LEARN!
LEVERAGING EDUCATION TO ADVANCE ROAD SAFETY NOW!

Flash 2
November 2022

THE ROLE OF EDUCATION IN REDUCING DEATHS AMONG CHILDREN AND YOUNGSTERS ON EUROPEAN ROADS

ETSC
European Transport Safety Council

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LEARN! Flash 2 – The Role of Education in Reducing Deaths Among Children and Youngsters on European Roads

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LEARN! Flash 2

THE ROLE OF EDUCATION IN REDUCING DEATHS AMONG CHILDREN AND YOUNGSTERS ON EUROPEAN ROADS

The LEARN! project (Leveraging Education to Advance Road safety Now!) by the European Transport Safety Council (ETSC), Fundación MAPFRE and the Flemish Foundation for Traffic Knowledge (VSV), aims to improve the quality of traffic safety and mobility education in Europe by providing information, tools and resources to education experts as well as policy recommendations to decision makers.

The project focuses in particular on the education of children and youngsters, as they have a right to grow up safely, and traffic safety should therefore be an important and natural part of their everyday life.

As a first step, the **'LEARN! Status Report'** set out the status of traffic safety and mobility education in Europe. It showed that the provision of such education differs widely across Europe, with most countries not fulfilling their commitment to provide traffic safety and mobility education on a systematic and continuous basis, notably in schools at all levels.

The **'LEARN! Key Principles Report'** sets out 17 recommendations that should be implemented in all countries in order to ensure that everyone – and especially children and youngsters – receives high quality traffic safety and mobility education.

The **'LEARN! Manual'** is handbook for developing and evaluating activities and programmes for traffic safety and mobility education. It sets out recommendations, criteria and guidance to develop and implement sound educational activities in an accessible way.

This report is part of the **'LEARN! Flash'** publications, a series of shorter reports that focus on specific aspects related to traffic safety and mobility education.

The LEARN! project also organises **events and webinars** where road safety education experts present and discuss best practices and interesting projects.

All the project's resources are freely available on the LEARN! website at:

www.trafficsafetyeducation.eu

EXECUTIVE SUMMARY

More than 11,000 children and youngsters have been killed in road traffic collisions over the last ten years in the European Union. In 2020 alone, 809 children and youngsters died on European roads.

On average, in the 23 countries of the EU for which data was available, the road safety of children and youngsters has improved faster than the road safety of the rest of the population. While road deaths among the adult population decreased by 35% during the previous decade, the mortality of children decreased by 46% and that of youngsters by 43%.

Children and youngsters however do not benefit from the same level of safety everywhere in Europe. For example, the road mortality of children and youngsters in Bulgaria is over seven times higher than in Norway.

Road mortality increases steeply as of the age of 14, when youngsters gradually travel independently and some acquire access to motorcycles . The age group of 15-17 year olds accounts for 50% of all road deaths under the age of 18 years. Moreover, one in every five deaths among seventeen-year-olds results from a collision on the road.

The road mortality of children and youngsters is predominantly a boy problem, as they account for two-thirds (66%) of road deaths under the age of 18. This gender divide increases with age, with boys accounting for 77% of road deaths among 17-year-olds.

Improved knowledge of how children and youngsters are killed in traffic help devise targeted interventions, including appropriate training and education policies. It is vital that every measure is taken to improve the safety of children and youngsters on European roads.

In addition to improving vehicles, infrastructure and enforcement, traffic safety and mobility education has an important role to play in making Europe's roads safer for children. As the LEARN! project aims to improve traffic safety and mobility education, part II of this LEARN! Flash report provides recommendations on what can be done at EU, national, local, school and educational project levels to improve the provision and quality of traffic safety and mobility education.

CONTENTS

INTRODUCTION

Every week, on average, more than 15 children and youngsters are killed on roads in the European Union. More than 11,000 have died over the last decade.

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

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

Part I of this LEARN! Flash report examines the data on road deaths of children and youngsters in Europe over the last decade (2011-2021). As well as showing the difference in safety and improvements in countries across Europe, it also shows the differences between road deaths of boys and girls. It gives insights into the type of road users children and youngsters were killed as (pedestrian, cyclist, car passenger etc.), and which other road users were involved in the collisions in which they were killed, if any. Improved knowledge of how children and youngsters are killed in traffic help devise targeted interventions, including appropriate training and education policies.

Part II focuses on improving traffic safety and mobility education as one tool to improve the road safety of children and youngsters, in line with the aim of the LEARN! project to improve such education in Europe. Referring to the ETSC PIN Flash report 43 (see box) for recommendations on other types of measures to improve the road safety of children, this second part provides recommendations on what can be done at EU, national, local, school and educational project levels to improve the provision and quality of traffic safety and mobility education.

ACCOMPANYING THE ETSC PIN FLASH REPORT 43 ON REDUCING CHILD DEATHS ON EUROPEAN ROADS

This LEARN! Flash builds on the ETSC PIN Flash on reducing the deaths of children aged 0 to 14 (inclusive), by extending the age range to include youngsters aged 15, 16 and 17 years old as well, in line with the LEARN! project's scope. The data used in these reports was retrieved from the European Commission's CARE database, and supplemented where necessary by the PIN Panellists.[1]

[1] ETSC (2022), PIN Flash Report 43. Reducing child deaths on European roads. https://bit.ly/PINFlash43

CHILDREN, YOUNGSTERS AND ADULTS

Throughout this report, the term "children" is used to refer to the age group of young people aged 0 to 14 (inclusive), in line with ETSC's PIN Flash report 43. The term "youngsters" is used to refer to the age group of people aged 15, 16 and 17. Therefore, the term "children and youngsters" is often used when referring to people aged 0 to 17 (inclusive). The term "adults" in turn is used in this report to refer to persons aged 18 or older.

COVID-19 PANDEMIC

In this report we cover the period 2011-2021. In 2020, the COVID-19 pandemic hit the world. The initial response to the pandemic was to severely restrict travel, and this resulted in unprecedented reductions in traffic volumes in most European countries during 2020. In many countries traffic volumes also did not reach pre-pandemic levels in 2021 so data in both 2020 and 2021 should be considered with this in mind. Due to the many possible short- and long-term effects of the pandemic, in our analyses of the trends and data we have not tried to correct for the influence of COVID-19.

PART I

THE SAFETY OF CHILDREN AND YOUNGSTERS ON EUROPEAN ROADS 2011-2021

1.1 CHILDREN AND YOUNGSTERS ARE SAFER ON THE ROADS TODAY THAN TEN YEARS AGO

The road safety of children and youngsters has improved considerably in almost all European countries over the past decade. And yet 809 aged 0 to 17 (inclusive) were killed in the EU in 2020 alone and over 11,000 were killed during the previous decade.

In Norway and Switzerland, road deaths of children and youngsters were reduced by an average of 12% annually. Road deaths among Norwegian children and youngsters were reduced from 13 in 2011 to four in 2020, with only one youngster's death in 2019. However, in 2021, Norway recorded eight road deaths of people under 18 years of age. In Switzerland, road deaths of under 18s were reduced from 19 in 2011 to five in 2021, whereas Estonia and Lithuania saw an average reduction of 10% annually, from respectively 9 and 19 deaths in 2011 to 4 and 6 in 2021.

Cyprus and Malta recorded two years with 0 road deaths among under 18s since 2011, whereas Luxembourg recorded 0 road deaths for the age group in 2019. While these countries have a relatively small population size, other countries also came close to achieving Vision Zero for children and youngsters. Slovenia and Norway both recorded a year with only one road death of people under 18 years of age, while Estonia recorded several years with only two road deaths under 18s.

On the other hand, the decrease in road deaths among children and youngsters stagnated in Israel, with 41 deaths in 2011 and 38 deaths in both 2020 and 2021. Moreover, for most of the decade, the number of road deaths of those under 18 in Israel was higher than in 2011 – with a high of 50 deaths in 2017.

In Bulgaria, the number of road deaths among children and youngsters increased by 5% annually on average, from 26 in 2011 to a high of 48 in 2021. One of the reasons for this steep rise in Bulgaria is a coach collision in 2021, which led to the deaths of 8 children.

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

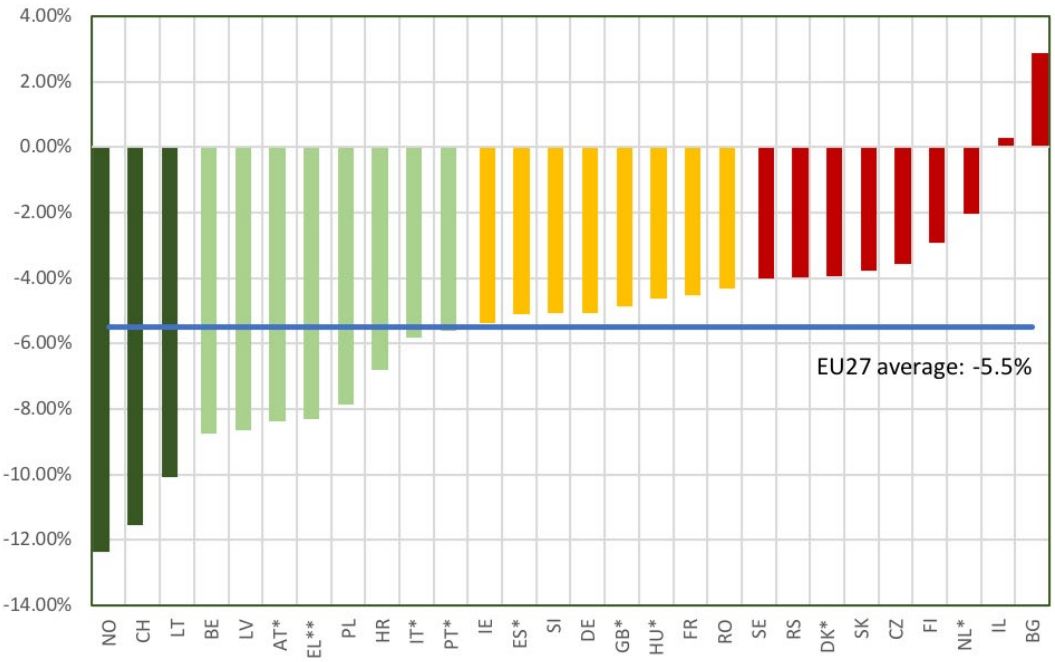


Figure 1. Average annual change (%) in the number of road deaths among children and youngsters (<18) over the period 2011-2021. (*) 2011-2020, (**) 2011-2019. CY, EE, LU and MT are excluded from the figure due to fluctuation in particularly small numbers of deaths. The EU average has been calculated for the period 2011-2020. Data for FR and PT are for mainland only.

