LEARN!
LEVERAGING EDUCATION TO ADVANCE ROAD SAFETY NOW!

Flash 3
May 2023

LINKING EDUCATION ON SUSTAINABLE MOBILITY WITH TRAFFIC SAFETY

ETSC
European Transport Safety Council

This publication is part of the LEARN! project. The project is coordinated by ETSC and supported by Fundación MAPFRE and the Flemish Foundation for Traffic Knowledge (VSV).

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LEARN Flash 3 – Linking Education on Sustainable Mobility with Traffic Safety

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ETSC, Fundación MAPFRE and VSV would like to thank the following experts for providing invaluable guidance and support for this publication: Ceri Woolsgrove (ECF), Wies Callens (Fietsersbond België).

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LEARN! Flash 3

LINKING EDUCATION ON SUSTAINABLE MOBILITY WITH TRAFFIC SAFETY

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

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EXECUTIVE SUMMARY

Boosting levels of sustainable mobility – and in particular the active modes of transport: walking and cycling – can play an important role in overcoming many challenges faced by cities and countries, such as climate change, stagnating road deaths, air pollution and obesity.

Improving road safety and encouraging the use of active and sustainable mobility are two topics that often go hand-in-hand. Real and perceived safety has a profound effect on modal choice, especially on walking and cycling – the most sustainable modes of travel. Safety fears are a major barrier to the uptake of cycling, while conversely, a modal shift away from private motor vehicles could significantly improve road safety in dense urban areas. Moreover, getting children and youngsters out of cars and onto bikes will make them healthier and live longer.

However, it is important to underline that a mere modal shift from car use to walking and cycling risks an increase in road deaths and injuries. Nevertheless, this benefits of walking and cycling more than compensate, in terms of disability-adjusted life years (DALYs), for the potential negative impact of an increase in the number of injuries and deaths that may result if everything else remains equal. The key to healthier lives that combine with safer roads is to encourage more walking and cycling at the same time as introducing new measures to improve the safety of pedestrians and cyclists.

Schools can play an important role in this shift to safe and sustainable mobility. They can provide high quality education that links the lessons on road safety with the promotion of walking and cycling. Authorities in turn should encourage schools to provide such lessons and moreover ensure that they have the resources and equipment necessary, notably bicycles for the practical cycling lessons.

Also, outside of formal education, schools and municipalities can promote safe and sustainable mobility. They could implement and/or advocate for measures that would improve both the real and perceived safety of roads near the school, such as 30 km/h zones and school streets, which is important for the uptake of active modes of transport. Schools and municipalities should also encourage parents to walk and cycle with their children to school, which comes with a range of benefits including for the environment, the child's physical and mental health, and the development of their road safety skills.

The report also focuses on other measures that can be taken, notably by municipalities, to improve the safety around schools and for children travelling to and from school. Although these are not educational measures, those measures are prerequisites for facilitating safe walking and cycling, which in turn allow lessons on these active modes of transport to be more effective at schools and allow for safe walking and cycling to school.

INTRODUCTION

Countries and cities across Europe are facing several interconnected challenges: the climate is changing, road deaths are stagnating, urbanisation is increasing, air pollution is worsening, and obesity is rising.

There is an increasing recognition at local, as well as national and EU level, that boosting the levels of sustainable mobility – and in particular the active modes of transport: walking and cycling – can play an important role in overcoming many of these challenges.

Improving road safety and encouraging the use of active and sustainable mobility are two topics that often go hand-in-hand. Real and perceived safety has a profound effect on modal choice, especially in terms of the most sustainable modes of travel – walking and cycling and the ability to access public transport.[1] It is important to recognise that safer roads also mean more sustainable roads. If groups of road users are deterred from using unsafe roads, they might shift to other less sustainable modes of transport.[2]

Safety fears are a major barrier to the uptake of cycling. A Eurobarometer survey shows that 73% of European citizens consider road safety to be a serious problem in cities.[3] A survey in London showed that 59% of potential cyclists cited safety concerns as a key barrier preventing them from cycling.[4] Traffic safety was also the main barrier to taking up cycling identified in a survey undertaken in nine European cities. Improving road safety therefore also supports the uptake of active mobility.

Conversely, a modal shift away from private motor vehicles could significantly improve road safety in dense urban areas, as a report found that areas where people cycle the most also have the lowest total road mortality.[5] And, as set out in greater detail in the report's first part, getting children and youngsters out of cars and onto bikes will make them healthier and live longer.

However, it is important to underline that a mere modal shift from car use to walking and cycling risks an increase in road deaths and injuries. Nevertheless, the benefits of walking and cycling more than compensate, in terms of disability-adjusted life years (DALYs), for the potential negative impact of an increase in the number of injuries and deaths that may result if everything else remains equal.[6]

The key to healthier lives that combine with safer roads is to encourage more walking and cycling at the same time as introducing new measures to improve the safety of pedestrians and cyclists, such as 30 km/h limits, safe bicycle lanes and pedestrian footways, supported by police enforcement.

Therefore, as improving road safety and the uptake of active and sustainable mobility are closely linked, this LEARN! Flash report looks at linking education on these two topics. Part 2 of this report focuses on measures, recommendations and best practice examples regarding education that not only teaches children and youngsters to walk and cycle safely, but also encourages them to use these active modes of transport. Moreover, this part also looks at framework conditions that provide support to allow for these lessons to be given to children and youngsters.

Similar to how promoting walking and cycling on the one hand, and ensuring the safety of cyclists and pedestrians on the other are closely linked, so is education and the environment in which it is given. The third part of this report therefore sets out recommendations on how schools, parents and authorities can improve the traffic safety around the schools to encourage

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1 ETSC (2019), PIN Flash Report 37. Safer roads, safer cities: How to improve urban road safety in the EU. https://bit.ly/PIN-Flash37
2 Ibid.
3 European Commission (2013), Attitudes of Europeans Towards Urban Mobility. https://bit.ly/3D4FJUm
4 Transport for London (2014), Attitudes to Cycling Report. https://bit.ly/3A3fiuZ
5 OECD-ITF (2019), Road Safety in European Cities. https://bit.ly/3CgsuzI
6 SWOV (2010), The safety effect of exchanging car mobility for bicycle mobility. https://bit.ly/3elr3zO

active mobility, while the fourth part focuses on how local and national authorities can improve the safety of cyclists and pedestrians. While the recommendations in these two parts consist of non-educational measures, they are prerequisites for facilitating safe walking and cycling, which in turn allow the education on these active modes of transport to be more effective in schools.

DEFINING 'SUSTAINABLE MODES' OF TRANSPORT

When using the term 'sustainable modes of transport', this report refers to the active modes of transport – walking and cycling – as well as public transport. These modes of transport are most readily available to children and youngsters across Europe. Electrification of the vehicle fleet is not considered sustainable in the context of this report, as parents shifting from a vehicle with an internal combustion engine to a vehicle with an electric drivetrain while still dropping their children off at school by car does little to improve the road safety around the school. Nor does it improve the child's level of physical activity and health (or indeed the parent's). Similarly, 'personal light electric vehicles', such as e-scooters, are not considered in this report either, as the safety, environmental and health benefits are very much still up for debate. Many countries also have age restrictions which restrict them to older children and adults only. Where data are available, the rate of collisions resulting in injury has been found to be up to ten times higher for e-scooter riders than for cyclists.[7] If these collision rates prove accurate for Europe as a whole, they will be more akin to those for motorcyclists. Moreover, e-scooter journeys are more likely to replace those previously made on foot or by public transport.[8]

A NOTE ON KINDERGARTENS

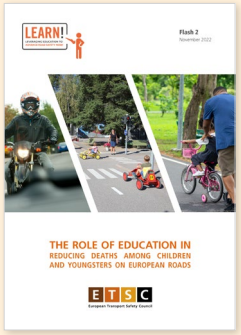
As the LEARN! project focuses primarily on primary and secondary education (6-17 year olds), this report refers primarily to schools. However, the recommendations apply to all children and can therefore be used for kindergartens as well.

PARENTS AND GUARDIANS

Throughout this report, 'parents' should be interpreted as to also refer to other persons taking care of the children, e.g. grandparents, guardians, etc.

THE NEED TO IMPROVE THE SAFETY OF CHILDREN AND YOUNGSTERS

The second LEARN! Flash examined the data on road deaths of children and youngsters in Europe over the last decade (2011-2021), and showed that more than 11,000 have died on European roads during this period. As well as showing the difference in safety and improvements in countries across Europe, the report also shows the differences between road deaths of boys and girls as well as between different age groups. The report is available at: bit.ly/LEARNFlash2



[7] ETSC (2023), Recommendations on Safety of E-scooters. http://bit.ly/3kCTany
[8] Ibid.

PART I

LINKING TRAFFIC SAFETY WITH SUSTAINABILITY AND HEALTH

In many European countries, health and environmental topics are high on the agenda as themes treated in the educational curriculum. Since traffic safety is essentially a public health issue and mobility choices have an impact on both the environment and public health, this first part offers a wider perspective on traffic safety and mobility education.

From a policy point of view, it makes sense to integrate sustainable mobility and road safety measures, including education, to encourage the use of active transport modes by children and youngsters, while at the same time increasing their safety as vulnerable road users. In the following sections a short overview of international policies and study findings related to these topics is set out, while recommendations are provided in the other sections of this report.

1.1 ROAD SAFETY AND SUSTAINABLE MOBILITY: INTERNATIONAL POLICIES

The United Nations General Assembly has adopted the Sustainable Development Goals (SDGs), which address global challenges such as climate and environmental degradation, but also the risk of death in road traffic.[9]

Two of the SDG targets are specifically related to road safety. As the SDGs were adopted in September 2015, target 3.6 initially aimed to halve the number of global deaths and injuries from road traffic accidents by 2020. Regrettably, only relatively little progress was made in reducing road deaths worldwide during the previous decade.[10]

In 2022, the UN General Assembly adopted a political declaration on improving global road safety, in which world leaders committed to reducing road deaths and injuries by half by 2030.[11] The declaration recognised "the tremendous global burden that road traffic crashes continue to place on society", referring to both the resulting human suffering as well as the economic impact, and concluded that it "makes road safety an urgent public health and development priority".[12]

Through the declaration, the world leaders also committed "to scale up efforts and undertake" a list of actions to improve road safety, which includes the implementation of a Safe System approach, enabling multi-modal transport and active mobility, and establishing an "optimal mix of motorized and non-motorized transport traffic, with a particular emphasis on public transport, walking and cycling".[13]

The declaration furthermore recognised education as a method to deliver evidence-based road safety knowledge that promotes a road safety culture and addresses high-risk behaviours especially among youth.[14]

The world leaders also reaffirmed the importance of continued action on target 11.2 of the SDGs, which seeks to provide access to sustainable and safe transport systems, with special attention to the needs of those in vulnerable situations, women, children, people with disabilities and older people.[15]

The 'Global plan for the decade of action for road safety 2021–2030', as well as a fact sheet by the World Health Organization (WHO) on the road-safety related SDG targets, propose a number of actions to improve road safety, including measures to protect vulnerable road users and to promote physically active transport modes such as walking and cycling.[16,17]

At the European level, the European Commission has also long acknowledged that EU transport

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[9] United Nations (2015), Transforming our world: the 2030 Agenda for Sustainable Development. http://bit.ly/2C7ONHO; World Health Organization Europe (2017), Fact sheets on sustainable development goals: health targets. Road Safety. http://bit.ly/2BaBNzG

[10] SDG Tracker (n.d.), Measuring progress towards the Sustainable Development Goals. Target 3.6. http://bit.ly/3Z7ccBo

[11] United Nations (2022), Political Declaration of the High-Level Meeting on Improving Global Road Safety. "The 2030 horizon for road safety: securing a decade of action and delivery". http://bit.ly/41HliGW; United Nations (2022), At High-Level Session, General Assembly Unanimously Adopts Resolution on Improving Global Road Safety, Stresses Commitment to Reduce Fatalities in Half by 2030. http://bit.ly/3Zp8F18

[12] PP.7 in the Political Declaration of the High-Level Meeting on Improving Global Road Safety.

[13] Action point 5 in the Political Declaration of the High-Level Meeting on Improving Global Road Safety.

[14] Action point 10 in the Political Declaration of the High-Level Meeting on Improving Global Road Safety.

[15] PP.6 in the Political Declaration of the High-Level Meeting on Improving Global Road Safety.

[16] WHO, UN Regional Commissions & UN Road Safety Collaboration (2021), Global plan for the decade of action for road safety 2021–2030. http://bit.ly/3Zw0YX1

[17] World Health Organization Europe (2017), Road Safety. Fact sheets on sustainable development goals: health targets. http://bit.ly/2BaBNzG

policy should aim at ensuring sustainable mobility for all citizens, "decarbonising" transport and making full use of technological progress.[18]

More recently, the 'European Green Deal' acknowledged that "achieving sustainable transport means putting users first and providing them with more affordable, accessible, healthier and cleaner alternatives to their current mobility habits".[19] In the subsequent 'Sustainable and Smart Mobility Strategy', the European Commission stated that sustainable alternatives should be made widely available in order to achieve the Green Deal's envisaged systemic change, underlining that it requires decisive action to enable a shift towards more sustainable transport modes, including increasing the number of people commuting by public transport and the active modes.[20] The Commission also stated that protecting vulnerable road users is a priority, and that measures that give more space to active mobility will help prevent deaths and serious injuries among vulnerable road users.

This was also reflected in the 'EU road safety policy framework 2021-2030', which underlined that "towns and cities in particular are well placed to develop the synergies between safety and sustainability measures", highlighting that less car use and safer environments for pedestrians and cyclists will not only bring environmental benefits and reduce congestion, but also lead to a more active and healthier population.[21]

The 'New EU Urban Mobility Framework', published by the European Commission in late 2021, includes a renewed focus on walking and cycling as healthier and safer mobility modes, reiterating the previously mentioned benefits.[22] Among the numerous actions, the European Commission proposed that urban nodes in the Trans-European Transport Network (TEN-T) should develop Sustainable Urban Mobility Plans (SUMPS) that increase the use of active mobility and public transport[23] and announced it will increase the role of walking and cycling in updates of the SUMP guidance documents.[24,25]

The European Commission is aware that increasing the number of pedestrians and cyclists results in a greater number of vulnerable road users on the road and therefore recommends that this group should receive more consideration. Road safety aspects in particular should receive additional attention and be a mainstream part of all levels of urban mobility planning, noting that vulnerable road users should be given sufficient space.[26]

During the preparation of the new urban mobility framework, the European Commission found that measures that support walking and cycling were regularly among the ones that received the highest support from citizens and stakeholders.[27] The measures to improve the uptake of walking and cycling that the stakeholders indicated should be implemented are among the measures set out in Part 4 of this report.[28] The stakeholders also supported "a stronger role of the EU to increase active mobility, indicating the need to move beyond non-binding guidance".

In 2023, the European Parliament adopted a resolution on developing an EU cycling strategy.[29] Considering the previously mentioned benefits, the European Parliament called on the European Commission to "develop a dedicated European cycling strategy with the aim of doubling the number of kilometres cycled in Europe by 2030".[30] The European Parliament also acknowledged that more safe cycling infrastructure is needed. In this

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18 European Commission (2010), Towards a European road safety area: policy orientations on road safety 2011– 2020. http://bit.ly/2QrAsPp
19 European Commission (2019), The European Green Deal. http://bit.ly/3Zf5ysY
20 European Commission (2020), Sustainable and Smart Mobility Strategy – putting European transport on track for the future. http://bit.ly/3kCRtXf
21 European Commission (2019), EU road safety policy framework 2021-2030 – Next steps towards 'Vision Zero'. http://bit.ly/3RD97FJ
22 European Commission (2021), The New EU Urban Mobility Framework. http://bit.ly/3Yd5Mj4
23 European Commission (2021), Proposal for a Regulation on Union guidelines for the development of the trans-European transport network. (COM(2021)812). http://bit.ly/3LcLfWP
24 Eltis (2021), Guidelines for Developing and Implementing a Sustainable Urban Mobility Plan. Second edition. http://bit.ly/41CnfnS
25 Eltis (2019), Topic Guide. Urban Road Safety and Active Travel in Sustainable Urban Mobility Planning. http://bit.ly/3m9BXlW
26 European Commission (2021), The New EU Urban Mobility Framework. http://bit.ly/3Yd5Mj4
27 European Commission (2021), Commission Staff Working Document accompanying the New EU Urban Mobility Framework. p. 36. (SWD(2021)470). http://bit.ly/3ydeRgW
28 Dedicated infrastructure (such as segregated bike lanes), generalization of 30 km/h speed limits in urban areas, space reallocation in favour of active and share mobility, and the implementation of urban vehicle access regulations.
29 ETSC (2023), European Parliament backs resolution on an EU cycling strategy. https://bit.ly/40dZUGY
30 European Parliament (2023), Motion for a resolution on developing an EU cycling strategy. (2022/2909(RSP)). http://bit.ly/3SGbtES

regard it encourages EU Member States and local authorities to significantly increase their investment in the construction of separated cycling infrastructure and highlighted that urban infrastructure planning should be developed in accordance with EU road safety legislation.

