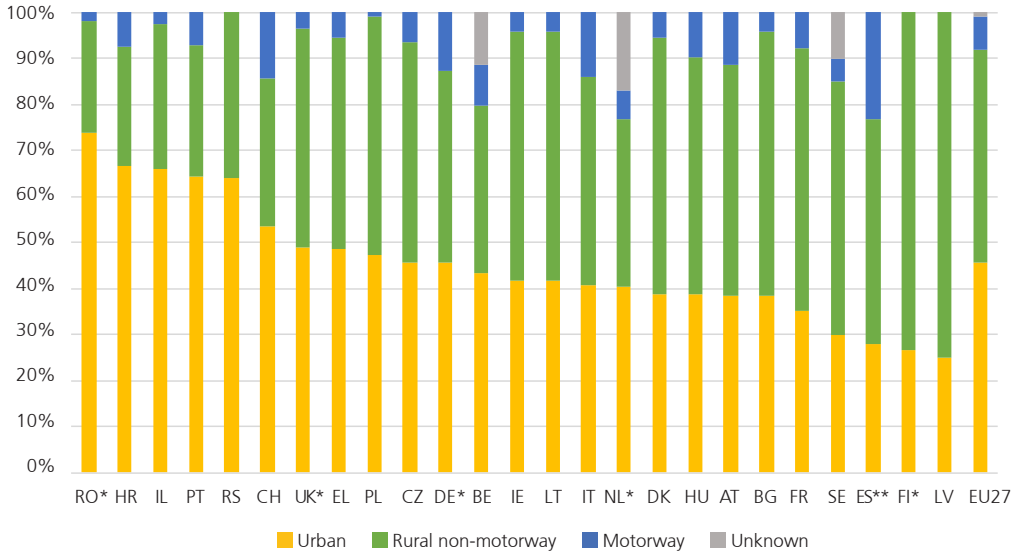


Infants up to 1 year old are excluded from figure 5 because they are particularly vulnerable to death from medical causes.

1.5 Child road deaths by road type

In the EU, 46% of all child road deaths occur on rural roads, 46% on urban roads and 7% on motorways (Fig.6). About 74% of all child road deaths occur on urban roads in Romania, 67% in Croatia, 66%in Israel, 64% in Portugal and Serbia.

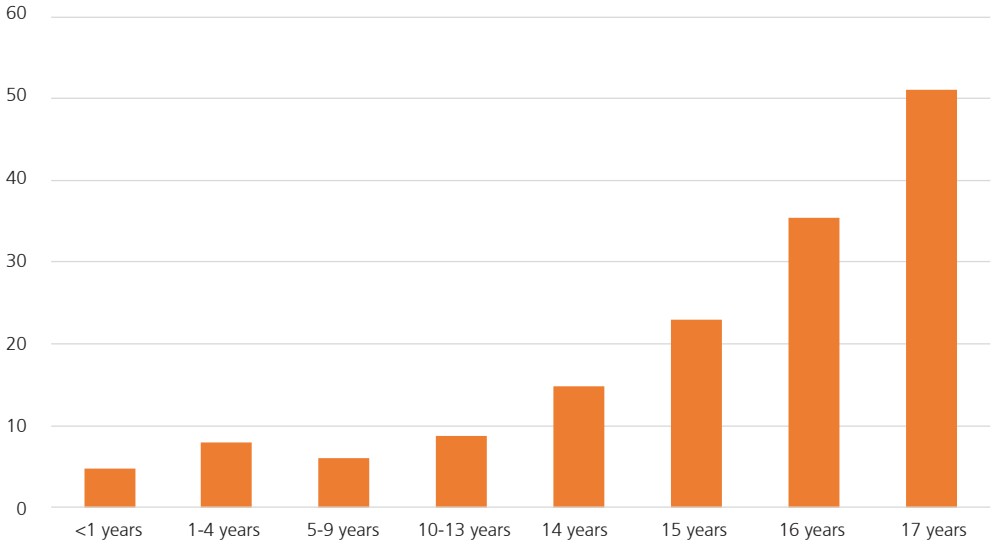
Fig.6 Proportion (%) of child road deaths (0-14 years) by road type, average years 2014-2016 or the last three years available.
*RO, FI, NL, UK – average years 2013-2016. *DE – average years 2013-2015 for age group 0-15 years. **ES – the blue bar shows child road deaths on motorways and autovias. CY, EE, LU, MT, SI and NO are excluded from the figure as the number of child road deaths is particularly small. SK is excluded from the figure and the EU average due to insufficient data.



1.6 Mortality increases steeply after 13

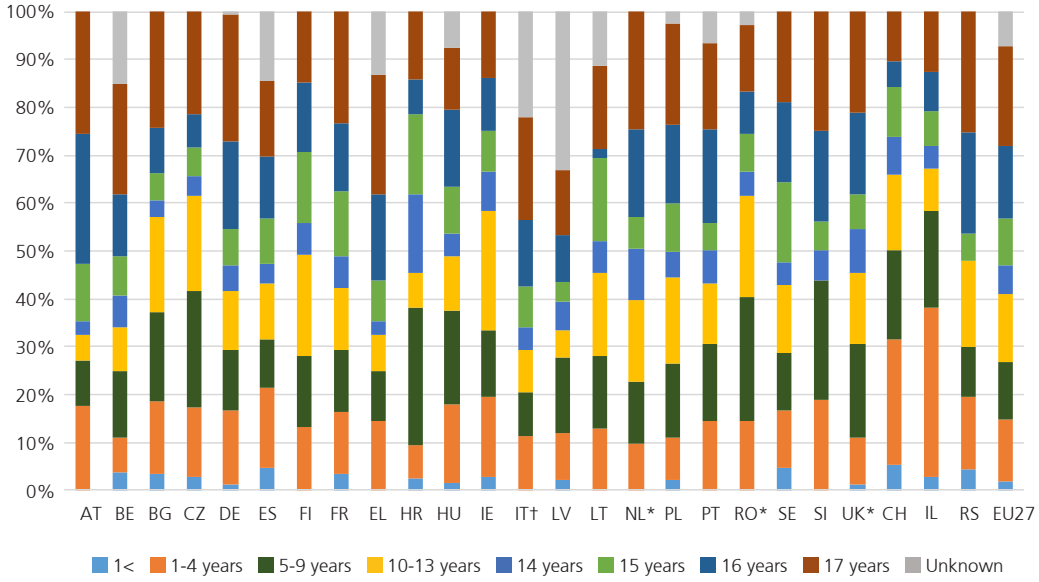
Children aged 10-13 have higher road mortality than children aged 5-9. As part of normal child development, children aged 10-13 are more likely to move around unaccompanied by adults, in particular travelling to and from school. But, once they reach the age of 14 and progressively acquire access to powered two wheelers and cars, their road mortality starts to increase steeply (Fig.7).

Fig.7 Road deaths by age group per million population of each age group, average years 2014-2016 for the EU27.
SK numbers are excluded from the EU average due to insufficient of data.



In the EU, on average children below one year old represent around 2% of all road deaths under 18 years, the 1-4 year age group 13%, the 5-9 year age group 15%, the 10-13 age group 14% and the 14-17 age group 51% (Fig.8).

Fig.8 Proportion (%) of road deaths in age groups among all road deaths under 18 years old presented in alphabetical order, average years 2014-2016 or the latest three years available.
*NL, RO, UK – 2013-2015 data. †IT – 1< children are included in the 1-4 years old category. DK, CY, EE, LU, MT and NO are excluded from the figure as the number of road deaths for age group 0-17 is less than 10. SK is excluded from the figure and the EU average due to insufficient data.



IL

Israel: infrastructure improvements in some villages would help to reduce the number of small children road deaths

Children aged 1 to 4 years represent 36% of all road deaths among all road deaths below 18 years old in Israel which is well above the 13% average in the EU.

"It can be observed from Fig.8 that the proportion of children killed in the age group 1-4 years is unusually large in Israel. A further breakdown would show that within this age group, children from villages that lack certain facilities, and where the very small children are often involved in accidents close to home, are overrepresented. Improved infrastructure such as sidewalks, parking spaces and playgrounds would partly improve the situation."
Shalom Hakkert, Transportation Research Institute-Technion

1.7 Modal shift after 13 years of age

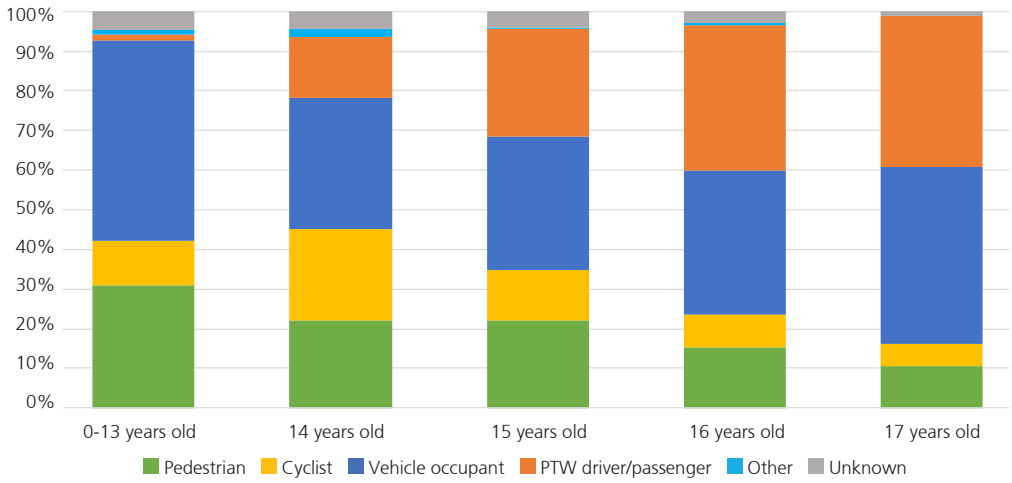
To illustrate the risk of death associated with changes in modal use with increasing age figure 9 shows the distribution of 0-13, 14, 15, 16 and 17 year old road deaths by mode of transport over the period 2014-2016 in 25 EU countries.

51% of 0-13 year old children die as car occupants, 31% as pedestrians and 11% as cyclists. Up to 14, the ways in which children travel are often dictated by the choice of parents.

As from 14 years youngsters become more mobile and more independent road users. The proportion of powered two wheeler (PTW) user deaths starts to increase steeply at the age of 14. In Estonia, France, Hungary, Italy, Latvia and Poland an AM driving license can be obtained as of the age of 14.

Powered two wheeler rider and passenger deaths represent 15% of all 14 year old, 27% of 15 year old, 37% of 16 year old and 38% of 17 year old road deaths.

Fig.9 Proportion (%) of 0-13, 14, 15, 16 and 17 year old deaths by mode of transport in the EU25 over the period 2014-2016, 2013-2015 for 17 year old. BG, LU and SK are excluded from the EU average due to insufficient data.