1.2 MORTALITY INCREASES STEEPLY AFTER 13 YEARS OF AGE

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 (Figure 2).

Before presenting more data on the improvement in road safety for children and youngsters, it is important to acknowledge that half of the road deaths of those under 18 years old are aged 15, 16 and 17 years old. Of the 809 road deaths of children and youngsters younger than 18 years old in 2020, 419 were between the ages of 15 and 17. Several sections of this report, therefore, differentiate between, and compare, the road safety of children on the one hand and youngsters on the other hand.

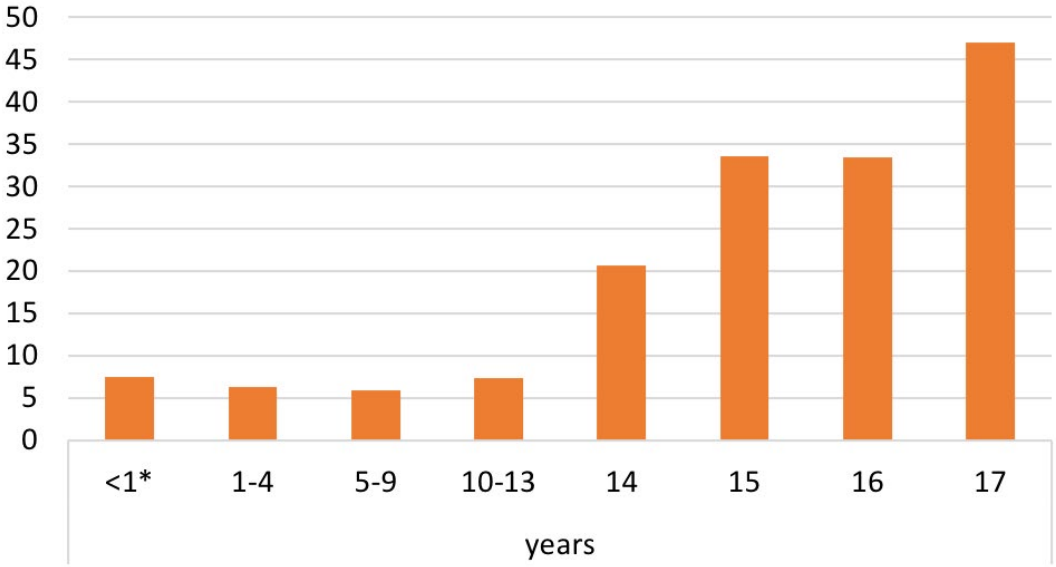


Figure 2. Road deaths by age group per million population of each age group, average years 2018-2020 for the EU25. (*) AT, EL, IT, MT and NL excluded from the EU average due to lack of data. For other age groups EL and MT excluded from the EU average due to lack of data.

In the EU, on average, children under one year old represent around 3% of all road deaths among under 18s, the 1-4 age group 12%, the 5-9 year age group 15%, the 10-13 age group also 15%, 14 year olds 6% and the 15-17 age group 50%.

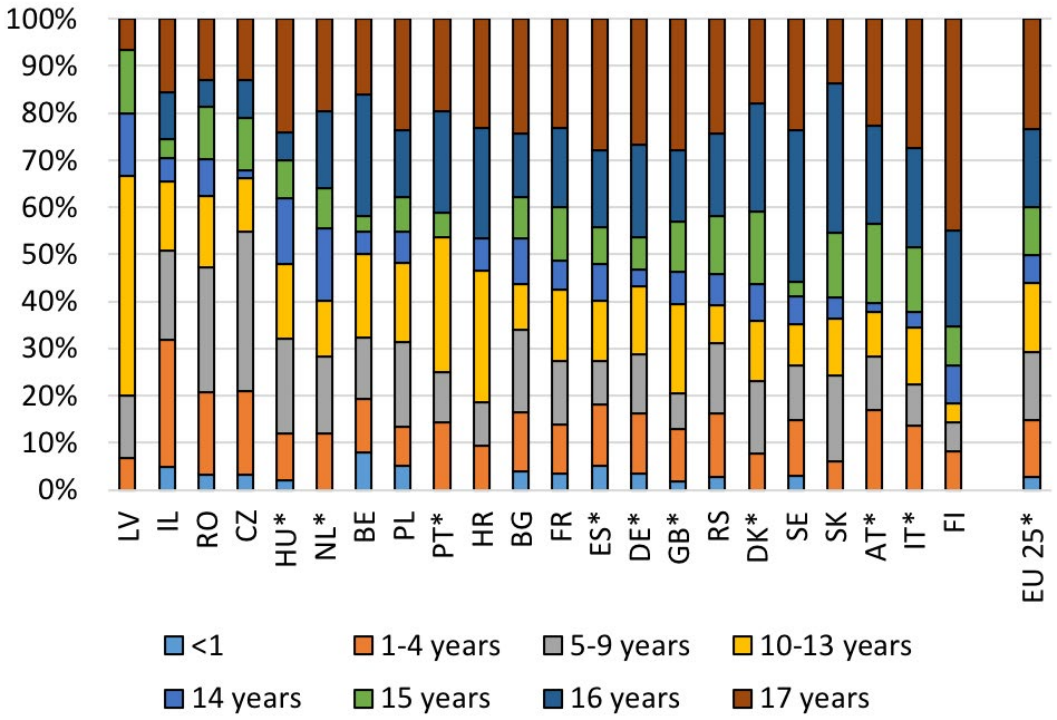


Figure 3. Proportion (%) of road deaths in age groups among all road deaths under 18 years old ranked by % of child road deaths in year group 0-14, average years 2019-2021 or the three latest years available. (*) 2018-2020. EU25 average excluding EL and MT due to lack of data. Countries with less than 10 total child and youngster road deaths/year have been excluded from the graph (CY, EE, IE, LU, LT, MT, SI, CH, NO). Road deaths of unknown age have been excluded from the calculations. Data for all countries will be made available on the LEARN! website.[2]

[2] www.trafficsafetyeducation.eu/flashes/

1.3 DIFFERENCES IN IMPROVEMENTS FOR CHILDREN AND YOUNGSTERS

Similar to how improvements in road safety for children and youngsters were not the same across Europe, also within some countries there were stark differences between the improvements in safety for children on the one hand and youngsters on the other.

The big improvement in the safety of children in Finland and Spain for example hid the fact that the safety of youngsters stagnated in those countries over the past decade. In Finland, one noticeable change for the 15-17 year-old age group during the previous decade is that the amount of youngsters killed shifted from powered-two-wheelers to cars. Changes made in 2018 to the driving licence legislation increased the amount of 17-year-old car drivers in Finland, and this may have influenced the number of youngsters killed in cars.

In Denmark, the improvements made in the safety of youngsters until 2017 – the year in which only one youngster was killed on the road – were negated by the last years of the decade, with six deaths in both 2018 and 2019, and 10 deaths in 2020, thereby ending the decade higher than the eight deaths recorded in 2011.

Conversely, significant improvements in the safety of youngsters hid stagnation in the number of deaths of children in Czechia. In Bulgaria, the road deaths for both children as well as youngsters on average increased annually.

The number of roads deaths in Denmark, Estonia, Ireland, Latvia, Lithuania, Norway, Sweden, Switzerland and Slovakia do not exceed 10 for one or both of the age groups in any given year over the period 2011-2021, therefore, the estimated average annual reduction in child and/or youngster road deaths is affected by relatively strong fluctuations.

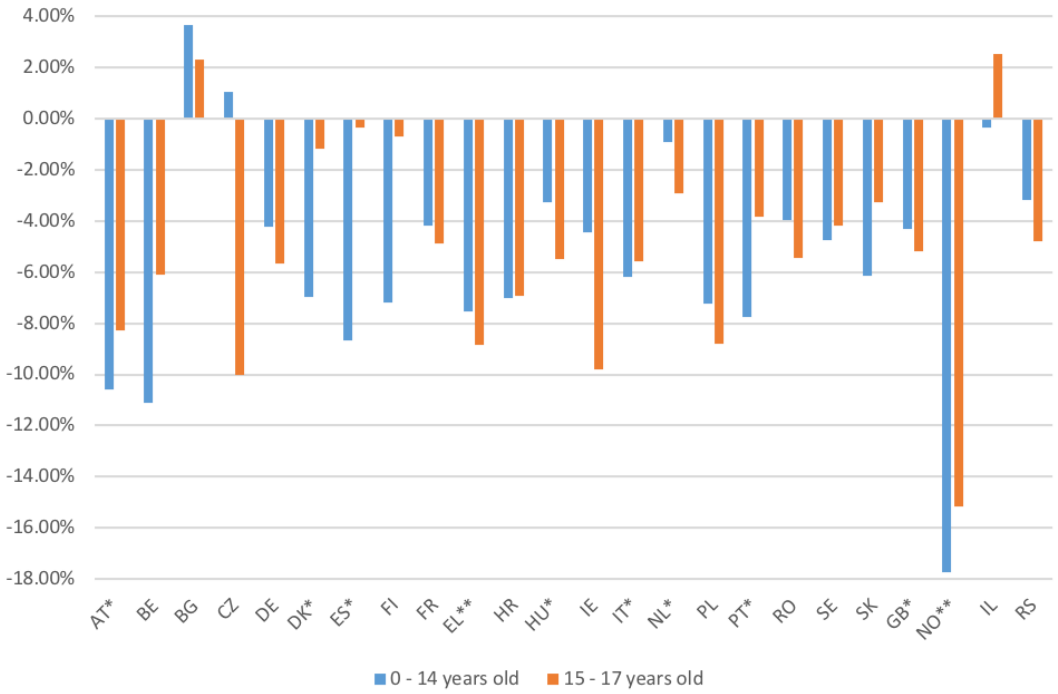


Figure 4. Average annual change (%) in the number of child road deaths and the number of youngster road deaths over the period 2011-2021. (*) 2011-2020, (**) 2011-2018. CY, EE, LU, LV, LT, MT and SI are excluded from the figure due to fluctuation in particularly small numbers of child deaths and/or youngster deaths.