1.2 ACTIVE MOBILITY AND HEALTH

1.2.1 Physical Activity and Healthy Lifestyle

The WHO has set out guidelines on physical activity for health.[31] Different types and amounts of physical activity are required for different health outcomes for different groups of people. The WHO recommends that children and youngsters aged 5–17 years old should accumulate at least 60 minutes of moderate to vigorous physical activity daily. Adults aged 18–64 years should do at least 150 minutes of moderate or 75 minutes of vigorous physical activity (or an equivalent combination of both) throughout the week. Active transport modes such as walking and cycling are examples of moderate physical activity that can contribute to a healthy lifestyle.

Studies undertaken to assess the economic benefits of walking and cycling have shown that active mobility brings both physical and mental health benefits that largely outweigh possible increased exposure to pollution or safety risks. It has been shown that replacing regular car trips by either regular cycling trips (e.g. commuting trips of 5 km each way) or regular walking trips (e.g. pedestrian commuting trips of 2.5 km each way) brings a net benefit of around 1,000 EUR for every person who decides to switch from using a private car to an active form of mobility.[32]

1.2.2 Health Effects of Walking

Current evidence suggests that moderate intensive physical activity, including walking, is essential for maintaining good health, while a sedentary lifestyle contributes to reduced health outcomes at different levels.[33] Indirect benefits may include those resulting from the substitution of trips undertaken by car with trips undertaken on foot (particularly short distance urban trips, and trips where the combination of walking and use of public transport is possible). Replacing car use by public transport also results in a reduction in negative environmental and health-related consequences[34], including air and noise pollution.

The OECD's International Transport Forum (ITF) concluded that walking is a physical activity for persons of all ages that can be incorporated as part of everyday life, providing great health benefits for the population as a whole. It therefore has great potential to contribute to high level government agendas for more sustainable development. Ensuring that walking is an attractive alternative and complement to motorised transport is a core response to the challenges of climate change, fossil fuel dependency, pollution, maintaining mobility for an ageing population, and health, amongst others.[35]

1.2.3 Health Effects of Cycling

According to an ITF report on Cycling, Health and Safety, a discussion on the impact of cycling on road safety should not be isolated from a broader discussion on the overall health impacts of cycling. The concern that increasing the number of cyclists may increase crash numbers or risks, results from the deleterious effects of crashes on cyclists' health. However, collisions are not the only factor that affect cyclists' health – exposure to air pollution can negatively impact cyclists' health just as cycling-related exercise can (greatly) improve it.[36]

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[31] World Health Organization (WHO) (2020), WHO guidelines on physical activity and sedentary behaviour. http://bit.ly/3Yg4XGc

[32] Rabl & de Nazelle (2011), Benefits of Shift from Car to Active Transport. In: OECD/ITF (2012), Pedestrian Safety, Urban Space and Health. http://bit.ly/2QUs4aN; Rabl & de Nazelle (2012), Benefits of Shift from Car to Active Transport. http://bit.ly/3ERgx3q

[33] The previously mentioned WHO guidelines on physical activity and sedentary behaviour summarises the currently available evidence and provides an extensive list of references. http://bit.ly/3Yg4XGc

[34] Dora & Philips (2000), Transport, environment and health. http://bit.ly/2QpaJqI

[35] OECD/ITF (2012), Pedestrian Safety, Urban Space and Health. http://bit.ly/2QUs4aN

[36] OECD/ITF (2013), Cycling, Health and Safety. http://bit.ly/2QSM1Pe

ITF stressed that cycling can greatly reduce clinical health risks linked to cardiovascular disease, obesity, Type-2 diabetes, certain forms of cancer, osteoporosis and depression. This health-improving effect is robust across different studies and in different geographical contexts, and is greatest when moving from largely sedentary lifestyle patterns to more active ones. There is evidence that the range of morbidity-reducing effects is even greater than that of mortality-reducing effects – not only does cycling reduce disease-related deaths but it also contributes to substantially better health.[37]

For large European cities, it was found that the positive health gains for an individual resulting from a switch from car to bicycle commute on average add up to 1,343 EUR per year. The negative health impacts, including those linked to crash-related mortality, result in a loss of 72 EUR per year – 19 times less than the benefits.[38] The principal finding that health benefits from cycling dwarf all other variables is robust with a range of assumptions regarding specific variables and monetary values.[39]

ITF concluded that the positive health impacts of cycling outweigh the negative health impacts. Reviewing evidence from studies looking at the full spectrum of cyclist health impacts (including crash-related injuries and air pollution) while controlling for exposure and crash under-reporting indicates that the estimated health benefits of cycling are several orders of magnitude greater than the health dis-benefits of cycling.[40]

1.3 SUSTAINABLE MOBILITY AND ROAD SAFETY MEASURES SHOULD GO HAND IN HAND

The previous two sections established that walking and cycling, as well as using public transport, are beneficial for both environmental as well as health reasons and are therefore encouraged. However, it is important to underline that a mere modal shift from car use to walking and cycling risks an increase in road deaths and injuries. Nevertheless, the benefits of walking and cycling more than compensate, in terms of disability-adjusted life years (DALYs), for the potential negative impact of an increase in the number of injuries and deaths that may result if everything else remains equal.[41]

The fact that pedestrians and cyclists are vulnerable in traffic does not mean that walking and cycling should be discouraged as unsafe transport modes. It is important to remember that they account for much larger proportions of journeys made and time spent using the roads. Moreover, cyclists and pedestrians do not endanger other road users as much as car drivers do because of their lower speed and mass. This is reflected in the data on road deaths in Europe, as relatively few other road users die in collisions with pedestrians and cyclists, as can be seen in figure 1.

[37] OECD/ITF (2013), Cycling, Health and Safety. http://bit.ly/2QSM1Pe
[38] Rabl A, & de Nazelle A (2012), Benefits of shift from car to active transport. In: OECD/ITF (2013).
[39] OECD/ITF (2013), Cycling, Health and Safety. http://bit.ly/2QSM1Pe
[40] OECD/ITF (2013), Cycling, Health and Safety. http://bit.ly/2QSM1Pe
[41] SWOV (2010), The safety effect of exchanging car mobility for bicycle mobility. https://bit.ly/3elr3zO

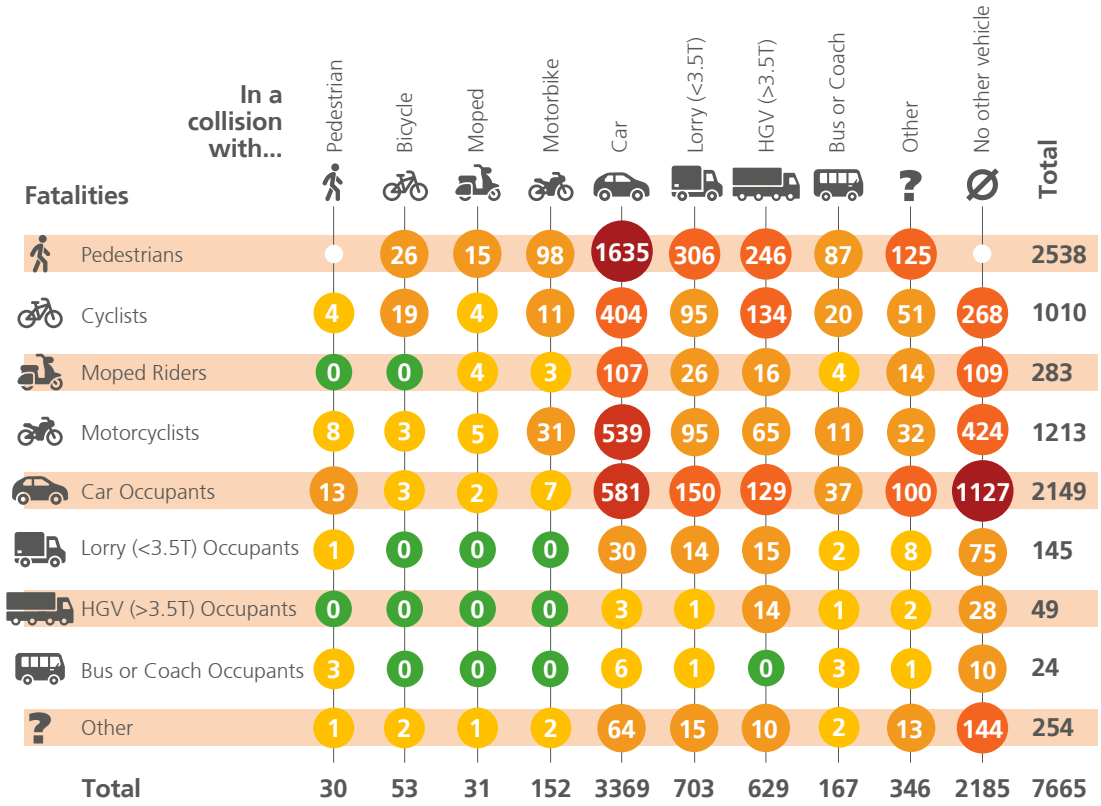


Figure 1 - Road Traffic Fatalities Urban Areas in the EU (2021) by road users and (other) 'main vehicle' involved in the crash.
Source: European Commission (2023).

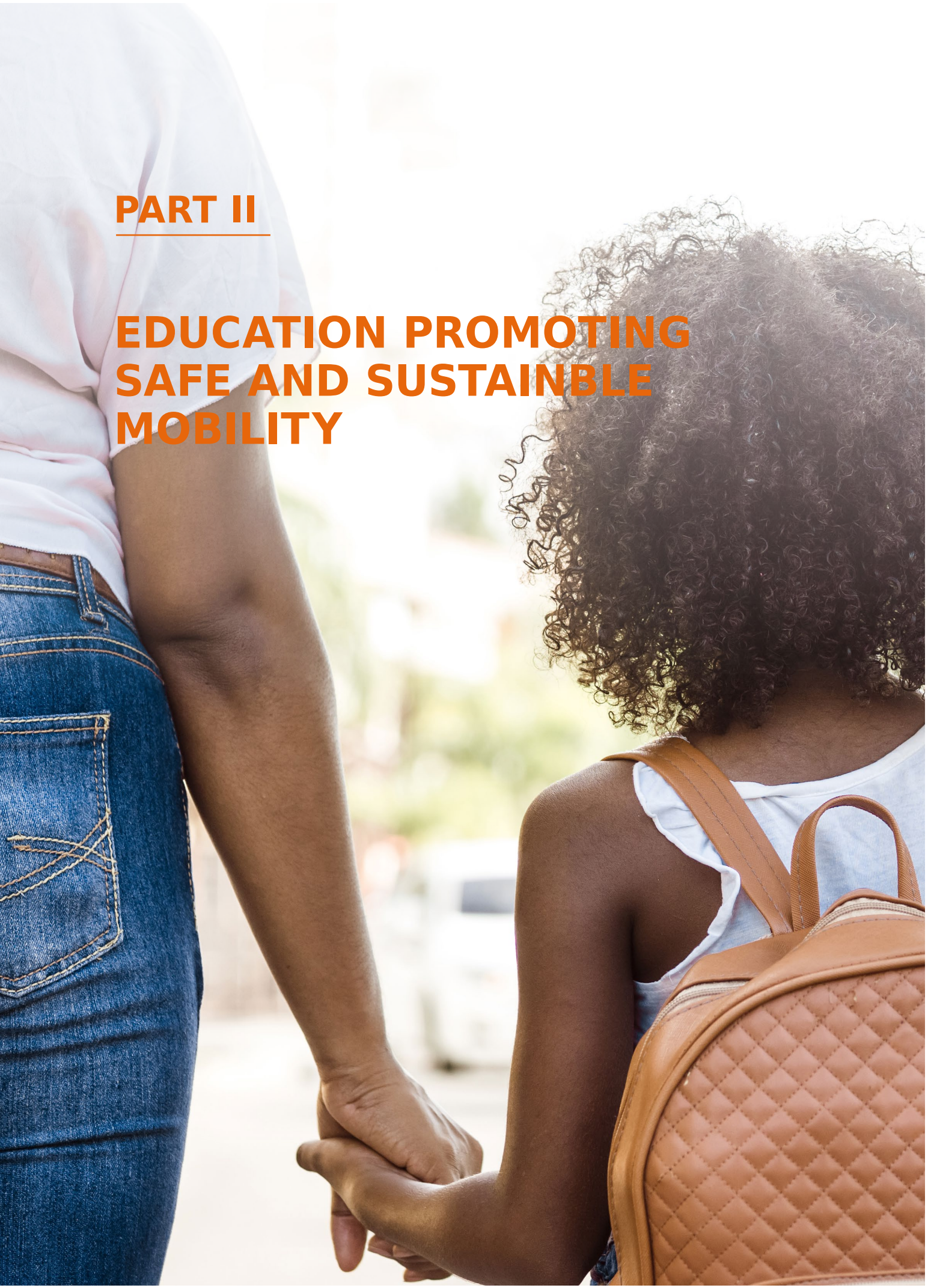
A modal shift away from private motor vehicles could therefore significantly improve road safety in dense urban areas as areas where people cycle the most also have the lowest total road mortality, according to a 2019 ITF report.[42]

As mentioned in the introduction of this report, real and perceived safety have a profound effect on modal choice, and in particular walking, cycling and the ability to access public transport. As those are the most sustainable modes of transport, real and perceived safety therefore also have a profound effect on the uptake of sustainable mobility.

When it comes to cycling, it has been proven that where pro-cycling and pro-safety policies are deployed hand-in-hand, an increase in ridership can be accompanied by a concomitant reduction of injury risk. For example, in Copenhagen, bicycle travel increased by 20% between 1996 and 2010 while at the same time police-reported fatalities and serious injuries have dropped by 70%.[43]

Encouraging sustainable mobility and improving road safety therefore go hand in hand. The key to healthier lives that combine with safer roads is to encourage more walking and cycling at the same time as introducing new measures to improve the safety of pedestrians and cyclists, which are set out in Part 4 of this report.

[42] OECD-ITF (2019), Road Safety in European Cities. http://bit.ly/3y7q9Do
[43] OECD/ITF (2013), Cycling, Health and Safety. http://bit.ly/2QSM1Pe



PART II

EDUCATION PROMOTING SAFE AND SUSTAINBLE MOBILITY

This second part will provide recommendations on the topic of education that promotes both road safety and the use of sustainable mobility, following which best practice examples from across Europe are provided.

2.1 IMPROVING EDUCATION ON SAFE AND SUSTAINABLE MOBILITY

2.1.1 – High-quality activities that are attractive as well as theoretical and practical

The education linking sustainable mobility with traffic safety provided to children and youngsters should not only be about gaining theoretical knowledge and understanding of safe walking and cycling, and their benefits. It should also be about developing and improving the necessary skills as well as promoting safe and sustainable attitudes and behaviours to support and motivate them to walk and cycle.

Lessons should therefore not only take place in the class room, but also include training and experience in practice – in both protected and real-world environments, connected to real life problems in the children and youngsters' environment and adapted to the role they have in the traffic system.[44]

Linking education on safe and sustainable mobility to big topics such as the climate crisis and reducing dependency on fossil fuels can be an important tool to engage children and youngsters.

In a similar vein, education on traffic safety and sustainable mobility could be linked to education on health, because active mobility brings both physical and mental health benefits, as mentioned in greater detail in this report's first part.