1.8 Progress in reducing serious child road injuries

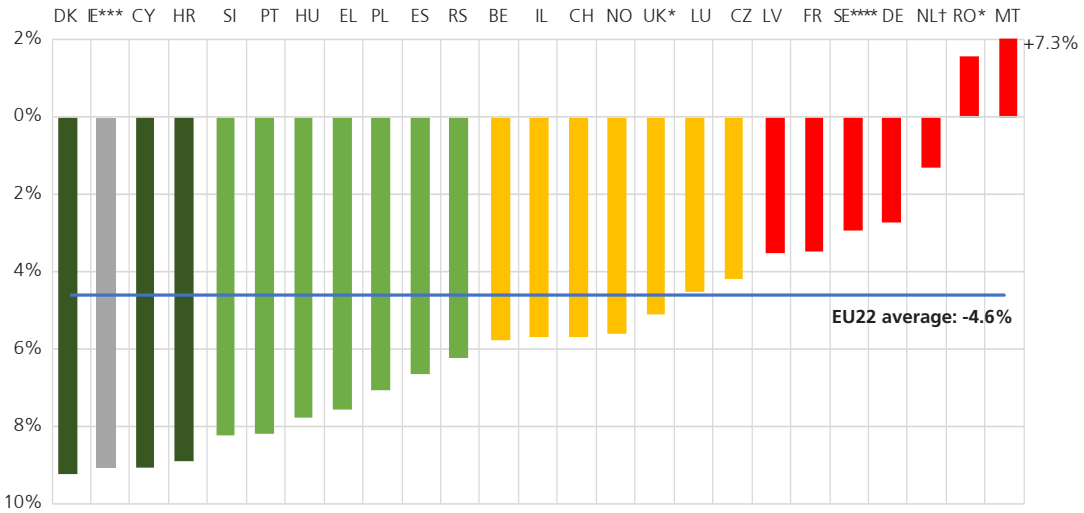
Over 11,000 children (0-14 years old) were seriously injured in 22 EU countries in 2016, based on current national definitions of serious road injuries.[2] Serious child road traffic injuries account for around 6% of all serious road traffic injuries in the EU.

It is not yet possible to compare the number of serious road injuries between PIN countries according to national definitions of serious injury as the definitions and levels of underreporting vary. The comparison therefore takes as a starting point the change in the numbers of serious child road injuries according to the national definitions since 2006.

Denmark, Cyprus and Croatia achieved a 9% annual reduction in the number of recorded serious child road injuries since 2006, followed by Slovenia, Portugal and Hungary with around 8% annual reduction (Fig.10). In Romania the number of seriously injured children increased by almost 2% annually, in Malta by over 7%.

Collectively the number of serious child road injuries in the EU22 decreased by 4.6% annually since 2006 compared to a 7% decrease in child road deaths.

Fig.10 Relative annual average change (%) in the number of serious child road traffic injuries (0-14 years old) over the period 2006-2016. *RO, UK – 2006-2015 data; ****SE – 2007-2016 data. ***IE – 2006-2013 data, 2014-2016 data were not included in the calculation due to changes in serious injury reporting methodology in 2014. †NL – MAIS2+ figures based on hospital data. AT is excluded from the figure due to substantial changes in the police reporting system in 2012 but its number of serious child road injuries is included in the EU average. LU, MT - the numbers of serious child road traffic injuries are relatively small and therefore subject to fluctuation. BG, EE, FI, IT, LT, IT, LT, SK are excluded from the figure and the EU average due to insufficient data. PIN countries using a definition of seriously injured similar to having injuries requiring at least 24 hours as an in-patient: BE, CY, DE, EE, ES, FR, EL, IE, LV, LU, PT, UK, CH, IL.



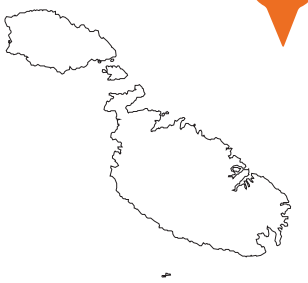
[2] National definitions of serious road traffic injuries supplied by PIN Panellists are available in the Annexes.

Denmark: fewer serious child road injuries due to targeted interventions and general road safety measures

Serious child road injuries went down by around 9% each year over the period 2006-2016 in Denmark. There were 70 children seriously injured in traffic in 2016 compared to 137 in 2006.

"The very positive decrease in serious child road injury in Denmark is primarily related to the age group of 7-14 years, and shows an equal decrease for car occupants, bicycle riders and pedestrians. The positive developments can be seen as a result of a targeted intervention in road safety education for this age group, improved safety in school districts, an increased rate of bicycle helmet use, better car safety and higher seatbelt use rates. Finally, increased control and sanctions for moped riders has contributed."

Jesper Sølund, Danish Road Safety Council



Malta: nationwide education campaigns - a response to increase in serious child road injuries

There were 10 children seriously injured on the roads in 2006 compared to 18 in 2016.

"The Road Safety Council is very concerned about the recent increase in the number of children who were seriously injured on Maltese roads. Following the publication of the 2015 road accident statistics, the Council had immediately embarked on a new nationwide road safety education programme focusing on children. Under this programme, we are visiting all of the primary schools in Malta and Gozo and have prepared specific educational aids and videos to help explain the importance of wearing of seat belts in cars, safe cycling and the proper use pedestrian crossings."

Pierre Vella, Malta Road Safety Council

INDICATOR

Indicator Fig.10 and 11

In spring 2016, the European Commission, for the first time, published an estimate for the number of people seriously injured on Europe's roads: 135,000 in 2014.[3] This move required the adoption by all EU Member States of a common definition of what constitutes a serious road injury, i.e. an in-patient with an injury level of MAIS 3 or more. Only a few countries have MAIS 3+ data for earlier years or by road user age, therefore Member States should also continue collecting data based on their previous definitions so as to be able to monitor rates of progress at least until these rates of progress can be compared with those under the new definition.

The number of seriously injured road users, based on national definition, were supplied by the European Commission from its CARE database upon ETSC's request and confirmed or complemented by the PIN Panellists.

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 using police records, 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.

[3] European Commission Press release (March 2016), http://goo.gl/w0lQkv

1.9 Serious child road injuries are going down faster than serious road injuries for other age groups

Figure 11 shows that in Slovenia, Luxembourg, Poland, Croatia, Israel, Denmark and Hungary the reduction in serious child road injuries was over 3.5% more each year than the reduction in other serious road injuries over the last ten years. At the other end of the ranking is Spain where serious child road traffic injuries decreased by around 1.5% slower annually compared to other road traffic injuries. Spain is followed by Ireland where serious child road injuries decreased 1% slower than other road injuries.

The progress in reducing serious child road injuries was 2.6% faster than the progress in reducing other serious road injuries in 22 EU Member States that could provide data.

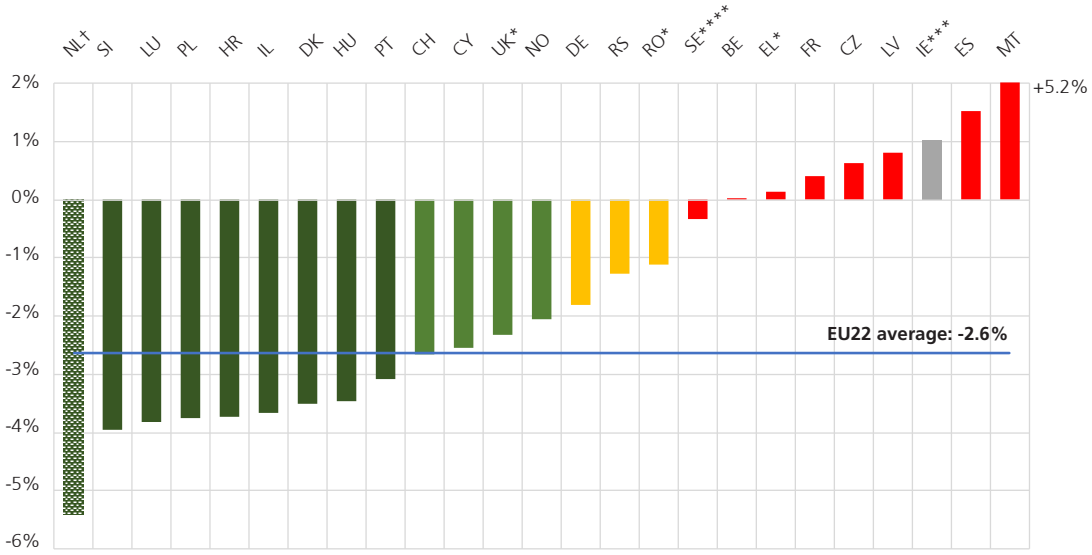


Fig.11 Difference between the average annual change (%) in the number of serious child road traffic injury (0-14 years old) and the corresponding change in the number of other serious road injury over the period 2006-2016. *RO, UK – 2006-2015 data; ****SE – 2007-2016. ***IE – 2006-2013 due to changes in serious injury reporting methodology in 2014. †NL – MAIS2+ based on hospital data. The case of NL is further discussed in the paragraph below. AT is excluded from the figure due to substantial changes in the police reporting system in 2012 but its number of serious road injuries is included in the EU average. LU, MT - the numbers of serious child road traffic injuries are relatively small and therefore subject to fluctuation. BG, EE, FI, IT, LT, SK are excluded from the figure due to insufficient of data.

From the countries who could provide data, the Netherlands and Malta were the only two countries where the annual number of serious injuries of other road users increased over the period 2006-2016. In the Netherlands the number of other serious road traffic injuries went up by 4% compared to a 1% annual decrease in the number of serious child road injuries creating an annual difference of 5.4 percentage points. In Malta the number of other serious road traffic injuries increased by 2% while the number of serious child road injuries grew by around 7% annually creating a 5.2 percentage points difference.

PART II
HOW TO KEEP CHILDREN ON THE ROADS SAFE

Countries with a good child road safety record tend to have a good overall road safety performance characterised by a well-established and integrated approach.

Improving road safety for children can be achieved through a combined set of measures to address the behaviour of all road users: upgrading the road environment, designing vehicles that better protect both their occupants and those outside the vehicle, enforcing traffic laws, promoting correct use of appropriate child restraint systems, improving road traffic education and awareness raising. A policy focus on child safety resulting in actual safety measures might also lead to a general improvement in road safety for all road users.

Recommendations to Member States

- Adopt a separate target for reducing road deaths and serious injuries among children and develop accompanying measures.
- Set indicator targets for child road safety in national road safety strategies.
- Set enforcement plans with yearly targets for numbers of checks and compliance with traffic laws, including failing to fit children in the appropriate child restraint systems.

Recommendations to EU institutions

- Within the framework of the 5th EU Road Safety Action Programme, adopt a separate target for reducing road deaths and serious injuries among children and develop accompanying measures.

General recommendations to EU institutions that will also have a positive effect on child safety

Within the context of the revision of Regulation 2009/661 concerning Type-Approval Requirements for the General Safety of Motor Vehicles:

- Adopt mandatory fitment of overridable assisting Intelligent Speed Assistance system and Automated Emergency Braking systems with pedestrian and cyclist protection in all new vehicles, including trucks.

Within the context of the revision of Regulation 2009/78 on the Protection of Pedestrians and other Vulnerable Road Users:

- Update existing tests and extend the scope of the Regulation to include cyclist protection.

2.1 Protecting children travelling in vehicles

Every year 48% of all children killed on EU roads die as motor vehicle passengers. It is the responsibility of adults to keep children safe. A correctly installed child restraint system is the single most effective passive safety feature for a child travelling as a vehicle occupant. According to the WHO correctly installed and used child restraints reduce the likelihood of a road death by approximately 70% among infants and between 54% and 80% among young children.[4] By law, children in the EU must use a child car seat until they are 12 years old or 135 cm tall, whichever comes first. Depending on the country, national legislation may require child seat use for children up to 150 cm height.

