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Editor's note

Dear readers,

Before you is the new issue of our expert supplement "Applied Research Topics in Transport and Logistics", a publication issued bilingually alongside the prestigious scientific journal Promet – Traffic&Transportation.

The expert supplement "Applied Research Topics in Transport and Logistics" covers topics targeted at interest groups within the transport and logistics sector. It is published and designed to foster communication and correlation between science and industry, focusing on bringing scientific practices and achievements closer to the business sector.

This issue is dedicated to traffic education for children and the role of continuous traffic education in building a culture of traffic safety.

As part of the National Road Safety Programme of the Republic of Croatia, activities are being carried out with the aim of ensuring safer participation of children in traffic.

The implementation of these activities involves institutions, schools, experts and organisations which, through their work, contribute to the development of traffic education. In the following pages, you can read their reflections and experiences related to the introduction of traffic education into the primary school system, a systematic approach to child safety in traffic, the development of traffic culture, preventive activities and opportunities for further improving traffic education for children both within and outside the formal education system.

We are particularly pleased that the Faculty of Transport and Traffic Sciences organised Children's Day, an event dedicated to traffic education, about which you can read towards the end of this issue.

Predrag Brlek, Managing Editor

Content

01

A SYSTEMATIC APPROACH to Improving the Safety of Children in Traffic

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As part of the National Road Safety Programme, activities are being implemented to improve traffic culture and the safety of the youngest road users by strengthening the school curriculum. The project is led by the Faculty of Transport and Traffic Sciences, and we spoke with the Dean, Assoc. Prof. Marko Šoštarić, Ph.D., about the activities being carried out.

What was the key motivation for launching the project to introduce traffic safety education into the education system?

In Croatia, as in the European Union as a whole, there is a need to significantly increase the level of road safety, that is, to reduce the number of fatalities and seriously injured persons on the roads. Such objectives cannot be achieved solely through repressive measures but require a systematic approach across several interrelated areas.

The best results are achieved through action in five key areas: engineering, education, enforcement of traffic offences, emergency response and continuous evaluation. Engineering solutions should be used to improve the safety characteristics of vehicles and transport infrastructure; education should develop traffic culture and safety awareness among all age groups; the enforcement system should ensure the effective and timely punishment of those who commit traffic offences; emergency services should provide the fastest possible care for injured persons; and evaluation should enable the continuous monitoring of safety indicators and the proposal of measures that can yield the best results.

Among these areas, education occupies a particularly important place, as it is precisely education that enables long-term and sustainable changes in the behaviour of road users. The key motivation for launching the project was the need to develop traffic safety and traffic culture systematically from the earliest age through the formal education system, namely in primary and secondary schools. Better-quality education for the youngest road users has a dual effect: it increases their safety in traffic today, while at the same time laying the foundations for more responsible and conscientious drivers in the future.

What activities are being implemented as part of the project?

The project was launched two years ago within the framework of the National Road Safety Plan. The Faculty of Transport and Traffic Sciences and the Faculty of Teacher Education of the University of Zagreb, the Ministry of the Interior, the Ministry of Science, Education and Youth, the Education and Teacher Training Agency and the Croatian Automobile Club are involved in its implementation.

The National Road Safety Plan defines the strengthening of traffic safety and traffic culture education in primary and secondary schools as one of the priority measures for improving traffic safety in the Republic of Croatia.

The implementation of this measure is envisaged in two phases. The first phase includes strengthening activities related to traffic prevention, traffic safety and traffic culture within the existing national curriculum. This is achieved through school curricula, which each school independently designs for a given school year. The second phase concerns the improvement of the national primary school curriculum so that content related to traffic safety becomes an integral part of the compulsory teaching programme in all schools.

The first step in the implementation of the project was the organisation of a professional meeting for the head teachers of all primary schools, at which the importance of traffic safety and the possibilities for including it in the educational process were presented. After that, each school appointed a coordinator for pupil safety in traffic, namely a teacher responsible for planning and implementing activities related to traffic safety at their school.

This was followed by two professional meetings for coordinators – one in Zagreb for representatives of the continental part of Croatia and the other in Vodice for representatives of the Adriatic region. During these training sessions, the coordinators acquired the knowledge and competences necessary to organise activities in their schools and to transfer the acquired knowledge to other teachers. Such professional meetings were organised in 2024 and 2025, and are planned to continue to be organised annually in the future.

As additional support for the work of the coordinators, a handbook was prepared containing proposed activities and content adapted to individual grades, as well as guidelines for the implementation of education in the field of traffic safety and traffic culture.

In parallel with these activities, work was also carried out on amendments to the curriculum for the subject Technical Education, with the aim of including additional content in the field of traffic safety and traffic culture.

In March of this year, a professional meeting was also held for secondary school principals, thereby extending the project activities to the secondary education system.

On the basis of which experiences was the need identified to amend and supplement the Technical Education curriculum for the fifth and sixth grades?

Content related to traffic and traffic safety is currently represented primarily in the fifth-grade Technical Education curriculum in primary schools. However, experience to date has shown that the existing scope and depth of this content are not sufficient for developing the necessary knowledge, skills and attitudes among pupils.

An additional opportunity to improve teaching arose through the Full-Day School project, within which the annual number of teaching hours for the subject Technical Education in the fifth and sixth grades was increased from 35 to 70 hours. This created scope for introducing new and more comprehensive topics in the field of traffic safety and traffic culture.

On this basis, a new curriculum is being prepared that will include more contemporary, attractive and extensive teaching units. Particular emphasis will be placed on practical activities, experiential learning and the development of competences required for safe participation in traffic.

It is expected that, after achieving the learning outcomes envisaged by the new curriculum, pupils will be significantly better equipped for independent and responsible participation in traffic, whether as pedestrians, cyclists, passengers in private vehicles or users of public transport. ●

https://www.fpz.unizg.hr/hr/naslovna/novost/tematski-prirucnik-za-provedbu-preventivnih-prometnih-aktivnosti-8331

02

Continuing **Professional Development** as a Key Prerequisite for the Development of the Education System

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In addition to the Faculty of Transport and Traffic Sciences, the Education and Teacher Training Agency is among the institutions involved in the implementation of activities aimed at improving traffic education for pupils. We spoke with the Agency's Director, Professor Katarina Milković, about the Agency's role in this important project.

The Education and Teacher Training Agency played a key role in organising national professional meetings for primary and secondary school principals and coordinators for pupil safety in traffic. How do you assess their importance in raising the level of knowledge and understanding of traffic safety in schools?

Traffic safety is not merely a matter of knowing traffic regulations, but also of developing traffic culture, responsible behaviour and the protection of children as one of the most vulnerable groups of road users. This is precisely why the professional meetings organised by the Education and Teacher Training Agency have an exceptionally important role in strengthening the competences of educational staff and developing prevention programmes aimed at the safety of children and pupils. The Agency is a key institution in the education system of the Republic of Croatia, performing professional and advisory tasks in ensuring the quality of education through professional assistance and support to educational staff. Its permanent mission is to improve the quality of education in line with national educational objectives, European standards and global trends.

The national professional meetings dedicated to traffic safety, organised by the Agency in cooperation with the Ministry of the Interior, the Croatian Automobile Club and the Faculty of Transport and Traffic Sciences of the University of Zagreb, within the framework of the National Road Safety Plan of the Republic of Croatia 2021–2030, are significant in several respects. They enable the systematic raising of the level of knowledge, understanding and responsibility of all participants in the educational process, the transfer of current expert knowledge in the field of traffic safety, and familiarisation with contemporary approaches to traffic prevention, legislation and related topics. The interdisciplinary dimension of these meetings enables a comprehensive approach to traffic safety, while empowering head teachers and coordinators to implement prevention activities in cooperation with teachers, pupils and parents.

They also provide an opportunity for head teachers and coordinators to become familiar with new challenges in traffic, such as the safety of children as pedestrians, cyclists or users of electric scooters, as well as with effective models of preventive action.

Through professional development, participants become acquainted with contemporary approaches to traffic prevention, exchange experiences and examples of good practice, and strengthen cooperation with institutions. In this way, they also contribute to the harmonisation of standards of practice in schools, with the aim of creating a safer environment for pupils.

Over the past two years, the Agency has organised a series of professional meetings attended by almost 2,000 educational staff. For example, national professional meetings for coordinators for the safety of children and pupils in traffic were held in Zagreb and Split during 2024 and 2025, while in 2026 a professional meeting entitled "Integrated Approaches to Traffic Safety in Secondary Schools" was also organised, with more than 250 participants. These figures confirm the strong interest of schools and the need for continuous professional development in the field of traffic safety.

How important is it in the education system to introduce and develop new topics such as traffic safety through continuous professional training?