Schools could be reluctant to deliver a specific traffic safety and mobility education programme. However, they may be more willing if such material was presented in the context of another theme. Developers of educational material could therefore consider the use of expansive themes, such as health and the climate crisis, in order to make their lessons on traffic safety and sustainable mobility more attractive to schools.[45] The education could, for example, be linked to the United Nation's Sustainable Development Goals, which include targets for improving health, road safety and safe and sustainable mobility.[46]

In addition to covering both theoretical and practical lessons as well as being attractive to the pupils and teachers, the education should also be of high quality. The principle "there is no harm in trying" should not be applied to traffic safety and mobility education, as projects that are poorly designed can, in fact, have an adverse effect. The money and time could better be spent on well-designed and evaluated projects and measures instead. The same quality standards that are expected for maths and other languages should be applied to educational material that promotes safe and sustainable mobility as well.[47,48]

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[44] For more information, see Key Principle 9 in: ETSC (2020), LEARN! Key Principles for Traffic Safety and Mobility Education. https://bit.ly/LEARN-KP9

[45] For more information on expansive themes, see page 39 of: ETSC (2021), The LEARN! Manual for Developing and Evaluating Traffic Safety and Mobility Education Activities. https://bit.ly/learn-manual

[46] For more information on the Sustainable Development Goals by the United Nations, see Part 1 of this report.

[47] For more information on the importance of using quality standards, see Key Principle 11 in: ETSC (2020), LEARN! Key Principles for Traffic Safety and Mobility Education. https://bit.ly/LEARN-KP11

[48] The LEARN! Manual contains guidelines for developing and evaluating activities and programmes for traffic safety and mobility education. https://bit.ly/learn-manual

2.1.2 – Facilitating Education on Safe and Sustainable Mobility

It is important that education on improving road safety and the use of active forms of transport is provided in a supportive environment that allows for these lessons to be given.

National and local policymakers and authorities should therefore encourage school and kindergarten managers to ensure that lessons on safe and sustainable mobility are provided to pupils.[49] They should also ensure that traffic safety and mobility education is integrated into the curricula for schools at all levels as well as kindergartens, with educational goals related to road safety and sustainable mobility set out.

Moreover, policymakers and authorities should ensure that sufficient resources are made available to schools that allow for possibilities to teach road safety and sustainable mobility – with the allocated resources reflecting the political priority given to improving road safety and the use of active and sustainable modes of transport.

One obstacle to being able to provide practical lessons on safe cycling is often the lack of sufficient bicycles available to the pupils. Schools may want to participate in such practical activities and ask the pupils to bring their bicycles to school. However, not every child has a bicycle, as parents do not always have sufficient money or storage capacity for them.

Regrettably, when sufficient bicycles are not available, a lot of teachers decide not to give the practical lessons. But it is vital for children's education that they learn and gain experiences in practice.

Schools should therefore be supported with enough resources to purchase and store sufficient bicycles and helmets – or alternatively, municipalities could also own sufficient bicycles and helmets for schools to borrow – that would allow for these practical cycling lessons to be given, despite not all children having their own bicycle. Experience has shown that when schools have their own bicycles – which are of a quality strong enough to deal with children using them every day – they participate more often in practical cycling educational activities.

Teachers may also not want to participate in practical walking and cycling lessons or tests due to an unsafe traffic environment around their school. In such cases, teachers could practice for, and conduct, the cycling tests at another local school or place where it is safe. This should however also be a clear signal for local policymakers that the safety of pedestrians and cyclists around the school should be improved (see parts 3 and 4 of this report).

Teachers should be supported in giving lessons on safe and sustainable mobility. Support can, for example, be given by having experts on road safety and/or sustainable mobility show teachers how such lessons could be done.

However, educating children and youngsters to participate safely and sustainably in traffic is not just the task of the kindergartens and schools. In line with the safe system approach, it is the responsibility of all relevant stakeholders, including parents, municipalities and local organisations promoting road safety, active mobility and/or sustainable mobility.[50]

Parents, in particular, have a vital responsibility, as they are important role models for children. The choice of the form of transport to the day-care centre and to school, work and leisure time activities affects the child's future mobility behaviour.

It is therefore important that parents are engaged in the education, and can play a key role by providing assistance during practical lessons (e.g. helping out during cycling tests). It is also important that parents continue with what has been taught at school, for example while walking and cycling to and from schools. The lessons at school are less effective when the parent does not continue the education at home, and it is counterproductive if parents set conflicting or bad examples.

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[49] National and local authorities should also encourage schools to develop a traffic safety and mobility policy, which should include an educational plan. For more information, see section 3.1.1 of this report.

[50] For more information on involving all relevant stakeholders, see Key Principle 17 in: ETSC (2020), LEARN! Key Principles for Traffic Safety and Mobility Education. https://bit.ly/LEARN-KP17

RECOMMENDATIONS TO NATIONAL AND LOCAL GOVERNMENTS, SCHOOLS, AND DEVELOPERS OF EDUCATIONAL MATERIAL

- Traffic safety and mobility education should not only be about gaining knowledge and understanding of safe walking and cycling, but also about developing and improving the skills and motivation to do so. This includes training in traffic.
- Use quality standards for traffic safety and mobility education, such as the LEARN! Manual, when producing, funding, selecting or purchasing material.
- When relevant, link the education on safe and sustainable mobility to broader topics such as the climate crisis, health, and the UN's Sustainable Development Goals.
- Encourage the involvement of all stakeholders, and especially parents, in the education on safe and sustainable mobility.

RECOMMENDATIONS TO NATIONAL AND LOCAL GOVERNMENTS

- Integrate traffic safety and mobility education in the curricula for school at all levels, including goals and lesson hours.
- In line with the recommendation for the education to both be theoretical and practical[51], and in line with the recommendation to assess the pupils[52], consider the inclusion of a cycling test in the curriculum.
- Set targets for (the provision of) traffic safety and mobility education that are S.M.A.R.T.E.R. (Specific, Measurable, Achievable, Realistic, Time-bound, Evaluated, and Revisable).
- Encourage and support the management of schools and teachers to provide traffic safety and mobility education.
- Allocate sufficient resources for traffic safety and mobility education.
    - Enable schools to offer pupils bicycles and helmets if they do not have them and it is needed as part of traffic safety and mobility or other education.
- When developing and implementing strategies and policies on urban and sustainable mobility, include traffic safety and mobility education.

RECOMMENDATIONS TO SCHOOLS

- Support teachers in giving lessons on safe and sustainable mobility.[53]
- Appoint a traffic contact teacher at school.[54]

RECOMMENDATIONS TO THE EU INSTITUTIONS

- Continue providing funds for education projects that promote both traffic safety and sustainable mobility through EU funds such as Erasmus+.
- When developing and implementing strategies on education, health, sustainability and urban mobility, give consideration to traffic safety and mobility education.

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[51] For more information, see Key Principle 9 in: ETSC (2020), LEARN! Key Principles for Traffic Safety and Mobility Education. https://bit.ly/LEARN-KP9

[52] For more information on pupils' assessments, see Key Principle 13 in: ETSC (2020), LEARN! Key Principles for Traffic Safety and Mobility Education. https://bit.ly/LEARN-KP13

[53] For more information on supporting teachers, see Key Principle 8 in: ETSC (2020), LEARN! Key Principles for Traffic Safety and Mobility Education. https://bit.ly/LEARN-KP8

[54] For more information on traffic contact teachers, see Key Principle 7 in: ETSC (2020), LEARN! Key Principles for Traffic Safety and Mobility Education. https://bit.ly/LEARN-KP7

2.2 BEST PRACTICE EXAMPLES

Cycling Tests Across Europe

The LEARN! Key Principles recommend that 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.[55] Moreover, lessons should not only take place in the class room, but also include training and experience in practice – in both protected and real-world environments, connected to real life problems in their environment and adapted to the role they have in the traffic system.

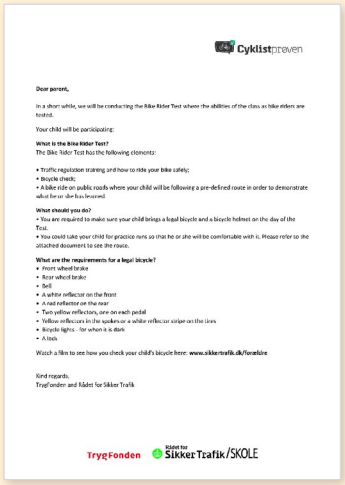
In addition, assessments should be part of traffic safety and mobility education at schools in order to guarantee that the pupils have gained the right knowledge, skills, behaviour and attitudes necessary to behave safely in traffic.[56] This will furthermore allow for appropriate action to be taken if this is found not to be the case.

Cycling tests check all the above-mentioned boxes, and all across Europe, pupils are tested for their knowledge and skills in safely riding a bicycle. More information on these cycling tests can be found in LEARN! Key Principle 13.[59] In addition, the LEARN! Manual's example 5 provides more detailed information on the different types of objectives for the pedestrian and cyclist tests organised by the Flemish Foundation for Traffic Knowledge (VSV) in Flanders.[60]

VSV's Cycling Test

INVOLVING PARENTS

As part of the cyclist test[57], the Danish Road Safety Council provides letters that schools can use to inform the parents about the cycling test, so that they can help check that their children's bicycles are legal and that the children bring the bicycles with them on the day of the test. The letters are provided in 10 different languages, including English.[58] After the pupils have taken the bicycle test, the schools are also encouraged to send another letter – provided by the Danish Road Safety Council – to the children's parents. The letter informs the parents about their responsibility to make agreements with their children in relation to using a bicycle helmet and not using a mobile phone while riding their bicycle. The letter also informs the parents that teenagers are the age group most at risk of being involved in a traffic collision.


Cyklistprøven

Dear parent,

In a short while, we will be conducting the Bike Rider Test where the abilities of the class as bike riders are tested.

Your child will be participating:

What is the Bike Rider Test?
The Bike Rider Test has the following elements:

- Traffic regulation training and how to ride your bike safely;
- Bicycle check;
- A bike ride on public roads where your child will be following a pre-defined route in order to demonstrate what he or she has learned.

What should you do?
- You are required to make sure your child brings a legal bicycle and a bicycle helmet on the day of the Test.
- You could take your child for practice runs so that he or she will be comfortable with it. Please refer to the attached document to see the route.

What are the requirements for a legal bicycle?
- Front wheel brake
- Rear wheel brake
- Bell
- A white reflector on the front
- A red reflector on the rear
- Two yellow reflectors, one on each pedal
- Yellow reflectors in the spokes or a white reflector stripe on the tires
- Bicycle lights - for when it is dark
- A lock

Watch a film to see how you check your child's bicycle here: **www.sikkertrafik.dk/forældre**

Kind regards,
TrygFonden and Rådet for Sikker Trafik

TrygFonden Rådet for Sikker Trafik/SKOLE

Source: Danish Road Safety Council

[55] Key Principle 9 in: ETSC (2020), LEARN! Key Principles for Traffic Safety and Mobility Education. https://bit.ly/LEARN-KP9
[56] Key Principle 13 in: ETSC (2020), LEARN! Key Principles for Traffic Safety and Mobility Education. https://bit.ly/LEARN-KP13
[57] Danish Road Safety Council (n.d.), Planlæg Cyklistprøven. *Schedule the Cycling Test*. http://bit.ly/3ZLBEMy
[58] Danish Road Safety Council (n.d.), English letter on the Bike Rider Test. https://bit.ly/3ZDFFCO
[59] Ibid.
[60] Example 5 in: ETSC (2021), The LEARN! Manual for Developing and Evaluating Traffic Safety and Mobility Education Activities. https://bit.ly/learn-manual

Cycling in Safety

Cycling In Safety (C.I.S.) is an Erasmus+ funded[61] youth project aiming to improve traffic safety and mobility education focused on safe cycling for young people. The project is coordinated by the Hellenic Road Safety Institute (RSI) "Panos Mylonas" and aims to bridge the gap between Northern and Southern Europe by involving organisations from countries with an advanced cycling culture and road safety performance, such as Norway (Trygg Trafikk), Netherlands (Responsible Young Drivers NL) and Iceland (Brautin) together with less advanced cycling culture and safety performance countries such as Greece and Romania (RSI "Panos Mylonas" and the Romanian Association For Youth And Students In Partium). Trinity College Dublin (Ireland) also participates and is responsible for the programme validation.

The project includes two train-the-trainer events in the Netherlands and Norway for road safety experts and youth workers who will later implement two training activities for young people (as members of youth and sports clubs, cycling and voluntary organisations, etc.) in Greece and Romania. The workshops aim to provide young people with a holistic approach to training on safe cycling skills as well as information on European policy issues. They also receive capacity-building training for the development of road safety awareness and advocacy campaigns for the promotion of safe cycling and sustainable mobility in their countries.

The project outcomes, as well as the training, will serve as the first material for the development and implementation of a road safety educational programme on safe cycling using state-of-the-art methodologies and educational techniques that could be further elaborated and disseminated.

Source: R.S.I. "Panos Mylonas"

A virtual reality cycling training during during the train-the-trainer workshop in the Netherlands.

The Cycling in Safety project was presented during the 2022 European Traffic Education Seminar. The recording is available at: https://bit.ly/3KWIPxx

[61] The Cycling in Safety project is funded as part of Key Action 2 of the Erasmus+ programme, which focuses on cooperation among organisations and institutions.

Partnerships for Science Education (PAFSE)

The EU-funded[62] Partnerships for Science Education (PAFSE) project looked at science education as a method to provide the knowledge, tools and skills necessary to make informed decisions on public health challenges.[63] The project aims to involve pupils aged 12 to 15 years old in identifying public health challenges in their local environment, based on an inquiry-based learning process. Topics addressed in the project include road safety, mobility healthy eating, viruses, epidemics, vaccinations, and noise pollution, among others.

As part of the PAFSE project, Prevenção Rodoviária Portuguesa (PRP) developed three educational scenarios related to the curriculum on traffic safety and mobility education. Each of the educational scenarios includes a project where the pupils are guided by the teacher.

The first scenario focuses on road traffic crashes, where the pupils establish a baseline of the local situation through behavioural observations. The second scenario focuses on risk factors, where the pupils gather self-declared attitudes and behaviours as a project. The third scenario then focuses on sustainable mobility, and pupils identify and analyse school mobility patterns through questionnaires.[64]

The pupils present their findings to the local community, stakeholders and the scientific community, and together define strategies to address these challenges.

Each educational scenario is evaluated from the perspective of the impact on attitudes and behaviours, as well as from the perspective of increasing pupils' interest in pursuing scientific disciplines. Teachers are furthermore trained to implement the educational scenarios.

The PAFSE project was presented during the 2022 European Traffic Education Seminar. The recording is available at: https://bit.ly/3kQHAVW

[62] The Partnerships for Science Education (PAFSE) project received funding from the European Union's Horizon 2020 research and innovation program. More information on Horizon 2020 is available on the archived website: https://bit.ly/3RxQW3K. Horizon 2020 was followed up by Horizon Europe as the EU's funding program for research and innovation. https://bit.ly/3AFKtgh

[63] More information on the PAFSE project can be found on its website: https://pafse.eu/

[64] The scenarios will be made available in a repository on the Photodentro web-platform. https://bit.ly/3cWufaD

A large step forward for Spanish traffic safety and mobility education

In March 2022, a set of three royal decrees (primary, until 12 years of age; compulsory secondary, until 16 years of age; and secondary higher education) with nation-wide effect on the modernisation of the entire curricula at schools came into effect. It is regarded as a large step forward in terms of sustainable mobility education in Spain.

The new curricula provide an additional level of detail on the specific content regarding safe mobility education that all students must learn. More importantly, the learnings will be assessed at the end of each school year, as is already the case for core subjects as mathematics or geography.

The traffic safety and sustainable mobility objective in the new curricula for primary education is to "develop daily habits of healthy autonomous active mobility, promoting road education and respectful attitudes that affect the prevention of traffic collisions".[65]

For secondary education, the objectives are part of the learning goal to have an efficient and sustainable interaction with the environment, and include "respect for road rules in daily active traffic for a safe, healthy and sustainable mobility", as well as "the practice of cycling as a regular means of transport".[66]

Traffic education is not new in Spain. The first Spanish road traffic code of 1934 already stated that "teachers from all schools and colleges, both official and private, must teach their pupils the basic traffic rules and the need to rigorously observe them; warning them of the serious dangers they can be exposed to when playing on the carriageway of open roads, running carelessly out of education centres, jumping onto the rear cargo area of vehicles or on tram bumpers…".