2.1.1 Lack of comparable data on child restraint use hinders the assessment of child road safety measures

Table 1 shows that knowledge on the level of child restraint system (CRS) use rates in the EU is incomplete as not all countries collect such data. The existing data are not comparable between countries due to different data collection methods and the varying child age groups covered. In some countries data represent the use of child seats, in others the use of seatbelts for children travelling in cars or both - use of child restraint systems and seatbelts. Moreover, child restraint use rates are difficult to interpret as they do not reveal what proportion of children are attached correctly and whether appropriate child seats are used.

Table 1. Child restraint system usage rates in the latest year available. *IT – Italy is currently carrying out an observation study for child restraint use; it is possible that the results of the attitude survey can be overestimated. *SE - observational study at 70 pre-schools based on 5000 children observations. Source: PIN panellists. Attitude surveys are based on the answers of the respondents. Observation studies are based on roadside observations.

	Child restraint usage rates	Age group	Year	Data on	Data collection method
AT	98%	0-12 years old	2016	Use of child restraints and seatbelts	Observation study
BE	90%	n/a	2015	Use of child restraints and seatbelts	Observation study
CZ	96%	0-12 years old	2016	Use of child restraints and seatbelts	Observation study
DE	99%	0-15 years old	2016	Use of child restraints and seatbelts	Annual observation study
DK	97%	0-10 years old	2012	Use of restraint and seatbelts	Observation study
EE	96%	0-15 years old	2016	Use of seatbelt for children travelling on rear seats	Attitude survey
FI	97%	0-6 years estimated	2016	At least seatbelts used on rear seat	Observation study (N=716)
FR	94%	0-9 years old	2016	Use of seatbelts for children travelling on rear seats on motorways	Observation study
HR	97%	0-13 years old	2014	Use of child restraints and seatbelts	Observation study
HU	76%	Unknown	2017	Child restraint usage	Observation study
IE	88%	5-17 years old	2016	Use of seatbelts for children in the front and rear seats of the passenger cars	Observation study N=4257
IT*	79%	0-6 years old	2013-2016	Child restraint usage	Attitude survey
PL	93%	0-12 years old	2014	Use of child restraints and seatbelts	Observation study
PT	95%	0-8 years old	2016	Child restraint usage	Observation study
SE*	90%	0-6 years old	2011	Child restraint usage	Observation study
SI	93%	0-7 years old	2016	Use of child restraints and seatbelts	Observation study
CH	93%	0-12 years old	2012	Child seat usage	Observation study
IL	87%	0-15 years old	2016	Use of child restraints and seatbelts	Observation study
RS	28%	0-12 years old	2016	Child seat use (0-3 years old); use of seatbelt for children travelling on rear seats (4-12 years old)	Observation study

Another source of information on child restraint usage rates is the E-Survey on Road User Attitudes (ESRA). According to this survey, 97% of respondents think that transporting children without securing them is not acceptable. Yet, as many as 13% of respondents think it is not necessary to use child restraints for short trips.[5]

[4] WHO (2017), Road traffic injuries, https://goo.gl/S4z4nB
[5] ESRA (2016), Seatbelt and child restraint systems, https://goo.gl/kMCWwy

2.1.2 Too many children killed in vehicles are not attached with child restraints

Table 2 shows information from 13 PIN countries that are collecting data on the number of children killed as vehicle occupants who were not fastened by appropriate child restraints or seatbelts. Same as for table 1, data in table 2 are not comparable between all the countries.

Table 2. The number of children killed as vehicle occupants not fastened by an appropriate child restraint or a seatbelt out of the total number of children killed as vehicle occupants.
Source: PIN panellists. *FI - fatal motor vehicle collisions investigated by Finnish road accident investigation teams. **FR - 145 is the total number of child road deaths (0-9 years old) for all road user groups. ***IE - figures for 2015 and 2016 are provisional and subject to change.

	Total number of children killed in vehicles	Children killed and not fastened by CRS or seatbelts out of the total number of children killed in vehicles	Unknown	Age group	Data on	Time period covered
AT	12	1	1	0-14 years old	Child restraints and seatbelts	2014-2016
CY	2	1	0	0-14 years old	Child restraints and seatbelts	2014-2016
CZ	26	2	0	0-14 years old	Child restraints and seatbelts	2014-2016
EE	17	8	0	0-17 years old	Child restraints and seatbelts	2014-2016
ES	47	10	0	0-12 years old	Child restraints	2013-2015
FI*	16	3	1	0-14 years old	Child restraints and seatbelts	2014-2016
FR**	145	23	11	0-9 years old	Child restraints and seatbelts	2014-2016
HU	7	5	0	0-14 years old	Seatbelts	2014-2016
IE***	14	4	0	0-14 years old	Seatbelts	2014-2016
PT	9	1	0	1-14 years old	n/a	2014-2016
SI	6	1	0	0-14 years old	Child restraints and seatbelts	2014-2016
SE	3	1	0	0-9 years old	Child restraints. In-depth database	2014-2016
IL	27	4	9	0-14 years old	Child restraints and seatbelts	2014-2016

2.1.3 Adults fail to protect child passengers due to incorrect fitment of child restraints

Child restraint installation mistakes can drastically reduce the effectiveness of a child restraint system (CRS). Therefore, data on correct CRS usage are crucial when analysing child safety in vehicles but these data are available in only few PIN countries.

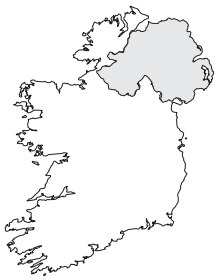
According to a survey conducted in Switzerland in 2012, out of 93% of children who were attached by child restraints, only 43% were attached correctly and for every fifth secured child, a serious misuse of a child seat was detected.[6] In the Netherlands in 2010, 32% of children travelling in vehicles had no or insufficient protection.[7] A national behavioural survey conducted in Belgium in 2017 showed that 74% of children travelling in child restraint systems in vehicles did not have an appropriate child restraint system for their height or weight, they were not fastened correctly or the child seat was not fastened at all.[8] In the UK in 2015, 71% of children travelling in child restraint systems were either fitted incorrectly or were incompatible to the child or the car.[9] In France in 2017, around 58% of parents fitted child seats incorrectly.[10]

[6] Bfu (2012), child restraint system usage rates.
[7] Data provided by the PIN panelist.
[8] Schoeters, A. & Lequeux, Q. (2018) Are our children safely fastened? Results of the national Vias behaviour measurement on the use of child restraint systems 2017. Brussels, Belgium: Vias institute – Knowledge Centre Road Safety.
[9] TRL, CPD accredited child seat training course launched to tackle 71% failure in child car seats, https://goo.gl/NdvQNg
[10] Europe 1, S curit routi re : 58% des si ges b b s sont mal attach s, https://goo.gl/QpvjCQ

Finnish accident investigation teams have estimated that over the period 2004-2013 14 (78%) children aged 0 to 5 years who were killed in cars or vans and who were attached by some safety device, could have survived if they were restrained with a better suited safety device (e.g. CRS of correct size, CRS instead of a lap belt).[11]

Fifteen years after child restraint systems became mandatory in the EU, the data suggest that child seat safety remains a significant problem, with many parents either unaware how to fit seats or given incorrect advice at the point-of-sale.

According to the ESRA survey, 27% of road users think that instructions for using child restraints are unclear. The survey revealed that unclear instructions are linked to lower usage of child restraints.[12]



Ireland: as many as four out of five child car seats are fitted incorrectly - 'Check it Fits' aims to bring this number down

The Irish Road Safety Authority (RSA) has introduced a full-time, nationwide, free expert service 'Check it Fits' which aims to train adults on how to fit a child seats correctly in their cars.

A survey of 5,000 checks, which were recorded at the RSA's 'Check it Fits' service, showed that over 4,000 of the child car seats checked needed some type of adjustment. Worryingly, most of those seats required a major adjustment. 3% of the seats checked were condemned – they were not fit for their purpose, meaning they could have caused injury or even death of a child if there was a collision.[13]

The RSA has also run a pilot project in cooperation with two store chains - employees were specially trained to give a correct advise on child seat installation. The RSA is also working on identifying most effective ways to capture non-use of child restraint systems in Ireland.

UK: Continuous Professional Development - accredited child seat training course

The Transport Research Laboratory (TRL), has launched a new Continuous Professional Development accredited advanced child seat training course, delivered in partnership with Good Egg Safety. The training course aims to address the problem of child seat safety by providing retailers, road safety professionals and child safety advocates with the training and information needed to correctly advise members of the public on the correct installation and use of car seats.[14]

RoSPA: website dedicated to information on child car seats

The Royal Society for the Prevention of accidents (RoSPA) runs a website providing practical information on child car seats. The information includes advice on how to choose and fit child car seats as well as explanation on existing law.[15]

German Automobile Club supports correct use of child restraint systems

For many years the German Automobile Club (ADAC) has been implementing an awareness and information programme throughout Germany. 130 specialists provide all the necessary information to parents regarding child restraints: how to choose a right child restraint system and fit it correctly and explaining when it is time to change one child seat to another as the child grows.

[11] Source: Finnish Crash Data Institute; Report on children' safety devices 2015.
[12] ESRA (2016), Seatbelt and child restraint systems, https://goo.gl/kMCWwy
[13] RSA, Check it fits service in partnership with Toyota, https://goo.gl/G2vpGK
[14] TRL, CPD accredited child seat training course launched to tackle 71% failure in child car seats, https://goo.gl/NdvQNg
[15] Rospa, Child Car Seats, https://goo.gl/wjjlyL

2.1.4 EU legislation on child restraints

The use of restraint systems specially adapted to the size and weight of children became compulsory in the EU with Directive 2003/20/EC[16].

All child car seats currently sold in the EU must conform to the European Union Directive 2014/37/EU[17] on the compulsory use of safety belts and child-restraint systems in vehicles. According to this Directive, child-restraint systems used in the EU have to comply with UN Regulation no.44[18] or UN Regulation no.129[19], also known as i-Size. Even though two regulations co-exist together, the EU is encouraging a preference for ISOFIX-based i-Size seats for children up to about 105 cm (about 4 years old).[20]

UN Regulation no.44 applies for seatbelt-fixed seats. It prescribes, amongst other requirements, that seats undergo frontal and rear collision testing and rollover tests.[21] Regulation no.44 foresees types of child seats depending on a child's weight.[22]

In order to improve safety for children in cars, the first phase of UN Regulation no.129 on enhanced child restraint systems came into force on 9 July 2013. The 'i-Size' regulation, in its first phase, is exclusive to integral harness ISOFIX seats and, among other requirements, i-Size seats must undergo an additional side impact test, which has not been included in Regulation no.44. Regulation no.129 aims to reduce risks of misuse of CRS as the i-Size seats being secured by ISOFIX points make it easier to install the child seat correctly. A special label indicates the compatibility with each i-Size labelled seating position in a vehicle. I-Size seats are designed to keep children rear-facing until they are at least 15 months old and some seats enable a child to sit rear facing until 4 years old.[23]

The second phase of UN Regulation no.129, which covers non-integral CRS (i.e. booster seats with backrest and optional ISOFIX attachments in which children taller than 100cm are secured with the car seatbelt) entered into force in June 2017.

The third phase of UN Regulation no.129, which covers universal belted integral CRS for children up to 105 cm, is in progress and is expected to be operational in February 2019. After a transitional period the R44 equivalent will be phased out.