Continuous professional development is one of the key prerequisites for the development of a high-quality, modern and safe education system. In its work, the Education and Teacher Training Agency places particular emphasis on the importance of the lifelong professional development of educational staff and systematically introduces topics that correspond to the real needs of children, schools and society.

Traffic safety is a topic that requires ongoing and systematic education because traffic conditions, forms of mobility and traffic-related challenges are constantly changing. Children participate in traffic every day, as pedestrians, cyclists, passengers or users of new forms of transport, which is why it is extremely important to develop their competences for safe and responsible behaviour from the earliest age.

Through professional training, teachers, principals and coordinators acquire new knowledge about contemporary preventive approaches, teaching methods and possibilities for the interdisciplinary integration of traffic culture content into curricular and extracurricular activities. Such training also contributes to the development of an inclusive and stimulating school environment, which is in line with the vision of the Education and Teacher Training Agency of creating a fair and high-quality education system. It is important to emphasise that traffic prevention is not a one-off activity, but a process that requires continuous cooperation between schools, families and institutions. Through professional development, the Agency ensures that schools have professional support and clear guidelines for the implementation of high-quality prevention activities.

Could you single out how principals and coordinators received concrete guidelines through these training sessions for implementing activities in their schools?

The professional meetings conducted by the Education and Teacher Training Agency in cooperation with its partners focused on highly concrete and applicable content that can help schools in their everyday work and in planning prevention activities aimed at educating children about proper and safe participation in traffic, the importance of knowing traffic signs and signals, and courteous behaviour in traffic, thereby contributing to reducing the number of children killed or injured in traffic.

Coordinators and head teachers were presented with an overview of traffic education activities implemented in previous years, as well as methodological guidelines for planning and implementing prevention programmes in schools. Particular attention was given to opportunities for cooperation with the police, the Croatian Automobile Club and other relevant institutions, in order to ensure that prevention activities are implemented systematically and effectively. Through lectures and workshops, participants received concrete examples of good practice from primary and secondary schools, guidelines for developing traffic culture among pupils and recommendations for organising activities such as traffic training courses, cycling proficiency tests, workshops and school prevention programmes. Professional development sessions also addressed the state of traffic infrastructure in school zones, the importance of timely communication with the police, and ways of involving parents and the local community in prevention activities. •

03

Statistical Data on Child Casualties in Traffic: Analysis, Trends and Interpretation

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Road traffic safety is not a topic that allows for superficiality. Every number in the statistics has a name and a surname and every mistake on the road leaves consequences that cannot later be "repaired". Behind every serious accident, there is a family, a school, a workplace and a community. For this very reason, traffic safety must not be an occasional topic, but a permanent obligation of the system and society.

One of the primary objectives of the Ministry of the Interior, and therefore of the police, is to reduce the number of serious traffic accidents and fatalities, in other words, to increase safety on Croatian roads. These are also the main objectives of the National Road Safety Plan of the Republic of Croatia for the period from 2021 to 2030, for which the Ministry of the Interior is the lead authority.

For all these reasons, safety should be included in every serious development planning process. It is built through prevention, education, responsible behaviour and cooperation between institutions, in which the police play an important role. However, long-term results can only be achieved through joint cooperation between schools, parents, local self-government, experts, the media and citizens themselves, ultimately society as a whole.

Traffic accidents involving children represent one of the most sensitive areas of road traffic safety. Although long-term trends in the Republic of Croatia show a decline in child mortality in traffic, the number of children killed and injured still confirms that this is a serious social and safety issue.

Indicators of child casualties

According to available data, during 2025, eight children were killed in traffic accidents in Croatia, which represents an increase of 40% compared with the five children killed in 2024. In addition, 169 children sustained serious physical injuries, compared with 136 in 2024, while 808 sustained minor physical injuries, compared with 786 in 2024.

When we look at data for the last thirty years or so, a downward trend in child mortality in traffic can be observed, indicating the positive effect of preventive measures, better vehicle safety standards and a higher level of general traffic awareness.

The data showing how many children of all ages are transported in their parents' vehicles without being protected from possible injury are alarming, especially today, at a time of major progress in passive safety in cars. Adults transport children on front seats, unsecured on rear seats or in inadequate child seats that do not meet even the most basic safety requirements.

Around fifteen years ago, children were most often injured as pedestrians, whereas today the situation is completely different. Children are now most often injured as passengers in vehicles, most frequently in the vehicles of their parents and/or those closest to

Source: mup.hr

them, with whom they should be safest.

During 2025, most children were injured as passengers in vehicles, accounting for 56.4%, followed by drivers at 22.2% and pedestrians at 21.5%. As passengers in vehicles, they were most often injured in passenger cars, 485 out of 985.

With regard to injuries, 219 children were injured as drivers, most often while riding bicycles, 128 out of 985, followed by drivers of personal mobility devices, 105 out of 985.

A total of 212 children were injured as pedestrians, 83% of them in built-up areas and 17% outside built-up areas. Of these, 40% were injured on a straight section of road, 12.3% at a pedestrian crossing and 11.3% at a T-junction.

An analysis of the casualty structure shows that today children are most often injured as passengers in passenger cars, most frequently in the cars of those closest to them. This clearly indicates the importance not only of educating adults, but also of influencing the behaviour of adult road users.

When observing a longer period, it can be concluded that the reduction in the number of child fatalities is the result of a combination of several factors: systematic education, intensified preventive work, the development of traffic infrastructure and better regulatory and technical organisation of traffic safety. At the same time, statistical data warn that the number of injured children is not decreasing at the same rate as mortality, which means that the risk of children being involved in traffic accidents remains significant. This relationship between mortality and injuries indicates the need to view child safety not only through the most severe outcomes, but also through the total number of accidents, the types of injuries and the circumstances in which they occur.

Conclusion

Despite positive developments, over the last ten years, 69 children have been killed and 8,582 injured on Croatian traffic surfaces. This confirms that this is a permanently relevant safety issue and that each new generation of pupils enters the traffic system with the same problems, which is why education should be carried out continuously, rather than through occasional campaigns.

Particular analytical emphasis should be placed on traffic accidents in school zones. Statistical indicators show that the density of traffic accidents, including those with more serious consequences, is higher in the immediate vicinity of schools and decreases as the distance from the school increases. This shows

us which zones we need to focus our attention on.

It is precisely the arrival and departure of pupils from school that represent periods in which the greatest concentration of unpredictable traffic situations occurs, when child pedestrians, parents transporting children by car, school buses, vehicles and other road users appear at the same time, often in the limited space in front of a school.

In this process, the role of the traffic police is particularly important. Increased supervision in school zones, speed control, traffic regulation during pupils' arrival and departure times and preventive action aimed at drivers and parents directly reduce risk. Equally important is cooperation with schools, local self-government units and traffic experts in order to identify risky locations on the basis of data, accompanied by compulsory education for pupils about the dangers they face in traffic.

Aware of the fact that traffic upbringing and education of children in traffic regulations play a major role in increasing road traffic safety and raising traffic culture in general, the police have for many years been undertaking various preventive and repressive measures and implementing activities aimed at protecting children in traffic. Certainly the best-known of these activities is the campaign "Respect Our Signs".

The fact that this campaign, which has been implemented continuously since 1995, has fully justified its purpose is confirmed by the data showing that the number of children killed and injured on Croatian roads has decreased significantly since then.

In conclusion, statistical data on child casualties in traffic confirm that certain progress has been achieved in Croatia, but also that children remain a group requiring a special level of protection. School zones represent a particular challenge. Therefore, any further reduction in child casualties requires permanent preventive action, analytical monitoring of trends and a strong traffic police presence precisely where the risk is greatest... •

Promo

04

METHODOLOGICAL ASPECTS of Traffic Upbringing and Education

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Traffic upbringing and education

TTraffic upbringing and education is an interdisciplinary field that connects insights from various scientific disciplines with formal and non-formal educational activities aimed at developing the traffic competencies necessary for safe, responsible and independent participation in traffic. Its fundamental purpose is to develop traffic culture, raise awareness of traffic risks and shape safe and responsible patterns of behaviour in everyday traffic situations (Mota dos Santos et al., 2025). Research shows that traditional approaches based exclusively on the transmission of traffic rules are not sufficient for the comprehensive development of responsible behaviour among pupils in traffic. Effective traffic upbringing and education requires a developmentally appropriate and methodologically considered approach that includes active and experiential learning, practical activities and pupils' participation in real and simulated traffic situations. Empirical findings confirm that the most effective traffic upbringing and education programmes are those that are systematically integrated into the curriculum and based on active learning, with the use of simulations, practical exercises and cooperation with parents and the local community (Petering, Muir and Shaw, 2021; Sicińska and Dąbrowska-Loranc, 2015). The effectiveness of such programmes is based on the quality of the methodological approach through which they are planned and implemented.