1.4 THE MORTALITY OF CHILDREN AND YOUNGSTERS DECREASED FASTER THAN ADULTS

To take differences in changes in demographics into account, Figure 5 shows the annual reduction of both child road mortality and youngster road mortality compared to adult road mortality in 24 EU Member States since 2011.

Child road deaths per million child inhabitants went down by 46%, having trailed the trend of decreasing youngster road mortality for most of the decade. Youngster road deaths per million of their population decreased by 43%, compared to 35% for adults.

A relatively steep reduction can be seen at the beginning of the decade during the economic recession that followed the financial crisis in 2008. Another steep reduction can be seen at the end of the decade when measures aimed at controlling the Covid-19 pandemic severely restricted movement, including preventing children and youngsters from attending school and other activities.

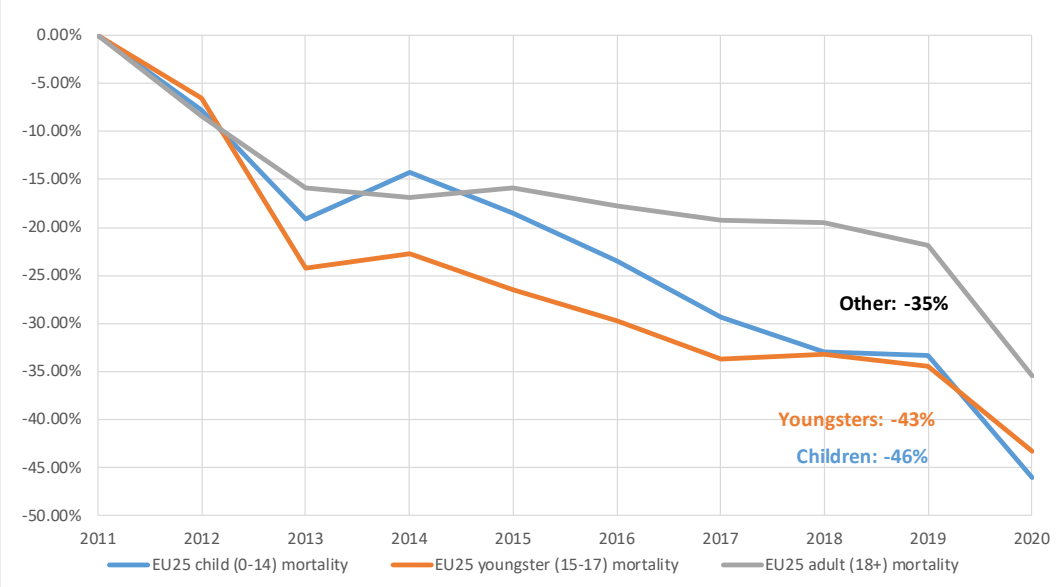


Figure 5. Reduction in child road mortality and youngster road mortality plotted against the reduction in the road mortality of the adult population in 25 EU countries over the period 2011-2020. Excludes LT and MT due to lack of data.

Unfortunately, the available data do not give the full picture. It is difficult to get data on the modal split, the amount of walking and cycling undertaken by children and youngsters, and the trend over the last decade in relation to a more sedentary lifestyle, transport by individual motorised vehicle and less active mobility. This would help provide data on the numbers of deaths and injuries per km travelled or time spent. It is easy to achieve low numbers of deaths among children and youngsters when no one feels safe enough to ride a bike or walk to school.

INDICATOR

The safety of children and youngsters on the road is expressed in terms of road mortality, i.e., the number of children between 0 and 14 years old and the number of youngsters between 15 and 17 years old, 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 over time. Mortality from road collisions is also compared with mortality from all other causes of death.

Data concerning road deaths were retrieved by the European Commission from the CARE database upon ETSC's request and confirmed or complemented by the PIN Panellists. The full dataset is available on the LEARN! website. Population figures and child deaths from all causes were retrieved from the Eurostat database.

Children are mainly killed as car passengers, pedestrians or cyclists, whereas youngsters are mainly killed as car or motorcycle users or as pedestrians. Unfortunately, the estimation of time spent in traffic or the amount of travel by children and youngsters is available for only a few countries. Distance travelled resulting from different mobility choices and patterns are therefore not taken into consideration in this publication when comparing countries.

In addition to the PIN Flash report 43, this report builds on previous rankings on child and youngster road deaths to be found in the LEARN! Status Report (2019). The publication can be downloaded from: https://bit.ly/LearnStatus

1.5 ROAD MORTALITY OF CHILDREN AND YOUNGSTERS DIFFERS SIGNIFICANTLY BETWEEN COUNTRIES

Children and youngsters do not benefit from the same level of safety everywhere in Europe. The road mortality rate of these two groups in Bulgaria is 7 times higher than in Norway, as shown in Figure 6.

In the EU, on average, there were 11 road deaths among children and youngsters per million of their population annually (see Figure 6). This number however hides the stark difference in road mortality between children on the one hand and youngsters on the other. On average in the EU over the period 2018-2020, there were seven child deaths per million child population, while amongst youngsters there were 34 road deaths per million of their population – compared to 57 road deaths for the adult population.

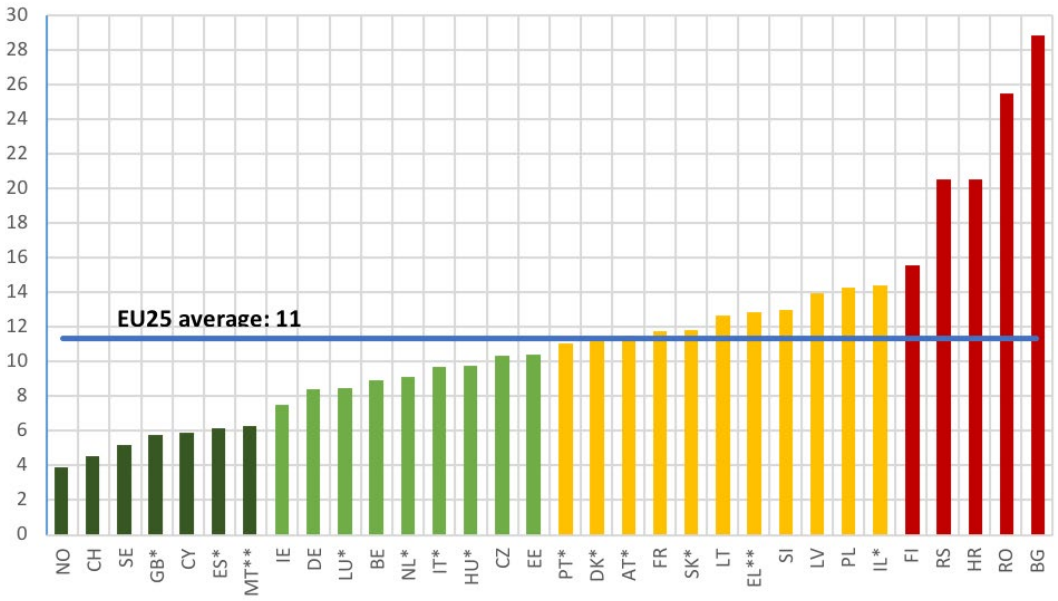


Figure 6. Road deaths of children and youngsters (<18) per million of their population. Average number for 2019-2021 or the last three years available. (*) 2018-2020, (**) 2018-2019. EU25 average has been calculated for the period 2018-2020, and excludes EL and MT due to lack of data.

European countries that have good road safety performance for adults tend to also have lower road mortality for children, as can be seen in Figure 7. Out of the ten best-performing countries on adult road safety, nine can be found in the top half of the child road safety list as well.

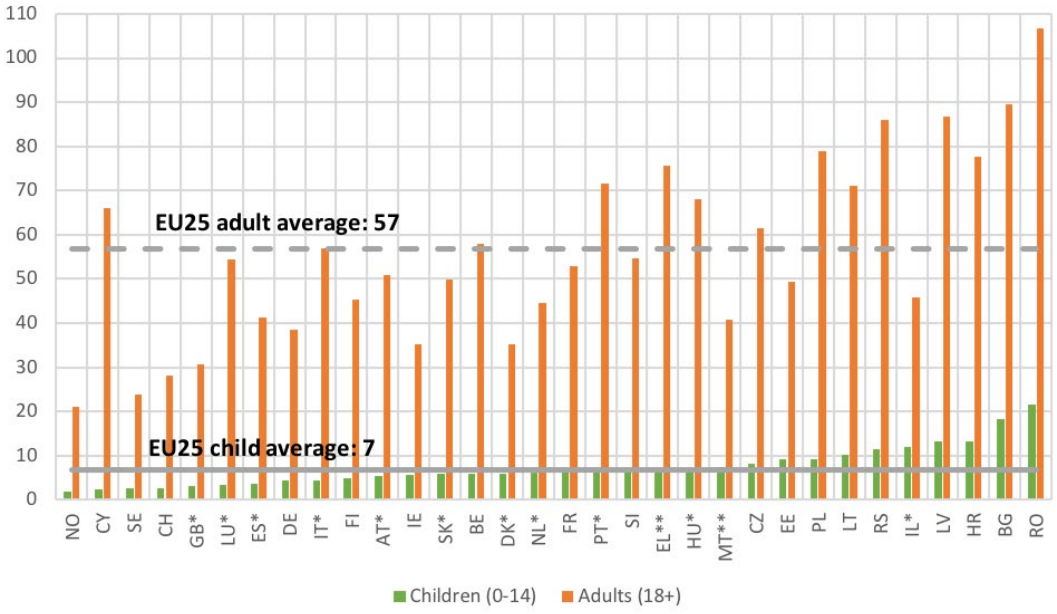


Figure 7. Road deaths of children per million of their population compared to road deaths among adults per million of their population, ranked by child mortality. Average number for 2019-2021 or the last three years available. (*) 2018-2020, (**) 2018-2019. EU25 average has been calculated for the period 2018-2020, and excludes EL and MT due to lack of data.