Booster seat use is required until the child is tall enough to use an adult seatbelt. The existing UN Regulation no.44 changed in 2017. The new rules mean that manufacturers are not allowed to introduce new models of booster cushions[24] for children shorter than 125cm or weighing less than 22kg.[25]

Booster seats with a backrest ensure better belt routing across the shoulders and improved protection in case of side impact as in-car safety devices such as vehicle belts or curtain airbags are often not developed for children sitting on a booster and smaller than 125 cm.[26] Older booster cushions for children smaller than 125 cm are still be available on the market, but for a limited time only.[27]

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[16] Directive 2003/20/EC of the European Parliament and of the Council of 8 April 2003 amending Council Directive 91/671/EEC on the approximation of the laws of the Member States relating to compulsory use of safety belts in vehicles of less than 3.5 tonnes, https://goo.gl/dKeHV2

[17] Commission implementing Directive 2014/37/EU amending Council Directive 91/674/EEC relating to the compulsory use of safety belts and child restraint systems in vehicles, https://goo.gl/h7eABM

[18] UN Regulation No 44, Uniform provisions concerning the approval of restraining devices for child occupants of power-driven vehicles, https://goo.gl/jcPyKf

[19] UN Regulation No 129, Uniform provisions concerning the approval of enhanced Child Restraint Systems used on board of motor vehicles (ECRS), https://goo.gl/E7sHrE

[20] Maxi-cosi, i-Size, https://goo.gl/FmA8kP

[21] In car safety centre, Regulations ECE R4403&04 and Regulation R129, https://goo.gl/Xrz2oN

[22] Maxi-cosi, i-Size, https://goo.gl/FmA8kP

[23] In car safety centre, https://goo.gl/Xrz2oN

[24] Booster cushion is a seat without a backrest

[25] Gov.uk (2017), New child car seat rules: no change for existing booster seats, https://goo.gl/uFxD8e

[26] Maxi-cosi, Car seat legislation is changing in 2017, https://goo.gl/uhhQnA

[27] Ibid

Just a few EU Member States took advantage of the possibility to reduce VAT for child seats.

To encourage the use of child restraints, EU Directive 77/388/EEC includes child seats in the category 'essential product' on which VAT can be charged at a lower rate. However, just a few EU Member States took advantage of the possibility to reduce VAT for child restraints and make them more affordable for all parents. The VAT level for child seats in Portugal and the UK is 5%, in Cyprus and Poland 8%, in Croatia 13%. To ETSC's knowledge, other EU countries have not introduced a VAT reduction for child restraints.

In order to economise, parents might buy a used child car seat. Parents should be advised to check the history of such child seats. Even after a light collision the structural integrity of child car seats might be affected without showing external signs of damage. In addition some components of the used child seat might be missing or they may not be designed to current safety standards.[28] Rental exchange programmes could be a good solution for low income families provided the rental or exchange 'warehouse' checks seats for damage.

Rear-facing child seats provide better protection

More children under 4 years would survive collisions if they were seated in rearward-facing child seats.

Children's bodies are small, the head is large and heavy in relation to the body, the neck is weak and fragile. In the case when the child is seated in a forward-facing seat and a car is involved in a frontal collision, the child's head and arms are thrown forward and backward with a violent force stretching or even breaking the spinal cord. In such a collision scenario, a rearward-facing seat absorbs the violent forces better as it keeps the child's sensitive head and neck fully aligned.

A study commissioned by European consumer voice in standardisation (ANEC) revealed that the UK and Swedish accident databases all have examples of unexpected poor protection of forward facing child seats. The problems concern neck, head, chest and abdominal injuries. Well-designed rearward facing restraints would help to avoid such injuries. According to the study, children up to 4 years of age are better protected if they travel rearward facing in a suitable restraint. The Swedish data indicate that there are no dis-benefits associated with rearward facing child restraints.[29]

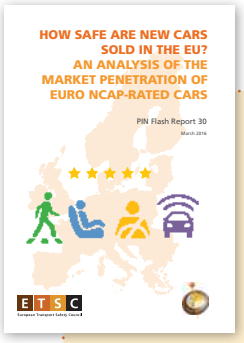
2.1.5 Euro NCAP tests for child occupant and pedestrian protection

The aspects of child occupant protection in cars assessed by Euro NCAP relate to the protection offered by the child restraint systems in the frontal and side impact tests; the availability of provisions for safe transport of children in the car and the vehicle's ability to accommodate child restraints of various sizes and designs. The protection for 6 and 10 year-old children sitting in the rear seat in a child restraint recommended by the manufacturer is assessed.

Euro NCAP encourages manufacturers to offer seating positions compatible with i-Size seats. In 2017, 49 of 51 new models (96%) offered the standard two i-Size positions in the car. 3 out of 51 models also offered an i-Size-ready front passenger seat as standard.[30]

[28] Rospa, Child car seats, Second hand child seats, https://goo.gl/1WMFjE
[29] ANEC (2008), An accident study of the performance of restraints used by children aged three years and under, https://goo.gl/MjZY5S
[30] Euro NCAP, the year in numbers, https://goo.gl/jVc5ch

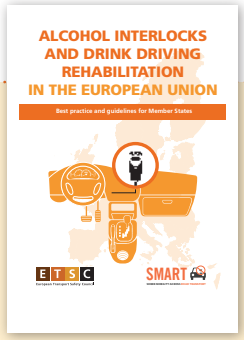
Euro NCAP pedestrian protection tests evaluate the most important vehicle front-end structures such as the bonnet and windshield, the bonnet leading edge and the bumper. In these tests, the potential risk of injuries to child and adult pedestrian head, adult pedestrian pelvis, upper and lower leg are assessed. In 2016 Euro NCAP started testing and rewarding an Automated Emergency Braking System with pedestrian detection. However, in general, car manufacturer improvements in pedestrian protection have been slower than those for occupant protection.



Vehicle safety

The introduction of in-vehicle safety technologies such as Intelligent Speed Assistance (ISA) and Automated Emergency Braking (AEB) can mitigate or prevent traffic collisions and prevent the deaths of more children and other road users. For more information about passive and active vehicle safety see the ETSC position paper on the 2018 Revision of the General Safety Regulation 2009/661 at https://goo.gl/QRabMn.

For more information about Euro NCAP rankings see the ETSC 30th PIN Flash report "How safe are new cars sold in the EU at https://goo.gl/ZZzVbm.



Alcohol interlocks in school buses

All school buses and coaches are required to have alcohol interlocks in France. Alcohol interlocks are also used in school buses in Finland. Even though there is no legal requirement to use alcohol interlock in school buses in Sweden, almost all school buses are equipped with these devices. Alcohol interlocks in school buses ensure sober transport of children and this is a first step towards rolling out alcohol interlocks to other target groups.

For more information about alcohol interlocks see the ETSC report "Alcohol interlocks and drink driving rehabilitation in the European Union" at https://goo.gl/aqGEpM.

Recommendations to Member States

- Develop a strategy to increase correct usage of child restraint systems. Set national indicator targets for the proportion of children correctly fitted in the appropriate child restraint systems. Monitor progress to assess the need for more information campaigns and training activities on correct installation of child restraint systems.
- Conduct nation-wide awareness campaigns educating parents about the importance of child restraints and correct fitment.
- Set enforcement targets and enforcement plans for child seats and seatbelt use.
- Increase the availability and affordability of child restraints by including them in the category of essential products (eligible for a lower VAT rate) as EU Directive 77/388/EEC allows.
- Make rear-facing child seats mandatory for as long as possible, preferably until 4 years of age pending such action by the EU.
- Support health and non-governmental organisations to include child restraint usage information in their programmes.
- Mandate alcohol interlocks in all school buses and other buses transporting children.
- Encourage taxi companies to provide their fleet with child safety restraints.

Recommendations to EU institutions

- Within the framework of the 5th EU Road Safety Action Programme, adopt a separate target for reducing road deaths and serious injuries among children and develop accompanying measures.
- Make rear-facing child seats mandatory for as long as possible, preferably until the child is 4 years old.
- Set EU indicator targets for the proportion of children correctly fitted in the appropriate child restraint systems and develop an appropriate monitoring programme to measure progress.
- Launch a special effort to increase the correct use of child safety restraints in all EU countries. Health and community non-governmental organisations could be encouraged to include child restraint usage information in their programmes.
- Provide consumer information about the 'i-Size' child seats.
- Encourage Member States to set enforcement targets and enforcement plans for child restraint systems.
- Encourage Member States to introduce lower VAT for child restraints by including them in the category of essential products as EU Directive 77/388/EEC allows.
- Facilitate and support the exchange of best practice in terms of the use and enforcement of child seats across Member States.

Recommendations to retailers

- Train employees to correctly advise members of the public on the correct installation and use of child seats.

2.2 Improved direct vision of HGVs

In today's HGVs, driver eye-level is around 2 metres or more above the ground. The dimensions of the windows at the front and sides also lead to large blind areas in the driver's field of view. Those blind areas change when the vehicle is turning, particularly because the trailer unit always turns along a shorter radius than the tractor (cab) unit. That results in the driver being unable to see pedestrians and cyclists, especially children who are small, and are close to the vehicle, particularly when the HGV is turning.

Recommendations to EU institutions

Within the context of the revision of Regulation 2009/661 concerning Type-Approval Requirements for the General Safety of Motor Vehicles:

- Develop mandatory requirements for safer goods vehicles for improved cabin design and direct vision.
- Extending the size and positioning of mirrors, introducing cameras and detection systems that can detect and warn of cyclists and pedestrians in 2020 for new types.

2.3 Mobility and child road safety

Concerns over child safety and security have contributed to the increase in the number of parents driving their children to school. When car traffic increases, pedestrian and cyclist safety is reduced, together with the quality of life of children exposed to a polluted environment. This decline in safety in turn leads to more parents driving their children to school, resulting in a vicious cycle. Another cause of concern is that habits children develop in their youth may determine how they choose to travel later in their adult lives.

By walking or cycling to school, children can become more aware of their surroundings and develop road safety skills, and also improve their ability to anticipate other road users' actions. Besides the road safety benefits, walking and cycling contribute to improved physical and mental health of children by tackling child obesity and increased socialisation. Keeping children healthy, safe and mobile requires a balance between encouraging and allowing them to move about freely and safeguarding them in the road environment.[31] Safe walking and cycling routes in a wide area around schools, with low speed road design for motorised traffic are essential for keeping children in traffic safe.

Italy promotes safe and active ways of travelling to and from school

A number of initiatives have been launched in Italy to encourage safe and active child mobility with a particular focus on the way to and from school:

- "Piedibus" is a caravan of children who go to school in a group. Children are accompanied by two adults – a "driver" at the front and a "controller" at the end of the line. It works as a bus which starts a trip at a terminal and follows an established route to collect passengers at the "stops" along the way following a set time schedule. The "Piedibus" operates in all weather conditions and all children wear reflective vests. Along the way children chat with friends, learn road safety skills and gain independence.
- Most municipalities have established a service called "Policemen Grandparents" around schools that are attended by 3 to 10-year-old pupils. Children's grandparents are stationed at pedestrian crossings around the school to make sure children cross the street safely.
- Various associations contribute to organising a national Bike to School day during which parents are encouraged to take their kids to school by bicycle.

Children in Croatia walk to school

"It is common for pupils to go to school on their own in Croatia. It is especially the case in urban areas where schools are located within five to ten minutes walking distance from home. Generally traffic around schools is low and in many cases pupils do not have to cross a busy road to access a school. Younger children are often seen walking to school together with their parents or grandparents. At the beginning of each school year traffic police officers help children to cross the road on crosswalks. Police officers also go to schools to explain traffic rules and to teach how to behave safely on the way to and from school to first grade pupils."