Methodological approaches in traffic upbringing and education

The methodology of traffic upbringing and education starts from the developmental characteristics of children, who are a particularly vulnerable group of road users due to their perceptual, cognitive and socio-emotional characteristics. According to Warwitz's concept (2009), traffic upbringing and education represents a developmental process aimed at building traffic competence, defined as an integrated set of knowledge, skills, attitudes and values that enables pupils to participate in traffic safely, responsibly and reflectively. Warwitz distinguishes three interconnected developmental levels of traffic competence (Figure 1). The first level is traffic sense, which denotes perceptual and emotional sensitivity to traffic situations. It develops primarily through play, simulation and direct experiential learning. On this basis, traffic understanding is formed, which includes understanding cause-and-effect relationships, the meaning of traffic rules and the social responsibility of road users. The highest developmental level is traffic intelligence, that is, the ability to apply acquired competencies flexibly and independently in new, complex and unpredictable traffic circumstances. This understanding of traffic upbringing emphasises that its aim is not only the acquisition of traffic rules, but the gradual development of competent and responsible behaviour that enables pupils to participate in traffic independently, safely and critically.

Figure 1. Development of traffic competence (designed according to Warwitz, 2009)

Experiential and situational learning

The development of traffic competencies should be based on experiential and situational learning, which connects educational content with pupils' authentic life situations. Such an approach enables pupils to analyse and interpret real traffic situations that are familiar and personally relevant to them. Research confirms that this approach contributes to a better understanding of traffic rules, a more developed ability to assess risk and more lasting adoption of responsible patterns of behaviour compared with traditional teaching models (Petering et al., 2021).

Because of their direct connection with pupils' life context, traffic situations have pronounced methodological value: they are realistic, recognisable to pupils, emotionally relevant and suitable for interdisciplinary connections between different educational areas. The pedagogical value of such an approach stems from three mechanisms: the authenticity of the context increases motivation, connection with real events strengthens knowledge transfer and reflection develops metacognitive competencies, which are better predictors of safe behaviour than the reproduction of regulations (Dragutinović and Twisk, 2006). Within this methodological framework, the role of the teacher is redefined from that of a transmitter of information to that of a mediator between teaching content and pupils' life context. The teacher's task is to recognise the educational potential in everyday traffic situations and to methodologically shape them into meaningful activities that connect the outcomes of different school subjects.

For example, in a real traffic situation, safe street crossing can be practised with guided reflection on observed risks and rules of safe behaviour. Pupils can map risky places in the school surroundings, record locations with reduced visibility and blind junctions, then use the collected data to create a map of a safer route to school. In an experiment on pedestrian visibility, they can compare the visibility of dark and reflective clothing in different lighting conditions. By analysing distractions at a pedestrian crossing, they can observe and record the frequency of mobile phone and headphone use among pedestrians, process the collected data statistically and present the results in the form of tables and graphs. Such activities place pupils in the role of researchers and responsible road users, while giving the teacher space to connect learning outcomes with real-life situations..

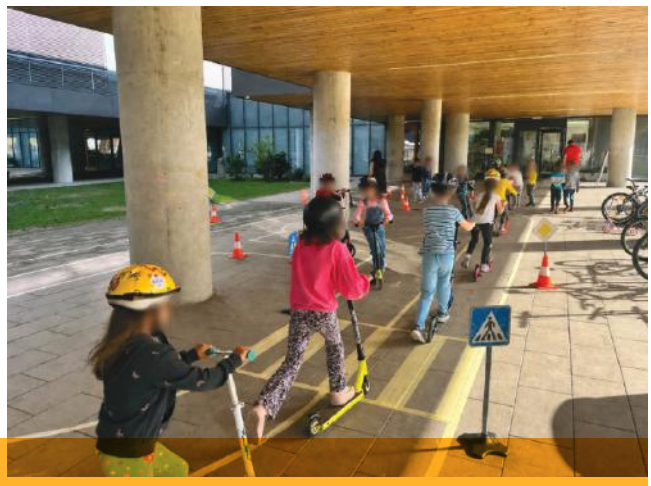

Figure 2. Experiential and situational learning in primary education

Cooperation between the school, parents and the local community in traffic upbringing and education

The methodological work of teachers achieves its full effect only within a whole-school approach, in which curricular action is connected with other dimensions of school work and external partners. The quality of traffic upbringing and education is achieved through the coordinated action of three interconnected components: the curriculum, the school environment and cooperation with parents and the local community (Figure 3). The curricular component includes the systematic planning and implementation of educational content related to traffic safety, with the use of active learning methods and the development of pupils' practical skills. The school environment refers to the creation of a supportive school context that encourages the development of safety-conscious and responsible patterns of behaviour. The third component consists of parents and the local community, whose cooperation with the school ensures that school learning is connected with pupils' experiences in everyday life. Traffic upbringing and education thus becomes a comprehensive and systematically organised process aimed at developing pupils' traffic literacy and safety culture..

Figure 3. A comprehensive approach to traffic upbringing and education (adapted from SDERA, 2009)

Conclusion

Contemporary methodology of traffic upbringing and education entails a move away from normative-instructional models towards experiential and situational learning based on everyday traffic situations. Effective implementation requires systematic curricular integration, continuous professional development of teachers and partnership-based cooperation between the school, the family and the local community. In this sense, Croatian education policy needs to position traffic upbringing and education more clearly within the curricular system, either as a cross-curricular theme or as a separate area of competence development with clearly defined educational outcomes. ●

RECOMMENDATIONS FOR FURTHER READING

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05

SCHOOL-BASED Preventive Traffic Activities

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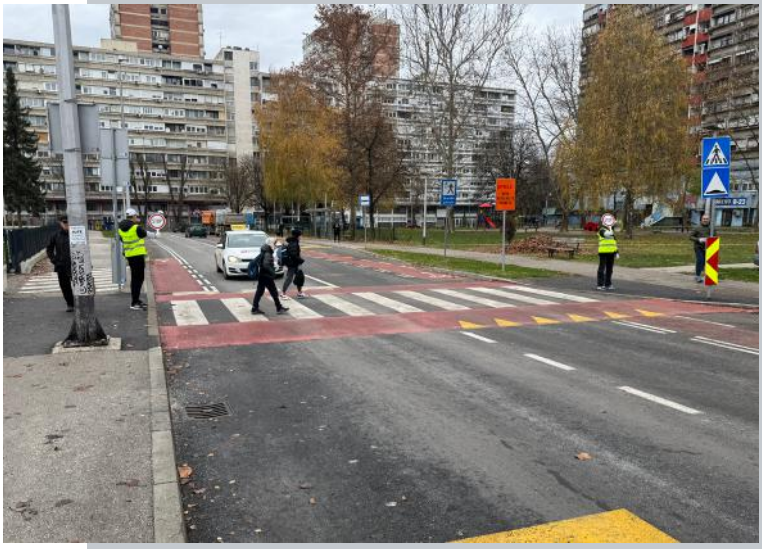
A School Traffic Patrol Unit has been operating at Juraj Kaštelan Primary School in Zagreb for many years. We spoke to the Head Teacher, Professor Krešimir Supanc, about its responsibilities and other traffic-related activities carried out at the school..

How are preventive activities organised during the school year?

We try to organise preventive activities continuously throughout the school year. From time to time, we organise additional activities in the lower years in order to emphasise to pupils the importance of safe behaviour in traffic. For such activities, we arrange visits by external lecturers. These activities are implemented in cooperation with the Croatian Automobile Club and the Ministry of the Interior. In our experience, pupils are much more attentive and focused on the topic being covered during such sessions. We always try to arrange lectures that include demonstrations in which pupils apply what they have learned. Therefore, the emphasis is not only on acquiring knowledge, but also on applying it independently and responsibly..

How does the role of traffic safety coordinator function at your school?

At Juraj Kaštelan Primary School, the role of traffic safety coordinator is performed by two teachers. One is a class teacher working in the after-school programme and she is responsible for coordinating pupils in Years 1 to 4. The other is a technical education teacher who teaches all pupils in Years 5 to 8 and is therefore responsible for coordination in the classes she teaches. The reason for this division is the size of the school. Juraj Kaštelan Primary School has more than 700 pupils, which would make the workload too extensive for a single person. In addition, due to the specific organisation of teaching in the lower years,



Years 1 to 4, and upper years, Years 5 to 8, I felt it would be more effective to assign the coordinator's duties to two people.

To what extent do professional meetings and training courses on traffic safety help in the organisation and implementation of activities related to pupil traffic safety?