Until now, road safety was a "cross-cutting" subject that was normally embedded in other subjects. However, to a large extent, it was up to each school – or even to each individual teacher – to invest more or fewer resources in education on safe mobility.

Main advances of the new curricula

There are three main advancements in the 2022 curricula. The first change alters the playing field for providers of safe mobility education. Previously, informal road safety education helped bridge a gap between what the school (or the teacher) was capable of teaching and the real situations in traffic that a child would encounter in their daily life. However, following the enactment of the new legal decrees, every provider of safe mobility education from outside the schools will have to adjust their programmes, and find new roles as they will no longer merely fill gaps, but instead will have to support, complement and reinforce the central role of schools and teachers.

The decrees change the "anything is better than nothing" approach to "it must enrich and anchor what has already been taught at schools by teachers". This applies not only to safe mobility foundations such as Fundación MAPFRE, but also traffic safety education units in local police agencies as well as all other stakeholders that have been supporting safe and sustainable education until now.

The second main change is that the safe mobility content will become part of the formal evaluation. This means that all children and youngsters will benefit from the education, not only those that were lucky enough to gain particular knowledge, skills and practice in after-school or voluntary activities offered by foundations or police.

The third major change is the connection between mobility and sustainability issues, health matters and social and gender equity needs. These important aspects were previously often disregarded in many road safety education activities, as the main or sole focus was the prevention of traffic injuries.

The new Spanish educational regulations on safe mobility were presented during the 2022 European Traffic Education Seminar. The recording is available at: https://bit.ly/3kNtWD3

[65] Royal Decree 157/2022, which establishes the organisation and minimum teaching of Primary Education. https://bit.ly/3qjfjGy

[66] Royal Decree 217/2022, which establishes the organisation and minimum teaching of Compulsory Secondary Education. https://bit.ly/3cSEm05

"Planet SDGs"

"Planeta ODS" ("Planet SDGs") is an educational programme from Fundación MAPFRE in which children and young people learn to prevent risks and which promotes safe, healthy and sustainable mobility in relation to the UN Sustainable Development Goals (SDGs).[67] Through online workshops for schools, it aims to make pupils aware of the importance of road safety by linking it to the Sustainable Development Goals as a model for responsible behaviour.

The "Planeta ODS" activity is divided into two main parts: My Safe World, which deals with risk prevention at home, and 3S Mobility on safe, healthy and sustainable mobility ("Segura, Sana y Sostenible"). These two parts are made up of digital workshops and are supported by novel and innovative resources, including:

- The Virtual Injury Prevention City.[68] An interactive platform in which one moves around a house and its surroundings, discovering the different risks that can be encountered, while at the same time receiving tips on the best ways to protect oneself. (The interactive platform is available in English, Spanish and Portuguese).

- Guided videos and mini games, in which interaction with the pupils is central, covering the use of personal mobility vehicles as well as safe, healthy and sustainable mobility.[69]

Source: Fundación MAPFRE

Source: Fundación MAPFRE

[67] More information on "Planet SDGs" can be found on its website: https://bit.ly/3sjUE3P
[68] The Virtual Injury Prevention City can be visited at: https://bit.ly/3yWIyCj
[69] The video on how to use a personal mobility vehicle can be watched here: https://bit.ly/2STSGei

MOVING STARS (MOVING Safely To All Roads)

This project aims to develop a professional program for primary school teachers to deliver traffic safety and mobility education lessons involving movement and game-based learning techniques. The project combines digital applications with "traditional" movement games containing sensorimotor, linguistic, cognitive, social, and emotional elements to promote a holistic approach to traffic safety, appropriate to the developmental stage of pupils between 5 and 14 years.

The project also aims to create a "STARS HUB" network of 100 pilot schools throughout Europe that will receive the "MOVING STARS BOX" Toolkit, consisting of a teacher's guide and supporting materials (videogames, board games, flashcards, training mats etc.) produced for the games.

Source: R.S.I. "Panos Mylonas"

The project objectives are to help students to:

- Improve movement skills proficiency through traditional and digital movement-based learning games in order to provide the foundations for safe and active movement (balance, coordination, running, stopping etc.).
- Develop and improve traffic safety skills required to stay safe as active road users (pedestrians/cyclists) and at the same time increase the pupils' knowledge and understanding of traffic rules and situations.
- Promote active mobility such as walking and cycling.
- Promote a "safety-minded" culture towards risk awareness and personal safety.
- Reduce the number of children injured and killed in road crashes on route to school or other daily routes.

Moving Stars is co-funded by the ERASMUS+ programme of the European Union and is coordinated by the Hellenic Road Safety Institute (RSI) "Panos Mylonas" with the participation of six organisations in five countries.[70]

Source: R.S.I. "Panos Mylonas"

The MOVING STARS project was presented during the 2022 European Traffic Education Seminar. The recording is available at: https://bit.ly/3KWIPxx

[70] More info on MOVING STARS can be found at the following link: https://www.movingstars.eu/

Now we walk to school

"*¡Ahora vamos andando al cole!*" (*Spanish for "Now we walk to school!"*) is a project by Fundación MAPFRE in collaboration with STOP accidents that not only aims to teach children (aged 8-12 years old) to become responsible pedestrians but to also give them a voice as road users through letters and drawings on their own experiences.

The pupils first attend an educational workshop, which focuses on the values of coexistence in a shared mobility space and safe road behaviour. In the fourth edition of the activity, 20,626 pupils were reached through 878 workshops.

Following the workshop, schools can then decide to enter a contest in which their pupils write a letter or make a drawing in which they can provide road safety advice to their families, the municipality and the general population, based on how they experience their daily commute to school.

In her drawing, the winner for the age group 10-12 years old raised awareness of the importance of choosing to walk if possible, and showed it as the most sustainable and respectful mobility mode in comparison to other modes.

Finalists from the communities win a bicycle and a helmet, while the top two drawings or letters at the national level win a trip for the whole class.

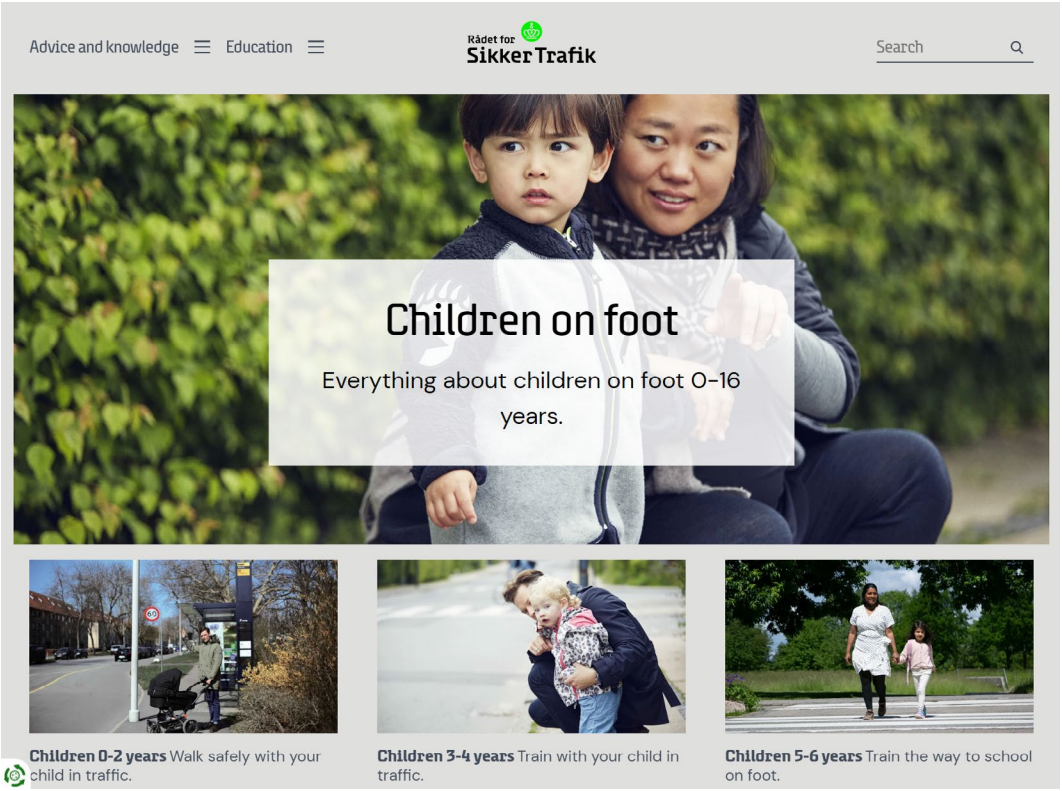
CEIP de Prácticas A Coruña, Amalia, 11 years old

Supporting Danish Parents

It is important that parents continue with what has been taught at school. The Danish Road Safety Council therefore provides detailed information and guidance for parents on its website regarding walking[71], cycling[72] and taking the bus[73]. The information and guidance on walking and cycling is furthermore provided per age category.

For example, the information on cycling for 5 to 6 years focuses on how parents should go about training children on how to cycle their specific route to school, and provides tips for choosing a bicycle that suits their child. The information for 10 to 12 years discusses, among other things, how to assess whether the child is ready to cycle alone.

Parents can also sign up for a free-of-charge digital newsletter that provides knowledge, tips and exercises for children and youngsters aged 0-18 years old. The Danish Road Safety Council sends the newsletter out three times a year and it is adapted to the age of the child.



Source: Danish Road Safety Council

The Danish Road Safety Council's webpage on walking with children, translated from Danish.

[71] The information for parents on walking can be found here: http://bit.ly/3Zsg1Bm
[72] The information for parents on cycling can be found here: http://bit.ly/3ygQS0E
[73] The information for parents on taking the bus can be found here: http://bit.ly/3IVG2Sn

PART III

PROMOTING SAFE AND ACTIVE TRAVEL TO AND AROUND SCHOOLS

In addition to providing education, there are other actions that can be taken to improve and promote safe and active mobility to and from schools as well as around them. This part focuses on the measures that schools and parents can take, while Part 4 of this report looks at the measures that other stakeholders, notably national and local authorities, can take.

3.1 PROMOTING SAFE AND ACTIVE TRAVEL TO AND AROUND SCHOOLS

3.1.1 Schools should develop a Traffic Safety and Mobility Policy

All schools should have a traffic safety and mobility policy. On the one hand, this policy facilitates the provision of education on safe and sustainable mobility (see section 2.1.2), as it should include an education plan setting out, for the school year, what lessons on road safety and sustainable mobility they will teach in which grade. This should also include how parents are involved in the education.

On the other hand, the school's traffic safety and mobility policy should set out how traffic safety around the school is ensured (see the next section) as well as how safe and environmentally-friendly transportation can be ensured for school trips. It should also cover the wider perspective on school ethos and environment, for example, by taking into account how traffic safety and mobility attitudes are influenced (e.g. underlining the importance that school staff model appropriate road safety behaviours and attitudes).

The policy should be revised and updated every year, and should be developed in cooperation with all relevant partners, such as the municipality, police, community, parents and students. The policy should be publicly available, for example by publishing it on the school or kindergarten website.[74]

3.1.2 Improving safety around schools to encourage active mobility

There are many measures that can be taken to improve safety around schools, which should lead to increased real and perceived safety. Improving real and perceived safety in turn supports the promotion of the uptake of active modes of transport. Many of these measures fall under the responsibilities of others, such as the technical departments of municipalities (see Part IV). There are however several measures and actions that schools can do and/or advocate for.

One measure available to schools, for example as part of its traffic safety and mobility policy, is to develop safe walking and cycling routes in a wide area around their school. The schools should not only inform the pupils about these routes, but also actively involve them (and their parents as well as the municipality) in the establishment of these safe routes.[75,76]

A high volume of traffic at the school gates can lead to risky traffic situations as well as higher levels of pollutants – precisely when a large number of children are there. Unfortunately, these risks often encourage parents to decide to transport their children by car – which exacerbates the problem. Moving cars away from the streets when most pupils are arriving or leaving school improves road safety, air quality and creates a better atmosphere at the school gates.

Schools could therefore ask the municipality to implement a 'school street'. These are streets where motorised traffic is restricted at the start and end of the school day. It is indicated with a special road sign and specific rules apply to drivers and riders – both motorised and non-motorised – in the street.[77] Schools should also ask authorities to implement 30km/h zones in their vicinity as well as signs and other infrastructure elements that alert road users that they are approaching a school. If several schools

[74] For more information and best practice examples on supporting school management and the implementation of a traffic safety and mobility policy, see Key Principles 5 and 6 in: ETSC (2020), LEARN! Key Principles for Traffic Safety and Mobility Education. http://bit.ly/LearnKeyPrinciples

[75] For more information on traffic safety and mobility policies, see Key Principle 6 in: ETSC (2020), LEARN! Key Principles for Traffic Safety and Mobility Education. https://bit.ly/LEARN-KP6

[76] Municipalities may have data available that allows them to analyse which routes children take to walk or cycle to school. This would in turn allow them to ensure the safety of those roads, intersections and crossings the children use to get to and from school.

[77] For more information on school streets, see section 3.2 on best practice examples.

Source: DennisM2 on flickr

are located in the same area, they could also arrange with the municipality to have staggered starting times, thereby avoiding attracting traffic at the same time.

Other measures that schools can request from municipalities which would stimulate walking and cycling to school include facilitating bicycle storage and ensuring that cars are parked at an appropriate distance.

Schools should furthermore request that municipalities restrict access for heavy duty vehicles in their surroundings. If such access for heavy duty vehicles is temporarily necessary, for example for construction in the neighbourhood, then agreements should be sought to ensure the heavy vehicles do not drive in the vicinity of the schools at start and finish times.

Schools should also encourage parents to walk or cycle with their children to school or to facilitate that their older children go to school by bike or foot, if it is safe to do so. In addition to awareness raising and education, section 3.2 sets out several projects that focus on encouraging walking and cycling to school.

3.1.3 Encouraging parents to walk and cycle to school

As mentioned in the previous section, parents should be encouraged to walk and cycle with their children to school, if it is safe to do so. This helps with both reducing CO2 and congestion and it can improve the physical and mental health of the children. In addition, it allows children to become more aware of their surroundings, develop road safety skills and learn to anticipate other road users' actions.

Projects and campaigns could therefore focus on getting parents to walk and cycle, with an emphasis on doing so safely and where it is safe to do so. Just like their children, parents may also benefit from receiving cycling lessons. Such lessons may allow parents to discover (or rediscover) cycling, get a taste for it and start using it more often.

As parents may bring their children to school on their way to work, projects and measures could also focus on promoting walking and cycling to work. Authorities and employers could furthermore provide incentives for going to work by foot, bicycle or public transport, instead of the car, which may contribute to fewer parents dropping their children off at school by car.

Another possibility is for parents to be involved as 'traffic parents' at the school. These traffic parents are contact persons at schools who act as the link between the school, parents, the municipality, the police and other organisations. In addition to helping enhance the safety around the school, for example by pointing out unsafe situations in the school's environment and contributing to enhancing the safety of the routes from home to school, traffic parents can also assist with organising activities on traffic safety and sustainable mobility for pupils, and help organise practical assessments, such as cycling tests. In addition, they are the school's contact for providing information for newsletters on the subject of safe and sustainable behaviour, and they can participate in meetings with the municipality.

Not only parents, but also other family members can be involved in such a capacity, for example when grandparents play an important role in the transportation to and from school.

There are many more ways in which parents (and other family members) can contribute to promoting safe and active mobility. The next section sets out several examples, including of parents organising themselves to walk or cycle their kids to school together (walking or cycling school bus).

RECOMMENDATIONS TO SCHOOLS

- Develop, and update annually, a traffic safety and mobility policy.
- Develop, with the involvement of pupils and the municipality, safe walking and cycling routes to school covering a wide area around the school.
- Encourage parents to walk or cycle with their children to school, if it is safe to do so, and to become a 'traffic parent'.
- Ask the municipality for road safety improvements in the vicinity of the school as well as for other measures that would stimulate walking and cycling, such as school streets and 30km/h zones.