Such a correlation is not clearly present when comparing the mortality of youngsters and adults (Figure 8), although the front runners in terms of adult safety are also among the front runners when looking at the safety of youngsters.

In all countries, the mortality of youngsters is lower than the mortality of the adult population, except for Denmark and Finland. While in Denmark the mortality of youngsters is only slightly higher than that of adults, in Finland the mortality of youngsters is nearly 50% higher. In the latter country the police reported a significant increase in young drivers' risky behaviour during the COVID lockdown.

Conversely, countries where youngsters had significantly lower mortality than adults include Latvia, Hungary, Estonia, Cyprus, Lithuania and Czechia.

In Hungary and Latvia, fatalities increase significantly after 18 years of age as young people gain access to cars.[3] This is reflected in both countries' steep increase in road mortality of young people (15-30) compared to youngsters (15-17). In Hungary the mortality increases from 22 road deaths per million of their population for youngsters to 55 for young people, whereas in Latvia, the mortality increases from 18 to 77.[4]

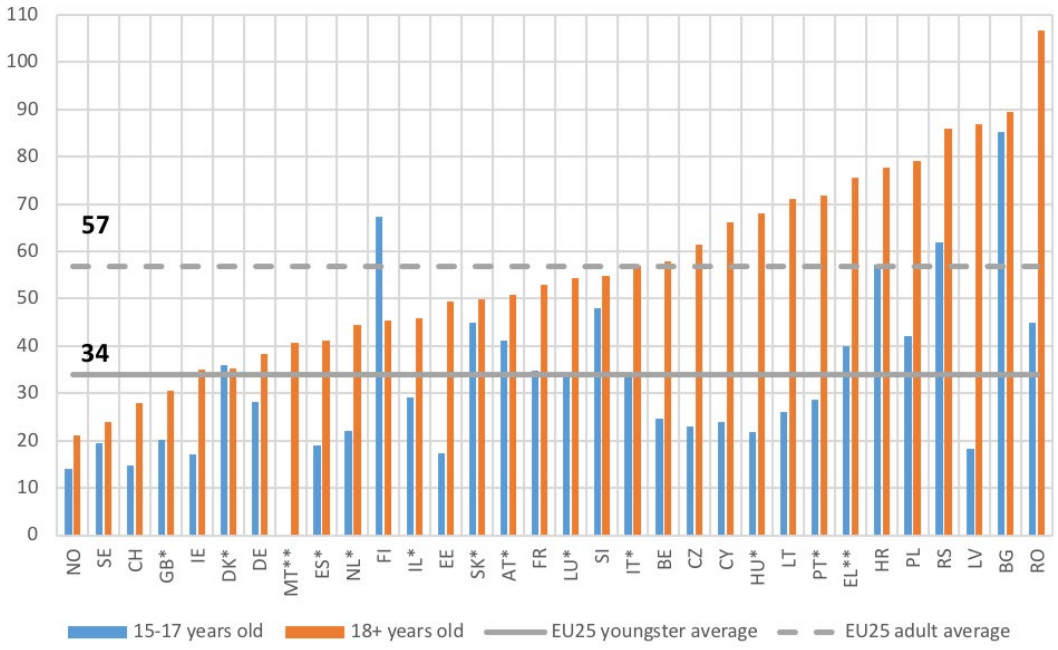


Figure 8. Road deaths of youngsters per million of their population compared to road deaths among adults per million of their population, ranked by adult mortality. Average number for 2019-2021 or the last three years available. (*) 2018-2020, (**) 2018-2019. EU25 average has been calculated for the period 2018-2020, and excludes EL and MT due to lack of data.

3 The minimum age for a driver licence in Latvia is 18 years and in Hungary this is 17 years. Over the period 2018-2021, two Hungarian youngsters were killed as car drivers, whereas 15 youngsters were killed as car passengers.

4 More information on the road safety of young people (15-30 years old) in Europe can be found in: ETSC (2021), PIN Flash Report 41. Reducing road deaths among young people aged 15 to 30. https://bit.ly/PINFlash41

1.6 ONE IN FIVE DEATHS AMONG SEVENTEEN YEAR OLDS RESULTS FROM A ROAD COLLISION

On average in the EU, one in 10 deaths among children and youngsters after the first birthday results from a road collision (Figure 9). Road deaths among children and youngsters as a proportion of deaths from all causes varies from 2% in Norway to 17% in Romania.

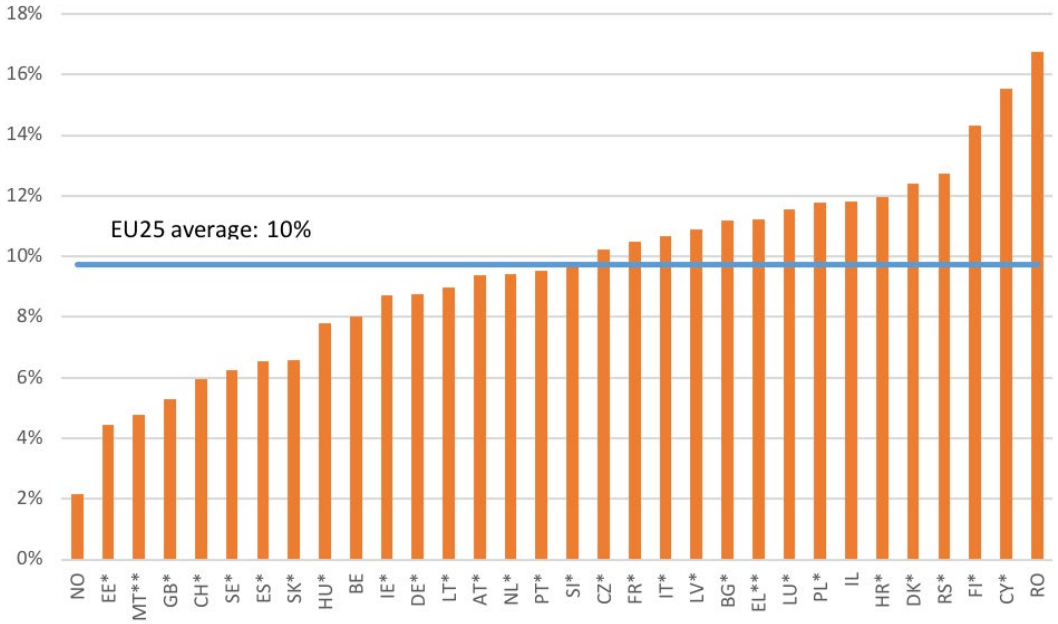


Figure 9. Road deaths among children and youngsters (<18) as a proportion (%) of deaths among children and youngsters from all causes in age group 1-17 in years 2019-2021. (*) 2018-2020, (**) 2018-2019. The EU average has been calculated for the period 2018-2020. EL and MT excluded from the EU average due to a lack of data. Infants up to 1-year-old are excluded from Figure 9 because they are particularly vulnerable to death from medical causes.

The proportion of road deaths compared to deaths from all causes in the adult population (0.4%) is much lower with respect to the proportion in the age group 1-17 - (10%). This can be due to the fact that older people have a higher chance of dying of other causes. It also highlights the fact that targeted measures are needed in order to reduce road deaths of children and youngsters.

Moreover, similarly to how road mortality increases steeply once children reach the age of 14 (see section 2.2), so does the share of road deaths among deaths from all causes (Figure 10). One in every five deaths of youngsters aged 17 results from a collision on the road.

Where on average in the EU, child road deaths represent 6.5% of all child deaths, road deaths of youngsters account for 18% of all deaths for that age group. This furthermore underlines that more should be done to improve the safety of youngsters in particular.

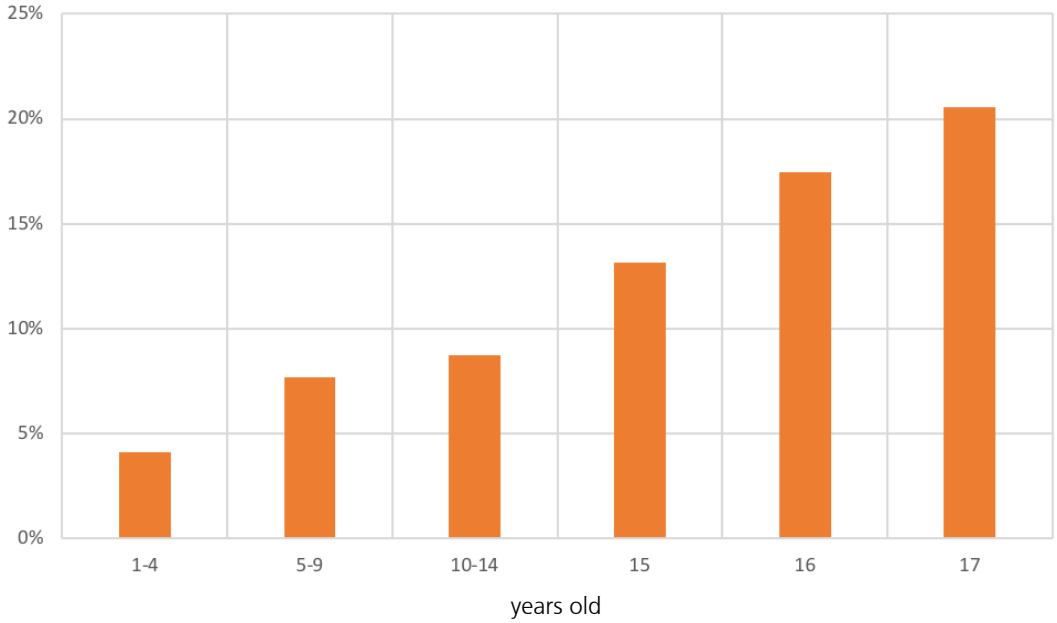


Figure 10. Road deaths by age group among children and youngsters as a proportion (%) of deaths among children and youngsters from all causes in years 2018-2020 for the EU25. EL and MT excluded due to lack of data. Infants up to one year old are excluded from Figure 10 because they are particularly vulnerable to death from medical causes.