Professional meetings and training courses are very helpful because they give teachers an opportunity to learn about other people's experiences, the problems they encounter and the solutions they use to overcome them. We are a country with major differences in the number of pupils per class in urban and rural areas. Therefore, solutions that are successful in larger communities do not necessarily have to be successful in smaller ones and vice versa. At professional meetings, through examples of good practice, teachers and coordinators can identify their own problems or potential problems and implement solutions in advance, or adapt existing solutions to their own environment, needs and the specific characteristics of their school and its surroundings..

Could you highlight an example of an activity or approach that has proved particularly effective at your school in raising pupils' awareness of safe behaviour in traffic?

First and foremost, this is the School Traffic Patrol Unit. It is present at the school and in the immediate school surroundings. It is made up of pupils from the school who have been trained and educated for this role. Thanks to the uniforms they wear, they are always recognisable and visible. Pupils follow their instructions and behave accordingly..

How does the School Traffic Patrol Unit operate? Does it operate as needed or on a daily basis and how are pupils selected and trained for the unit?

We select pupils from Years 6 and 7 for the following school year. This means that, in the current year, the unit consists of pupils from Years 7 and 8. Training is provided by the head of the School Traffic Patrol Unit, who is the technical education teacher. In spring, they are on duty at the pedestrian crossing in the immediate vicinity of the school. As our school was undergoing reconstruction, the pedestrian crossing where they are on duty was changed, so we are currently waiting for the traffic signage to be amended so that they can continue with their duties. ●

06

Traffic Content in Technical Culture Classes

Challenges and Opportunities for Development in the New Curriculum

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Every day, millions of children in Croatia cross roads, ride bicycles or sit on trams – and every day they do so without formal traffic education that goes beyond memorising traffic signs. The school subject Technical Culture is one of the few places in primary education where pupils not only learn traffic rules, but also apply them in practice: they build intersections, place signs, simulate situations and make decisions. The new curriculum proposal, in the context of the full-day school model, creates space for this potential to finally be used to its full extent.

Traffic in the fifth grade: current practice

Under the current curriculum, traffic content is mainly covered in the fifth grade. The emphasis is not on reproducing traffic rules, but on understanding traffic relationships through practical work. Following technical documentation, pupils create models of intersections, from measuring and cutting elements to placing traffic signs and traffic lights, and then use the completed model to simulate real traffic situations: they determine right of way, analyse mistakes and propose safer solutions.

In this process, pupils simultaneously develop motor skills, spatial perception, technical literacy and decision-making skills – all within a single two-hour task. Where traffic training grounds are available, cycling through a simulated course is also included. It is precisely this combination of theory, construction and simulation that makes traffic content in Technical Culture pedagogically valuable – and difficult to replace with any digital equivalent.

Challenges that require a response

Despite the high-quality concept, everyday teaching practice faces structural limitations. Traffic content is placed in a single grade and within a limited number of lessons, leaving too little room for the systematic development of competences and repetition in different contexts. Of the total 35 hours of Technical Culture per year, only around ten are devoted to traffic – meaning that more complex project activities, fieldwork and multi-week tasks simply cannot be accommodated.

Traffic literacy in the 21st century is not merely knowledge of signs – it is the ability to assess risk, make decisions in unpredictable situations and behave responsibly as a participant in an increasingly complex traffic system.

Model of an intersection – simulation of a traffic situation in the fifth grade (Ivan Cankar Primary School; photograph: from teaching materials, Školska knjiga)

At the same time, the traffic environment in which children are growing up is changing faster than curricula. Electric scooters, rental bicycles and hybrid traffic spaces create situations that did not exist when the current curriculum was developed. Today's fifth-grade pupils participate in traffic every day as users of micromobility, while school prepares them for this with content that only begins to indicate these realities.

What the new curriculum brings

The new proposal for the Technical Culture curriculum introduces two fundamental changes. The first is organisational: traffic content is no longer confined to a single grade, but is distributed across the fifth and sixth grades, with an increased number of lessons. In this way, traffic education gains more space and continuity over two years – enough for practical work, field activities and a project-based approach that requires preparation, implementation and reflection.

The second change is conceptual and more important. Traffic is no longer viewed as the topic of a single teaching unit, but as a technical and social system that pupils need to understand from within. In the fifth grade, the focus remains on safe cycling, traffic signs and signals and traffic rules. In the sixth grade, this is expanded through competences related to risk assessment, recognising dangerous situations and responsible behaviour in complex traffic contexts – including micromobility and contemporary traffic challenges.

The new curriculum strongly emphasises experiential learning: analysis of real traffic situations, simulations, modelling and project work. This is not a departure from existing practice, but a deepening of it and its institutional confirmation. Teachers are given more room for cooperation with local communities, the police and traffic experts, as well as for projects in which pupils analyse traffic problems in their immediate surroundings and propose solutions.

Traffic content also gains a clearer connection with STEM: measurements, the geometry of traffic areas, traffic management models and digital simulations naturally build on physics, information technology and mathematics. In this way, traffic ceases to be an isolated module and becomes an integrative topic connecting different areas of knowledge.

Full-day school as an additional opportunity

The full-day school model, which has been implemented experimentally since the 2023/2024 school year in around sixty primary schools, opens up additional opportunities for traffic content. Extracurricular (B1) and out-of-school (B2) activity programmes make it possible to carry out traffic exercises, training-ground activities and field visits without the pressure of the regular timetable. Cooperation with the Croatian Automobile Club, police prevention programmes and local communities becomes more organisationally feasible within an extended school day.

At the same time, the longer recreational break and a more carefully planned schedule within the full-day school model can become a natural framework for short traffic exercises, observing traffic in the school environment or a joint visit to a traffic training ground – activities that often cannot be carried out within the traditional organisation of the school day.

Conclusion

Traffic content in Technical Culture has always offered something that other subjects rarely do: pupils do not learn about an intersection, they build it, set it up and let traffic move through it. The new curriculum and the full-day school model finally provide an institutional basis for this approach to be systematically developed, extended across two grades and connected with the real traffic challenges of the 21st century.

Whether this opportunity will be used will depend on whether the reform is not only curricular, but also infrastructural, organisational and staffing-related. A good curriculum without the space in which it can be implemented remains unused potential. However, the starting point, the concept, the didactic approach and the enthusiasm of teachers who have been achieving the maximum in limited conditions for years are excellent. ●

07

The "Mathematics on the Road" Project as an Example of an Interdisiplinary Approach to Teaching Traffic-Related Content

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"The 'Mathematics on the Road in 30 Steps' project is based on real-world activities implemented during the 2025/2026 school year, including the production of video materials, student research work, competitions, field classes, and cooperation with relevant institutions. Particular emphasis is placed on the application of mathematical concepts in real-life traffic situations and on developing students' competencies through active and experiential learning.

Introduction

Traffic, as part of students' everyday environment, offers exceptional opportunities for connecting teaching content with real life. In this context, the project "Mathematics on the Road in 30 Steps" was designed with the aim of linking mathematical content with traffic situations through classroom and extracurricular activities. The project was approved by the competent institutions as a prevention programme in the 2025/2026 school year, confirming its professional and social relevance.

Project structure and specific activities

The project included a series of clearly defined and interconnected activities. Students from all year groups, teachers, parents and numerous external associates took part in its implementation.

One of the key elements of the project was the production of video materials. The video "Traffic Signs in Sveti Juraj na Bregu" (19:12) was created by visiting all nine settlements in the municipality, during which students explained the meaning of signs on actual roads and linked them to specific traffic situations. The video "Mathematics and Traffic" (8:11) showed the direct connection between mathematical content and traffic-related problems, while the third video compared traffic in 1993 and today, including differences in traffic rules and safety recommendations.

Educational quizzes were also developed and made available on the school website. They covered topics such as mathematics in traffic, the recognition of car logos, country codes and capital cities. The quizzes were intended for students, but also for the wider community.

A strong response was achieved through the organisation of competitions. At the school level, all students took part in age-appropriate activities:

Traffic Day
Foto: Vera Moharić

younger students created traffic signs with numbers, middle-year students wrote traffic messages accompanied by visual presentations, while older students produced photographs and video works. The national competition "Traffic and Traffic Safety through Mathematics" brought together 18 schools from 11 counties with a total of 84 entries, giving the project broader educational significance..

Mathematical content in the context of traffic examples

The particular value of the project is reflected in the concrete application of mathematical content. In mathematics classes, Year 5 and 6 students analysed traffic data using bar charts, while Year 7 and 8 students used line graphs, pie charts and plane transformations.

An example of cooperation with secondary schools further illustrates the project's interdisciplinary nature: the "steep descent" traffic sign indicating gradients of 10% and 15% was analysed, with students using the tangent function to calculate a difference of 2.8 angular degrees. This example clearly shows how mathematical precision has direct application in traffic.