Sanja Veić, Ministry of the Interior, Croatia

[31] OECD (2004), Keeping children safe in traffic, https://goo.gl/QzGPBY

FI

Finland: urban road infrastructure allows safe and independent child mobility

"Children in Finland are encouraged to travel independently at quite young age as our society and urban road infrastructure are relatively safe. Walking and cycling paths are usually separated from the roads, 30 km/h zones and traffic calming infrastructure are common near the schools. There are underpasses and bridges across the streets. However, the situation is not ideal everywhere - Finland has a long rural road network where safe walking or cycling is not always possible."
Esa R ty, Finnish Crash Data Institute (OTI)

UK

Cycling and walking strategy in the UK

The UK Government published the Cycling and Walking Investment Strategy for England in April 2017. The Strategy sets out the Government's plans for cycling and walking, with an ambition up to 2040 for making cycling and walking the natural choices for short journeys or as part of a longer journey. The Strategy includes aims to increase cycling and walking by 2025 and a target to increase the percentage of children aged 5 to 10 that usually walk to school from 49% in 2014 to 55% in 2025.

CY

There are still challenges to ensure safe walking and cycling in Cyprus

"Walking and cycling to school is mildly encouraged in Cyprus through health education in public schools. Children visit a realistic, to-scale road safety park where they also receive a cycle helmet, cycling training and workshops organised by non-governmental organisations. The encouragement is mild, because there are still safety problems on the roads for young pedestrians and cyclists. Namely, limited footway and cycleway networks, widespread illegal parking and unsafe driver behaviour."
George Morfakis, PIN national expert, Cyprus

2.4 Road infrastructure

30% of all children killed on EU roads are pedestrians and 13% are cyclists. Most serious collisions involving child pedestrians and cyclists are collisions with motorised vehicles. Due to their small stature, children are less visible to drivers.

In such collisions, the vehicle's speed and its ability to protect those outside the vehicle are the most important factors determining the severity of the injury. Road infrastructure should take into account the needs of the communities it serves: enhancing safety and liveability of these communities. Ensuring a safe environment around residential and school areas is an important measure for boosting road safety for children. The road environment must be designed in a way that recognises and takes account of the capabilities and limitations of children.

A leading recommendation of both the OECD and UNICEF is to reduce speed limits to 30 km/h in residential areas and around schools and playgrounds, a practice that has proved to be effective. A combination of traffic calming measures, such as roundabouts, road narrowing, chicanes and road humps are helpful in 30km/h zones to make it easier for vehicle drivers to adhere to the legal speed limit. 30km/h zones should be set up on routes to schools and around bus stops, pedestrian crossings, dedicated pedestrian and cycling paths and safe drop-off and pick-up points.

A number of European countries are introducing 30 km/h zones supported by speed calming measures around schools.

Safe routes to schools

Safe routes to schools programmes aim at encouraging and enabling more children to walk and bike to school safely. Implemented in numerous countries and cities, these community based road safety programmes usually involve school jurisdictions, teachers, pupils, parents, local police, the municipality and local road operators.

Across Austria, safe route to school maps have been created to provide parents and children with information about which school routes are suitable, where recommended crossing points are located and where children have to be extra careful.[32]

Recommendations to Member States

- Design road environments in ways that recognise children's capabilities and limitations. This will also benefit other road users.
- Implement 30 km/h zones together with traffic calming measures to reduce vehicle speeds in residential areas, on the way to schools and around bus stops.
- Develop safe routes to schools.
- Implement safe bicycle infrastructure separated from motorised traffic to make cycling to school safer.
- Promote cycling to school within the context of health, but with the emphasis on safe use of the roads.
- Create sufficient bicycle parking areas around schools.
- Design vehicle parking areas to minimise opportunities for walking behind cars, especially around schools.

Recommendations to the EU institutions

- Encourage EU Member States to implement 30 km/h zones together with traffic calming measures to reduce vehicle speeds in residential areas, on the way to schools and around bus stops.

2.5 Bicycle helmets

A bicycle helmet offers the best available protection against head injury for impact speeds up to approximately 20km/h. The use of a bicycle helmet reduces the risk of severe head injury by more than 65%.[33] According to the Dutch institute for road safety research (SWOV), mandatory bicycle helmet use by children up to 11 years old in the Netherlands could prevent 5 child road deaths and 140 serious child road injuries each year.[34]

Mandatory helmet use increases helmet use and protects more cyclists against head or brain injury in a bicycle collision.[35] Some European countries are regulating obligatory use of bicycle helmets for children but the extent of legislation varies from country to country (Table 3).

[32] AUVA, School route map, https://goo.gl/2qoJSz
[33] SWOV, Fact sheet, Bicycle helmets, https://goo.gl/qnfvJU
[34] Ibid
[35] Ibid

Table 3. Bicycle helmet wearing regulation
Source: PIN panellists

Mandatory bicycle helmet for children	Bicycle helmet not mandatory
AT: under 12 years	**BE**
CZ: under 18 years	**BG**
EE: under 16 years	**CY**
ES: under 16 years	**DE**
FI: mandatory for all ages, but no sanctions	**DK**
FR: under 12 years	**EL**
HR: under 16 years	**IE**
HU: mandatory for all outside urban areas with speed limit above 40 km/h	**MT:** not mandatory. Except for children under 10 years travelling as bicycle passengers
LV: under 13 years	**IT**
LT: under 18 years	**LU**
SE: under 15 years	**NL**
SI: under 18 years	**PL**
SK: under 15 years	**PT**
IL: under 18 years	**RO**
	UK
	CH
	NO
	RS

The Belgian consumer organisation Test-Achats has commissioned a study to test twelve child bicycle helmets using a digital model of the human head to assess the protection offered. The results revealed that the best model tested carried a 30% risk of brain injury in the case of head impact, the worst an 80% risk. The price of helmets was not an indication for better performance, as an 80 euro model was outperformed by a 10 euro model.[36] There is a need to improve EU bicycle helmet standards to ensure that all children wearing bicycle helmets get the same high level of protection against brain injury.

Recommendations to Member States

- Encourage helmet-wearing among cyclists, without discouraging cycling or giving rise to other negative side effects such as excessive risk compensation.

Recommendations to the EU institutions

- Revise standards for testing bicycle helmets to increase the safety standard currently in use to offer high levels of protection.

2.6 Child road safety education

Young children are not little adults. They have physical and cognitive limitations that make them more vulnerable in road traffic than adults.

Children under around 12 years lack the perceptual judgement and skills to interact with a complex traffic environment.[37] Traffic education for children of 6 to 12 years old should be attempted in actual or simulated conditions rather than theoretically in the classroom. Difficulties for children arise when dealing with complex situations which require simultaneous processing of more than one feature.[38] Children also find it challenging to apply abstract knowledge to concrete situations and to use what they have learned in new situations.

[36] ETSC (2017), Consumer organisation calls for revised child cycle helmet standard, https://goo.gl/4nkh24
[37] OECD (2004), Keeping children safe in traffic, https://goo.gl/QzGPBY
[38] DaCoTA (2012), Children in road traffic, https://goo.gl/yRSGPx

Child road safety education is important at all levels from pre-school on for preparing children properly for traffic participation, but measurable effects are limited. The evaluation data on the effectiveness of child road safety education are scarce. Moreover, education can only partially speed up the mental development of children.[39]

Carrying out and supporting education and awareness of children – but also parents, teachers and other road users – with regard to all matters related to road safety should be part of the broader strategy for reducing the number of children killed on the roads. Adult road users have to be educated to understand the limitations of child behaviour in traffic and the responsibility for keeping children in traffic safe has to be shifted towards adults.[40]

DE

Educational programme for parents running for over 30 years in Germany

Since the early 80's the German Road Safety Council (DVR) has been running a program known as "Child and Traffic" which focuses on pre-school child road user safety. The target group of this program are parents. To implement the programme locally, the DVR and its member associations trained around 500 people who organise events at pre-school institutions and day-care facilities.

Recommendations to Member States

- Shift the focus of responsibility for child road safety towards drivers and other adult road users.
- Provide road safety education that starts at schools and which is part of a continuum of lifelong learning.
- Involve parents more effectively in the delivery of road safety education both informally and formally. Parents must be well informed in particular about the safety devices that can protect their children and the need to teach safe behaviour through example.
- Increase drivers' awareness of children's limitations and driver training needs to increase novice drivers' awareness of hazards, particularly where children are concerned.
- Launch publicity campaigns targeting drivers to raise awareness of how children behave, alerting drivers to their responsibilities to protect child car occupants, child pedestrians and bicyclists.
- Improve the visibility of children when walking or cycling (e.g.: promote the use of retro-reflecting clothing or stripes).

Recommendations to the EU institutions

- Develop EU evaluation tools to design, implement and evaluate traffic and mobility education.
- Encourage all EU Member States to deliver road safety education that starts at school and which is part of a continuum of lifelong learning.

[39] Ibid
[40] OECD (2004)

2.7 Pre-hospital care

At the scene of a collision, prompt high-quality pre-hospital care can save many lives after a road traffic collision has occurred. Pre-hospital care is most effective if their equipment, training, infrastructure and operations are standardised. Medical emergency vehicles need to be equipped with supplies and medical devices for children as well as for adults.[41]

In addition, staff needs to be trained on how to evaluate and manage child injury. What is normal for an adult treatment may not necessarily be normal for a child treatment and vice versa.[42] Pre-hospital clinicians should understand the patterns of injury seen in children. These patterns vary according to age and, by understanding what they are, morbidity and mortality can be reduced. The early initial treatment in the pre-hospital setting and subsequent informed advanced warning to the hospital will lead to better preparation and the deployment of appropriate resources to deal with the injuries, so improving clinical outcomes.

Recommendations to Member States

- Train medical pre-hospital care staff to evaluate and manage child injury.

2.8 EU legislation for obtaining a driving license for moped driving

Since 2013 it has no longer been possible to drive a moped in the EU without a driving license, thanks to the amendments of EU Directive 2006/126/EEC on Driving licenses.

The Directive introduced a new category AM[43]. Across the EU only a theoretical test was made mandatory for AM riders following the implementation of the Directive while training remained optional.[44] Yet most Member States have stricter licencing requirements for mopeds: 21 EU countries require mandatory practical training, 19 require mandatory theoretical training and 22 require a practical test.

The recommended minimum age for category AM is 16 years but Member States may lower it down to 14 years or raise it up to 18 years old. EU countries make use of the large possible span of 14 to 18 years provided by the Directive, making AM the category with the largest variation in minimum age requirements (Table 4). Recent research on human brain development indicates that adolescents may be inherently less prepared for the responsibilities of solo driving than older people. Raising, or not lowering, the minimum age for solo driving, will save lives, by virtue of the fact that it prevents young and inexperienced drivers from solo driving until they are older.[45]

High quality training is crucial for safe motorcycling. Some core skills such as personal attitudes, risk awareness, self-awareness, dealing with risks such as distraction, peer-pressure and impaired driving are difficult to test. Several studies have highlighted the importance of training these skills.[46]

The training for graduated access to a higher category may not need to cover all elements of the practical test as the candidate already has experience. It could, for instance, instead focus on the high-level skills mentioned above.