1.7 A BOY PROBLEM

Boys represent two-thirds (66%) of all road deaths of under 18s. Over the period 2018-2020, 1800 males under 18 years of age were killed on roads in the EU25 and 926 females.

Figure 11 furthermore shows that it is an increasingly male problem as children get older. While boys represent 58% of road deaths for the age category 0-13 years old, this increases to 77% for 17-year-olds.

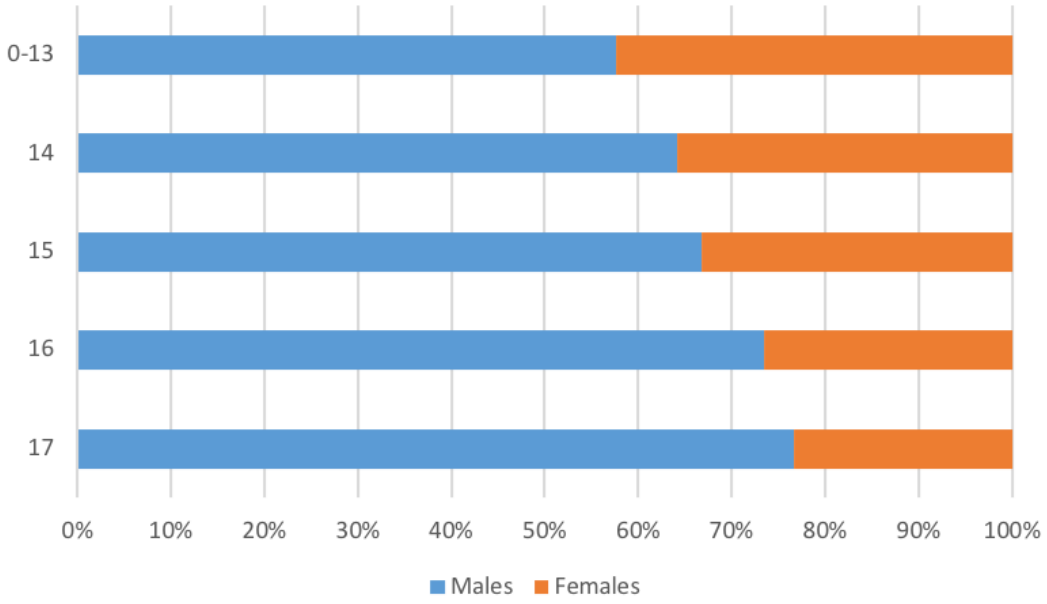


Figure 11. Proportion (%) of gender in all road deaths of under 18s, presented by age group over the period 2018-2020 for the EU25. EL and MT excluded due to lack of data.

A look across Europe again reveals significant differences between countries (see Figure 12).

Latvia was the only country in Europe where more girls than boys were killed in traffic (11 girls, 10 boys) during the period 2018-2020, while Estonia was the only country where the split was even between the genders. This balance may however be due to the relatively low amount of road deaths among children and youngsters under the age of 18 in both countries.

On the other end, boys account for 81% of road deaths in both Greece[5] and Switzerland. In Norway, out of the nine road deaths of children and youngsters between 2018 and 2020, eight were boys.

In Switzerland, the difference could be explained by a mixture of differences in exposure (especially motor vehicles from the age of 15) and male risk-taking behaviour, which increases, especially during puberty. Calculations by the Swiss Council for Accident Prevention (bfu) that adjust for exposure also show that there are clear differences between the genders, with more male road deaths among 0-6-year-old pedestrians, 6-14-year-old cyclists, and moped and motorcycle riders. This suggests that boys behave more riskily than girls, even at a younger age.

In Greece, the distribution of killed road users aged 0-14 by gender is rather balanced and concerns mainly car passengers and pedestrians. However, for the age group of 15-17 years, significantly more boys are killed as moped drivers (the minimum age for obtaining a moped licence in Greece is 16 years) as well as some motorcycle riders and car drivers (illegally without the required driving licence). This is not the case for girls.

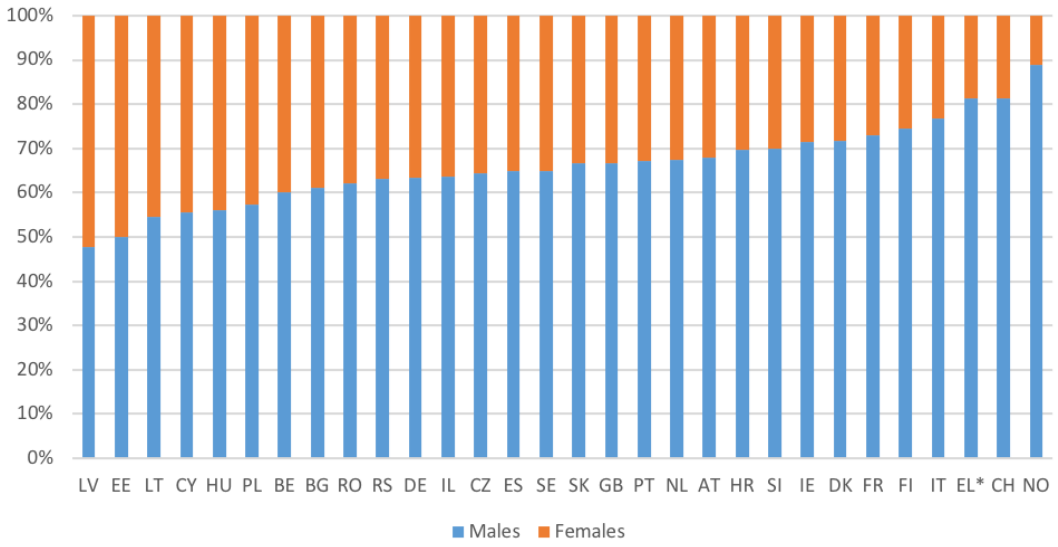


Figure 12. Proportion (%) of gender in all road deaths under 18 years old per country over the period 2018-2020. (*) 2018-2019. LU and MT are excluded from the Figure due to having less than 5 deaths among children and youngsters annually.

[5] For Greece, data covers the period 2018-2019.

1.8 CHILD PEDESTRIANS ARE THE MOST VULNERABLE CHILD ROAD USER GROUP

In 2020 in the EU27, 94 child pedestrians were killed in a collision involving a car, accounting for 21% of all child road deaths (Figure 13). Child car occupants with no other vehicle involved accounted for 18% of child road deaths and child car occupants in a collision with another car for 17.5%. Child car occupants in collisions with lorries or heavy goods vehicles accounted for 11% of all child road deaths. Child cyclists represent 11% of all child road deaths, and child moped or motorcycle riders, 5%. The remaining deaths are involved in crashes where the main opponent has not been identified or is not part of the categories listed above.

The fact that nearly half (48%) of the children were killed as car occupants underlines that this age group is often being transported around and that their safety is therefore often in the hands of other road users.

Fatality \ In a collision with...	Pedestrian	Cyclist	Moped	PTW	Car	Lorry & HGVs	Bus or coach	Other	No other vehicle	Total
Child Pedestrians	1	1	0	0	94	19	5	6	–	126
Child Cyclists	0	0	0	1	29	10	1	4	5	50
Child Moped Riders	0	0	0	0	4	3	0	1	2	10
Child PTW Occupants	0	0	0	1	3	2	0	0	6	12
Child Car Occupants	0	0	0	0	77	47	2	5	78	209
Child Lorry & HGVs occupants	0	0	0	0	1	5	0	0	3	9
Child Bus or Coach Occupants	0	0	0	0	0	0	0	0	3	3
Other	0	0	0	1	8	3	0	1	7	20
Total	1	1	0	3	216	89	8	17	104	439

Figure 13. EU27 child deaths for each transport mode taking into account the main opponent involved in the collision in 2020.

1.9 MOST YOUNGSTERS DIE AS CAR OCCUPANTS IN SINGLE-VEHICLE COLLISIONS

118 youngsters were killed as car occupants in collisions where no other vehicle was involved, accounting for 28% of all youngster road deaths (Figure 14). Subsequently, collisions with cars account for most deaths among youngsters in traffic, with youngsters being killed as pedestrians (9%), riders (8%) as well as occupants (8%) of powered two-wheelers, and car occupants (8%).

Compared to children, the gradual access of youngsters to motorised vehicles can be identified in the data – and notably the access to motorcycles. While children riding (and riding pinion) on motorcycles account for 5% of child road deaths, they account for 33% of road deaths among youngsters.

Youngsters are also significantly more involved in fatal single-vehicle collisions – accounting for 42% of road deaths among youngsters – when compared to children, where single-vehicle collisions account for 24% of child road deaths.

Conversely, while accounting for 29% of child road deaths, the share of pedestrians among youngster road deaths decreases to 13%.