Students also conducted their own research, collected data from their surroundings and presented them graphically, thereby developing statistical literacy and the ability to interpret data.

Extracurricular activities and fieldwork

The project was significantly expanded through extracurricular activities involving a large number of participants. "St George's Traffic Day" brought together around 400 students and kindergarten children, with police education activities and the participation of vintage vehicles. This further encouraged students' interest in traffic-related topics.

"St George's Film Night" brought together 50 participants, with project films and award-winning student works being shown. Field activities included a walk in Brezje with around 300 participants, where traffic education was carried out with police support, and a mining walk in Dragoslavec, which connected traffic, safety and local heritage.

It is important to point out that the project also had a broader social impact. In Dragoslavec, access to the mine was restored as a direct result of the project, while the Brezje area gained greater tourist visibility through themed walks.

Cooperation and interdisciplinarity

The project involved cooperation with numerous institutions: the police, the Traffic Safety Council, higher education institutions, local self-government and associations. Student teachers created educational posters that served as guidelines for students.

Various school groups were also involved in the project. The photography group used the panning technique to depict movement and speed, while the ceramics group created promotional works that were presented to guests as gifts. The traffic group organised a training course and demonstrated the knowledge acquired.

The project integrated a large number of school subjects: mathematics, physics, technical education, ICT, geography, history, art, Croatian language and physical and health education, thereby achieving a fully interdisciplinary approach.

Results and impact on students

The results of the project are visible on several levels. Students showed greater motivation to learn mathematics through concrete examples from traffic. Their analytical and research skills were developed, as was their ability to apply knowledge in real-life situations.

A particular contribution of the project is reflected in the development of traffic culture and safety. Through cooperation with the police and participation in activities, students adopted more responsible patterns of behaviour.

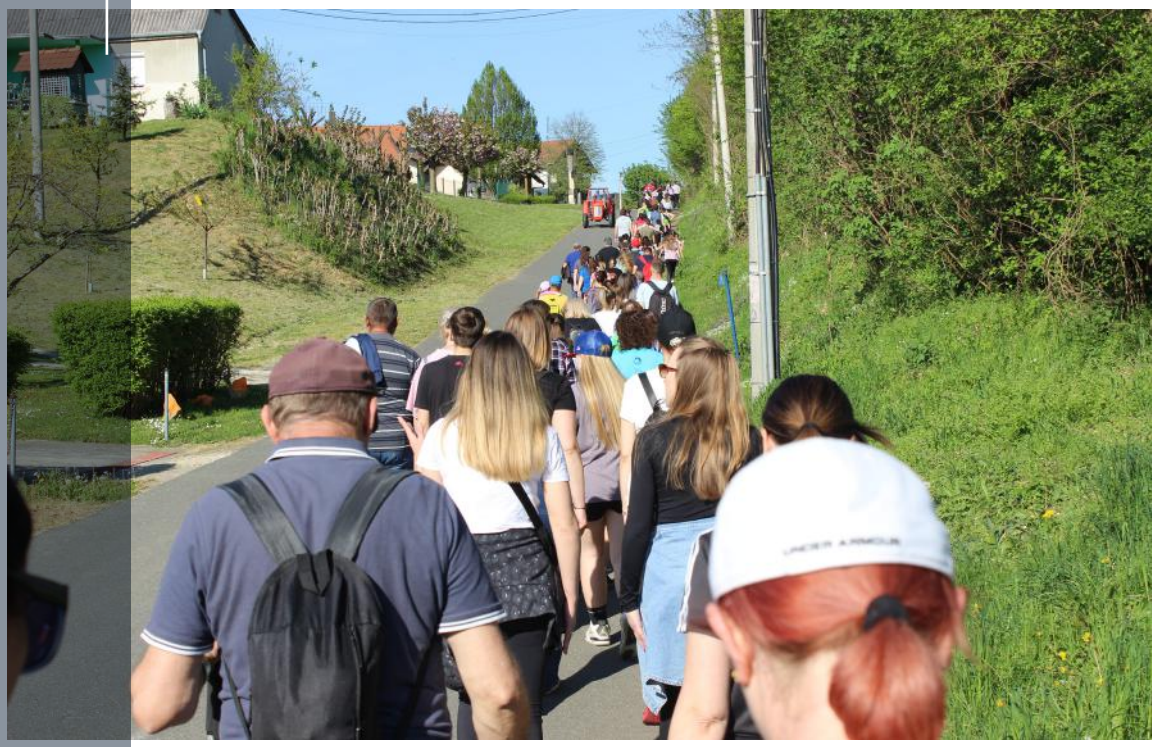
The project also played an important role in students' career guidance. Final-year students showed increased interest in occupations related to traffic and logistics, confirming the project's long-term value.

Conclusion

The "Mathematics on the Road" project shows how an interdisciplinary approach can successfully connect mathematics with real-life traffic situations. Through specific activities, from analysing traffic signs in the field, producing video materials and quizzes to applying mathematical functions in real examples, students were provided with meaningful and applicable learning.

Such an approach not only improves mathematical literacy, but also contributes to the development of traffic safety, social competencies and students' career orientation, making it a relevant model for application in the field of traffic and logistics. •

Walking the Trails of the Counts Feštetić within the "Mathematics on the Road in 30 Steps" Project
Foto: Vida Tomašić



08

DEVELOPING TRAFFIC EDUCATION Outside the Formal Education System

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We spoke to Lana Račić, a traffic engineer from TRAFIKI, about the possibilities of implementing traffic education outside the formal education system. In 2024, the Croatian Association of Security Managers presented TRAFIKI with the Social Responsibility – Initiative of the Year award for two of its projects: "Kindergarten on a Bicycle" and "A Safer Route to School". Read more about these projects and other initiatives launched by Lana Račić below.

How would you describe your approach to traffic education and why should it also be developed outside the formal education system?

I see traffic education as a continuous process that should be developed through the everyday situations in which children and adults find themselves. It is built up through experience and over time, with everyday life and the environment in which children grow up playing a key role in shaping their traffic culture.

The educational projects and initiatives I develop include children, parents and professionals who work with children, with the aim of extending continuous and experiential traffic learning to the community and everyday life. The main emphasis is on cooperation among all adults involved in a child's daily life, so that the child is prepared for safer participation in traffic not only technically, but also emotionally and behaviourally.

In this context, social media also represent an environment where adults, especially parents, spend a great deal of their time. Through short and understandable messages, I try to keep the topic of children's safety in traffic constantly present in the public digital space, because this frequency contributes to greater awareness and more lasting changes in the behaviour of adults in the child's environment and community.

How are educational projects developed and how do they involve children and parents?

The projects are developed gradually and build on one another, so that each new project stems from previous experience, but also from the real needs I observe in practice, whether through work with children, parents or professionals who work with children. In this way, a participatory educational process is continuously shaped and developed.

In all projects and initiatives, I place special emphasis on connecting traffic education with the everyday environment, highlighting the shared responsibility of all adults involved in children's daily lives.

Kindergarten on a Bicycle
Source: trafiki.hr

In this sense, the "Kindergarten on a Bicycle" project represents the initial level, where preschool children are introduced to the basics of safe participation in traffic through play and simple everyday situations, with the active involvement of parents and preschool teachers in the learning process. Since 2023, more than 700 preschool children have taken part in the project and a curriculum is also available for independent implementation of traffic education. More than 1,300 preschool teachers and parents have so far completed training in independent implementation, and activities are carried out independently in city libraries and kindergartens. In addition, one mother from Cres decided to carry out the same activities in her child's group, which further confirms that traffic education can be successfully transferred to the family and local environment, outside formal educational frameworks.

The "Kindergarten on a Bicycle" project is followed by "A Safer Route to School", which addresses the real issue of children's mobility, namely their journey from home to school. The project supports a participatory approach in which pupils and parents actively take part in mapping problems and shaping changes in their local environment. Four primary schools have participated in this project and it has been observed that pupils normalise the stress associated with travelling to school and perceive everyday traffic situations as a routine part of their day. At the same time, joint activities such as the walking bus and accompanied journeys to school have shown that experiential learning increases their awareness of safer forms of mobility.

These observations further emphasise the importance of involving parents and everyday life as key factors in traffic education, which has led to the development of a broader framework of action that includes workshops and advisory work with parents, as well as with mental health professionals who work with children.

In parallel with field and institutional work, a digital component has also been developed, through which education and traffic prevention are available online to everyone, regardless of location, including the different environments in which children live. This is now opening up new insights into the everyday

challenges faced by children and parents, providing a starting point for the development of new projects and future initiatives

What is the long-term goal of your work in the field of traffic education?