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[41] WHO, Youth and road safety, https://goo.gl/uKLm4C
[42] Ibid
[43] AM category includes: Moped - two-wheel vehicles or three-wheel vehicles with a maximum design speed is over 25km/h and not more than 45km/h; Light quadricycle with an unladen mass of not more than 350kg, not including the mass of the batteries in case of electric vehicles, whose maximum design speed is over 25km/h and not more than 45km/h.
[44] European Commission, New European driving license for more security, safety and free movement, https://goo.gl/hFthhw
[45] OECD (2006), Young Drivers – The Road to Safety, OECD, pp.75-76. https://goo.gl/dHJJRj
[46] OECD (2015), Improving Safety for Motorcycle, Scooter and Moped Riders, https://goo.gl/kAwsjq

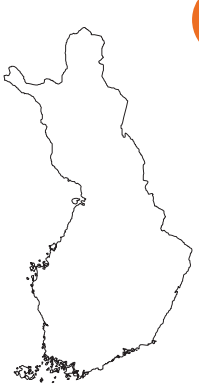
Table 4. Minimum driver age for different PTW categories. Source: PIN panellists.
*IL – there is no AM category in Israel. *CH – there is no AM category in Switzerland, but there is a category with similar specifications: max 50 cm / max 4 kw (but no speed limit); minimum age is 16 years". *NO – 18 years required for heavy AM (over 150 kg). *FR - in accordance with the principle of progressive access to powered two wheelers (generalised to the wider population), there is no direct access to driving license A.

	Minimum driver age for different PTW categories				
	AM (EU recommended minimum age 16)	A1 (EU recommended minimum age 16)	A2 (EU recommended minimum 18)	A (EU recommended minimum - 20 with two years of experience under A2 and 24 years without previous experience under A2)	
				2 years experience under A2	No experience under A2
AT	15	16	18	20	24
BE	16	18	20	22	24
BG	16	16	18	20	24
CY	17	18	20	22	24
CZ	15	16	18	20	24
DE	16	16	18	20	24
DK	18	18	20	22	24
EE	14	16	18	20	24
ES	15	16	18	20	24
FI	15	16	18	20	24
FR*	14	16	18	20	not applicable
EL	16	18	20	22	24
HR	15	16	18	20	24
HU	14	16	n/a	20	24
IE	16	16	18	20	24
IT	14	16	18	n/a	n/a
LU	16	16	18	20	24
LV	14	16	18	24	24
LT	15	16	18	20	24
MT	18	18	20	22	24
NL	16	18	20	24	24
PL	14	16	18	20	24
PT	16	16	18	20	24
RO	16	16	18	20	24
SE	15	16	18	20	24
SI	15	16	18	20	24
SK	15	n/a	n/a	n/a	n/a
UK	16	17	19	21	24
CH*	n/a	18	18	20	25
IL*	n/a	18	16	21	21
NO*	16/18	18	18	22	24
RS	16	16	18	20	24

SE

Sweden

"The main motivation to have 15 years as a minimum age for AM riders is accessibility, the possibility to travel to school and leisure activities. This is especially true for young people living in a rural areas, with poorer opportunities for public transport. Practical and theoretical training are mandatory to obtain the AM category license. However, a practical exam is not required."
Anna Vadeby, National Road and Transport research Institute (VTI), Sweden



FI

Finland

"Finland is not a densely populated country and mopeds are actively used for travelling to school and to leisure activities. In Finland the minimum age for an A1 license is 16 years. Learning to ride a less powerful moped a year before the A1 license is obtained helps young riders to learn traffic laws and gain practical experience. In Finland theoretical and practical tests to obtain the AM category license are mandatory. Due to cold winters the season for riding powered two wheelers in Finland is shorter and, therefore, there is less exposure."
Esa R ty, Finnish Crash Data Institute (OTI)

Recommendations to Member States

- Do not lower the minimum age for moped driving nor for solo car driving to avoid an increase in young rider and car driver deaths.
- To obtain an AM category license, make theoretical and practical training as well as a practical test mandatory.

Recommendations to the EU institutions

- Make theoretical and practical training as well as a practical test mandatory for obtaining a driving license for moped driving (AM).
- Establish minimum standards for theoretical and practical training for AM riders and other categories of licenses more generally.

ANNEXES

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

Table 1 (Fig.1 and Fig.3) Total number of child (0-14 years old) deaths over the period 2006-2016.

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Average annual change (%) in the number of child road deaths (0-14 years old) over the period 2006-2016 (Fig.1)
LT	31	31	19	12	7	13	11	7	15	5	4	-15.8%
EL	36	42	35	43	30	22	21	17	10	6	19	-14.9%
HU	42	37	24	22	20	12	20	7	11	11	9	-14.5%
HR	28	26	20	24	12	14	8	10	8	14	4	-14.4%
NO	9	10	8	8	3	7	4	4	5	2	2	-13.9%
ES	109	99	83	61	79	43	53	46	37	25	28	-13.3%
RS	40	29	36	19	25	20	16	11	10	14	12	-12.2%
PT	22	27	23	22	18	19	13	11	8	13	7	-11.6%
UK*	147	96	110	69	42	52	56	41	50	52	n/a	-11.0%
IE**	15	15	18	10	6	7	3	6	12	3	9	-10.3%
DK	13	20	19	10	9	9	7	13	6	6	6	-10.2%
LV	14	11	12	7	9	5	6	7	7	11	2	-10.1%
BE	32	30	35	22	23	35	16	18	10	19	15	-8.8%
NL*	37	36	23	23	16	18	24	8	19	20	n/a	-8.7%
PL	151	156	146	128	112	102	90	91	80	70	72	-8.4%
IT	110	95	85	71	70	61	52	55	62	39	49	-8.2%
SI	9	6	4	2	2	6	3	3	2	3	3	-8.0%
AT	23	13	12	15	10	13	8	10	8	11	7	-7.7%
SE	16	10	6	9	10	10	7	4	7	7	6	-6.9%
RO*	145	117	137	125	95	83	90	76	91	76	n/a	-6.8%
CZ	32	25	19	16	17	12	15	11	14	18	14	-6.4%
DE	136	111	102	90	104	86	73	58	71	84	66	-6.2%
IL	46	28	34	25	40	22	23	23	30	24	25	-4.2%
CH	16	14	10	21	8	10	31	12	9	7	12	-3.8%
BG	22	30	40	30	18	10	16	14	16	21	36	-3.0%
EE	6	6	3	4	1	4	1	3	3	4	5	-2.8%
FR	120	150	114	122	130	128	115	97	112	101	108	-2.5%
FI***	5	14	8	6	7	8	7	6	10	14	10	3.8%
CY	1	4	1	4	1	1	0	1	0	1	1	n/a
LU	0	2	0	6	0	1	1	2	1	0	2	n/a
MT	0	0	0	1	1	0	0	0	0	1	0	n/a
SK	13	28	23	9	11	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EU27	**1,302**	**1,209**	**1,098**	**953**	**848**	**774**	**716**	**622**	**670**	**634**	**630†**	**-7.3%**

	Difference between the average annual change (%) in the number of child road deaths and the corresponding change in the number of other road deaths over the period 2006-2016 (Fig.3)
RS	-7.2%
NO	-7.1%
HU	-7.0%
HR	-6.8%
EL	-6.5%
PT	-6.0%
NL*	-5.1%
ES	-4.3%
UK*	-4.2%
BE	-4.0%
LT	-3.9%
IE**	-3.3%
IT	-3.0%
DK	-2.5%
AT	-2.4%
DE	-1.8%
PL	-1.7%
SE	-1.6%
LV	-1.4%
IL	-1.4%
RO*	-1.3%
CZ	-0.3%
SI	0.6%
FR	1.1%
CH	1.6%
BG	2.3%
EE	7.4%
FI***	7.9%
CY	n/a
LU	n/a
MT	n/a
SK	n/a
EU27	**-1.5%**

Source: data concerning child road deaths were retrieved by the European Commission from its CARE database upon ETSC's request and confirmed or complemented by the PIN Panellists.
EU27 average: EU28 excluding SK due to insufficient data.
†An estimate number taking into account that 2016 data were not available in NL, RO, SK and UK.
*NL, RO, UK – 2006-2015 data.
**IE – provisional data for 2015-2016.
***FI – provisional data for 2016.
CY, LU and MT are excluded from the figure due to fluctuation in particularly small numbers of child road deaths.

Table 2 (Fig.4) Child road deaths per million child population (0-14 years old). Average number for 2014-2016 or the last three available.

	2013	2014	2015	2016	Child (0-14 years old) population	Child road deaths per million child population. Average number for 2014-2016 or the last three available (Fig.4)
NO	4	5	2	2	933,600	3.2
SE	4	7	7	6	1,717,143	3.9
UK*	41	50	52	n/a	11,587,390	4.1
ES	46	37	25	28	7,025,400	4.3
CY	1	0	1	1	139,538	4.8
MT	0	0	1	0	61,889	5.4
NL*	8	19	20	n/a	2,799,772	5.6
IT	55	62	39	49	8,281,859	6.0
DK	13	6	6	6	960,274	6.2
DE	58	71	84	66	10,881,126	6.8
PT	11	8	13	7	1,366,254	6.8
AT	10	8	11	7	1,245,179	7.0
EL	17	10	6	19	1,556,763	7.2
HU	7	11	11	9	1,424,448	7.3
CH	12	9	7	12	1,236,792	7.5
BE	18	10	19	15	1,921,342	7.6
IE**	6	12	3	9	1,006,552	7.9
SI	3	2	3	3	306,390	8.7
FR	97	112	101	108	11,785,716	9.1
CZ	11	14	18	14	1,623,716	9.4
LU	2	1	0	2	94,891	10.5
IL	23	30	24	25	2,367,900	11.1
RS	11	10	14	12	1,020,693	11.8
FI***	6	10	14	10	896,023	12.6
PL	91	80	70	72	5,773,355	12.8
HR	10	8	14	4	611,472	14.2
LT	7	15	5	4	423,747	18.9
EE	3	3	4	5	211,445	18.9
LV	7	7	11	2	300,260	22.2
BG	14	16	21	36	998,206	24.4
RO*	76	91	76	n/a	3,064,993	26.4
SK	n/a	n/a	n/a	n/a	n/a	n/a
EU27	**622**	**670**	**634**	**630†**	**78,836,922**	**8.2**

Source: data concerning child road deaths were retrieved by the European Commission from its CARE database upon ETSC's request and confirmed or complemented by the PIN Panellists. Population figures were retrieved from the Eurostat database and confirmed by the PIN panellists.
†An estimate number taking into account that 2016 data were not available in NL, RO, SK and UK.
EU27 average: EU28 excluding SK due to insufficient data.
*NL, RO, UK – 2006-2015 data.
**IE – provisional data for 2015-2016.
***FI – provisional data for 2016.
CY, LU and MT are excluded from the figure due to fluctuation in particularly small numbers of child road deaths.

Table 3 (Fig.5) Child road deaths as a proportion (%) of deaths from all causes in age group 1-14 years old in 2013-2015 or the last three years available.

	Average number of child deaths (1-14 years old) in 2013-2015	Average number of child road deaths (1-14 years old) in 2013-2015	Child road deaths as a proportion (%) of all child deaths (1-14 years old)
UK	1,137	48	4.2%
SE	137	6	4.4%
MT	6	0	5.3%
HU	183	10	5.3%
NO	69	4	5.3%
ES	637	36	5.7%
NL	256	16	6.1%
PT	159	11	6.7%
CY	10	1	6.9%
EL	158	11	6.9%
DE	1,017	71	7.0%
IT	733	52	7.1%
FR	1,454	103	7.1%
BE	205	16	7.6%
BG	222	17	7.7%
AT	126	10	7.7%
IE	90	7	7.7%
RS	149	12	7.8%
CH	105	9	8.9%
IL	285	26	9.0%
CZ	159	14	9.0%
EE	36	3	9.3%
SI	28	3	9.6%
LU	10	1	10.0%
LT	82	9	10.9%
PL	720	80	11.2%
DK	74	8	11.2%
RO	719	81	11.3%
FI	78	10	12.8%
HR	80	11	13.3%
LV	58	8	14.4%
SK	n/a		
EU27	**8,371**	**634**	**7.6%**

EU27 average: EU28 excluding SK due to insufficient data.