Fatality \ In a collision with...	Pedestrian	Cyclist	Moped	PTW	Car	Lorry & HGVs	Bus or coach	Other	No other vehicle	Total
Young Pedestrians	1	0	0	1	38	9	2	4	–	55
Young Cyclists	0	0	0	1	17	6	1	5	7	37
Young Moped Riders	0	0	0	3	34	8	0	2	14	61
Young PTW Occupants	1	0	1	2	34	8	1	4	29	80
Young Car Occupants	0	0	0	0	34	16	2	5	118	175
Young Lorry & HGVs occupants	0	0	0	0	0	1	0	0	3	4
Young Bus or Coach Occupants	0	0	0	0	1	0	0	0	0	1
Other	0	0	1	0	4	1	0	1	9	16
Total	2	0	2	7	162	49	6	21	180	429

Figure 14. EU27 youngster deaths for each transport mode taking into account the main opponent involved in the collision in 2020.

1.10 EFFECT OF MODAL SHIFT OF BOYS AND GIRLS AFTER 13 YEARS OF AGE

To illustrate the risk of death associated with changes in modal use with increasing age, Figures 15 and 16 (on the next page) show the distributions of 0-13, 14, 15, 16 and 17-year-old road deaths per gender by mode of transport over the period 2018-2020 in 26 EU countries.

Up to the age of 14, the ways in which children travel are often dictated by the choice of parents. Up to this age, the proportions of road deaths by mode of transport remain similar for both girls and boys, with the vast majority killed as car occupants and pedestrians.

From the age of 14, youngsters become more mobile and more independent road users. The proportion of powered two-wheeler (PTW) user deaths starts to increase at the age of 14, and steeply for male road users. Riders of powered two-wheelers account for 42% of road deaths among boys aged 16 years, and 40% of those aged 17. In Estonia, France, Hungary, Italy, Latvia and Poland an AM driving license can be obtained from the age of 14.

Figure 15 further reflects the possibility of gradually accessing a driving licence, as car drivers represent respectively 5% and 6% of boys aged 16 and 17 years that died. However, it is important to note that 11 children under the age of 16 years were also killed as car drivers, of which 10 were boys.

In contrast, most girls aged 16 and 17 years are killed as car passengers (respectively 47% and 55%), as can be seen in Figure 16. In fact, across all age groups, a higher proportion of young girls than boys are killed as car passengers. However, one should be careful not to conclude from this proportion that it is less of a road safety issue for boys, as in absolute numbers, more boys were killed as car occupants than girls for all age groups.

Between the ages of 14-16, a higher proportion of girls are killed as pedestrians than boys, although in absolute terms an almost equal number of boys and girls are killed as pedestrians.

Knowing how children and youngsters are being killed on the roads is helping devise policies to avoid those collisions, including improved education.

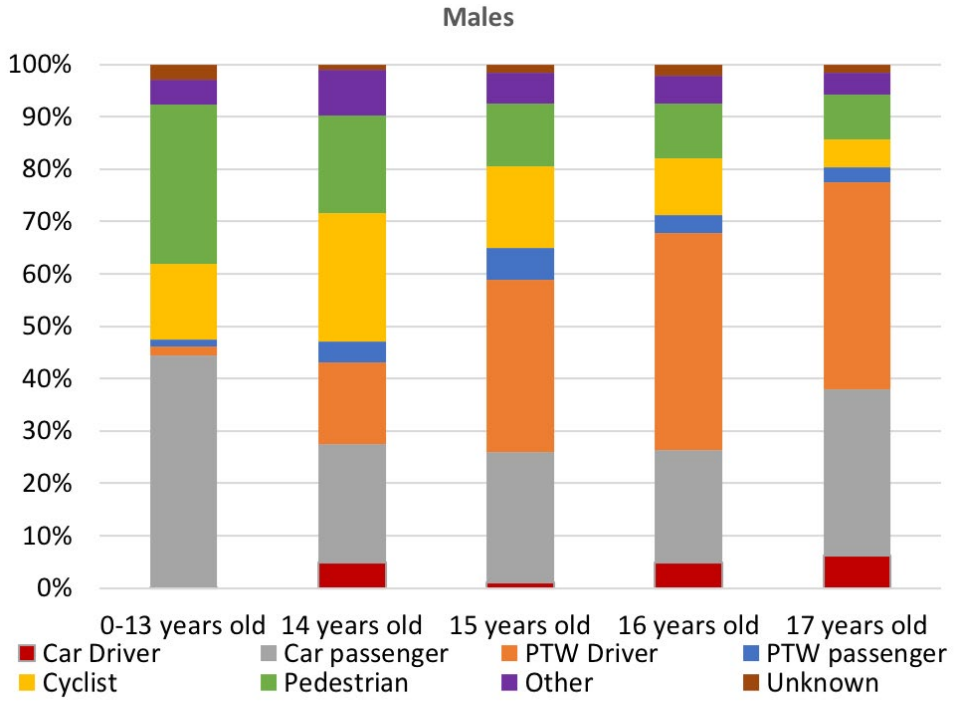


Figure 15. Distribution of male road deaths by mode of transport over the period 2018-2020 in EU26 countries. EL excluded from the EU average due to a lack of data.

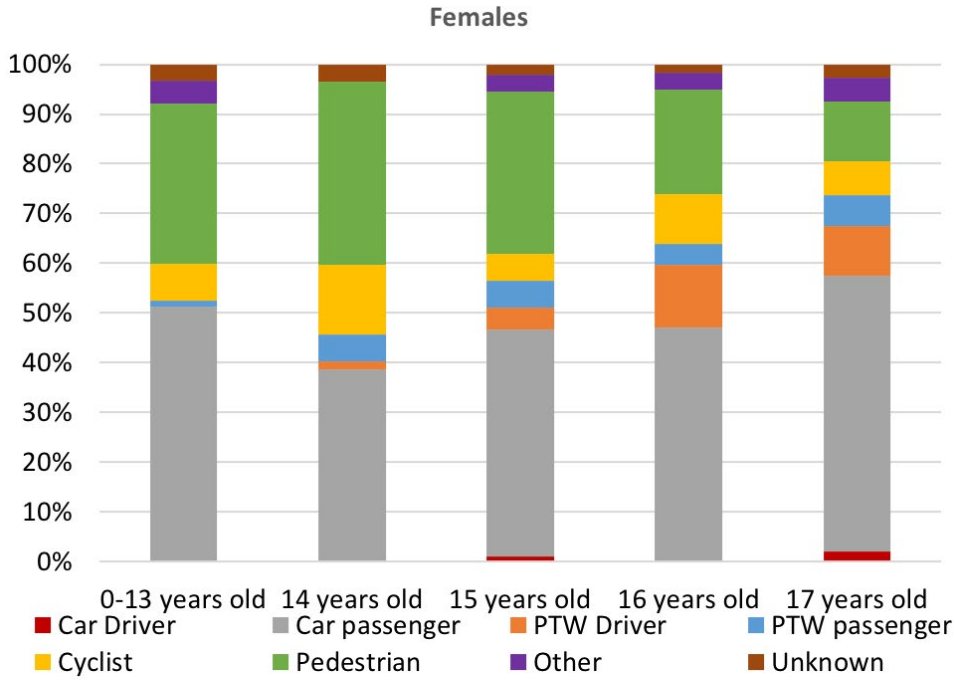
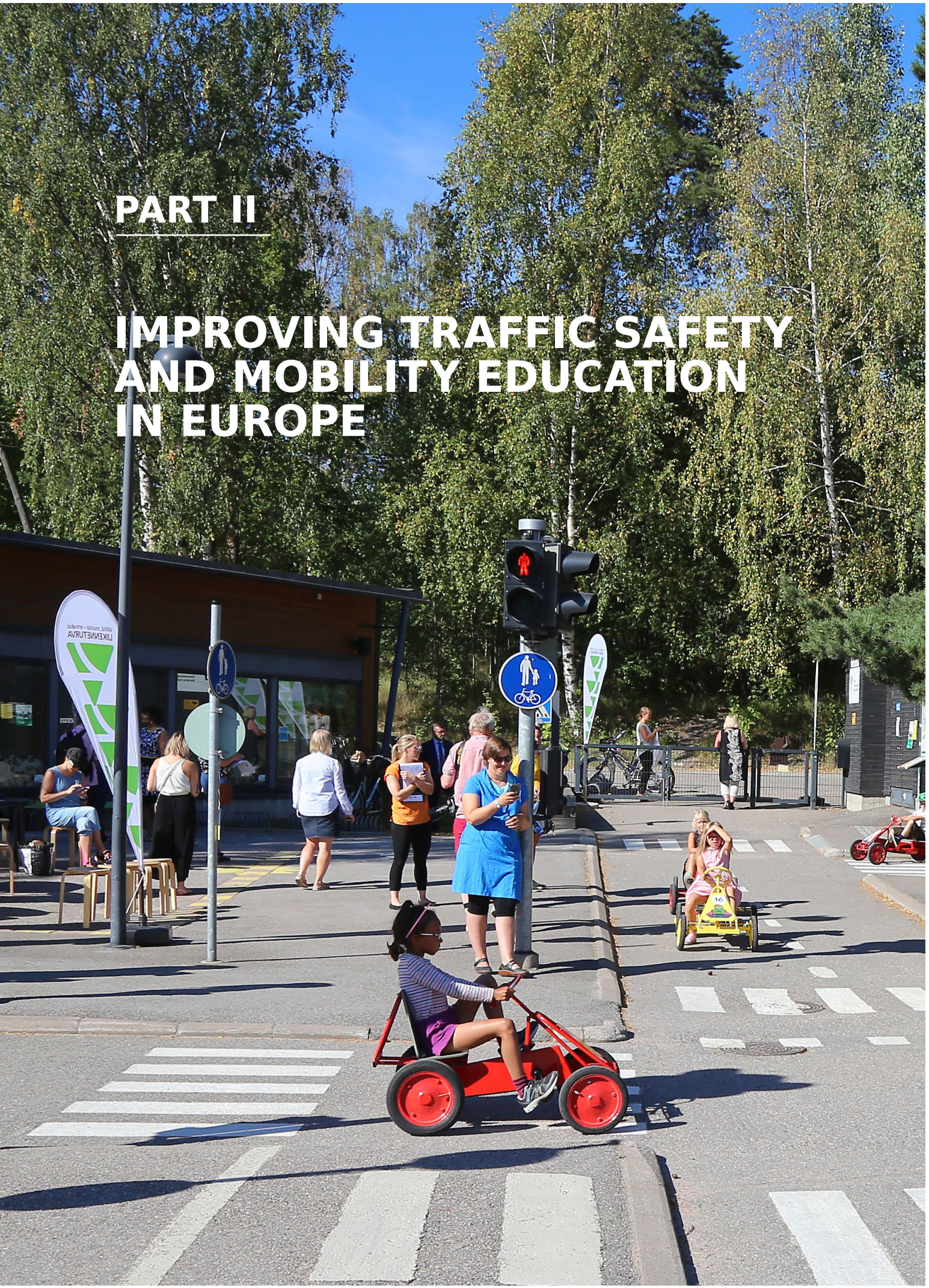


Figure 16. Distribution of female road deaths by mode of transport over the period 2018-2020 in EU26 countries. EL was excluded from the EU average due to a lack of data.