I want to change the way the community thinks about children in traffic and the responsibility of the adults around them. I also want traffic safety to stop being a topic that is mostly discussed in the context of traffic accidents and failure to comply with traffic rules, and for traffic prevention instead to become a natural part of everyday life for every family. It is also important to me that we normalise the fact that children are not an isolated part of the traffic system, but that their safety in traffic depends on the behaviour, awareness and consistency of all of us adults.

Kindergarten on a Bicycle: https://vrticnabiciklu.com/
A Safer Route to School: https://trafiki.hr/projekti/sigurniji-put-do-skole/

My goal is simple, but demanding in the long term: to develop an environment in which traffic education takes place continuously, through experience, relationships and communication. In doing so, I want to encourage as many children as possible to move around more safely every day, with greater awareness among adults, especially parents, of their role in that process. The change I am building is not only educational, but also cultural: a quiet, yet lasting change in the way the community sees children in traffic and its own responsibility. ●

A Safer Route to School
Source: trafiki.hr

09

EFFECTIVE PREVENTION IN WORK WITH CHILDREN AND ADOLESCENTS: Implications for Traffic Safety

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Traffic injuries are among the leading causes of death among children, adolescents and young adults worldwide. In its guidelines on child and adolescent road safety, UNICEF emphasises that children are not "small adults" and that their developmental characteristics significantly affect the way they perceive danger, assess risk and make decisions in traffic. Traffic safety is therefore not only a matter of knowing traffic rules, but also a matter of cognitive development, emotional regulation, impulsivity, social influence and the broader environment in which a child or adolescent is growing up.

For a long time, prevention programmes predominantly relied on providing information and warning about dangers. However, contemporary research shows that **education alone rarely leads to lasting behavioural change.**

Research into the effectiveness of prevention programmes shows that certain characteristics are consistently found in effective programmes: comprehensiveness, the use of diverse teaching methods, sufficient intensity and duration, repeated rather than one-off implementation, a theoretical foundation, the opportunity to develop social relationships, developmental appropriateness and timeliness, sociocultural relevance, outcome evaluation and well-trained programme implementers. This means that prevention should be approached systematically – through structured, gradual programmes involving schools, parents, teachers and peer participation. Only then can a programme have a lasting effect. One-off campaigns may help raise awareness of a problem but will most often not produce lasting change.

These programme characteristics have proven effective in prevention programmes aimed at preventing substance abuse, risky sexual behaviour, school failure and delinquency, that is, across several areas of prevention of undesirable behaviours, which allows implications to be drawn for the field of traffic safety among children and adolescents as well.

Research shows that adolescents represent a particularly high-risk group of road users. Von Beesten and Bresges (2022) state that the reasons for this increased risk are linked to developmental processes characteristic of adolescence: separation from parents, identity-seeking, orientation towards peers and testing one's own limits. In such a context, risky behaviours such as speeding, driving under the influence of alcohol, using a mobile phone while driving or failing to comply with safety rules often also have an important social function within the peer group.

This is one of the reasons why programmes based exclusively on fear appeals or moralising often do not produce the expected results. Von Beesten and Bresges also warn that fear-based approaches may trigger a defensive reaction in which the adolescent rejects the message or even responds in a way

opposite to the desired behaviour. In other words, an adolescent who is shown highly emotional and frightening consequences of traffic accidents may experience the message as a threat to their own autonomy and respond by denying the risk or mocking the content.

This means that emotionally charged content should be connected with concrete coping strategies, strengthening the sense of self-efficacy and the active participation of children and adolescents. Research shows that prevention campaigns have a significantly better effect when they are linked to interactive educational activities and experiential learning. Various teaching methods are effective in this respect, especially those that include skills practice, discussion, experiential learning and active participation. In the field of traffic safety, this suggests the use of methods such as simulation, discussion of real-life situations, risk assessment, role play and the development of concrete decision-making strategies, whereas programmes focused on teaching traffic rules and the responsibilities of individual road users are less effective.

When emotionally charged content is used, for example in a campaign, a structured programme following the campaign may increase the effectiveness of preventive messages.

An important element of effective prevention programmes is also the linking of multiple systems in which children and young people function. Nation and colleagues emphasise that successful programmes do not target only the individual, but include several systems – family, school, peers and the community. Similarly, UNICEF's guidelines for child and adolescent road safety emphasise the need for a multisectoral approach that includes infrastructure, legislation, education, public health measures and family support.

An example of a successfully implemented programme that included both prevention and intervention is Safe Routes to School, which was not focused solely on educating children, but also on changes to traffic infrastructure and the safety of the school environment. Research has shown a reduction in injuries among child pedestrians in areas where the programme was implemented. This and similar findings point to the need for interaction among all systems in order to protect the safety of children and adolescents in traffic.

Adolescents respond more positively to active and participatory forms of traffic prevention, particularly when they include **elements of competition, identification with peers and personal engagement**. Such approaches increase motivation and the sense of personal involvement, which is an important prerequisite for behavioural change.

In addition to peers, parents also play a key role. Longitudinal studies show that the quality of parenting has a strong protective effect on a wide range of risky behaviours among children and adolescents. Sandler and colleagues (2011) emphasise that prevention programmes aimed at parents can have long-term effects on reducing behavioural problems and on the development of self-regulation and social competence in children.

In the context of traffic safety, this is particularly

important for young drivers. Research shows that clear agreements between parents and adolescents, the gradual increase of autonomy and structured driving rules can reduce risky behaviours in traffic. The influence of parents in this respect is not only a matter of control and supervision, but also of modelling behaviour and providing emotional support.

Contemporary prevention models therefore increasingly emphasise **the development of protective factors, rather than only the reduction of risk**. Effective programmes do not merely attempt to prevent traffic accidents but develop broader competences: emotional and behavioural self-regulation, risk assessment, resistance to peer pressure and decision-making skills.

This is particularly important when we know that adolescents often do not engage in risky behaviours because of a lack of knowledge, but because of developmentally conditioned impulsivity, sensation-seeking and sensitivity to social influences. Traffic safety is therefore not only a matter of education about traffic rules but also includes the importance of knowledge of developmental psychology and effective prevention.

Critical reviews of the literature also warn that traffic education often has a limited effect when it remains at the level of providing information. This style of prevention places sole responsibility on the child or adolescent as an individual, while neglecting the broader social and infrastructural context, as well as the developmental perspective.

In conclusion, effective prevention in work with children and adolescents requires moving away from one-off and exclusively informative interventions. Prevention programmes have the greatest effect when they are implemented repeatedly and sequentially, when they are adapted to the developmental characteristics of children and adolescents, when they use experiential methods, focus on skills development and encourage cooperation between the family, the education system and the wider social community.

Traffic safety is, in this respect, a clear example of the importance of understanding the complex influences on the behaviour of children and adolescents. A successful prevention programme related to traffic safety contains the components of all other successful prevention programmes – the development of protective factors combined with the reduction of risky behaviours, while maintaining the connection of children and young people with the community in which they are growing up. •

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10

From Knowledge to Behaviour: Why Traffic Education Must Include Psychological Risk Factors

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Every prevention campaign has the good of the community and the target audience in mind, and every educational activity aims to transfer knowledge, reduce harm and contribute to the individual and to society as a whole. Nevertheless, not every prevention or educational campaign or programme is effective, and in the case of behaviour in traffic, such mistakes – always made with the best of intentions – can cost lives. In addition to being guided by the principles that determine the values and knowledge we wish to convey, it is important to take into account the specific characteristics of the target group, in this case children and adolescents, as well as the mechanisms that will make them more inclined to engage with or accept one campaign rather than another.

Simply informing children and adolescents about traffic, rules and risks is not enough, although it is always the first point from which we begin. Traffic safety is not only a matter of knowledge; it is always also a matter of decision-making and of recognising why a person behaves riskily even in situations in which they already know that the behaviour is risky. Children and young people know that driving under the influence of alcohol is risky and prohibited, that using a mobile phone while moving is dangerous and reduces attention, and that speed increases the likelihood of an accident.

Growing up is a period in which children move from a phase of idealising their parents to a phase of criticising and separating from them, in which they do not want to be seen as an extension or copy of their parents. This can also be generalised to adults in their environment more broadly. The development of autonomy comes at the same time as an increase in responsibility and social participation, with young people becoming increasingly and more frequently involved in everyday life in a role that resembles that of an adult more than that of a child. At the same time, it is not that young people do not understand consequences or that their own safety is unimportant to them. For the most part, young people know and understand the risks. Rather, the issue is that the abilities to plan, stop, delay a reaction and regulate behaviour are still developing, and do not always keep pace with the speed at which young people take on new roles, greater freedom and greater responsibility in everyday life. The systems that remain extremely active are those directed towards reward, excitement and seeking novelty. Ignoring these needs in situations in which attempts are being made to introduce new behavioural models and value systems will lead the target group to perceive those implementing campaigns as uninformed and uninterested in the essence of who they are and what matters to them. Involving both young people

and experts dealing with behaviour and the difficulties young people face can facilitate the creation of programmes that will then be better accepted and easier to translate into everyday behaviour.