Table 4 (Fig.6) Proportion (%) of child road deaths (0-14 years old) by road type, average years 2014-2016 or the latest three years available.

	Average years 2014-2016 or the latest three years available							
	Total number of child road deaths (0-14 years) by road type				Proportion (%) of child road deaths (0-14 years) by road type			
	Urban	Rural non-motorway	Motorway	Unknown	Urban	Rural non-motorway	Motorway	Unknown
RO*	59.7	19.7	1.7	0.0	74%	24%	2%	0%
HR	6.0	2.3	0.7	0.0	67%	26%	7%	0%
IL	17.3	8.3	0.7	0.0	66%	32%	3%	0%
PT	6.0	2.7	0.7	0.0	64%	29%	7%	0%
RS	7.7	4.3	0.0	0.0	64%	36%	0%	0%
CH	5.0	3.0	1.3	0.0	54%	32%	14%	0%
UK*	23.3	22.7	1.7	0.0	49%	48%	3%	0%
EL	5.7	5.3	0.7	0.0	49%	46%	6%	0%
PL	35.0	38.3	0.7	0.0	47%	52%	1%	0%
CZ	7.0	7.3	1.0	0.0	46%	48%	7%	0%
DE****	32.3	29.7	9.0	0.0	46%	42%	13%	0%
BE	6.3	5.3	1.3	1.7	43%	36%	9%	11%
IE**	3.3	4.3	0.3	0.0	42%	54%	4%	0%
LT	3.3	4.3	0.3	0.0	42%	54%	4%	0%
IT	20.3	22.7	7.0	0.0	41%	45%	14%	0%
NL*	6.3	5.7	1.0	2.7	40%	36%	6%	17%
DK	2.3	3.3	0.3	0.0	39%	56%	6%	0%
HU	4.0	5.3	1.0	0.0	39%	52%	10%	0%
AT	3.3	4.3	1.0	0.0	38%	50%	12%	0%
BG	9.3	14.0	1.0	0.0	38%	58%	4%	0%
FR	37.7	61.0	8.3	0.0	35%	57%	8%	0%
SE	2.0	3.7	0.3	0.7	30%	55%	5%	10%
ES*****	8.3	14.7	7.0	0.0	28%	49%	23%	0%
FI***	2.7	7.3	0.0	0.0	27%	73%	n/a	0%
LV	1.7	5.0	n/a	0.0	25%	75%	0%	0%
CY	0.0	0.3	0.3	0.0	0%	50%	50%	0%
EE	1.3	2.3	n/a	0.3	33%	58%	n/a	8%
LU	0.7	0.3	0.0	0.0	67%	33%	0%	0%
MT	0.3	0.0	0.0	0.0	100%	0%	0%	0%
NO	1.3	2.0	0.0	0.0	40%	60%	0%	0%
SI	0.3	1.0	1.3	0.0	13%	38%	50%	0%
SK	n/a				n/a			
EU22	**288.3**	**293.0**	**46.7**	**5.3**	**46%**	**46%**	**7%**	**1%**

EU27 average: EU28 excluding SK due to insufficient data.
There are no motorways in EE and LV.
*NL, RO, UK – 2013-2015 data.
**IE – provisional data for 2015-2016.
***FI – provisional data for 2016.
****DE – average years 2013-2015 for age group 0-15 years.
*****ES - motorway category also includes autovias.
CY, EE, LU, MT, NO and SI are excluded from the figure as the number of child road deaths are particularly small.

Table 5 (Fig.7) Proportion (%) of road deaths in age groups among all road deaths under 18 years, average years 2014-2016 or the latest three years available.

	1<	1-4 years	5-9 years	10-13 years	14 years old	15 years old	16 years old	17 years old	unknown
AT	0%	18%	9%	5%	3%	12%	27%	26%	0%
BE	4%	7%	13%	9%	6%	8%	13%	22%	18%
BG	3%	15%	19%	20%	3%	6%	9%	24%	0%
CY	0%	9%	0%	0%	9%	9%	18%	55%	0%
CZ	3%	14%	23%	19%	4%	5%	7%	21%	4%
DE	1%	15%	13%	12%	5%	8%	18%	27%	0%
DK	7%	11%	26%	19%	4%	7%	15%	11%	0%
EE	6%	6%	24%	24%	12%	18%	0%	12%	0%
ES	5%	17%	10%	12%	4%	10%	14%	16%	12%
FI***	0%	13%	15%	21%	7%	15%	15%	15%	0%
FR	3%	13%	13%	13%	7%	14%	14%	23%	0%
EL	0%	14%	10%	8%	3%	9%	18%	25%	13%
HR	2%	7%	29%	7%	17%	17%	7%	14%	0%
HU	2%	16%	19%	11%	5%	10%	16%	13%	8%
IE**	3%	17%	14%	25%	8%	8%	11%	14%	0%
IT****	0%	10%	8%	8%	4%	8%	13%	20%	28%
LU	0%	60%	0%	0%	0%	0%	20%	20%	0%
LV	1%	7%	12%	4%	4%	3%	7%	10%	49%
LT	0%	13%	16%	18%	7%	18%	2%	18%	9%
MT	0%	0%	0%	0%	0%	0%	0%	100%	0%
NL*	0%	10%	13%	17%	11%	6%	18%	25%	0%
PL	2%	9%	16%	18%	6%	10%	16%	21%	2%
PT	0%	14%	16%	13%	7%	5%	20%	18%	7%
RO*	0%	17%	29%	22%	6%	9%	12%	3%	3%
SE	5%	12%	12%	14%	5%	17%	17%	19%	0%
SI	0%	19%	25%	0%	6%	6%	19%	25%	0%
UK*	1%	10%	17%	15%	9%	8%	18%	22%	0%
CH	5%	26%	18%	16%	8%	11%	5%	11%	0%
IL	3%	35%	20%	9%	5%	7%	8%	13%	0%
NO	0%	0%	10%	25%	10%	5%	35%	10%	5%
RS	4%	14%	10%	17%	6%	6%	20%	24%	0%
SK	n/a								
EU27	**2%**	**13%**	**15%**	**14%**	**6%**	**10%**	**15%**	**21%**	**7%**

EU27 average: EU28 excluding SK due to insufficient data.
*NL, RO, UK - 2013-2015 data.
**IE – provisional data for 2015-2016.
***FI – provisional data for 2016.
****IT - children under 1 year are included in the 1-4 years old category.
DK, CY, EE, LU, MT and NO are excluded from the figure as the number of road deaths for age group 0-17 is less than 10.

Table 6 (Fig.10 and Fig.11) Total number of child serious road traffic injuries (0-14 years old) over the period 2006-2016 based on national serious road traffic injury definition (national definitions provided in table 7).

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Relative average change (%) in the number of child serious road traffic injuries (0-14 years old) over the period 2006-2016 (Fig.10)		Difference between the average annual change (%) in the number of serious child road injury and the corresponding change in the number of other serious road injury over the period 2006-2016 (Fig.11)
DK	137	190	149	126	113	113	104	67	68	78	70	-9.2%	NL''	-5.4%
CY	34	36	24	31	30	15	31	15	18	12	16	-9.1%	SI	-4.0%
IE****	54	66	52	40	36	33	33	35	64	n/a	n/a	-9.1%	LU	-3.8%
HR	324	320	255	259	207	201	164	156	158	143	137	-8.9%	PL	-3.7%
SI	78	73	53	31	46	43	39	27	30	29	38	-8.2%	HR	-3.7%
PT	198	206	190	155	125	134	111	90	97	108	97	-8.2%	IL	-3.7%
HU	393	431	324	295	279	202	203	216	176	208	207	-7.8%	DK	-3.5%
EL	64	66	50	64	64	64	42	53	24	37	15	-7.6%	HU	-3.5%
PL	1,219	1,217	1,192	1,079	956	904	814	782	705	653	700	-6.7%	PT	-3.1%
ES	764	605	591	489	410	457	373	410	351	355	385	-6.6%	CH	-2.7%
RS	363	351	369	326	256	255	233	241	214	205	216	-6.2%	CY	-2.5%
BE	397	337	364	312	309	301	268	256	223	219	226	-5.8%	UK	-2.3%
IL	331	290	259	231	227	152	178	210	183	186	175	-5.7%	NO	-2.1%
CH	326	310	274	309	262	257	279	226	189	182	193	-5.7%	DE	-1.8%
NO	63	56	36	49	27	35	33	37	20	41	35	-5.6%	RS	-1.4%
UK	2,810	2,646	2,418	2,371	2,265	2,179	2,029	1,811	1,872	1,750	n/a	-5.1%	RO*	-1.1%
LU	9	11	10	18	11	14	19	14	10	12	3	-4.5%	SE***	-0.3%
CZ	189	209	177	180	153	147	164	154	142	120	138	-4.2%	BE''	0.0%
FR	2,747	2,440	2,312	2,389	2,166	2,014	1,930	1,785	1,883	1,834	1,832	-4.0%	EL	0.1%
LV	61	30	46	42	42	42	45	37	35	30	34	-3.5%	FR	0.4%
DE	5,694	5,521	4,872	4,906	4,477	4,990	4,564	4,406	4,472	4,253	4,195	-2.7%	CZ	0.6%
SE***	532	532	478	460	364	371	375	426	403	378	411	-2.5%	LV	0.8%
NL''												-1.3%	IE****	1.0%
RO*	563	629	813	764	753	801	771	788	684	705	n/a	1.6%	ES	1.5%
MT	10	20	7	10	9	7	23	16	14	25	18	7.3%	MT	2.1%
AT‡	734	770	727	666	564	570	305	303	304	262	284	n/a	AT‡	n/a
BG	n/a		232	178	n/a							n/a	BG	n/a
EE	n/a						64	56	42	51	62	n/a	EE	n/a
FI	n/a								20	19	n/a	n/a	FI	n/a
IT	n/a									0	n/a	n/a	IT	n/a
LT	n/a									11	5	n/a	LT	n/a
SK	150	123	106	72	78	n/a						n/a	SK	n/a
EU22	**16,469**	**15,803**	**14,619**	**14,217**	**13,006**	**13,224**	**12,009**	**11,405**	**11,316**	**10,872**	**10,896†**	**-4.6%**	**EU22**	**-2.6%**

Source: data concerning child road traffic injuries based on national serious injury definition were retrieved by the European Commission from its CARE database upon ETSC's request and confirmed or complemented by the PIN Panellists. Data for the Netherlands were provided by SWOV.
EU22 average: EU28 excluding BG, EE, FI, IT, LT, MT and SK due to lack of data.

† An estimate number taking into account that 2016 data were not available in IE, RO and the UK.
* RO – *NL, RO, UK - 2013-2015 data.
*** SE – 2007-2016 data.
**** IE – 2006-2013 data, 2014-2016 data were not included in the calculation due to changes in serious injury reporting methodology in 2014.
‡AT excluded from the figure due to substantial changes in the police reporting system in 2012 but its number of serious child road injuries is included in the EU average.
''NL MAIS2+ figures based on hospital data.