PART II

IMPROVING TRAFFIC SAFETY AND MOBILITY EDUCATION IN EUROPE

2.1 EDUCATION AS PART OF THE SAFE SYSTEM APPROACH

As the LEARN! project has a complete focus on effective traffic safety and mobility education, this part of the report sets out recommendations to improve the provision of such education in Europe, as one tool to improve the safety of children and youngsters on European roads. However, traffic safety and mobility education should never stand alone, but be combined with other measures that address the underlying factors of road safety.

Collisions, as well as road deaths and injuries, are almost always the result of a combination of factors. Human error is often a weak link, but underlying errors in the design of the traffic system such as poor infrastructure or unclear regulations also play an important role. A "safe system" approach, which focuses on mapping out and eliminating all factors that increase the risk of collisions or increase the severity of collisions, is therefore considered to be international best practice in road safety by the World Health Organisation[6], the European Commission[7] and the International Transport Forum.[8,9]

In the Safe System approach, the vulnerability of humans is recognised, as is the fact that they make mistakes and do not always adhere to rules. This applies even more to children and youngsters, who also have a number of physical and psychological limitations that can compromise their safety. A safe system takes these characteristics and limitations into account ("safety by design"). This means that the traffic environment must be in line with the road users' capacities, and with the impulses that humans have by nature.

While the recommendations in the remaining sections of this part focus on improving education, one should not forget that improving road safety for children and youngsters should be achieved through a combined set of measures addressing 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 the correct use of appropriate child restraint systems, improving traffic safety and mobility education and awareness raising.

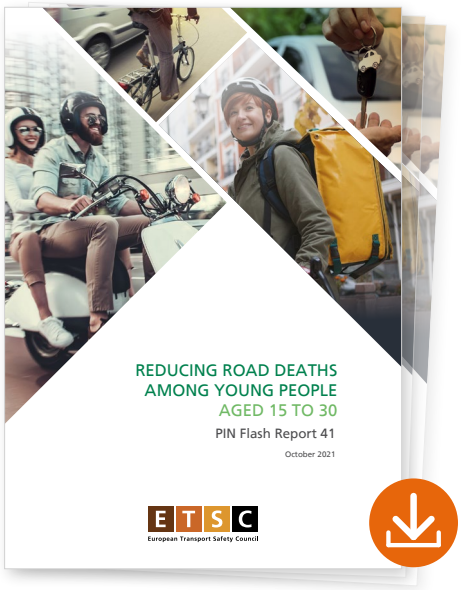
The use of a combined set of measures is especially important given that this report has shown that the safety of children is more often than not in the hands of other road users (see section 1.8).

"Improving road safety for children and youngsters should be achieved through a combined set of measures addressing 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 the correct use of appropriate child restraint systems, improving traffic safety and mobility education and awareness raising."

[6] WHO (n.d.), Global Plan for the Decade of Action for Road Safety 2011-2020. https://bit.ly/2R0AdsQ
[7] European Commission (2020), EU Road Safety Policy Framework 2021-2030. Next steps towards 'Vision Zero'. https://bit.ly/3RD97FJ
[8] ITF (2008), Towards Zero: Ambitious road safety targets and the safe system approach. https://bit.ly/3dwfKpp
[9] ITF (2016), Zero road deaths and serious injuries. Leading a Paradigm Shift to a Safe System. https://bit.ly/2QF2shw

Recommendations on improving the safety of children (<14 year olds) can be found in ETSC's PIN Flash Report 43 on reducing child deaths on European roads.[10]

Recommendations on improving the safety of youngsters and young adults can be found in ETSC's PIN Flash Report 41 on reducing road deaths among young people aged 15 to 30.[11]



RECOMMENDATION TO NATIONAL GOVERNMENTS

- Considering that every child should have the right to grow up in a safe environment, 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.
- Provide traffic safety and mobility education as part of the implementation of the Safe System approach, and ensure it is provided as part of the continuum of lifelong learning.

RECOMMENDATIONS TO THE EU INSTITUTIONS

- Within the framework of the 5th EU Road Safety Action Programme mid-term review, and considering every child should have the right to grow up in a safe environment, adopt a separate target for reducing road deaths and serious injuries among children and develop accompanying measures.

[10] ETSC (2022), PIN Flash Report 43. Reducing child deaths on European roads. https://bit.ly/PINFlash43
[11] ETSC (2021), PIN Flash Report 41. Reducing road deaths among young people aged 15 to 30. https://bit.ly/PINFlash41

2.2 THE NEED TO IMPROVE TRAFFIC SAFETY AND MOBILITY EDUCATION IN EUROPE

A LEARN! report on the status of traffic safety and mobility education in Europe showed that at least some basic road safety education is provided to children in primary education all over Europe.[12] However, this is not the case for other levels of education. For the large majority (81% of states), road safety education is also given at secondary schools, while in a slightly smaller majority (69% of states) it is given in pre-primary education. In tertiary education (colleges, trade schools, universities, etc.), road safety is only given in five European states.

The report showed that there are great differences between the amount of education the children receive as well as the content of the lessons. These differences were significant not only between the countries, but also between the levels of education.

While a majority of countries may provide traffic safety and mobility education in secondary education, the overview revealed that it was generally only sparsely addressed there. In addition, while road safety education generally consists of both theoretical and practical lessons in primary education, in secondary education there is a noticeable shift towards only theoretical lessons.

It is important to underline that the overwhelming majority of European countries have signed the UNECE's Convention on Road Traffic (also known as the "1968 Vienna" Convention) and have thereby committed to provide road safety education.[13]

> **"Article 3(5bis). Contracting Parties will take the necessary measures to ensure that road safety education be provided on a systematic and continuous basis, particularly in schools at all levels."**

The LEARN! report overview showed that, in practice, most European countries do not follow through on their commitments in full, and they should therefore do more to improve the provision and quality of traffic safety and mobility education. In particular in secondary education, this report showed (in section 1.2) that traffic mortality steeply increases after 13 years of age, and those children and youngsters in high schools therefore could benefit from receiving road safety lessons structurally as a core part of the curriculum.

[12] ETSC (2019), The Status of Traffic Safety and Mobility Education in Europe. https://bit.ly/LearnStatus

[13] United Nations Economic Committee for Europe (1968/2006), Convention on Road Traffic (2006 Consolidated Version). https://bit.ly/2RRMK0b
Cyprus, Iceland, Ireland, Kosovo and Malta have not signed the Convention on Road Traffic.

2.3 IMPROVING TRAFFIC SAFETY AND MOBILITY EDUCATION AT EUROPEAN LEVEL

In line with the Treaty on the Functioning of the European Union (TFEU)[14], the EU may only carry out actions which support, coordinate or supplement the actions of the Member States and it has to respect their responsibility for the content of teaching and the organisation of the education systems.

While this explains why – unlike for vehicle and infrastructure safety – there are no dedicated EU laws on traffic safety and mobility education, it does not mean that the issue cannot be addressed at all at the EU level. The EU has funded several Europe-wide projects in the past, such as the ROSE 25 project in the early 2000s, which developed a good practice guide for the implementation of road safety education in Member States[15]. The EU continues to support educational programmes through the Erasmus+ fund, such as the "Moving Stars" project.[16]

Nevertheless, traffic safety and mobility education are only sparsely addressed by the EU when compared to other areas of road safety. This is reflected in the 2018 European Commission's Strategic Action Plan on Road Safety, which set out actions to improve road safety, including regulatory measures and the launch of studies.[17] However, for education, it merely sought voluntary commitments from the education sector (for example by making traffic safety and mobility education part of regular curricula) without outlining any specific action points. Similarly, actions to improve the quality and provision of traffic safety and mobility education in Europe have not been included in the European Commission's EU road safety policy framework 2021-2030.[18]

This underlines that more can and should be done at EU level to improve the quality and provision of traffic safety and mobility education in Europe. The European Parliament recognised this in a resolution setting out their recommendations on the next steps towards "Vision Zero"[19], in which it requested the European Commission as well as EU Member States to take action with regards to improving traffic safety and mobility education.

Firstly, the European Parliament has asked the European Commission to develop key performance indicators (KPIs) on the provision of traffic safety and mobility education in the Member States, similar to how the European Commission has already set out KPIs for other road safety issues, such as speeding, safety belt and child restraint usage as well as drink-driving and distracted driving.