The timing of the presentation of prevention programmes and campaigns to young people is also not insignificant, because the adoption of new behaviours depends not only on the quality of the message, but also on the person's capacity to receive, process and apply that message. If programmes are introduced during periods in which children and young people are already heavily burdened by school obligations, examinations, decisions about further education or other developmental and everyday pressures, the new message is more likely to be perceived as yet another demand, rather than as support. Furthermore, showing appreciation and respect for the burden carried by children and young people enables programme implementers to develop empathy for the resistance that will arise in attempts to adopt new behavioural systems. It can also create new bridges of communication and mutual understanding, which will certainly lead to easier acceptance of the programmes themselves.

In creating prevention programmes, it is important to note that peer group pressure in decision-making,

particularly in decisions that ignore knowledge about risks, is an extremely important factor. Young people do not make decisions in a social vacuum. They make them in order to regulate their status, sometimes thinking more about how they "look" to others than about what is safer for them. Communication about safe behaviours in traffic that emphasises individuality, assertiveness and self-confidence can help young people move away from risky behaviours without damaging the image that others have of them.

At the same time, belonging to a social group also means that they must be continuously included, available and in communication with others, or consuming content that is important to their everyday lives. Excessive optimism in assessing one's own abilities, combined with a belief in invulnerability, will significantly reduce the perceived risk of using digital distractions in traffic. Imposing complete disengagement from the use of digital devices, without discussing how they are actually used and in which situations they become most risky, can remove the space needed to develop concrete protective strategies for situations in which such behaviour will occur nonetheless. It is of the utmost importance that such factors are taken into account so that the most important messages can be conveyed accurately and clearly enough, without threatening young people's idea of lifestyle or autonomy.

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Accepting safety as a valuable and important characteristic of adulthood, and one of which they will not be ashamed, can also have a broader effect than changing the behaviour of a single person, especially when the creation of one's own safety behaviours, value system and self-regulation is emphasised as part of autonomy rather than as the acceptance of someone else's norms and rules.

In this respect, it is important not to overlook the fact that, during the development of children and adolescents, their main role models – who enable the knowledge transmitted by schools and institutions to become part of behaviour – most often represent a variable that is difficult to control and that ultimately leads to riskier behaviour. In order to communicate to young people that traffic safety is important, it is essential that their parents, guardians and role models perceive it in the same way – not only declaratively, but also practically and in everyday life. If we cannot ensure such cooperation and support, we must create programmes and campaigns with the awareness that we will continuously be dealing with a disruptive factor and must compensate for it. It is extremely important in campaigns not to shame behaviours that we know parents regularly engage in, but rather to express understanding and focus on the shared goal of greater safety for their children and their surroundings.

In its conception, traffic education should not aim only to increase awareness, but to create conditions in which young people can recognise safety as part of their own autonomy, responsibility and belonging to the community. If we want knowledge to be easily translated into behaviour, it is necessary to develop programmes that do not assume an ideal, constantly rational and always attentive pupil, but rather a real young person who makes decisions under the scrutiny of the social group, in a whirlwind of emotions, immersed in the stress of everyday life while at the same time defining themselves as an individual worthy of respect. Only then can traffic education become more than the transmission of rules and prohibitions, and become a genuine tool of prevention. ●

11 Preventive Activities and Education for Children Conducted by the Ministry of the Interior

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Traffic and traffic safety are among the most essential topics in everyday life and always attract great interest from all of us. This is particularly true of education, which I would say is perhaps the most important area of road traffic safety, especially when it comes to educating schoolchildren.

Over the years of preventive work, efforts have been made to find an answer to the question of how to raise the level of traffic safety and improve the safety of drivers and all other road users.

Children's safety in traffic is an issue that requires special attention and continuous efforts from the community, parents, schools and competent institutions. For this reason, education and raising awareness of traffic risks are key to preventing accidents and ensuring children's safety.

In order to understand the importance of education, we must understand that children see and experience traffic very differently from adults. Due to their younger age, their field of vision is narrower and their assessment of the speed and distance of vehicles is often inaccurate. Children are impulsive and their attention is easily drawn away by a toy or a friend on the other side of the road. Precisely because of these biological limitations, education must not be reduced merely to learning rules, but should be a process of developing skills for navigating space.

Education begins at the earliest age and parents are the first and most important teachers. A child learns by observing. If a parent crosses the road at a red light or does not use a seat belt, no theoretical instruction at school will have a lasting effect. The family lays the foundations, while educational institutions, namely kindergartens and schools, should provide structured knowledge through traffic workshops, training courses and simulations of real traffic situations.

Certainly, we are all most sensitive when a child is injured in a traffic accident. However, we must emphasise that, alongside children, we must all work together to sensitise adults, primarily motor vehicle drivers and parents, to the dangers in traffic and to encourage them to try to see those dangers from a child's perspective.

Aware of the fact that traffic upbringing and education of children in traffic regulations play a major role in increasing road traffic safety and raising traffic culture in general, the police conduct various preventive and educational activities for children of all age groups.

Cooperation between the police and primary schools is one of the fundamental pillars of preventive action in the field of road traffic safety, where the police have an important role not only in supervision and control, but also in education, guidance and the development of traffic culture among children. Given that primary school pupils are one of the most vulnerable groups of road users, systematic cooperation between schools and the traffic police is extremely important for reducing traffic risks and creating a safer environment.

The most important preventive activities of the traffic police are aimed at the safety of children as pedestrians, cyclists and other road users. Special emphasis is placed on first-year primary school pupils, who are only beginning to participate more independently in traffic. Through lectures, tours of the school surroundings and practical exercises, police officers introduce children to proper behaviour on the way from home to school and back. Children are taught how to cross the carriageway safely, how to walk on the pavement, what basic traffic signs mean and why it is important to use protective equipment, especially when riding a bicycle or scooter.

In addition to educating children, the police appeal to drivers to comply with traffic regulations strictly and conscientiously, especially in school zones: not to rush, to drive with additional caution and to slow down in front of pedestrian crossings. Children, due to their age, are still insufficiently aware of dangers in traffic and, while playing, often do not perceive the difference between the carriageway and the pavement.

An additional appeal is also made to parents to show children, through their own example, desirable, proper and safe behaviour in traffic, always and in every situation.

However, traffic culture does not emerge overnight or by itself and it does not change through posters and campaigns alone. It is learned, built and maintained from the earliest age, within the family and through the education system. This is why we are introducing new, modern models of educating children about traffic safety in primary and secondary schools, not only through one-off campaigns, but through content adapted to the time in which children are growing up and to the risks they genuinely face today. The emphasis is on applying practical knowledge, understanding risks and participating responsibly in traffic, especially in the context of new forms of mobility that are increasingly becoming part of everyday life.

Together with the Faculty of Transport and Traffic Sciences, the Ministry of Science, Education and Youth, the Education and Teacher Training Agency, the Croatian Automobile Club and the Faculty of Teacher Education, an initiative has been launched for the systematic introduction of traffic education in schools. On this basis, primary and secondary schools have appointed coordinators for the safety of children and pupils in traffic. Through professional meetings and training for school coordinators, the knowledge and tools that help schools implement preventive activities are being strengthened. The police will continue to provide maximum support to teachers and coordinators so that their work with children is effective, efficient and purposeful, and a Manual has also been prepared for this purpose.

This is a good example of how the system should function. The police bring experience from the field, the Faculty provides a scientific and professional basis and schools bring direct work with children. When these elements are connected, safety messages reach pupils in a way that is clear, useful and applicable.

It is also important to emphasise that active work is underway on the preparation of a curriculum for Years 5 and 6, with the aim of starting systematic education of children on traffic safety.

It is important that education does not remain limited to individual activities. What is needed are materials, methods and people in schools who can implement these topics continuously. This is why manuals, training for teachers and coordinators and preventive programmes that encourage children to behave responsibly are important.

What we are trying to achieve is the education of children and young people through the education system, from the earliest age, from kindergarten, through primary school and on to secondary school, continuously throughout every year. This is a demanding task whose results will only begin to be felt over a longer period of time.

The best results can be achieved if education starts from the earliest age. This has a twofold effect: it immediately increases the safety of children in traffic and, in the long term, through continuous education, these children become conscientious and responsible drivers in the future, that is, conscientious and responsible road users.

Children's safety in traffic is a reflection of the level of civilisation of a society whose fundamental obligation is to ensure that every child reaches their destination safely and without worry.