Table 7. Current national definition of seriously injured person in a road collision as used in Fig.10 and Fig.11.

AT	Whether an injury is severe or slight is determined by §84 of the Austrian criminal code. A severe injury is one that causes a health problem or occupational disability longer than 24 days, or one that "causes personal difficulty". Police records. As of 1.1.2012, only 2 instead of 3 degrees of severities, slight, degree unknown, severe. Therefore and because of lower underreporting due to the new police recording system, the figure of serious injuries increased substantially. Note: the figures in Table 6 contain - for years 2006-2011 - the sum of serious & degree unknown, as most of "degree unknown" were historically considered as serious.
BE	Hospitalised more than 24 hours. But in practice no communication between police and hospitals so in most cases allocation is made by the police. Police records.
BG	The level of "body damage" is defined in the Penalty code. There are 3 – light, medium and high level 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 MAIS3+ 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 is used to find out how long the person (involved in an accident according to the police data) was hospitalised.
ES	Hospitalised for at least 24 hours. Police records.
FI	Serious injury in official statistics is defined as MAIS3+ (AAAM, Association for the Advancement of Automotive Medicine). The number of seriously injured MAIS3+ is formed by combining the official road accident participant statistics maintained by Statistics Finland and the Hospital Discharge Register (HILMO), using personal identity numbers as the link.
FR	Until 2004: hospitalised for at least 6 days. From 2005: hospitalised for at least 24 hours and who have not died within 30 days after the accident. 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	a person who, as a result of an injury collision, sustained an injury for which the person is detained in hospital as an 'in-patient', or any of the following injuries whether or not detained in hospital: fractures, concussion, internal injuries, crushings, severe cuts and lacerations, severe general shock requiring medical treatment.
IT	Separate statistics on seriously and slightly injuries are n/a in the Road accidents dataset. Despite that, Italy calculated the number of serious injured according to EU reccomendations (MAIS 3+) and using data based on hospitals discharge records.
LU	Are considered as seriously injured victims who, as a direct result of a road traffic accident, suffer from lesions causing further hospitalisation whose duration is equal to or exceeds one day.
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 mutilated.
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	In the Netherlands, since 2009 serious road injury data are based on police reports and hospital records. These data are matched, and a definition based on MAIS injury severity (MAIS2+) is in place. Due to reporting problems in the police data base since 2010, only hospital data are sufficiently reliable, which is why the NL trends are based on hospital data, both in Figure 10 and in Figure 11 of this report. The trend values were provided by SWOV. The outspoken trend differences for children and for the other road users is related to a strong (4.1%) annual increase in the number of serious road injuries because of the high and increasing number of cycling elderly, and their relatively large number of single bicycle crashes.
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, or i) health impairment of longer duration. health impairment of longer duration is an impairment, which objectively requires treatment and possibly involves work incapacity of not less than forty-two calendar days, during which it seriously affects the habitual way of life of the injured party."
UK	Hospitalised for at least 24 hours or any of the following injuries whether or not they are detained in hospital: fractures, concussion, internal injuries, crushing, burns (excluding friction burns), severe cuts and lacerations, severe general shock.
CH	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. Further comments: 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 corps 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. Categorization of an injury as a "serious injury" is made on the basis of expert assessment given by doctors during admission to hospital, during hospitalization or after the hospitalization. The Republic of Serbia has not yet adopted a definition for serious injury. Police records.

Table 8. Is child road safety education at schools compulsory in your country?

AT	Only in primary school, but currenty being expanded to to higher grades, with a focus of riding moped in grades 8 and above; see field of action "Road Safety Educaytion & Campaigns" in the Austrian Road Safety Programme at https://www.bmvit.gv.at/service/publikationen/verkehr/strasse/verkehrssicherheit/downloads/vsp2020_2016.pdf
BE	Belgium is divided into 3 communities (French-speaking, Flemish (Dutch-speaking) and German-speaking) who are each responsible for education in their region => Road safety education = also responsibility of the communities. In the Flemish community road safety education is a part of the compulsory curriculum for primary school. Examples: Pupils master a decent reaction time, can keep their body in balance and have a sense of orientation. Pupils know the rules for pedestrians and cyclists in traffic. Pupils know how to go from one place to another in a safe way. For the Flemish preschool and secondary school curriculum it is not compulsory. In the French-speaking community road safety eduction is not explicitly mentioned in the official texts. It can however be part of different courses (e.g. French, introduction to science, physical education, …).No obligation, goodwill of teacher. In the German-speaking community Preschool: No obligation. Primary school: obliged as part of world orientation classes - half an hour of road safety lessons per week. Secondary school: no obligation to teach road safety education. Teachers can however address it during 'citizenship classes'.
BG	In Bulgaria the schools are obliged to provide safe routes for children up to 4th grade. The Bulgarian Ministry of Education has adopted a document with instructions to all school and pre-school directors for organizing all activities involving road safety and road safety education for their pupils.
CY	Yes, child road safety education is compulsory in the public education in Cyprus, for the ages 5-14 years.
CZ	Compulsory part of education program at schools (for 6 - 15 years old) with theoretical and practical exercises talking place in traffic parks.
DE	At the elementary school road safety education is included in the syllabus.
DK	n/a
EE	Child road safety education is compulsory, but there isn't separate road safety subject. It's cross-curricular topic in other subjects. Road traffic education is being taught since kindergarden till high school. In national curriculum there is cross-curricular topic "Health and safety" which includes safety aspects like how to behave safely in situations of traffic. The pupils are guided to: 1) know different types of danger sources 2) avoid dangerous situations 3) develop attitudes and behaviour in compliance with safe environment at home and school and with traffic safety 4)develop proper traffic behaviour, become accustomed to complying the traffic norms and take into account other people in traffic; learn about and appreciate all of the rights, obligations and responsibility arising from traffic and safety rules. In addition there are risktaking courses for teenagers, bycycle courses for every 10 years old child and examination for getting the bycycle license.
ES	LOMCE (Organic Law On The Improvement Of The Quality Of Education) of 2013 and its implementing Royal Decrees in every single stage of education (2014) coordinate the implementation of compulsory education in Spain between the age of 6 and 16, corresponding the primary education stage to 6-12 years old and the secondary education (ESO, in Spanish) to 12-16 years old. As for primary education, the law establishes how road safety education shall be implemented in the curriculum. Road safety education is present in the General Objectives for the Stage (objective 'n'), in the Basic Educational Skills, in Cross-cutting Disciplines, in all school levels as part of the Social Sciences field and in the curriculum of Social and Civic Values Area. As for the compulsory secondary education stage (ESO), legislation includes road safety in the curriculum as part of the basic skills that will be developed in this phase of education. It also forms part of the Cross-cutting Disciplines and of the Social and Civic Values Area in the field of Education and Road Safety. In the Postcompulsory Education stage (Upper Secondary and Vocational education), road safety is explicitly included in their objectives ('n') and as part of the General Principles that must be taken into account in this phase of education. Besides, without explicit references, road safety is recommended and is incorporated in pre-school education (up to 6 years of age) from a playful perspective, especially within the age range of 3-5 addressing the greatest risk factors and involving parents and teaching staff. DGT supports the implementation of Road Safety in Spain from its Educative Intervention Unit within the Centre for Road Safety Education by providing advice, researching, training teachers and social partners involved and designing and developing all kinds of educational resources across all educational stages (www.dgt.es)
FI	The new national core corriculum of basic education was introduced in 2014. It is a normative document schools must follow. In the new core curriculum, traffic safety education is included in various subjects as well as in one of the transversal competences called taking care of oneself and managing daily life. In grades 1 – 2 (7 -8 years) attention is paid to the pupils' independent and safe mobility in their surroundings, to the use of protective and safety equipment, and to improving the pupils' skills and knowledge as pedestrian and cyclist. In grades 3 – 6 (9 – 12 years) the pupils' independent mobility in a wider area and in public transport is supported. Particular attention is paid to the pupils' skills of safe cycling and ensuring their own and other people's safety on the road. The pupils are guided in using appropriate safety and protective equipment and taught to recognize key symbols related to safety. In grades 7 – 9 (13 – 15 years) the pupils are also guided to act sustainably and responsibly in various situation in the traffic, particularly when riding a bicycle or a moped, and to use protective and safety equipment, and not to drive under the influence of intoxicants.
FR	Child road safety education is compulsory at schools since kindergarten. Sensitization and road education are provided in order for children to develop skills for every use of the road/street (as a pedestrian, passenger, cyclist), and to respect safety rules and behaviour (first approach to the Highway code, first aid). Educational material (sheets, toolkit) are available to teachers: http://eduscol.education.fr/education-securite-routiere/spip.php?rubrique4 All road safety certificates (APER, ASSR1, ASSR2) are issued by the Ministry of National Education.

Grade/Age	**Curriculum**	**Theoretical examination**
Elementary school ("CM1/CM2"grade-9/10 years old)	Progressive recognition of knowledge and know-how	Primary Road Safety Education Certificate, APER
Secondary school	Civic, social and psychological skills (respect for rules and other road users) Technical skills (preparing the itinerary and vehicle) Processing information skills	School Road Safety Certificates: ASSR1 (""5 me"" grade-12-13 years old): to obtain a AM license ASSR2 (""3 me"" grade-14-15 years old): mandatory to obtain a driving license
High school and apprentice training centers ("Seconde" grade-15-16 ans)	Half-day module for road safety awareness	

EL	Road safety education is compulsory at primary school, as part of Civil and Social Education courses. Other education programmes are voluntary at the secondary school.
HR	No.
HU	Yes. In the framework of the National Curriculum 3x45 minutes are compulsory in the first seven classes (from 6 to 13 years)..
IE	No it's not compulsory in Ireland however we deliver road safety education to Primary and Secondary schools each year. Please see tab 11 for more detail on the Education Programmes.
IT	n/a
LU	n/a
LV	Educational standard provide teach the Road traffic regulation in Social studies lessons for 1st to 9th grades and graduating: - 3rd grade the children should know and be able to use RTR for pedestrian and passenger; - 6th grade the children should know and be able to use RTR for cyclist; - 9th grade the children should know and be able to use RTR for moped rider.
LT	
MT	No.
NL	NOT mandatory, on voluntary basis most primary schools follow the Bicycle-programs concluded with both an theory and practical exam. Age group : 8-10
PL	
PT	No
RO	
SE	The RSE (Road Safety Education) should according to the curricula be integrated in other subjects such as mathematics, Swedish, English, arts, textile work, wood- and metalwork, the combined subject of geography, history, religion and civics, and/or the combined subject of biology, physics, chemistry and technology. It is up to each municipality and head master/mistress to decide the content and number of hours of the RSE.
SI	The road traffic safety is included in the curriculum from the pre-school, to elementary education and secondary education. The traffic education is part of a cross-curricular area but it`s not compulsory.
SK	n/a
UK	n/a
CH	Child (road safety) education falls under the competence of the cantons (or even in some cantons at the level of the communes). In some of these entities, road safety education is based on a law. Road safety education (even in most cantons and communes without legal base), usually takes place once a year from the kindergarden till the 5th class levels (11-12 years). Between the 6th and the 9th class (13-16 years), road safety education is still offered, but generally less frequently.
IL	The road safety department of the Ministry of Education developed a series of courses for various school ages. The syllabuses and learning books are available and used by school programs but on a voluntary basis. "Transport education" is not a compulsory discipline in high schools.
NO	No
RS	n/a

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