RECOMMENDATIONS TO LOCAL GOVERNMENTS

- Develop, with the involvement of schools and pupils and based on an analysis of available data, safe walking and cycling routes to schools.
- Implement 30km/h zones and school streets near schools.

RECOMMENDATIONS TO NATIONAL AND LOCAL GOVERNMENTS

- Design and implement walking and cycling safety strategies which include targets and measures to improve the safety of pedestrians and cyclists and promote those active modes.
- Ensure schools develop and update their traffic safety and mobility policy.
- Encourage and incentivise parents to walk or cycle with their children to school, if it is safe to do so.
- Ensure traffic safety and mobility education, notably on safe walking and cycling in practice, is also available for adults.
- Restrict the circulation of heavy-duty vehicles in the vicinity of schools, at least when the school day starts and ends.

3.2 BEST PRACTICE EXAMPLES

School Streets

School streets are car-free areas outside schools. Roads are closed to vehicles or they have severely restricted access, normally just for a short period at the start and end of the school day. Some school streets are permanently car-free. In response to the COVID-19 pandemic and motivated by the need to create additional street space, school streets, which are relatively low-cost and can be trialled relatively quickly with basic materials, were expanded rapidly. 2020 saw exponential growth, with the total number increasing to over 1000 school streets around the world, with over half of these in the UK (the majority in London), but also large numbers in Belgium, France and Italy.[78]

A European wide campaign, the Clean Cities Campaign, promotes the introduction of school streets and has developed a toolkit for local administrations to help with their introduction.[79] Cities such as Paris have introduced school streets as part of a wider package of measures across the whole city, such as standard 30km/h speed limits, new cycling routes, and more priority for pedestrians.[80] In Brussels, the regional government promotes the school street model[81] and also provides subsidies to local authorities to introduce them.[82]

As the Climate Strike movement shows, young people are often at the heart of protests about emissions and are frequently involved in the development of school streets.[83] For example, pupils addressed Council meetings on school streets and the climate emergency in Haringey (London), or supported the roll-out of the scheme, such as speaking to people at the road closure barriers in Zwolle (Netherlands), or taking part in participatory workshops in Paris.

Source: VSV / Dirk Gabriels

[78] Child Health Initiative FIA (2022), School Streets Putting Children and Planet First: A political economy analysis of the rise of school streets in Europe and around the world. https://bit.ly/3y8hpOB
[79] Clean Cities Campaign (2022), School Streets to shape child-friendly cities. https://bit.ly/3oAWQrL
[80] Child Health Initiative FIA (2022), School Streets Putting Children and Planet First: A political economy analysis of the rise of school streets in Europe and around the world. https://bit.ly/3y8hpOB
[81] Brussels Region (n.d.), DIY - Rue scolaire/DIY – Schoolstraat. https://bit.ly/3s8N1A5
[82] Brussels Region (n.d.), Funding scheme for road safety projects around schools (school streets) in 2023. https://bit.ly/3pZtGD0 (FR) / https://bit.ly/425RAdA (NL)
[83] Child Health Initiative FIA (2022), School Streets Putting Children and Planet First: A political economy analysis of the rise of school streets in Europe and around the world. https://bit.ly/3y8hpOB

Implementing Heart Zones to Increase Walking and Cycling to School

The *Heart Zone* Project

"Hjertesone" (Norwegian for Heart Zone, in the meaning of a safe and healthy zone) is a national initiative and a collaboration between the Norwegian Council for Road Safety (the project manager), the Norwegian Public Roads Administration, the Directorate of Health, the police, the Cyclists' Association, the Environmental Agency, and the Parent Committee for primary and lower secondary education. All the actors are dedicated to promoting children's safety and health on the way to school.

The purpose of a *Heart Zone* is to eliminate or reduce the car traffic related to bringing and picking up children within the *Heart Zone*, so that it becomes safer for children and adults to cycle and walk within the zone. This can mean that traffic is regulated around the school and that smaller changes to the infrastructure are made in the school's surroundings. However, the main emphasis is on behavioural and attitude measures that reduce parental driving to and from school and that inspire more people to cycle and walk.

Traffic safety and mobility education are a natural part of the project. The target is to help increase road safety around the school and improve the health of the pupils. Children who walk and cycle to school are physically active, which is good for public health and learning – as well as good for the environment.

There is no ready-made recipe for a *Heart Zone*. Measures must be adapted in a natural and sensible way with respect to the traffic environment and the opportunities that exist at each school. A *Heart Zone* is not a complete product, but a process consisting of small and large measures. Some measures can be put in place quickly, while others can be more demanding and may take longer to implement.

There is no need for a formal political decision by the municipality to establish *Heart Zone* schools. Each school can start work on their safe zone independently. Experience shows that there are both pros and cons in making political decisions to establish the Heart Zone at all schools.[84]

The evaluation of the *Heart Zone* project

In 2019, a study was conducted based on the implementation of a *Heart Zone* for a school in Drammen,[85] while in 2020, a report from Bergen was prepared that contained the information necessary to get started with the *Heart Zone* work in a good and efficient manner.[86] The working document was prepared for use by municipalities, school planners in connection with the reconstruction and planning of new schools, as well as school management, parents and student councils who want to implement a *Heart Zone* at their school.

On behalf of the Norwegian Council for Road Safety, TØI has carried out an evaluation of the project so far, before it enters a further phase.[87] As part of this TØI evaluation, the *Heart Zone* programme was evaluated both qualitatively and quantitatively.[88] The qualitative evaluation was based on focus group interviews and individual interviews with representatives of the steering and project group as well as school management and parents at selected schools. In addition, a quantitative survey was conducted among representatives of school management and parents.

The overall impression from the interviews was that there are varying experiences of how well Heart Zones have worked. Nevertheless, several schools felt that heart zone work has been a valuable contribution to traffic safety work, and that the measure has had positive effects.

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[84] See page 117 of the LEARN! Manual for more information on the advantages and disadvantages of a top-down approach for implementing measures in the context of the Heart Zone implementation. ETSC (2021), The LEARN! Manual for Developing and Evaluating Traffic Safety and Mobility Education Activities. https://bit.ly/learn-manual

[85] Norconsult (2019), Evaluering av Hjertesoneprosjektet ved Øren skole I Drammen commune. https://bit.ly/433W8T4

[86] Norconsult (2020), Hjertesone arbeidsdokument, Bergen. https://bit.ly/3BQSxeT

[87] TØI (2022), Prosessevaluering av Hjertesoneprosjektet i Bergen. https://bit.ly/3BghNM7

[88] For more information on evaluating activities on traffic safety and mobility education, see Step 8 on evaluation in the LEARN! Manual. ETSC (2021), The LEARN! Manual for Developing and Evaluating Traffic Safety and Mobility Education Activities. https://bit.ly/learn-manual

An explanation for the varying experiences observed among schools could very well be the different starting points of the schools for introducing the measure. For certain schools, the infrastructure and traffic environment around the school made it possible to establish a Heart Zone without major physical measures, whereas for other schools it made it difficult to find good solutions. An important element for success from the project is that the Heart Zone is incorporated into the municipality's formal processes, so that facilitation for Heart Zones is included as part of the planning of new schools.

While the evaluation showed that there are both advantages and disadvantages to the project being initiated on the basis of a political decision, it also showed a clear advantage resulting from the measure being anchored in the school's management. This anchoring is considered important by the evaluators, as it has contributed to the measure being incorporated into the school's routines: it is put on the agenda, mentioned in communication to parents and in parents' meetings.

The evaluation's interviews furthermore emphasised that Heart Zones had contributed to raising awareness about traffic safety and the driving culture among school employees and parents. Some schools found that Heart Zone had also contributed to less traffic chaos around the school and fewer people driving. This was confirmed by the results of the evaluation survey, which showed that most respondents had a good knowledge of what a Heart Zone is and where drop-off zones were located. A not insignificant proportion also reported that they drive less, and instead walk and cycle more, as a result of the school being given a Heart Zone, while some respondents also indicated to have become more aware of vulnerable road users. However, the evaluation also points to potential for improvement with regard to further implementation of the Heart Zone. This is primarily about the framework for the project not being defined in advance, that a thorough enough assessment had not been made to identify resource needs in the municipality in advance, and that mapping of the schools' needs was done along the way. A prior impact assessment would likely have helped to clarify the need for resources and at the same time would have helped clarify to school employees and parents what the project should be.

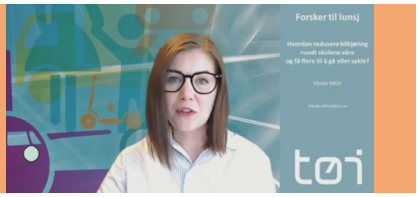
Source: Norwegian Council for Road Safety

The Heart Zone symbol is sometimes marked on the ground or, as pictured, on a sign.

Source: Norwegian Council for Road Safety

An example of how the heart zone can be marked on the map, although the zone is not always formed like a heart as pictured. The red hearts indicate drop off places.

The Heart Zones project was presented during the 2022 European Traffic Education Seminar. The recording is available at: https://bit.ly/3kNtWD3



Replacing a School Bus with a "Bike Bus"

In several European cities, children have the opportunity to go to and from school by "bike bus", which is a group of children (accompanied by parents and other adults, depending on their age) cycling together. Similar to the motor vehicle equivalent, it follows a set route and has stops and a timetable. The route is chosen in line with where the families live so that children can join the bike bus on the way to school.

The "bicibus", as the bike bus is called in Vic, close to Barcelona in Spain, was initially established to accompany nine children on a busy and polluted street.[89] It has since become a much larger project, with 40 new lines launched in the Barcelona Metropolitan Area since 2020, and over 900 children and adults cycling.

The bicibus project cites practicing active mobility on the way to school as a way to increase the children's perception of safety as a key advantage. Other advantages include promoting sustainable mobility, better physical and mental health as well as happier children, fewer cars on the road, improving skills by riding in the real traffic environment, and the involvement and collaboration of the educational community.

A bike bus was also introduced at a primary school in Glasgow, following a suggestion by a parent who was inspired by the bike bus in Spain.[90] Having initially started with five families, the number of riders increased to around 50. But this posed a problem when navigating a particular junction. To address this problem, the city council's traffic management service provided the bike bus with a wireless remote control that, while mounted on the lead rider's bike, provides a signal triggering a specially timed traffic light cycle that is longer than the usual 45 seconds, allowing all children to navigate the junction together.

At a school in Brussels, a bike bus was introduced as an alternative to the school bus taking children to the swimming pool once a week.[91] A third of the children participate in the bike bus and not having a bicycle is cited as one of the main reasons for not participating.

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[89] Bicibus. https://bit.ly/3NiXQL8

[90] The Guardian (2022), 'It's a bit of freedom': traffic-stopping tech helps Glasgow school's bike bus on its way. https://bit.ly/445vlB9

[91] Brussels by Bike (n.d.), Twintig leerlingen kozen voor de 'fietsbus' om naar het zwembad te gaan. *Twenty pupils chose to go to the swimming pool by 'bike bus'*. https://bit.ly/41CE6Xa

Flemish Charter on construction traffic

The Charter on Construction Traffic is a project of the Flemish Foundation for Traffic Knowledge. Municipalities in Flanders (Belgium) can cooperate with the construction sector to maximise the safety, liveability and accessibility of their schools' environments during private and public construction works of buildings and roads in their neighbourhoods, by signing the Charter together with three associations representing different companies in the construction sector.

By signing the Charter on construction traffic, the municipalities and associations commit to the following.[92]

- The municipality commits to active communication with construction companies and contractors about construction traffic near schools. Furthermore, municipalities commit to establish a central contact point for questions contractors may have. The contact point also looks – together with contractors – into alternative routes for the construction traffic, with the aim of avoiding as far as possible routes to schools as well as routes where there are high numbers of vulnerable road users.
- No tractors are to be used inside the municipality's urban areas and in the vicinity of their schools, unless exempted.
- No construction traffic for construction sites located in the vicinity of schools is permitted, when these start or end. Construction companies and contractors commit to inform their suppliers and transporters of the (implications of the) charter.
- Construction traffic should use the main roads as much as possible.
- The routes for construction traffic are to be kept clean.
- Loads are to be covered if these are prone to create nuisance due to dust.

Out of the 300 Flemish municipalities, 99 have already signed the Charter. When a municipality signs the Charter, the associations representing the construction sector are automatically informed and will inform their members accordingly.

Municipalities are furthermore encouraged to develop, together with the schools, maps setting out school routes, to help with providing alternative routes to the contractors. Municipalities are furthermore encouraged to include a copy of the Charter when issuing building permits, as well as to inform residents and schools about major works and ask them to report any non-compliance with the Charter to the central contact point. Moreover, municipalities are encouraged to lead by example by applying the Charter during public works, notably by indicating where school routes are and when construction traffic is not allowed.[93]

Source: VSV

Charter on Construction Traffic. Together for a safe school environment.

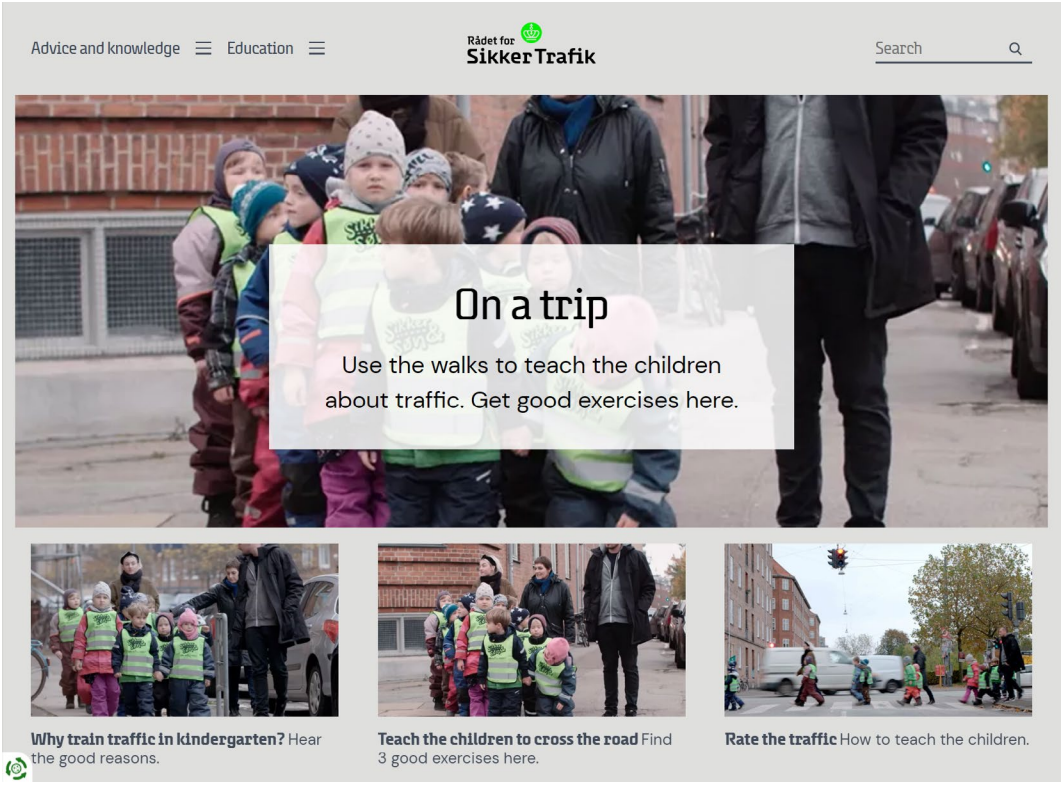
[92] The text of charter can be found (in Dutch) at the following link: https://bit.ly/3TMoJrC
[93] More information on the Flemish charter on construction traffic can be found on the following website: https://bit.ly/3wXvywC

Recommendations for kindergartens to take children for walks (safely)

The Danish Road Safety Council recommends that kindergartens use every day walks to teach children about traffic. They provide recommendations on how to teach children to walk safely (and travel safely by bus), as well as how to practise crossing the road safely.[94]

They also provide activities for when the children are a little bit older – and have practiced walking often – that increase the difficulty level a little bit, for example how to cross smaller, low traffic volume intersections without lights, or how to walk along roads where there is no pavement.