Secondly, the European Parliament has requested the European Commission to develop EU tools to design, implement and evaluate traffic safety and mobility education. The importance of this was recognised by the previously mentioned EU-funded ROSE project in the early 2000s, which stated that "a structured exchange on [road safety education] RSE practices at European level could lead to significant value added for RSE practitioners across EU Member States. Common understanding of evaluation designs will lead to increasingly comparable results of RSE evaluations. This could deepen the knowledge about differences in programme outcomes due to socio-cultural differences between countries. The results would provide an increased understanding of the actual effects of strategies and mechanisms in RSE interventions."[20]

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[14] European Union (2012), Consolidated version of the Treaty on the Functioning of the European Union (TFEU) https://bit.ly/TFEU2012
[15] ROSE25 (2005), Booklet Good Practice Guide On Road Safety Education. https://bit.ly/2GeDJgi
[16] More information on the Moving Stars project is available on the project website: www.movingstars.eu
[17] European Commission (2018), Europe On The Move - Sustainable Mobility for Europe: safe, connected and clean. Annex I. https://bit.ly/2RtiqZN
[18] European Commission (2020), EU Road Safety Policy Framework 2021-2030. Next steps towards 'Vision Zero'. https://bit.ly/3RD97FJ
[19] European Parliament (2021), European Parliament resolution of 6 October 2021 on the EU Road Safety Policy Framework 2021-2030 – Recommendations on next steps towards 'Vision Zero'. (2021/2014(INI)). https://bit.ly/3ARr3GZ
[20] ROSE25 (2005), Booklet Good Practice Guide On Road Safety Education, p. 24. https://bit.ly/2GeDJgi

Based on extensive discussions and deliberation by the LEARN! Expert Panel, consisting of some of Europe's leading experts on traffic safety and mobility education, the LEARN! project has developed the LEARN! Key Principles[21] and the LEARN! Manual[22], which could serve as starting points for the development of, respectively, the EU KPIs and EU tools as requested by the European Parliament.

The European Parliament furthermore encouraged all EU "Member States to ensure the provision of high-quality road safety education, which should begin at school and form part of continued lifelong learning".

RECOMMENDATIONS TO THE EU INSTITUTIONS

- Develop EU tools to design, implement and evaluate traffic safety and mobility education.
- Enable a structured exchange on traffic safety and mobility education practices at European level, e.g. by organising such structural exchange or by funding existing structures of exchange.
- Continue providing funds for projects on traffic safety and mobility education through EU funds such as Erasmus+.

[21] ETSC (2020), The LEARN! Key Principles for Traffic Safety and Mobility Education. https://bit.ly/LearnKeyPrinciples
[22] ETSC (2021), The LEARN! Manual for Developing and Evaluating Traffic Safety and Mobility Education Activities. https://bit.ly/learn-manual

2.4 IMPROVING TRAFFIC SAFETY AND MOBILITY EDUCATION AT NATIONAL, LOCAL AND SCHOOL LEVELS

In order to improve the quality and provision of traffic safety and mobility education in European countries, the LEARN! Expert Panel drew up the LEARN! Key Principles: 17 recommendations that should be implemented in all European countries in order to ensure that everyone – especially children and youngsters – receives high-quality traffic safety and mobility education.[23]

These recommendations are, in the first instance, aimed at policymakers at the national, regional and local levels. However, most of the recommendations are directly applicable to schools and therefore head teachers and (traffic contact) teachers can easily use them in their schools as well.

The 17 Key Principles are set out in greater detail in the report, where they are also accompanied by best practice examples illustrating how they can be applied in practice. The principles are categorised in five key groups.

The first group of recommendations focus on the **right to education**. Traffic safety and mobility education is a lifelong process and everyone, regardless of age, should therefore have access. Road safety education is especially important for children and youngsters up to the age of 18 years old at kindergartens and schools, in order to learn what is safe and what is hazardous and to grow up to become safe and responsible road users.

Traffic safety and mobility education should therefore be integrated into the curricula for schools at all levels as well as kindergartens. Specific goals should be set for traffic safety and mobility education, notably at the national level, as minimum learning requirements. And, in order to achieve the educational goals, a specific number of teaching hours should be dedicated to traffic safety and mobility every year, and sufficient resources – in terms of financial, time and human resources – should be allocated at all levels (from national to local to school budgets) to allow for sufficient possibilities to give lessons on this subject.

The LEARN! report on the status of traffic safety and mobility education in Europe found that while at least some basic road safety education is provided to children in primary education all over Europe, it is generally not given to children and youngsters in secondary education in a fifth of the states. Moreover, the LEARN! status report's overview revealed that traffic safety and mobility education is generally only sparsely addressed in secondary education in those Member States where it is given. This report has shown in Part I that the mortality steeply increases after 13 years of age, and therefore underlines that those children and youngsters in high schools could benefit from receiving road safety lessons structurally.

The second group of recommendations focus on **engaging and supporting schools and teachers**. The management of schools and kindergartens should be encouraged by national and local policymakers to implement national policies in their schools, ensure that the pupils are educated in road safety, that they develop and implement a traffic safety and mobility policy and that they enable support for teachers on the topic. Schools should furthermore appoint a teacher that is responsible for and acts as the central point of contact for the school's traffic safety and mobility education.

The focus of the third group of recommendations is **ensuring high-quality education**. Traffic safety and mobility education should not only be about gaining knowledge and understanding of traffic rules, but also about developing and improving skills, as well as strengthening and changing attitudes and motivations. The education should be: kept up to date (with regards to both mobility and pedagogical trends); quality standards should be used; evaluations should be a central part of it, and it should allow for assessments to ensure that pupils have gained the right knowledge, skills, behaviour and attitudes.

[23] ETSC (2020), The LEARN! Key Principles for Traffic Safety and Mobility Education. https://bit.ly/LearnKeyPrinciples

It is important that high-quality education is ensured, as the principle "there is no harm in trying" should not be applied to traffic safety education. Projects that are poorly designed can have an adverse effect, and there have been projects that, despite their best intentions, actually seem to have increased the safety risks and the unsafe behaviour of its participants. Moreover, schools do not have unlimited resources in both financial budget and time. And their money and time is better spent on well-designed, tested and evaluated material.[24] (See section 2.4 on improving traffic safety and mobility education at activity level).

The fourth group of recommendations focus on **facilitating the framework conditions** for traffic safety and mobility education. These recommendations underline that student teachers should be educated about giving road safety lessons during their training to become a teacher, that national and local authorities should follow up with schools to ensure that traffic safety and mobility education is given, and that road safety lessons can also be given as part of other subjects (such as maths and physics), especially in secondary schools.

And finally, in line with the safe system approach, the LEARN! Key Principles recommend **involving pupils, students, parents and all relevant stakeholders**. Traffic safety and mobility are shared responsibilities and all relevant stakeholders should therefore be involved in education related to this topic.

RECOMMENDATION TO NATIONAL AND LOCAL GOVERNMENTS, AND SCHOOLS

- Implement the 17 LEARN! Key Principles
- Ensure, in particular, that high-quality traffic safety and mobility education is not only given at primary schools but also at secondary schools.

[24] SWOV (2017), Factsheet Verkeerseducatie. https://bit.ly/3c7tFGb

2.5 IMPROVING TRAFFIC SAFETY AND MOBILITY EDUCATION AT ACTIVITY LEVEL

The quality of traffic safety and mobility education materials can vary greatly. However, as mentioned previously, it is important that high-quality educational material is used to teach children and youngsters about traffic safety and mobility, given that schools only have limited resources available, and given that poorly designed material can unintentionally have adverse effects. The same quality standards that are expected for maths, languages and other subjects taught in schools should be applied to traffic safety and mobility education material as well.

The LEARN! Manual provides a common methodology for the development, testing, implementation and evaluation of material for traffic safety and mobility education.[25] It sets out – in an accessible way – recommendations, criteria and guidelines that should ensure qualitatively sound educational activities as well as the incorporation and implementation of the Key Principles on ensuring high quality education.

The LEARN! Manual consists of three parts. The first part contains the guidelines, which set out the key requirements for each of the Manual's eight steps. The second part is the handbook, which provides detailed information and explanations of the steps as well as additional aspects to consider. And finally, the third part shows how the manual's model can be used by providing best practice examples from across Europe.

Although primarily aimed at developers of educational material, the LEARN! Manual can also prove useful to ministries, authorities, agencies and organisations when deciding on which (proposals for) activities and projects to fund, as the guidelines reflect a list of minimum criteria that should be included or be given thought to, in order to ensure qualitatively sound material. In a similar way, the LEARN! Manual can also be useful for head teachers, traffic contact teachers and regular teachers when they select which material to use or purchase.

THE EIGHT STEPS OF THE LEARN! MANUAL'S MODEL

The starting point is an analysis of the problem and the possible solutions (Step 1), based on which the objectives for the activity can be specified (Step 2). The outcomes of these steps, combined with insights from behavioural change models (Step 3), will help designing the activity (Step 4). Pre-testing the activity (Step 5), and adapting the design, if necessary, is essential before starting the actual production (Step 6) and subsequent implementation (Step 7). Evaluating the activity (Step 8) will show whether the objectives for the activity were achieved or not, and which elements have contributed to these results, following which a final report can be written on the results and the lessons learnt during the activity.

The model is meant to be iterative, meaning that developers have to go back and forth between the different sections and steps if and when necessary. For example, the results of pre-testing the activity may require developers to go back to the design step, in order to implement changes based on the lessons learnt from pre-testing. Throughout the handbook, recommendations are included on when aspects of 'later' steps should already be considered, or when the results of a step may require an earlier step to be revisited.

[25] ETSC (2021), The LEARN! Manual for Developing and Evaluating Traffic Safety and Mobility Education Activities. https://bit.ly/learn-manual

RECOMMENDATION TO NATIONAL AND LOCAL GOVERNMENTS

- Use the LEARN! Manual's guidelines as a tool when deciding on which (proposals for) activities and projects to fund or purchase.

RECOMMENDATION TO SCHOOLS

- Use the LEARN! Manual's guidelines as a tool when deciding on which activities and projects to use or purchase.

RECOMMENDATION TO DEVELOPERS OF EDUCATIONAL MATERIAL

- Use the LEARN! Manual when developing, testing, implementing and evaluating educational material on traffic safety and mobility.


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