12

SAFELY TO SCHOOL in the City of Zurich (CH), Thanks to the Training from Our Police Force

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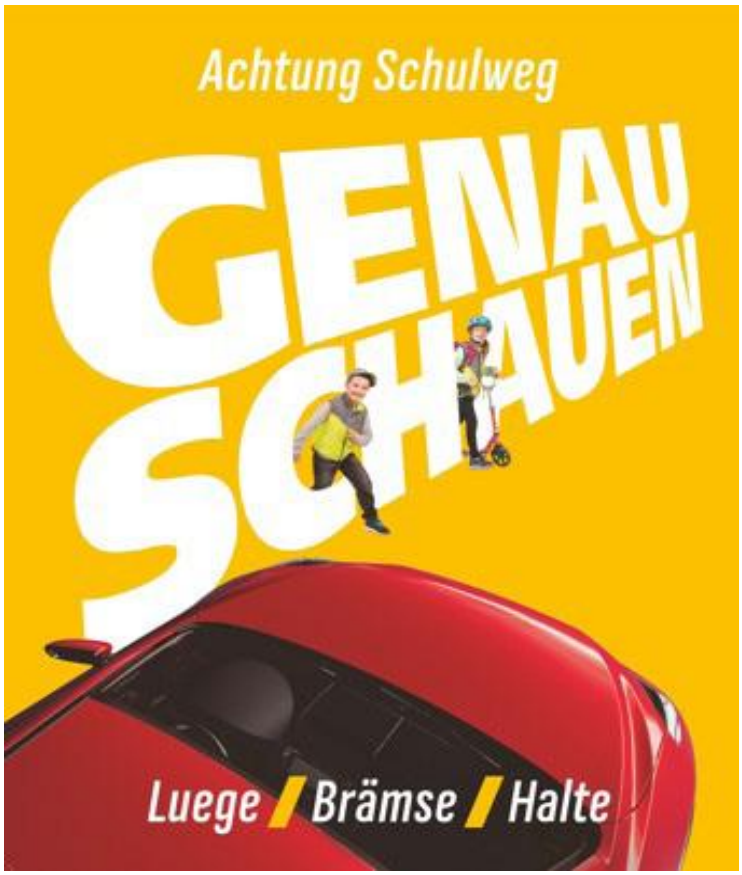
The way to school or kindergarten is, for children, a special experience. They gain important social experience along the way. Therefore, depending on their age and maturity, they should be encouraged to walk this route independently whenever possible. Children are taught by police officers to safely cross streets during visits starting in early kindergarten. They practise on streets with and without pedestrian crossings, pedestrian safety islands, traffic signals and on streets with parked vehicles. However, one morning of practice is not enough to firmly establish safe behaviour in traffic. For this reason, the children also need the support of their parents, who play a vital role in enabling their children to walk to school independently and in accordance with traffic rules. Ensuring safe school routes is a shared responsibility involving administration, police, schools and parents working together. The City of Zurich's online school route planner offers guidance in finding the most suitable way to school: City Map.



The role of parents

Parents should choose the safest route well before the first day of school. They should practice

walking the route many times with their children in both directions. They should allow their children to decide when it is safe to cross the street and accompany them until they feel confident enough to walk the route independently. Children should dress in clothing that makes them highly visible. Light-coloured, fluorescent and reflective clothing is highly recommended. Most importantly, parents should be role models for their children by consistently following the traffic rules.

The role of children

Due to their development stage and smaller body size, children are more vulnerable in traffic. Their shorter stature limits their field of view, their sight can be obstructed by other objects, and they are less easily seen by drivers. Additionally, children cannot yet accurately judge the speed or distance of approaching vehicles. Children only begin to recognise what constitutes a danger between the ages of 5 and 6. Awareness that certain behaviour can lead to danger develops around age 8. Understanding of preventive measures evolves between the ages of 9 and 10.

Identifying the best way to school

Children should cross as few streets as possible. Where traffic is heavy, crossings should occur at traffic lights, pedestrian crossings and curb extensions. The way to school should have sufficiently wide pavements. Factors that complicate the way to school include streets with heavy traffic, high speed limits, turning traffic, tram priority, multi-lane streets, lack of crossing aids, unobstructed street layout enabling higher speeds, or visual obstructions caused by parked vehicles, construction sites or vegetation. Children do not always consider that drivers may overlook pedestrian crossings or fail to stop automatically. Proper use of pedestrian crossings and traffic signals must be learned and repeatedly practised. Traffic lights may be timed such that pedestrians wait a long time before receiving the "green" signal. And at certain intersections, both turning vehicles and pedestrians receive a "green" signal simultaneously.

Safely to school on a bicycle

Traffic education is particularly important for primary school pupils, who are new to traffic and must learn how to behave correctly. Children learn to ride safely on a bicycle from an early age in primary school. Up to the 2nd grade, police instructions focus on pedestrian safety. Starting in the 3rd grade, bicycle training begins until the police administers the practical cycling proficiency test in the 5th grade. The theoretical exam is conducted by teachers at school. Passing the theoretical exam is a prerequisite for participating in the practical test. Pupils approach this challenge with respect and take pride in completing it. The test evaluates whether children observe the general cycling code, follow proper procedures when turning left or right and come to a complete stop at stop signals. A roadworthy bicycle is mandatory to successfully complete the cycling proficiency test. ●

13

CHILDREN'S DAY at the Faculty of Transport and Traffic Sciences

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For one day, everything at the Faculty was adapted to the youngest participants in traffic, who are also the most vulnerable road users. Learning through play is one of the fundamental principles of the Traffic Alphabet educational programme. Another is that traffic education should be free of charge and adapted to children of different age groups

Over the past year, the number of children injured while riding electric scooters has increased by almost 300 per cent. The e-scooter has thus become the greatest villain of today's traffic, although it also has its advantages. As with everything, the key lies in how something is used. This is particularly true in traffic, where mistakes can cost lives. Good habits are most easily acquired in childhood. Children's Day at the Faculty of Transport and Traffic Sciences in Zagreb demonstrated in the best possible way how to put into practice what is stated in theory: how to "live" in a socially responsible way. The Faculty's Children's Day brought together numerous children and their parents so that, through socialising and play, they could revise the traffic rules they already knew and learn some new ones.

Naturally, on that day everything at the Faculty was adapted to the youngest participants, who are also the most vulnerable road users. The traffic-themed play "Traffic Signs for the Youngest", a bicycle and e-scooter training course, a workshop with Traffic Alphabet educational materials…

Through play, the children learnt a great deal about participating safely in traffic. Learning through play. This is precisely one of the fundamental principles of the Traffic Alphabet educational programme.

Another is that traffic education should be available to all children under the same conditions, meaning that it should be free of charge for parents and adapted to children of different age groups. On its educational portal, Traffic Alphabet already offers free worksheets, a traffic-themed board game and numerous pieces of advice. The programme also includes traffic workshops, a traffic colouring book for preschool children and traffic guides for primary school pupils, as well as the latest guide intended for teenagers and parents.

The programme is financed and further developed in partnership with interested companies and institutions. The need for such a programme – one that would draw children's attention to critical situations in today's traffic through interactive workshops and educational materials – arose precisely due to the growing number of children participating in traffic and being involved in traffic accidents, but also due to the general lack of educational content on traffic-related topics. Work with children so far has shown that almost all children know the basics and are briefly familiar with some traffic rules. However, not a single child who has so far taken part in Traffic Alphabet workshops knew how to answer the question "why". Why must we not run out onto the road from behind a parked vehicle? Why must we not cross the road with headphones in our ears? Why is it necessary to get off a bicycle before a pedestrian crossing and push it across the zebra crossing? Children need context. Only when we enable them to understand the rules will they truly adopt them.

YOUR AD could go here

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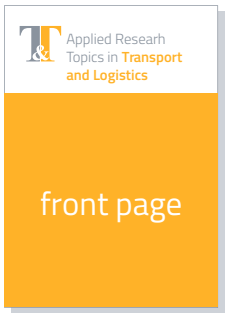

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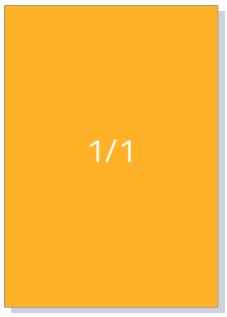

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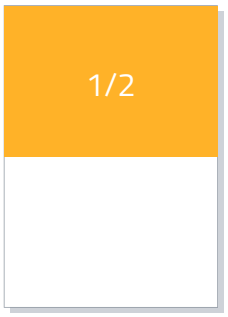

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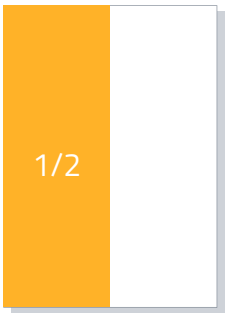

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