A kindergarten's traffic safety and mobility policy could, among other things, include guidelines on how children and pedagogical staff should behave in traffic when they are out on walks, as well as how parents can avoid traffic chaos in the morning (rules for parking cars, prams, bicycles, etc.).



Source: Danish Road Safety Council

The Danish Road Safety Council's webpage on recommendations for kindergartens to take children for walks safely, translated from Danish.

[94] Danish Road Safety Council (n.d.), Børnehave - På tur. http://bit.ly/41QckXW

Counting the Shift to more Walking and Cycling with 'Telraam'

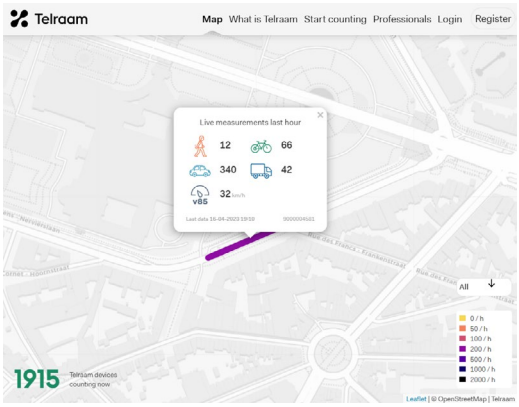
Telraam (Dutch for *abacus*[95]) is a device that can be mounted to windows and that automatically counts how many pedestrians, cyclists, cars and heavy vehicles are moving through the street.[96] The data collected is then made publicly available with a view to also being used by policy makers and authorities to make infrastructure, traffic lights and traffic management plans more efficient and effective.[97]

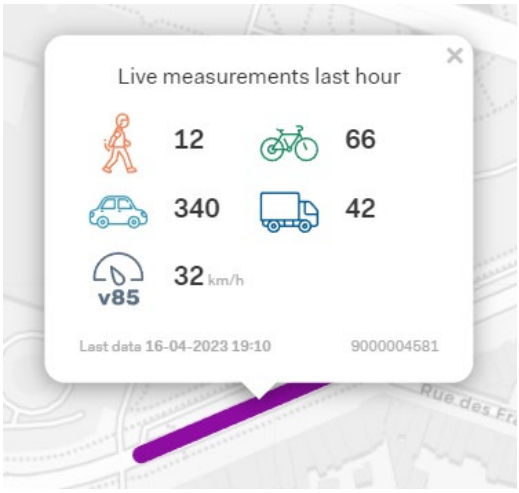
Schools can also use the *Telraam* to automatically count how many parents are walking and cycling with their children to school. They can use it to, for example, measure whether activities focused on encouraging walking and cycling to school are having an effect, without the need for manually counting every morning and afternoon.

The *Telraam* can also estimate the speed distribution of car traffic as well as the 85th percentile speed. This data can be particularly useful for schools and kindergartens that want to ask the authorities to set a 30 km/h zone or speed limit around their school, or for better enforcement if one is already established.

Source: www.telraam.net

The Telraam S2 device counting the number of road users per category. This device will, in the near future, also be able to more precisely differentiate between types of road users, with the heavy vehicles category for example being further differentiated into vans, trucks, buses, trailers and tractors.





Source: www.telraam.net

The map on the Telraam website, showing the live measurements of the last hour per device.

[95] As well as a play on words on 'count' (*tel*) and 'window' (*raam*), as the device is placed on an interior window.
[96] More information on *Telraam*, which was developed with the support of Belgian and European Union funds, is available on the following website: https://bit.ly/3AY4b7c
[97] For a map of live counters, visit the following website: https://bit.ly/3D0tfgu

Using a Digital Map to Register Pupil's Routes and Hazardous Locations on them

The Dutch website schoolroute.nl allows pupils from several provinces to register their route from home to school using Google Maps.[98] It also allows the pupils to indicate troublesome or hazardous locations on the route and asks them several questions about these locations.

Teachers can subsequently base their road safety lessons on these routes and the highlighted locations, allowing for these hazardous locations to be discussed with all pupils. Schools in turn gain insights into the pupils' routes, while authorities can use the registered routes and hazardous locations when making changes to the infrastructure.

Brussels Motivates Schools to Encourage Active Mobility

Recognising that many children are dropped off and picked up at schools by car, the Brussels Region motivates schools and kindergartens to adopt a school mobility plan to encourage children and their parents as well as teachers and school personnel to use the active modes instead, with a focus on doing so safely.[99]

During the first year, a team comprised of teachers, school personnel, pupils and parents, supported by an external coach, develop the mobility plan. They first analyse how children and adults travel to the school, and subsequently set school-specific goals and plan activities accordingly. Using the mobility plan, schools can request dedicated support from the authorities as well as materials and activities.

One such activity is Good Planet's "the first steps in our neighbourhood", in which pupils in kindergartens learn, through a 'sensory walking adventure' in the school's surrounding environment, to participate safely in traffic as pedestrians.[100]

Since the start in 2006, more than half of the schools in the Brussels region have implemented a mobility plan, of which two-thirds still actively participate in the project.

Checklist of Measures to be Considered for an Action Plan "Safe to School"

The Flemish Foundation for Traffic Knowledge (VSV) guides and inspires schools in Flanders and Brussels (Belgium) to make their surroundings and cycle routes to them, safer. The aim is to have more children go to school by bike – and fewer by car.

VSV uses the measures included in the checklist set out on the following pages as a guide to create a custom-made action plan for each school. In the checklist, attention is paid to infrastructure, education, awareness raising and enforcement, and tasks are included for schools as well as the municipality and the local police. The custom checklist will contain ten concrete actions at most, and it should be possible for at least half of them to be realised within a year. The content of each action plan therefore also differs.

[98] Schoolroute.nl https://bit.ly/43YIktX

[99] Brussels Mobiliteit/Bruxelles Mobilité (n.d.), Schoolvervoerplan (SVP)/ Les Plans de Déplacements Scolaires (SPD). https://bit.ly/447v5Ha (NL) / https://bit.ly/3LtZdp4 (FR)

[100] Good Planet (n.d.), De eerste stapjes in onze wijk. https://bit.ly/3NfMtDD

TOP PICKS

For schools:

- Provide traffic safety and mobility education with a focus on practical training
- Allow pupils travelling by bicycle to leave first when school ends
- Communicate via your website, social media, on Smartschool (a digital platform for schools in Belgium), at school gates, etc. "Brag about what you do!"
- Have a working group with "traffic parents" and (traffic) teachers
- Involve children: through the student council as well as during activities (ask them for their opinion, put a camera on their helmets and discuss the footage with the whole class afterwards, let them pimp/colour the street in front of the school, …)
- Create a map indicating parking places, pedestrian walkways, time to school in minutes and seconds (verified by an adult measuring the time taken while walking hand-in-hand with a toddler)
- Make the school building and its terrain more visible (e.g. flags, art work, etc)
- Provide bicycle storage (covered and protected), for children AND parents AND teachers
- Draw a scaled down road layout on the playground
- Consider whether the gates/entrances to the school could be changed or spread out[101]
- Provide stickers with a message/call for action for the bikes of children and the cars of parents
- Make a playful video (made by the teachers) about what goes wrong around the school
- Measure the modal split before and after the implementation of the action plan (including before and after pictures of the morning and evening rush hour). For example by using Goodplanet's 'goodschool digitool'[102]
- Install a Telraam at school to count traffic of all types in the street where the school is located (See the example on page 37)

For school and police:

- Conduct a "1-2 action" focused on illegal parking of cars. During the first week (1), the school raises awareness on the issue, while the police fines offenders during the second week (2)

For police:

- Monitor the rush hour in the wider school environment using a drone

For the municipality:

- When removing parking places, always show with a plan exactly why you need these spaces (e.g. for bicycle parking for parents, trees, benches, etc)
- Implement pedestrian crossings, or change them (move, shorten, install lighting, etc)
- Create safe paths (for both walking and cycling): pave the road and install lighting
- Distribute signs to hang from saddles with encouraging or inspiring texts or reflectors for bicycle spokes

[101] During the COVID-19 period, many schools spread out their entrances, with younger children entering through one gate and older children through another. This has led to less crowding in just one spot before and after school hours.

[102] The website "GoodSchool DigiTool" is a tool that allows schools to collect data on energy, water, mobility, garbage and/or food. Teachers and pupils can collect and analyse the data together and can subsequently come up with measures to improve sustainability of the school. http://bit.ly/40dt49g

- Introduce a school street or a bicycle street
- Install 30 km/h zone entries, including not only a sign, but also road markings and traffic calming measures
- Install anti-parking measures for pavements: kerbs, poles, etc.
- Consider the placement of school bus parking (preferably not in front of the school or parents will park their car there when there is no bus)
- Provide school bicycles
- Sign the Charter on construction traffic (see example on page 35).
- Do not install post boxes, glass recycling containers, etc., near the school
- Make weekly routes (to libraries, swimming pools, etc.) safer and more convenient for walking and cycling
- Conduct tests with cheaper temporary infrastructure elements (e.g. concrete blocks) to verify (over several months) whether a new infrastructure plan works, prior to installing permanent (and more expensive) infrastructure elements.
- Improve the safety of cycling routes to school
- Establish a map with safe routes to school, including cycling intersections
- Increase the space for (grand)parents to wait for their children

For municipalities and police:

- Provide support to schools (providing school bicycles, reflective vests. Also includes permanent signs indicating the route of the annual bicycle test, that reduces preparation efforts for schools and allows children and parents to practice all year round)

ADDITIONAL OPTIONS

For schools:

- Support foot and bike busses (see example on page 34)
- Have teachers act as role models (e.g. when travelling to school)
- Ask parents for their opinion on new measures or tests at school parties (e.g. by letting them place stickers on an axis ranging from “very bad” to “very good”)
- Adjust school hours
- Hold informal meetings with neighbours
- Have a traffic mascot
- Implement visibility measures
- Inform pupils and parents about public transport options
- Reward good behaviour
- Participate in the annual car-free school day

For schools and police:

- Conduct checks of bicycles and their lighting

For police:

- Provide additional traffic lessons for youngsters between the age of 12 and 18 (after school hours, for example if they are found without lights on their bike)

For municipalities:

- For pedestrians:
  - Place or improve pavements
  - Map walking routes to school, and adjust infrastructure to them
  - Make infrastructure more colourful (e.g. tiles painted by children)

- For cyclists:
  - Place or improve cycle paths
  - Create places where cyclists can safely cross the street
  - Place dedicated infrastructure elements (e.g. a sign) that warn drivers that the dedicated cycling path stops and that cyclists will start riding on the street
  - Lease bicycles for teachers

- For public transport:
  - Ensure the bus stops are safe
  - Ensure the timetable for buses is convenient
  - Ensure the walking routes from the bus stop to school are safe

- For passenger cars:
  - Implement traffic calming measures to reduce speeds
  - Reorganise parking to eliminate traffic looking for parking places that do not exist

- Other:
  - Adjust traffic circulation
  - Maintain landscaping (planting, (re)moving, pruning)
  - Place reflectors on the roads
  - Adjust street lights

For municipalities and police:

- Train and use more supervisors
- Provide a mobile traffic course or cycling skill course, for schools to borrow for their playgrounds for a short period

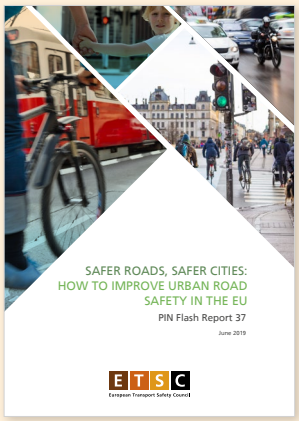
PART IV

ENABLING SAFE AND SUSTAINBLE TRANSPORT AROUND SCHOOLS

This part focuses on other measures that can be taken to improve the safety around schools and enable sustainable transport to and from it. Municipalities in particular can have a significant influence on stimulating safe walking and cycling to schools, for example by taking into account that schools are located in places allowing for safe school-to-home routes, facilitating cycle storage, and implementing 'school streets'.

Although these are not educational measures, the measures listed in this part are prerequisites for facilitating safe walking and cycling, which in turn allow lessons on these active modes of transport to be more effective at schools and allow for safe walking and cycling to school.

This part provides a concise overview of measures and recommendations to improve urban road safety – and in particular the safety of pedestrians and cyclists – with the most relevance to improving the safety around schools. More information and recommendations are available in the ETSC PIN Flash Report 37 on improving urban road safety[103] and in the ETSC PIN Flash Report 38 on improving the safety of walking and cycling.[104] More information on improving the road safety of children can be found in ETSC PIN Flash Report 43.[105]



bit.ly/PIN-Flash37

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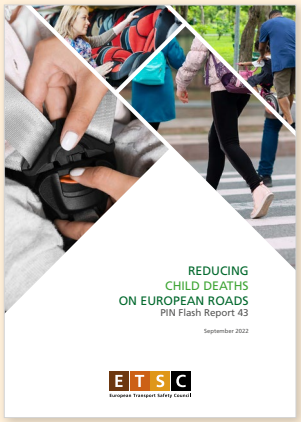

bit.ly/PINFlash43

[103] ETSC (2019), PIN Flash Report 37. Safer roads, safer cities: How to improve urban road safety in the EU. https://bit.ly/PIN-Flash37
[104] ETSC (2020), PIN Flash Report 38. How safe is walking and cycling in Europe? https://bit.ly/PINFlash38
[105] ETSC (2022), PIN Flash Report 43. Reducing child deaths on European roads. https://bit.ly/PINFlash43

4.1 STRATEGIC PLANNING

Encouraging walking and cycling, and teaching children and youngsters about how to do so safely, should not be standalone activities. Promoting an increase of walking and cycling may lead to an increase in road deaths and serious injuries among pedestrians and cyclists, if no robust risk reduction measures are taken.[106] It is therefore important that both the encouragement of using active modes of transport and the lessons provided to the children, are done as part of a strategy (including measures and actions) that also aims to improve and ensure the safety of cyclists and pedestrians.

4.1.1 National Strategies

As mentioned previously in this report, real and perceived safety has a profound effect on modal choice especially in terms of the most sustainable modes of travel – walking and cycling. It is therefore vital that road safety is integrated as a main issue in the common vision of mobility. This vision should have vulnerable road users as a focus. Meeting the demands of the most vulnerable road users – children as well as the elderly and people with reduced mobility – will not only help to achieve the highest safety standards, but will also help all road users to profit from a much safer urban environment.

Effective strategic planning for pedestrian and cyclist safety should include the following elements:

- setting targets;
- setting priority areas;
- establishing a proactive approach;
- involving all relevant stakeholders in the preparation and execution of the plans;
- setting clear responsibilities and deadlines for delivery;
- dedicating an appropriate budget.

Governments may include some pedestrian and cyclist safety measures in the national road safety strategies. In addition, some countries develop and implement specific national walking and cycling strategies.[107,108]

National governments should furthermore adopt a separate target for reducing road deaths and serious injuries among children and develop accompanying measures. They should also set indicator targets for child road safety in their national road safety strategies.[109]

4.1.2 Local Strategies and Sustainable Urban Mobility Plans (SUMPs)

70% of reported pedestrian deaths and 57% of reported cyclist deaths in the EU occur on urban roads.[110] Therefore, cities, towns and villages have a major role to play in improving pedestrian and cyclist safety.

Cities have the potential to become road safety frontrunners, going beyond national or EU legislation and actions on road safety by adopting and implementing a local road safety strategy and vision, which should be based on the Safe System approach and should include road safety targets. Setting ambitious local targets is an example of a good initiative already being undertaken.

Targets motivate local stakeholders to act and help those responsible for the road transport system to be accountable for achieving defined results. This can include specific targets for the reduction in the number of road deaths and serious injuries, indicator targets (e.g. the proportion of vehicles driving within the speed limit) and road user perception surveys (e.g. whether people feel safe while using different modes of transport).

Since the adoption of the European Commission's Urban Mobility Package in 2013, the Sustainable Urban Mobility Plan (SUMP) concept has been promoted as a strategic

[106] ETSC (2016), The European Union's Role in Promoting the Safety of Cycling. http://bit.ly/2UD06iD
[107] ETSC (2020), PIN Flash Report 38. How safe is walking and cycling in Europe? https://bit.ly/PINFlash38
[108] For an overview of national cycling strategies across Europe, see: ECF (2022), The state of national cycling strategies in Europe (2021). https://bit.ly/3Aogx9D
[109] ETSC (2022), PIN Flash Report 43. Reducing child deaths on European roads. https://bit.ly/PINFlash43
[110] ETSC (2020), PIN Flash Report 38. How safe is walking and cycling in Europe? https://bit.ly/PINFlash38

planning instrument for local authorities. The European Commission has since updated the SUMP guidelines[111], accompanied by topic guides, including a guide on road safety.[112]

The European Commission adopted a new Urban Mobility Framework including actions on road safety in December 2021.[113] The SUMP Guidance will be updated again as part of the New Urban Framework to increase walking and cycling further. The proposed TEN-T Regulation also calls for an increase of modal share of active modes and public transport in 'urban nodes'.[114]

As part of the European Commission's proposal to revise the TEN-T regulation is that 424 major cities that are located on major European roads ('urban nodes') will be required to produce Sustainable Urban Mobility Plans (SUMPs) by 2025 – which should result in improved road safety provisions in those cities that haven't yet put such plans in place.

A number of local authorities in the EU have started working on preparing and implementing SUMPs, but improvements are needed to ensure that these plans are closely linked with road safety priorities. Integrating road safety, in particular for pedestrians and cyclists, in all the steps of a planning and implementation cycle would ensure that the main road safety problems and the key stakeholders necessary to tackle them are identified.

EU AWARDS FOR SUSTAINABLE CITIES

During the annual European Mobility Week, the European Commission presents the EUROPEAN**MOBILITY**WEEK Award to recognise local authorities who have demonstrated excellence in the areas of raising awareness about sustainable urban mobility, as well as the **MOBILITY**ACTION Award for those actors that demonstrate excellence in mobility management.[115]

The 2022 finalists for the EUROPEAN-**MOBILITY**WEEK Award were Braga (Portugal) where streets were closed off to traffic during the European mobility week and activities on safe cycling for children were provided, Sofia (Bulgaria) where public transport was made cleaner and more accessible and where air pollution was addressed through traffic calming measures, and Zagreb (Croatia) where the cycling infrastructure was expanded and which conducted studies on how to expand pedestrian zones and move away from a car-centric city model.

The European Commission previously also presented the SUMP Award and the EU Urban Road Safety Award to recognise local authorities' efforts with regards to respectively sustainable urban mobility planning and road safety.

In 2021, Tampere (Finland) won the SUMP award as the jury deemed that its approach "empowers people to make healthier mobility choices that are active, safe and environmentally responsible". The city's educational and mobility units cooperated on various pilot actions, including active school trips by bicycle, on foot or by scooter.[116]

[111] Eltis (2019), Guidelines for developing and implementing a Sustainable Urban Mobility Plan (2nd edition). http://bit.ly/2to2Mro
[112] Eltis, Download Topic Guides and Practitioner Briefings. http://bit.ly/36hy2XI
[113] European Commission (2021), New EU Urban Mobility Framework. https://bit.ly/3raivUT
[114] European Commission (2021), Proposal for a Regulation on Union guidelines for the development of the trans-European transport network. (COM(2021)812). https://bit.ly/3LcLfWP
[115] European Commission (n.d.), Mobility Awards. European mobility week website. https://bit.ly/3Ji7QCa
[116] European Commission (n.d.), SUMP Awards website. https://bit.ly/3dnKtJK

4.1.3 Key Performance Indicators (KPIs)

Key Performance Indicators (KPIs) are important tools for decision makers when identifying priority areas for interventions, tracking progress and evaluating the outcomes of implemented measures.

The EU road safety policy framework 2021-2030 includes eight road safety key performance indicators (KPIs), developed in cooperation with Member States.[117] The KPIs on speed, protective equipment and vehicle safety are related to pedestrian and cyclist safety.[118]

The KPI on speed encourages Member States to collect data on the proportion of vehicle speeds within the legal speed limit by vehicle and road type. Vehicle speed is a particularly important factor in pedestrian and cyclist safety as, to a very large extent, vehicle speed determines the outcome of a collision between a pedestrian or cyclist and a vehicle. However, it is important that speed limits are safe, are set based on the road function and road user composition, and are supported by road design so as to make the speed limit credible. Therefore, the European Commission should work together with Member States towards defining criteria for the safety and credibility of speed limits and introduce an additional KPI on the proportion of roads within the road network with speed limits set at safe and credible levels. Such an additional indicator would address road authorities, whose responsibility is to make sure that legal speed limits are safe and credible, a pre-requisite for implementing the Safe System approach to road safety.

ETSC recommends to additionally explore and develop a KPI on infrastructure related to pedestrian and cyclist safety. An infrastructure indicator would highlight the responsibility of the system designer to provide a safe walking and cycling environment.

4.1.4 The European Union's Role in Promoting Safe Active Mobility

There have been a number of initiatives calling for the European Commission to come forward with a cycling strategy for the European Union, including a 2016 ETSC report prepared in cooperation with international cycling safety experts and the European Cyclist Federation (ECF).[119] Moreover, ECF published a "EU Cycling Strategy. Recommendations for Delivering Green Growth and an Effective Mobility in 2030" with input from other organisations including ETSC.[120] And as mentioned in Part 1 of this report, in early 2023, the European Parliament called on the European Commission to develop a dedicated European cycling strategy.[121]

ETSC would widen the scope of this, calling for an EU wide strategy on safe active mobility which would encourage co-ordinated European action on cycling and walking. Such a strategy should stress the importance of providing safe and attractive infrastructure to encourage more walking and cycling.

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[117] European Commission (2019), EU Road Safety Policy Framework 2021-2030 - Next Steps towards "Vision Zero". http://bit.ly/3RD97FJ

[118] Several of the other KPIs, notably those on alcohol, distraction, infrastructure and post-crash care are indirectly related to the safety of pedestrians and cyclists as well.

[119] ETSC (2016), The European Union's role in promoting the safety of cycling. http://bit.ly/2Jt5qkv

[120] European Cyclist Federation (2017), EU Cycling Strategy. Recommendations for Delivering Green Growth and an Effective Mobility in 2030. http://bit.ly/2rbyCWZ

[121] European Parliament (2023), Motion for a resolution on developing an EU cycling strategy. (2022/2909(RSP)). http://bit.ly/3SGbtES

4.2 INFRASTRUCTURE SAFETY AND SPEED

4.2.1 Infrastructure Safety

Infrastructure and speed govern the interaction between road users and determine road user safety. Infrastructure can play a key role in reducing speeds and separating pedestrians and cyclists from motorised vehicles. The aim should be to minimise potential conflicts between motor vehicles and vulnerable road users by engineering out potentially unsafe features on roads. This can reduce both pedestrian and cyclist deaths and severe injuries when collisions do occur, or even prevent collisions from happening.[122]

Road infrastructure should take into account the needs of the communities it serves. Moreover, the road environment must be designed in a way that recognises and takes account of the capabilities and limitations of children.

Audits of planned construction and inspections of existing infrastructure, traffic management schemes and maintenance work are first steps. Planning pedestrian and cycle networks should be undertaken with the same accuracy used for the road network: planning has to be the first activity to ensure a safe and continuous layout.[123] Cycling facilities should be appropriate for the street context. For example, minimising the speed and volume of traffic on local streets could encourage people to walk and cycle, whereas on major roads, efforts to minimise the differentials between motorised traffic and unprotected pedestrians and cyclists could prove more difficult. In this context full separation would be the only method possible.[124]

Infrastructure can also spur more walking and cycling and stimulate public demand for more and better solutions.[125] Part of the current problem is that in many EU Member States the road system, with notable exceptions, has not been designed with cyclists in mind.[126] However, some countries started addressing the growing need for walking and cycling infrastructure, accelerated in the last years due to COVID-19 and the related increase in active mobility.

The response by authorities to the COVID-19 pandemic furthermore showed that it is possible to implement low cost measures in a short period of time. Cities including Athens, Paris, Berlin, Milan, Madrid, Budapest and Brussels had introduced new or expanded pedestrian and cycling infrastructure with unprecedented speed in response to the increase seen in cycling and walking.[127]

4.2.2 Credible and Safe Speed Limits

Speed governs the relationship between road users, and determines road user safety, especially for the most vulnerable road users – children, the elderly, pedestrians and cyclists. Lower speed also reduces feelings of danger for pedestrians and cyclists, and given that real and perceived safety influences peoples' modal choice, might encourage more people to walk and cycle.

The Safe System approach, which has been endorsed in the EU Road Safety Policy Framework 2021-2030[128], requires the road traffic management system to limit speeds to survivable levels, taking into account that humans make mistakes and their bodies have a limited tolerance to kinetic forces in the case of a road collision.[129] Which speed is considered safe depends on the road design and its function, the composition of traffic and potential conflict types.[130]

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[122] ETSC (2020), PIN Flash Report 38. How safe is walking and cycling in Europe? https://bit.ly/PINFlash38
[123] Tira M. and Zazzi M. (2007), Planning territorial cycle networks (in Italian only: Pianificare le reti ciclabili territoriali).
[124] Transport for London (2014), London Cycling Design Standards. Available on the "Streets toolkit" webpage. https://bit.ly/3QW0o0z
[125] OECD (2013), Cycling, Health and Safety. http://bit.ly/2QSM1Pe
[126] Ibid.
[127] See for example the European Cyclist Federation Dashboard tracking introduction of measures in cities across Europe during Covid-19: https://ecf.com/dashboard
[128] European Commission (2019), EU Road Safety Policy Framework 2021-2030 - Next Steps towards "Vision Zero". http://bit.ly/3RD97FJ
[129] Stipdonk H. (2019), The mathematical relation between collision risk and speed; a summary of findings based on scientific literature. http://bit.ly/36kV93L
[130] SWOV (2021), Fact sheet. Speed and speed management. Question 14: What are safe speeds? http://bit.ly/3yhWV58

Urban roads have multiple movement and access functions, they range from arterial roads to residential streets. Speeds on urban roads should, therefore, be set according to the road function. It is essential that roads with different functions have a consistent and recognisable layout.[131]

Speed limits should be supported by infrastructure measures to be credible. Some cities and towns have successfully introduced a speed hierarchy system across their networks where vehicles are permitted to travel at 50 km/h on major through-traffic roads whereas other roads are designed and built or adapted as 30 km/h zones. A growing number of cities are going further by adopting a 30 km/h speed limit as standard, including Paris and Brussels. Analysis by the Brussels region showed toxic emissions, noise and collisions all declined since the lower speed limit was introduced, while journey times were largely unaffected.[132]

The European Commission has published new recommendations for authorities to reduce speeds in urban areas in the framework of its new energy saving measures.[133] The original 2021 EU urban initiative presented by the European Commission said little on managing inappropriate speed.[134] ETSC calls on the European Commission to come up with a fully-fledged Recommendation to apply safe speed limits,[135] in line with the safe system approach for all road types, such as maximum default speeds of 30km/h in residential areas and areas where there are high numbers of cyclists and pedestrians, as stated in the European Parliament's Own Initiative Report on Road Safety.[136] Low speed management should be a key part of the SUMPs in the TEN-T urban nodes in order to reach safety and sustainability goals.

4.2.3 Implementing 30 km/h zones improves road safety…

The risk of an unprotected road user being killed or seriously injured in a collision with a motorised vehicle grows substantially when the speed of the vehicle increases. At speeds of below 30 km/h pedestrians and cyclists can mix with motor vehicles in relative safety. This relative safety can be reduced if large volumes of traffic are present and particularly if there is a high proportion of heavy goods vehicles (HGVs).[137]

As well as reducing impact severity in the case of a collision, a maximum speed of 30 km/h creates opportunities for positive interaction among road users through visual communication, and it gives drivers more time to both make use of their visual field to see potential hazards and to react to these.[138] And as mentioned, lower speed also reduces feelings of danger for pedestrians and cyclists.

In its 'Streets for Life' campaign, the UN calls for a 30km/h speed limit where people walk, live and play, adding that the measure is vital for child rights by ensuring they have a safe environment to move around and play in.[139] Reducing speed limits to 30 km/h in residential areas and around schools, childcare facilities and playgrounds is also a leading recommendation of both the OECD and UNICEF.

Traffic calming measures are known to be very influential in encouraging drivers to comply with the 30 km/h speed limit. A combination of traffic calming measures, such as roundabouts, road narrowing, chicanes or road humps in 30 km/h zones are essential to discouraging drivers from exceeding the speed limit, together with enforcement. Traffic calming measures should discourage motor traffic, except for traffic that needs access to that specific area.[140]

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[131] SWOV (2017), Fact sheet. Principles for safe road design. https://bit.ly/3zOUrvq
[132] ETSC (2021), Paris moves to 30 km/h across the city, as Brussels hails safety gains. https://bit.ly/3pbMhZ9
[133] European Commission (2022), Communication EU 'Save Energy'. https://bit.ly/39Tpa1v
[134] European Commission (2021), New EU Urban Mobility Framework. https://bit.ly/3raivUT
[135] ETSC (2022), Road Safety Priorities for the EU in 2022. Memorandum to the Czech Presidency of the Council of the European Union. https://bit.ly/3TUZwvn
[136] European Parliament (2021), Own Initiative Report on Road Safety. https://bit.ly/33LJj6r
[137] ETSC (2016), The European Union's role in promoting the safety of cycling. https://bit.ly/2PqFruY
[138] OECD and ECMT (2006), Speed Management. https://bit.ly/3bRYu1Y
[139] UN Road Safety Week (n.d.), Policy Brief. Streets for Life: #Love 30. The case for 30 km/h streets for health, environment, and equity during UN Road Safety Week and beyond. https://bit.ly/425JUYP
[140] ETSC (2015), 30 km/h limits gaining rapid acceptance across Europe. https://bit.ly/2D3IhII

30 km/h zones have been steadily gaining popularity across Europe. Opinion polls in several countries repeatedly show a majority of the public support lower speed limits in urban areas.[141]

The reason for the rising popularity of 30 km/h zones could also be that, as well as decreasing severe road collisions, 30 km/h zones can contribute to a modal shift towards walking and cycling which brings health and environmental benefits and an overall increased quality of life in urban areas.

A study conducted by SWOV indicates that conversion from 50 km/h speed limits to 30 km/h zones in the Netherlands had a positive effect in reducing the number of pedestrian and cyclist deaths.[142] Even though it is difficult to accurately calculate the size of the reductions, this value may be more than 70% on the roads with reduced speed limit.

4.2.4 … and encourages walking and cycling to school

Reducing the speed around schools and enforcing that speed is a measure that can improve the road safety of children as they travel to and from school.

In a research project carried out in Edinburgh (UK), authors found that after introducing a 20 miles/h (32 km/h) speed limit on certain roads, the proportion of younger primary school age children walking to school increased from 58% to 74% (before and after surveys). In addition, the proportion of older primary school children cycling to school increased from just 3% to 22%. There was also a decrease in the use of a car as a method of transport to school (21% in the 'before' survey and 13% in the 'after' survey).[143]

Moreover, several European countries have compulsory lower speed limits around schools.[144] For example in Belgium, road administrators are obliged to set the speed limit in a school zone at 30 km/h. This speed limit can either be permanent or temporary (only active during certain hours at the beginning and end of a school day). Speed around schools are reduced or managed in all other countries participating in the ETSC PIN project as well, although it is not compulsory.[145] In this context it is important to reiterate that cities can also consider introducing school streets (see example on page 31).

4.2.5 Traffic Reduction and Access Rules

Heavy traffic flow is a major deterrent to walking and cycling. Conflict between vulnerable road users and motor vehicles can be reduced by the introduction of car-free areas.[146] Traffic and speeds may also be reduced by road closures. The closure of minor streets can offer routes with lighter traffic for pedestrians and cyclists. An area-wide approach should be adopted to avoid displaced traffic leading to more collisions elsewhere. Even at low speeds, mixing with heavy traffic, especially heavy goods vehicles, is hazardous.

Another way to reduce motorised traffic is to introduce urban vehicle access regulations. Research indicates that transport pricing reforms including introducing urban access restrictions, can significantly increase traffic safety.[147] A study on urban vehicle access regulations (UVARs) published by the European Commission set out the benefits of urban access regulation to road safety. It states that where UVAR schemes are working regularly, new pedestrian sub-areas have been created, vehicle speed has been reduced and road safety improvements as well as the promotion of cycling and walking are carried out, attracting new users willing to move into these no longer congested zones.[148]

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[141] German Federal Environment Agency, Cities quieter thanks to 30km/h speed limit. https://bit.ly/2VzJ7Os
[142] SWOV (2009), Pedestrian and cyclist safety on 30 km/h access roads (in Dutch only: De veiligheid van voetgangers en fietsers op 30 km/uur- erftoegangswegen). https://bit.ly/3YiRDkg
[143] City of Edinburgh Council (2013), Before and After Research into the implementation of 20mph speed limits in South Edinburgh. https://bit.ly/3vyTmH6
[144] Belgium, Denmark, Finland, Greece, Latvia, Romania and Serbia.
[145] ETSC (2022), PIN Flash Report 43. Reducing child deaths on European roads. https://bit.ly/PINFlash43
[146] ETSC (2016), The European Union's Role in Promoting the Safety of Cycling. https://bit.ly/2PqFruY; and ETSC (1999), Safety of Pedestrians and Cyclists in Urban Areas.
[147] Litman (2012), Pricing for Traffic Safety – How Efficient Transport Pricing Can Reduce Roadway Crash Risks. Victoria Transport Policy Institute. https://bit.ly/3dquuL9
[148] European Commission (2017), Urban Vehicle Access Regulations. https://bit.ly/3C24zDM

As mentioned previously, municipalities should restrict access for heavy duty vehicles in the surroundings of schools and kindergartens. If such access for heavy duty vehicles is temporarily necessary, for example for construction in the neighbourhood, then agreements should be sought to ensure the heavy vehicles do not drive in the vicinity of the schools when these start and end (see example on page 35).

4.2.6 Intersections and Pedestrian Crossings

Intersection design and treatment is one of the most important infrastructure-related safety interventions.[149] Visibility, predictability and speed reduction should be incorporated as key design principles at intersections. Thus, Member States should prioritise treating intersections and especially those which have already been seen to have had collisions resulting in death or serious injury. There is also a case to be made for looking beyond high-risk sites. In some cases intersections may need to be treated because they are barriers to cycling, even if safety records are sound. Large intersections can be so intimidating to cyclists that they avoid cycling routes that cross them – or take alternative transport.

For pedestrians, two important safety features in traffic are that they can walk on safe footways, not on the carriageway, and that when crossing, they can see the other traffic without any obstacles obstructing their view, while the other traffic can clearly see them.

Pedestrian crossings are perceived to be safe places to cross the road but safety of pedestrian crossings is an issue. They need to be carefully designed and appropriately sited if they are to improve safety.[150] Road lighting, refuges and raised pedestrian crossings can all improve the safety of crossing. Narrowing roads at pedestrian crossings is very effective as it helps drivers to slow down and reduces the distance a pedestrian has to complete in order to cross the road, which is particularly useful for the elderly and people with mobility impairments.

Unregulated pedestrian crossings can be safe if well-designed. A motor vehicle should only be allowed to approach a safe pedestrian crossing at a maximum speed of 30 km/h.[151]

School crossing patrols provide managed means of safer crossings for children as a particularly vulnerable group.

4.3 VEHICLE SAFETY

In 2020, collisions with motorised vehicles accounted for all but two child (<14 years old) pedestrian deaths and all but one youngster (15-17 years old) pedestrian deaths in the EU. For both age categories, collisions with motorised vehicles accounted for all cyclist deaths.[152]

While pedestrians and cyclists create very few risks for other road users, they are constantly put at risk by motorised traffic. Different factors influence the impact severity between motor vehicles and pedestrians or cyclists, the most important being vehicle speed of travel, mass and the level of protection provided by the vehicle to those outside the vehicle.

Following a deal reached in 2019, the EU's General Safety Regulation for motor vehicles has been updated with improved passive and active safety requirements for all new vehicles sold in the EU. Many of the new vehicle safety requirements are directly related to improving pedestrian and cycling safety.[153]

Under the new rules, all motor vehicles, including heavy goods vehicles, buses, vans and cars, will have to be equipped with safety features,

[149] OECD (2013), Cycling, Health and Safety. http://bit.ly/2QSM1Pe
[150] European Commission (2018), Pedestrians and cyclists. https://bit.ly/3F1OLRX
[151] SWOV (2020), Fact Sheet: Infrastructure for pedestrians and cyclists. http://bit.ly/3Zghuut
[152] ETSC (2022), LEARN! Flash 2. The role of education in reducing deaths among children and youngsters on European roads. https://bit.ly/LEARNFlash2
[153] Regulation (EU) 2019/2144 of the European Parliament and of the Councils of 27 November 2019 on type-approval requirements for motor vehicles and their trailers, and systems, components and separate technical units intended for such vehicles, as regards their general safety and the protection of vehicle occupants and vulnerable road users. http://bit.ly/2RZ6xh5

including Intelligent Speed Assistance (ISA)[154] and Alcohol Interlock interfaces. Supplementary advanced safety measures will be required for cars and vans, including Automated Emergency Braking (AEB) with vulnerable road user detection and enlarged head impact protection zones capable of mitigating pedestrians and cyclists injuries. Most of the measures have come into effect in July 2022 for new models and will have to be installed in all new vehicles sold as from July 2024.

In addition to the general requirements (such as ISA, Lane Departure Warning and AEB), heavy goods vehicles and buses will have to comply with direct vision standards, which will significantly reduce blind spots, as from 2025 for new models and from 2028 for existing models. The direct vision standards will be accompanied by advanced systems capable of detecting pedestrians and cyclists located in close proximity of the vehicle.

In the meantime, cities and towns can apply direct vision policies sooner by setting direct vision requirements in public procurement for city service vehicles – some cities are already doing this.

4.4 ENFORCEMENT

Sustained intensive enforcement that is well explained and publicised has a long-lasting effect on driver behaviour. Traffic law enforcement is a very cost-effective means of enhancing road safety.[155]

Enforcement of rules relating to risky behaviour such as speeding, overtaking without keeping a proper lateral distance, distraction, drink- or drug-driving and compliance with driving and resting hours in relation to fatigue could all benefit pedestrian and cyclist safety.

Sanctions should be linked to relative risk and graded, for example, for speeds higher than 30 km/h. However, it should be noted that this will only make a difference with high levels of speed enforcement and efficient handling of sanctions.

Traffic law enforcement should be a priority in national policing plans. Resources should be earmarked and targets set in line with best practice in preparing national enforcement plans.

Among the countries participating in the ETSC PIN project that monitor levels of speed compliance on urban roads countrywide, between 35% and 75% of observed vehicle speeds are higher than the 50 km/h legal speed limit. To address speeding in urban areas, traffic law enforcement should be intensified, especially where there are high numbers of pedestrians and cyclists, including in the vicinity of schools.

[154] As the EU rules allow for different types of ISA, ETSC is calling on manufacturers to install ISA systems that use a sign-recognition video camera and a GPS-linked speed limit database to help drivers keep to the current speed limit. Moreover, ETSC calls on manufacturers to use a system that provides force feedback through the throttle pedal or limits engine power when necessary to help prevent the driver from exceeding the current speed limit. The system can be overridden, or temporarily switched off. As well as improving road safety, reducing emissions and saving fuel, the system can help drivers avoid speeding fines. http://bit.ly/3JisGRy

[155] ETSC (2015), Enforcement in the EU Vision 2020. https://bit.ly/3zTR6Lx

RECOMMENDATIONS TO ALL LEVELS

On strategic planning

- Develop a policy of modal priority for road users, particularly in urban areas, the hierarchy being based on safety, vulnerability and sustainability. Walking should be at the top of the hierarchy, followed by cycling and use of public transport.

RECOMMENDATIONS TO CITIES AND TOWNS AS WELL AS NATIONAL GOVERNMENTS

On improving the safety for, and active mobility of, children around schools

- Design road environments in ways that recognise children's capabilities and limitations.
- Encourage local authorities to adopt zones with a speed limit of 30 km/h in residential areas, on routes to schools and child care facilities and around bus stops and other areas used by many pedestrians and cyclists and to promote traffic calming measures.
- Reduce motor vehicle traffic around schools and childcare facilities.
- Develop safe routes to schools, including 'school streets' for the last section of the journey.
- Implement safe pedestrian and bicycle infrastructure separated from motorised traffic to make walking and cycling to school safer.
- Promote walking and cycling and develop children's autonomous mobility within the context of health, but with the emphasis on safe use of the roads.
- Design vehicle parking areas to exclude the possibility of walking out from behind cars into the path of moving traffic, especially around childcare facilities. Provide roads with higher speeds (up to 50km/h) with safe opportunities to cross the streets, allowing pedestrians and van drivers to mutually see each other (without parked cars or other obstacles in the way).

RECOMMENDATIONS TO CITIES AND TOWNS

On strategic planning

- Adopt and implement a local road safety strategy based on the Safe System approach and set road safety targets.
- Relate road safety objectives to other policy objectives for the city.
- Include road safety as an essential component in developing and implementing Sustainable Urban Mobility Plans (SUMPs). Apply Safe System approach and prioritise the safety of pedestrians and cyclists.
- Involve road safety experts in preparation and implementation of SUMPs.
- Encourage all professional sectors (such as NGOs, private companies) to help achieve the road safety objectives.

On infrastructure safety and speeds

- Establish clear urban road hierarchies which better match road function to speed limit, layout and design based on the principles of the Safe System approach.
- Adopt 30 km/h zones supported by traffic calming measures in residential areas, areas used by many pedestrians and cyclists and on the way to schools.
- Create conditions so that cyclists can mix freely with motorised traffic where the travel speed, volume and mass of motorised traffic does not pose a risk to unprotected road users.
- Try to arrange for cycle traffic and motorised traffic to be physically separated where the speed of the latter is too great or where the traffic flow is too high to allow them to mix safely.
- Improve infrastructure safety design for VRUs, especially at junctions.

- Give priority in road maintenance to the quality of surfaces on footways, cycle paths and the parts of carriageways most used by crossing pedestrians and by cyclists.

- Discourage access by car where there are reasonable alternatives.

- Promote localisation of some activities so that they can be reached on foot, by bicycle, or by public transport.

- Provide shorter and safer routes for pedestrians and cyclists by ensuring that routes are direct and that the quickest routes are also the safest. Travel time should be increased on unsafe routes and decreased on safe routes.

- Develop safe routes to schools.

- Restrict heavy goods vehicle circulation in urban areas at certain peak times when there are high numbers of pedestrians and cyclists and develop recommended routes for heavy goods vehicles.

On vehicle safety

- Use public procurement to require vehicle safety features such as direct vision, Intelligent Speed Assistance, Automated Emergency Braking with pedestrian and cyclist detection and alcohol interlocks in city fleets until such time as all vehicles on the roads have such features.

- Apply direct vision policies by setting direct vision requirements in public procurement for city service vehicles.

On enforcement

- Strengthen enforcement against illegal parking when pedestrian and cyclist facilities are abused by parking on footpaths and cycle paths.

- Intensify traffic law enforcement, especially for speeding in urban areas, where there are high numbers of pedestrians and cyclists.

RECOMMENDATIONS TO NATIONAL GOVERNMENTS

On strategic planning

- 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.

- Design and implement walking and cycling safety strategies, which include targets and infrastructure measures to improve walking and cycling safety. Ensure that strategies are closely linked with road safety priorities and that increasing walking and cycling will not lead to more deaths and seriously injured.

- Support local authorities in the work on improving pedestrian and cyclist safety by providing expertise and budget.

- Involve city representatives in setting up of national road safety strategies, road safety targets and their implementation.

- Earmark national funds for improving urban road safety.

On infrastructure safety and speed

- Develop, and encourage speed limit-setting authorities to apply, national speed limit guidelines based on the Safe System approach. When developing guidelines, take into account factors such as road design, roadside (e.g. land use and topography), traffic composition and flow, presence of vulnerable road users and vehicle quality.

- Develop, and encourage responsible authorities to apply, safe infrastructure design guidelines, such as guidelines for traffic calming measures, intersections, pedestrian crossings or cycling infrastructure design. Renew the guidelines regularly based on the latest research and innovation.

- Establish clear urban and rural road hierarchies, which better match road function to speed limit, layout and design based on the principles of the Safe System approach.

- Encourage local authorities to adopt zones with a speed limit of 30 km/h supported by traffic calming measures in residential areas, areas used by many pedestrians and cyclists and on the way to schools.

- Construct highly visible, recognisable and uniform pedestrian crossings (e.g. raised crossings) to ensure that vehicle users can anticipate each others' expected behaviour.

- Install traffic calming measures at intersections in 30 km/h zones. For higher speed intersections, roundabouts should be constructed if traffic volumes are sufficiently low.

- Provide high motor vehicle-volume crossings and intersections with traffic lights. Adjust traffic lights to reduce pedestrian waiting time and extend the time available for crossing the road.

- Ensure good mutual visibility for all road users at all intersections.

- Break up wide pedestrian crossings by constructing a dividing strip in the middle, or by extending the pavement at the crossing.

- Introduce traffic calming measures in the vicinity of unregulated pedestrian crossings.

- Give priority in road maintenance to the quality of surfaces on footways, cycle paths and the parts of carriageways most used by crossing pedestrians and cyclists.

- Provide shorter and safer routes for pedestrians and cyclists by ensuring that routes are direct and that the quickest routes are also the safest.

- Arrange for cycle traffic and motorised traffic to be physically separated where the speed or the traffic flow of the latter is too high.

- Enable support for cities in restricting heavy goods vehicle circulation in urban areas at certain peak times when there are high numbers of pedestrians and cyclists and develop recommended routes for heavy goods vehicles.

On vehicle safety

- Use public procurement to require vehicle safety features such as direct vision, Intelligent Speed Assistance, Automated Emergency Braking with pedestrian and cyclist detection and alcohol interlocks in public sector fleets and fleets providing the public with services until such time as all vehicles on the roads have such features.

On enforcement

- Intensify traffic law enforcement for all motorised vehicles, including powered-two-wheelers, especially of speeding, in urban areas where there are high numbers of pedestrians and cyclists.

- Strengthen enforcement against illegal parking when pedestrian and cyclist facilities are abused by parking on footpaths and cycle paths.

- Link sanctions to relative risk: graded sanctions should be applied for higher speeds on 30 km/h and 50 km/h roads where there are higher numbers of pedestrians and cyclists.

- Introduce and enforce sanctions for pedestrians and cyclists for exposing themselves or other road users to unnecessary risks.

RECOMMENDATIONS TO EU INSTITUTIONS

On strategic planning

- 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.

- Adopt a specific EU target to reduce deaths and serious injuries of pedestrians and cyclists.

- Prepare, publish and implement an EU safe active mobility strategy which sets road safety measures and targets, also for children, to increase the amount of distance safely travelled by walking and cycling.

- Introduce a KPI on the proportion of roads within the road network with speed limits set at safe and credible levels (e.g. 30 km/h in areas with a lot of vulnerable road users).

- Together with Member States, develop KPIs on pedestrian, cyclist and power two wheeler infrastructure safety.

On infrastructure safety and speeds

- Develop and adopt a formal European Commission Recommendation on the appropriate speed limits for all road types.

- Encourage Member States to adopt zones with a speed limit of 30 km/h in residential areas and areas used by many pedestrians and cyclists, and a maximum speed of 50 km/h elsewhere in urban areas. These should be coupled with self-explaining infrastructure measures to support the enforcement of the speed limits.

- Create an EU fund to support priority measures such as for cities to introduce 30 km/h zones supported by traffic calming measures, particularly in residential areas and where there are a high number of pedestrians and cyclists and on the way to schools.

- Include the EuroVelo cycle network as an integral part of the TEN-T and encourage EU Member States to make use of allocated EU cycling funds for its continued development.

On vehicle safety

- Research the relationship between vehicle design and pedestrian and cyclist injury outcomes.

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